DRAFT

SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT NO. 2 TO ENVIRONMENTAL IMPACT REPORT NO. 575

AMENDMENT NO. 4 TO THE PRIMA DESHECHA LANDFILL GENERAL DEVELOPMENT PLAN FOR THE ZONE 4 CONSTRUCTION PROJECTS

COUNTY OF ORANGE

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COUNTY OF ORANGE

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°F	degrees Fahrenheit
AAQS	ambient air quality standards
AB	Assembly Bill
ac	acres
ADT	average daily traffic
AER	Annual Emissions Report
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
amsl	above mean sea level
AQMP	Air Quality Management Plan
Basin	South Coast Air Basin
BenMAP	EPA Benefits Mapping and Analysis Program
BenMAP-CE	BenMAP-Community Edition
BMP	Best Management Practice
BTU	British thermal units
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
California Register	California Register of Historical Resources
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CH_4	methane
CIWMP	Countywide Integrated Waste Management Plan
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2	carbon dioxide
County	County of Orange

CSS	coastal sage scrub
cy	cubic yards
dB	decibels
dBA	A-weighted decibel
DPM	diesel particulate matter
EGR	exhaust gas recirculation
EIR	Environmental Impact Report
EIR No. 548	Program Environmental Impact Report No. 548
EMFAC2017	California Emission Factor Model 2017
EPA	United States Environmental Protection Agency
FHWA	Federal Highway Administration
Friant Ranch decision	California Supreme Court's *Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502 decision
ft	feet
FTA	Federal Transit Administration
g/s	grams per second
gal	gallons
GDP	General Development Plan
HARP2	Hot Spots Analysis and Reporting Program Version 2
HBP	Harbors, Beaches, and Parks
HIA	Health Impact Assessment
HMMP	Habitat Mitigation and Monitoring Plan
hp	horsepower
HRA	Health Risk Assessment
I-5	Interstate 5
in/sec	inches per second
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
IS/NOP	Initial Study/Notice of Preparation
IWMD	Integrated Waste Management Department
km	kilometers
Landfill	Prima Deshecha Landfill
lbs	pounds per day
lbs/day	pounds per day
L_{dn}	day-night average level

L_{eq}	equivalent continuous sound level
LFG	landfill gas
L_{max}	maximum instantaneous noise level
LST	localized significance threshold
L_V	velocity in decibels
m	meters
MATES IV	Multiple Air Toxics Exposure Study IV
mcy	million cubic yards
mi	miles
MICR	maximum individual cancer risk
MMRP	Mitigation Monitoring and Reporting Program
MMT	million metric tons
MOU	Memorandum of Understanding
mph	miles per hour
MRF	materials recovery facility
MSW	municipal solid waste
MT/yr	metric tons per year
N_2	nitrogen
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NMOC	non-methane organic compounds
NO	nitric oxide
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
O_2	oxygen
O_3	ozone
OCTA	Orange County Transportation Authority
OCPW	Orange County Public Works
OCWR	OC Waste & Recycling
OEHHA	California Office of Environmental Health Hazard Assessment
OIMP	Odor Impact Minimization Plan
OPR	Office of Planning and Research

Pb	lead
PGM	photochemical grid model
PM_{10}	particulate matter less than 10 microns in size
$PM_{2.5}$	particulate matter less than 2.5 microns in size
ppm	parts per million
ppmv	parts per million by volume
PPV	peak particle velocity
PRC	Public Resources Code
Project	Prima Deshecha Landfill Zone 4 Construction Project
REL	reference exposure level
RMS	root-mean-square
ROGs	reactive organic gases
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SAFE	Safer Affordable Fuel-Efficient
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SDG&E	San Diego Gas and Electric
SDG&E	San Diego Gas and Electric
SEIR	Supplemental Environmental Impact Report
SIP	State Implementation Plan
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO_2	sulfur dioxide
SO_4	sulfate
SO_X	sulfur oxides
SPL	sound pressure level
SR-74	State Route 74
SSHCP	Southern Subregion Habitat Conservation Plan
SSO	Source Separated Organics
State CEQA Guidelines	State Guidelines for the Implementation of CEQA of 1970
SWFP	Solid Waste Facilities Permit
TACs	toxic air contaminants
TOC	total organic carbon

tpd	tons per day
URBEMIS	Urban Emissions Model
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VdB	vibration velocity decibels
VMT	vehicle miles traveled
VOCs	volatile organic compounds
WDR	Waste Discharge Requirements
WMU1	Waste Management Unit 1
WMU2	Waste Management Unit 2

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1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

This Supplemental Environmental Impact Report (SEIR) has been prepared to evaluate environmental impacts associated with the proposed amendment to the Prima Deshecha Landfill (Landfill) 2001 General Development Plan (GDP) to include the proposed Prima Deshecha Landfill Zone 4 Construction Projects (Project).

The California Environmental Quality Act (CEQA), Public Resources Code (PRC) Section 21000 et seq., requires that local government agencies, prior to taking action on projects over which they have discretionary approval authority, consider the environmental consequences of such projects. A "discretionary approval" is an action taken by a government agency that calls for the exercise of judgment in deciding whether to approve or how to carry out a project. An Environmental Impact Report (EIR) is a public document designed to provide the public, local, and state governmental agency decision-makers with an analysis of potential environmental consequences to support informed decision-making.

Pursuant to CEQA Section 21067, the lead agency is "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment." The County of Orange (County) has the principal responsibility for approval of the proposed Project. For this reason, the County of Orange is the CEQA Lead Agency for this Project.

An SEIR is prepared when an EIR has been certified or a negative declaration adopted for a project and the lead agency determines, on the basis of substantial evidence, that one or more of the criteria listed under Section 15163 of the State Guidelines for the Implementation of CEQA of 1970 (State CEQA Guidelines) are met. The County of Orange, as Lead Agency, has determined that preparation of an SEIR is appropriate. This SEIR has been prepared pursuant to the requirements of CEQA and the County's *Local CEQA Procedures Manual* (November 2020).

This SEIR will be used to evaluate the impacts associated with implementing the Proposed Project. Use of an SEIR provides the County, as Lead Agency, with the opportunity to consider the environmental impacts that will be created by the proposed Project and its alternatives as well as mitigation measures that can reduce Project impacts to the extent possible or to below a level of significance.

The County has reviewed and revised as necessary all submitted drafts, technical studies, and reports to reflect its own independent judgment, including reliance on applicable County technical personnel from other departments and review of all technical subconsultant reports.

Data for this SEIR was obtained from on-site field observations; discussions with affected agencies; analysis of adopted plans and policies; review of available studies, reports, data, and similar literature; and specialized environmental assessments (e.g., air quality, noise, traffic).

This Executive Summary is intended to highlight the major areas of importance in the environmental analysis for the proposed Project as required by State CEQA Guidelines Section 15123. This

Executive Summary includes a brief description of the proposed Project, areas of controversy known to the County, including issues raised by agencies and the public, and a summary of alternatives evaluated in the SEIR. No new or more severe significant impacts were identified for the proposed Project. This Executive Summary also provides a table summarizing (1) the potential environmental impacts that would occur as a result of Project implementation and operation; (2) the level of significance prior to implementation of mitigation measures; (3) regulatory compliance measures and mitigation measures that avoid or reduce the significant impacts of the proposed Project, and (4) the level of significance after mitigation measures are implemented.

1.2 SUMMARY OF PROJECT DESCRIPTION

The Prima Deshecha Landfill is owned by the County and operated by OC Waste & Recycling (OCWR). OCWR is a County department that is overseen by the Board of Supervisors. Prima Deshecha Landfill is 1,530 acres (ac) and is located in southeastern Orange County, partially within San Juan Capistrano (570 ac), San Clemente (133 ac), and unincorporated Orange County (827 ac). The Landfill is located at 32250 Avenida La Pata, and access is provided by the Golden State Freeway (Interstate 5 [I-5]), Ortega Highway (State Route 74 [SR-74]), and Avenida La Pata. The Prima Deshecha Landfill site is divided into five zones, called Zones 1 through 5. Zone 1 is the current landfilling area, with an estimated closure date of approximately 2050. Zone 4 is the future landfill development area, with an estimated closure date of approximately 2102.

The proposed Project would amend the 2001 GDP to include the Zone 4 Construction Projects. The Zone 4 Construction Projects include the following components: (1) changes to the phasing of operations between Zone 1 and Zone 4 of the Landfill to allow for concurrent operations; (2) blasting, excavation, on-site relocation, pulverizing into soil, soil stockpiling and off-site soil removal of hard rock material in Zone 4, referred to as the San Onofre Breccia area; and (3) imported soil trips for liner installation that will occur for all future Zone 4 development phases.

1.3 AREAS OF CONTROVERSY

Pursuant to State CEQA Guidelines Section 15123, this SEIR acknowledges the areas of controversy and issues to be resolved that are known to the County or were raised during the scoping process. The County issued an Initial Study and Notice of Preparation (NOP) on July 23, 2020, and held a public scoping meeting on July 30, 2020, to present the proposed Project and to solicit input from interested parties regarding environmental issues that should be addressed in this SEIR. The material environmental issues and concerns raised in response to the NOP or at the scoping meeting included:

- **Traffic:** Concerns about additional traffic on Avenida La Pata and possible impacts related to increased truck traffic.
- **Noise:** Concerns about noise from blasting activities. It was suggested that the SEIR address anticipated frequency, duration, and decibel levels of blasting activities, and analyze the potential impacts of the same to adjacent and future land uses.
- **Air Quality:** Concerns about odor control and dust suppression, and potential health risks for area residents. It was suggested that mitigation measures be implemented for the proposed

Project, and to adhere to guidelines from the South Coast Air Quality Management District (SCAQMD) and its Air Quality Handbook.

Please note that this is not an exhaustive list of areas of controversy, but rather key issues that were raised during the scoping process. This SEIR addresses each of these areas of concern or controversy in detail, examines project-related and cumulative environmental impacts, identifies significant adverse environmental impacts, and proposes mitigation measures and/or alternatives designed to reduce or eliminate potentially significant impacts. Appendix A to this SEIR includes the IS/NOP and copies of written comments received in response to the NOP, as well as comments received at the Public Scoping Meeting.

1.4 SIGNIFICANT UNAVOIDABLE IMPACTS

Section 15126.2(b) of the State CEQA Guidelines requires that an EIR describe significant environmental impacts that cannot be avoided, including those effects that can be mitigated but not reduced to a less than significant level. The following is a summary of the impacts that are considered significant, adverse, and unavoidable after all mitigation is applied. As described in Chapter 4.0, Existing Environmental Setting, Environmental Analysis, Impacts, and Mitigation Measures, the proposed Project would not result in any new or more significant impacts as compared to what was analyzed and disclosed in Final EIR No. 575 or Final Supplemental EIR No. 597. Chapter 6.0, Other CEQA Considerations, provides a summary of those impacts from Final EIR No. 575 and Final Supplemental EIR No. 597 that are considered significant, adverse, and unavoidable after all mitigation is applied. These impacts are also summarized below.

1.4.1 Significant and Unavoidable Impacts from Final EIR No. 575

Final EIR No. 575 found that the construction and operation of the Landfill through completion of the 2001 GDP for the Landfill would result in an unavoidable significant adverse impact to topography, aesthetics, and biological resources.

1.4.1.1 Topography

Final EIR No. 575 concluded that the potential impacts of the 2001 GDP on-site landfilling activities on topography will be significant in Zones 1 and 4 as a result of cutting and grading of the existing surface features of the site and filling Zones 1 and 4 with refuse. In addition, a portion of the existing Prima Deshecha Cañada stream channel would be relocated south of Stockpile No. 1 because of the existing landslide that is currently affecting both hydrological and biological conditions of the stream. This diversion altered the naturally occurring alignment of the stream. These on-site impacts cannot be mitigated to below a level of significance. Although the surface of the developed landfill will be molded to minimize an engineered appearance (manufactured slopes), the final topographic features constitute a significant change to the environment. The impacts of the 2001 GDP on topography cannot be mitigated to a less than significant level.

1.4.1.2 Biological Resources

Final EIR No. 575 concluded that implementation of the 2001 GDP will result in potentially significant adverse impacts on native plant communities and occupied California gnatcatcher habitat. Final EIR No. 575 further concluded that there will be a significant, short-term loss of these

native plant communities, including coastal sage scrub (California gnatcatcher) and riparian (least Bell's vireo) habitats between the time when the plant materials are removed during construction and when the revegetation plantings are mature. This interim loss is a significant, unavoidable adverse impact that may be mitigated to below a level of significance with a successful revegetation program that is implemented prior to impacts.

1.4.1.3 Aesthetics

Final EIR No. 575 concluded that the long-term GDP construction and site preparation activities will be highly visible from many vantage points around the site, particularly in San Clemente, thereby creating a permanent change in the overall landscape character of the area. Potentially significant aesthetic impacts of the 2001 GDP landfilling activities from vantage points within San Juan Capistrano would be reduced to a less than significant level through the implementation of mitigation measures (e.g., ensuring the Landfill is not visible from SR-74). However, potentially significant impacts from the landfilling activities within the San Clemente viewshed cannot be reduced to a less than significant level, even with the implementation of mitigation. Therefore, these impacts will remain significant and unavoidable.

1.4.2 Significant and Unavoidable Impacts from Final Supplemental EIR No. 597

The Second Amendment to the 2001 GDP did not alter project emissions as covered by Final EIR No. 575. Notwithstanding that fact, a change in the State CEQA Guidelines subsequent to certification of Final EIR No. 575 resulted in an updated impact conclusion of "significant after mitigation" for air quality impacts associated with the 2001 GDP.

Final EIR No. 575 concluded that air emissions generated by the landfill component of the 2001 GDP exceeded SCAQMD thresholds of significance, and the Prima Deshecha Landfill is currently implementing several mitigation measures to reduce potential air quality impacts. The air quality impact conclusion of "less than significant" in Final EIR No. 575 was based upon the provisions contained within Section 15064(h) of the State CEQA Guidelines, which provided that an environmental impact is not significant if it complies with a standard adopted by a public agency for the purpose of environmental protection. The "standard" cited in Final EIR No. 575 to support the conclusion of less than significant impact is conformity with landfill-specific SCAQMD air quality standards, which the Landfill must meet through permit acquisition in order to continue operation. However, on October 28, 2002 (after finalization of Final EIR No. 575), the California Court of Appeal invalidated this provision in Section 15064(h) in its decision in the case of *Citizens for a Better Environment et al. vs. the California Resources Agency*; accordingly, although the Second Amendment to the 2001 GDP emissions is not different than that generated by the 2001 GDP, Final Supplemental EIR No. 597 updated the impact conclusion for air quality effects associated with the original 2001 Prima Deshecha Landfill GDP to reflect a conclusion of "significant after mitigation" based upon this change to the State CEQA Guidelines.

Implementation of the updated mitigation measures described in Section 5.4.4 of Final Supplemental EIR No. 597 would help to further reduce air quality impacts that result from operations at the Prima Deshecha Landfill; however, even with implementation of all existing and recommended mitigation measures, operations at the Landfill would result in significant and unavoidable air quality impacts.

The Second Amendment to the 2001 GDP did not result in additional impacts to surrounding communities from project-related odor considerations. However, in response to comments received during public review of Draft Supplemental EIR No. 597, OCWR agreed to use the Whispering Hills development as a periodic odor survey point when fulfilling its established commitment under Mitigation Measure 4.9-5, Energy Impacts.

1.5 ALTERNATIVES

1.5.1 Alternatives Evaluated in this SEIR

PRC Section 21100 and State CEQA Guidelines Section 15126 require an EIR to identify and discuss a No Project Alternative and a reasonable range of alternatives to the proposed Project that would feasibly attain most of the basic objectives of the project and would avoid or substantially lessen any of the significant environmental impacts. Several alternatives were considered for detailed analysis in Final EIR No. 575 and Final Supplemental EIR No. 597 to reduce or avoid significant and unavoidable impacts, but were eliminated due to infeasibility. These are described in detail in Chapter 7.0, Alternatives.

Based on the criteria listed above, four variations of the No Project/No Development Alternative have been selected even though there are no significant impacts resulting from the proposed Project. Therefore, the alternatives considered in this SEIR include the following:

- **Alternative 1: No Project.** Under this alternative, the proposed Project would not be implemented on the Project site, and Landfill operations would continue as planned under existing conditions. Four variations of the No Project are provided below.
    - **Alternative 1A: No Project (All Components).** Under this alternative, the proposed Project would not be implemented on the Project site. Specifically, Landfill operations would continue at Zone 1 until closure rather than concurrent operations with Zone 4. No activities associated with the San Onofre Breccia removal would occur. The soil for the liner required for operation of Zone 4 would not be imported, and Zone 4 would not open as planned. The Landfill would close at the completion of filling activities in Zone 1.
    - **Alternative 1B: No Concurrent Operations.** The San Onofre Breccia removal and liner installation for Zone 4 would occur, but Landfill operations would continue to be processed at Zone 1 until closure and no concurrent operations would occur.
    - **Alternative 1C: No Breccia Removal.** Concurrent operations of Zones 1 and 4 and importation of soil for the installation of the liner in Zone 4 would occur, but the San Onofre Breccia material would not be removed from the site. The Landfill would close earlier than planned due to reduced landfill capacity.
    - **Alternative 1D: No Concurrent Operations or Breccia Removal.** Importation of the soil required for installation of the liner in Zone 4 would occur, but Landfill operations would continue to be processed at Zone 1 until closure before transferring operations to Zone 4, and the San Onofre Breccia material would not be removed from the site. The Landfill would close earlier than planned due to reduced landfill capacity.

1.5.2 Identification of the Environmentally Superior Alternative

CEQA requires the identification of an Environmentally Superior Alternative among the alternatives evaluated in an EIR. State CEQA Guidelines Section 15126.6(e)(2) provides that, if the No Project/No Build Alternative is the Environmentally Superior Alternative, then the EIR shall also identify an Environmentally Superior Alternative among the other alternatives.

Alternative 1A, the No Project Alternative (All Components), would have the least impact on the environment because it would not result in any changes from existing Landfill operating conditions. While Alternative 1A would lessen aesthetic, air quality, and noise impacts of the proposed Project, the beneficial impacts of the proposed Project—including the reduction of noise, dust, and odors, and the protection of public, health, safety, and other resources with installation of the soil for the liner—would not occur, and none of the Project objectives would be met.

Similarly, Alternative 1C (No Breccia Removal) and Alternative 1D (No Concurrent Operations or Breccia Removal) would reduce aesthetic and air quality environmental impacts, but would also substantially reduce the capacity of the Landfill, thereby causing it to close early, and would not achieve all of the Project objectives. Alternative 1B (No Concurrent Operations) would ultimately result in the same impacts as the proposed Project, but would not meet the Project objective to minimize noise, dust, and odor.

Therefore, based on the comparative analysis of alternatives presented above, the proposed Project is considered to be environmentally superior in that its implementation would not result in any new significant adverse environmental impacts or require any new mitigation measures, and would achieve all the Project objectives.

1.6 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 1.A identifies the potential Project environmental impacts, proposed mitigation measures, and level of significance after mitigation is incorporated into the Project. Environmental topics addressed in this SEIR include: Aesthetics, Air Quality, and Noise. All mitigation commitments contained within Final EIR No. 575 and the 2001 GDP apply to the proposed Project.[1]

1.6.1 Secondary Effects of Mitigation Measures

In accordance with State CEQA Guidelines Section 15126.4(a)(1)(D), if any mitigation measure would cause one or more significant effects in addition to those that would be caused by the proposed Project, the effects of the mitigation measure shall be discussed. The mitigation measures proposed (as listed in Table 1.A) have been evaluated during their respective adoptions or approval processes. No secondary effects related to the proposed mitigation measures are expected to occur.

[1] The mitigation measure requirements in Final EIR No. 575 refer to the Director of Public Facilities and Resources Department (PF&RD) and Harbor, Beaches, and Parks (HBP). These County departments have been renamed OC Public Works and OC Parks, respectively. Therefore, mitigation measure requirements would be addressed by the Director of OC Public Works and/or the Director of OC Parks as applicable.

Table 1.A: Summary of Project Impacts, Regulatory Compliance Measures, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Prior to Mitigation	Regulatory Compliance Measures and Mitigation Measures	Level of Significance After Mitigation
4.1: Aesthetics			
Threshold 4.1.1: The proposed Project would not have a substantial adverse effect on a scenic vista. The proposed Project would be visible from the designated ridgelines on Stallion Ridge Trail, Prima Deshecha Trail, and Forster Ridgeline Trail and from the Scenic Vista identified in the City of San Clemente General Plan Natural Resources Element on the Forster Ridgeline Trail. The Project site is also visible to residents in surrounding hillside neighborhoods and visitors within the vicinity that provide expansive views of the Santa Ana foothills and associated ridgelines. However, the visual changes to scenic vistas from San Onofre Breccia removal, including the lower topographic profile of the ridgeline on the northern portion of the Prima Deshecha Landfill, would occur over the span of 10 years. The ridgeline north of Zone 4, which would experience the greatest visual change as a result of the Breccia removal, is not one of the designated ridgelines described above. Additionally, while the 3.3-million-cubic-yard San Onofre Breccia soil stockpile may be visible from off-site locations, including from designated ridgelines along Stallion Ridge Trail, Prima Deshecha Trail, and from certain locations along the Forster Ridgeline Trail, the stockpile area would not be visible from the designated Scenic Vista. In addition, the removal of the Breccia material would open views to surrounding foothills and further ranges of the Santa Ana Mountain range. No man-made uses or other land uses that would conflict with the overall visual character of this scenic vista would be exposed by the removal of this portion of the ridgeline. Stockpiling in Zone 4 and liner installation for build out of Zone 4 would not reach an elevation that would alter the existing ridgeline or obstruct views of the surrounding foothills, and the stockpile area is not visible from the designated Scenic Vista in San Clemente. Therefore, due to the long-term nature of all the activities analyzed in this SEIR and the minor change to the ridgeline from the Breccia removal, the impact to scenic vistas would be less than significant and no new mitigation measures are required. Nevertheless, all mitigation commitments contained within Final EIR No. 575, Final Supplemental EIR No. 597, and the 2001 GDP would apply to the proposed Project.	Less Than Significant	**MM 4.1-1**: Prior to approval of the final cover design and in the Preliminary Closure Plan by the San Diego Regional Water Quality Control Board, the Local Enforcement Agency and the California Integrated Waste Management Board, the IWMD Director shall ensure that the grading plans for the final slopes and for the landfill areas in Zones 1 and 4 continue to incorporate design, grading and engineering features that avoid a manufactured appearance and result in curvilinear landfill surfaces that most closely approximate the existing natural features of the area.	Less Than Significant
Threshold 4.1.2: The Project site is neither located within nor is visible from a State or County Scenic Highway. The Project would not damage scenic resources within a State Scenic Highway beyond what was previously analyzed in Final EIR No. 575. The proposed Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway, and impacts would be less than significant.	No Impact	None	No Impact
Threshold 4.1.3: The proposed concurrent landfilling operations in Zones 1 and 4, stockpiling of San Onofre Breccia material on the southern portion of Zone 4, and soil importation for liner installation for the development of Zone 4 would not result in any change to visual character or quality of public views beyond what was analyzed in Final EIR No. 575 and Final Supplemental EIR No. 597. The removal of the San Onofre Breccia would result in a steeper change in the topographic profile from the ridgeline to the rest of Zone 4, as visible from Key View	Less Than Significant with Mitigation Incorporated	See Mitigation Measure 4.1-1 above. **MM 4.11-1:** Prior to final design, the IWMD shall establish landscape standards for plantings in areas to be revegetated or screened from view. These guidelines shall illustrate all plant materials, sizes, species, and quantities plus irrigation and preservation techniques. There shall be a variety of landscape types addressed, including revegetating graded slopes and earthen berms, and screening of landfill operations structures and permanent landfill buildings. Roads and trail cuts will be revegetated with natural grasses, shrubs, and trees to blend with the landscape character of adjacent areas. Additionally, trees selected for planting shall comply with the appropriate State and local regulatory requirements for the protection of groundwater.	Less Than Significant

Table 1.A: Summary of Project Impacts, Regulatory Compliance Measures, Mitigation Measures, and Level of Significance after Mitigation

<table>
<tr><th>Environmental Impact</th><th>Level of Significance Prior to Mitigation</th><th>Regulatory Compliance Measures and Mitigation Measures</th><th>Level of Significance After Mitigation</th></tr>
<tr><td>7 on the Stallion Ridge Trail. The entire area of San Onofre Breccia removal is shielded by an existing hillside in the foreground. Therefore, the visual change in elevation that can be seen between existing and interim conditions in profile of this ridgeline is approximately 50 to 60 ft. While the profile of this ridgeline along the northern portion of Zone 4 would be slightly lowered due to the proposed blasting, no Landfill activities would block views of this ridgeline or ridgelines in the distance, and public views of the top of the ridgeline would remain similar to existing conditions. The ultimate conditions show the same change as the interim for the Breccia removal location (i.e., a slight flattening of the hillside on the southern portion of Zone 4) once final Landfill activities and grading are completed.

Construction activities for the Breccia removal would occur intermittently over the course of 10 years, thereby minimizing potential visual impacts to scenic vistas and the visual surroundings during construction. In addition, no land uses would be exposed in the background from the lowering of the ridgeline. The changes in elevation of the ridgelines surrounding Zone 4 would not expose the public to more views of landfilling activities compared to existing conditions. Overall, the minor changes to the topography surrounding the Landfill would not represent a substantial change in topography or substantial change to the visual character of the Project site over the lifetime of the Landfill. Impacts would be less than significant with incorporation of applicable mitigation commitments contained within Final EIR No. 575, Final Supplemental EIR No. 597, and the 2001 GDP, and no additional mitigation is required. Nevertheless, all mitigation commitments contained within Final EIR No. 575, Final Supplemental EIR No. 597, and the 2001 GDP would apply to the proposed Project. This does not change the impact conclusion in Final EIR No. 575, which concluded that impacts related to public views would be significant and unavoidable.</td><td></td><td>MM 4.11-2: During final design and construction, the IWMD shall ensure that plantings will be integrated with earthen berms and cut slopes to screen undesirable views. For these situations, the landscape design guidelines shall include grading guidelines which will address issues such as the areas where berms are recommended, the sizes of such berms, and recommended slope gradients to minimize soil erosion.

MM 4.11-4: As early as possible in the construction and operation of the active and closed landfill areas, the IWMD shall plant the landscape areas that will take the longest time to establish and achieve their desired visual effects. In general, rehabilitation priorities will be established based on size and visibility of the area to be landscaped. In most cases, these will be the landfilling areas in Zones 1 and 4 that are visible from adjacent land uses.

MM 4.11-6a: The IWMD shall ensure that the design and layout of the landfill areas includes landscaping to reduce the visual impact of the landfill surfaces following the closure of each landfill area. The IWMD shall ensure that the landscaping consists of vegetation with plantings that are consistent with the surrounding natural terrain. The IWMD shall ensure that the landscaping plantings include appropriate transitions with areas of native vegetation and areas landscaped for recreation uses. A recommended candidate plant species palette is shown in Table 4.11-1 below.

Table 4.11-1
Vegetative Plantings
2001 Prima Deshecha GDP
<table><tr><th>a. Plant Species</th><th>b. Common Name</th><th>c. Pounds of Seed Per Acre</th></tr><tr><td>Artemisia californica</td><td>California sagebrush</td><td>2</td></tr><tr><td>Encelia californica</td><td>California bush sunflower</td><td>3</td></tr><tr><td>Eschscholzia californica</td><td>California poppy</td><td>2</td></tr><tr><td>Lotus scoparius</td><td>deerweed</td><td>8</td></tr><tr><td>Eriogonum fasciculatum</td><td>California buckwheat</td><td>12</td></tr><tr><td>Lasthenia glabrata</td><td>goldfields</td><td>2</td></tr><tr><td>Lupinus succulentus</td><td>arroyo lupine</td><td>4</td></tr><tr><td>Collinsia heterophylla</td><td>Chinese houses</td><td>2</td></tr><tr><td>Eriophyllum conferitflorum</td><td>golden yarrow</td><td>3</td></tr><tr><td>Salvia apiana</td><td>white sage</td><td>2</td></tr><tr><td>Plantago insularis</td><td>plantain</td><td>30</td></tr><tr><td>Sisyrinchium bellum</td><td>blue-eyed grass</td><td>2</td></tr><tr><td>Diplacus longiflorus</td><td>sticky-leaved monkey-flower</td><td>2</td></tr><tr><td>Salvia mellifera</td><td>black sage</td><td>2</td></tr></table>Source: Final EIR No. 548 (November 1995).

MM 4.11-6b: Following temporary or final closure of landfill surfaces, hydroseeding shall be applied to the landfill areas and slopes by the IWMD. Hydroseeding shall be applied consistent with the Standard Specifications for Public Works Construction.</td><td></td></tr>
<tr><td>Threshold 4.1.4: The proposed Project would involve daytime operations for all landfill operations and would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Therefore, impacts related to light and glare would be less than significant.</td><td>Less Than Significant</td><td>None</td><td>Less Than Significant</td></tr>
<tr><td>Cumulative Impact Related to Aesthetics: The proposed Project includes construction projects that would be incrementally implemented over the course of 20 years for the San Onofre Breccia removal until build out of Zone H for Zone 4 in 2089 for the soil liner installation and until Zone 4 closure in 2102. The proposed Project and all current and future related projects are required to adhere to City, County, and State regulations designed to reduce and/or avoid impacts</td><td>Less Than Significant</td><td>None</td><td>Less Than Significant</td></tr>
</table>

Table 1.A: Summary of Project Impacts, Regulatory Compliance Measures, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Prior to Mitigation	Regulatory Compliance Measures and Mitigation Measures	Level of Significance After Mitigation
related to aesthetics and would be reviewed for consistency with applicable goals, policies, and development standards. With compliance with these regulations, cumulative impacts related to aesthetics would be less than significant. Therefore, implementation of the proposed Project would not result in a significant cumulative impact related to aesthetics, and no mitigation is required. Nevertheless, all mitigation commitments contained within Final EIR No. 575, Final Supplemental EIR No. 597, and the 2001 GDP would apply to the proposed Project.			
4.2: Air Quality			
Threshold 4.2.1: The proposed Project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards of the interim emissions reductions specified in the AQMP. In addition, the proposed Project would not exceed the assumptions in the AQMP or increments based on the year of Project build out and phase. While Final EIR No. 575 did not specifically analyze the potential for the GDP to conflict with or obstruct implementation of an applicable air quality plan, it did determine an impact would be significant if it exceeded the SCAQMD thresholds. The proposed Project would not result in new or significantly worsening air quality emissions beyond those identified in Final EIR No. 575 and Final Supplemental EIR No. 597 and would not exceed the assumptions in the AQMP or increments based on the year of the proposed Project build out and phase. Therefore, Project impacts related to this threshold would be less than significant.	Less Than Significant	None	Less Than Significant
Threshold 4.2.2: The emissions of criteria pollutants generated from operation of the proposed Project would not exceed the corresponding SCAQMD daily emission thresholds for operations in years 2043 and 2058.. Long-term landfill operational emissions of the proposed Project would exceed the SCAQMD threshold for NO_X in 2023; however, because the Basin is a designated attainment area for NO_2 (and NO_2 is a constituent of NO_X) and the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards,[1] it is anticipated that the proposed Project would not exceed the NAAQS and CAAQS for NO_2. Therefore, the proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State AAQS. Nevertheless, all mitigation commitments contained within Final EIR No. 575, Final Supplemental EIR No. 597, and the 2001 GDP would apply to the proposed Project. While the proposed Project would not result in an air quality standard violation, Final Supplemental EIR No. 597 concluded that air quality impacts would be significant and unavoidable, reflecting that both the worst-case daily construction and operational emissions from a 4,000 tpd landfill would exceed both the daily construction and operational emissions thresholds of significance included in the SCAQMD CEQA Air Quality Handbook (1993). While the proposed Project would result in a	Less Than Significant	**MM 4.9-3:** The Integrated Waste Management District shall design, construct and operate new landfill areas in Zones 1 and 4 with landfill gas (LFG) systems to maximize the collection of LFG. The LFG systems will include continuous monitoring of the LFG collection system to maximize efficient collection of LFG generated in these areas. **MM 4.9-4:** During landfill operations, the Integrated Waste Management Department (IWMD) shall continue regular visual inspections of the landfill cover and monitoring of LFG emissions throughout the entire refuse fill areas. The purpose of these inspections is to locate cracks or other defects or flaws in the landfill cover, which may allow LFG to escape. When such areas are identified, the IWMD will implement the appropriate corrective action as soon as feasible. These corrective actions may include application and compaction of additional cover material, adjustment of the existing LFG control system and/or installation of new LFG control facilities. **MM 4.9-6:** During landfill operations, the IWMD shall ensure that landfill operations areas that are to be left exposed temporarily, including top deck and excavation slopes, are sprayed periodically with water, as needed. **MM 4.9-7:** On landfilled areas that are no longer in use, the IWMD will, as appropriate, incorporate dust control systems or vegetative covers, consistent with the Final Closure Plans and with IWMD's approved Rule 403 Compliance Plan for landfilling Zones 1 and 4. **MM 4.9-8:** During landfill operations, the landfill fee station personnel and/or landfill refuse inspectors shall refrain from accepting dusty loads of refuse for disposal in either landfilling Zone 1 or 4. Alternatively, at the discretion of landfill personnel, dusty loads of refuse may be accepted for disposal, if they are sprayed with water prior to leaving the fee station and accessing the active face of the landfill. **MM 4.9-9a:** During landfill operations, the IWMD shall maintain water trucks on site to spray water on on-site unpaved roads as needed to minimize the generation of dust as vehicles travel on these roads, as per IWMD's approved Rule 403 Compliance Plan.	Less Than Significant

[1] See Table 4.2.B, which shows that ambient concentrations of NO_2 at the Mission Viejo monitoring station have not exceeded the NAAQS or CAAQS between 2016 and 2018.

Table 1.A: Summary of Project Impacts, Regulatory Compliance Measures, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Prior to Mitigation	Regulatory Compliance Measures and Mitigation Measures	Level of Significance After Mitigation
less than significant impact related to criteria pollutant emissions, this does not change the impact conclusion in Final Supplemental EIR No. 597, which concluded that impacts related to emissions would be significant and unavoidable.		**MM 4.9-9b:** During landfill operations, the IWMD shall, to the extent feasible while still maintaining appropriate landfill operations, restrict vehicular travel on unpaved roads on the site. In the event that unpaved roads must be used, the IWMD shall spray water on these roads as needed. **MM 4.9-9c:** As unpaved on-site roads are removed from active service, the IWMD will spray these areas with a hydromulch solution or synthetic binder. **MM 4.9-10:** During landfill operations, the IWMD will use the on-site water trucks to spray water on graded areas or areas where the vegetation has been removed or severely disturbed as a result of landfilling activities, as per IWMD's approved Rule 403 Compliance Plan. **MM 5.4-1:** IWMD and its contractors shall be required to comply with regional rules to reduce air pollutant emissions. SCAQMD Rule 401 sets limits on the opacity of visible plumes of dust resulting from activities at the Landfill. SCAQMD Rule 402 requires that air pollutant emissions generated at the Landfill not be a nuisance off site. SCAQMD Rule 403 requires that fugitive dust be controlled with the best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Two options are presented in Rule 403: monitoring of particulate concentrations, or active control. Monitoring involves a sampling network around the project with no additional control measures unless specified concentrations are exceeded. The active control option does not require any monitoring, but requires that a list of measures be implemented on a daily basis. SCAQMD Rule 403 requires that "best available control measures" be utilized whenever a dust-generating activity occurs in the Basin. These measures are listed in Table 1 of Rule 403 and called out in Table 5.4-6 below [Table 5.4-6 has been moved to follow Table 1.A to enhance readability]. It is important to note that all applicable measures from Table 5.4-6 should be implemented to achieve the required PM_{10} emissions reductions. Rule 403 requires that "Large Projects" implement additional measures. A Large Project is defined as any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic meters (5,000 cy) or more than three times during the most recent 365-day period. The Prima Deshecha Landfill would be considered a Large Project under Rule 403. Therefore, the Landfill is required to implement the applicable actions specified in Table 2 of the Rule. Table 2 from Rule 403 is presented below as Table 5.4-7 [Table 5.4-7 has been moved to follow Table 5.4-6 at the end of this section to enhance readability]. As a Large Operation, the Landfill will also be required to: ● Submit a fully executed Large Operation Notification (SCAQMD Form 403N) to the SCAQMD Executive Officer within 7 days of qualifying as a Large Operation; ● Include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site; ● Maintain daily records to document the specific dust-control actions taken, maintain such records for a period of not less than 3 years, and make such records available to the Executive Officer upon request; ● Install and maintain project signage with project contact signage that meets the minimum standards of the *Rule 403 Implementation Handbook*, prior to initiating any earthmoving activities; and ● Identify a dust control supervisor that is employed by or contracted with the property owner or developer, is on the site or available on-site within 30 minutes during working hours, has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements, and has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and ● Notify the SCAQMD Executive Officer in writing within 30 days after the site no longer qualifies as a large operation.	

Table 1.A: Summary of Project Impacts, Regulatory Compliance Measures, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Prior to Mitigation	Regulatory Compliance Measures and Mitigation Measures	Level of Significance After Mitigation
		MM 5.4-2: To reduce equipment emissions, the following measures shall be implemented when feasible: ● Use low emission mobile construction equipment. "CARB Certified" heavy construction equipment conforms to the latest off-road CARB emission standards and is the lowest polluting equipment available. The use of this equipment would reduce heavy equipment NO_X emissions by approximately 30 percent and heavy equipment PM_{10} emissions by approximately 50 percent from the emissions levels shown in Tables 5.4-3 through 5.4-5. This is a substantial reduction but will not reduce emissions to less than the significance thresholds. ● Maintain construction equipment engines by keeping them tuned. ● Use low-sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2. ● Utilize existing power sources (i.e., power poles) when feasible. This measure would minimize the use of higher polluting gas or diesel generators. ● Use aqueous diesel fuel where feasible and reasonably commercially available. ● Use cooled exhaust gas recirculation (EGR) where feasible and reasonably commercially available. Several of the mitigation measures listed above are advanced emission control technologies that are currently not commercially available. For example, aqueous diesel fuel reduces NO_X formation by reducing combustion temperatures, resulting in lower NO_X emissions. According to SCAQMD, the current availability of this fuel technology is limited, and it may not be available for use at the Landfill. In addition, with EGR diesel engines, a small amount of hot exhaust gas is routed through a cooler and is mixed with fresh air entering the engine. The exhaust gas helps reduce the temperature during combustion, which lowers the formation of thermal NO_X. EGR technology is in the development phase and has not been fully commercialized. To the extent that the advanced emissions-control technologies become reasonably commercially available, or are required by the CARB from grading contractors, then such advanced emissions-control technologies will be used. Furthermore, a requirement to install diesel particulate filters on construction equipment used at the Landfill was considered to further reduce emissions. However, the availability of construction equipment retrofitted with diesel particulate filters is limited. This is a result of operational problems in diesel engines equipped with these filters. Therefore, this potential mitigation measure for construction is considered infeasible.	
Threshold 4.2.3: Long-term landfill operational emissions of the proposed Project would exceed the SCAQMD threshold for NO_X in 2023; however, because the Basin is a designated attainment area for NO_2 (and NO_2 is a constituent of NO_X) and the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards with the proposed Project, it is anticipated that the Project would not exceed the NAAQS and CAAQS for NO_2. As such, the proposed Project would not contribute to health effects associated with NO_X and NO_2. For all other criteria air pollutants, including VOC, CO, SO_X, PM_{10}, and $PM_{2.5}$, the proposed Project would not exceed SCAQMD thresholds and the proposed Project is not anticipated to result in health effects associated with these criteria pollutants. . In addition, as shown in Table 4.2.M, the total proposed Project emissions would be significantly lower than previously assumed for the approved Project. As shown in Table 4.2.N, the proposed Project would not result in a significant increased cancer risk to nearby residents and would not expose sensitive receptors to substantial pollutant concentrations. With incorporation of applicable mitigation commitments contained within Final EIR No. 575, Final Supplemental EIR No. 597, and the 2001 GDP, no additional mitigation is required for the proposed project. As compared to the findings of Final EIR No. 575 and Final Supplemental EIR No. 597, the proposed Project would not result in any new or more severe significant impacts related to the exposure of sensitive receptors to substantial pollutant	Less Than Significant with Mitigation Incorporated	See Mitigation Measures 4.9-1 through 4.9-10 from Final EIR No. 575 and Mitigation Measures 5.4-1 and 5.4-2 from Final Supplemental EIR No. 597 above.	Less Than Significant

Table 1.A: Summary of Project Impacts, Regulatory Compliance Measures, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Prior to Mitigation	Regulatory Compliance Measures and Mitigation Measures	Level of Significance After Mitigation
concentrations. Nevertheless, all mitigation commitments contained within Final EIR No. 575, Final Supplemental EIR No. 597, and the 2001 GDP would apply to the proposed Project.			
Threshold 4.2.4: While landfill operations may result in odors, with compliance with SCAQMD Rules 402, 403, and 431.2, Title 13 CCR 2449(d)(d) and OCWR's Odor Impact Minimization Plan, impacts related to odors would not result in a significant impact on a substantial number of people. In addition, the proposed Project would allow for concurrent operations in both Zones 1 and 4 to allow landfilling activities to shift between the two zones based on seasonal environmental conditions to minimize any potential exhaust emissions, fugitive dust, and odor impacts that may occur to existing and future residential developments near the Landfill. The proposed Project, by design, is intended to reduce odors associated with operation of the Landfill. Therefore, for the reasons listed above, the proposed Project would not result in odors adversely affecting a substantial number of people the proposed Project would not result in any new or more severe significant impacts related to odors.. Nevertheless, all mitigation commitments contained within Final EIR No. 575, Final Supplemental EIR No. 597, and the 2001 GDP would apply to the proposed Project.	Less Than Significant	**MM 4.9-1:** Landfill fee station personnel and/or landfill refuse inspectors shall reject extremely odorous loads for disposal in the landfill. **MM 4.9-2:** The active face of the landfill shall be covered daily. If the active face is in close proximity and upwind of on-site recreation uses, masking or neutralization agents may be added to exposed refuse to reduce the odor nuisance effects on the adjacent recreation uses. **MM 4.9-3:** The Integrated Waste Management District shall design, construct and operate new landfill areas in Zones 1 and 4 with landfill gas (LFG) systems to maximize the collection of LFG. The LFG systems will include continuous monitoring of the LFG collection system to maximize efficient collection of LFG generated in these areas. **MM 4.9-4:** During landfill operations, the Integrated Waste Management Department (IWMD) shall continue regular visual inspections of the landfill cover and monitoring of LFG emissions throughout the entire refuse fill areas. The purpose of these inspections is to locate cracks or other defects or flaws in the landfill cover, which may allow LFG to escape. When such areas are identified, the IWMD will implement the appropriate corrective action as soon as feasible. These corrective actions may include application and compaction of additional cover material, adjustment of the existing LFG control system and/or installation of new LFG control facilities. **MM 4.9-5:** During landfill operations, the IWMD shall conduct periodic odor surveys on the landfill site and at various points in the area surrounding the site. The IWMD shall conduct odor surveys if any odors from the landfill are detected off site and reported by nearby residents. When the source of these odors is identified, the IWMD will implement the appropriate corrective action as soon as feasible. These corrective actions may include application and compaction of additional cover material, use of masking or neutralizing agents, adjustment of the existing LFG control system and/or installation of new LFG control facilities.	Less Than Significant
Cumulative Impact Related to Air Quality: The proposed Project's construction- and operation-related regional daily emissions would be less than the SCAQMD significance thresholds for all criteria pollutants. Therefore, the proposed Project would not have a cumulatively considerable increase in emissions, and the proposed Project's cumulative air quality impacts would be less than significant. Nevertheless, all mitigation commitments contained within Final EIR No. 575, Final Supplemental EIR No. 597, and the 2001 GDP would apply to the proposed Project.	Less Than Significant	See Mitigation Measures 4.9-1 through 4.9-10 from Final EIR No. 575 and Mitigation Measures 5.4-1 and 5.4-2 from Final Supplemental EIR No. 597 above.	Less Than Significant
4.3: Noise			
Threshold 4.3.1: Due to maximum noise levels associated with the proposed Project and intervening topography, concurrent operation of the proposed Project would not exceed thresholds at sensitive receptors and the impacts would be less than significant. In addition, even if the maximum noise increase associated with off-site hauling of pulverized material and soil import truck trips for liner installation were to occur closer to the Project site, it would not result in a significant impact because maximum daily operational noise levels are well below applicable thresholds. Therefore, the proposed Project would not result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the proposed Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Nevertheless, all mitigation commitments contained within Final EIR No. 575, Final Supplemental EIR No. 597, and the 2001 GDP would apply to the proposed Project.	Less Than Significant	**MM 4.10-1:** Although the construction associated with landfilling under the GDP is not anticipated to result in significant noise impacts on residential uses adjacent to the site, the IWMD shall reduce landfill operations noise impacts to the extent feasible based on available funds through the use of landscaping, berms at the face of each landfill lift, phased construction of the landfill areas and the use of buffer areas between noise sources and sensitive recreation receptors. **MM 4.10-2:** During final design, the Director PF&RD shall mitigate traffic noise impacts through the use of landscaping buffers and setbacks from the street right-of-way by incorporating these features in the design of the street improvements. **MM 4.10-3:** During construction operations, the Director PF&RD shall mitigate noise levels associated with the construction of on-site roadways adjacent to sensitive receptors through the use of limited construction hours, landscape buffers and sound barriers as determined appropriate. **MM 4.10-4:** The PF&RD/HBP shall mitigate noise levels associated with the construction of recreation uses adjacent to sensitive receptors through the use of limited construction hours and landscape buffers as determined appropriate.	Less Than Significant

Table 1.A: Summary of Project Impacts, Regulatory Compliance Measures, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Prior to Mitigation	Regulatory Compliance Measures and Mitigation Measures	Level of Significance After Mitigation
Threshold 4.3.2: While it is extremely unlikely that maximum vibration levels would be generated from each project area, in the event that should occur, the combined vibration impact would still be well below the most sensitive criteria of 0.12 PPV in/sec for structures that are fragile. Therefore, vibration levels associated with the proposed Project components would be below the applicable thresholds. Therefore, the proposed Project would not result in the generation of excessive ground-borne vibration or ground-borne noise levels, and impacts would be less than significant.	Less Than Significant	None	Less Than Significant
Threshold 4.3.3: The proposed Project would not be located within the vicinity of a private airstrip, public airport, or an airport land use plan, and would not expose people residing or working in the Project area to excessive noise levels.	No Impact	None	No Impact
Cumulative Impacts to Noise and Vibration: Noise and vibration impacts associated with the proposed Project are localized and rapidly attenuate with distance as identified in the analysis above. The location of potential traffic noise impacts are located over 1.25 mi from Landfill operations and other construction activities. In addition to traffic noise generated by cumulative projects in the area, the La Pata Transfer Station, which is located over 0.5 mi north of Zone 4, would potentially generate noise impacts to surrounding uses. Based on information provided in *Addendum 10 to Final EIR Nos. 584 and 589 to The Ranch Plan – La Pata Transfer Station Project* (OCPW 2019), exterior operations at the transfer station would generate minimal noise levels at the closest common receptor (i.e., San Juan Hills High School). The minimal noise level combined with the proposed project noise levels would still remain well below the applicable noise level standards. Therefore, the proposed Project would not contribute substantially to cumulative operational noise impacts and would have a less than cumulatively considerable impact. . The proposed Project's contribution to cumulative impacts associated with noise and vibration would be less than significant.	Less Than Significant	None	Less Than Significant

AAQS = ambient air quality standards
AQMD = Air Quality Management District
AQMP = Air Quality Management Plan
CAAQS = California Ambient Air Quality Standards
CARB = California Air Resources Board
CCR = California Code of Regulations
CEQA = California Environmental Quality Act
CO = carbon monoxide
dBA = A-weighted decibels
EGR = exhaust gas recirculation
EIR = Environmental Impact Report
GDP = General Development Plan
IWMD = Integrated Waste Management Department (now known as OC Waste & Recycling)
LFG = landfill gas
NAAQS = National Ambient Air Quality Standards
NO_2 = nitrogen dioxide
NO_X = nitrogen oxides
OCWR = OC Waste & Recycling
PF&RD = Public Facilities and Resources Department (now known as OC Public Works)
PF&RD/HBP = Public Facilities and Resources Department/Harbor, Beaches, and Parks (now known as OC Parks)
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District
SEIR = Supplemental Environmental Impact Report
SO_X = sulfur oxides
tpd = tons per day
VOC = volatile organic compounds

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Table 5.4-6: Required Best Available Control Measures (SCAQMD Rule 403, Table 1)

Control Measure	Guidance
Backfilling	
01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling;and 01-3 Stabilize soil at completion of activity.	● Mix backfill soil with water prior to moving ● Dedicate water truck or high capacity hose to backfilling equipment ● Empty loader bucket slowly so that no dust plumes are generated ● Minimize drop height from loader bucket
Clearing and Grubbing	
02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	● Maintain live perennial vegetation where possible ● Apply water in sufficient quantity to prevent generation of dust plumes
Clearing Forms	
03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	● Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	
04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	● Follow permit conditions for crushing equipment ● Pre-water material prior to loading into crusher ● Monitor crusher emissions opacity ● Apply water to crushed material to prevent dust plumes
Cut and Fill	
05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	● For large sites, pre-water with sprinklers or water trucks and allow time for penetration ● Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – Mechanical/Manual	
06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	● Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed Soil	
07-1 Stabilize disturbed soil throughout the construction site; and 07-02 Stabilize disturbed soil between structures	● Limit vehicular traffic and disturbances on soils where possible ● If interior block walls are planned, install as early as possible ● Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust ● plumes
Earth-Moving Activities	
08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	● Grade each project phase separately, timed to coincide with construction phase ● Upwind fencing can prevent material movement on site ● Apply water or a stabilizing agent in sufficient ● quantities to prevent the generation of visible dust plumes
Importing/Exporting of Bulk Materials	
09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive	● Use tarps or other suitable enclosures on haul trucks ● Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage ● Comply with track-out prevention/mitigation requirements ● Provide water while loading and unloading to reduce visible dust plumes

Table 5.4-6: Required Best Available Control Measures (SCAQMD Rule 403, Table 1)

Control Measure	Guidance
dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	
Landscaping	
10-1 Stabilize soils, materials, slopes	● Apply water to materials to stabilize Maintain materials in a crusted condition ● Maintain effective cover over materials ● Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes ● Hydroseed prior to rain season
Road Shoulder Maintenance	
11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	● Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs ● Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder ● maintenance costs
Screening	
12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	● Dedicate water truck or high capacity hose to screening operation ● Drop material through the screen slowly and minimize drop height ● Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop ● point
Staging Areas	
13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	● Limit size of staging area ● Limit vehicle speeds to 15 miles per hour ● Limit number and size of staging area entrances/exists
Stockpiles/Bulk Material Handling	
14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	● Add or remove material from the downwind portion of the storage pile ● Maintain storage piles to avoid steep sides or faces
Traffic Areas for Construction Activities	
15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	● Apply gravel/paving to all haul routes as soon as possible to all future roadway areas ● Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	
16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16.2 Stabilize soils at the completion of trenching activities.	● Pre-watering of soils prior to trenching is an effective preventive measure. ● For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching ● Washing mud and soils from equipment at the ● conclusion of trenching activities can prevent crusting and drying of soil on equipment

Table 5.4-6: Required Best Available Control Measures (SCAQMD Rule 403, Table 1)

Control Measure	Guidance
Truck Loading	
17-1 Pre-water material prior to loading; and 17.2 Ensure that freeboard exceeds six inches (CVC 23114)	● Empty loader bucket such that no visible dust plumes are created ● Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	
18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	● Haul waste material immediately off site
Unpaved Roads/Parking Lots	
19-1 Stabilize soils to meet the applicable performance standards; and 19-2 Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	● Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
Vacant Land	
20-1 In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Table 5.4-7: Fugitive Dust Control Actions (SCAQMD Rule 403, Table 1)

Fugitive Dust Source Category Control Actions	
Earth-Moving (Except Construction Cutting and Filling Areas, and Mining Operations)	
(1a)	Maintain soil moisture content at a minimum of 12 percent, as determined by the ASTM [American Society for Testing and Materials] method D2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; **OR**
(1a-1)	For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
Earth-Moving: Construction Fill Areas	
(1b)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.
Earth-Moving: Construction Cut Areas and Mining Operations	
(1c)	Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed Surface Areas (Except Completed Grading Areas)	
(2a/b)	Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed Surface Areas: Completed Grading Areas	
(2c)	Apply chemical stabilizers within five working days of grading completion; **OR**
(2d)	Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive Disturbed Surface Areas	
(3a)	Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; **OR**
(3b)	Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; **OR**
(3c)	Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; **OR**
(3d)	Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.
Unpaved Roads	
(4a)	Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; **OR**
(4b)	Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; **OR**
(4c)	Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open Storage Piles	
(5a)	Apply chemical stabilizers; **OR**
(5b)	Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; **OR**
(5c)	Install temporary coverings; **OR**
(5d)	Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	
(6a)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

2.0 INTRODUCTION

2.1 PURPOSE OF THIS SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

This Supplemental Environmental Impact Report (SEIR) has been prepared to evaluate environmental impacts associated with the proposed amendment to the Prima Deshecha Landfill (Landfill) General Development Plan (GDP) to include the Zone 4 Construction Projects (Project).

2.1.1 General Background

In February 1973, the Board of Supervisors established the Prima Deshecha Landfill as a multi-use concept for refuse disposal and recreation. The Landfill began accepting municipal waste in 1976 in an area now known as Waste Management Unit 2 (WMU2). In December 1976, a General Development Plan was initiated to combine both refuse disposal and, ultimately, recreational plans for the site upon closure.

An Interim Project Report/Environmental Impact Analysis for the Landfill site was submitted in August 1978 to the County of Orange (County) Harbors, Beaches, and Parks (HBP) Commission. The report contained an Interim Plan and two ultimate Alternative Schematic Plans. Alternative 2 (an 81 million cubic yard [mcy] refuse plan covering 800 acres [ac] of landfill area and 200 ac of borrow area) was recommended by the HBP Commission and subsequently adopted by the Board in December 1978. That Alternative Schematic Plan was further refined and provided the basis for the 1979 Prima Deshecha GDP as well as the initial and current Solid Waste Facilities Permit (SWFP) No. 30-AB-0019 for the site. In 1980, the disposal operations were moved to a second active area known as Waste Management Unit 1 (WMU1).

In 1994, an updated draft GDP was prepared and analyzed in a Program Environmental Impact Report (EIR No. 548), which was circulated for public review and comment in September and October of 1995. On November 21, 1995, the Board certified Final EIR No. 548 as adequately assessing potential environmental impacts associated with the 1994 GDP, but decided not to approve the 1994 GDP project in an effort to address viewshed concerns of the City of San Clemente. At Board direction, a revised plan was developed, and a Memorandum of Understanding (MOU) was executed between the City of San Clemente and the County of Orange for the Prima Deshecha property on July 1, 1997.

The negotiated design amendments and boundary constraints of the 1997 MOU were incorporated into the 2001 GDP and into Final EIR No. 575, which now serves as the future planning guide for the Landfill site. The development limits of Zone 4 of the Landfill area were further refined through the Talega Settlement Agreement between the County and Rancho Mission Viejo, which was approved by the Board of Supervisors on October 22, 2002.

The GDP as amended, is the planning document for coordinated long-term implementation of both interim and ultimate site development uses. The GDP identifies the solid waste disposal needs as the most important function of the Landfill site; however, the GDP includes three elements: landfill, circulation, and recreation. These “three elements are considered together in the GDP in order to ensure compatibility of the existing, interim, and ultimate uses on the site as well as to achieve the

goals and objectives of approved local and regional plans and policies." (Final EIR No. 575, page 3-5).The 2001 GDP utilizes a five-zone concept to guide planning decisions at the Landfill site and to manage landfill operations. The 2001 GDP resembles the 1994 GDP but reflects the plan agreed to by the City of San Clemente and incorporates actions required for remediation of a landslide that occurred in May 1998 in a stockpile area south of the Prima Deshecha Cañada stream.

As noted, the solid waste disposal is the primary and dominant function of the Landfill site for the foreseeable future. The Landfill is permitted to accept up to 4,000 tons per day (tpd) of waste material. In 2001, when the GDP was prepared, the Landfill was projected to have remaining capacity for approximately 66 additional years (i.e., until 2067). Subsequently, this estimate has been revised and the Landfill is expected to have the capacity to serve residents and businesses of Orange County until approximately 2102.[1]

The second component of the GDP was a circulation component. Final EIR No. 575 identifies the circulation and roadways component as "improvements necessary to support the landfilling and recreation uses and to accommodate the arterial highway needs detailed in the Master Plan of Arterial Highways (MPAH), Orange County Circulation Plan (OCCP), and City Circulation Plans." The project description included the (then) future construction of the extensions of Avenida La Pata, Camino De Los Mares, and Camino Las Ramblas through the Landfill.[2] Final EIR No. 575 also clarifies that the roadways would not be built as part of the landfill development, but were included in the GDP so as not to preclude the future development of the roadway extensions.

The third component identified in the 2001 GDP is to provide interim opportunities and plan for the ultimate transition of the site to a future regional park. The GDP provides for the transition of Zone 1 to recreational use "when landfill operations have ceased, all closure activities have been completed, satisfactory access has been established, sufficient settlement has occurred, and landfilling has begun in Zone 4. When landfilling operations in Zone 4 are complete, the ultimate recreational uses can be developed for that site after closure activities have been completed and sufficient settlement has occurred." (Final EIR No. 575, page 1-3). At the time Final EIR No. 575 was prepared, it was estimated Zone 1 would take approximately 18 years to complete. Zone 1 is now projected to be completed in 2050. Although a golf course was identified as a potential recreational use when Zone 1 was closed, Final EIR No. 575 stated the ultimate use would be based on a future needs analysis.

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1 Changes in regulations requiring a greater amount of recycling and diversion of materials away from the landfill, and more efficient methods have extended the life of the landfill to 2102. As a condition of the permit issued by CalRecycle, updates are provided every five years to discuss changes in site design, operations plan, and/or remaining life of the landfill. The most current permit (issued April 19, 2019) identifies 2102 as the projected closure date.

2 Final EIR No. 575 indicated that the City of San Juan Capistrano passed a resolution on December 14, 1999 that stipulates the City's intention of deleting the Camino Las Ramblas extension to Avenida La Pata. If the deletion from the MPAH is approved, it would necessitate an amendment to the 2001 Circulation Component of the GDP. Currently, the MPAH still depicts the Camino Las Rambles extension to Avenida La Pata as an unconstructed secondary arterial highway.

The GDP and the Master Plan of Riding and Hiking Trails Map designate a future riding and hiking trail and staging area located within the Prima Deshecha Landfill site on the east side of Avenida La Pata. The GDP identified the trail as being accommodated in Zone 2 of the Landfill. Final EIR No. 575 identified that none of the trails have been constructed and final alignments have not been determined for the majority of the trails. The County was coordinating with the Cities of San Juan Capistrano and San Clemente on establishing alignments for the trails around Zone 1. Final EIR No. 575 identified that the timing for the trails depicted along the perimeter of Zone 4 was uncertain. Although even if the trails were constructed and available as interim recreational use, these trails will be closed to the public once work in Zone 4 is initiated. Based on subsequent planning efforts, it has been determined in the interest of public safety, that the trails in the vicinity of Zone 4 will be constructed once fill operations are completed.

Final EIR No. 575, which was prepared for the GDP and certified in November 2001, identified the following significant, unavoidable impacts associated with the GDP: (1) changes to topography, (2) short-term biological resources (coastal sage scrub and riparian habitat) until revegetation areas have matured, and (3) aesthetic impacts to the visual character especially from views in San Clemente.

Although Final EIR No. 575 was certified prior to the approval of the Southern Subregion Habitat Conservation Plan (SSHCP), Final EIR No. 584 incorporated Final EIR No. 575 by reference to address the impacts associated with the 2001 GDP.

As described below, in June 2007, the Board of Supervisors certified Final Supplemental EIR No. 597 for the Second Amendment to the 2001 Prima Deshecha GDP. The Amendment includes the following elements:

1. A change in the area of disturbance for the two landfill zones (1 and 4) from 800 ac (2001 GDP) to 1,078 ac to accommodate short-term impacts from installation of landslide remediation measures and landfill support features;

2. Redesign of the desilting basin for Zone 4;

3. Implementation of features to supplement water supply in the Prima Deshecha Cañada stream channel, including the potential for a subsurface water storage feature beneath one or more of the relocated desilting basins;

4. Modification of the potential excavation phasing limits for Zones 1 and 4 to construct landslide remediation features and updated fill phasing limits for Zone 1;

5. Coordination and implementation of a comprehensive pre-mitigation plan to mitigate for biological impacts through project build out; and

6. Development of a comprehensive conceptual plan identifying regional environmental enhancement opportunities on the site.

2.1.2 Authority

The California Environmental Quality Act (CEQA), Public Resources Code (PRC) Section 21000 et seq., requires that local government agencies, prior to taking action on projects over which they have discretionary approval authority, consider the environmental consequences of such projects. A "discretionary approval" is an action taken by a government agency that calls for the exercise of judgment in deciding whether to approve or how to carry out a project. An EIR is a public document designed to provide the public, local, and state governmental agency decision makers with an analysis of potential environmental consequences to support informed decision making.

Pursuant to CEQA Section 21067, the lead agency is "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment." The County of Orange has the principal responsibility for approval of the proposed Project. For this reason, the County is the CEQA Lead Agency for this Project.

2.1.3 Supplemental EIR

Section 15162 of the State Guidelines for the Implementation of CEQA of 1970 (State CEQA Guidelines) provides that when an EIR has been certified for a project, no subsequent EIR shall be prepared for that project unless the Lead Agency determines, on the basis of substantial evidence in the light of the whole record, that one or more of the following things have occurred:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, shows any of the following:

   (A) The project will have one or more significant effects not discussed in the previous EIR.

   (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR.

   (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative.

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Section 15163 of the State CEQA Guidelines provides that a lead of the responsible agency may choose to prepare a supplement to an EIR rather than a subsequent EIR if:

(1) Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR, and

(2) Only minor additions or changes would be necessary to make the previous EIR apply to the project in the changed situation.

Section 15163(b) of the State CEQA Guidelines further states that a supplement to an EIR need only contain the information necessary to make the previous EIR adequate for the project as revised.

The County of Orange, as Lead Agency under CEQA, has determined that preparation of an SEIR (California Code of Regulations [CCR], Title 14, Division 6, Chapter 3, Article 11; State CEQA Guidelines Section 15163) is appropriate. This SEIR addresses the environmental effects associated with the implementation of the proposed Project. As such, this SEIR need only contain information necessary to make the previous EIR (Final EIR No. 575) adequate.

This SEIR has been prepared in accordance with the requirements of:

- CEQA of 1970, as amended;
- State CEQA Guidelines, Section 15000 et seq. of Title 14 CCR; and
- The 2020 Local CEQA Procedures Manual adopted by the County.

The overall purpose of this SEIR is to inform the Lead Agency, responsible agencies, decision makers, and the general public of the environmental effects of the proposed amendment to the 2001 GDP for the Zone 4 Construction Projects. This SEIR addresses the potential environmental effects of the Project, including effects that may be significant and adverse, evaluates a number of alternatives to the Project, and identifies mitigation measures to reduce or avoid adverse effects.

2.1.4 Previous Environmental Documents

2.1.4.1 Final EIR No. 575

On November 6, 2001, the Orange County Board of Supervisors approved Final EIR No. 575 (State Clearinghouse [SCH] #1999041035) for the implementation of the Prima Deshecha GDP and development of Zones 1 and 4 of the Landfill.

The Project analyzed in Final EIR No. 575 included the following elements:

- Final EIR No. 575 analyzed the GDP for the Prima Deshecha site, which includes a landfill element, a circulation element, and a recreation element. In order to provide for all three

elements, the Prima Deshecha property was divided into five zones. Zones 1 and 4 are reserved for landfill development, Zone 2 and Zone 3 are reserved for habitat mitigation and open space, and Zone 5 is reserved for the La Pata Avenue Gap Closure Project. The La Pata Avenue Gap Closure Project was completed in 2016.

- For the landfill element of the Prima Deshecha GDP, Final EIR No. 575 analyzed a total design capacity of approximately 53.1 mcy for the Zone 1 landfill development area on 271 ac at a maximum design elevation of 600 feet (ft) above mean sea level (amsl). In addition, for the Zone 4 landfill development area, Final EIR No. 575 analyzed a total design capacity of approximately 118.5 mcy on 409 ac at a maximum design elevation of 1,010 ft amsl. Estimated closure dates of 2019 for the Zone 1 landfill development area and 2067 for the Zone 4 landfill development area were based on inflow rate assumptions of up to 4,000 tpd. The GDP noted that landfill phasing and staging could be affected by increases or reductions in the rate of disposal.

- The landfill development limits of the Zone 4 landfill area were further refined through the Talega Settlement Agreement between the County and Rancho Mission Viejo, which was approved by the Board of Supervisors on October 22, 2002.

2.1.4.2 Addendum No. 1 to Final EIR No. 575

On October 15, 2003, the County of Orange filed a Notice of Determination for Addendum No. 1 to Final EIR No. 575. Addendum No. 1 addressed the following changes to the GDP:

- A minor (2 percent) increase in the Zone 1 disturbance footprint
- Expansion of the approved coast sage scrub mitigation planting area

2.1.4.3 Addendum No. 2 to Final EIR No. 575

On March 15, 2005, the County of Orange filed a Notice of Determination for Addendum No. 2 to Final EIR No. 575. Addendum No. 2 addressed the following changes to the GDP:

- An adjustment to project phasing to allow installation of the Phase A2 and B1 liner system
- Zone 1 desilting basin enlargement and upgrade
- Construction of a 60 ft long rock gabion wall at the terminus of the realigned stream
- Construction of ancillary improvements, including paving of the service road, relocation of the bridge over the desilting basin, and trail accommodations

2.1.4.4 Final Supplemental EIR No. 597

On June 19, 2007, the Orange County Board of Supervisors approved Final Supplemental EIR No. 597 for the Second Amendment to the Prima Deshecha GDP (SCH #199041035). Final Supplemental EIR No. 597 was the first Supplemental EIR to Final EIR No. 575. The project changes analyzed in Final Supplemental EIR No. 597 included the following elements:

- Increased grading disturbance and landfill excavation limits for both the Zone 1 and Zone 4 landfills to allow for future landslide remediation projects. No change to the GDP, landfill depth of waste, or landfill final elevations that were analyzed in Final EIR No. 575

- Re-design of future desilting basins for the Zone 4 landfilling area

- Changing the significance conclusion of the air quality section in Final EIR No. 575 from Less Than Significant with Mitigation to Unavoidable Significant Adverse Impact to reflect that both the worst-case daily construction and operational emissions from a 4,000 tpd landfill that were analyzed in Final EIR No. 575 would exceed both the daily construction and operational emissions thresholds of significance included in the South Coast Air Quality Management District's (SCAQMD) *CEQA Air Quality Handbook* (1993)

- More clearly defined biological mitigation to provide compensatory mitigation for the biological impacts associated with the future Zone 4 landfill development

2.1.4.5 Addendum No. 3 to Final EIR No. 575

On November 5, 2008, the County of Orange filed a Notice of Determination for Addendum No. 3 to Final EIR No. 575. Addendum No. 3 addressed the following change to the GDP:

- Construction and operation of a material recovery facility

2.1.4.6 Addendum No. 1 to Final SEIR No. 597

On April 20, 2010, the County of Orange filed a Notice of Determination for Addendum No. 1 to Final Supplemental EIR No. 597. Addendum No. 1 addressed the following change to the GDP:

- Allowed blasting and rock crushing/processing operations associated with removal of the San Onofre Breccia Formation in Zone 4 of the Landfill

2.1.4.7 Addendum No. 4 to Final EIR No. 575

On July 19, 2013, the County of Orange filed a Notice of Determination for Addendum No. 4 to Final EIR No. 575. Addendum No. 4 addressed the following change to the GDP:

- Revised the maximum daily importation tonnage from 700 tpd to 1,840 tpd

2.1.4.8 Addendum No. 5 to Final EIR No. 575

On March 5, 2015, the County of Orange filed a Notice of Determination for Addendum No. 5 to Final EIR No. 575. Addendum No. 5 addressed the following change to the GDP:

- Allowed construction and operation of a temporary marine vessel storage facility on approximately 7 ac of WMU1

2.1.4.9 Addendum No. 7 to Final EIR No. 575

On June 23, 2015, the County of Orange filed a Notice of Determination for Addendum No. 7 to Final EIR No. 575. Addendum No. 7 addressed the following change to the GDP:

- Allowed acceptance of out-of-County waste through June 30, 2025

2.1.4.10 Addendum No. 6 to Final EIR No. 575/Addendum No. 2 to Final Supplemental EIR No. 597

On September 27, 2018, the Director of OC Waste & Recycling (OCWR) approved Addendum No. 6 to Final EIR No. 575/Addendum No. 2 to Final Supplemental EIR No. 597, which addressed the following changes to the GDP:

- Revised the Prima Deshecha Landfill closure dates from 2019 to 2050 for Zone 1 and from 2067 to 2102 for Zone 4.

- Reduced the Zone 1 landfill development footprint by 1.8 ac.

These changes did not result in any increases to the following: (1) volume of accepted solid waste, (2) development footprint, (3) design capacity, (4) slopes of the ultimate fill grading plans, (5) permitted depth of waste, or (6) landfill final elevations for the Zone 1 and Zone 4 landfill development areas as analyzed in Final EIR No. 575 and Final Supplemental EIR No. 597.

2.1.4.11 Addendum No. 8 to Final EIR No. 575

On November 8, 2018, the County of Orange filed a Notice of Determination for Addendum No. 8 to Final EIR No. 575. Addendum No. 8 addressed the following change to the GDP:

- Approved implementation of an on- and off- site riparian mitigation plan to provide full compensatory mitigation for development of the Zone 4 Landfill area at build out of the Landfill

2.1.4.12 Addendum No. 9 to Final EIR No. 575

On June 10, 2019, the County of Orange filed a Notice of Determination for Addendum No. 9 to Final EIR No. 575. Addendum No. 9 addressed the following change to the GDP:

- Approved implementation of an on- and off- site riparian mitigation plan to provide full compensatory mitigation for development of the Zone 4 Landfill area at build out of the Landfill.

2.1.4.13 Addendum No. 10 to Final EIR No. 575

On May 16, 2020, the County of Orange filed a Notice of Determination for Addendum No. 10 to Final EIR No. 575. Addendum No. 10 addressed the following change to the GDP:

- Allowed construction and operation of a temporary on-site auto dealership vehicle storage on a previously disturbed 5.28 ac area of the Landfill

2.1.4.14 Los Patrones Parkway Extension Project – Addendum to Final EIR No. 575

On January 14, 2021, the County of Orange filed a Notice of Determination for an Addendum that evaluated the Los Patrones Parkway Extension (LPPE). The LPPE alignment would extend south from the current southern roadway terminus at Cow Camp Road on the eastern edge of the Village of Esencia (Planning Area 2) within the Ranch Plan Planned Community, would cross San Juan Creek and Ortega Highway (SR-74) on bridge structures, and enter into Planning Area 5. The LPPE necessitated a General Plan Amendment (Circulation Plan Map of the Transportation Element) and an MPAH Amendment for the realignment of Cristianitos Road to provide a proper logical termination. The LPPE will also necessitate the following change to the GDP:

- An amendment to the 2001 GDP to reflect the roadway traversing portions of Zone 2 and Zone 4, and connecting to Avenida La Pata in Zone 5 of the Landfill.

2.1.4.15 Addendum No. 11 to Final EIR No. 575

On February 23, 2021, the County of Orange filed a Notice of Determination for Addendum 11 to Final EIR No. 575 for the Fee Booth, Scales, and Entranceway Reconstruction and Improvement Project. Addendum No. 11 addressed the following changes to the GDP:

- Allows reconstruction of the fee booth, scales, and entrance way to the Landfill to facilitate improved traffic flow and management.

2.1.4.16 Addendum No. 12 to Final EIR No. 575/Addendum 3 to Final Supplemental EIR No. 597

On March 8, 2021, the County of Orange filed a Notice of Determination for Addendum 12 to Final EIR No. 575/Addendum 3 to Final Supplemental EIR No. 597. Addendum 12 evaluated a minor change to the anticipated emissions for the Landfill gas collection system.

2.1.5 Incorporation by Reference

Pursuant to Section 15150 of the State CEQA Guidelines, this SEIR has incorporated by reference the entirety of the 2001 GDP (as previously amended), Final EIR No. 575, Final Supplemental EIR No. 597, and relevant technical studies, analyses, and reports. Information from these documents have been briefly summarized in the appropriate section(s) that follow. The relationship between the incorporated part of the referenced document and the SEIR has also been described.

This SEIR incorporates by reference all stated project objectives, overall project information, environmental analyses, mitigation measures, and construction elements contained within Final EIR No. 575 and its Addenda and Final Supplemental EIR No. 597 and its Addenda, and all supporting documentation. Analyses contained within Final EIR No. 575 and Final Supplemental EIR No. 597 will be summarized but will not be reiterated in detail unless there is a change in the analysis that has been necessitated by the proposed Project.

2.2 PROJECT REFINEMENT

As discussed in greater detail in Section 2.3, the County distributed a Notice of Preparation (NOP) and Initial Study on July 23, 2020. Following distribution of the Initial Study and NOP, the County

determined that one of the Project components was too conceptual to continue through the environmental process and removed it from the proposed Project. No new or additional Project components were added after circulation of the NOP. Table 2.A provides a comparison of the Project as described in the Initial Study and the Project as described in this SEIR.

Table 2.A: Project Refinement after Distribution of the Notice of Preparation

Project Component	Initial Study (IS)	Supplemental Environmental Impact Report (SEIR)
Changes to phasing operations between Zone 1 and Zone 4 of the Prima Deshecha Landfill to allow concurrent operations.	Described in IS	No refinement
Blasting, excavation, on-site relocation, pulverizing into soil, soil stockpiling, and off-site soil remove of hard rock material in Zone 4, referred to as the San Onofre Breccia.	Described in IS	No refinement
Imported soil trips for liner installation that will occur for all future Zone 4 development phases.	Described in IS	No refinement
Construction and operation of a Source Separated Organics (SSO) recycling facility.	Described in IS	Removed from proposed Project

2.3 SCOPING PROCESS

In compliance with the State CEQA Guidelines, the County has taken steps to provide opportunities for the public and other public agencies to participate in the environmental review process. The County conducted the scoping process, issued an NOP, prepared an Initial Study for the proposed Project, and determined that an SEIR was required to evaluate the potentially significant environmental effects of the proposed Project and related actions. Additionally, a public scoping session was conducted as discussed below.

2.3.1 Notice of Preparation and Initial Study

On July 23, 2020, the NOP for the proposed Project was distributed by the County via the SCH. The SCH issued a project number for the SEIR (1999041035). In accordance with State CEQA Guidelines Section 15082, the NOP was circulated to the agencies and mailed to the individuals and organizations listed in Appendix A for a period of 30 days, during which time written comments were solicited pertaining to environmental issues/that the SEIR should evaluate. The NOP was also filed with the Orange County Clerk and placed in the legal notices section of the *Orange County Register* on July 23, 2020.

The NOP was mailed to an extensive list of recipients, including adjacent property owners and occupants of the properties located within 1.5 miles (mi) (approximately 7,500 residences) of the Project site. There was an error in the NOP that was direct mailed on July 23, 2020 in that it included the wrong listing of environmental topics that the County intended to study in the SEIR. There were no comments received on those topics that were erroneously listed on the direct-mailed NOP. The NOP was also mailed to several homeowner's associations, businesses, community groups, elected officials, and State, local, and federal agencies. Appendix A includes the NOP and Initial Study, the NOP distribution list, and copies of written comments received. Responses to the NOP were received from the agencies and interested parties shown in Table 2.B.

Table 2.B: Letters Received on the Notice of Preparation

Agency or Interested Party	Comment	EIR Section where the Comment is Addressed
State of California, Department of Recycling and Recovery	Commented that the proposed SSO Facility may require a revision to the Solid Waste Facility Permit. Stated that the LEA is responsible for providing regulatory oversight of solid waste handling and disposal activities.	The SSO Facility is no longer part of the proposed Project. Refer to Section 2.2 of this SEIR. As stated in Chapter 3 of this SEIR, the LEA is a Responsible Agency for the purposes of the proposed Project.
State of California, Native American Heritage Commission	Potential impacts to cultural resources. The SEIR should comply with PRC Sections 21084.1 and 21074.	Issues pertaining to cultural resources were determined to be less than significant. Refer to Appendix A of this SEIR. CEQA was amended in 2014 to include Tribal Cultural Resources as a separate impact category. Since this occurred after Final EIR No. 575 was sent out for public review (State CEQA Guidelines Section 15007(c)), tribal cultural resources are not addressed in this SEIR. Nevertheless, on July 7, 2020, the County of Orange did send out letters to four tribes that are registered/recognized by the California Native Heritage Commission as potentially having tribal resources within Orange County. None of the tribes that were contacted requested consultation.
Orange County Environmental Health Division, Local Enforcement Agency	Comment acknowledged that the SSO Facility was no longer part of the proposed Project. Comment asked if there was a traffic impact study being done to address the increase in truck traffic that would be associated with proposed construction work.	The SSO Facility is no longer part of the proposed Project. Refer to Section 2.2 of this SEIR. In consultation with the City of San Juan Capistrano, a Traffic Impact Analysis was prepared for the proposed Project; this report was prepared separately from the CEQA analysis because LOS is no longer the CEQA threshold used for the evaluation of potential transportation/traffic impacts. The proposed Project would not result in any long-term changes to traffic or circulation and would not develop any new land uses that would contribute to traffic congestion within the area because operation and maintenance activities associated with the Prima Deshecha Landfill would not appreciably change in intensity or frequency. As stated in Section 4.15 of the Initial Study (Appendix A of this SEIR), Section 15064.3 of the State CEQA Guidelines codifies that project-related transportation impacts are typically best measured by evaluating the project's VMT. The proposed Project is neither a land use project nor a transportation project. Public services and facilities that support community health, safety, or welfare are screened from a VMT analysis. Such facilities include fire stations, police/sheriff stations, jails, community centers, refuse stations and landfills. These facilities are already part of the community, and as a public service, the VMT is accounted for in the existing regional average. In addition, the Governor's Office of Planning and Research Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018) makes it clear that VMT is measured for "automobiles" which are "on-road passenger vehicles, specifically cars and light trucks." As such, the refuse disposal vehicles that visit the Prima Deshecha Landfill, which are large trucks, would therefore be screened from the requirements of a VMT analysis. Neither construction nor operation of the proposed Project would result in additional passenger vehicle trips or include trip-inducing uses for regional daily VMT. As such, potential transportation impacts would be less than significant.

Table 2.B: Letters Received on the Notice of Preparation

Agency or Interested Party	Comment	EIR Section where the Comment is Addressed
Orange County Fire Authority (OCFA)	OCFA provided potential measures that could be included in the proposed Project to improve fire safety and reduce impacts to public services (fire protection). The Project could comply with the California Fire Code, OCFA Fire Master Plans for Commercial and Residential Development (B-09/B-09a) Guidelines, Fuel Modification (C-05) Guideline, and OCFA Architectural Review (E-04) Guideline.	Issues pertaining to fire hazards and fire protection services were determined to be less than significant in the Initial Study. Refer to Sections 4.7 and 4.13 of the Initial Study (Appendix A). This SEIR analyzes potential noise impacts associated with blasting in Section 4.3. All on-site construction and development would be consistent with applicable fire codes and regulations.
South Coast Air Quality Management District (SCAQMD)	SCAQMD recommends the use of SCAQMD's Air Quality Handbook and website as guidance when preparing the air quality and greenhouse gas analysis. SCAQMD further recommends use of CalEEMod land use emissions software. SCAQMD states that CEQA requires all feasible mitigation measures that go beyond what is required by law to minimize potential project impacts. The letter states that SCAQMD should be a responsible agency if an SCAQMD permit is required.	Refer to Section 4.2, Air Quality, of this SEIR. No permit from SCAQMD is required. SCAQMD is not a responsible agency for the proposed Project.
Rancho Mission Viejo	Comment acknowledged that the SSO Facility was no longer part of the proposed Project. Comment requested corrections to two figures in the Initial Study (Figure 2-3 and 2-4) and additional information about surrounding land uses. Comment questions permits needed from the State of California for removal of the San Onofre Breccia. Comment requests clarification as to whether Final EIR No. 575 anticipated blasting would be used to remove the breccia and if not, whether blasting would result in potential Geology and Soils impacts. Comment requests that the SEIR describe anticipated frequency, duration, and decibel level of blasting and analyze the potential impacts on adjacent existing and future land uses. Comment requests additional information to support the finding of less than significant impact for traffic/transportation as it relates to VMT.	The SSO Facility is no longer part of the proposed Project. Refer to Section 2.2 of this SEIR. Figures 2-3 and 2-4 were revised per comment. Refer to **Figures 3-3** and **3-4** in this SEIR. Surrounding land uses were also clarified. Refer to Section 3.2.2 of this SEIR. Refer to Section 3.4.5 of this SEIR for a discussion of anticipated discretionary permits required for Project implementation. Blasting for use in the removal of the San Onofre Breccia formation during the development of Zone 4 Landfill phases was anticipated in Final EIR No. 575. As stated in Final EIR No. 575, Section 4.2 Geology, Seismicity, Soils and Groundwater, page 4.2-2, "excavation of the San Onofre Breccia will vary from workable with some difficulty with heavy power equipment, to lesser weathered 'hard' portions probably requiring blasting to excavate." In addition, regarding the geology and soils impacts, as stated on page 4.2-3 of Final EIR No. 575, "landsliding is prevalent throughout the site, except in the northwest portion of the site where Waste Management Unit 1 is located. Elsewhere, landslides derived from the Capistrano and Monterey Formations cover at least 50 percent of the site area. These landslides vary in size from small surficial slumps to large landslide masses up to 120 acres in size. Landslides commonly produce hummocky topography characterized by irregular terrain comprised of low-lying ridges, knolls and shallow depressions." Even with blasting that will be required for portions of the San Onofre Breccia formation, there is likely a greater potential for landslides in the Capistrano and Monterey formation areas of the Zone 4 development area, where blasting will not be utilized during excavation. Final EIR No. 575 anticipated that landslides would be located

Table 2.B: Letters Received on the Notice of Preparation

Agency or Interested Party	Comment	EIR Section where the Comment is Addressed
		throughout the Zone 4 landfill development area at Prima Deshecha and that landslide remediation will be performed whenever necessary. As stated in Final EIR No. 575, Section 4.2, Geology, Seismicity, Soils and Groundwater, Mitigation Measure 4.2-1a, "prior to designing each phased landfill plan and specifications, the IWMD shall conduct a geotechnical investigation to determine the extent of landslide material and the soil foundation characteristics of the proposed phase. A geotechnical report of the phased site area shall be prepared which includes a landslide excavation and removal plan prepared to the satisfaction of the Director, IWMD." The proposed Project will not result in any new significant impacts to geology and soils or more severe impacts when compared to the analysis included in Final EIR No. 575. Therefore, as stated in the Initial Study prepared for this Project (Appendix A), this topic will not be analyzed further in this SEIR. Refer to Section 4.3 for analysis of potential impacts related to noise, including those that may result from proposed blasting activities. The footnote referenced in the comment was included to clarify the applicability and timing of one of the checklist questions. Refer to Chapter 5.0 of this SEIR for additional information pertaining to the analysis of the Project's VMT.
San Juan Capistrano Equestrian Coalition	Comment states that the Equestrian Coalition supports the development of the SSO Facility and requests the inclusion of an on-site manure and bedding composting facility that would complement the SSO Facility.	The SSO Facility is no longer part of the proposed Project. Refer to Section 2.2 of this SEIR.
Brenda Nash, resident of San Juan Capistrano	Questioned the radius in which impacts related to air quality, greenhouse gas, hazardous materials, water quality, and other items could occur. Also asked about contraindications for the proposed Project.	Potential air quality impacts are analyzed in Section 4.2 of this SEIR. Hazardous materials, greenhouse gas, and water quality were found to be less than significant in the Initial Study. Refer to Appendix A of this SEIR.

Note: Copies of all letters can be found in Appendix A of this SEIR.
CalEEMod = California Emissions Estimator Model
CEQA = California Environmental Quality Act
EIR = Environmental Impact Report
IWMD = Integrated Waste Management Department (now known as OC Waste & Recycling)
LEA = local enforcement agency
LOS = level of service
NOP = Notice of Preparation
OCFA = Orange County Fire Authority
PRC = Public Resources Code
SEIR = Supplemental Environmental Impact Report
SSO = Source Separated Organics
State CEQA Guidelines = State Guidelines for the Implementation of CEQA of 1970
VMT = vehicle miles traveled

2.3.2 Scoping Meeting

The County held a public scoping meeting on July 30, 2020 to solicit comments relative to the content of the information to be analyzed in this SEIR. Due to restrictions related to the COVID-19 pandemic, the meeting was conducted online. Appendix A includes the NOP and Initial Study, the NOP distribution list, and a summary of verbal comments presented at the scoping meeting.

2.3.3 Areas of Controversy

Key environmental issues and concerns raised during the scoping process include: (1) area resident concerns about odor control and dust from landfill operations; (2) potential health risks for adjacent residents; (3) traffic; and (4) potential noise and safety issues associated with blasting activities.

Please note that this is not an exhaustive list of comments received or potential areas of controversy, but rather key issues that were raised during the scoping process. This SEIR addresses each of these areas of concern or controversy in detail, examines project-related and cumulative environmental impacts, identifies significant adverse environmental impacts, and proposes mitigation measures designed to reduce or eliminate potentially significant impacts. Please note that this is not an exhaustive list of areas of controversy, but rather key issues that were raised during the scoping process. This SEIR addresses each of these areas of concern or controversy in detail, examines project-related and cumulative environmental impacts, identifies significant adverse environmental impacts, and proposes mitigation measures designed to reduce or eliminate potentially significant impacts. Appendix A includes the NOP and Initial Study, the NOP distribution list, a summary of verbal comments presented at the scoping meeting, and copies of written comments received.

2.4 SCOPE OF THIS SEIR

Based upon the Initial Study and Environmental Checklist Form, the County of Orange staff determined that an SEIR should be prepared for the proposed Project. The scope of the SEIR was determined based upon the County's Initial Study, comments received in response to the NOP, and comments received at the scoping meeting conducted by the County.

2.4.1 Potentially Significant Impacts

Pursuant to Sections 15126.2 and 15126.4 of the State CEQA Guidelines, the SEIR should identify any new potentially significant adverse impacts or impacts that are substantially increased in severity from those previously identified significant effects and recommend mitigation that would reduce or eliminate these impacts to levels of insignificance. The following environmental topics were identified during the scoping process as new potentially significant impacts and/or impacts that are increased in severity that may result if the proposed Project is implemented:

- Aesthetics
- Air Quality
- Noise

Refer to Chapter 4.0 of this SEIR for analysis pertaining to these topics. This SEIR did not identify any new significant unavoidable impacts that were not disclosed in Final EIR No. 575.

2.4.2 Impacts Considered Less than Significant

In addition to identifying potentially significant impacts of the proposed Project that required additional study, the Initial Study also identified effects determined not to be significant consistent with State CEQA Guidelines Section 15063(c)(3)(B). Impacts that were determined to be less than significant are discussed and evaluated in the Initial Study. A copy of the Initial Study and Environmental Checklist for the proposed Project is included in Appendix A of this SEIR. In addition, Chapter 6.0 of this EIR contains a summary of environmental issues not requiring substantial additional analysis. Refer to Chapter 5.0 for additional discussion of the topics listed above. The analysis determined that the proposed Project would not have the potential to cause new significant impacts or impacts that are substantially increased in severity from those previously identified significant effects in the following areas:

- Agriculture and Forestry Resources
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems
- Wildfire

2.5 FORMAT OF THE SEIR

Pursuant to State CEQA Guidelines Section 15120(c), this SEIR contains the information and analysis required by Sections 15122 through 15131. Each of the required elements is covered in one of following SEIR chapters:

- **Chapter 1.0: Executive Summary.** Chapter 1.0 contains the Executive Summary of this SEIR document, listing all potentially significant impacts of the proposed Project, mitigation measures that have been recommended to reduce any potentially significant impacts of the proposed Project, and the level of significance of each impact following implementation or incorporation of mitigation.

- **Chapter 2.0: Introduction.** Chapter 2.0 contains a discussion of the purpose and intended use of this SEIR, background on initiation of the CEQA process, the NOP and scoping, and areas of controversy known to the Lead Agency, including issues raised by the public.

- **Chapter 3.0: Project Description.** Chapter 3.0 includes discussion of the proposed Project's geographical setting; the Project site's existing use as a landfill; and the proposed Project's goals, objectives, characteristics, components, and phasing.

- **Chapter 4.0: Existing Environmental Setting, Environmental Analysis, Impacts, and Mitigation Measures.** Chapter 4.0 is organized into topical sections, including Section 4.1, Aesthetics, Section 4.2, Air Quality, and Section 4.3, Noise. Chapter 4.0 provides a general description for how each topical section is organized as well as a list of cumulative Projects that were

considered in the cumulative analysis. Generally, each topic section includes a discussion of the existing setting, methodology, thresholds of significance, analysis of potential project impacts, analysis of potential cumulative impacts, mitigation measures, and level of significance after the incorporation of mitigation measures.

The environmental setting discussions describe the "existing conditions" of the environment on the Project site and in the vicinity of the Project site as they pertain to the environmental issues being analyzed (Section 15125 of the State CEQA Guidelines).

Generally, an SEIR is required to evaluate only the changes in the project, changes in circumstances, or new information that lead to preparation of the SEIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. The direct and indirect significant effects of the proposed Project on the environment are identified and described, giving due consideration to both the short-term and long-term effects as necessary (Section 15126.2[a] of the State CEQA Guidelines), which include potential impacts during construction and operation.

Chapter 4.0 also includes within each environmental impact analyzed a discussion of the cumulative effects of the project when considered in combination with other projects, causing related impacts as required by Section 15130 of the State CEQA Guidelines. Cumulative impacts are based on the build out of the project and the surrounding area, including all other known proposed projects in the surrounding area.

The discussions of mitigation measures identify and describe feasible measures that could minimize or lessen significant adverse impacts for each significant environmental effect identified in the EIR (Section 15126[c] of the State CEQA Guidelines). The level of significance before and after mitigation is reported in each section. Unavoidable adverse effects are identified where mitigation is not expected to reduce the effects to less than significant levels.

- **Chapter 5.0: Environmental Issues Not Requiring Substantial Additional Analysis.** In accordance with State CEQA Guidelines Section 15128, Chapter 5.0 includes a discussion of those impacts found to be less than significant.

- **Chapter 6.0: Other CEQA Considerations.** Chapter 6.0 includes CEQA-mandated discussions on the following topics as required by Section 15126 of the State CEQA Guidelines: (1) significant adverse environmental impacts for which either no mitigation or only partial mitigation is feasible; (2) significant irreversible environmental changes that would result from implementation of the proposed Project; and (3) growth-inducing impacts of the proposed Project.

- **Chapter 7.0: Alternatives to the Proposed Modified Project.** In accordance with CEQA, the alternatives discussion in Chapter 7.0 describes a reasonable range of alternatives that could feasibly attain the basic objectives of the proposed Modified Project, were not proposed in the original Final EIR No. 575, and are capable of eliminating any significant adverse environmental effects or reducing them to a less than significant level. The alternatives analyzed in Chapter 7.0 include: (1A) No Project/No Build; (1B) No Concurrent Operations; (1C) No Breccia Removal; and

(1D) No Concurrent Operations or Breccia Removal. As specified in the State CEQA Guidelines Section 15126.6(f)(2), this chapter identifies and assesses potential alternative project sites within the City that could accommodate the proposed Modified Project (Alternatives 6–8).

- **Chapter 8.0: List of Preparers and Agencies Contacted, and Chapter 9.0: References.** Chapters 8.0 and 9.0 respectively provide the organizations and persons contacted during preparation of this SEIR and the references used in this SEIR.

- **Appendices**
  - Appendix A: Initial Study, Notice of Preparation, Comments received on the NOP, Summary of Comments received at the Public Scoping Meeting
  - Appendix B: Air Quality Modeling
  - Appendix C: Noise Modeling
  - Appendix D: Amendment No. 4 to the 2001 Prima Deshecha Landfill General Development Plan

2.6 PUBLIC REVIEW OF THE DRAFT SEIR

All agencies, organizations, and individuals are invited to comment on the information presented in the Draft SEIR during the public review period. Specifically, comments are requested on the scope and adequacy of the environmental analysis. Respondents are also asked to provide or identify additional environmental information that is germane but that may not have been used in the analysis. Any parties interested in reviewing this SEIR and/or the documents incorporated by reference may do so at the following location:

OC Waste & Recycling
601 North Ross Street, 5th Floor
Santa Ana, CA 92701

Website: https://oclandfills.com/page/technical-documents-photos

This SEIR is also available on the County's website at: https://oclandfills.com/page/technical-documents-photos. In compliance with CEQA, all comments received from agencies and individuals on this SEIR will be accepted during the 45-day public review period from August 4, 2021 to September 17, 2021. Comments on the Draft SEIR may be submitted to:

Francine Bangert
OC Waste & Recycling
601 North Ross Street, 5th Floor
Santa Ana, CA 92701
Email: francine.bangert@ocwr.ocgov.com

Please include your name, address, and contact information in your correspondence. All comments on this SEIR become part of the public record.

Following the close of the review period, the County will prepare responses to all comments and will compile these comments and responses into a Final SEIR. All responses to comments submitted on

the Draft SEIR by agencies will be provided to those agencies at least 10 days prior to final action on the project. The County Board of Supervisors will make findings regarding the extent and nature of the impacts as presented in the Final SEIR. The Final SEIR will need to be certified as complete by the County prior to making a decision to approve or deny the proposed Project. Public input is encouraged at all public hearings before the County.

3.0 PROJECT DESCRIPTION

3.1 PROJECT OVERVIEW

The County of Orange (County) proposes an amendment to the 2001 Prima Deshecha Landfill (Landfill) General Development Plan (GDP) to include several related construction projects collectively referred to as the Prima Deshecha Landfill Zone 4 Construction Projects (Project). The proposed Project includes the following components: (1) changes to the phasing of operations between Zone 1 and Zone 4 of the Prima Deshecha Landfill (Landfill) to allow for concurrent operations; (2) blasting, excavation, on-site relocation, pulverizing into soil, soil stockpiling, and off-site soil removal of hard rock material in Zone 4, referred to as the San Onofre Breccia area; and (3) imported soil trips for liner installation that will occur for all future Zone 4 development phases.

3.2 ENVIRONMENTAL SETTING

3.2.1 Regional Location and Setting

The Landfill property is 1,530 acres (ac) and is located in southeastern Orange County, partially within San Juan Capistrano (570 ac), San Clemente (133 ac), and unincorporated Orange County (827 ac) (see **Figure 3.1**; all figures provided at the end of this chapter). The Landfill is located at 32250 Avenida La Pata and access is provided by Interstate 5 (I-5), State Route 74 (SR-74), and Avenida La Pata.

The Landfill is located in the western foothills of the Santa Ana Mountains. Ground elevations range from 230 feet (ft) above mean sea level (amsl) at the southwestern boundary of the site to a maximum elevation of 1,125 ft amsl at the northeastern boundary of the site. Bedrock materials exposed in the area consist of predominantly Tertiary marine sediments composed of, from oldest to youngest, the San Onofre Breccia Formation, the Monterey Formation, and the Capistrano Formation. The Prima Deshecha Cañada watercourse traverses the site from the northeast to the southwest.

3.2.2 Surrounding Land Uses

Existing land uses within the Prima Deshecha Landfill and the surrounding vicinity are shown on **Figure 3.2**. Avenida La Pata is a divided north-south roadway that provides access to the Landfill and also bisects the Landfill. Avenida La Pata has four to six travel lanes, and on-street (Class II) bicycle lanes are provided on both sides of the street. Curbside parking is not permitted. Land uses surrounding the Landfill include a mix of open space and residential uses, as follows:

- **North:** North of the Landfill is residential development, a church, San Juan Hills High School, and open space.

- **East:** In the existing condition, there is open space and Lapeyre Industrial Sands, Inc. to the east of the Landfill. Some areas to the east of the Landfill are designated Suburban Residential, which is also designated as Planning Area 5 by the Ranch Plan.[1]

- **South:** To the south, the city of San Clemente includes areas designated Public Open Space, Private, Open Space, and residential development ranging from Very Low Density to Medium Density Residential.

- **West:** To the west, there are areas of public open space and residential development.

3.2.3 General Plan Land Use Designations

The Orange County General Plan designation for the landfill is 4LS, Public Facilities with a Landfill Site Overlay. As an active public facility, the Landfill is exempt from the Orange County Zoning Ordinance. General Plan land use designations surrounding the Landfill are shown on **Figure 3.3**.

3.3 EXISTING PROJECT SITE

3.3.1 General Development Plan

In February 1973, the Board of Supervisors established the Landfill as a multi-use concept for refuse disposal and recreation. The landfill began accepting municipal waste in 1976 in an area now known as Waste Management Unit 2 (WMU2). In December 1976, a GDP was initiated to combine both refuse disposal and, ultimately, recreational plans for the site upon closure.

The 2001 GDP is the product of updates to previous GDPs (1979 GDP, 1994 GDP) and was drafted to reflect a Landfill plan agreed to by the cities of San Clemente and San Juan Capistrano. The 2001 GDP serves as the currently approved planning document that guides actions and activities at the Landfill. As discussed in Chapter 2.0 of this Supplemental Environmental Impact Report (SEIR), mitigation measures adopted in Final EIR No. 575 for the 2001 GDP are currently being implemented, as coordinated with the State and Federal Resource Agencies. The 2001 GDP, updated as appropriate with recent on-site additional information, provides the basis for the existing description of the site and the baseline for analyses contained within this SEIR. The proposed Project activities analyzed in this SEIR are proposed to be included in Amendment No. 4 to the 2001 GDP.

3.3.2 Landfill Site

The Prima Deshecha Landfill is a Class III solid waste landfill that has been in continuous operation since 1976. The Landfill site is divided into five zones (Zones 1 through 5), as shown on **Figure 3.4**. Zone 1 is the current landfilling area, with an estimated closure date of approximately 2050. Zone 4 is the future landfill development area, with an estimated closure date of approximately 2102. The life of the site could change if assumptions for the daily refuse inflow rate change or if new

[1] The Ranch Plan is the document that was submitted by Rancho Mission Viejo and adopted by the Orange County Board of Supervisors per Ordinance No, 04-014 for the development of the Ranch Plan Planned Community. The Ranch Plan includes land use and zoning designations for the Planned Community Area, including the designation of 10 Planning Areas.

technologies are developed that enhance landfill capacity, but analysis of an extension of the life of the Landfill is beyond the scope of this SEIR.

The 2001 GDP provides for the lateral and vertical development of the first refuse disposal area (Waste Management Unit 1 [WMU1]) within Zone 1 from 125 ac to 271 ac. According to the 2001 GDP, Zone 4 would then be utilized within its 409 ac refuse footprint; however, as described below, this proposed Project seeks to allow concurrent operations of Zones 1 and 4. Neither the refuse footprint nor the capacity of the Landfill are proposed for modification or analyzed within this SEIR.

Figure 3.5 illustrates current fill phasing limits for Zone 4. As indicated in Final EIR No. 575, excavated material in initial phases will be used for daily cover and compacted fills that are proposed for future phases in Zone 4. Excess excavation material from earlier phases can be stockpiled in future phase areas. Once fill operations reach the final phases, soil material excavated to develop these phases will be stockpiled on previously filled phases (above the interim fill and below the final fill grades proposed). There is no anticipated need or plan to excavate trash currently buried in that portion of WMU2 located within Zone 4. **Figure 3.6** presents the final grades of the completed landfill as stated within the 2001 GDP.

Two major utility easements, including a 150 ft wide San Diego Gas and Electric (SDG&E) easement and a 200 ft wide Southern California Edison (SCE) easement, extend through the central portion of the site, which separates the Zone 1 area from the Zone 4 area. Zone 2 contains trails, Zone 3 contains open space and habitat mitigation areas, and Zone 5 is Avenida La Pata, which is built out. There are existing uses (i.e., administrative offices/operations building, a household hazardous waste collection center, and a gas-to-energy facility) near the Landfill entrance that do not fall within a designated zone. An existing public use trail that crosses the Landfill site connects the San Clemente and San Juan Capistrano trail systems. There is also an existing 487 ac Conservation Easement that OC Waste & Recycling (OCWR) placed over a large portion of the Landfill property on non-Landfill development areas (much of which is within Zones 2 and 3) as a requirement of the Landfill's inclusion in the Orange County Southern Subregion Habitat Conservation Plan (SSHCP), a multi-species habitat mitigation and management plan for south Orange County.

3.3.3 Current Landfill Operations

Of the total 1,530 ac property, 680 ac are currently permitted for waste disposal. The Prima Deshecha Landfill accepts solid waste from commercial waste haulers and the public. The Landfill is open from 7:00 a.m. to 5:00 p.m., Monday through Saturday, 307 days per year (i.e., it is closed on Sundays and on the six major holidays).

The Landfill is a deep-canyon, cut-and-cover facility. To determine the tipping fee, trucks are weighed by scales before entering the facility and are then directed to a designated area of the Landfill for waste disposal. OCWR heavy equipment operators use compactors, bulldozers, and large earthmovers to push and compact waste for ultimate burial and daily covering with soil or an approved alternative daily cover material, which includes processed green material and geosynthetic tarps. Upon acceptance of waste for disposal at the scale house, the fee collector directs the haulers to the working face of the Landfill. Signs are posted along the on-site access road

to guide customers to the unloading areas. Commercial vehicles are generally directed to an unloading area that is separate from the area used by members of the public.

The Landfill is permitted to accept up to 4,000 tons per day (tpd) of solid waste. The Landfill is also permitted to accept up to 350 tpd of digested dewatered biosolids (i.e., wastewater treatment plant sludge). In fiscal year 2019/2020, the Landfill accepted a daily average of approximately 1,960 tpd of solid waste.[1] Of this total, approximately 1,576 tpd are received from Orange County cities served by the Prima Deshecha Landfill, which include Aliso Viejo, Dana Point, Laguna Niguel, Mission Viejo, Rancho Santa Margarita, San Clemente, and San Juan Capistrano, as well as unincorporated Orange County. Solid waste materials are primarily delivered by commercial franchise waste haulers under contract to these cities. The remaining approximately 400 tpd of solid waste are delivered to the Landfill by waste haulers hauling imported solid waste from outside Orange County (i.e., Burrtec/EDCO and Republic), primarily from Los Angeles County. There are only three waste haulers permitted to haul imported solid wastes to Orange County landfills via importation contracts with the County.

The Landfill accepts construction and demolition waste for disposal. From 2010–2019, CR&R recycled construction and demolition waste at their materials recovery facility (MRF) at the Landfill, which is now closed. The Landfill accepts approximately 350 tpd of exempt wastes, which include asphalt and soil for beneficial reuse at the Landfill. The County does not charge for exempt wastes since they are used in daily operations. Soil is used as daily cover, and asphalt is used as a base for wet deck operations.

The Landfill currently accepts approximately 100 tpd of processed green material. The Capistrano Greenery Project (anticipated to be operational in 2021) is a green waste composting operation that will be permitted to receive up to 204 tpd of processed green material, processed agricultural material, and manure for composting. The Capistrano Greenery composting operation will have a separate Solid Waste Facility Permit from the Landfill. The maximum 204 tpd for Capistrano Greenery is in addition to the 4,000 tpd daily limit for the Landfill operation. The County analyzed the potential impacts of the Capistrano Greenery project in an Initial Study/Mitigated Negative Declaration (IS/MND) that was adopted on May 5, 2020 (State Clearinghouse Number 2020019030). The Notice of Determination (NOD) for the Capistrano Greenery project was filed on May 11, 2020.

Only municipal solid waste is accepted at the Landfill. No special wastes or liquid wastes other than treated wood waste are accepted at the Landfill. Hazardous materials such as radioactive waste, asbestos, batteries, chemicals, paints, non-autoclaved medical wastes, treated wood, and other substances considered hazardous are not accepted at the Landfill.

The majority of the solid waste delivered to the Landfill, whether from in-County or out-of-County sources, is first processed in MRFs, where recyclable materials are removed for recycling. The residual solid waste is then delivered to the Landfill.

[1] During the scoping of the proposed Project, it was determined that the baseline for analysis of potential impacts should be represented by pre-pandemic conditions. Therefore, for the purposes of this analysis, information from the 2018/2019 fiscal year was used. In the 2018/2019 fiscal year, the Landfill accepted 2,120 tpd of solid waste.

The Landfill has state-of-the-art environmental control systems that include a hazardous waste control program; a landfill gas (LFG) monitoring, recovery, and control system and an LFG-to-energy plant; a groundwater monitoring, extraction, and collection system; a leachate collection and recovery system; a radioactive waste recovery program; and fire, erosion, dust, odors, noise, bird, insect, rodent, and litter control. In addition, a household hazardous waste collection center is operated by a partner company (Clean Harbors) at the Landfill. The Landfill complies with all federal, State, and local requirements for operation of a Class III (i.e., solid waste) sanitary landfill. Site staff conduct daily inspections to ensure that the site is in compliance with all the permit conditions imposed by regulatory agencies having jurisdiction on landfills. Permitting and enforcement regulatory agencies for the Landfill's operation include the California Department of Resources Recycling and Recovery (CalRecycle); the California Regional Water Quality Control Board (RWQCB), San Diego Region; the South Coast Air Quality Management District (SCAQMD); and the Local Enforcement Agency (i.e., Orange County Health Care Agency, Environmental Health Department, acting as the Local Enforcement Agency for CalRecycle).

3.4 PROPOSED PROJECT

The proposed Project would include the following components, as shown on **Figure 3.7**: (1) changes to the phasing of operations between Zone 1 and Zone 4 of the Landfill to allow for concurrent operations; (2) blasting, excavation, on-site relocation, pulverizing into soil, soil stockpiling, and off-site soil removal of hard rock material in Zone 4, referred to as the San Onofre Breccia area; and (3) imported soil trips for liner installation that will occur for all future Zone 4 development phases.

3.4.1 Project Components

3.4.1.1 Concurrent Operations for Zones 1 and 4

The 2001 GDP anticipated that Zone 4 of the Landfill would be developed after Zone 1 reached capacity and closed. The proposed Project would allow for concurrent operations in both Zones 1 and 4 to allow landfilling activities to shift between the two zones based on seasonal environmental conditions to minimize any potential noise, dust, and odor impacts that may occur to existing residential developments located near the Landfill. The Zone 1 and Zone 4 Landfill development areas are shown on **Figure 3.4**. While both Zone 1 and Zone 4 would be considered active from a regulatory standpoint, Zone 1 and Zone 4 would not be accepting refuse for disposal at the same time, and the Landfill would continue to have only one active working face area on a daily basis for daily landfill disposal operations. The OCWR would spend several months per year landfilling in Zone 1 before moving into Zone 4, and vice versa. Concurrent landfilling operations within Zone 4 is anticipated to begin in 2024.

3.4.1.2 San Onofre Breccia Removal

The Zone 4 landfilling area includes approximately 9 million cubic yards (mcy) of San Onofre Breccia hard rock material. The location of the San Onofre Breccia material is shown on **Figure 3.7**. The San Onofre Breccia removal was originally analyzed in Addendum No. 1 to Final Supplemental EIR No. 597 (April 2010). Addendum No. 1 analyzed blasting of this hard rock material in Zone 4 with an average of two blasts per month for a minimum of 10 years (or 3,000 cubic yards [cy] per day). The analysis in Addendum No. 1 to Final EIR No. 597 assumed the blasted material would be transported

via conveyor belt or transfer trucks and would either be stockpiled on site for later crushing or placed directly into a crusher operation. Crushed rock would be stockpiled on site for future use or exported off-site for use as road base, asphalt, concrete, or other uses. Off-site trips were assumed to not exceed the thresholds identified in Final EIR No. 575.

As a part of the proposed Project, the San Onofre Breccia material will be blasted, excavated, and relocated on site to the future Zone 4 Phase C area. The proposed Project anticipates approximately one blast per month for the duration of rock excavation. Operations related to the Breccia component of the proposed Project are anticipated to begin in approximately 2023 and continue until 2042 (a duration of approximately 20 years). Transfer trucks would travel approximately 0.5 mile (mi) within the Landfill boundaries to relocate the rock material. The proposed Project does not include the use of conveyor belts. Once at the Zone 4 Phase C area, the rock material will be pulverized into soil and then stockpiled. The Zone 4 Phase C stockpile area will accommodate up to 3.3 mcy of soil material. From this location, since the San Onofre Breccia soil will be unsuitable for use as landfill daily cover but may be used for other construction purposes, the stockpiled soil may be transported off site to end markets. The proposed Project is anticipated to result in on-site relocation to Phase C and off-site exportation of approximately 1,466 cy per day, generating approximately 81 truck trips per day for the entire 20-year duration.

3.4.1.3 Soil Importation for Liner Installation

During the construction of new Landfill development phases, the OCWR would import a significant amount of soil for liner installation. Approximately 8,108 cy of soil would be imported for each new development phase. Soil import trips would begin in 2023 and would occur for approximately 20 operating days every 10 to 15 years as phases are constructed (two of the later phases may be constructed at a lesser interval of 5 years). Soil import trips would continue throughout construction of all of the Zone 4 phases during liner installation, with the last Zone 4 development phase (which will include a new liner in Phase H) anticipated to be constructed in approximately 2088–2089. An additional Phase I will be constructed after this, but it will be a vertical expansion only, with no new liner or liner soil requirements.

3.4.2 Project Schedule

Construction of Zone 4 is anticipated to begin in 2022, and concurrent operations of Zones 1 and 4 of the Landfill are anticipated to commence in 2024. The San Onofre Breccia removal is anticipated to occur from 2023–2042. It is anticipated that the blasting associated with the Breccia removal will occur on average approximately one blast per month for the duration of these operations. Soil import trips would continue throughout construction of all of the Zone 4 phases during liner installation, with the last Zone 4 development phase (which will include a new liner Phase H of Zone 4) anticipated to be constructed in approximately 2088–2089.

3.4.3 Staging and Equipment

Project construction would require on-site staging areas to support construction and operational activities. Material disposal areas are also planned for placement of excess foundation excavation spoils. Staging areas would be required in Zone 4 Phase C to provide stockpile areas for the San

Onofre Breccia. Other staging areas within the Landfill boundaries would be utilized for materials, laydown, and storage areas.

A variety of vehicles and equipment would be used for the proposed Project. Equipment used would differ by Project component, with the most intensive use occurring for the removal of the San Onofre Breccia. Table 3.A presents a summary of the anticipated use of equipment and vehicles.

Table 3.A: Anticipated Equipment

Number of Units	Equipment Description	Estimated Operating Hours
Concurrent Operations of Zones 1 and 4		
2	Trash Dozer	6:00 AM to 6:00 PM
2	Scraper	6:00 AM to 6:00 PM
1	Tractor	6:00 AM to 6:00 PM
1	Crawler Tractor	6:00 AM to 6:00 PM
1	Compactor	6:00 AM to 6:00 PM
1	Wheel Loader	6:00 AM to 6:00 PM
1	Tool Carrier	6:00 AM to 6:00 PM
1	Backhoe Loader	6:00 AM to 6:00 PM
2	6,000-Gallon Water Truck	6:00 AM to 6:00 PM
1	Motor Grader	6:00 AM to 6:00 PM
San Onofre Breccia Removal		
30	Scraper	6:00 AM to 6:00 PM
2	Wheel Dozer	6:00 AM to 6:00 PM
1	Excavator	6:00 AM to 6:00 PM
4	Ejector Truck	6:00 AM to 6:00 PM
1	Backhoe Loader	6:00 AM to 6:00 PM
3	8,000-Gallon Water Truck	6:00 AM to 6:00 PM
1	Motor Grader	6:00 AM to 6:00 PM
8	1-Ton Pickup Truck with Service Bed	6:00 AM to 6:00 PM
5	Transfer Trucks	6:00 AM to 3:00 PM
2	Drills	6:00 AM to 3:00 PM
2	Wheel/Track Dozer	6:00 AM to 3:00 PM
2	Excavators	6:00 AM to 3:00 PM
2	Loaders	6:00 AM to 3:00 PM
1	On-Site Crushers	6:00 AM to 3:00 PM
2	Diesel Generator	6:00 AM to 3:00 PM

Source: Compiled by LSA Associates, Inc. (2020)

3.4.4 Required Permits and Approvals

3.4.4.1 Discretionary Actions

Implementation of the Project would require various approvals and permits from local, State, and federal agencies with jurisdiction over specific elements of the Project. The discretionary approvals by the County, as the Lead Agency, would include the following:

- Certification of this SEIR by the Orange County Board of Supervisors
- Approval of Amendment No. 4 to the 2001 Prima Deshecha GDP
- Approval of concurrent operation of Zones 1 and 4 at the Prima Deshecha Landfill

3.4.4.2 Other Ministerial Actions

Ministerial permits/approvals (e.g., grading permits and building permits) would be issued by the County, or other appropriate agencies or utilities, to allow Project site preparation, connections to utility infrastructure, paving, and other Project features subject to ministerial permits.

3.4.4.3 Probable Future Actions by Responsible Agencies

Because the Project also involves approvals, permits, or authorization from other agencies, these agencies are "Responsible Agencies" under the California Environmental Quality Act (CEQA). Section 15381 of the State Guidelines for the Implementation of CEQA of 1970 (State CEQA Guidelines) defines Responsible Agencies as public agencies other than the Lead Agency that will have discretionary approval power over the Project or some component of the Project, including mitigation. These agencies include, but are not limited to, the agencies identified in Table 3.B.

Table 3.B: Anticipated Permits and Authorizations

Agency	Permit/Authorization
Regional Water Quality Control Board (RWQCB)	• Construction General Permit (Order 2009-0009-DWQ, amended by 2010-0014-DWQ and 2012-0006-DWQ) • Waste Discharge Requirements for the Prima Deshecha Landfill (Order No. R9-2003-0306) • General Permit for Storm Water Discharges Associated with Industrial Activities (Order 2014-0057-DWQ).
South Coast Air Quality Management District (SCAQMD)	• New Source Performance Standards/Emission Guidelines • Title V (1990 Clean Air Act) Permit Revision • Rule 1150 (Excavation of Landfill Sites) • Rule 1150.1 (Landfill Gas Emissions) • Rule 431.1 (Sulfur Content of Gaseous Fuels) • Rule 431.2 (Sulfur Content of Liquid Fuels)
Local Enforcement Agency with Concurrence by California Department of Resources Recycling and Recovery (CalRecycle)	• Solid Waste Facilities Permit Revision
Orange County Fire Authority	• Permits for on-site activities such as explosives • Blasting Plan Approval
Orange County Sheriff's Department	• Blasting Plan Approval

Source: Compiled by LSA Associates, Inc. (2020).

3.4.5 Project Objectives

The OCWR has established specific solid waste management objectives for the proposed Zone 4 Landfill Construction Projects, which would aid decision-makers in their review of the proposed Project and its associated environmental impacts. The objectives identified below were utilized in

the preparation of this SEIR for the 2001 Prima Deshecha GDP, particularly with regard to the Landfill design and operations:

- Optimize the use of the site as a long-term waste disposal facility.
- Minimize potential noise, dust, and odor impacts for surrounding land uses by alternating disposal operations between Zones 1 and 4 based on seasonal conditions.
- Provide for the development and long-term operation of Zone 4 through the removal of the San Onofre Breccia material.
- Provide a long-term, regional solid waste management facility with appropriate safeguards, including soil-covered liner installation of each Landfill phase in order to protect public health and safety as well as water, air, soil and other important resources that exist on site and on surrounding property.

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FIGURE 3.1

LEGEND

Prima Deshecha Landfill Boundary

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SOURCE: Bing Maps

Prima Deshecha Landfill GDP

Project Location

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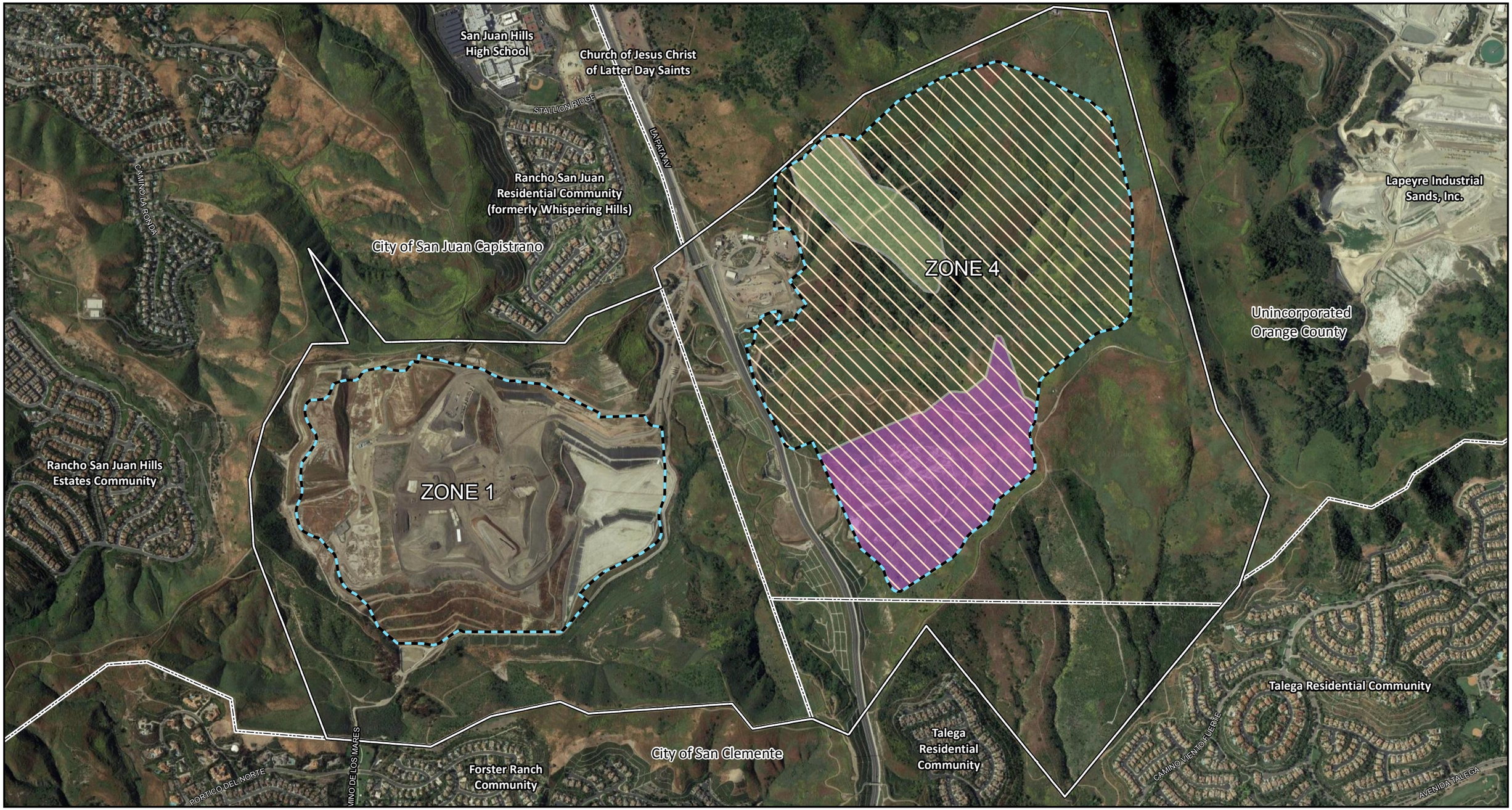

LSA

LEGEND

- Prima Deshecha Landfill (PDLF) Boundary
- Concurrent Operations of Zones 1 and 4
- Soil Importation for Liner Installation
- San Onofre Breccia Removal – Blasting
- San Onofre Breccia Removal – Pulverizing/Stockpiling

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SOURCE: OCWR (2001, 2005, 2010, 2017, 6/2020); Google (2019)

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FIGURE 3.2

Prima Deshecha Landfill GDP

Surrounding Land Use

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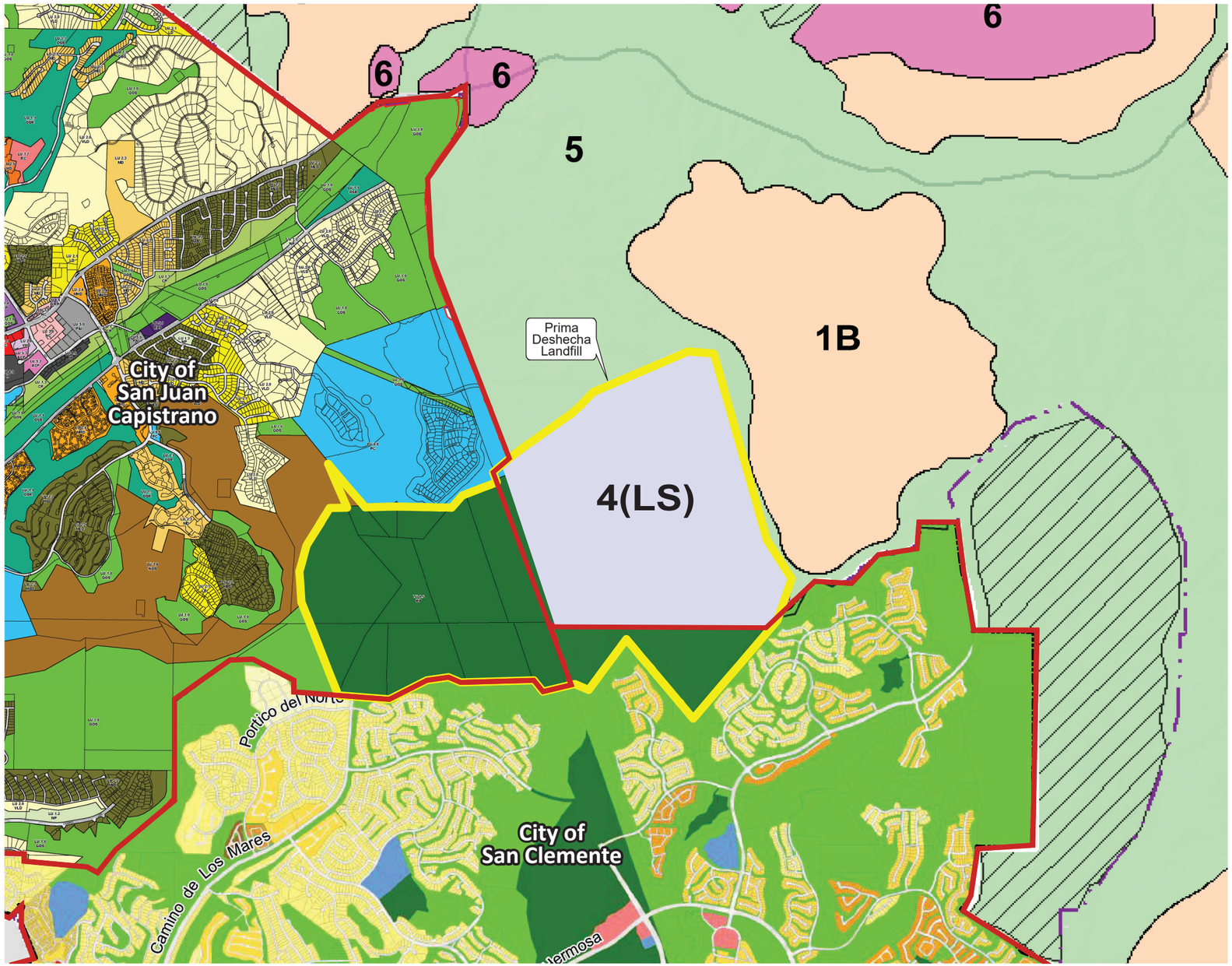

City of San Juan Capistrano General Plan Land Use

- 1.0, GENERAL OPEN SPACE
- 1.1, OPEN SPACE RECREATION
- 1.2, NEIGHBORHOOD PARK
- 1.3, COMMUNITY PARK
- 1.4, SPECIALTY PARK
- 1.5, REGIONAL PARK
- 1.6, NATURAL OPEN SPACE
- 1.7, RECREATION COMMERICAL
- 2.0, VERY LOW DENSITY
- 2.1, LOW DENSITY
- 2.2, MEDIUM LOW DENSITY
- 2.3, MEDIUM DENSITY
- 2.4, MEDIUM HIGH DENSITY
- 2.5, HIGH DENSITY
- 2.6, VERY HIGH DENSITY
- 3.0, NEIGHBORHOOD COMMERCIAL
- 3.1, GENERAL COMMERCIAL
- 4.0, INDUSTRIAL PARK
- 4.1, QUASI INDUSTRIAL
- 4.2, AGRI-BUSINESS
- 4.3, LIGHT INDUSTRIAL
- 4.4, OFFICE/RESEARCH PARK
- 5.0, PUBLIC & INSTITUTIONAL
- 5.1, EXISTING PUBLIC SCHOOLS
- 5.3, ASSISTED CARE FACILITIES
- SPECIAL STUDY
- PLANNED COMMUNITY
- SPECIFIC PLAN/PRECISE PLAN

City Boundary

Prima Deshecha Landfill Boundary

County General Plan Land Use

RESIDENTIAL

- 1A — **Rural Residential** *Rural Residential Communities (.025 - 0.5 DU/Ac.)*
- 1B — **Suburban Residential** *Suburban Residential Communities (0.5 - 18 DU/Ac.)*

PUBLIC FACILITIES

- 4 — **Public Facilities**
- 4 (LS) — **Landfill Site** (An overlay designation)

OPEN SPACE

- 5 — **Open Space**
- 5 — **Open Space Reserve** *Generalized reserve boundaries for informational purposes only.*

URBAN ACTIVITY CENTER

- 6 — **Urban Activity Center**

Cleveland National Forest Congressional Boundary

City/County Jurisdiction

Sphere of Influence Boundary

City of San Clemente General Plan Land Use

- City Boundary
- Coastal Zone Boundary
- Sphere of Influence

GENERAL PLAN LAND USE

- RVL - Residential Very Low Density
- RL - Residential Low Density
- RML - Residential Medium Low Density
- RM - Residential Medium Density
- RH - Residential High Density
- NC - Neighborhood Commercial
- CC - Community Commercial; CC4
- RMF - Regional Medical Facilities
- RC - Regional Commercial
- CRC - Coastal and Recreation Serving Commercial
- LI - Light Industrial
- HI - Heavy Industrial
- MU - Mixed Use
- CVC - Civic Center
- INST - Institutional
- P - Public
- OS1 - Open Space Public
- OS2 - Open Space Private

LSA

FIGURE 3.3

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SOURCE: Orange County Public Works, City of San Clemente, City of San Juan Capistrano

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Prima Deshecha Landfill GDP

General Plan Land Use Designations

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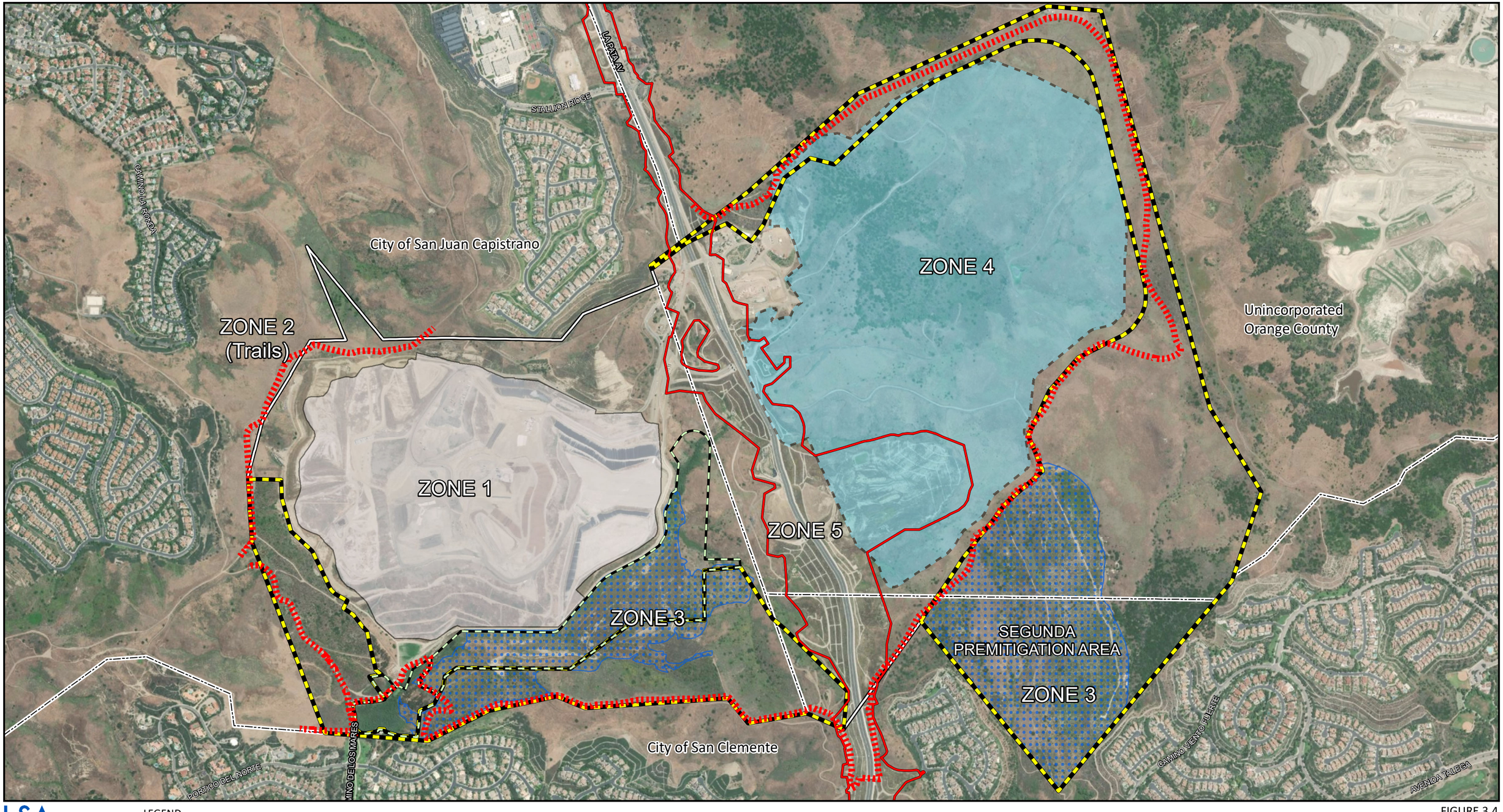

LSA

LEGEND

- Prima Deshecha Landfill (PDLF) Boundary
- Supplemental Open Space Conservation Easement Area (486.4 ac)
- Proposed Conservation Easement (70.7 ac)
- PDLF Zone 1
- PDLF Zone 2 (Multi-Use Trail System)
- PDLF Zone 3
- PDLF Zone 4
- La Pata Maximum Direct Disturbance Limit (PDLF Zone 5)

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SOURCE: OCWR (2001, 2005, 2010, 2017, 6/2020); Esri (7/2019)

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FIGURE 3.4

Prima Deshecha Landfill GDP

Landfill Zones

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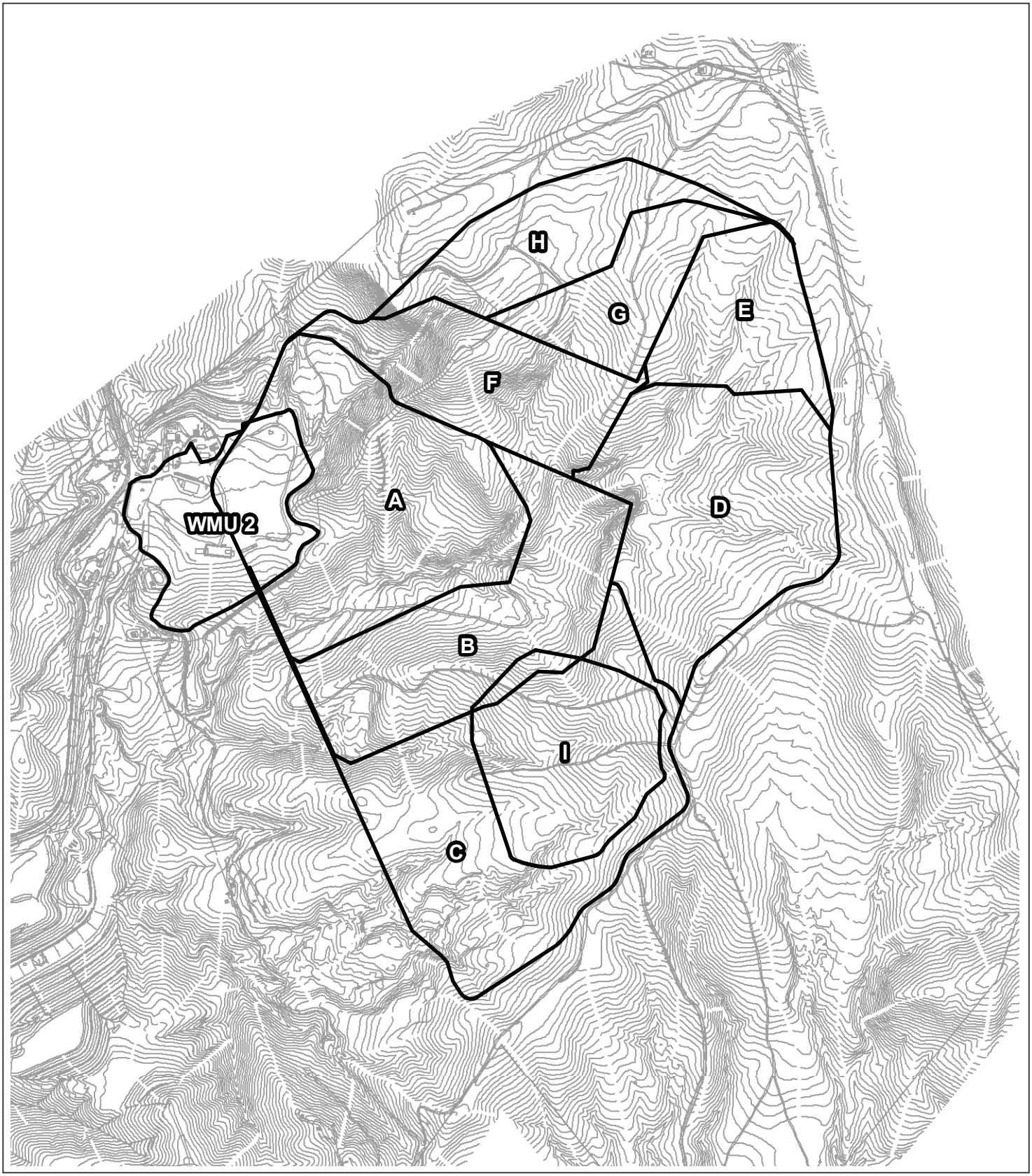

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FIGURE 3.5

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SOURCE: Bonterra Consulting

Prima Deshecha Landfill GDP

Zone 4 Phasing

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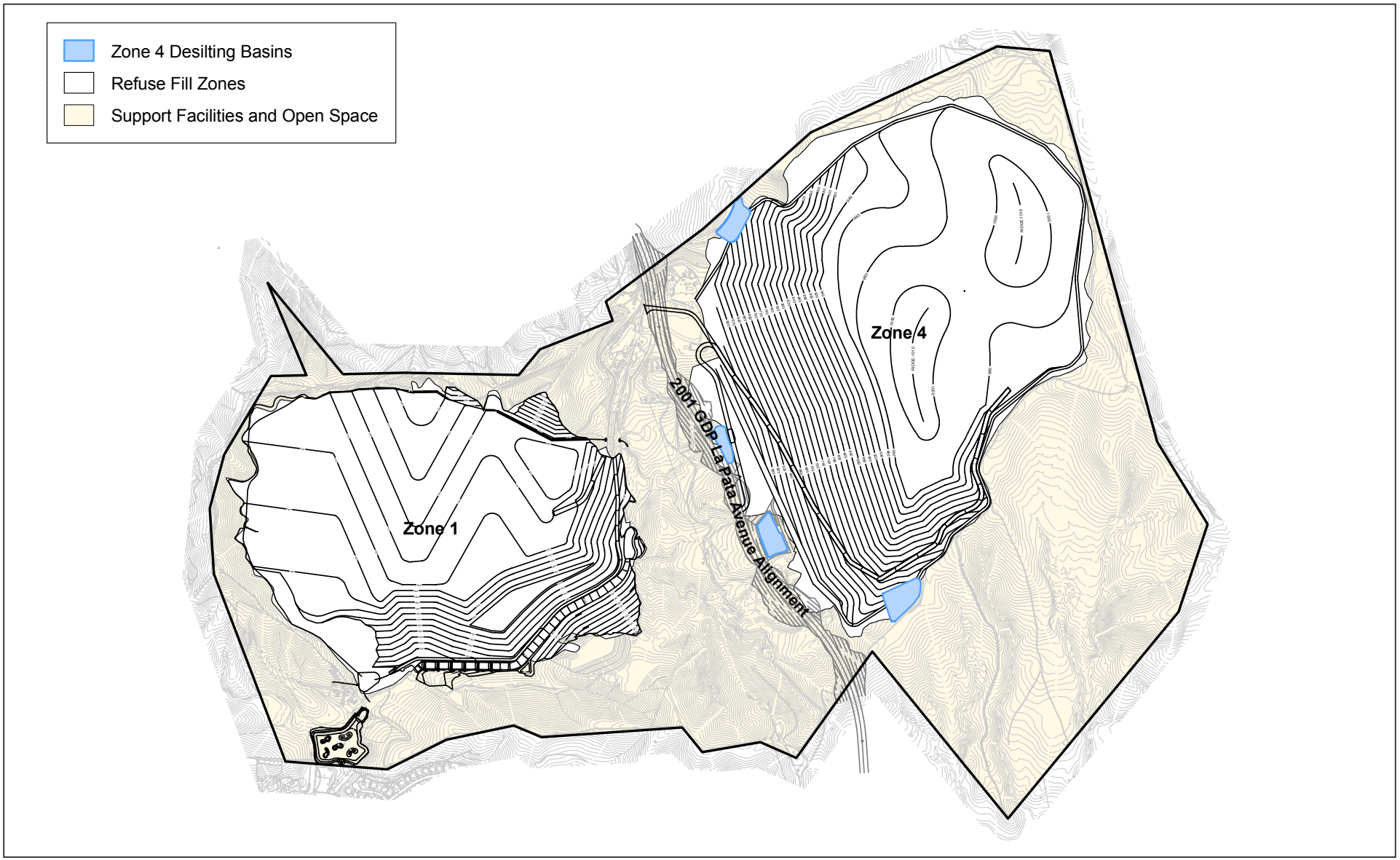

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FIGURE 3.6

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SOURCE: Bonterra Consulting

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Prima Deshecha Landfill GDP

Final Grades for Zones 1 and 4

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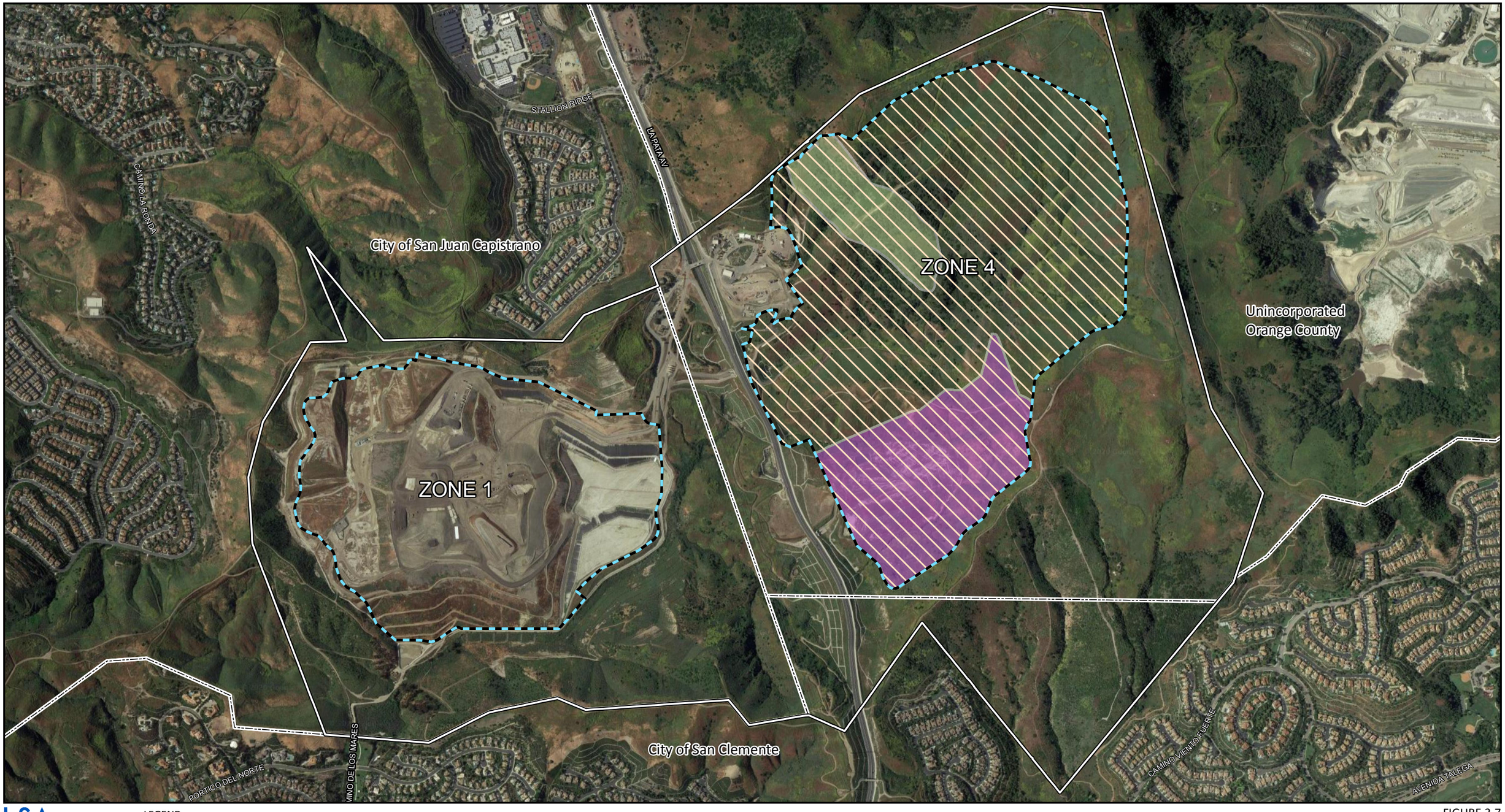

LSA

LEGEND

- Prima Deshecha Landfill (PDLF) Boundary
- Concurrent Operations of Zones 1 and 4
- Soil Importation for Liner Installation
- San Onofre Breccia Removal – Blasting
- San Onofre Breccia Removal – Pulverizing/Stockpiling

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SOURCE: OCWR (2001, 2005, 2010, 2017, 6/2020); Google (2019)

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FIGURE 3.7

Prima Deshecha Landfill GDP

Project Components

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4.0 EXISTING ENVIRONMENTAL SETTING, ENVIRONMENTAL ANALYSIS, IMPACTS, AND MITIGATION MEASURES

This chapter contains three sections (i.e., aesthetics, air quality, and noise), each of which addresses one environmental topic outlined in Appendix G of the State Guidelines for the Implementation of CEQA of 1970 (State CEQA Guidelines) (California Code of Regulations [CCR] Title 14, Chapter 3, Sections 15000–15397).

For each environmental impact issue analyzed, this Supplemental Environmental Impact Report (SEIR) includes a detailed explanation of the existing conditions, thresholds of significance that will be applied to determine whether the proposed amendment to the 2001 Prima Deshecha Landfill (Landfill) General Development Plan (GDP) to include the Zone 4 Construction Projects (Project) would result in "no substantial change" over those impacts identified in Final Environmental Impact Report (EIR) No. 575, Final Supplemental EIR No. 597, and Addenda, or if there were "more severe impacts" or new significant impacts to these resources. A "significant impact" or "significant effect" means "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project" (14 CCR 15382). Each of the environmental topic sections in Chapter 4.0 also includes a discussion of the cumulative effects of the proposed project when considered in combination with other projects causing related impacts, as required by Section 15130 of the State CEQA Guidelines.

Per CEQA Section 15125, an environmental setting must be presented to serve as a baseline from which to determine the significance of proposed project impacts. This discussion also provides the basis for an understanding of the regional context for the project. Existing conditions are described for each resource category below, including the environmental setting.

All applicable mitigation measures from Final EIR No. 575, Final Supplemental EIR No. 597, and Addenda, or other previous environmental documents certified for the Prima Deshecha Landfill remain as project commitments that apply to the proposed Project (refer to Chapter 8.0 of this SEIR for a complete list of applicable mitigation measures). Mitigation measures pertaining to the environmental topics analyzed in this EIR are also included in the "mitigation measures" section as described below.

Each of the three environmental sections is organized into the following subsections:

1. **Introduction** briefly describes the topics and issues covered in the section.
2. **Scoping Process** describes the comment letters received during the public review period of the Initial Study/Notice of Preparation (IS/NOP) that are related to the topic.
3. **Summary of Previous Environmental Documents** describes the analysis included in Final EIR No. 575, the Final Supplemental EIR No. 597, and the applicable addenda to those documents related to the specific environmental topic being analyzed. This section provides the basis for the comparison of the impacts of the proposed project and the Approved 2001 Prima Deshecha GDP.

4. **Existing Environmental Setting** describes the physical conditions that existed at the time the Notice of Preparation was prepared and distributed that may influence or affect the issue under investigation. This section focuses on physical site characteristics that are relevant to the environmental topic being analyzed.
5. **Regulatory Setting** lists and discusses the laws, ordinances, regulations, and policies that relate to the specific environmental topic and how they apply to the proposed project.
6. **Methodology** describes the approach and methods employed to complete the environmental analysis for the issue under investigation.
7. **Thresholds of Significance** provides the thresholds that are the basis of the conclusions of significance, which are based on the criteria in Appendix G of the State CEQA Guidelines, and the County of Orange (County) *Local CEQA Procedures Manual* (November 2020).
8. **Project Impacts** describes the potential environmental changes to the existing physical conditions that may occur if the proposed project is implemented. Evidence is presented to show the cause-and-effect relationship between the proposed project and potential changes in the environment. The magnitude, duration, extent, frequency, and range or other parameters of a potential impact are ascertained to the extent feasible to determine whether impacts may be significant. In accordance with the California Environmental Quality Act (CEQA), potential project impacts, if any, are classified as follows for each of the environmental topics discussed in this SEIR. Based on these classifications, a determination will be made if the proposed Project would result in "no substantial change", a "more severe impact", or a "new significant impact" from the conclusions of the Final EIR No. 575, Final Supplemental EIR No. 597, and Addenda.
    a. **Significant Adverse Impact.** Significant adverse impacts are those that cannot be fully mitigated or avoided. If the project is approved, decision-makers are required to adopt a statement of overriding considerations pursuant to State CEQA Guidelines Section 15093 explaining why the project benefits outweigh the unavoidable adverse environmental effects caused by these significant adverse environmental impacts.
    b. **Less than Significant Impact with Mitigation Incorporated.** This classification refers to significant environmental impacts that can be feasibly mitigated or avoided. If the project is approved, decision-makers are required to make findings pursuant to State CEQA Guidelines Section 15091 that adverse significant impacts have been mitigated to the maximum extent feasible through the implementation of mitigation measures.
    c. **Less than Significant Impact.** Less than significant impacts are environmental impacts that have been identified but are not significant. No mitigation is required for less than significant impacts.
    d. **No Impact.** A "no impact" determination is made when the proposed project is found to have no environmental impact.
9. **Cumulative Impacts** refers to potential environmental changes to the existing physical conditions that may occur as a result of project implementation together with all other reasonably foreseeable, planned, and approved future projects producing related impacts. Section 15355 of the State CEQA Guidelines defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or

increase other environmental impacts." Cumulative impacts may result from individually minor but collectively significant projects taking place over a period of time. For each of the environmental topics considered in this SEIR, the geographic scope of the cumulative analysis is defined.

10. **Level of Significance Prior to Mitigation** describes the significance of potential impacts prior to implementation of mitigation measures.
11. **Regulatory Compliance Measures and Mitigation Measures** are regulatory compliance measures the project must comply with per applicable federal, state, or local regulations, and project-specific measures that would be required for the project to avoid, minimize, rectify, reduce, eliminate, or compensate for a potentially significant adverse impact.
12. **Level of Significance after Mitigation** describes the significance of potential impacts after implementation of mitigation measures. Potential significant unavoidable impacts are clearly stated in this section.

OVERVIEW OF ENVIRONMENTAL SETTING

The Prima Deshecha Landfill property is 1,530 acres (ac) and is located in southeastern Orange County, partially within San Juan Capistrano (570 ac), San Clemente (133 ac), and unincorporated Orange County (827 ac) (see **Figure 3.1**). The Landfill is located at 32250 Avenida La Pata, and access is provided by Interstate 5 (I-5), State Route 74 (SR-74), and Avenida La Pata.

The Landfill is located in the western foothills of the Santa Ana Mountains. Ground elevations range from 230 feet (ft) above mean sea level (amsl) at the southwestern boundary of the site to a maximum elevation of 1,125 ft amsl at the northeastern boundary of the site. Bedrock materials exposed in the area consist of predominantly Tertiary marine sediments composed of, from oldest to youngest, the San Onofre Breccia Formation, the Monterey Formation, and the Capistrano Formation. The Prima Deshecha Cañada watercourse traverses the site from the northeast to the southwest.

The Landfill is a Class III solid waste landfill that has been in continuous operation since 1976. Of the total 1,530 ac property, 680 ac are currently permitted for waste disposal. The Prima Deshecha Landfill site is divided into five zones (i.e., Zones 1 through 5) as shown on **Figure 3.2**. Zone 1 is the current landfilling area, with an estimated closure date of approximately 2050. Zone 4 is the future landfill development area, with an estimated closure date of approximately 2102. Two major utility easements, including a 150 ft wide San Diego Gas and Electric (SDG&E) easement and a 200 ft wide Southern California Edison (SCE) easement, extend through the central portion of the site, which separates the western Zone 1 area from the Zone 4 area. Zone 2 is trails, Zone 3 is open space and habitat mitigation areas, and Zone 5 is Avenida La Pata. There are existing uses (i.e., administrative offices/operations building, a household hazardous waste collection center, and a gas-to-energy facility) near the Landfill entrance that do not fall within a designated zone. An existing public use trail that crosses the Landfill site connects the San Clemente and San Juan Capistrano trail systems. There is also an existing 487 ac Conservation Easement that OC Waste & Recycling (OCWR) placed over a large portion of the Landfill property on non-landfill development areas (much of which occurs within Zones 2 and 3) as a requirement of the Landfill's inclusion in the Orange County

Southern Subregion Habitat Conservation Plan (SSHCP), a multi-species habitat mitigation and management plan for south Orange County.

The Orange County General Plan designation for the Landfill is 4LS, Public Facilities with a Landfill Site Overlay. As an active public facility, the Landfill is exempt from the Orange County Zoning Ordinance.

Surrounding land uses include public and private open space and residential uses ranging from Very Low Density to Medium Density Residential.

THRESHOLDS OF SIGNIFICANCE

The threshold questions used in this SEIR are consistent with the requirements of CEQA, including Appendix G of the State CEQA Guidelines, and the County's *Local CEQA Procedures Manual* (November 2020).

As discussed in Chapter 1.0 of this SEIR, Section 15163(b) of the State CEQA Guidelines states that a supplement to an EIR need only contain the information necessary to make the previous EIR adequate for the project as revised. Since certification of Final EIR No. 575 in November 2001 and certification of Final Supplemental EIR No. 597 in June 2007, there have been several revisions to CEQA and the State CEQA Guidelines. Most recently, CEQA and the State CEQA Guidelines were updated in December 2018 and several new topics were added. The revised State CEQA Guidelines apply to a CEQA document only if the revised Guidelines are in effect when the document is sent out for public review (State CEQA Guidelines, § 15007(c)). Therefore, because this document is an SEIR, which need only contain the information necessary to make the previous EIR adequate for the project as revised, this SEIR does not address topics added in the 2018 CEQA update or any update that occurred between 2001 and the present day.

It should be noted that a change in the State CEQA Guidelines subsequent to certification of Final EIR No. 575 resulted in an updated impact conclusion of "significant after mitigation" for air quality impacts associated with the 2001 General Development Plan (GDP). Final EIR No. 575 concluded that air emissions generated by the landfill component of the 2001 GDP exceeded South Coast Air Quality Management District (SCAQMD) thresholds of significance. The Prima Deshecha Landfill is currently implementing several mitigation measures to reduce potential air quality impacts as described in Final EIR No. 575.

The air quality impact conclusion of "less than significant" in Final EIR No. 575 was based upon the provisions contained within Section 15064(h) of the State CEQA Guidelines, which provided that an environmental impact is not significant if it complies with a standard adopted by a public agency for the purpose of environmental protection. The "standard" cited in Final EIR No. 575 to support the conclusion of less than significant impact is conformity with landfill-specific SCAQMD air quality standards, which the Landfill must meet through permit acquisition in order to continue operation. However, on October 28, 2002 (after finalization of Final EIR No. 575), the California Court of Appeals invalidated this provision in Section 15064(h) in its decision in the case of *Citizens for a Better Environment et al. vs. the California Resources Agency*. Accordingly, this SEIR does not rely upon Section 15064(h) of the State CEQA Guidelines or conformity with landfill-specific SCAQMD air

quality standards. Instead, the thresholds used in Section 4.2, Air Quality, of this SEIR are consistent with the SCAQMD *CEQA Air Quality Handbook* (1993) and supplemental significance thresholds published by the SCAQMD.

RELATED/CUMULATIVE PROJECTS

In accordance with State CEQA Guidelines Section 15130, cumulative impacts are anticipated impacts of the proposed project along with reasonably foreseeable growth. Reasonably foreseeable growth may be based on either:

- A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or

- A summary of projections contained in the adopted General Plan or related planning document, or in a prior environmental document that has been adopted or certified, and that described or evaluated regional or areawide conditions contributing to the cumulative impact.

The discussion of cumulative impacts "should be guided by the standards of practicality and reasonableness" (*Environmental Protection Info. Center v. Department of Forestry & Fire Protection* (2008) 44 Cal.4th 459, 524). A proposal that has not crystallized to the point that it would be reasonable and practical to evaluate its cumulative impacts need not be treated as a probable future project (*City of Maywood v. Los Angeles Unified School District* (2012) 208 Cal.App.4th 362, 397). Rather, a potential future project qualifies for inclusion in an analysis of cumulative impacts only to the extent the future project is "both probable and sufficiently certain to allow for meaningful cumulative impact analysis" (*Id*. at 398; see *City of Long Beach v. Los Angeles Unified School Dist*. (2009) 176 Cal.App.4th 889, 902 [when "review[ing] the agency's decision to include information in the cumulative impacts analysis[,] ... [w]e determine whether inclusion was reasonable and practical"]).

For the purposes of this SEIR, a list of past, present, and probable future projects is used in the evaluation of potential cumulative impacts. All proposed, recently approved, under construction, and reasonably foreseeable projects that could produce a related or cumulative impact on the local environment when considered in conjunction with the proposed project are evaluated in an SEIR. As stated above, an analysis of the cumulative impacts associated with these related projects and the proposed Project is provided in the cumulative impacts discussion under each individual impact category in Chapter 4.0.

In coordination with the County of Orange and the cities of San Juan Capistrano and San Clemente, a list of past, present, and probable future projects was developed. As shown in Table 4.0.A, the projects include various land uses, such as residential, commercial, office, and mixed-use. The locations of the related projects are shown on **Figure 4.0.1**. Although some projects on the list have been completed since issuance of the Notice of Preparation (NOP), they remain on the list because they are part of the cumulative analysis for the SEIR.

Table 4.0.A: Related Projects

	Project Name[1]	Location	Description
1	San Juan Hills High School	West of La Pata Avenue	2,200-student public high school (92 percent occupied, 2,021 students)
2	J. Serra Catholic High School	North and South of J. Serra Road and West of I-5	2,000-student private high school (52 percent occupied, 1,050 students)
3	Oliva TTM 16146 (Belladonna Estates)	West side of Del Obispo Street and South of Calle Aspero	Development of 31 single-family detached units (20 units occupied)
4	T16634 Whispering Hills	West of La Pata Avenue and North of Prima Deshecha Cañada Landfill	Development of 155 single-family detached units (140 units occupied)
5	Pacifica San Juan	East of I-5 extending from McCracken Hill south to Camino Las Ramblas	Development of 23 single-family estate units, 311 single-family detached units, and 82 multi-family units (123 units occupied)
6	24-Hour Fitness	South side of Calle Arroyo and West of Rancho Viejo Road	Development of a 38,000-square-foot health club
7	Plaza Banderas	Northeast corner of El Camino Real and SR-74	Development of a 124-room hotel and a 14,500-square-foot restaurant (under construction)
8	The Oaks	South side of SR-74 and west of Reata Park	Development of 32 single-family detached units (16 units occupied)
9	Kimpton Hotel	Southeast corner of Camino Capistrano and Forster	Development of a 102-room hotel and a 3,500-square-foot restaurant
10	Distrito La Novia-San Juan Meadows	North and south sides of La Novia Avenue, east of Valle Road	Development of 90 single-family attached units, 50 multi-family attached units, and 93 single-family detached units; and 75,100 gross square feet of commercial, 16,000 gross square feet of office uses, and an equestrian center
11	Church of Latter Day Saints	North side of Vista Montana and West of La Pata Avenue	Development of a 16,558-square-foot church (under construction)
12	Oliva TTM 17655 (Belladonna Estates)	West side of Del Obispo Street and south of Calle Aspero	Development of 9 single-family dwelling units (8 units occupied)
13	The River Street Project	North of Del Obispo on Paseo Adelanto through to Los Rios	Development of 57,600 square feet of commercial use
14	The Farm on Del Obispo	32382 Del Obispo	Development of 180 single-family dwelling units
15	Chick-fil-a Restaurant	31872 Del Obispo	Development of a 2,905 square feet of retail use
16	Starbucks Café with a drive-through	32291 Camino Capistrano	Development of a 2,200-square-foot coffee shop with drive-through
17	Mountain View Church	32382 Del Obispo Street	Development of a 17,000-square-foot church
18	Ganahl Lumber	Northside of Stonehill Drive between San Juan Creek Road and the railroad right-of-way	Development of 5,000 square feet of restaurant, 130,000 square feet of hardware store, and a 399-space car storage
19	Downtown Playhouse	Southeast corner of SR-74 and El Camino Real	Development of 3,300 square feet of office, 31,500 square feet of retail, and 7,700 square feet of theatre
20	Mission Grill	31721 Camino Capistrano	Development of 7,500 square feet of office, 4,700 square feet of retail, and 3,700 square feet of restaurant
21	Tirador Residential	Near terminus of Calle Arroyo	Development of 132 townhomes and single-family residences
22	La Pata Transfer Station	East side of Avenida La Pata, 4,500 feet south of SR-74 and 3,000 feet north of Stallion Ridge	Relocation of the existing CR&R transfer station 2 miles east of Antonio Parkway-Avenida La Pata/SR-74
23	Los Patrones Parkway Extension (LPPE)	Los Patrones Parkway	The LPPE alignment would extend south from the current southern roadway terminus at Cow Camp Road on the eastern edge of the Village of Esencia (Planning Area 2) within the Ranch Plan Planned Community, cross San Juan Creek and Ortega Highway (SR-74) on bridge structures, and enter into Planning Area 5.

Source: Compiled by LSA Associates, Inc. (2020).

[1] Cumulative projects 1–21 provided/confirmed by City of San Juan Capistrano staff in September 2020. Cumulative projects 22 and 23 provided/confirmed by the County of Orange in September 2020 and January 2021, respectively.

I-5 = Interstate 5

SR-74 = State Route 74

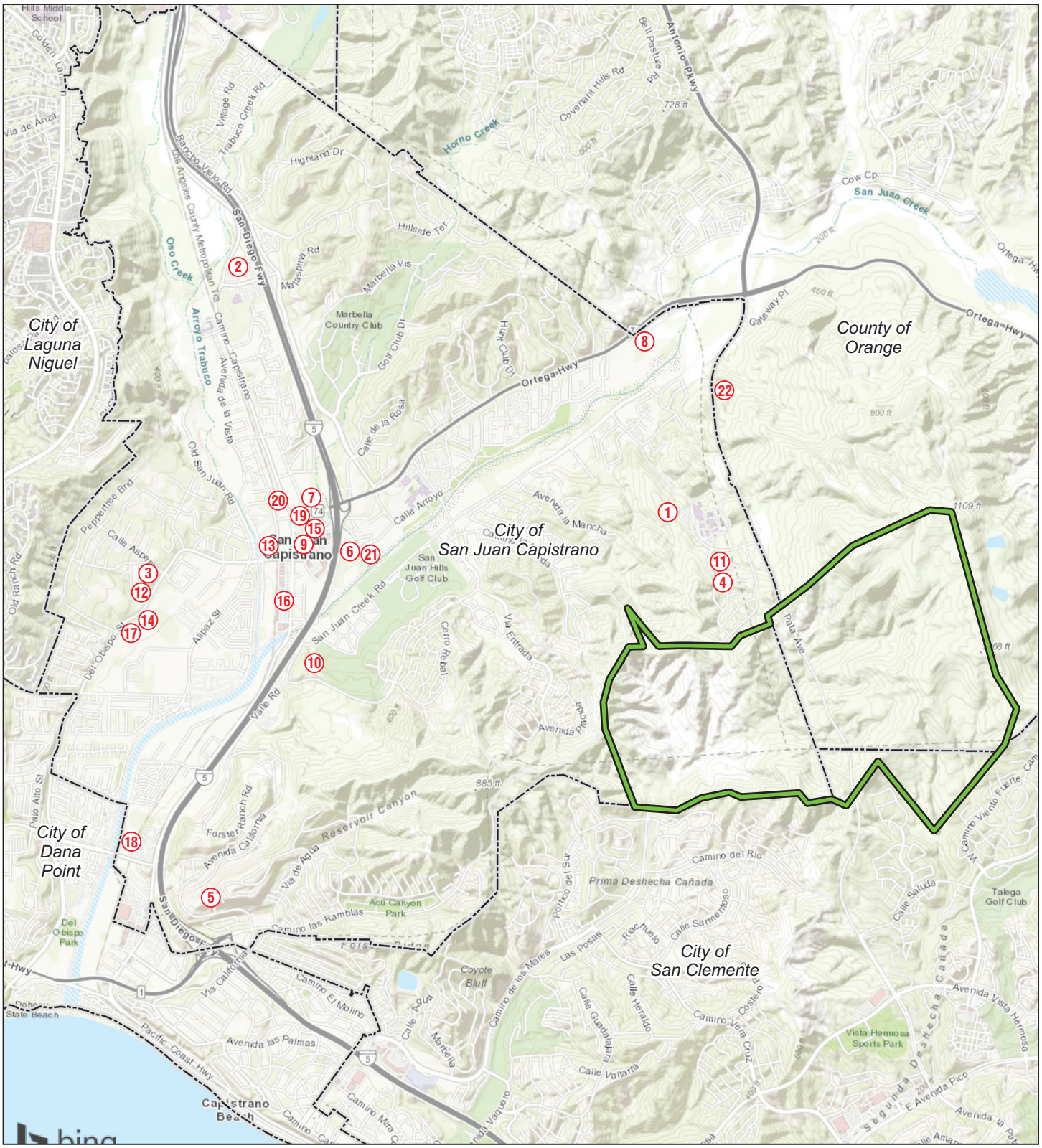

FIGURE 4.0.1

LSA

LEGEND

5 - Approved/Pending Projects

- Prima Deshecha Landfill Boundary

N

0 2000 4000

FEET

SOURCE: Bing Maps

Prima Deshecha Landfill GDP

Related Projects

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4.1 AESTHETICS

This section discusses existing visual setting and aesthetic resources on the Project site and in the surrounding area, summarizes existing regulations related to visual character and aesthetics, and evaluates potential aesthetic impacts associated with the proposed amendment to the Prima Deshecha Landfill (Landfill) General Development Plan (GDP) to include the Zone 4 Construction Projects (Project). The impacts of the proposed Project are compared to the impacts identified in Final Environmental Impact Report (EIR) No. 575, Final Supplemental EIR No. 597, and Addenda. The analysis in this section is based on visual simulations prepared by Cornerstone Studios.

For the purposes of this analysis, the term "Final EIR No. 575" is assumed to refer to the whole of the previous environmental analysis unless otherwise stated.

4.1.1 Scoping Process

The County of Orange (County) received eight comment letters during the public review period of the Initial Study/Notice of Preparation (IS/NOP). For copies of the IS/NOP comment letters, refer to Appendix A of this Supplemental Environmental Impact Report (SEIR). No comment letters submitted in response to the IS/NOP included comments related to aesthetics.

4.1.2 Summary of Previous Environmental Documents

A summary of the aesthetics analysis in Final EIR No. 575 and Final Supplemental EIR No. 597, and the applicable addenda to those documents related to aesthetics are provided below.

4.1.2.1 Final EIR No. 575

Final EIR No. 575 found that the construction and operation of the Prima Deshecha Landfill through completion of the GDP for the Landfill would result in an unavoidable significant adverse impact to aesthetics. Section 4.11 of Final EIR No. 575 included an analysis of views from the selected vantage points that compared the existing conditions with the final ultimate Landfill conditions. Dramatic topographic alterations between the existing conditions and conditions associated with the ultimate build out of the Landfill will occur if the Landfill activities are implemented as proposed. However, the landfilling activities proposed in Final EIR No. 575, which would result in significant impacts to public views, were described as occurring over a period of approximately 66 years, based on a maximum disposal rate of 4,000 tons per day (tpd). Therefore, the overall change in visual characteristics would be gradual and difficult to notice over the life of the Landfill. The locations of these selected vantage points are provided on **Figure 4.1.1** (all figures are provided at the end of the text in this section).

In addition, while the contrast of graded soils and vegetated areas will be visible during construction of Zones 1 and 4, it was determined that hydroseeding of newly covered refuse areas and cut slopes would occur annually, and that all construction staging would be located below the ridgelines and behind natural visual buffers to screen construction activities from surrounding communities. It was determined that potential long-term aesthetic impacts would be reduced with implementation of mitigation measures, but a significant aesthetics impact would occur from the San Clemente vantage points that cannot be reduced to a less than significant level. Mitigation measures from Final EIR No.

575 are provided in Section 4.1.10.2 of this SEIR. All the mitigation measures from Final EIR No. 575 remain as project commitments that apply to the proposed Project.

4.1.2.2 Final Supplemental EIR No. 597

Final Supplemental EIR No. 597 concluded that although there will be an incremental change to the landscape as a result of proposed landslide stabilization measures, it will not significantly change final surface grading or fill slopes and is not expected to contribute significantly to the aesthetic impacts that were analyzed in Final EIR No. 575. The landslide remediation within the revised limits of disturbance and construction of the revised desilting system was determined to occur below ridgelines and would not result in a new or greater significant aesthetic impact than those identified in Final EIR No. 575.

4.1.2.3 Addendum No. 1 to Final Supplemental EIR No. 597

During the course of geotechnical investigations and report preparation for Zone 4 occurring in 2008–2009, the extent of hard rock (San Onofre Breccia Formation) within the Zone 4 development was evaluated. It was determined that the hard rock would require controlled blasting to allow excavation pursuant to the approved development plan. The blasted rock, once excavated, will be crushed to create an aggregate byproduct material that may be used in road base or for other on-site construction materials. The purpose of Addendum No. 1 to Final Supplemental EIR No. 597 was to evaluate these blasting and crushing/processing operations at the Landfill site and the potential impacts of these operations.

In preparing the environmental checklist for Addendum No. 1 to Final Supplemental EIR No. 597, it was determined that the Breccia project would not result in any new significant impacts that would require mitigation or any new unavoidably significant adverse impacts. Therefore, the breccia removal was determined not to change the significance conclusion provided in Final EIR No. 575, which determined landfilling operations would result in a significant adverse impact to aesthetics.

4.1.2.4 Addendum No. 6 to Final EIR No. 575/Addendum No. 2 to Final Supplemental EIR No. 597

Addendum No. 6 to Final Supplemental EIR No. 597 was prepared to analyze revised closure dates of Zones 1 and 4. This Addendum concluded that the revised closures dates and 1.8-acre (ac) reduction in the Zone 1 development area would not result in any new aesthetic impacts or change the significance conclusion provided in Final EIR No. 575, which determined landfilling operations would result in a significant adverse impact to aesthetics from the creation of an artificial landform within native hillsides.

4.1.3 Existing Environmental Setting

4.1.3.1 Regional Visual Character

As described in Chapter 3, Project Description, of this SEIR, the Landfill property is 1,530 ac and is located in southeastern Orange County and partially within San Juan Capistrano (570 ac), San Clemente (133 ac), and unincorporated Orange County (827 ac). This region of Orange County is characterized by undulating ridgelines of the western Santa Ana Mountain foothills, which define the perimeter of the Project site. The topography in the region is characterized by numerous ridges,

hills, and intervening drainages. There is a series of three general canyon areas related to the Prima Deshecha Cañada and Segunda Deshecha Cañada drainages. The Project site is bordered on all sides by a nearly continuous ridgeline, with the exception of where the main drainage channel exits the southwest corner of the site. Natural slopes in the area vary from rounded ridges to steep slopes. A number of dirt roads, which generally follow existing ridgelines, are present for Landfill access as well as several regional trails that connect to the residential land uses in San Juan Capistrano to the north and northwest, San Clemente to the south, and open space within unincorporated Orange County to the east.

The Landfill and surrounding land uses are shown on **Figure 3.2**. Existing land uses in the surrounding area of the Landfill include open space to the northeast, and suburban residential uses and Planning Area 5 of the Ranch Plan to the east in unincorporated Orange County. Land uses to the northwest include residential uses, and open space to the west within San Juan Capistrano includes areas designated General Open Space. Land uses to the south include open space and very low- to medium-density residential development in San Clemente.

4.1.3.2 Visual Character of the Project Site

The northeast portion of the site contains some steep topography and occasional bedrock exposures where the San Onofre Breccia is located in Zone 4. The southeastern portion of Zone 4 has a more gentle, hilly terrain covered with native grasses. The western portion of the site is largely graded with current landfilling operations for Zone 1. Portions of the site south of Zones 1 and 4 include rolling hills, natural open space and grassland areas reserved as open space, and mitigation areas with vegetation on site consisting of coastal sage scrub and mixed chaparral plant communities.

The natural character of the region is also interrupted by manmade elements including large steel towers that support high-tension power transmission lines and traverse the central portion of the site. La Pata Avenue also bisects the Landfill in a north-south direction. In addition, current Landfill operations provide manmade elements within this natural setting, including grading, dirt roads, and firebreaks that generally follow ridgelines, paved roadways from the site entry, and several small administration buildings.

4.1.4 Regulatory Setting

4.1.4.1 Federal Regulations

No federal policies or regulations pertaining to aesthetics are applicable to the proposed Project.

4.1.4.2 State Regulations

Caltrans Scenic Highway Program. The California Department of Transportation (Caltrans) Scenic Highway Program protects the natural scenic beauty of the State's highways and corridors through its designated Scenic Highways throughout the State. Caltrans defines a Scenic Highway as any freeway, highway, road, or other public right-of-way that traverses an area of exceptional scenic quality. Other considerations given to a Scenic Highway designation include how much of the natural landscape a traveler may see and the extent to which visual intrusions degrade the scenic corridor.

As described further below (Threshold 4.1.1), no officially designated Scenic Highways are located in the vicinity of the Project site.

4.1.4.3 Regional Regulations

No regional policies or regulations pertaining to aesthetics are applicable to the proposed Project.

4.1.4.4 Local Regulations

County of Orange General Plan. The County of Orange 2005 General Plan is the long-range guide for growth and development in the unincorporated County area. The General Plan includes nine elements and functions as a guide for the type of community that is desired for the future and provides the means to achieve it. The County's General Plan was Amended in 2012, the Land Use Element was last updated in 2015, and the Resources Element was last updated in 2013. The other seven elements include: Transportation, Public Services & Facilities, Recreation, Noise, Safety, Housing, and Growth Management. These elements do not include relevant goals or policies related to aesthetics.

> ***Land Use Element.*** The Land Use Element includes goals and policies designed to guide orderly growth and development within unincorporated portions of the County and provides the basis for land use decisions, consistent with all other General Plan elements.
>
> > **Policy 9:** ENHANCEMENT OF ENVIRONMENT. To guide development so that the quality of the physical environment is enhanced. The purpose of the Enhancement of Environment Policy is to ensure that all land use activities seek to enhance the physical environment, including the air, water, sound levels, landscape, and plant and animal life.
>
> ***Resources Element.*** The Natural Resources Element includes goals for Orange County conservation of scenic resources.
>
> > **Goal 4:** Conserve open space lands needed for recreation, education, and scientific activities, as well as cultural-historic preservation.

Policy 4.1: To encourage the conservation of open space lands which provide recreational scenic, scientific, and educational opportunities.

City of San Clemente General Plan. The City of San Clemente Centennial General Plan was adopted by the City Council in February 2014 and guides community decisions through 2028. The Centennial General Plan includes 12 specific elements, including the Land Use Element and Natural Resources Element, which contain information related to aesthetics as described in further detail below. The Centennial General Plan was last amended December 20, 2016. The other 10 elements include: Urban Design; Historical Preservation; Economic Development; Mobility and Complete Streets; Beaches, Parks & Recreation; Coastal; Safety; Public Services, Facilities & Utilities; Growth Management; and Governance. These elements do not include goals or policies related to aesthetics.

Land Use Element. The Land Use Element is one of several tools that guide the physical development of our City and enhance community character. A primary goal of the Land Use Element is to achieve the City's Vision by establishing and maintaining balance of uses that provides protected open space and natural resource areas that offer solitude and a respite from urban life, recreation and views, diverse and healthy natural habitats for a variety of plant and animal species, and distinct community edges.

Natural Resources Element. The Natural Resources Element identifies the Pacific Ocean to the west, hillsides and ridgelines to the north and east, coastal bluffs and beaches, and a number of winding canyons as natural landforms that provide visual resources within the City.

Goal: Preserve natural aesthetic resources of the City, including coastal bluffs, beaches, visually significant ridgelines, coastal canyons and significant public view corridors.

Policy NR-2.09. Public View Corridors: The City will preserve and improve the view corridors, as designated in Figures NR-1 and NR-2, and encourage other agencies with jurisdiction to do so. Specifically, in its capital improvement programs and discretionary approvals, the City will seek to ensure that: (a) development projects shall require a view analysis to ensure they do not negatively impact a public view corridor; (b) utilities, traffic signals, and public and private signs and lights shall not obstruct or clutter views, consistent with safety needs; and (c) where important vistas of distant landscape features occur along streets, street trees shall be selected and planted so as to facilitate viewing of the distant features.

City of San Juan Capistrano General Plan. The City of San Juan Capistrano General Plan was approved by the City Council in December 1999, with the exception of the Housing Element, which was updated and adopted by the City Council in January 2014. In May 2002, the City Council approved a General Plan Amendment, which included a variety of changes to several of the General Plan Elements. The General Plan includes 12 specific elements, including the Land Use Element, Conservation & Open Space Element, and Community Design Element, which contain sections related to aesthetics as described in further detail below. The other nine elements include: Housing, Circulation, Safety, Noise, Cultural Resources, Growth Management, Parks and Recreation, Public Services and Utilities, and Floodplain Management. These elements do not include goals or policies related to aesthetics.

Land Use Element. San Juan Capistrano has experienced substantial residential growth over the last 25 years. The City contains a number of distinct neighborhoods defined by natural and man-made physical features, including San Juan, Oso, and Trabuco Creeks, steeply sloped areas defining the west and east portions of the community, Interstate 5, and the railroad line. Recognition of these areas can encourage more focused neighborhood-level planning and improvements in the future, particularly in older neighborhoods.

Goal 7: Enhance and maintain the character of neighborhoods.

Policy 7.1: Preserve and enhance the quality of San Juan Capistrano neighborhoods by avoiding or abating the intrusion of non-conforming buildings and uses.

Policy 7.2: Ensure that new development is compatible with the physical characteristics of its site, surrounding land uses, and available public infrastructure.

Conservation & Open Space Element. The Conservation & Open Space Element addresses:

Goal 4: Prevent incompatible development in areas which should be preserved for scenic, historic, conservation, or public safety purposes.

Policy 4.1: Assure incompatible development is avoided in those areas which are designated to be preserved for scenic, historic, conservation, or public safety purposes. The preservation of land for agricultural, ridgelines, scenic, historic, conservation, public safety, and open space helps to maintain community identity. These areas provide open vistas and variety in the scenic quality of San Juan Capistrano.

Community Design Element. The Community Design Element addresses the conservation and enhancement of the visual quality of the City. The goals and policies in the Community Design Element aim to protect natural hillsides and features in the City (e.g., creeks and floodplains), preserve and enhance the historic character of the community, incorporate new development into existing developed neighborhoods, and maintain the community's "small-village" and "rural atmosphere." The following goals and policies applicable to the proposed Project and related to aesthetics and scenic quality are presented in the Community Design Element:

Goal 3: Preserve and enhance natural features.

Policy 3.3: Preserve and enhance scenic transportation corridors, including Interstate 5 and the railroad.

Policy 3.4: Preserve important viewsheds.

4.1.5 Methodology

The assessment of aesthetic impacts is subjective by nature. This analysis attempts to identify and objectively examine factors that contribute to the perception of aesthetic impacts that would be caused by implementation of the proposed Project. The potential aesthetic impacts of the proposed Project have been assessed based on consideration of several factors, including scale, mass, proportion, and the concepts described below.

- **Scenic Resources:** Scenic resources are defined as natural or manmade elements that contribute to an area's scenic value and are visually pleasing. Scenic resources include landforms, vegetation, water, or adjacent scenery and may include a cultural modification to the natural environment. The degree to which these resources are present in a community is clearly subject to personal and cultural interpretation. However, it is possible to qualify certain resources as having aesthetic characteristics and establish general guidelines for assessing the aesthetic impacts of new development.

- **Scenic Vista:** A scenic vista is a viewpoint that provides expansive views of a highly valued landscape for the public's benefit. It is usually viewed from some distance away. Aesthetic components of a scenic vista include: (1) scenic quality, (2) sensitivity level, and (3) view access. A scenic vista can be impacted in two ways: a development project can have visual impacts by either directly diminishing the scenic quality of the vista or by blocking the view corridors or "vista" of the scenic resource. Important factors in determining whether a proposed project would block scenic vistas include the project's proposed height, mass, and location relative to surrounding land uses and travel corridors.

- **Sensitive Views:** Sensitive views are generally those associated with designated vantage points and public recreational uses, but the term can be more broadly applied to encompass any valued public vantage point. Sensitivity level has to do with: (1) intensity of use of a visual resource, (2) visibility of a visual resource, and (3) importance of the visual resource to users.

- **Scenic Quality:** The scenic quality of a streetscape, building, group of buildings, or other manmade or natural feature that creates an overall impression of an area within an urban context. For example, a scenic vista along the boundary of a community, a pleasing streetscape with trees, and well-kept residences and yards are scenic resources that create a pleasing impression of an area. In general, concepts of scenic quality can be organized around four basic elements: (1) site utilization, (2) buildings and structures, (3) landscaping, and (4) signage. Adverse scenic quality effects can include the loss of aesthetic features or the introduction of contrasting features that could contribute to a decline in overall scenic quality.

- **Regulations Governing Scenic Quality:** Visual impacts have been evaluated based on the proposed Project's consistency with goals and policies established in the County's General Plan, and the grading and height limitations provided in the 2001 GDP as revised by Amendments No. 1 and 2 per the Memorandum of Understanding (MOU) among the County of Orange, the Cities of San Juan Capistrano and San Clemente, and agreements with Rancho Mission Viejo (RMV).

The impact analysis focuses on aesthetic-related changes to the Project site and surrounding area that may result from implementation of the proposed Project. This would include changes in vistas and viewsheds where visual changes would be evident, potential conflicts with applicable zoning and other regulations governing scenic quality, changes to scenic resources along designated scenic roads, and the introduction of new sources of light and glare.

However, as described further below (Threshold 4.1.4), no new sources of light and glare would be provided with the proposed Project; therefore, impacts would be similar to those analyzed in Final EIR No. 575 and no additional analysis is required.

4.1.5.1 Viewshed Analysis

The viewshed impact analysis evaluates potential impacts from three viewing distance zones, as explained below.

- **Foreground Views:** These views include elements that are seen at a close distance and that dominate the entire view. These vantage points are generally 500 feet (ft) or less from the Project site, surrounding topography, and other prominent physical features in the project vicinity.

- **Middleground Views:** These views include elements that are seen at a moderate distance and that partially dominate the view. These vantage points are generally located between 500 ft and 1 mile (mi) from the Project site.

- **Background Views:** These views include elements that are seen at a long distance and typically comprise horizon-line views that are part of the overall visual composition of the area. These vantage points are generally farther than 1 mi from the Project site.

4.1.5.2 Approach

The assessment of aesthetic impacts is subjective by nature. This analysis identifies and objectively examines factors that contribute to the perception of aesthetic impacts due to Project implementation. The Project's potential aesthetic impacts have been assessed based on consideration of several factors, including scale, mass, proportion, and the concepts described above. Key views from public vantage points are used in the analysis to demonstrate pre- and post-project visual conditions at the Project site and surrounding area. Overall, the analysis in this section evaluates aesthetic changes that would occur as a result of Project implementation in the Interim Condition (2042), which includes the completion of blasting activities for the Breccia removal and stockpiling of Breccia material within Zone 4, as well as the Ultimate Condition (2102), which includes the final grading for Zone 4 at full build out of the Landfill.

Figure 4.1.2 illustrates the vantage point from which each key view photograph was taken and illustrates the representative view from that location. **Figure 4.1.2** also includes the locations of the designated scenic vistas, ridgelines, and view corridors as identified in the City of San Clemente and City of San Juan Capistrano General Plans. **Figures 4.1.3(a)** through **4.1.3(g)** respectively illustrate each of the seven key views selected for this analysis. The Project Renderings are conceptual representations of scale, mass, and proportion of future development allowable under the proposed Project. These figures are provided at the end of this section.

Key View 1. Key View 1 is located at the intersection of Portico Del Norte and Eminencia Del Norte in the Forster Ranch neighborhood in San Clemente. The view from this public roadway is facing northeast with existing residential uses present in the foreground. Open Space south of Zone 1 is visible in the middleground. Zone 4 of the Landfill is visible in the background within the hillside. This

key view is also a minor view corridor identified in the City of San Clemente General Plan Natural Resources Element.

Key View 2. Key View 2 is located at the intersection of Costero Risco and Costero Vista in San Clemente. The view from this public roadway is facing north, and Zone 4 of the Landfill is visible in the middleground, east of the existing residential development. Open space associated with the Forster Ridgeline Trail is visible in the foreground, and the Santa Ana Mountains are visible in the background. This key view is located immediately west of the designated Scenic Vista on the Forster Ridgeline Trail identified in the City of San Clemente General Plan Natural Resources Element. Therefore, views from this public roadway would be similar to those provided at this Scenic Vista. The Forster Ridgeline itself is identified as a Significant Ridgeline in the City of San Clemente General Plan Natural Resources Element.

Key View 3. Key View 3 is located at the intersection of Calle Del Cerro and Avenida La Pata in San Clemente. The view from this public roadway is facing north, and views of several residential developments and transmission lines interspersed with open space are visible in the foreground. The ridgeline south of Zone 4 is present in the middleground, and Zone 4 of the Landfill is visible in the background view within the undeveloped foothills to the northwest of this view. This location is similar to San Clemente Viewpoint #3 provided in Final EIR No. 575 and is a designated Major View Corridor in the City of San Clemente General Plan Natural Resources Element.

Key View 4. Key View 4 is located along the Forster Ranch Ridgeline Trail in San Clemente, which is a public use open space trail. The view is facing northeast, and La Pata Avenue and open space associated with the Ridgeline Trail-Camino Del Rio Trail are visible in the foreground. Zone 4 of the Landfill is visible within the middleground northeast of Avenida La Pata, and the Santa Ana Mountains are visible in the background. This key view is located along a designated Significant Ridgeline in the City of San Clemente General Plan Natural Resources Element. This key view is adjacent to Avenida La Pata, looking northeast towards Zone 4, and provides a similar view as the Major View Corridor identified in the City of San Clemente General Plan Natural Resources Element. The designated Major View Corridor is located at the intersection of Avenida La Pata and Avenida Vista Hermosa, south of Key View 4.

Key View 5. Key View 5 is located along the Prima Deshecha Trail in San Juan Capistrano, which is a public use open space trail located immediately adjacent to Zone 1 of the Landfill. The view is facing east towards the Landfill. Zone 1 of the Landfill is visible in the foreground and middleground, and Zone 4 of the Landfill is visible in the background within the hillside. This is approximately the same location as Photo Location 1 from Final EIR No. 575. This key view is also located along a designated Major Ridgeline in the City of San Juan Capistrano General Plan Conservation & Open Space Element.

Key View 6. Key View 6 is located at Compass Point along the Forster Ridgeline Trail in San Clemente, which is a public use open space trail. The view is facing north with open space and the Forster Ridgeline Trail in the foreground, and Zone 4 of the Landfill is visible in the middleground within the undeveloped hillside. The ridgelines south of Zone 1 are visible in the background. As described above, the Forster Ridgeline itself is also identified as a Significant Ridgeline in the City of San Clemente General Plan Natural Resources Element.

Key View 7. Key View 7 is located at the intersection of Stallion Ridge and Via Pamplona in San Juan Capistrano along the Stallion Ridge Trail, which is a public use open space trail. The view is facing southeast with San Juan Hills High School visible in the foreground to the east and residences in San Juan Capistrano and transmission lines visible in the foreground to the west. Native hillsides to the north of Zone 4 are present in the middleground, and Zone 4 of the Landfill is visible in the background. This key view is also located along a designated Major Ridgeline in the City of San Juan Capistrano General Plan Conservation & Open Space Element.

4.1.6 Thresholds of Significance

The thresholds for aesthetics impacts used in this analysis are consistent with Appendix G of the State Guidelines for the Implementation of CEQA of 1970 (State CEQA Guidelines). The proposed Project may be deemed to have a significant impact with respect to aesthetics if it would:

Threshold 4.1.1: Have a substantial adverse effect on a scenic vista.

Threshold 4.1.2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Threshold 4.1.3: In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Threshold 4.1.4: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

The Initial Study, included as Appendix A, substantiates that there would be no impacts associated with Threshold 4.1.2 because the Project site is neither located within nor visible from a State or County scenic highway. The Project would not damage scenic resources within a State Scenic Highway beyond what was previously analyzed in Final EIR No. 575; therefore, no new or additional mitigation is required. In addition, no impacts associated with Threshold 4.1.4 are anticipated based on the daytime operations of the proposed Project components. The proposed Project is not anticipated to result in substantial light or glare that would adversely affect day or nighttime views in the area. The proposed Project's impacts to light and glare would be similar to those light and glare impacts analyzed in Final EIR No. 575; therefore, no new or additional mitigation is required. Furthermore, the Source Separated Organics (SSO) Facility described in the Initial Study is no longer included as a component of the proposed Project, and no new facilities would be built as part of the proposed Project that would require new lighting within the Landfill boundaries. Therefore, Thresholds 4.1.2 and 4.1.4 are not addressed in the following analysis.

4.1.7 Project Impacts

Threshold 4.1.1: Would the project have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. A scenic vista is a viewpoint that provides expansive views of a highly valued landscape for the public's benefit. It is usually viewed from some distance away. Visual resources within the vicinity of the Landfill that may be considered a highly valued landscape would include the natural ridgelines of the Santa Ana foothills. As described in Section 4.1.3 above, the City of San Juan Capistrano General Plan identifies designated ridgelines along the Stallion Ridge Trail, Prima Deshecha Trail, and Forster Ridgeline Trail that define the northern, western, and southern perimeters of the Project site, respectively. In addition, a Scenic Vista is identified in the City of San Clemente General Plan Natural Resources Element on the Forster Ridgeline Trail, east of the residential development at the intersection of Costero Risco and Costero Vista in San Clemente, as it provides views of the designated Significant Ridgeline that is the Forster Ridgeline Trail. The Landfill is visible from various areas in San Clemente and San Juan Capistrano, including from the public trails along these ridgelines. A public viewpoint of the Landfill from the Stallion Ridge Trail is provided in Key View 7, a public viewpoint of the Landfill from the Prima Deshecha Trail is provided in Key View 5, and public viewpoints of the Landfill on or near the Forster Ridgeline Trail are provided in Key Views 2, 4, and 6. Therefore, the proposed Project and Landfill activities would alter the existing topography of the area, including views of these ridgelines, and may be visible from public vantage points. The greatest visual impacts would likely occur in Zone 4 during blasting, stockpiling, and removal of San Onofre Breccia. The ridgeline north of Zone 4, which would experience the greatest visual change as a result of the Breccia removal, is not one of the designated ridgelines described above. Additionally, while the 3.3-million-cubic-yard San Onofre Breccia soil stockpile may be visible from off-site locations, including from designated ridgelines along Stallion Ridge Trail, Prima Deshecha Trail, and from certain locations along the Forster Ridgeline Trail, the stockpile area would not be visible from the designated Scenic Vista described above due to the existing ridgeline south of Zone 4.

The proposed Project would involve on-site construction and landfilling activities that would be visible to residents in surrounding hillside neighborhoods and visitors utilizing regional open space trails within the vicinity that provide expansive views of the Santa Ana foothills and associated ridgelines. While the Breccia removal would result in a lower topographic profile of the ridgeline on the northern portion of the Landfill, this removal and change would occur over the span of 10 years. In addition, the removal of this material would open views to surrounding foothills and further ranges of the Santa Ana Mountain range. No manmade uses or other land uses that would conflict with the overall visual character of this scenic vista would be exposed by the removal of this portion of the ridgeline. In addition, the stockpiling in Zone 4 and liner installation for build out of Zone 4 would not reach an elevation that would alter the existing ridgeline or obstruct views of the surrounding foothills. Therefore, due to the long-term nature of all the activities analyzed in this SEIR and the minor change to the ridgeline from the Breccia removal, the impact to scenic vistas would be less than significant.

Impact Conclusions. The proposed Project would result in a less than significant impact related to scenic vistas and no mitigation is required. However, because this does not change impact conclusions of the previous Final EIR No. 575, Final Supplemental EIR No. 597, and applicable

Addenda, this analysis has determined there would be no change in the significant and unavoidable impact conclusion provided in the Final EIR No. 575 resulting from the creation of an artificial landform within native hillsides resulting from landfilling activities.

No new mitigation measures are required because no new significant and unavoidable impacts have been identified. All mitigation measures from Final EIR No. 575 remain as project commitments that apply to the proposed Project. The mitigation measures from Final EIR No. 575 are reiterated in Section 4.1.10.2, Previously Adopted Mitigation.

Threshold 4.1.3: In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant with Mitigation Incorporated. As previously stated, the proposed Project would include concurrent landfilling operations in Zones 1 and 4, removal of San Onofre Breccia material on the northern portion of Zone 4, stockpiling of Breccia material on the southern portion of Zone 4, and soil importation for liner installation for the development of Zone 4. Construction activities for the Breccia removal would occur intermittently over the course of 10 years, thereby minimizing potential visual impacts to scenic vistas and the visual surroundings during construction.

Key views from off-site public vantage points are provided along the ridgelines, open space trails, and neighborhood roadways within the surrounding vicinity of the Landfill. The existing conditions of the key viewpoints are described in Section 4.1.3 and are shown on **Figures 4.1.3(a) through 4.1.3(g)**. These figures also provide visual simulations of the interim project conditions (which are considered to be Year 2042 and show the final results of the Breccia removal and material stockpiles) and ultimate Project conditions (which are considered to be Year 2102 for full Landfill build out). These simulations provide a comparison of the existing visual character and the visual character after implementation of the various components of the proposed Project. As described in Section 4.1.3 above, all key views are located along existing open space trails or existing public roadways in San Clemente, San Juan Capistrano, and unincorporated Orange County.

- **Key View 1:** As previously discussed, Key View 1 illustrates views of the Project site looking northeast from the Forster Ranch neighborhood, which is a designated minor view corridor identified in the City of San Clemente General Plan Natural Resources Element. This location is similar to San Clemente Viewpoint #1 provided in Final EIR No. 575. Residential land uses are present in the foreground, the open space south of Zone 1 is visible in the middleground, and the southern portion of Zone 4 is visible in the background. The natural hillside visible in the background would be partially filled in the interim conditions with the stockpile area and entirely graded in the ultimate condition. Construction equipment required for stockpiling would be intermittently present within this visible portion of Zone 4 from approximately 2032 to 2042. Construction equipment for liner installation and landfilling operations in this portion of Zone 4 would be present until Landfill closure in 2102. No changes to the overall height of the ridgeline would occur because topography associated with the open space south of Zone 1 in the middleground of the photo blocks the views of the Breccia removal area. This view is similar

to San Clemente Viewpoint #1 in Final EIR No. 575, which was determined to have a significant and unavoidable impact due to the alteration of the existing topography on the hillside and the change from the natural hillside character from grading and Landfill build out. Although the stockpile area would alter the existing native hillside area prior to all of Zone 4 being filled and graded with the ultimate build out, the interim stockpile and ultimate graded conditions would be consistent with the significant impacts to the native hillside. Therefore, the proposed Project would not result in any new impacts that were not anticipated in the development of Zone 4 analyzed in Final EIR No. 575. No additional mitigation would be required to address the interim condition of the stockpile area, and the mitigation included in Final EIR No. 575 for Landfill operations would apply for the proposed Project.

- **Key View 2:** As previously discussed, Key View 2 shows views of the Project site looking north from a residential neighborhood in San Clemente, which is located immediately west of the Scenic Vista designated in the San Clemente General Plan Natural Resources Element. Key View 2 is also located immediately adjacent to the Forster Ridgeline Trail, which is a designated Significant Ridgeline in the City of San Clemente General Plan Natural Resources Element. Open space associated with the Forster Ridgeline Trail is visible in the foreground, Zone 4 of the Landfill is visible in the middleground east of the existing residential development, and the Santa Ana Mountains are visible in the background. In the interim conditions, the ridgeline associated with the northwestern portion of Zone 4 of the Landfill, which includes some vegetated natural hillside, would be removed and the ridgeline slightly lowered as a result of the Breccia removal. In both the interim and ultimate conditions, the visual character of Zone 4 is characterized by manmade alterations, grading, and landfilling instead of the natural hillside conditions. However, this change is consistent with the impacts anticipated for development of Zone 4 as analyzed in Final EIR No. 575. The slight change in elevation of the ridgeline would not expose any land uses that conflict with the visual character of the site and open views to the Santa Ana Mountains visible in the background. No additional mitigation would be required to address the slight change in elevation that would occur gradually over the 10-year course of the Breccia removal. The mitigation included in Final EIR No. 575 for Landfill operations in Zone 4 would apply for the proposed Project, and no additional mitigation would be required for the change in the natural hillside to manmade Landfill uses.

- **Key View 3:** As previously discussed, Key View 3 shows views of the Project site looking north from a residential neighborhood in San Clemente, which is a designated Major View Corridor in the City of San Clemente General Plan Natural Resources Element. This location is similar to San Clemente Viewpoint #3 provided in Final EIR No. 575. Several residential developments and transmission lines interspersed with open space are visible in the foreground. The ridgeline south of Zone 4 is present in the middleground, and Zone 4 of the Landfill is visible in the background view within the undeveloped foothills to the northwest of this view. In the interim condition, the Breccia removal would remove the existing vegetated hillside visible in the northern portion of Zone 4. However, the removal of this area would not expose any land uses that conflict with the visual character of the site and would open views to the ridgeline located farther east beyond Zone 4. In the ultimate conditions, the landfilling operations that would occur with soil liner installation of Zone 4 are visible, and graded Landfill area would be visible above the ridgeline in the middleground but below the ridgeline located in the background.

Therefore, the overall character of the vantage point would remain similar to existing conditions, and the changes associated with the ultimate build out of Zone 4 would be consistent with the impacts analyzed in Final EIR No. 575. No additional mitigation would be required to address the interim condition of the Breccia removal, and the mitigation included in Final EIR No. 575 for Landfill operations would apply for the proposed Project.

- **Key View 4:** As previously discussed, Key View 4 shows views of the Project site looking northeast towards Zone 4 from the Forster Ridgeline Trail, a Significant Ridgeline in the City of San Clemente General Plan Natural Resources Element. This view is also adjacent to Avenida La Pata and provides views similar to the Major View Corridor identified in the City of San Clemente General Plan Natural Resources Element located at the intersection of Avenida La Pata and Avenida Vista Hermosa. La Pata Avenue and open space associated with the Forster Ridgeline Trail-Camino Del Rio Trail are visible in the foreground. Residences located in the Talega neighborhood development in San Clemente are also visible in the southeastern portion of the foreground. Zone 4 of the Landfill is visible within the middleground northeast of Avenida La Pata, and the Santa Ana Mountains are visible in the background. In the interim conditions, a portion of the vegetated hillside and top of the ridgeline visible in the middleground would be removed as a result of the Breccia removal. However, this minor change in the ridgeline elevation would occur over the course of 10 years. In addition, the removal of this portion of the ridgeline would open views to the Santa Ana Mountains in the background. No land uses incompatible with the visual character of the Project site or its surroundings would be exposed. In the interim conditions, the natural hillside in the southern portion of Zone 4 would also be altered from its natural vegetated state to manmade conditions associated with the stockpiling of the Breccia material. However, the change of Zone 4 from natural vegetated areas to manmade landfill was analyzed in Final EIR No. 575. The proposed stockpile area would not raise the elevation of Zone 4 and would result in similar impacts to the visual character as the ultimate graded conditions. In the ultimate conditions, this view looks directly at the hillside face that would be graded and developed for soil liner installation and build out of Zone 4. However, the ultimate grading of the natural hillside for operation of Zone 4 was analyzed in Final EIR No. 575, and the proposed Project would not result in any new potentially significant impacts to the views of this natural hillside from Key View 4. No additional mitigation would be required to address the interim condition of the Breccia removal, and the mitigation included in Final EIR No. 575 for Landfill operations would apply for the proposed Project.

- **Key View 5:** As previously discussed, Key View 5 shows views of the Project site looking east towards the Landfill from the Prima Deshecha Trail, which is a designated Major Ridgeline in the City of San Juan Capistrano General Plan Conservation & Open Space Element. Zone 1 of the Landfill is visible in the foreground and middleground, and Zone 4 of the Landfill is visible in the background within the hillside. This is approximately the same location as Photo Location #1 from Final EIR No. 575. The interim conditions show minor changes in topography on the northern side of Zone 4 in the blasting area that lowers the overall topographic relief, but the overall ridgeline of the hills is relatively the same. The stockpiling area fills in some of the existing hillside east of Avenida La Pata, but the height of the stockpiling would not alter the ridgeline. In the ultimate conditions, the stockpile area and most of Zone 4 appear developed with the final grading of the Landfill rather than the natural topography and vegetation present

in the existing and interim conditions. However, the ultimate grading of the natural hillside for operation of Zone 4 was analyzed in Final EIR No. 575, and the proposed Project would not result in any new potentially significant impacts to the views of this natural hillside from Key View 5.

- **Key View 6:** As previously discussed, Key View 6 shows views of the Project site looking north from the Forster Ridgeline Trail, which is a Significant Ridgeline in the City of San Clemente General Plan Natural Resources Element. Open space and the Forster Ridgeline Trail are visible in the foreground, and Zone 4 of the Landfill is visible in the middleground within the undeveloped hillside. The vegetated hillside in the eastern portion of Zone 4 would be removed in the interim condition for the Breccia removal; however, from this location, the topographic profile of the hillside would not be altered and the ridgeline would remain the same. The stockpile area would fill in some of the existing hillside, but would also not change the topographic profile of the ridgeline from this view. There are no changes in conditions from interim to ultimate from this viewpoint. The change in the natural conditions of the hillside for ultimate grading and operation of Zone 4 were analyzed in Final EIR No. 575, and the proposed Project would not result in any new potentially significant impacts to the views of this natural hillside from Key View 6. Therefore, impacts to the visual character of the Project site and surrounding area would be less than significant from this key view, and no additional mitigation is required.

- **Key View 7:** As previously discussed, Key View 7 shows views of the Project site looking southeast from the Stallion Ridge Trail, which is a designated Major Ridgeline in the City of San Juan Capistrano General Plan Conservation & Open Space Element. San Juan Hills High School is visible in the foreground to the east and residences in San Juan Capistrano, and transmission lines are visible in the foreground to the west. Native hillsides to the north of Zone 4 are visible in the middleground, and Zone 4 of the Landfill is visible in the background. The blasting area would result in the largest change to the existing conditions from this location. This key view was not analyzed in Final EIR No. 575 because neither San Juan Hills High School nor the residential development north of this key view were present at the time this analysis was conducted. As described in Final EIR No. 575, landfilling activities were considered to result in a significant visual impact where they would alter the existing topography, thereby making a substantial change in the overall topography. As shown in the interim conditions, the blasting area would remove part of the hillside in the middleground of the photo, resulting in a steeper change in the topographic profile from the ridgeline to the rest of Zone 4, where there is a more gradual slope in the existing conditions. The total area of San Onofre Breccia removal is shielded by an existing hillside in the foreground. Therefore, the visual change in elevation that can be seen between existing and interim conditions in profile of this ridgeline is approximately 50 to 60 ft. While the profile of this ridgeline along the northern portion of Zone 4 would be slightly lowered due to the proposed blasting, no landfill activities would block views of this ridgeline or ridgelines in the distance, and public views of the top of the ridgeline would remain similar to existing conditions as shown on **Figure 4.1.3(g)**. In addition, the stockpile area located in the southern portion of Zone 4 would not extend higher than the existing ridgeline south of Zone 4 and would not result in a visual change from existing to interim conditions. The ultimate conditions show the same change as the interim for the Breccia removal location (i.e., a slight

flattening of the hillside on the southern portion of Zone 4) once final Landfill activities and grading are completed. The changes in the ridgeline from the proposed Project would occur gradually over the course of 10 years for the Breccia removal and approximately 80 years for the final grading of Zone 4. In addition, no land uses would be exposed in the background from the lowering of the ridgeline. The changes in elevation of the ridgelines surrounding Zone 4 would not expose the public to more views of landfilling activities compared to existing conditions. Overall, the minor changes to the topography surrounding the Landfill would not represent a substantial change in topography or substantial change to the visual character of the Project site over the lifetime of the Landfill. Impacts would be less than significant, and no additional mitigation is required.

Impact Conclusions. The proposed Project would not result in a new significant or unavoidable impact related to the visual character or quality of public views in a non-urbanized area and impacts would be less than significant with incorporation of applicable mitigation commitments contained within Final EIR No. 575, Final Supplemental EIR No. 597, and the 2001 GDP. No additional mitigation is required. Utilizing the same criteria used in the previous Final EIR No. 575, Final Supplemental EIR No. 597, and applicable Addenda, this analysis has determined there would be no change in the significant and unavoidable impact conclusion provided in Final EIR No. 575 resulting from the creation of an artificial landform within native hillsides as a result of landfilling activities.

No new mitigation measures are required because no new significant and unavoidable impacts have been identified. All mitigation measures from Final EIR No. 575 remain as project commitments that apply to the proposed Project. The mitigation measures from Final EIR No. 575 are reiterated in Section 4.1.10.2, Previously Adopted Mitigation.

4.1.8 Cumulative Impacts

Less Than Significant Impact. As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for aesthetics. The cumulative impact area for aesthetics related to the proposed Project is unincorporated Orange County within the vicinity of the Landfill, San Clemente, and San Juan Capistrano. Several residential and commercial development and transportation infrastructure projects are approved and/or pending within Orange County, San Juan Capistrano, and San Clemente. A list of related projects in this cumulative impact area is provided in Table 4.A in Section 4.0 of this SEIR. The locations of the related projects can be seen in **Figure 4.0**. Future build out of Ranch Plan Planning Area 5 and the Los Patrones Parkway Extension can also be assumed for the operational lifespan of the proposed Project. Each of these planned projects would be subject to its own consistency analysis for policies and regulations governing scenic quality and would be reviewed for consistency with applicable General Plan goals and policies and Zoning Code development standards. If there were any potential for significant impacts to aesthetics, appropriate mitigation measures would be identified to reduce and/or avoid impacts related to aesthetics.

For the reasons outlined above in Section 4.1.7, Project Impacts, implementation of the proposed Project would not result in a significant cumulative impact related to aesthetics. In addition, as described in Chapter 3, the proposed Project includes construction projects that would be

incrementally implemented over the course of 20 years for the Breccia removal, until build out of Zone H for Zone 4 in 2089 for the soil liner installation, and until Zone 4 closure in 2102. The proposed Project and all current and future related projects are required to adhere to City, County, and State regulations designed to reduce and/or avoid impacts related to aesthetics and would be reviewed for consistency with applicable goals, policies, and development standards. With compliance with these regulations, cumulative impacts related to aesthetics would be less than significant. Therefore, implementation of the proposed Project would not result in a significant cumulative impact related to aesthetics, and no mitigation is required. Nevertheless, all mitigation commitments contained within Final EIR No. 575, Final Supplemental EIR No. 597, and the 2001 GDP would apply to the proposed Project.

4.1.9 Level of Significance Prior to Mitigation

As presented above, operation of the proposed Project would not result in any new significant impacts as compared to Final EIR No. 575, Final Supplemental EIR No. 597, and their Addenda. No further mitigation measures are required.

4.1.10 Regulatory Compliance Measures and Mitigation Measures

4.1.10.1 Regulatory Compliance Measures

No regulatory compliance measures are required for the proposed Project.

4.1.10.2 Previously Adopted Mitigation

The following mitigation measures are currently in place for impacts associated with the landfill component of the 2001 GDP, as identified in Final EIR No. 575 (numerical designations are from Final EIR No. 575). No additional mitigation measures were included in Final Supplemental EIR No. 597 related to aesthetics. All mitigation commitments contained within Final EIR No. 575 and the 2001 GDP will apply to the proposed Project.[1]

MM 4.1-1: Prior to approval of the final cover design and in the Preliminary Closure Plan by the San Diego Regional Water Quality Control Board, the Local Enforcement Agency and the California Integrated Waste Management Board, the IWMD Director shall ensure that the grading plans for the final slopes and for the landfill areas in Zones 1 and 4 continue to incorporate design, grading and engineering features that avoid a manufactured appearance and result in curvilinear landfill surfaces that most closely approximate the existing natural features of the area.

MM 4.1-2: The Director PF&RF shall ensure through the construction bid documents that temporary excavations and stockpiles associated with the construction of the circulation and roadway improvements are strategically located to be visible from off-site viewsheds for the shortest time possible.

[1] The mitigation measure requirements in Final EIR No. 575 refer to the Director of Public Facilities and Resources Department (PF&RD) and Harbor, Beaches, and Parks (HBP). These County departments have been renamed OC Public Works and OC Parks, respectively. Therefore, mitigation measure requirements would be addressed by the Director of OC Public Works and/or the Director of OC Parks as applicable.

MM 4.11-1: Prior to final design, the IWMD shall establish landscape standards for plantings in areas to be revegetated or screened from view. These guidelines shall illustrate all plant materials, sizes, species, and quantities plus irrigation and preservation techniques. There shall be a variety of landscape types addressed, including revegetating graded slopes and earthen berms, and screening of landfill operations structures and permanent landfill buildings. Roads and trail cuts will be revegetated with natural grasses, shrubs, and trees to blend with the landscape character of adjacent areas. Additionally, trees selected for planting shall comply with the appropriate State and local regulatory requirements for the protection of groundwater.

MM 4.11-2: During final design and construction, the IRWD shall ensure that plantings will be integrated with earthen berms and cut slopes to screen undesirable views. For these situations, the landscape design guidelines shall include grading guidelines which will address issues such as the areas where berms are recommended, the sizes of such berms, and recommended slope gradients to minimize soil erosion.

MM 4.11-3: During final design, the IWMD shall incorporate design features that the design and exterior treatment of landfill operations structures and permanent recreation buildings vary in their visual character. Because of varying topography and vegetative cover, each structure and Zone will be visually unique in its apparent size and quality. Building materials shall be selected so that, in all conditions, all visible permanent structures will blend with the surrounding natural environment. A light earthtone surface color such as beige or sand is the desired exterior treatment color.

MM 4.11-4: As early as possible in the construction and operation of the active and closed landfill areas, the IWMD shall plant the landscape areas that will take the longest time to establish and achieve their desired visual effects. In general, rehabilitation priorities will be established based on size and visibility of the area to be landscaped. In most cases, these will be the landfilling areas in Zones 1 and 4 that are visible from adjacent land uses.

MM 4.11-5: IWMD shall ensure that the design and construction of any permanent environmental control structures which occur within 200 feet of a major ridgeline are constructed in a manner which minimizes visibility off-site so as not to interrupt the natural horizon line in the existing landscape.

MM 4.11-6a: The IWMD shall ensure that the design and layout of the landfill areas includes landscaping to reduce the visual impact of the landfill surfaces following the closure of each landfill area. The IWMD shall ensure that the landscaping consists of vegetation with plantings that are consistent with the surrounding natural terrain. The IWMD shall ensure that the landscaping plantings include appropriate transitions with areas of native vegetation and areas landscaped for recreation uses. A recommended candidate plant species palette is shown in Table 4.11-1.

Table 4.11-1
Vegetative Plantings
2001 Prima Deshecha GDP

Plant Species	Common Name	Pounds of Seed Per Acre
Artemisia californica	California sagebrush	2
Encelia californica	California bush sunflower	3
Eschscholzia californica	California poppy	2
Lotus scoparius	deerweed	8
Eriogonum fasciculatum	California buckwheat	12
Lasthenia glabrata	goldfields	2
Lupinus succulentus	arroyo lupine	4
Collinsia heterophylla	Chinese houses	2
Eriophyllum conferitflorum	golden yarrow	3
Salvia apiana	white sage	2
Plantago insularis	plantain	30
Sisyrinchium bellum	blue-eyed grass	2
Diplacus longiflorus	sticky-leaved monkey-flower	2
Salvia mellifera	black sage	2

Source: Final EIR No. 548 (November 1995).

MM 4.11-6b: Following temporary or final closure of landfill surfaces, hydroseeding shall be applied to the landfill areas and slopes by the IWMD. Hydroseeding shall be applied consistent with the Standard Specifications for Public Works Construction.

MM 4.11-7: During final design, the Director PF&RD shall establish landscape standards for plantings in areas to be revegetated or screened from view. These guidelines shall illustrate all plant materials, sizes, species and quantities plus irrigation and preservation techniques. There shall be variety of landscape types addressed, including revegetating graded slopes and earthen berms. Roads and trail cuts shall be revegetated with natural grasses, shrubs, and trees to blend with the landscape character of adjacent areas. Trees selected for planting shall comply with the appropriate state and local regulatory requirements for the protection of groundwater.

MM 4.11-8: During final design and construction, the Director PF&RD shall ensure that plantings will be integrated with earthen berms and cut slopes to screen undesirable views. For these situations, the landscape design guidelines shall include grading guidelines which will address issues such as the areas where berms are recommended, the sizes of such berms, and recommended slope gradients to minimize soil erosion.

MM 4.11-9: During design, the Director PF&RD shall ensure that the siting of permanent circulation and roadway structures does not place any structures along ridgelines so as not to interrupt the natural horizon line in the existing landscape.

MM 4.11-10: During final design, the PF&RD/HBP shall establish landscape standards for plantings in areas to be revegetated or screened from view. These guidelines shall illustrate all plant materials, sizes, species and quantities plus irrigation and preservation techniques. There shall be a variety of landscape types addressed, including revegetating graded slopes and earthen berms, and screening of landfill operations structures and permanent recreation buildings. Roads and trail cuts shall be revegetated with natural grasses, shrubs, and trees to blend with the landscape character of adjacent areas. Trees selected for planting shall comply with the appropriate state and local regulatory requirements for the protection of groundwater.

MM 4.11-11: During final design and construction, the PF&RD/HBP shall ensure that plantings will be integrated with earthen berms and cut slopes to screen undesirable views. For these situations, the landscape design guidelines shall include grading guidelines which will address issues such as the areas where berms are recommended, the sizes of such berms, and recommended slope gradients to minimize soil erosion.

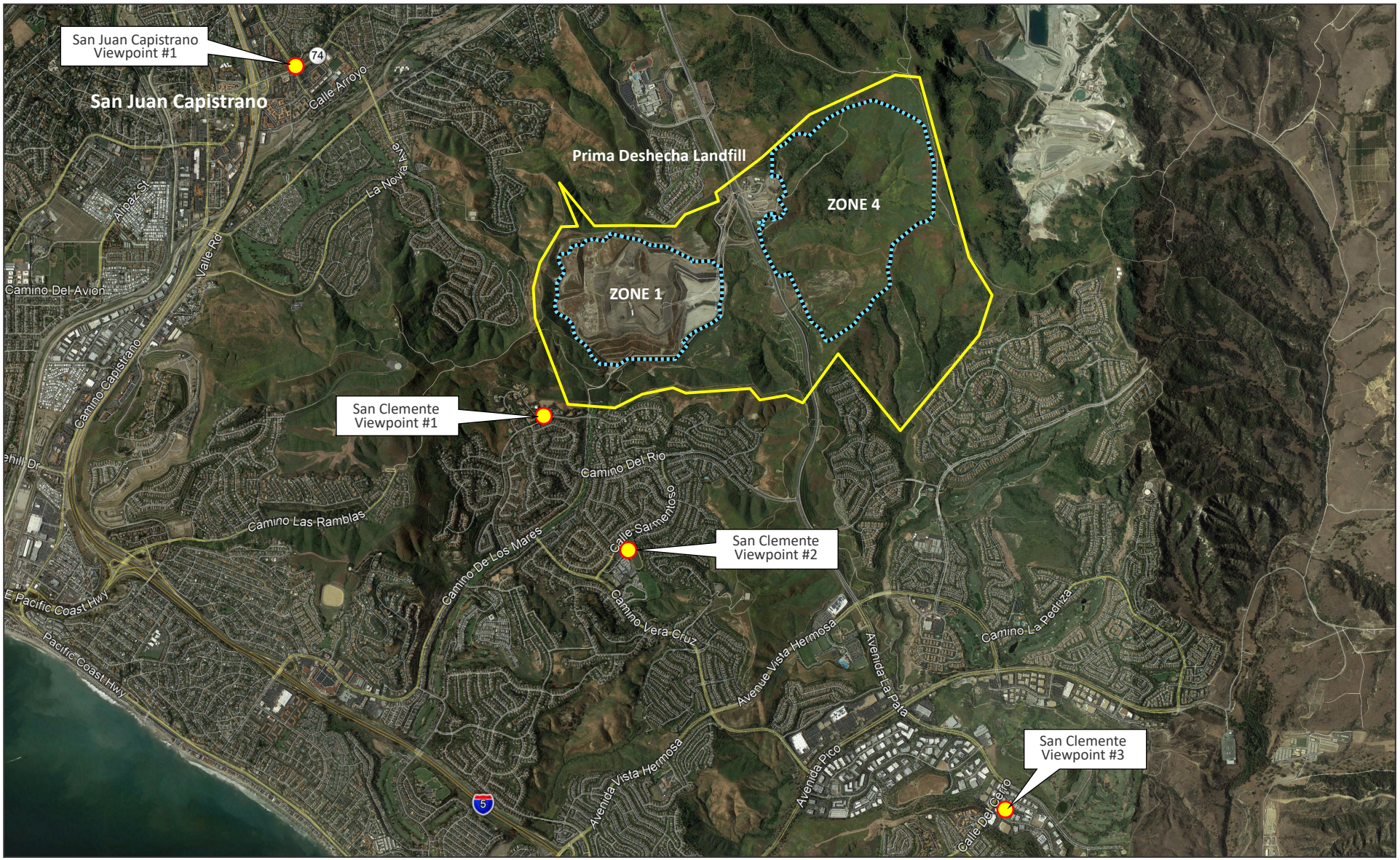
MM 4.11-12: During design, the PF&RD/HBP shall ensure that the siting of permanent aboveground recreation structures does not place any structures along ridgelines so as not to interrupt the natural horizon line in the existing landscape.

4.1.10.3 Additional Mitigation

Based on the analysis presented above and impact determinations shown in Section 4.1.9, no additional mitigation is necessary.

4.1.11 Level of Significance after Mitigation

The proposed Project would not result in any new or worsened impacts than those identified in Final EIR No. 575. However, Final EIR No. 575 concluded that development of the Landfill would result in significant and unavoidable impacts related to aesthetics even with implementation of the mitigation measures listed above. While the proposed Project would not result in any new or worsened significant unavoidable impacts related to aesthetics, impacts would remain significant and unavoidable.



LSA

LEGEND

- General Development Plan Viewpoint
- Concurrent Operations of Zones 1 and 4
- Prima Deschecha Landfill (PDLF) Boundary

N

0 2500 5000

FEET

SOURCE: Google Earth (2020)

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FIGURE 4.1.1

Prima Deshecha Landfill GDP

General Development Plan Viewpoints

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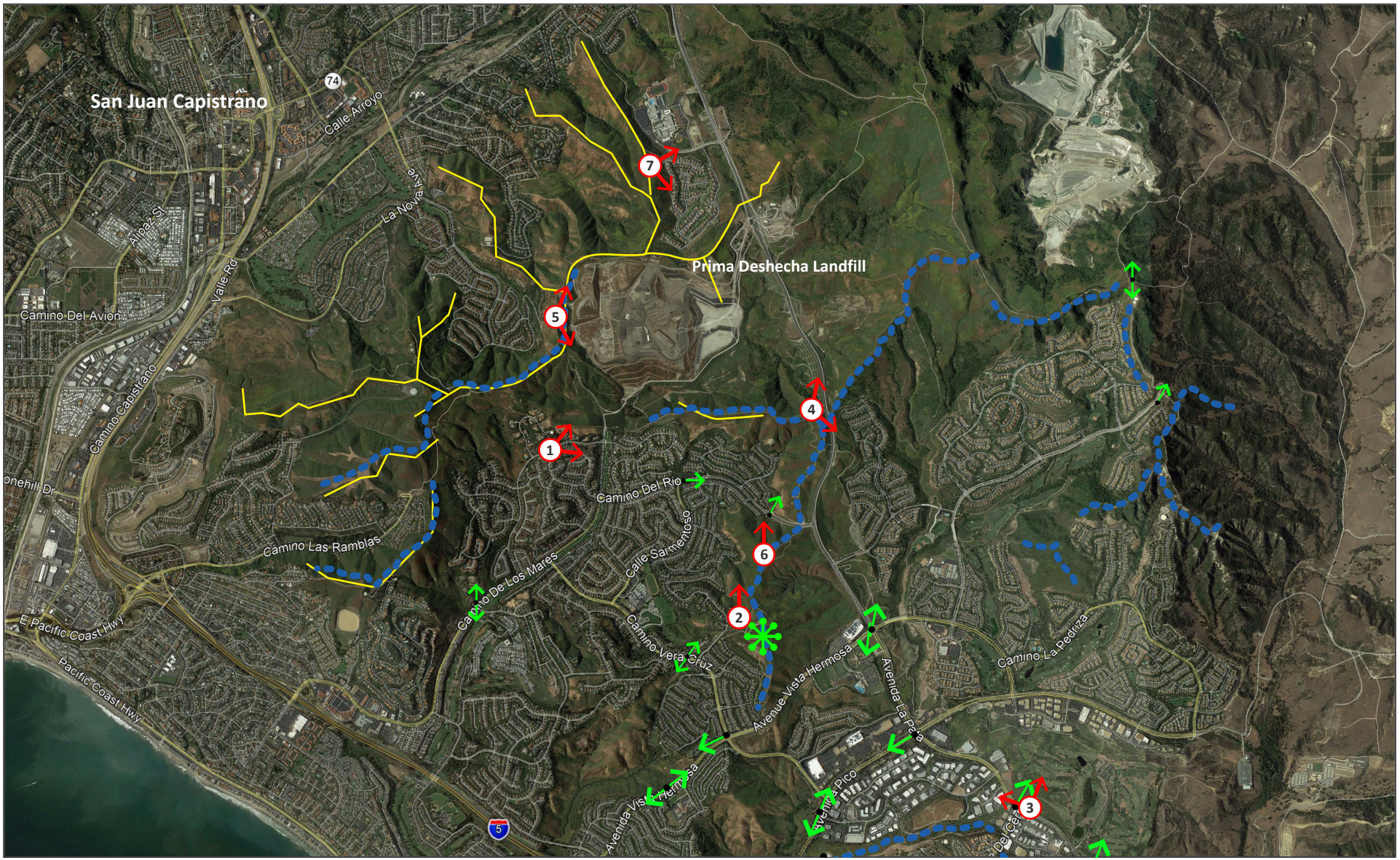

LSA

LEGEND

- 1 → - Photo Location and Direction
- Major Ridgelines [1]
- Significant Ridgelines [2]
- Scenic Vista [2]
- Minor View Corridor [2]
- Major View Corridor [2]

0 2500 5000
FEET

SOURCE: Google Earth (2020), San Juan Capistrano General Plan [1], San Clemente General Plan [2]

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FIGURE 4.1.2

Prima Deshecha Landfill GDP

Key View Locations

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Key View 1 - Existing Conditions

Key View 1 - Interim Conditions (Year 2042)

Key View 1 - Ultimate Conditions (Year 2102)

LSA

FIGURE 4.1.3a

Prima Deshecha Landfill GDP

Key View 1

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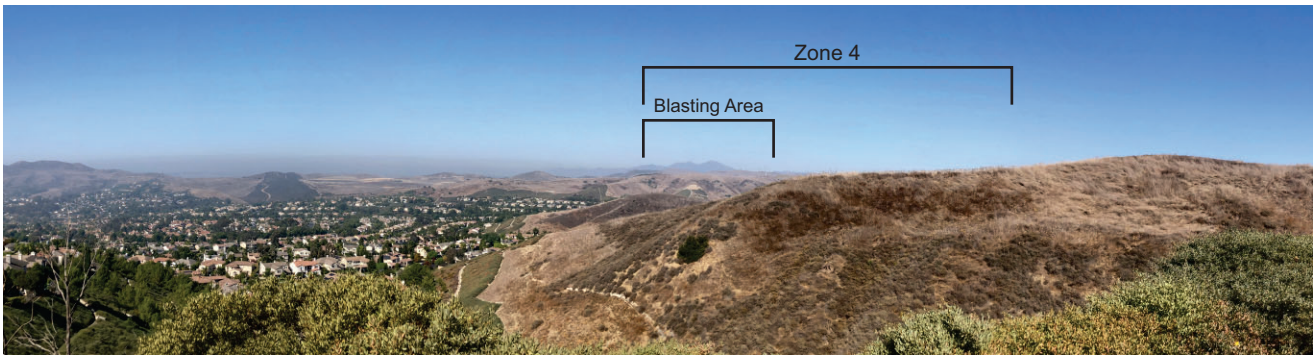
Key View 2 - Existing Conditions



Key View 2 - Interim Conditions (Year 2042)

Key View 2 - Ultimate Conditions (Year 2102)

LSA

FIGURE 4.1.3b

Prima Deshecha Landfill GDP

Key View 2

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Key View 3 - Existing Conditions

Key View 3 - Interim Conditions (Year 2042)

Key View 3 - Ultimate Conditions (Year 2102)

LSA

FIGURE 4.1.3c

Prima Deshecha Landfill GDP

Key View 3

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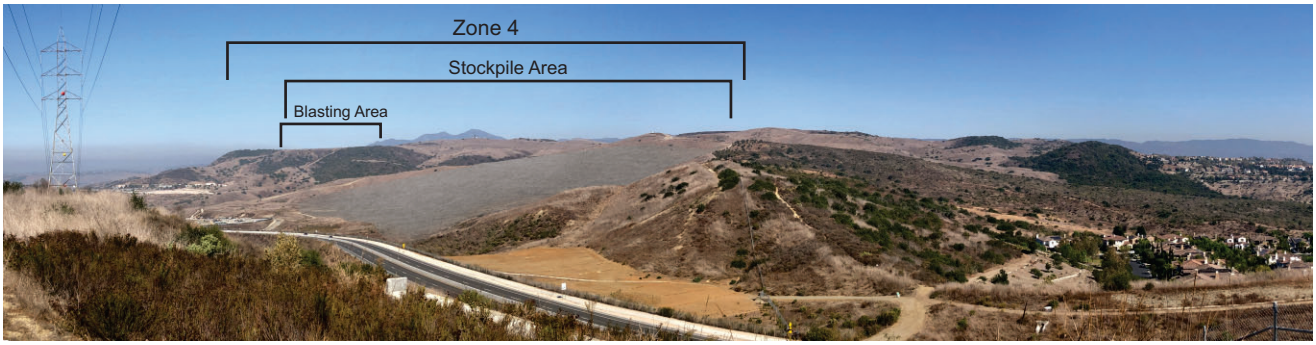
Key View 4 - Existing Conditions



Key View 4 - Interim Conditions (Year 2042)

Key View 4 - Ultimate Conditions (Year 2102)

LSA

FIGURE 4.1.3d

Prima Deshecha Landfill GDP

Key View 4

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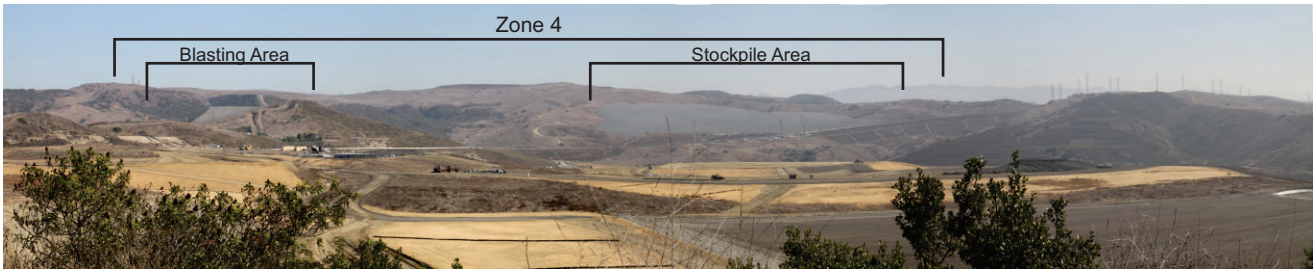
Key View 5 - Existing Conditions



Key View 5 - Interim Conditions (Year 2042)

Key View 5 - Ultimate Conditions (Year 2102)

LSA

FIGURE 4.1.3e

Prima Deshecha Landfill GDP

Key View 5

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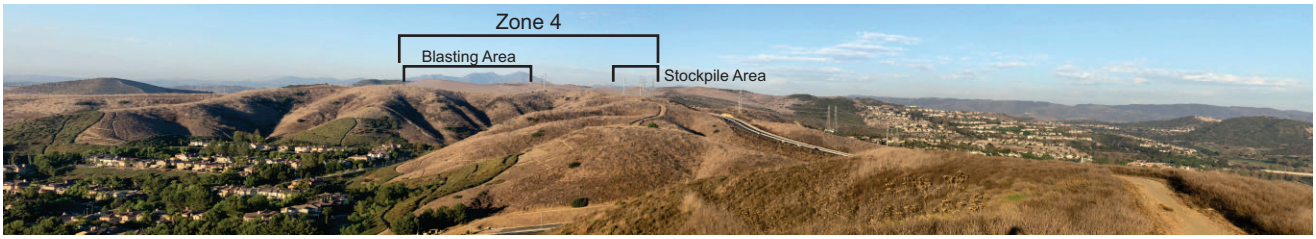
Key View 6 - Existing Conditions



Key View 6 - Interim Conditions (Year 2042)

Key View 6 - Ultimate Conditions (Year 2102)

LSA

FIGURE 4.1.3f

Prima Deshecha Landfill GDP

Key View 6

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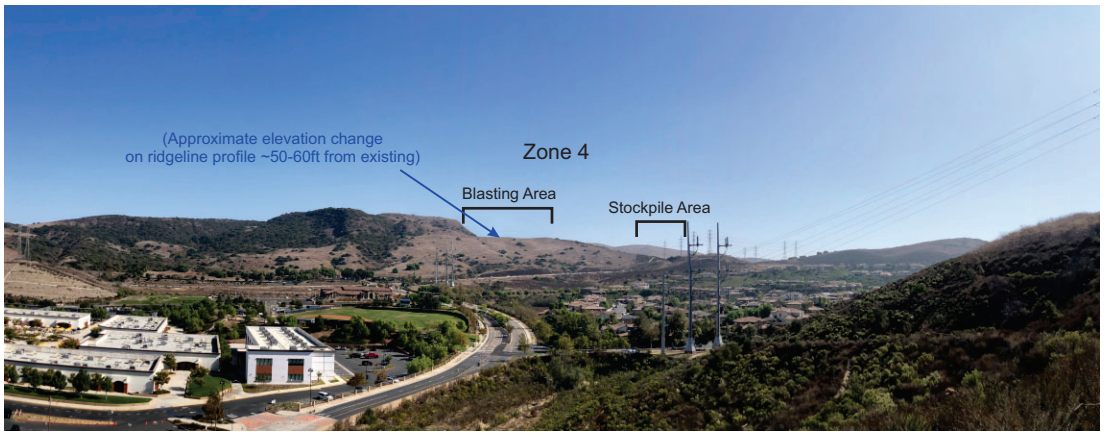
Key View 7 - Existing Conditions



Key View 7 - Interim Conditions (Year 2042)

Key View 7 - Ultimate Conditions (Year 2102)

LSA

FIGURE 4.1.3g

Prima Deshecha Landfill GDP

Key View 7

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4.2 AIR QUALITY

This chapter provides an evaluation of the potential impacts to air resources associated with the changes to the proposed amendment to the Prima Deshecha Landfill (Landfill) General Development Plan (GDP) to include the Zone 4 Construction Projects (Project), including a brief description of the existing conditions, with an overview of the Project's regulatory setting, climate and meteorology, existing air quality, and operational setting. This report also presents the proposed Project's impact assessment methodology, potential impacts, and mitigation measures. This section discusses existing air quality, summarizes existing air quality regulations, and evaluates potential air quality impacts associated with the proposed Project. The proposed Project's impacts are compared to the impacts identified in Final Environmental Impact Report (EIR) No. 575 and Final Supplemental EIR No. 597. The air quality modeling inputs and outputs are included as Appendix B of this Supplemental Environmental Impact Report (SEIR).

4.2.1 Scoping Process

The County of Orange (County) received 8 comment letters during the public review period of the Initial Study/Notice of Preparation (IS/NOP). For copies of the IS/NOP comment letters, refer to Appendix A of this SEIR. Two comment letters included comments related to air quality; they are summarized below.

The letter from South Coast Air Quality Management District (SCAQMD) (August 19, 2020) recommended the use of the SCAQMD California Environmental Quality Act (*CEQA) Air Quality Handbook* (1993), use of CalEEMod, SCAQMD significance thresholds, and preparation of a Health Risk Assessment. Additionally, SCAQMD provided information about SCAQMD permits and data availability and included a statement regarding mitigation requirements under CEQA.

Brenda Nash (July 29, 2020), asked for clarification regarding the radius of potential air quality impacts.

In addition, the County received comments pertaining to air quality at the Public Scoping Meeting held on July 30, 2020. Mario Soto, a resident of the Rancho San Juan residential community, stated that he does not believe Orange County Waste & Recycling (OCWR) does an adequate job of treating fugitive dust and that he is concerned the Project would worsen fugitive dust emissions. Mr. Soto also questioned whether increased air emissions from the proposed Project would result in increased human health risks for residents in the Rancho San Juan community.

4.2.2 Summary of Previous Environmental Documents

A summary of the air quality analysis in Final EIR No. 575 and Final Supplemental EIR No. 597 and the applicable addenda to those documents related to air quality is provided below.

4.2.2.1 Final Environmental Impact Report No. 575

The previous criteria used to determine the significance of potential project-related air quality impacts was obtained from the Initial Study checklist form in Appendix G of the State Guidelines for the Implementation of CEQA of 1970 (State CEQA Guidelines). Based on these thresholds, the following five questions were evaluated:

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

b. Would the proposal result in a violation of any air quality standard or contribute substantially to an existing or projected air quality violation?

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

d. Would the proposal expose sensitive receptors to substantial pollutant concentrations?

e. Would the proposal result in the creation of objectionable odors affecting a substantial number of people?

A brief summary of the impact analysis from the previous environmental reports is provided below.

On November 6, 2001, the Orange County Board of Supervisors approved Final EIR No. 575 (State Clearinghouse #199041035) for the implementation of the Prima Deshecha General Development Plan (GDP) and development of Zones 1 and 4 of the Landfill.

The project analyzed in Final EIR No. 575 included the following air quality elements:

- **Air Quality Standard Violation.** Construction emissions were not quantified in Final EIR No. 575 but a qualitative discussion was provided. Final EIR No. 575 determined that on-site equipment mobile source emissions would exceed the SCAQMD's significance threshold for nitrogen oxides (NO_X). However, when compared to existing conditions and combined with off-site traffic and employee commuting emissions, operational mobile source emissions would not exceed SCAQMD's significance threshold for carbon monoxide (CO), reactive organic gases (ROG), NO_X, sulfur oxides (SO_X), or particulate matter 10 microns or less in size (PM_{10}). The quantitative assessment of CO hot spots determined that CO concentrations would be well below the State and federal standards. Therefore, impacts related to operational emissions and CO hot spots would have been less than significant.

  Final EIR No. 575 analyzed long-term air quality impacts from landfill gas (LFG) emissions generated from the decomposition of landfilled waste material buried at the Project site. Final EIR No. 575 concluded that the LFG production/disposal emissions are potentially significant, but can be mitigated to less than significant by a LFG combustion system design that must meet SCAQMD standards of not allowing ambient pollution concentrations to exceed specific thresholds.

  The emissions associated with recreational uses (i.e., golf course) will not exceed the SCAQMD significance thresholds.

  Final EIR No. 575 concluded that air emissions generated by the Landfill component of the 2001 GDP exceeded SCAQMD thresholds of significance, and included several mitigation measures to

reduce potential air quality impacts. All mitigation measures from the Final EIR No. 575 remain as project commitments that apply to the proposed Project. The mitigation measures from Final EIR No. 575 are reiterated in Section 4.2.10 under "Previously Adopted Mitigation." Additional mitigation measures, if any, are indicated under "Additional Mitigation."

Final EIR No. 575 concluded that after incorporation of mitigation measures, air quality impacts would be less than significant. The air quality impact conclusion of "less than significant" in Final EIR No. 575 was based upon the provisions contained within Section 15064(h) of the State CEQA Guidelines, which provided that an environmental impact is not significant if it complies with a standard adopted by a public agency for the purpose of environmental protection. The "standard" cited in Final EIR No. 575 to support the conclusion of less than significant impact is conformity with landfill-specific SCAQMD air quality standards, which the Landfill must meet through permit acquisition in order to continue operation. As described in Section 4.2.2.2, on October 28, 2002 (after certification of Final EIR No. 575), the California Court of Appeal invalidated this provision in Section 15064(h) in its decision in the case of *Citizens for a Better Environment et al. vs. the California Resources Agency.*

- **Cumulatively Considerable Net Increase in Criterial Pollutants.** Final EIR No. 575 determined that project-related operational activities, in combination with those from other projects in the area, would not substantially deteriorate local air quality with the implementation of Mitigation Measures 4.9.1 through 4.9.13 and adherence to applicable SCAQMD rules and regulations. Therefore, cumulative operational impacts associated with the 2001 GDP were determined to be less than significant and no mitigation was required.

- **Exposure of Sensitive Receptors.** Final EIR No. 575 identified locations of sensitive receptors in the vicinity of the landfill and determined that localized operational emissions would not exceed the California Ambient Air Quality Standards (CAAQS) at the sensitive receptor locations. The implementation of Mitigation Measures 4.9.1 through 4.9.13 would further reduce project-related emission impacts. As previously mentioned above, the air quality impacts associated with implementation of the 2001 GDP were determined to be less than significant with mitigation.

- **Objectionable Odors.** Potential objectionable odors generated during operational activities were determined to be less than significant given the project size. Final EIR No. 575 did not include any land uses identified by the SCAQMD as being associated with odors. However, potential airborne odors could result from fresh waste refuse. These odors would be confined to the immediate vicinity of the Landfill working face and minimized by daily cover of buried fresh waste in compliance with the SCAQMD regulations. Therefore, impacts related to long-term operation odors were determined to be less than significant and no mitigation was required.

4.2.2.2 Final Supplemental EIR No. 597

This section provides a summary of the information contained in Section 4.3.1 of Final Supplemental EIR No. 597 and is supplemented with updated information on existing air quality conditions and revised air quality rules and regulations that affect operations at the Prima Deshecha Landfill. As discussed in Final Supplemental EIR No. 597, the Second Amendment to the 2001 GDP (the Project

analyzed in Final Supplemental EIR No. 597) would not result in a change in air quality emissions beyond those identified in Final EIR No. 575, which analyzed the impacts associated with daily operations of up to 4,000 tons per day (tpd) and future recreational and roadway uses. No new impacts were anticipated. Consequently, no additional mitigation measures were required. Final Supplemental EIR No. 597 included the following air quality analysis and conclusions:

- **Implementation of an Applicable Air Quality Plan:** Final Supplemental EIR No. 597 determined that the implementation of the proposed project would not result in a substantial change in the previous analysis provided in Final EIR No. 575. While Final EIR No. 575 did not specifically analyze the potential for the GDP to conflict with or obstruct implementation of an applicable air quality plan, it did determine an impact would be significant if it exceeded the SCAQMD thresholds. Similarly, Final Supplemental EIR No. 597 provides the SCAQMD thresholds from the *CEQA Air Quality Handbook* (SCAQMD 2013), and concludes the second Amendment to the GDP would not result in a change in air quality emissions beyond those identified in Final EIR No. 575, which analyzed the impacts associated with daily operations of up to 4,000 tpd and future recreational and roadway uses. No new impacts were identified; consequently, no additional mitigation measures were required.

- **Air Quality Standard Violation:** As discussed above, on October 28, 2002 (after certification of Final EIR No. 575), the California Court of Appeal invalidated this provision in Section 15064(h) in its decision in the case of *Citizens for a Better Environment et al. vs. the California Resources Agency*; accordingly, although the Second Amendment to the 2001 GDP emissions were not different/greater than those generated by the 2001 GDP, Final Supplemental EIR No. 597 updated the impact conclusion for air quality effects associated with the original 2001 Prima Deshecha Landfill GDP to reflect a conclusion of "significant after mitigation" based upon this change to the *State CEQA Guidelines*. Final Supplemental EIR No. 597 concluded that air quality impacts would be significant and unavoidable reflecting that both the worst-case daily construction and operational emissions from a 4,000 tpd landfill would exceed both the daily construction and operational emissions thresholds of significance included in the SCAQMD CEQA Air Quality Handbook (1993). Additional mitigation measures under SCAQMD Rule 403 were included in Final Supplemental EIR No. 597. A summary of the additional mitigation measures are provided in Section 4.2.10 of this document.

- **Cumulatively Considerable Net Increase in Criterial Pollutants:** Similar to Final EIR No. 575, Final Supplemental EIR No. 597 determined project-related operational activities, in combination with those from other projects in the area, would not substantially deteriorate local air quality with the implementation of Mitigation Measures 4.9.1 through 4.9.13 and adherence to applicable SCAQMD rules and regulations. Therefore, cumulative operational impacts associated with the implementation of the Second Amendment to the 2001 GDP were determined to be less than significant and no mitigation was required.

- **Expose Sensitive Receptors:** Similar to Final EIR No. 575, Final Supplemental EIR No. 597 identified locations of sensitive receptors in the vicinity of the Project site and determined that localized operational emissions would not exceed the CAAQS. The implementation of Mitigation Measures 4.9.1 through 4.9.13 would further reduce project-related emission impacts.

- **Objectionable Odors:** Potential objectionable odors generated during operational activities were determined to be less than significant given the Project size. Therefore, impacts related to long-term operation odors would have been less than significant and no mitigation was required.

4.2.3 Existing Environmental Setting

The Project site is within the 6,745-square-mile South Coast Air Basin (Basin), which is under SCAQMD jurisdiction. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The following provides background information about regional climate and air quality conditions in the Basin and local air quality conditions in the vicinity of the Project site.

4.2.3.1 Regional Climate

Air quality in the planning area is not only affected by various emission sources (e.g., mobile and industry), but also by atmospheric conditions (e.g., wind speed, wind direction, temperature, and rainfall). The combination of topography, low mixing height, abundant sunshine, and emissions from the second-largest urban area in the United States gives the Basin the worst air pollution problem in the nation.

Climate in the Basin is determined by its terrain and geographical location. The Basin is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern border, and high mountains surround the rest of the Basin, which lies in the semipermanent high-pressure zone of the eastern Pacific, resulting in a climate that is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted; however, periods of extremely hot weather, winter storms, or Santa Ana wind conditions do occur.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The Laguna Beach meteorological station (approximately 10 miles [mi] northwest from the Project site) high temperature ranges from 65.1°F in January to 78.1°F in August. The monthly average minimum temperature ranges from 43.0°F in January to 59.6°F in August (WRCC 2020). January is typically the coldest month and August typically the warmest month in this area of the Basin.

The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin and along the coastal side of the mountains. The monthly average rainfall at the Laguna Beach meteorological station typically varies from 2.77 inches in January to 0.03 inch in July, with an annual total of 12.52 inches (WRCC 2020). Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the

inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in midafternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning.

Winds in the Project area blow predominantly from the south and southwest, with relatively low velocities. Wind speeds at the nearest meteorological station (at Mission Viejo Meteorological Station approximately 9.5 mi northwest from the Project location) show the Project area average offshore wind speed of 3.4 miles per hour (mph) (SCAQMD 2020c). Low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

The nearest representative meteorological station that provides American Meteorological Society/ Environmental Protection Agency Regulatory Model (AERMOD) ready meteorological data is the meteorological station at Mission Viejo, about 9.5 mi northwest from the Project site (SCAQMD 2020c). **Figure 4.2.1** shows the wind rose from data measured at this station and shows the wind patterns for the Project area. A wind rose is a graphic tool used by meteorologists to give a succinct view of how wind speed and direction are typically distributed at a particular location. The frequency of winds over a time period is plotted by wind direction, with color bands showing wind speed ranges. The direction of the longest spoke shows the wind direction with the greatest frequency. Low wind speeds are marked in red to yellow. Higher wind speeds are marked in green to blue. The Mission Viejo wind rose indicated the dominant wind directions and the direction of strongest wind speeds are from the south-southwest direction.

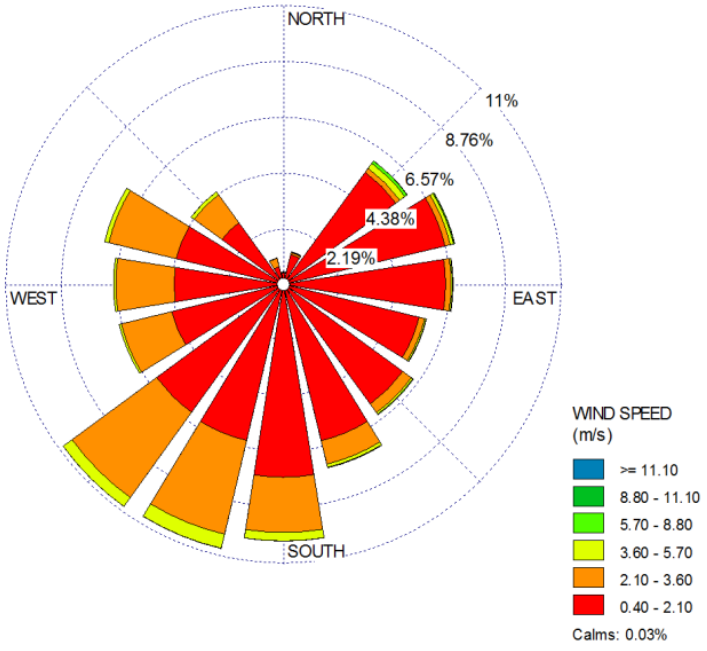

Figure 4.2.1: Project Area Wind Patterns

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Los Angeles County. In the winter, the greatest pollution problems are CO and NO_X because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_X to form photochemical smog.

4.2.3.2 Criteria Pollutants

Certain air pollutants have been recognized as causing notable health problems and consequential damage to the environment either directly or in reaction with other pollutants due to their presence in elevated concentrations in the atmosphere. Criteria pollutants are regulated through the development of human health-based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and health effects are discussed below.

- **Carbon Monoxide (CO):** CO is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels (e.g., gasoline or wood). CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections. Health effects of CO exposure include chest pain with exercise and electrocardiograph changes indicative of decreased oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin. Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes.

- **Sulfur Dioxide (SO_2):** SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere primarily from the burning of high-sulfur-content fuel oils and coal and from chemical processes at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfates (SO_4). Collectively, these pollutants are referred to as SO_X. A few minutes of exposure to low levels of SO_2 can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, an increase in resistance to air flow as well as a reduction in breathing capacity leading to severe breathing difficulties are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2.

- **Nitrogen Oxides (NO_X):** NO_X consist of nitric oxide (NO), nitrogen dioxide (NO_2) and nitrous oxide (N_2O) and are formed when nitrogen (N_2) combines with oxygen (O_2). Their lifespan in the atmosphere ranges from 1 to 7 days for NO and NO_2 and to 170 years for N_2O. NO_X are typically created during combustion processes and are major contributors to smog formation and acid deposition. Of the seven types of NO_X compounds, NO_2 is the most abundant in the atmosphere.

NO_2 absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. Because ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by regional monitors. An increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO_2 at levels found in homes with gas stoves that are higher than ambient levels found in Southern California. An increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy individuals. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) because they are more susceptible to NO_2 effects than healthy individuals.

- **Ozone (O_3):** O_3 is a highly reactive and unstable gas that is formed when volatile organic compounds (VOCs) and NO_X, both of which are byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. O_3 concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions favor the formation of this pollutant. Short-term exposure (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Individuals exercising outdoors, children, and people with preexisting lung disease (e.g., asthma and chronic pulmonary lung disease) are the most susceptible to O_3 effects.

- **Particulate Matter Less Than 10 Microns in Size (PM_{10}):** PM_{10} consists of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. The size of the particles (10 microns or smaller, about 0.0004 inch or less) allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects. PM_{10} also causes visibility reduction. A consistent correlation between elevated ambient coarse particulate matter levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks, and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. The elderly, people with pre-existing respiratory or cardiovascular disease, and children are more susceptible than adults to the effects of high levels of PM_{10}.

- **Particulate Matter Less Than 2.5 Microns in Size ($PM_{2.5}$):** $PM_{2.5}$ consists of tiny solid or liquid particles that are 2.5 microns or smaller (which is often referred to as fine particles). These particles form in the atmosphere from primary gaseous emissions that include sulfates formed from SO_2 release from power plants and industrial facilities and nitrates formed from NO_X release from power plants, automobiles, and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. In addition to the health effects of PM_{10}, discussed above, daily fluctuations in $PM_{2.5}$ concentration levels have been related to hospital admissions for acute respiratory conditions in children, school and kindergarten absences, decreased lung growth and respiratory volumes in children, and increased medication use in children and adults with asthma. The elderly, people with pre-existing respiratory or cardiovascular disease, and children are more susceptible to the effects of high levels of $PM_{2.5}$.

- **Lead (Pb):** Lead is a heavy metal that is highly persistent in the environment. In the past, the primary source of lead in the air was emissions from vehicles burning leaded gasoline. As a result of the removal of lead from gasoline, there have been no violations at any SCAQMD regular air monitoring stations since 1982. Currently, emissions of lead are largely limited to stationary sources such as lead smelters. Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence. Lead can be stored in the bone from early-age environmental exposure, and elevated lead levels in blood can occur due to a breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland), and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of lead because of their mothers being previously exposed to lead. In adults, increased lead levels are associated with increased blood pressure. Lead poisoning can cause anemia, lethargy, seizures, and death; however, it appears that lead has no direct effect on the respiratory system.

- **Volatile Organic Compounds (VOCs) and Reactive Organic Gases (ROGs):** VOCs are hydrocarbon compounds (i.e., any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity (i.e., they do not react at the same speed or do not form O_3 to the same extent when exposed to photochemical processes). VOCs often have an odor (e.g., gasoline, alcohol, and the solvents used in paints). Exceptions to the VOC designation include CO, carbon dioxide (CO_2), carbonic acid, metallic carbides or carbonates, and ammonium carbonate. Similar to VOCs, ROGs are also precursors in forming O_3 and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog forms when ROGs and NO_X react in the presence of sunlight. The SCAQMD uses the terms VOC and ROG interchangeably. VOCs and ROGs are considered criteria pollutants because they are precursors to O_3, which is a criteria pollutant. Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, the VOCs and ROGs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

4.2.3.3 Regional Air Quality

The California Air Resources Board (CARB) coordinates and oversees both State and federal air pollution control programs in California. The CARB oversees activities of local air quality management agencies and maintains air quality monitoring stations throughout the State in conjunction with the EPA and local air quality districts. The CARB has divided the State into 15 air basins based on meteorological and topographical factors of air pollution. The CARB and EPA use data collected at these stations to classify air basins as attainment, nonattainment, nonattainment-transitional, or unclassified, based on air quality data for the most recent 3 calendar years compared with the ambient air quality standards (AAQS).

A basin classified as attainment may fall into one of the following categories:

1. **Attainment/Unclassified ("unclassifiable" in some lists):** Such basins have never violated the air quality standard of interest or do not have enough monitoring data to establish attainment or nonattainment status.

2. **Attainment/Maintenance (National Ambient Air Quality Standards [NAAQS] only):** Such basins violated an NAAQS in use (they were nonattainment) in or after 1990 but now attain the standard and are officially redesignated as attainment by the EPA with a maintenance State Implementation Plan (SIP).

3. **Attainment (usually only for CAAQS but sometimes for NAAQS):** Such basins have adequate monitoring data to show attainment, have never been nonattainment, or, for NAAQS, have completed the official maintenance period.

Additional restrictions are imposed on nonattainment areas as required by the EPA. The air quality data collected from monitoring stations are also used to monitor progress in attaining air quality standards. Table 4.2.A lists the attainment status for the criteria pollutants in the Basin.

Table 4.2.A: Attainment Status of the South Coast Air Basin

Pollutant	State	Federal
O_3 1-hour	**Nonattainment**	N/A
O_3 8-hour	**Nonattainment**	**Extreme Nonattainment**[1]
PM_{10}	**Nonattainment**	Attainment/Maintenance
$PM_{2.5}$	**Nonattainment**	**Serious Nonattainment**
CO	Attainment	Attainment/Maintenance
NO_2	Attainment	Unclassified/Attainment (1-hour) Attainment/Maintenance (Annual)
SO_2	Attainment	Unclassified/Attainment
Lead	Attainment[2]	Unclassified/Attainment[2]
Hydrogen Sulfide	Unclassified	No National Standard
Sulfates	Attainment	No National Standard
Visibility-Reducing Particles	Unclassified	No National Standard
Vinyl Chloride	No Designation	No National Standard

Source: NAAQS and CAAQS Attainment Status for the South Coast Air Basin (February 2016). Website: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf (accessed September 2020).

[1] The extreme nonattainment area has a design value of 0.175 ppm and above.

[2] Except in Los Angeles County.

Bolded data indicates nonattainment of ambient air quality standards.

CAAQS = California Ambient Air Quality Standards
CARB = California Air Resources Board
CO = carbon monoxide
N/A = not applicable
NAAQS = National Ambient Air Quality Standards
NO_2 = nitrogen dioxide
O_3 = ozone
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ppm = parts per million
SO_2 = sulfur dioxide

In summary, the Basin is designated as a nonattainment area for federal and State O_3 standards and federal and State PM $_{2.5}$ standards. The Basin is designated as a nonattainment area for State PM_{10} standards; however, it is designated as an attainment area for federal PM_{10} standards. The Basin is

designated as an attainment area for federal and State CO standards, federal and State NO_2 standards, and federal and State SO_2 standards. While the Basin has been designated as nonattainment for the federal rolling 3-month average lead standard, it is designated attainment for the State lead standard (EPA 2020a, CARB 2019g).

Despite the current nonattainment status, air quality in the Basin has generally improved since the inception of air pollutant monitoring in 1976. This improvement is mainly a result of lower-polluting on-road motor vehicles, more stringent regulation of industrial sources, and the implementation of emission reduction strategies by SCAQMD. This trend toward cleaner air has occurred in spite of continued population growth. PM_{10} levels have declined almost 50 percent since 1990, and $PM_{2.5}$ levels have also declined 50 percent since measurements began in 1999 (SCAQMD 2013). Similar improvements are observed with O_3, although the rate of O_3 decline has slowed in recent years.

4.2.3.4 Local Air Quality

The SCAQMD, together with the CARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the site is the Mission Viejo monitoring station (approximately 9.5 mi northwest at 26081 Via Pera), which monitors air pollutant data for O_3, CO, NO_2, $PM_{2.5}$, and PM_{10}. NO_2 and SO_2 data were obtained from the Costa Mesa monitoring station (approximately 20 mi northwest at 2850 Mesa Verde Drive). The air quality trends from these two stations are used to represent the ambient air quality in the vicinity of the proposed Project site. Table 4.2.B presents the ambient air quality data monitored at these stations within the past 3 years.

As shown in Table 4.2.B, the ambient air quality data indicate that CO, NO_2, and SO_2 levels are consistently below the relevant State and federal standards. The 2018 and 2019 data for NO_2 was obtained from air monitoring stations near Interstate 5 (I-5), and the 2018 and 2019 data for SO_2 were not available. The State 1-hour O_3 standards were exceeded 2 to 3 times from 2017 to 2019, while the State 8-hour O_3 standard was exceeded 9 to 27 times from 2017 to 2019. The State 24-hour PM_{10} standards exceeded thresholds once during each year in 2017 and 2018. The annual federal PM_{10} standards were not exceeded during the last 3 years. The federal 24-hour $PM_{2.5}$ standards were not exceeded during the last 3 years. All areas of the Basin have continued to remain below the federal CO standards (35 parts per million [ppm] 1-hour and 9 ppm 8-hour) since 2003. The EPA redesignated the Basin to attainment of the federal CO standards, effective June 11, 2017. The Basin is also well below the State CO standards (20 ppm 1-hour CO and 9 ppm 8-hour CO).

Multiple Air Toxics Exposure Study IV (MATES IV). MATES IV is a monitoring and evaluation study conducted in the Basin and is part of the SCAQMD Governing Board's Environmental Justice Initiative (SCAQMD 2015a). The study focused on the carcinogenic risk from exposure to air toxics. It does not estimate mortality or other adverse health effects from particulate exposures. The MATES IV study uses 2012 monitored data to model risk throughout the Basin. Risk is shown in 2-kilometer (km) by 2 km (1.2 mi by 1.2 mi) squares. Two squares cover the Project area. The first square includes the western end of the Project site at Zone 1. The modeled carcinogenic risk for this area is 377 per million. The second square covers the remainder of the Project site, and the modeled

Table 4.2.B: Ambient Air Quality in the Project Vicinity

Pollutant	NAAQS/CAAQS	2017	2018	2019
O_3: Mission Viejo Monitoring Station (26081 Via Pera)				
Maximum 1-hour concentration (ppm)		0.103	0.121	0.106
Number of days exceeded:	State: >0.09 ppm	3	2	3
Maximum 8-hour concentration (ppm)		0.094	0.088	0.087
Number of days exceeded:	State: >0.07 ppm	27	10	11
	Federal: >0.07 ppm	25	9	11
Coarse Particulates (PM_{10}): Mission Viejo Monitoring Station (26081 Via Pera)				
Maximum 24-hour concentration (µg/m³)		58.2	55.6	45.0
Number of days exceeded:	State: >50 µg/m³	1	1	0
	Federal: >150 µg/m³	0	0	0
Annual arithmetic average concentration (µg/m³)		18.8	19.5	16.6
Exceeded for the year:	State: >20 µg/m³	No	No	No
Fine Particulates ($PM_{2.5}$): Mission Viejo Monitoring Station (26081 Via Pera)				
Maximum 24-hour concentration (µg/m³)		19.5	18.5	20.8
Number of days exceeded:	Federal: >35 µg/m³	0	0	0
Annual arithmetic average concentration (µg/m³)		8.11	8.31	7.11
Exceeded for the year:	State: >12 µg/m³	No	No	No
	Federal: >15 µg/m³	No	No	No
CO: Mission Viejo Monitoring Station (26081 Via Pera)				
Maximum 1-hour concentration (ppm)		1.4	1.2	1.0
Number of days exceeded:	State: >20 ppm	0	0	0
	Federal: >35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		0.9	0.9	0.8
Number of days exceeded:	State: ≥9.0 ppm	0	0	0
	Federal: ≥9 ppm	0	0	0
NO_2: Costa Mesa Monitoring Station (2850 Mesa Verde Drive)				
Maximum 1-hour concentration (ppm)		0.045	0.062	0.059
Number of days exceeded:	State: >0.18 ppm	0	0	0
	Federal: >0.10 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.011	0.021	0.019
Exceeded for the year:	State: >0.030 ppm	No	No	No
	Federal: >0.053 ppm	No	No	No
SO_2: Costa Mesa Monitoring Station (2850 Mesa Verde Drive)				
Maximum 24-hour concentration (ppm)		0.005	ND	ND
Number of days exceeded:	State: >0.04 ppm	0	ND	ND
Maximum 1-hour concentration (ppm)		0.019	ND	ND
Number of days exceeded:	State: >0.25 ppm	0	ND	ND
	Federal: >0.075 ppm	0	ND	ND

Source 1**:** United States Environmental Protection Agency (EPA). July 2020b. Outdoor Air Quality Data. Website: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report (accessed September 2020).
Source 2: California Air Resources Board (CARB).2020. iADAM: Air Quality Data Statistics. Website: https://www.arb.ca.gov/adam/topfour/topfour1.php (accessed September 2020).

µg/m³ = micrograms per cubic meter
CAAQS = California Ambient Air Quality Standards
CO = carbon monoxide
NAAQS = National Ambient Air Quality Standards
NO_2 = nitrogen dioxide
ND = data is not available
O_3 = ozone
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ppm = parts per million
SO_2 = sulfur dioxide

carcinogenic risk for this area is 350 per million (SCAQMD 2015b). The MATES IV data were calculated using methods and guidelines established by the State Office of Environmental Health Hazard Assessment (OEHHA) in 2003.

In March 2015, subsequent to the preparation of the MATES IV report, the OEHHA adopted new methods and guidelines for calculation of cancer risk (OEHHA 2015). The new guidelines recognize increased risks to infants and children, revised assumptions for breathing rates of different age groups, and revised exposure periods for various age groups and receptor types. The new methods result in substantially greater estimated cancer risks than previously calculated. The Basin population-weighted risk, calculated with the new guidelines, is 420 per million. However, it should be noted that some of the risk increase resulting from the new methods may be offset by new (EMFAC 2017) heavy-duty diesel truck particulate emissions factors that are approximately a factor of 10 lower than the corresponding EMFAC 2011 emissions factors that were used for the MATES IV calculations.

4.2.3.5 Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air-pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air-pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005). SCAQMD identifies sensitive receptors as residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes approximately 1,350 feet (ft) (400 meters [m]) from the boundary of the site (SCAQMD 1993). Several single-family residential developments exist around Landfill Zones 1 and 4. The combined Landfill boundary is 1,530 ac. The closest sensitive receptors are 530 ft (161 m) north of Zone 1 in a community of single-family residential homes. The nearest residential development to Zone 4 is 900 ft (274 m) south of the future active zones. Additionally, San Juan Hills High School is 3,050 ft (930 m) to the north of Zone 1. **Figure 4.2.2** presents the location of the sensitive receptors in the project vicinity.

4.2.3.6 Existing Project Site Emissions

The Landfill is owned by the County of Orange (County) and operated by OC Waste & Recycling (OCWR). The Landfill is a Class III solid waste landfill that has been in continuous operation since 1976. The proposed Project site is in the western foothills of the southern Santa Ana Mountains. Primary access to the Landfill is through the Main Entrance located along a standalone vehicle exit on Avenida La Pata, allowing access to Landfill Zones 1 through 5. There are existing administration offices, facility operation buildings, a household hazardous waste collection center, and a gas-to-energy facility near the Landfill's entrance that do not fall within a designated zone.

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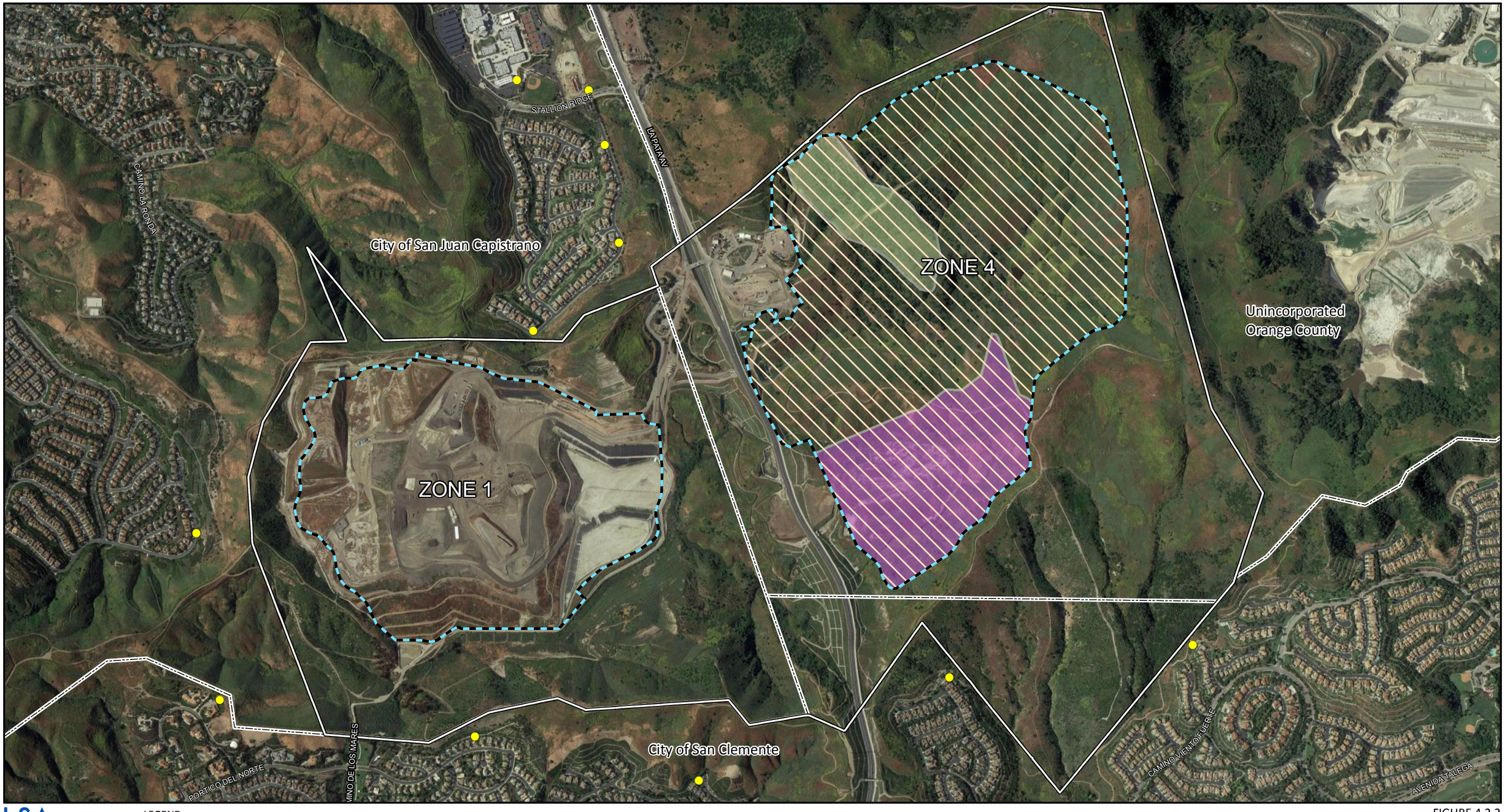

LSA

LEGEND

- Prima Deshecha Landfill (PDLF) Boundary
- Concurrent Operations of Zones 1 and 4
- Modeled Receptors
- Soil Importation for Liner Installation
- San Onofre Breccia Removal – Blasting
- San Onofre Breccia Removal – Pulverizing/Stockpiling

0 550 1100
FEET

SOURCE: OCWR (2001, 2005, 2010, 2017, 6/2020); Google (2019)

I:\OWR2001\GIS\MXD\Noise\SurroundingNoiseSensitiveRec.mxd (12/2/2020)

FIGURE 4.2.2

Prima Deshecha Landfill GDP

Surrounding Sensitive Receptors

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The 1,530-acre (ac) Prima Deshecha Landfill site is in south Orange County. The County-owned site includes acreage within the jurisdictions of the cities of San Juan Capistrano (570 ac) and San Clemente (133 ac). The remaining 827 ac are within unincorporated Orange County (see **Figure 3.1** in 3.0 Project Description of this SEIR).

The facility currently receives waste from commercial and private sources, places and compacts the waste, covers the waste with soil or other cover material on a daily basis, operates an LFG collection and control system, constructs new cells for future waste receipts, and places final cover materials. These operations are typical of all Landfill operations.

The Landfill is permitted to accept up to 4,000 tpd of solid waste. The Landfill is also permitted to accept up to 350 tpd of digested dewatered biosolids (i.e., wastewater treatment plant sludge). In fiscal year 2019/2020, the Landfill accepted a daily average of approximately 1,960 tpd of solid waste.[1] The current fill area is approximately 120 ac. Baseline operations at the Landfill take place 307 days per year. Emissions of criteria pollutants and toxic air contaminants (TACs) result from the transport of the waste on site, the handling and disposal of the waste on site, and the byproducts of the disposal of the waste on site.

Tailpipe emissions are the main category of emissions from the existing Landfill. The Landfill uses off-road equipment (e.g., compactors and bulldozers) to handle the waste and place the daily cover over the waste. The off-road equipment used at the Landfill is diesel-powered. There are also tailpipe emissions resulting from trucks delivering waste to the Landfill as well as employee vehicles.

An existing conditions analysis was conducted to assess the emissions associated with current Landfill operations. These operations include existing landfill operations, household hazardous waste collection center activities, and the Capistrano Greenery composting facility operations using the 2018/2019 fiscal year activity assumptions provided by OCWR with year 2020 emission factors. Table 4.2.C presents the estimated daily emissions associated with existing landfill operation activities.

Existing Stationary Source Emissions. Landfill gas, consisting primarily of methane and CO_2, is produced by the decomposition of organic refuse. The facility has systems in place that collect the majority of the generated LFG and either produce electrical energy on-site via turbines or flare the excess gas. The collection system consists of a series of vertical wells, connection piping, headers, and blowers (that place the wells under vacuum) for the withdrawal of the gases from the Landfill. A small fraction of the LFG is assumed to migrate to the surface of the Landfill and be released to the atmosphere. Operational practices, including use of sufficient cover and repair of cracks, fissures, and settling, minimize surface emissions. The effectiveness of these practices is verified by conducting quarterly surface emission monitoring.

[1] During the scoping of the proposed Project, it was determined that the baseline for analysis of potential impacts should be represented by pre-pandemic conditions. Therefore, for the purposes of this analysis, information from the 2018/2019 fiscal year was used. In the 2018/2019 fiscal year, the Landfill accepted 2,120 tpd of solid waste. In 2018/2019, the Landfill could have theoretically accepted an additional 1,880 tpd.

Table 4.2.C: Estimated Existing Daily Operational Emissions (lbs/day)

Emission Source	VOCs	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Mobile Sources - Vehicle and Truck Emissions	7.18	29.64	221.00	0.72	2.70	2.50
Mobile Sources - Landfill Equipment Emissions	0.69	4.53	5.63	0.02	11.73	3.26
LFG Combustion Energy Recovery Facility (EFR)	5.73	123.41	26.15	7.92	5.77	5.52
Fugitive Combustion (Flare)	0.86	2.01	7.19	3.81	3.59	3.43
Fugitive LPG Uncaptured LFG Surface Emissions	0.00	–	–	–	–	–
Green Waste Decomposition	934.00	–	–	–	–	–
TOTAL	**947.77**	**155.06**	**254.34**	**12.45**	**12.06**	**11.45**
Significance Threshold	75	550	100	150	150	55
Above Threshold?	***Yes***	*No*	***Yes***	*No*	*No*	*No*

Source: Compiled by LSA Associates, Inc. (2020).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SO_X = sulfur oxides
VOCs = volatile organic compounds

The collected LFG is used for on-site electricity generation (or for other beneficial uses) or is flared (i.e., combusted). In accordance with the EPA's New Source Performance Standard and SCAQMD Rule 1150.1, an LFG collection system is required to be installed in active and inactive landfills to collect the gas generated from refuse decomposition.

The Landfill maintains SCAQMD operating permits for the LFG collection system, flares, fuel storage and dispensing, and a diesel-fired electrical generator. The Landfill is classified as a major stationary source of emissions (major source) and maintains a Title V operating permit for major sources under the federal Title V Permitting Program. Existing permitted equipment and emissions, as reported in the facility Annual Emissions Report (AER), are presented below.

Baseline criteria pollutant emissions from permitted stationary sources were obtained from the annual emissions presented in the 2017 through 2019 AERs, which are representative of the most recent 3 years of available data (SCAQMD 2020b). Table 4.2.D presents the annual baseline criteria pollutant emissions for stationary sources at the Landfill site.

Table 4.2.D: Annual Baseline Emissions (tons/year)

Annual Emissions	VOCs	CO	NO_X	SO_X	PM
Reporting Year 2017	2.184	3.903	7.855	4.564	4.908
Reporting Year 2018	0.412	3.842	4.720	2.299	2.043
Reporting Year 2019	0.860	2.012	7.191	3.806	3.592

Source: Annual Emissions Reports for Facility ID 52753 (SCAQMD 2020d).
CO = carbon monoxide
NO_X = nitrogen oxides
PM = particulate matter
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
tons/yr = tons per year
VOCs = volatile organic compounds

Existing Landfill Toxic Air Contaminants. The CARB maintains information on TACs and HRAs for facilities throughout California. According to the CARB Air Toxic Hot Spot Assessment database, the Landfill facility HRA and prioritization score data were collected under the Air Toxic Hot Spots Program. The risk data that was submitted to the CARB may not have been derived from the same toxic emission data that was reported to the California Emission Inventory Development and Reporting System. Because the facility may have taken action to reduce risks pursuant to the risk assessment, the risk from the facility may have been substantially reduced since the risk assessment was conducted. Based on the reporting, the baseline health impacts at Prima Deshecha Landfill are less than 10 in 1 million for cancer risk and a Hazard Index of less than 1.0 for non-cancer chronic and acute health impacts (CARB 2020). These are below the SCAQMD's allowable project increment threshold of 10 in 1 million for cancer risk and 1.0 for non-cancer on the hazard index.

Existing TAC emission sources include flared LFG combustion, landfill surface gas, heaters, stationary internal combustion engines, paints and cleaners, gasoline and diesel fuel storage and dispensing, and heavy-duty equipment operations. Table 4.2.E presents baseline TAC emissions as reported in the most recent and publicly available AER. Based on SCAQMD and CARB reporting, the TAC emissions from existing Prima Deshecha Landfill operations do not pose significant cancer or non-cancer risks to the surrounding community.

Table 4.2.E: Annual Toxic Air Contaminant Emissions

CAS No.	Toxic Air Contaminant	Reporting Year 2017 (lbs/yr)	Reporting Year 2018 (lbs/yr)	Reporting Year 2019 (lbs/yr)
106990	1,3-Butadiene	0.519	1.984	1.135
7664417	Ammonia	3.946	7.664	1.646
7440382	Arsenic	0.002	0.004	0.003
71432	Benzene	4.037	7.450	6.824
7440439	Cadmium	0.002	0.003	0.003
56235	Carbon Tetrachloride	5.117	2.078	2.76
18540299	Chromium (IV)	0.000	0.000	0.000
9901	Diesel Engine Exhaust, Particulate Matter	--	--	68.949
106934	Ethylene dibromide	8.74	2.033	2.251
107062	Ethylene dichloride	4.611	1.340	1.775
50000	Formaldehyde	628.991	330.731	534.608
7439921	Lead (inorganic)	0.11	0.021	0.017
71556	Methyl Chloroform	4.435	1.443	1.591
75092	Methylene Chloride	3.952	2.026	52.604
91203	Naphthalene	4.435	0.321	0.227
7440020	Nickel	0.006	0.015	0.01
1151	PAHs, total, with components not reported	0.115	0.129	0.1
127184	Perchloroethylene	5.517	1.793	1.98
79016	Trichloroethylene	3.294	1.068	1.179
75014	Vinyl Chloride	1.658	0.506	0.746

Source: South Coast Air Quality Management District Annual Emissions Reports for Facility ID 52753 (2020d).
CAS = chemical abstract service
lbs/yr = pounds per year
PAH = polycyclic aromatic hydrocarbon

Existing Landfill Odors. Odors may result from both the refuse itself and from the LFG that migrates through the cover soil and escapes into the atmosphere. However, excessively odorous wastes are rejected prior to unloading, and a number of measures are employed to minimize odors (OCWR 2018).

Potential refuse odors are controlled by daily application of cover material. Landfill cover soil removes odorous compounds from the LFG. Soil bacteria and chemical processes substantially reduce trace organic components, thereby reducing odors in the LFG not removed by the collection system (OCWR 2018).

LFG odors are minimized through an LFG recovery system comprised of vertical LFG extraction wells and horizontal, rock-filled LFG collection trenches with internal piping systems. The captured LFG is then transported via pipeline and combusted at either the on-site gas-to-energy plant or the on-site flare station. When differential settlement produces cracks in the cover soil, the cracks are filled and the soil recompacted to prevent direct venting (OCWR 2001).

4.2.4 Regulatory Setting

4.2.4.1 Federal Regulations

Clean Air Act. The EPA is responsible for implementing the federal Clean Air Act (CAA). The federal CAA was first enacted in 1955 and has been amended numerous times in subsequent years (i.e., 1963, 1965, 1967, 1970, 1977, and 1990). The CAA authorizes the federal government to set federal air quality standards for pollutant emissions. The CAA also specifies future dates for achieving compliance with the NAAQS. Pursuant to the federal CAA, the EPA is responsible for setting and enforcing the NAAQS for seven major pollutants: O_3, CO, NO_X, SO_2, PM_{10}, $PM_{2.5}$, and lead, which are termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established AAQS, or criteria, for outdoor concentrations to protect public health.

The federal government first adopted the CAA (United States Code § 7401) in 1963 to improve air quality and protect citizens' health and welfare. The NAAQS are revised and changed when scientific evidence indicates a need. The CAA also requires each state to prepare an air quality control plan referred to as an SIP. State and local agencies, including the CARB and SCAQMD, are responsible for providing the SIP and attainment plans. The CAA Amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. As described below, state and local agencies are responsible for planning for attainment and maintenance of the NAAQS.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt an NAAQS for $PM_{2.5}$. All air basins have been formally designated as attainment or non-attainment for each NAAQS. The NAAQS attainment status for the Basin is summarized in Table 4.2.A.

Federal Regulatory Authority for Toxic Air Contaminants. The EPA administers several programs that regulate TAC emissions from stationary and mobile sources. The EPA identified 188 TACs that are known or suspected carcinogens, present a threat to human health or the environment, and are regulated under control technology programs. Also, the EPA has identified 33 urban TACs that pose the greatest threat to public health in urban areas and are regulated under the Urban Air Toxics Strategy. The EPA regulates TACs primarily by setting emission standards for vehicles and technology standards for industrial source categories.

In 2003, the EPA issued the final National Emissions Standard for Hazardous Air Pollutants rule to ensure reduction of TACs from municipal solid waste (MSW) landfills. The regulation largely incorporated the requirements of Subpart WWW, with the added requirements for Start-up, Shutdown, Malfunction Plans, and requirements for bioreactor landfills.

The CAA includes standards of performance for new stationary sources, including MSW landfills, per 40 Code of Federal Regulations Part 60, Subpart WWW. The provisions of this subpart apply to each MSW landfill that commenced construction, reconstruction, or modification on or after May 30, 1991. Subpart Cc of the same Part 60 (Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills) applies to each existing landfill for which construction, reconstruction, or modification commenced before May 30, 1991. A modification is defined as an increase in the permitted volume design capacity by either horizontal or vertical expansion. Under Subpart WWW rules, facilities with design capacities less than 2.5 million metric tons (MMT) are required to submit initial design capacity reports, and for those with design capacities greater than 2.5 MMT, are required to calculate the facility's generated non-methane organic compounds (NMOC) emissions. Estimated NMOC emissions exceeding 50 metric tons per year (MT/yr) require the owner or operator to submit a collection and control system design plan and install a collection system to capture and control the gas generated. SCAQMD Rule 1150.1 was deemed equivalent to Subpart Cc by the EPA, and MSW landfills in compliance with Rule 1150.1 are deemed in compliance with Subpart Cc.

4.2.4.2 State Regulations

California Clean Air Act. Assembly Bill (AB) 2595, the California Clean Air Act (CCAA), was signed into law in 1988 and requires all areas of the State to achieve and maintain the CAAQS. The CCAA mandates achievement of the maximum degree of emission reductions possible from vehicular and other mobile sources to attain the CAAQS by the earliest practical date. The CARB, which became part of the California Environmental Protection Agency (CalEPA) in 1991, is responsible for ensuring implementation of the CCAA and federal CAA and for regulating emissions from consumer products and motor vehicles within California. The CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for sulfates, visibility, hydrogen sulfide, and vinyl chloride. However, at this time, hydrogen sulfide and vinyl chloride are not measured at any monitoring stations in the Basin because they are not considered a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS. All air basins have been formally designated as attainment or non-attainment for each CAAQS.

Non-attainment areas are required to prepare AQMPs that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Development of control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g., motor vehicle use generated by residential and commercial development);
- An SCAQMD permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementation of reasonably available transportation control measures and assurance of a substantial reduction in growth rate of vehicle trips and miles traveled.
- Significant use of low-emission vehicles by fleet operators; and
- Sufficient control strategies to achieve a 5 percent or more annual reduction in emissions or 15 percent or more in a period of 3 years for VOCs, NO_X, CO, and PM_{10}. However, air basins may use an alternative emission reduction strategy that achieves a reduction of less than 5 percent per year under certain circumstances.

California State Implementation Plan. The CAA mandates that each state submit and implement SIPs. States containing areas violating the NAAQS are required to revise their SIPs to include additional control measures aimed at reducing air pollution. The SIP is required to include strategies and control measures to attain the NAAQS by deadlines established by the CAA. The EPA reviews all SIPs to determine conformance with the CAA.

State law mandates the CARB to serve as the lead agency for all purposes related to SIPs, which are prepared by local air quality districts and other agencies and submitted to the CARB for review and approval. Subsequently, the CARB forwards SIP revisions to the EPA for approval and publication in the Federal Register. The 2016 AQMP is the SIP for the Basin and is a regional blueprint for implementing air quality standards within areas under SCAQMD jurisdiction, which is discussed further below.

In addition to the CCAA, the CARB:

- Establishes and enforces emissions standards for motor vehicles, fuels, and consumer products;
- Establishes health-based air quality standards;
- Conducts research;
- Monitors air quality;
- Identifies and promulgates control measures for TACs;
- Provides compliance assistance for businesses;
- Produces education and outreach programs and materials; and
- Oversees and assists local air quality districts that regulate most non-vehicular sources of air pollution.

Toxic Air Contaminants. The State Air Toxics Program was established in 1983 under AB 1807 (Tanner). The California TAC list identifies more than 700 pollutants, of which carcinogenic and non-

carcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) hazardous air pollutants. In 1987, the Legislature enacted the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) to address public concern over the release of TACs into the atmosphere. AB 2588 law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hot spots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform an HRA, and if specific thresholds are exceeded, the facility operator is required to communicate the results to the public in the form of notices and public meetings.

The CARB reviews scientific research on exposure and health effects to identify the toxic air pollutants that pose the greatest threat to public health. One of the primary health risks of concern due to exposure to TACs is the risk of contracting cancer. The carcinogenic potential of TACs is of particular public health concern because it is currently believed by many scientists that there is no "safe" level of exposure to carcinogens (i.e., any exposure to a carcinogen poses some risk of causing cancer). Health statistics show that 1 in 4 people (or 250,000 in 1 million) will contract cancer over their lifetime from all causes, including diet, genetic factors, and lifestyle choices (SCAQMD 2009).

Unlike carcinogens, most non-carcinogens have a threshold level of exposure below which the compound will not pose a health risk. CalEPA and the OEHHA have developed reference exposure levels (RELs) for non-carcinogenic TACs that are health-conservative estimates of the levels of exposure at or below which health effects are not expected. The non-cancer health risk due to exposure to a TAC is assessed by comparing the estimated level of exposure to the REL. The comparison is expressed as the ratio of the estimated exposure level to the REL, called the Hazard Index.

Diesel Regulations. As part of California's Diesel Risk Reduction Plan, the CARB has passed numerous regulations to reduce diesel emissions from vehicles and equipment that are already in use. Combining these retrofit regulations with new engine standards for diesel-fueled vehicles and equipment, the CARB intends to reduce diesel particulate matter (DPM) emissions by 85 percent due to the installation of diesel particulate filters. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment Program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. There are several airborne toxic control measures that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 California Code of Regulations [CCR] 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

Diesel Fuels. California Diesel Fuel Regulations (13 CCR §§2281-2285; 17 CCR §93114) provide standards for motor vehicle fuels and diesel fuel.

In-Use Off-Road Diesel Vehicle Regulation. The CARB In-Use Off-Road Diesel Vehicle Regulation establishes various requirements for owners of off-road diesel vehicles, with engine ratings of 25 horsepower (hp) and greater, to reduce emissions of NO_X and DPM generated during combustion. Requirements to date have included reporting fleet vehicles to the CARB, obtaining a CARB-issued equipment identification number for all diesel-fleet vehicles, and developing and implementing a written idling policy restricting non-essential idling to less than 5 minutes. Emission performance requirements became effective January 2014, and established fleet average targets for NO_X emission reductions. Emission performance can be achieved through fleet turnover and use of newer model year equipment, as well as installation of certified retrofit equipment such as a particulate filter.

On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation. The CARB On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation applies to diesel-fueled trucks and buses with a gross vehicle weight greater than 14,000 pounds. The regulation establishes a phase-in schedule for fleet owners and operators to reduce emissions of particulate matter through fleet turnover and/or installation of retrofit equipment such as exhaust filters. The phase-in schedule began January 1, 2012, and applies to fleets based on model year.

California Health and Safety Code Section 41700. Section 41700 of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

4.2.4.3 Regional Regulations

South Coast Air Quality Management District. The SCAQMD is the air pollution control agency for Orange County, as well as the urban portions of Los Angeles, Riverside, and San Bernardino Counties. The agency's primary responsibility is to ensure the NAAQS and CAAQS are attained and maintained in the Basin. The SCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and conducting public education campaigns, as well as many other activities. All projects within the Basin are subject to SCAQMD rules and regulations in effect at the time of construction.

As stated previously, the AQMP is the SIP for the Basin. The AQMP is a regional blueprint for implementing air quality standards within the Basin and some portions of the Salton Sea Air Basin that are under SCAQMD jurisdiction. The AQMP asserts that the most effective way to reduce air pollution impacts is to reduce emissions from mobile sources. Additionally, the AQMP relies on partnerships between governmental agencies at the federal, state, regional, and local level. These agencies, which are comprised of the EPA, CARB, local governments, the Southern California Association of Governments (SCAG), and SCAQMD, are the primary agencies that implement the AQMP programs. The AQMP incorporates the latest scientific and technical information and planning assumptions, including the latest SCAG Regional Transportation Plan/Sustainable

Communities Strategy (RTP/SCS), updated emission inventory methodologies for various source categories, and the latest SCAG growth forecasts, as well as including integrated strategies and measures to meet the NAAQS.

The SCAQMD has adopted several regulations that apply to the proposed Project:

- **Rule 401 Visible Emissions:** This rule establishes the limit for visible emissions from stationary sources for a period or periods aggregating more than 3 minutes in any hour. This rule prohibits visible emissions dark or darker than Ringelmann No. 1 for periods greater than 3 minutes in any hour or such opacity that could obscure an observer's view to a degree equal or greater than does smoke.

- **Rule 402 Nuisance:** Regional odor regulations include SCAQMD Rule 402, *Nuisance*, which limits the discharge of odors that "cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property" (SCAQMD 1976).

- **Rule 403 Fugitive Dust:** The SCAQMD has adopted specific regulations geared toward reducing and controlling emissions of PM from fugitive dust generated during construction activities. SCAQMD Rule 403, *Fugitive Dust,* states that any active operations, including demolition, grading, and/or earthmoving activities, shall include appropriate best control measures designed to control localized fugitive dust emissions (SCAQMD 2005). Best control measures include, but are not limited to, the following:

    - Watering the site two to three times a day with a water truck
    - Application of non-chemical soil stabilizers to unpaved roads or disturbed areas
    - Stabilizing equipment staging areas through site watering, application of non-chemical stabilizers, or track-out installation
    - Pre-water material prior to loading into crusher (i.e., rocks, boulders)
    - Apply water to crushed material to prevent dust plumes
    - Add or remove material from the downwind portion of the storage pile
    - Limit vehicle speeds to 15 mph
    - Limit number and size of staging area entrances/exits

- **Rule 1150 Excavation of Landfill Sites:** The SCAQMD has adopted source-specific regulations to reduce and control fugitive emissions from landfills during excavation activities. SCAQMD Rule 1150, *Excavation of Landfill Sites*, states that excavation of an active or inactive landfill requires an Excavation Management Plan approved by the SCAQMD Executive Officer. At a minimum, the Excavation Management Plan must describe the quantity and characteristics of the material to be excavated and transported, and identify mitigation measures to ensure that a public nuisance condition does not occur. Mitigation measures may include gas collection and disposal, baling, encapsulation, covering of the material, chemical neutralizing, or other actions approved by the Executive Officer (SCAQMD 1982).

- **Rule 1150.1 Control of Gaseous Emissions from MSW Landfills:** SCAQMD has also adopted source-specific regulations to limit gaseous emissions from MSW landfills to prevent public nuisance and public health impacts. SCAQMD Rule 1150.1, *Control of Gaseous Emissions from MSW Landfills*, requires active landfills to have a collection and control system designed to handle the maximum expected gas flow rate and minimize migration of subsurface gas. The regulation was updated in 2011 to incorporate the CARB regulation that controls methane emissions from MSW landfills. Rule 1150.1 requires all collected gas to be routed to a treatment system that processes the collected gas for subsequent sale or use. The system must either reduce NMOC by at least 98 percent by weight, or reduce the outlet NMOC concentration to less than 20 ppm by volume (ppmv), dry basis as hexane at 3 percent oxygen. In addition, the treatment system must achieve a methane emissions destruction efficiency of at least 99 percent, except for lean burn internal combustion engines, which must reduce outlet methane concentration to less than 3,000 ppm, dry basis, corrected to 15 percent oxygen. The system must also prevent the concentration of total organic carbon, measured as methane, from exceeding 5 percent by volume in subsurface refuse boundary sampling probes, 25 ppmv in samples taken on numbered 50,000-square-foot landfill grids, or 500 ppmv above background as determined by instantaneous monitoring at any location on the landfill (except at the outlet of any control device) (SCAQMD 2011).

4.2.4.4 Location Regulations

Orange County General Plan. The Resources Element, one of nine elements of the County's General Plan, contains official County policies on the conservation and management of resources (County of Orange 2011). One component of the Resources Element is Air Resources. The policy of the Air Resources Component is "To develop and support programs which improve air quality or reduce air pollutant emissions". The Air Resources Component includes 15 implementation programs. The responsibility for implementation is designated to the County, the Orange County Transportation Authority (OCTA), and other public agencies.

City of San Juan Capistrano General Plan. The City Council approved the San Juan Capistrano General Plan in December 1999 and last updated it in May 2002. The Housing Element was updated separately, last revised in September 2017. The General Plan is a comprehensive plan that establishes goals, objectives, and policies intended to guide growth and development in San Juan Capistrano. The General Plan also serves as a blueprint for development throughout the community and is the vehicle through which the community needs, desires, and aspirations are balanced. The San Juan Capistrano General Plan is the fundamental tool for influencing the quality of life in San Juan Capistrano. Air quality-related goals and policies that are applicable to the proposed Project are listed below.

Conservation and Open Source Element. Although air quality is not a State-mandated element of a general plan, the AQMP requires air quality to be addressed in general plans. Air quality is included within the Conservation and Open Space Element (2002) of the City's General Plan to fulfill AQMP requirements. The Conservation and Open Space Element contains the following goals and policies aimed at improving air quality within the City through proper planning for land use, transportation, and energy use.

Goal 6.0: Improve air quality.

- **Policy 6.1:** Cooperate with the South Coast Air Quality Management District and Southern California Association of Governments in their efforts to implement the regional Air Quality Management Plan.
- **Policy 6.2:** Cooperate and participate in regional air quality management planning, programs and enforcement measures.
- **Policy 6.3:** Implement City-wide traffic flow improvements.
- **Policy 6.4:** Achieve a greater balance between jobs and housing in San Juan Capistrano.
- **Policy 6.5:** Integrate air quality planning with land use and transportation planning.
- **Policy 6.6:** Promote energy conservation and recycling by the public and private sectors.

City of San Clemente General Plan. The City Council adopted the City of San Clemente Centennial General Plan in February 2014 and last amended it in December 2016. The Centennial General Plan guides the growth and development to achieve optimum results for San Clemente's future. The General Plan is intended to create important community -based decisions through 2028, which is the Centennial year of San Clemente's founding. The Natural Resources Element and Land Use Element of the Centennial General Plan outline the following air quality-related goals and policies that are applicable to the proposed Project:

Goal: Reduce levels of air pollution and greenhouse gas emissions so that the City meets or exceeds regional, State, and Federal mandates.

- **Policy NR-5.01: New Development.** We require new development to utilize appropriate SCAQMD air quality mitigation measures.
- **Policy NR-5.02: Sensitive Land Uses.** We prohibit the future siting of sensitive land uses within distances defined by the CARB for specific source categories, unless such uses include sufficient mitigation.
- **Policy NR-5.04: Indoor Air Quality.** We comply with State Green Building Codes relative to indoor air quality.
- **Policy NR-5.05: Transportation.** We provide non-motorized, multi-modal mobility options (e.g. pedestrian and bicycle facilities) and work with other agencies and organizations to provide transit opportunities to reduce air pollutant emissions.
- **Policy NR-5.06: Particulate Matter.** We support efforts to reduce particulate matter to meet State and federal Clean Air Standards.

- **Policy NR-5.07: Street Trees.** We maintain a healthy stock of park, public area, and street trees and encourage the planting of trees with significant canopies that provide numerous benefits, including reduced urban heat gain, natural shading and wind screening, air filtration, and oxygen production.

4.2.5 Methodology

The air quality analyses in the previous environmental documents (Final EIR No. 575 and Final SEIR No. 597) were analyzed with the Urban Emissions Model (URBEMIS), which is currently outdated and does not include the latest emission factor data. Based on the latest regulations and methodologies, this air quality analysis was prepared in accordance with the evaluation procedures of the SCAQMD and the emission factors presented in the United States Environmental Protection Agency's (EPA) "Compilation of Air Pollution Emission Factors" or "AP-42" (with revisions through 2017), motor vehicles and heavy-duty equipment emission factors from CARB's California Emission Factor Model 2017 (EMFAC2017) and OFFROAD2017 models, and the EPA Landfill Gas Emission Model. EMFAC 2017 is a mathematical model developed to calculate emission rates from motor vehicles that operate on highways, freeways, and local roads in California and is used by CARB to project changes in future emissions from on-road mobile sources. Similar to EMFAC2017, OFFROAD2017 is a model for off-road equipment.

Several methodologies were developed to estimate emissions and used to perform dispersion modeling for the proposed Project. Project emissions were estimated for the incremental change in activities when compared to existing conditions. The proposed Project includes the following components:

1. Changes to the phasing of operations between Zones 1 and 4 to allow for concurrent operations
2. Blasting, excavation, on-site relocation, pulverizing into soil, soil stockpiling, and off-site soil removal of hard rock material in Zone 4, known as the San Onofre Breccia area
3. Imported soil trips for liner installation that will allow for all future Zone 4 development phases

Zone 1 is the current landfilling area, with an estimated closure date of approximately 2050. Zone 4 is the future Landfill development area, with an estimated closure date of approximately 2102. The operation of the proposed Project would continue in Zone 1 up until the closure date of 2050, while Zone 4 is under construction until 2102. The proposed Project would allow for concurrent operations in both Zones 1 and 4 for continuous landfilling activities between the two zones. The Zone 4 landfilling area includes approximately 9 million cubic yards (mcy) of San Onofre Breccia hard rock material. This material would be blasted, excavated, and relocated on site to the future Zone 4 Phase C area. The Breccia component of the proposed Project would last from approximately 2023–2042. During the construction of Zone 4, a significant amount of soil for liner installation would be imported. Soil importation trips would begin in 2023 and would take place approximately every 10 to 15 years as Landfill cell phases are constructed.

The air quality evaluation of potential Project impacts are organized according to the following three topical areas:

1. Changes to Operational Phases between Zone 1 and Zone 4
    a. Construction on-site impacts – Criteria pollutants
    b. Operational on-site impacts – Criteria pollutants
    c. Regional and local impacts due to Project-related vehicle traffic
    d. Odor impacts
    e. Air toxics health risks – Toxic air contaminant impacts

2. San Onofre Breccia Area
    a. Construction on-site impacts – Criteria pollutants
    b. Regional and local impacts due to Project-related vehicle traffic
    c. Air toxics health risks – Toxic air contaminants

3. Imported Soil Truck Trips for Liner Installations
    a. Construction on-site impacts – Criteria pollutants
    b. Regional and local impacts due to Project-related vehicle traffic
    c. Air toxics health risks – Toxic air contaminant impacts

Section 4.2.10 provides a detailed discussion of the mitigation measures incorporated into the design of the proposed Project to reduce air quality impacts. Emission calculations and dispersion modeling methodologies are provided in Appendix B of this SEIR.

Due to the long-term nature of all the activities analyzed in this SEIR, all activities will be assumed to be typical long-term operation impacts and not short-term construction impacts. As outlined in the Project Description, the proposed Project would be ongoing for the lifespan of the Landfill. Long-term operation of the proposed Project is forecasted to 2102 based on existing conditions.

Direct and indirect emissions associated with the following activities are analyzed in this SEIR: (1) changes to the phasing of operations between Zone 1 and Zone 4 of the Landfill to allow for concurrent operations throughout long-term operation; (2) blasting, excavation, on-site relocation, pulverizing into soil, soil stockpiling, and off-site soil removal of hard rock material in Zone 4, referred to as the San Onofre Breccia area; and (3) imported soil trips for liner installation that would take place for all future Zone 4 development phases. **Figure 4.2.3** presents the anticipated truck routes within the Landfill site.

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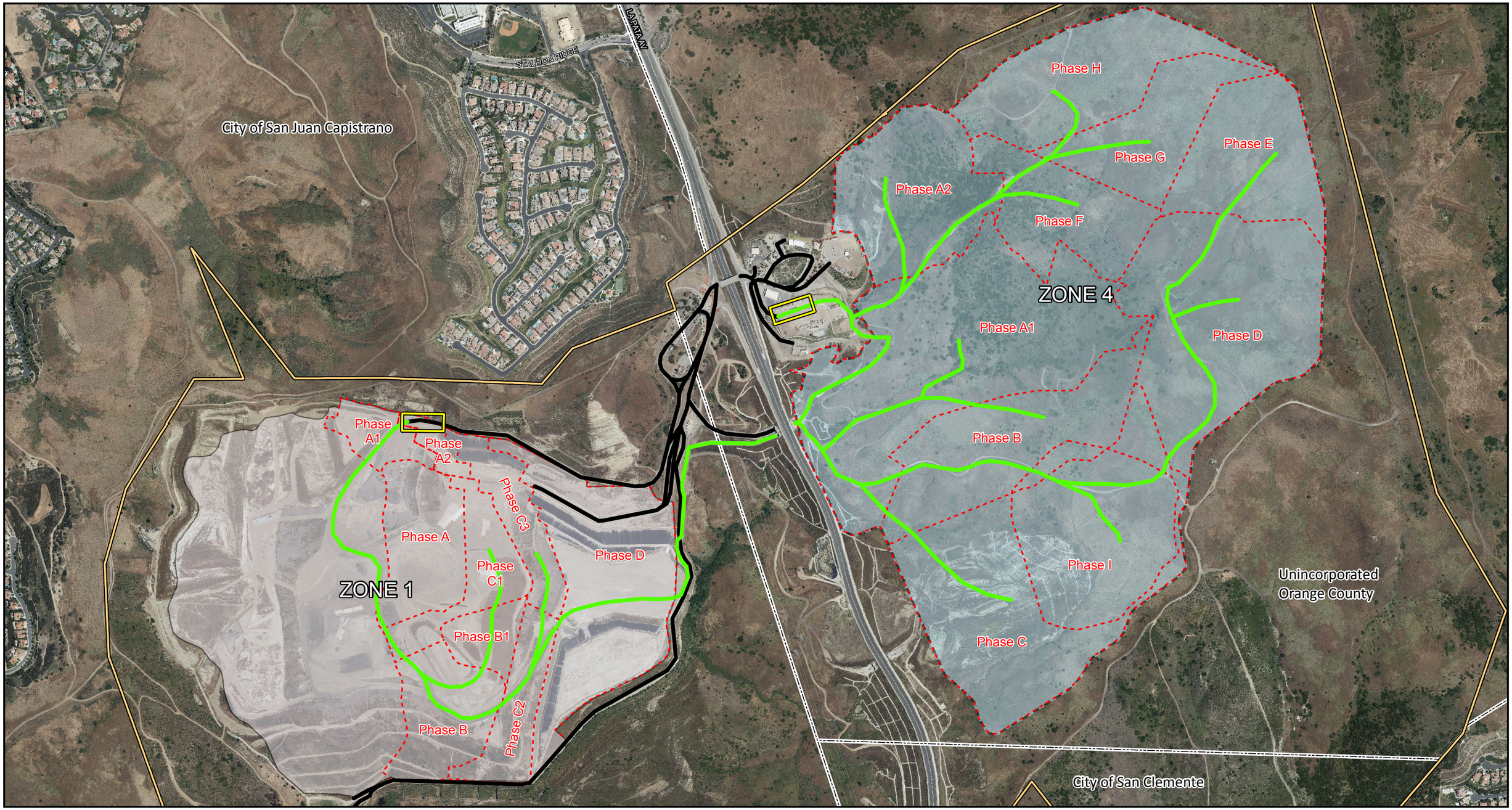

LSA

LEGEND

- Prima Deshecha Landfill (PDLF) Boundary
- PDLF Zone 4
- PDLF Zone 1
- Phase Limit
- Area of Approximate Transition from Asphalt to Dirt
- Anticipated Unpaved Truck Routes
- On-Site Paved Roads
- City Boundary

N

0 400 800
FEET

SOURCE: OCWR (2001, 2005, 2010, 2017, 6/2020); Esri (7/2019)

I:\OWR2001\GIS\MXD\TruckRoutes.mxd (10/21/2020)

FIGURE 4.2.3

Prima Deshecha Landfill GDP

Anticipated Truck Routes

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The following specific activities were evaluated:

- **Equipment Operations** includes, but is not limited to, the use of both heavy equipment and on-road vehicles to move material, conduct earthmoving activities, perform waste disposal in landfill, construct new landfill cell sites, and provide dust control (e.g., use of a water truck).

- **Truck Trip Operations** for deliveries of heavy equipment, solid waste disposal, dirt, and rock materials generates mobile source emissions. Truck traffic related to delivery of supplies and construction equipment, and worker vehicle trips, including the average trip distance from origin to the project site.

- **Material Handling** includes various activities that allow the excavation of soil and rocks, drilling into rocks, blasting of rocks, removal of Breccia material, installation of new liners, storing soil material in piles, crushing rocks, and stockpiling of Breccia material.

- **Fugitive Sources** include, but are not limited to, fugitive dust from truck loading and unloading, excavation, rock blasting, rock crushers, screening processes, and wind erosion of soil stockpiles.

As part of the methodology, Best Management Practices (BMPs) to reduce emissions during construction and operation were identified. These BMPs are listed as mitigation measures from the previous environmental documents (i.e., Final EIR No. 575 and Final Supplemental EIR No. 597) and are also incorporated into the proposed Project as BMPs.

4.2.5.1 SCAQMD Mobile Sources Health Risk Assessment

A mobile source HRA was performed to evaluate potential health risks associated with construction of the proposed Project. Based on the anticipated duration of construction and operation, the intensity of Landfill operations, and the locations of nearby sensitive receptors, the proposed Project activities in Zone 1 and Zone 4 represent the maximum condition for the HRA. The following discussion summarizes the dispersion modeling and HRA methodology. Supporting HRA documentation, including detailed assumptions, is presented in Appendix B of this SEIR. For risk assessment purposes, PM_{10} in diesel exhaust is considered DPM, originating mainly from off-road equipment operating at a defined location for a given length of time at a given distance from sensitive receptors. Less-intensive, more-dispersed emissions result from on-road vehicle exhaust (e.g., heavy-duty diesel trucks). While truck travel is considered an off-site emission source, to conservatively include truck travel in the HRA that evaluates on-site TAC emissions, a diesel truck one-way trip distance of approximately 1,400 ft was assumed. The 1,400 ft distance assumed for these purposes is derived from the estimated distance between the project site and Interstate 5 (I-5) via Ortega Highway and La Pata Avenue for evaluating the proposed Project's TAC emissions.

The air dispersion modeling methodology was based on generally accepted modeling practices of SCAQMD (SCAQMD 2020a). Air dispersion modeling was performed using the EPA AERMOD Version 19191 modeling system (computer software) with the Lakes Environmental Software implementation/user interface, AERMOD View Version 9.9.0. The HRA followed the OEHHA 2015 guidelines (OEHHA 2015) and SCAQMD guidance to calculate the health risk impacts at all proximate receptors as further discussed below. The dispersion modeling included the use of standard

regulatory default options. AERMOD parameters were selected consistent with the SCAQMD and EPA guidance and identified as representative of the proposed Project's site and project activities. The principal parameters of AERMOD for proposed Project construction included the following:

- **Dispersion Model:** The air dispersion model used was AERMOD, Version 19191, with the Lakes Environmental Software implementation/user interface, AERMOD View, Version 9.9.0. A unit emission rate (1 gram per second [g/s]) was normalized over each unique source of emissions for the AERMOD run to obtain the "X/Q" values. X/Q is a dispersion factor that is the average effluent concentration normalized by source strength, and is used as a way to simplify the representation of emissions from many sources. The maximum concentrations were determined for the 1-hour and period-averaging periods. Source parameters were based on information provided by the project applicant and modeling guidance from SCAQMD (SCAQMD 2020a).

- **Meteorological Data:** The John Wayne Airport meteorological station was selected because it is the closest station and is the most representative of the proposed Project site. The latest 5-year meteorological data (2012–2016) for the John Wayne Airport were downloaded from the SCAQMD and then input to AERMOD. A wind rose is provided in **Figure 4.2.1** above.

- **Urban and Rural Options:** Typically, urban areas have more surface roughness, structures, and low albedo surfaces that absorb more sunlight and thus more heat relative to rural areas. The urban dispersion option was selected based on the predominant development within 1.2 mi (2 kilometers [km]) of the proposed Project site. The population for Orange County (3,010,232) was used for the urban group.

- **Terrain Characteristics:** Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate. The National Elevation Dataset with resolution of 1/3 arc-second was used.

- **Sensitive Receptors:** The HRA evaluates the risk to existing sensitive (including residential) receptors located in proximity to the proposed Project site. The discrete Cartesian points were placed at all residential receptors proximate within ¼ mile from the proposed Project site. Refer to **Figure 4.2.2** for the location sensitive receptors.

- **Source Release Scenario:** Emissions during operation were assumed to operate up to 12 hours per day, 307 days per year.

The health risk calculations were performed using the Hot Spots Analysis and Reporting Program Version 2 (HARP2) Air Dispersion and Risk Tool (dated May 1, 2019). AERMOD was run with all sources emitting unit emissions (1 g/s) to obtain the necessary input values for HARP2. The line of volume sources was partitioned evenly based on the 1 g/s emission rate. The ground-level concentration plot files were then used to estimate the long-term cancer health risk to an individual and the non-cancerous chronic health indices. There is no reference exposure level for acute health impacts from DPM; thus, acute risk was not evaluated.

Cancer risk is defined as the increase in probability (chance) of an individual developing cancer due to exposure to a carcinogenic compound, typically expressed as the increased chances in 1 million.

Maximum Individual Cancer Risk is the estimated probability of a maximally exposed individual potentially contracting cancer as a result of exposure to TACs over a period of 30 years for residential receptor locations.

For the construction HRA, the TAC exposure period was assumed to start at the third trimester of pregnancy for all receptor locations. The total exposure duration was assumed to be 20 years (i.e., the assumed duration of the proposed Project operation). The exposure pathway for DPM is inhalation only.

The SCAQMD has also established non-carcinogenic risk parameters for use in HRAs, because some TACs increase non-cancerous health risk due to long-term (chronic) exposures and some TACs increase non-cancerous health risk due to short-term (acute) exposures. No short-term, acute relative exposure level has been established for DPM; therefore, acute impacts of DPM are not addressed in the HRA.

Chronic exposure is evaluated in the construction HRA. Non-carcinogenic risks are quantified by calculating a Hazard Index, expressed as the ratio between the ambient pollutant concentration and its toxicity or reference exposure level, which is a concentration at or below which health effects are not likely to occur. The chronic Hazard Index is the sum of the individual substance chronic Hazard Indices for all TACs affecting the same target organ system. A Hazard Index less of than 1.0 means that adverse health effects are not expected.

The risk assessment was performed in accordance with the SCAQMD Risk Assessment Procedures for Rules 1401, 1401.1, and 212 (SCAQMD 2017). This is an overly conservative scenario because actual modeled emissions over the entire construction period were much lower. Furthermore, the HRA began risk evaluation exposure within the third trimester of pregnancy for a 20-year duration, consistent with the 2015 OEHHA Guidelines.[1]

The following risk assessment options were applied to the HRA in accordance with the 2017 SCAQMD guidance:

- Deposition velocity of 0.02 meters per second
- A “warm” climate was selected for dermal exposure
- The Risk Management Policy (Derived) Method was selected for residential cancer risk
- Pathways for residential risk include inhalation, soil ingestion, dermal absorption, homegrown produce, and mother’s milk

4.2.5.2 Risk Definitions and Significance

Cancer risk is the probability or chance of contracting cancer over a human life span, which is assumed to be 70 years. Carcinogens are not assumed to have a threshold below which there would

[1] OEHHA describes cancer risk evaluations for 9-, 30-, and 70-year exposure durations in the 2015 OEHHA Guidelines, and identifies that the 9- and 30-year durations correspond to the average and high-end of residency time recommended by the EPA, with the 30-year exposure duration recommended for use as the basis for estimating cancer risk at the maximally exposed individual resident in all HRAs (OEHHA 2015).

be no human health impact. In other words, any exposure to a carcinogen is assumed to have some probability of causing cancer; the lower the exposure, the lower the cancer risk (i.e., a linear, no-threshold model). In assessing public health impacts, cancer risk is the expected incremental increase in cancer cases based on an equally exposed population of individuals, typically expressed as excess cancer cases per million exposed individuals.

State and local regulations have developed cancer risk levels above which a Project is considered to have a potential significant impact on public health. California's AB 2588 Air Toxic Hot Spots Program and California's Proposition 65, for example, have developed a significance level for incremental cancer risk of 10 in 1 million as the public notification level for TAC emissions from existing sources. For carcinogenic health impacts, the SCAQMD considers impacts to be significant if the incremental maximum individual cancer risk is greater than or equal to 10 in 1 million. The maximum individual cancer risk (MICR) is the highest of either the maximum exposed individual resident or the maximum exposed individual worker. Residential exposures are calculated using shorter exposure assumptions (i.e., 30 years rather than 70 years).

Non-cancer health effects are characterized as either chronic or acute. In determining potential non-cancer health risks from TAC emissions, it is assumed there is a dose of the chemical of concern, below which there would be no impact on human health. The air concentration corresponding to this dose is the REL. Non-cancer health risks are measured in terms of a Hazard Index, which is the calculated exposure of each contaminant divided by its REL. Hazard Indices for those pollutants affecting the same target organ are typically summed, with the resulting totals expressed as Hazard Indices for each organ system.

Similar to cancer risk, non-cancer impacts also have determined significance thresholds based on the estimated HI for the proposed Project. RELs used in the HI calculations were those published in the California Air Pollution Control Officers Association (CAPCOA) Risk Management Guidance for Stationary Sources of Air Toxics (CAPCOA 2015), and as updated by the OEHHA in the Consolidated Table of OEHHA/CARB Approved Risk Assessment Health Values (OEHHA 2020). State and local regulations have developed chronic and acute risk levels above which a Project is considered to have a potential significant impact on public health. For non-carcinogenic health impacts, the SCAQMD considers impacts significant if the incremental Hazard Index is greater than or equal to 1.

4.2.6 Thresholds of Significance

The significance criteria used to evaluate the proposed Project's impacts to air quality are based on Appendix G of the State CEQA Guidelines. According to Appendix G, a significant impact related to air quality would occur if a Project would:

- **Threshold 4.2.1:** Conflict with or obstruct implementation of the applicable air quality plan;
- **Threshold 4.2.2:** Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;
- **Threshold 4.2.3:** Expose sensitive receptors to substantial pollutant concentrations; or

- **Threshold 4.2.4:** Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the State CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether a proposed Project would have a significant impact on air quality. The SCAQMD has established Air Quality Significance Thresholds, as revised in April 2019, that set forth quantitative emission significance thresholds below which a Project would not have a significant impact on ambient air quality (SCAQMD 2019). The quantitative air quality analysis provided herein applies the SCAQMD thresholds identified in Table 4.2.F to determine the potential for the proposed Project to result in a significant impact under CEQA.

4.2.7 Project Impacts

Threshold 4.2.1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. As previously discussed, the proposed Project site is within the Basin under the jurisdiction of the SCAQMD, which is the local agency responsible for administration and enforcement of air quality regulations for the area. The SCAQMD has established criteria for determining consistency with the AQMP, currently the 2016 AQMP, in Chapter 12, Sections 12.2 and 12.3, of the SCAQMD *CEQA Air Quality Handbook* (SCAQMD 1993). The criteria are as follows:

- **Consistency Criterion No. 1:** The proposed Project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards of the interim emissions reductions specified in the AQMP.
    - **Consistency Assessment for Criterion No. 1.** This criterion evaluates the proposed Project's potential impacts with regards to whether the project would result in a cumulatively considerable net increase of a nonattainment criteria pollutant. The SCAQMD mass daily construction thresholds are applied to this criterion in order to evaluate the potential for a Project to result in a cumulatively considerable net increase of a nonattainment criteria pollutant (Threshold 4.2.2).

Table 4.2.F: South Coast Air Quality Management District Significance Thresholds

Criteria Pollutants Mass Daily Thresholds		
Pollutant	**Construction**	**Operation**
NO_X	100 lbs/day	55 lbs/day
VOCs	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_X	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants and Odor Thresholds		
TACs	Maximum Incremental Cancer Risk ≥10 in 1 million. Cancer Burden >0.5 excess cancer cases (in areas ≥1 in 1 million). Chronic and Acute Hazard Index ≥1.0 (project increment).	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHGs	10,000 MT CO_2e/yr for industrial facilities	
Ambient Air Quality for Criteria Pollutants		
NO_2	The SCAQMD is in attainment; a project is significant if it causes or contributes to an exceedance of the following attainment standards:	
1-hour average	0.18 ppm (State)	
Annual average	0.03 ppm (State) and 0.0534 ppm (federal)	
PM_{10}		
24-hour average	10.4 µg/m³ (construction) and 2.5 µg/m³ (operation)	
Annual average	1.0 µg/m³	
$PM_{2.5}$		
24-hour average	10.4 µg/m³ (construction) and 2.5 µg/m³ (operation)	
SO_2		
1-hour average	0.25 ppm (State) and 0.075 ppm (federal—99th percentile)	
24-hour average	0.04 ppm (State)	
Sulfate		
24-hour average	25 µg/m³ (State)	
CO	The SCAQMD is in attainment; a project is significant if it causes or contributes to an exceedance of the following attainment standards:	
1-hour average	20 ppm (State) and 35 ppm (federal)	
8-hour average	9.0 ppm (State/federal)	
Lead		
30-day average	1.5 µg/m³ (State)	
Rolling 3-month average	0.15 µg/m³ (federal)	

Source: Air Quality Significance Thresholds (SCAQMD 2019a).

µg/m³ = micrograms per cubic meter
CO = carbon monoxide
GHGs = greenhouse gases
lbs/day = pounds per day
MT CO_2e/yr = metric tons of carbon dioxide equivalent per year
NO_2 = nitrogen dioxide
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ppm = parts per million
SCAQMD = South Coast Air Quality Management District
SO_2 = sulfur dioxide
SO_X = sulfur oxides
TACs = toxic air contaminants
VOCs = volatile organic compounds

As discussed below, the proposed Project would result in operational NO_X emissions that would exceed the SCAQMD mass daily construction threshold in 2023, while all pollutant emissions would be below SCAQMD thresholds in 2043 and 2058. However, the total proposed Project combined with the existing emissions would be significantly lower than previously assumed for the Approved Project. Thus, the proposed Project would not result in new or significantly worsening air quality emissions beyond those identified in Final EIR No. 575 and Final Supplemental EIR No. 597. As such, the proposed Project would not increase the frequency or severity of an air quality violation or delay attainment of air quality standards. Therefore, the proposed Project would not conflict with Consistency Criterion No. 1 of the SCAQMD *CEQA Air Quality Handbook*.

- **Consistency Criterion No. 2:** The proposed Project would not exceed the assumptions in the AQMP or increments based on the year of Project build out and phase.

    - **Consistency Assessment for Criterion No. 2.** The Prima Deshecha Landfill site is a Class III municipal solid waste landfill located within the Cities of San Juan Capistrano and San Clemente and unincorporated Orange that has been in continuous operation since 1976. The 2001 GDP as analyzed in Final EIR No. 575 and Final Supplemental EIR No. 597 is consistent with the growth assumptions for the County use of the Landfill in accordance with the Orange County General Plan (County of Orange 2012) and other regional planning documents including SCAQMD's AQMP. The proposed Project would be consistent with the development concept and goals, objectives, and policies under Chapter 5 – Public Services and Facilities Element of the Orange County General Plan (County of Orange 2012). The County's General Plan is consistent with the SCAG Regional Comprehensive Plan Guidelines and the SCAQMD AQMP. The SCAQMD AQMP presents the strategies and control measures needed to continue to improve air quality in the Basin, including Orange County. AQMP measures represent actions implemented as part of the proposed Project to control landfill gas, equipment exhaust, and/or fugitive dust emissions.

        - Landfill flare NO_X and VOC emissions are regulated through SCAQMD Rules and Regulations such as the new sources review (NSR) and best available control technology (BACT). This control measure proposes that, consistent with the all feasible control measures, all non-refinery flares meet current BACT for NO_X emissions and thermal oxidation of VOCs. The preferred method of control would involve capturing the gas that would typically be flared and converting it into an energy source (e.g., facility power generation).

        - Heavy-duty diesel regulations were updated in the AQMP to represent the effectiveness of the control equipment used to meet the more stringent 2007 and 2010 emission standards.

        - Fugitive dust from vehicle travel on paved roads would be controlled through the use of a gravel track-out apron and three times daily cleaning of the paved roads.

- Fugitive dust from vehicle travel on unpaved roads would be controlled through watering two times daily, applying dust palliatives at least twice a year, paving as much as possible, and limiting the maximum vehicle speed to 15 miles per hour.

- Fugitive dust from soil disturbance would be suppressed with hourly watering and application of dust suppressants, which would reduce particulate matter emissions by up to 90 percent.

OCWR has implemented these SCAQMD measures at the proposed Project site. The proposed Project would not change the intended on-site uses. Furthermore, the proposed Project would reduce the need to develop more landfills that may be located farther from the source of solid waste generation if the Landfill were to close early (e.g., if Zone 4 could not be fully utilized). Therefore, the proposed Project would not conflict with or obstruct the implementation of the applicable air quality plan.

Impact Conclusions. Final Supplemental EIR No. 597 determined that the implementation of the proposed Project would not result in a substantial change in the previous analysis provided in Final EIR No. 575. While Final EIR No. 575 did not specifically analyze the potential for the GDP to conflict with or obstruct implementation of an applicable air quality plan, it did determine an impact would be significant if it exceeded the SCAQMD thresholds.

The proposed Project would not result in new or significantly worsening air quality emissions beyond those identified in Final EIR No. 575 and Final Supplemental EIR No. 597 and would not exceed the assumptions in the AQMP or increments based on the year of the proposed Project build out and phase. Therefore, the proposed Project would not result in any new or more severe significant impacts related to consistency with the SCAQMD AQMP.

Threshold 4.2.2: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less than Significant Impact. The SCAQMD *CEQA Air Quality Handbook* establishes suggested significance thresholds based on the volume of pollution emitted. According to the Handbook, any project in the Basin with daily emissions that exceed any of the established thresholds should be considered as having an individually and cumulatively significant air quality impact. The SCAQMD thresholds are outlined in Section 4.2.6.

As described above, Final EIR No. 575 concluded that air emissions generated by the Landfill component of the 2001 GDP exceeded SCAQMD thresholds of significance, and included several mitigation measures to reduce potential air quality impacts. Table 4.2.G presents the previously identified maximum daily emissions for the Approved Prima Deshecha GDP in the previous Final EIR No. 575 and Final Supplemental EIR No. 597.

Table 4.2.G: Approved Project Emissions – Year 2020 (lbs/day)

Emission Source	VOCs	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Mobile Sources	37.00	310.00	404.00	39.00	34.00	–
LFG Combustion Energy Recovery Facility (EFR)	173.00	979.00	341.00	17.00	325.00	–
Fugitive Combustion (Flare)	13.00	82.00	99.00	14.00	22.00	–
Fugitive LPG Uncaptured LFG Surface Emissions	2,803.00	–	–	–	–	–
TOTAL	**3,026.00**	**1,371.00**	**844.00**	**70.00**	**381.00**	**0.00**
Significance Threshold	75	550	100	150	150	55
Above Threshold?	***Yes***	***Yes***	***Yes***	*No*	***Yes***	*No*

Source: OCWR Approved Prima Deshecha GDP FEIR No. 575 and Final SEIR No. 597.
CO = carbon monoxide
GDP = General Development Plan
lbs/day = pounds per day
NO_X = nitrogen oxides
PM2.5 = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SO_X = sulfur oxides
VOCs = volatile organic compounds

The proposed changes to the Landfill operations (including construction of cell modules in Zone 4, Landfill operations in Zone 1 and Zone 4, Breccia soil and rock processing, excess soil transport off site, and LFG generation) have the potential to adversely affect air quality through the generation of fugitive dust, odors, and/or criteria pollutants and toxic air contaminants. Indirect emissions of criteria pollutants with regional impacts would occur from vehicle trips associated with solid waste transportation to the Landfill and employee vehicle emissions. The analysis contained in this section includes an evaluation of the potential air quality impacts associated with proposed Project operational and provides an ambient air quality impact assessment to determine if operational emissions would result in a cumulatively considerable net increase of any criteria pollutant. Because of the long-term nature of all the activities analyzed in this SEIR, all activities will be assumed to be typical long-term operation impacts and not short-term construction impacts.

4.2.7.2 Operational Emissions

During operation of the proposed Project, long-term degradation of air quality may occur due to the release of PM emissions (i.e., fugitive dust) generated by the movement of vehicles on non-paved surfaces, heavy equipment moving soil and cover material to the working face, dust from blasting activities, soil movement on site, and importation of soil to the Landfill. Emissions from off-road equipment are also anticipated and would include CO, NO_X, VOCs, directly emitted $PM_{2.5}$ or PM_{10}, and TACs, such as DPM. On-road vehicle emissions were estimated for the proposed Project using EMFAC2017, consistent with SCAQMD recommendations.

For the purpose of air quality analysis, it is assumed that construction activities would not change any of the existing infrastructure on site. The transition periods from Zone 1 to Zone 4 of the proposed Project site are included with the operational emission calculations for the life of the proposed Project. The proposed Project's daily operations shift for concurrent operations because Zone 1 and 4 will be operational for a combined 307 days per year. Construction activities during Landfill module construction include site preparation and excavation. On-site and off-site operational emissions were divided into three categories: vehicle and construction equipment

exhaust, fugitive dust generated by paved and unpaved road travel, and fugitive dust generated from earthmoving activities and paving activities.

The analysis includes an estimate of the off-road equipment that would be used during each Landfill activity, the hours of use for that equipment, the quantities of earth and debris to be moved, and on-road vehicle trips (worker, soils hauling, and vendor trips). This analysis assumes that all off-road equipment over 50 hp rating will use the EPA Tier 3 engines or higher as required under the Nonroad Compression-Ignition Engines: Exhaust Emission Standards (EPA 2016). Fugitive dust control measures (e.g., watering the exposed surface area) will take place at least three times daily in accordance with SCAQMD Rule 403. Operations related to the Breccia component of the proposed Project are anticipated to begin in approximately 2023 and continue until 2042 (a duration of approximately 20 years). A list of the anticipated equipment that will be used under proposed Project operations is presented in Table 4.2.H.

Table 4.2.H: Proposed Project Equipment List

Quantity	Model	Description	Engine Tier Level
Landfill Disposal Equipment			
2	D10T	D10T Trash Dozer	Tier 3
2	657E	657E Scraper	Tier 3
1	D7E	D7E Tractor	Tier 4 Final
1	D5K2	D5K2 XL Crawler Tractor	Tier 4 Interim
1	836K	836K Compactor	Tier 4 Final
1	966H	966H Wheel Loader	Tier 3
1	IT38H	IT38H Tool Carrier	Tier 3
1	440	440 Backhoe Loader	Tier 4 Final
2	730-04A	6,000 Gallon Water Truck	Tier 4 Final
1	140M3	140M3 Motor Grader	Tier 4 Final
Landfill Construction Equipment			
30	657E	657E Scraper	Tier 3
2	834K	834K Wheel Dozer	Tier 4 Final
1	345CL	345CL Excavator	Tier 3
4	740E	Ejector Truck	Tier 3
1	440	440 Backhoe Loader	Tier 4 Final
3	740EJ	8,000 Gallon Water Truck	Tier 3
1	140M3	140M3 Motor Grader	Tier 4 Final
8	--	1-Ton Pickup Truck with Service Bed	--
Breccia Removal Equipment			
1	--	Drill Rig	Tier 4 Final
10	--	Explosive/Blasting Charges	--
2	834K	834K Wheel Dozer	Tier 4 Final
1	345CL	345CL Excavator	Tier 3
1	440	440 Backhoe Loader	Tier 4 Final
1	**--**	Generator	Tier 4 Final
Stockpiling and Pulverizing Equipment			
1	Electric-powered	Rock Crusher	**--**
1	Electric-powered	Screening Plant	**--**
1	**--**	Generator	Tier 4 Final
1	440	440 Backhoe Loader	Tier 4 Final
2	834K	834K Wheel Dozer	Tier 4 Final

Source: OC Waste & Recycling. 2020. List of Off-Road Equipment at Prima Deshecha Landfill in MS Excel spreadsheet format (handout from OC Waste & Recycling). August.

The most recent version of the CARB EMFAC2017 (v1.0.3) was used to calculate long-term construction and operational emissions from implementation of the proposed Project, the results of which are provided in Appendix B.

The proposed Project is estimated to generate an incremental increase of 952 vehicle trips per day (LSA 2020b). The CARB has prepared off-model adjustment factors for EMFAC2017 to account for the impact of federal Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, Part One and the Final SAFE Rule in light-duty vehicles. These adjustments were provided in the form of multipliers and applied to the emissions outputs from EMFAC2017 to account for the impact of these rules and actions. These adjustment factors for gasoline vehicles were applied to the worker vehicles, which represent a small portion of the overall emissions.

Tables 4.2.I through Table 4.2.K identify the maximum daily emissions associated with all proposed Project operation activities during each phase for years 2023, 2043, and 2058.

Table 4.2.I: Maximum Daily Operation Emissions – Year 2023 (lbs/day)

Emission Source	VOCs	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$[1]
Changes to Operations Phases between Zone 1 and Zone 4						
Fugitive Dust—Material Handling	–	–	–	–	0.20	0.11
Fugitive Dust—Unpaved Roads	–	–	–	–	11.52	3.04
Vehicle, Equipment, and Truck Emissions	7.11	35.74	66.56	0.16	2.77	2.55
San Onofre Breccia Area						
Fugitive Dust—Material Handling	–	–	–	–	1.72	0.60
Fugitive Dust—Unpaved Roads	–	–	–	–	35.91	9.48
Vehicle, Equipment, and Truck Emissions	3.38	5.62	41.69	0.22	0.30	0.28
Imported Soil Truck Trips for Liner Installation						
Fugitive Dust—Material Handling	–	–	–	–	0.20	0.11
Fugitive Dust—Unpaved Roads	–	–	–	–	4.98	1.31
Vehicle, Equipment, and Truck Emissions	0.08	0.88	11.26	0.06	0.06	0.06
TOTAL PROJECT EMISSIONS	**10.57**	**42.24**	**119.51**	**0.44**	**57.67**	**17.54**
Significance Threshold	75	550	100	150	150	55
Total Project Above Threshold?	*No*	*No*	**Yes**	*No*	*No*	*No*

Source: Compiled by LSA Associates, Inc. (2020).

[1] Estimated $PM_{2.5}$ emissions for the Approved Project were determined by using the $PM_{10}/PM_{2.5}$ conversion rate for diesel particulate matter.

CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SO_X = sulfur oxides
VOCs = volatile organic compounds

Table 4.2.J: Maximum Daily Operation Emissions – Year 2043 (lbs/day)

Emission Source	VOCs	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$[1]
Changes to Operations Phases between Zone 1 and Zone 4						
Fugitive Dust—Material Handling	–	–	–	–	0.20	0.11
Fugitive Dust—Unpaved Roads	–	–	–	–	11.52	3.04
Vehicle, Equipment, and Truck Emissions	0.18	5.63	27.15	0.19	0.13	0.13
San Onofre Breccia Area						
Fugitive Dust—Material Handling	–	–	–	–	0.0	0.0
Fugitive Dust—Unpaved Roads	–	–	–	–	0.0	0.0
Vehicle, Equipment, and Truck Emissions	0.0	0.0	0.0	0.0	0.0	0.0
Imported Soil Truck Trips for Liner Installation						
Fugitive Dust—Material Handling	–	–	–	–	0.20	0.11
Fugitive Dust—Unpaved Roads	–	–	–	–	4.98	1.31
Vehicle, Equipment, and Truck Emissions	0.03	0.34	3.76	0.02	0.02	0.02
TOTAL PROJECT EMISSIONS	**0.21**	**5.97**	**30.91**	**0.21**	**17.06**	**4.72**
Significance Threshold	75	550	100	150	150	55
Total Project Above Threshold?	*No*	*No*	*No*	*No*	*No*	*No*

Source: Compiled by LSA Associates, Inc. (2020)

[1] Estimated $PM_{2.5}$ emissions for the Approved Project were determined by using the $PM_{10}/PM_{2.5}$ conversion rate for diesel particulate matter.

CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SO_X = sulfur oxides
VOCs = volatile organic compounds

Table 4.2.K: Maximum Daily Operation Emissions – Year 2058 (lbs/day)

Emission Source	VOCs	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Changes to Operations Phases between Zone 1 and Zone 4						
Fugitive Dust—Material Handling	–	–	–	–	0.20	0.11
Fugitive Dust—Unpaved Roads	–	–	–	–	11.52	3.04
Vehicle, Equipment, and Truck Emissions	0.18	5.60	27.22	0.19	0.13	0.13
San Onofre Breccia Area						
Fugitive Dust—Material Handling	–	–	–	–	0.0	0.0
Fugitive Dust—Unpaved Roads	–	–	–	–	0.0	0.0
Vehicle, Equipment, and Truck Emissions	0.0	0.0	0.0	0.0	0.0	0.0
Imported Soil Truck Trips for Liner Installation						
Fugitive Dust—Material Handling	–	–	–	–	0.0	0.0
Fugitive Dust—Unpaved Roads	–	–	–	–	0.0	0.0
Vehicle, Equipment, and Truck Emissions	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL PROJECT EMISSIONS	**0.18**	**5.60**	**27.22**	**0.19**	**11.85**	**3.28**
Significance Threshold	75	550	100	150	150	55
Total Project Above Threshold?	*No*	*No*	*No*	*No*	*No*	*No*

Source: Compiled by LSA Associates, Inc. (2020).

Note: * Estimated $PM_{2.5}$ emissions for Approved Project was determined by using the $PM_{10}/PM_{2.5}$ conversion rate for DPM.

CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SO_X = sulfur oxides
VOCs = volatile organic compounds

Impact Conclusions. Final EIR No. 575 determined that on-site equipment mobile source emissions would exceed the SCAQMD's significance threshold for NO_X. However, when compared to existing conditions and combined with off-site traffic and employee commuting emissions, operational mobile source emissions would not exceed SCAQMD's significance threshold for CO, VOC, NO_X, SO_X, or PM_{10}. Final Supplemental EIR No. 597 concluded that build out of the 2001 GDP would result in a significant and unavoidable impact related to an exceedance of SCAQMD's threshold for NO_X emissions. Table 4.2.L presents the maximum daily emissions from the proposed Project (including existing conditions), compared to the Approved Project emissions.

Table 4.2.L: Maximum Daily Project Operation Compared to Approved Project Emissions – Year 2023 (lbs/day)

Emission Source	VOCs	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$[1]
2023 Proposed Project Emissions	**10.57**	**42.24**	**119.51**	**0.44**	**57.67**	**17.54**
Existing Emissions	947.77	155.06	254.34	12.45	12.06	11.45
Proposed Project Plus Existing Emissions	958.34	197.30	373.85	12.89	69.73	28.99
Approved Project Emissions	3,026.00	1,371.00	844.00	70.00	381.00	158.00*
Difference between Proposed Project Plus Existing Emissions and Approved Project Emissions	**-2,067.66**	**-1,173.70**	**-470.15**	**-57.11**	**-311.27**	**-129.01**
Significance Threshold	75	550	100	150	150	55
Total Project Above Threshold?	*No*	*No*	*No*	*No*	*No*	*No*

Source: Compiled by LSA Associates, Inc. (2020).

[1] Estimated $PM_{2.5}$ emissions for the Approved Project were determined by using the $PM_{10}/PM_{2.5}$ conversion rate for diesel particulate matter.

CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SO_X = sulfur oxides
VOCs = volatile organic compounds

As shown in Table 4.2.I, NO_X emissions would exceed the SCAQMD thresholds in 2023, while Tables 4.2.K and 4.2.L indicate that all pollutant emissions would be below SCAQMD thresholds in 2043 and 2058. As shown in Table 4.2.K, the total proposed Project with existing emissions would be significantly lower than previously assumed for the Approved Project due to the improvements in fuel economies which result in lower fuel consumption rates and improved emission control technologies for current model year on-road and off-road engines. As shown in Table 4.2.L, because the proposed Project would result in fewer emissions than previously assumed for the Approved Project, the proposed Project would not result in new or significantly worsening air quality impacts.

As such, the proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state AAQS. Further, as compared to the findings of Final EIR No. 575 and Final Supplemental EIR No. 597, the proposed Project would not result in any new or more severe significant impacts related to a cumulatively considerable net increase of any criteria pollutants.

All mitigation measures from Final EIR No. 575 remain as project commitments that apply to the proposed Project. The mitigation measures from Final EIR No. 575 are reiterated in Section 4.2.10.2,

Previously Adopted Mitigation. Additional mitigation measures, if any, are indicated under Section 4.2.10.3, Additional Mitigation.

4.2.7.3 Ambient Air Quality Analysis

Because Project-related NO_X emissions were identified as a potentially significant impact in Final Supplemental EIR No. 597, dispersion modeling was performed for the proposed Project in order to determine if this exceedance would result in a violation of air quality standards. Criteria pollutant dispersion modeling was performed for maximum operating conditions for comparison against the AAQS.

Maximum predicted impacts due to long-term operations (i.e., proposed Project plus existing emissions) were added to background concentrations obtained from either the Mission Viejo or Costa Mesa air quality monitoring stations for comparison against the California AAQS. Table 4.2.M provides a summary of the dispersion model predicted impacts from long-term operational emissions compared to the AAQS thresholds for criteria pollutants for project year 2023. As shown in Table 4.2.M, all pollutant concentrations associated with operational activities would be below their respective ambient thresholds for each applicable averaging period. Based on the results of this analysis, proposed Project emission concentrations, when combined with existing emissions, would be less than significant.

Table 4.2.M: Maximum Impact of Emission Concentrations

Pollutant	Maximum 1-Hour Impact (µg/m³)	AAQS Averaging Time	Maximum Impact for Proposed Project Plus Existing Emission Concentrations (µg/m³)	Background (µg/m³)	Total of Background, and Proposed Project Plus Existing Emission Concentrations (µg/m³)	Most Stringent AAQS (µg/m³)	Exceed CAAQS?
CO	0.3110	1-hour	0.3100	1,603	1,603	23,000	**No**
		8-hour	0.2725	1,031	1,031	10,000	**No**
NO_2	0.0807	1-hour	0.0807	117	117	188	**No**
		Annual	0.0219	40	40	57	**No**
SO_2	0.0002	1-hour	0.00022	128	128	196	**No**
		3-hour	0.00021	21	21	1,300	**No**
		24-hour	0.00013	13	13	105	**No**
		Annual	0.00007	8	8	80	**No**
PM_{10}	0.059	24-hour	0.059	N/A	<1	10.4	**No**
		Annual	0.024	N/A	<1	1	**No**
$PM_{2.5}$	0.0061	24-hour	0.0061	N/A	<1	10.4	**No**
		Annual	0.0025	N/A	<1	1	**No**

Source: Compiled by LSA Associates, Inc. (2020).
Note: AERMOD dispersion output sheets and EPA AP-42 emission factors are provided in Appendix B of this SEIR
µg/m³ = micrograms per cubic meter
AAQS = ambient air quality standards
AERMOD = American Meteorological Society/Environmental Protection Agency Regulatory Model
AP-42 = Compilation of Air Pollutant Emission Factors
CAAQS = California Ambient Air Quality Standards
CO = carbon monoxide
EPA = United States Environmental Protection Agency
NO_2 = nitrogen dioxide
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PMI = Point Maximum Impacts
SO_2 = sulfur dioxide

Impact Conclusions. Long-term landfill operational emissions of the proposed Project would exceed the SCAQMD threshold for NO_X in 2023; however, because the Basin is a designated attainment area for NO_2 (and NO_2 is a constituent of NO_X) and the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards,[1] it is anticipated that the proposed Project would not exceed the NAAQS and CAAQS for NO_2 (refer to Table 4.2.M). Therefore, the proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard. Further, as compared to the findings of Final EIR No. 575 and Final Supplemental EIR No. 597, the proposed Project would not result in any new or more severe significant impacts related to a cumulatively considerable net increase of any criteria pollutants.

All mitigation measures from Final EIR No. 575 remain as project commitments that apply to the proposed Project. The mitigation measures from Final EIR No. 575 are reiterated in Section 4.2.10.2, Previously Adopted Mitigation. Additional mitigation measures, if any, are indicated under Section 4.2.10.3, Additional Mitigation.

Threshold 4.2.3: Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact with Mitigation Incorporated. The following discusses the potential for the proposed Project to result in impacts relating to localized significance thresholds (LSTs), CO hot spots, TACs (health risk), and health effects associated with criteria air pollutants.

Sensitive receptors are those individuals more susceptible to the effects of air pollution than the population at large, including residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993). Residential land uses are located to the south, east, and west of the project. The closest off-site sensitive receptors to the project site include residences located approximately 900 ft (274 m) south of the project's limits of operation. People most likely to be affected by air pollution include children, the elderly, and people with cardiovascular and chronic respiratory diseases.

Existing residential developments and a public high school are located near the Zone 4 Project boundary. The nearest residential development is 900 ft (274 m) south of Zone 4, while the second residential development is 975 ft (297 m). San Juan Hills High School is 3,050 ft (930 m) north of the proposed Project boundary.

4.2.7.4 Carbon Monoxide Hot Spots

Mobile source impacts occur on two scales. Regionally, Project-related travel would add to regional trip generation and would increase the vehicle miles traveled (VMT) within the local South Coast Air Basin. Locally, Project-generated traffic would be added to the local roadway system near the project sites. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles cold-started and operating at pollution-inefficient speeds, and operates on roadways already crowded with non-project traffic, there is a potential for the formation of

[1] See Table 4.2.B, which shows that ambient concentrations of NO_2 at the Mission Viejo monitoring station have not exceeded the NAAQS or CAAQS between 2016 and 2018.

microscale CO hot spots in the area immediately around points of congested traffic. The highest CO concentrations would normally occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hot spots in the Basin is steadily decreasing.

At the time that the SCAQMD CEQA Air Quality Handbook (1993) was published, the Basin was designated non-attainment under the CAAQS and NAAQS for CO. In 2007, the SCAQMD was designated in attainment for CO under both the CAAQS and NAAQS as a result of the steady decline in CO concentrations in the Basin due to turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities.

As described in the *Traffic Impact Analysis* (LSA 2020), the evaluation of the study area's seven intersections and roadway segments LOS with the addition of the proposed project traffic to the existing and short-term interim-year conditions would not create any significant adverse impacts according to the City of San Juan Capistrano's performance criteria (all project traffic would travel on Ortega Highway, or SR-74, within the City and unincorporated Orange County). Accordingly, CO concentrations at all seven congested intersections would not exceed the 1-hour or 8-hour CO CAAQS unless projected daily traffic would be at least more than 100,000 vehicles per day. Because the proposed Project would not increase daily traffic volumes at any study intersection to more than 100,000 vehicles per day, a CO hot spot is not anticipated to occur and associated impacts would be less than significant. As such, the proposed Project would not result in any new or more severe significant impacts related to CO hot spots.

4.2.7.5 Toxic Air Contaminants (Health Risk Assessment)

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

"Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over 9-, 30-, and 70-year exposure periods would contract cancer based on the use of standard OEHHA risk-assessment methodology (OEHHA 2015). In addition, some TACs have non-carcinogenic effects. TACs that could potentially be emitted during construction activities would be DPM emitted from heavy-duty construction equipment and heavy-duty trucks. Heavy-duty construction equipment and diesel trucks are subject to CARB Airborne Toxic Control Measures to reduce DPM emissions. According to the OEHHA, HRAs should be based on a 30-year exposure duration based on the typical residency period; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2015). After construction of the proposed Project is completed, there would be no long-term source of TAC emissions during operation.

However, as a precautionary measure, an HRA for the proposed Project was performed to evaluate the risk from DPM on existing sensitive receptors from construction and operation activities in Zone 1 and Zone 4. Analyzing impacts to receptors close to sources of TACs is important in determining cancer and non-cancer health risk impacts. Because the CARB and SCAQMD emissions and modeling analyses showed an 80 percent drop-off in health impacts to off-site receptors (CARB 2005), including nearby residential and sensitive receptor populations, the geographic scope of this assessment was extended to a 0.25 mi radius or 1,320 ft from the modeled Landfill site. Based on the Google Earth database search, 40 residential homes were identified within a 0.25 mi radius from the proposed Project site. Sensitive receptor locations are illustrated on **Figure 4.2.3**. Receptor heights were assumed to be at 6 ft (1.8 m) based on SCAQMD guidance (SCAQMD 2020a).

As previously described, the activities associated with the proposed Project are anticipated to require intensive construction and operational activities that would take place over an extended period of time. Based on the anticipated duration of ongoing construction and operation, the intensity of heavy-duty trucks and equipment operations, and the location of nearby sensitive receptors, the proposed Project would represent the maximum emission concentration for the HRA. The HRA methodology was described in Section 4.2.6, and the modeling assessment is provided in Appendix B of this SEIR. Table 4.2.N summarizes the HRA results associated with proposed Project operation.

Table 4.2.N: Maximum Long-Term Health Risk Impact from Project Operation

Risk	Maximum Cancer Risk (risk per million)	Maximum and 8-hour Chronic Risk (Hazard Index[1])	Maximum Acute Risk (Hazard Index[1])
Maximally Exposed Individual 30-year Resident	0.06	2.59×10^{-1}	1.41×10^{-8}
SCAQMD Threshold	10.0	1.0	1.0
Significant?	*No*	*No*	*No*

Source: Compiled by LSA Associates, Inc. (2020).
[1] The Hazard Index is the unitless ratio of the estimated long-term level of exposure to a toxic air contaminant for a potential maximum exposed individual to its reference exposure level.
SCAQMD = South Coast Air Quality Management District

As shown in Table 4.2.N, based on the equipment assumptions shown in Table 4.2.H, the proposed Project would result in an incremental increase in cancer risk of 0.06 in 1 million. The chronic Hazard Index would be 0.26 at the maximally exposed individual resident, which would be below the SCAQMD threshold of 1.0. Therefore, proposed Project health risk impacts associated with operation of the proposed Project would be less than significant, and would not result in a significant health risk impact. Therefore, the proposed Project would not result in any new or more severe significant impacts related to TACs.

4.2.7.6 Criteria Pollutants

As discussed above, long-term Landfill operational emissions associated with the proposed Project would exceed the SCAQMD threshold for NO_X in 2023; all other criteria air pollutants, including VOC, CO, SO_X, PM_{10}, and $PM_{2.5}$ long-term landfill operational emissions would not exceed SCAQMD thresholds. As discussed above, health effects associated with O_3 include respiratory symptoms,

worsening of lung disease leading to premature death, and damage to lung tissue (CARB 2019b). VOCs and NO_X are precursors to O_3, for which the Basin is designated as nonattainment with respect to the NAAQS and CAAQS.

The contribution of VOCs and NO_X to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the Basin due to O_3 precursor emissions tend to be found downwind of the source location because of the time required for the photochemical reactions to occur. Further, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur; exceedances of the O_3 NAAQS and CAAQS tend to occur between April and October, when solar radiation is highest. Due to the lack of quantitative methods to assess this complex photochemistry, the holistic effect of a single project's emissions of O_3 precursors is speculative.

That being said, because the proposed Project would exceed the SCAQMD NO_X threshold during project long-term operations, the proposed Project could contribute to health effects associated with O_3. Health effects associated with NO_X and NO_2 include lung irritation and enhanced allergic responses (see Section 4.2.3.2) (CARB 2019b). Although Project-related NO_X emissions would exceed the SCAQMD construction mass daily thresholds in 2023, because the Basin is a designated attainment area for NO_2 (and NO_2 is a constituent of NO_X) and the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards,[1] it is anticipated that the proposed Project would not exceed the NAAQS and CAAQS for NO_2 as shown in Table 4.2.M. As such, the proposed Project would not contribute to health effects associated with NO_X and NO_2.

Health effects associated with CO include chest pain in patients with heart disease, headache, lightheadedness, and reduced mental alertness (CARB 2019b). CO tends to be a localized impact associated with congested intersections. The potential for CO hot spots was previously discussed and determined to be less than significant. Thus, the proposed Project's CO emissions would not contribute to significant health effects associated with CO.

Health effects associated with PM_{10} include premature death and hospitalization, primarily for worsening of respiratory disease (CARB 2019b). Construction of the proposed Project would not exceed mass daily thresholds for PM_{10} or $PM_{2.5}$, would not contribute to exceedances of the NAAQS and CAAQS for particulate matter, and would not obstruct the Basin from coming into attainment for these pollutants. Additionally, the proposed Project would be required to comply with SCAQMD Rule 403, which limits the amount of fugitive dust generated during construction and operation. Because the proposed Project would not exceed the SCAQMD mass daily construction and operation thresholds for PM_{10} and $PM_{2.5}$, the proposed Project is not anticipated to result in health effects associated with PM_{10} and $PM_{2.5}$.

SCAQMD rules and regulations require that an application for an air quality permit (i.e., new or modified permit) demonstrate that the proposed new or modified major stationary source would not cause any new or additional violations of a federal or state AAQS. Therefore, dispersion modeling was used to estimate off-site ambient concentrations of criteria pollutants and toxic air

[1] See Table 4.2.B, which shows that ambient concentrations of NO_2 at the Mission Viejo monitoring station have not exceeded the NAAQS or CAAQS between 2016 and 2018.

pollutants, in order to determine if the proposed Project-level emissions would adversely impact the local air quality or significantly impact the health of nearby sensitive receptors.

As identified above and as demonstrated in Table 4.2.M, the total proposed Project with existing emissions would be significantly lower than previously assumed for the Approved Project and would not exceed the AAQS during operation. The analysis concludes that the proposed Project's air quality emissions would be less than significant. As such, the proposed Project would not result in any new or more severe significant impacts related to the exposure of sensitive receptors to substantial pollutant concentrations for criteria air pollutants.

Further, due to the small scale of the proposed Project when considered on a Basin-wide context, the level of emissions is not sufficiently high to use a regional modeling program to correlate health effects on a basin-wide level. On a regional scale, the quantity of emissions from the proposed Project is incrementally minor. Because the SCAQMD has not identified an accurate method to quantify health impacts from this type of project, it would be speculative to assign any specific health effects to the proposed Project's regional emissions.

Therefore, it is concluded that Project-generated construction and operational emissions would be less than the SCAQMD daily thresholds for all pollutants and health effects associated with Project-generated criteria air pollutant emissions would be less than significant. Therefore, the proposed Project would not result in any new or more severe significant impacts related to health effects.

Impact Conclusions. Long-term landfill operational emissions of the proposed Project would exceed the SCAQMD threshold for NO_X in 2023; however, because the Basin is a designated attainment area for NO_2 (and NO_2 is a constituent of NO_X) and the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards with the proposed Project, as demonstrated in Table 4.2.M,[1] it is anticipated that the proposed Project would not exceed the NAAQS and CAAQS for NO_2. As such, the proposed Project would not contribute to health effects associated with NO_X and NO_2. For all other criteria air pollutants, including VOC, CO, SO_X, PM_{10}, and $PM_{2.5}$ the proposed Project would not exceed SCAQMD thresholds and the proposed Project is not anticipated to result in health effects associated with these criteria pollutants. In addition, as shown in Table 4.2.M, the total proposed Project emissions would be significantly lower than previously assumed for the Approved Project. As shown in Table 4.2.N, the proposed Project would not result in a significant increased cancer risk to nearby residents and would not expose sensitive receptors to substantial pollutant concentrations. Therefore, as compared to the findings of Final EIR No. 575 and Final Supplemental EIR No. 597, the proposed Project would not result in any new or more severe significant impacts related to the exposure of sensitive receptors to substantial pollutant concentrations.

All mitigation measures from Final EIR No. 575 remain as project commitments that apply to the proposed Project. The mitigation measures from Final EIR No. 575 are reiterated in Section 4.2.10.2, Previously Adopted Mitigation. Additional mitigation measures, if any, are indicated under Section 4.2.10.3, Additional Mitigation.

[1] See Table 4.2.B, which shows that ambient concentrations of NO_2 at the Mission Viejo monitoring station have not exceeded the NAAQS or CAAQS between 2016 and 2018.

Threshold 4.2.4: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact. Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (SCAQMD 1993). The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying, cause distress among the public, and generate citizen complaints.

Vehicles and equipment exhaust emissions would potentially generate odors during construction and operation of the proposed Project. Potential odors produced during construction and operation would be attributable to concentrations of unburned hydrocarbons from tailpipes of diesel-powered, heavy-duty trucks and equipment and asphalt pavement application. Such odors would disperse rapidly from the proposed Project site and would generally occur at magnitudes that would not affect substantial numbers of people for the reasons listed below:

- SCAQMD Rules 402, 403, and 431.2, as well as Title 13 CCR Section 2449(d)(d) require OCWR to include implementation of standard control measures to limit fugitive dust and diesel equipment emissions.
    - SCAQMD Rule 402 regarding nuisances states: "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property."
    - Pursuant to SCAQMD Rule 403, fugitive dust must be controlled so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source.
    - Title 13 CCR Section 2449(d)(D) requires operators of off-road vehicles (i.e., self-propelled diesel-fueled vehicles 25 hp and up that were not designed to be driven on road) to limit vehicle idling to 5 minutes or less; register and label vehicles in accordance with the CARB Diesel Off-Road Online Reporting System; restrict the inclusion of older vehicles into fleets; and retire, replace, or repower older engines or install Verified Diesel Emission Control Strategies (i.e., exhaust retrofits).
- OCWR has an adopted Odor Impact Minimization Plan (OIMP) for landfill operations. Per the OIMP, each operating day, designated site personnel assess and evaluate the perimeter of the Landfill operation area and Landfill boundary for nuisance odors. BMPs are implemented to minimize the release of nuisance odors.

Finally, the proposed Project would allow for concurrent operations in both Zones 1 and 4 to allow landfilling activities to shift between the two zones based on seasonal environmental conditions to minimize any potential exhaust emissions, fugitive dust, and odor impacts that may occur to existing and future residential developments near the Landfill. The proposed Project, by design, is intended to reduce odors associated with operation of the landfill. Therefore, for the reasons listed above, the proposed Project would not result in odors adversely affecting a substantial number of people and the proposed Project would not result in any new or more severe significant impacts related to odors.

Impact Conclusions. The proposed Project would not result in odors adversely affecting a substantial number of people and no mitigation is required. As compared to the findings of Final EIR No. 575 and Final SEIR No. 597, the proposed Project would not result in any new or more severe significant impacts related to odors.

All mitigation measures from Final EIR No. 575 remain as project commitments that apply to the proposed Project. The mitigation measures from Final EIR No. 575 are reiterated in Section 4.2.10.2, Previously Adopted Mitigation. Additional mitigation measures, if any, are indicated under Section 4.2.10.3, Additional Mitigation.

4.2.8 Cumulative Impacts

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for air quality. The cumulative impact area for air quality related to the proposed Project is the Basin.

As discussed above, air pollution is inherently a cumulative impact measured across an air basin. The discussion under Threshold 4.2.2, above, includes an analysis of the proposed Project's contribution to cumulative air impacts. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. The SCAQMD developed thresholds of significance based on the level above which a project's individual emissions would result in a cumulatively considerable contribution to the Basin's existing air quality conditions. If the proposed Project mass emission rates exceeds the SCAQMD CEQA thresholds for any criteria pollutants, then a dispersion modeling analysis can be used to determine if the proposed Project emission concentrations would exceed the ambient air quality standards.

To summarize the conclusion with respect to that analysis, the incremental effect of projects that do not exceed the project-specific thresholds are generally not considered cumulatively considerable per SCAQMD guidelines. The proposed Project's long-term, operation-related regional daily VOC, CO, SO_X, PM_{10}, and $PM_{2.5}$ emissions are less than the SCAQMD significance thresholds for all criteria pollutants. Although Project-related NO_X emissions would exceed the SCAQMD operation mass daily thresholds, because the Basin is a designated attainment area for NO_2 (and NO_2 is a constituent of NO_X) and the proposed Project modeled NO_2 concentrations in the project area are below the NAAQS and CAAQS standards, the proposed Project would result in a less than significant impact related to NO_X emissions. Further, the total proposed Project emissions, when combined with

existing emissions would be significantly lower than previously assumed for the Approved Project. Therefore, the proposed Project would not result in new or significantly worsening cumulative air quality impacts.

As shown in Table 4.2.M, the proposed Project's modeled NO_2 emission concentration would not significantly contribute to cumulative impacts. In addition, all mitigation measures from Final EIR No. 575 remain as project commitments that apply to the proposed Project. The mitigation measures from Final EIR No. 575 are reiterated in Section 4.2.10.2, Previously Adopted Mitigation. Therefore, the proposed Project would not have a cumulatively considerable increase in emissions, and the proposed Project's cumulative air quality impacts would be less than significant. As compared to the findings of Final EIR No. 575 and Final Supplemental EIR No. 597, the proposed Project would not result in any new or more severe significant air quality impacts.

4.2.9 Level of Significance Prior to Mitigation

As presented above, construction and operation of the proposed Project would not result in any new significant impacts as compared to the applicable air quality standards and would not result in any new impacts as compared to Final EIR No. 575 and Final Supplemental EIR No. 597 and their addenda. While all mitigation measures from Final EIR No. 575 remain as project commitments that apply to the proposed Project, no additional mitigation measures are required.

4.2.10 Regulatory Compliance Measures and Mitigation Measures

4.2.10.1 Regulatory Compliance Measures

The proposed Project would be required to comply with the following SCAQMD Regulatory Compliance Measures. The County considers these mandatory; therefore, they are not considered mitigation.

Regulatory Compliance Measure AQ-1	**South Coast Air Quality Management District (SCAQMD) Rule 402, Nuisance.** Prohibits the discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.
Regulatory Compliance Measure AQ-2	**SCAQMD Rule 403, Fugitive Dust.** The Project Applicant shall ensure the construction contractor implements fugitive dust control measures in compliance with SCAQMD Rule 403. The Project Applicant shall include the following fugitive dust control measures for

SCAQMD Rule 403 compliance in the project plans and specifications:

- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 miles per hour (mph) per SCAQMD guidelines in order to limit fugitive dust emissions.
- The construction contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project site are watered, with complete coverage of disturbed areas, at least three (3) times daily during dry weather and preferably mid-morning, afternoon, and after work is done for the day.
- The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are reduced to 15 mph or less.

Regulatory Compliance Measure AQ-3

SCAQMD Rule 1150. The SCAQMD has adopted source-specific regulations to reduce and control fugitive emissions from landfills during excavation activities. SCAQMD Rule 1150, *Excavation of Landfill Sites*, states that excavation of an active or inactive landfill requires an Excavation Management Plan (Plan) approved by the SCAQMD Executive Officer. At a minimum, the Plan must describe the quantity and characteristics of the material to be excavated and transported, and identify mitigation measures to ensure that a public nuisance condition does not occur. Mitigation measures may include gas collection and disposal, baling, encapsulation, covering of the material, chemical neutralizing, or other actions approved by the Executive Officer (SCAQMD 1982).

Regulatory Compliance Measure AQ-4

SCAQMD Rule 1150.1. The SCAQMD has also adopted source-specific regulations to limit gaseous emissions from municipal solid waste (MSW) landfills to prevent public nuisance and public health impacts. SCAQMD Rule 1150.1, *Control of Gaseous Emissions from MSW Landfills*, requires active landfills to have a collection and control system designed to handle the maximum expected gas flow rate and minimize migration of subsurface gas. The regulation was updated in 2011 to

incorporate the California Air Resources Board (CARB) regulation that controls methane emissions from MSW landfills. Rule 1150.1 requires all collected gas to be routed to a treatment system that processes the collected gas for subsequent sale or use. The system must either reduce non-methane organic compounds (NMOC) by at least 98 percent by weight, or reduce the outlet NMOC concentration to less than 20 parts per million by volume (ppmv), dry basis as hexane at 3 percent oxygen. In addition, the treatment system must achieve a methane emissions destruction efficiency of at least 99 percent, except for lean burn internal combustion engines, which must reduce outlet methane concentration to less than 3,000 ppm, dry basis, corrected to 15 percent oxygen. The system must also prevent the concentration of total organic carbon (TOC), measured as methane (CH_4), from exceeding 5 percent by volume in subsurface refuse boundary sampling probes, 25 ppmv in samples taken on numbered 50,000-square-foot landfill grids, or 500 ppmv above background as determined by instantaneous monitoring at any location on the landfill (except at the outlet of any control device) (SCAQMD 2011).

4.2.10.2 Previously Adopted Mitigation

The following mitigation measures are currently in place for impacts associated with the landfill component of the 2001 GDP, as identified in Final EIR No. 575 (numerical designations are from Final EIR No. 575) and Final Supplemental EIR No. 597. All mitigation commitments contained within Final EIR No. 575, Final Supplemental EIR No. 597, and the 2001 GDP will apply to the proposed Project.

Note: The numbering in this section corresponds with the numbering in Final EIR No. 575. Also, IWMD is now OCWR.

Previously Adopted Mitigation Measures, Final EIR No. 575

MM 4.9-1: Landfill fee station personnel and/or landfill refuse inspectors shall reject extremely odorous loads for disposal in the landfill.

MM 4.9-2: The active face of the landfill shall be covered daily. If the active face is in close proximity and upwind of on-site recreation uses, masking or neutralization agents may be added to exposed refuse to reduce the odor nuisance effects on the adjacent recreation uses.

MM 4.9-3: The Integrated Waste Management District shall design, construct and operate new landfill areas in Zones 1 and 4 with landfill gas (LFG) systems to maximize the collection of LFG. The LFG systems will include continuous monitoring of the LFG collection system to maximize efficient collection of LFG generated in these areas.

MM 4.9-4: During landfill operations, the Integrated Waste Management Department (IWMD) shall continue regular visual inspections of the landfill cover and monitoring of LFG emissions throughout the entire refuse fill areas. The purpose of these inspections is to locate cracks or other defects or flaws in the landfill cover, which may allow LFG to escape. When such areas are identified, the IWMD will implement the appropriate corrective action as soon as feasible. These corrective actions may include application and compaction of additional cover material, adjustment of the existing LFG control system and/or installation of new LFG control facilities.

MM 4.9-5: During landfill operations, the IWMD shall conduct periodic odor surveys on the landfill site and at various points in the area surrounding the site. The IWMD shall conduct odor surveys if any odors from the landfill are detected off site and reported by nearby residents. When the source of these odors is identified, the IWMD will implement the appropriate corrective action as soon as feasible. These corrective actions may include application and compaction of additional cover material, use of masking or neutralizing agents, adjustment of the existing LFG control system and/or installation of new LFG control facilities.

MM 4.9-6: During landfill operations, the IWMD shall ensure that landfill operations areas that are to be left exposed temporarily, including top deck and excavation slopes, are sprayed periodically with water, as needed.

MM 4.9-7: On landfilled areas that are no longer in use, the IWMD will, as appropriate, incorporate dust control systems or vegetative covers, consistent with the Final Closure Plans and with IWMD's approved Rule 403 Compliance Plan for landfilling Zones 1 and 4.

MM 4.9-8: During landfill operations, the landfill fee station personnel and/or landfill refuse inspectors shall refrain from accepting dusty loads of refuse for disposal in either landfilling Zone 1 or 4. Alternatively, at the discretion of landfill personnel, dusty loads of refuse may be accepted for disposal, if they are sprayed with water prior to leaving the fee station and accessing the active face of the landfill.

MM 4.9-9a: During landfill operations, the IWMD shall maintain water trucks on site to spray water on on-site unpaved roads as needed to minimize the generation of dust as vehicles travel on these roads, as per IWMD's approved Rule 403 Compliance Plan.

MM 4.9-9b: During landfill operations, the IWMD shall, to the extent feasible while still maintaining appropriate landfill operations, restrict vehicular travel on unpaved roads on the site. In the event that unpaved roads must be used, the IWMD shall spray water on these roads as needed.

MM 4.9-9c: As unpaved on-site roads are removed from active service, the IWMD will spray these areas with a hydromulch solution or synthetic binder.

MM 4.9-10: During landfill operations, the IWMD will use the on-site water trucks to spray water on graded areas or areas where the vegetation has been removed or severely disturbed as a result of landfilling activities, as per IWMD's approved Rule 403 Compliance Plan.

Adopted Mitigation Measures, Final SEIR No. 597

Note: The numbering in this section corresponds with the numbering in Final Supplemental EIR No. 597. Tables 5.4-3 through 5.4-7, which are cited in the text in the mitigation measures, are from Final Supplemental EIR No. 597. Tables 5.4-3 through 5.4-5 reference the analysis in Supplemental EIR No. 597 and are not repeated here. However, Tables 5.4-6 and 5.4-7 include the standards referenced for the mitigation measures and are included below. For clarity, these tables are included on the pages following Section 4.2.11.

MM 5.4-1 IWMD and its contractors shall be required to comply with regional rules to reduce air pollutant emissions. SCAQMD Rule 401 sets limits on the opacity of visible plumes of dust resulting from activities at the Landfill. SCAQMD Rule 402 requires that air pollutant emissions generated at the Landfill not be a nuisance off site. SCAQMD Rule 403 requires that fugitive dust be controlled with the best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Two options are presented in Rule 403: monitoring of particulate concentrations, or active control. Monitoring involves a sampling network around the project with no additional control measures unless specified concentrations are exceeded. The active control option does not require any monitoring, but requires that a list of measures be implemented on a daily basis.

SCAQMD Rule 403 requires that "best available control measures" be utilized whenever a dust-generating activity occurs in the Basin. These measures are listed in Table 1 of Rule 403 and called out in Table 5.4-6 below. It is important to note that all applicable measures from Table 5.4-6 should be implemented to achieve the required PM_{10} emissions reductions.

Rule 403 requires that "Large Projects" implement additional measures. A Large Project is defined as any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic meters (5,000 cy) or more than three times during the most recent 365-day period. The Prima Deshecha Landfill would be considered a Large Project under Rule 403. Therefore, the Landfill is required to implement the applicable actions specified in Table 2 of the Rule. Table 2 from Rule 403 is presented below as Table 5.4-7.

As a large operation, the landfill will also be required to:

- Submit a fully executed Large Operation Notification (SCAQMD Form 403N) to the SCAQMD Executive Officer within 7 days of qualifying as a Large Operation;
- Include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;
- Maintain daily records to document the specific dust-control actions taken, maintain such records for a period of not less than 3 years, and make such records available to the Executive Officer upon request;
- Install and maintain project signage with project contact signage that meets the minimum standards of the *Rule 403 Implementation Handbook*, prior to initiating any earthmoving activities; and
- Identify a dust control supervisor that is employed by or contracted with the property owner or developer, is on the site or available on-site within 30 minutes during working hours, has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements, and has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and
- Notify the SCAQMD Executive Officer in writing within 30 days after the site no longer qualifies as a large operation.

MM 5.4-2 To reduce equipment emissions, the following measures shall be implemented when feasible:

- Use low emission mobile construction equipment. "CARB Certified" heavy construction equipment conforms to the latest off-road CARB emission standards and is the lowest polluting equipment available. The use of this equipment would reduce heavy equipment NO_X emissions by approximately 30 percent and heavy equipment PM_{10} emissions by approximately 50 percent from the emissions levels shown in Tables 5.4-3 through 5.4-5. This is a substantial reduction but will not reduce emissions to less than the significance thresholds.
- Maintain construction equipment engines by keeping them tuned.
- Use low-sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2.
- Utilize existing power sources (i.e., power poles) when feasible. This measure would minimize the use of higher polluting gas or diesel generators.

- Use aqueous diesel fuel where feasible and reasonably commercially available.
- Use cooled exhaust gas recirculation (EGR) where feasible and reasonably commercially available.

Several of the mitigation measures listed above are advanced emission control technologies that are currently not commercially available. For example, aqueous diesel fuel reduces NO_X formation by reducing combustion temperatures, resulting in lower NO_X emissions. According to SCAQMD, the current availability of this fuel technology is limited, and it may not be available for use at the Landfill. In addition, with EGR diesel engines, a small amount of hot exhaust gas is routed through a cooler and is mixed with fresh air entering the engine. The exhaust gas helps reduce the temperature during combustion, which lowers the formation of thermal NO_X. EGR technology is in the development phase and has not been fully commercialized. To the extent that the advanced emissions-control technologies become reasonably commercially available, or are required by the CARB from grading contractors, then such advanced emissions-control technologies will be used.

Furthermore, a requirement to install diesel particulate filters on construction equipment used at the Landfill was considered to further reduce emissions. However, the availability of construction equipment retrofitted with diesel particulate filters is limited. This is a result of operational problems in diesel engines equipped with these filters. Therefore, this potential mitigation measure for construction is considered infeasible.

4.2.10.3 Additional Mitigation

Based on the analysis presented above, no additional mitigation is necessary.

4.2.11 Level of Significance after Mitigation

Construction and operation of the proposed Project would not result in any significant or unavoidable impacts as compared to the applicable air quality standards and would not result in any new significant impacts as compared to Final EIR No. 575 and Final SEIR No. 597.

Table 5.4-6: Required Best Available Control Measures (SCAQMD Rule 403, Table 1)

Control Measure	Guidance
Backfilling	
01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling;and 01-3 Stabilize soil at completion of activity.	● Mix backfill soil with water prior to moving ● Dedicate water truck or high capacity hose to backfilling equipment ● Empty loader bucket slowly so that no dust plumes are generated ● Minimize drop height from loader bucket
Clearing and Grubbing	
02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	● Maintain live perennial vegetation where possible ● Apply water in sufficient quantity to prevent generation of dust plumes
Clearing Forms	
03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	● Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	
04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	● Follow permit conditions for crushing equipment ● Pre-water material prior to loading into crusher ● Monitor crusher emissions opacity ● Apply water to crushed material to prevent dust plumes
Cut and Fill	
05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	● For large sites, pre-water with sprinklers or water trucks and allow time for penetration ● Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – Mechanical/Manual	
06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	● Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed Soil	
07-1 Stabilize disturbed soil throughout the construction site; and 07-02 Stabilize disturbed soil between structures	● Limit vehicular traffic and disturbances on soils where possible ● If interior block walls are planned, install as early as possible ● Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust ● plumes
Earth-Moving Activities	
08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	● Grade each project phase separately, timed to coincide with construction phase ● Upwind fencing can prevent material movement on site ● Apply water or a stabilizing agent in sufficient ● quantities to prevent the generation of visible dust plumes
Importing/Exporting of Bulk Materials	
09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive	● Use tarps or other suitable enclosures on haul trucks ● Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage ● Comply with track-out prevention/mitigation requirements ● Provide water while loading and unloading to reduce visible dust plumes

Table 5.4-6: Required Best Available Control Measures (SCAQMD Rule 403, Table 1)

Control Measure	Guidance
dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	
Landscaping	
10-1 Stabilize soils, materials, slopes	● Apply water to materials to stabilize Maintain materials in a crusted condition ● Maintain effective cover over materials ● Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes ● Hydroseed prior to rain season
Road Shoulder Maintenance	
11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	● Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs ● Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder ● maintenance costs
Screening	
12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	● Dedicate water truck or high capacity hose to screening operation ● Drop material through the screen slowly and minimize drop height ● Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop ● point
Staging Areas	
13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	● Limit size of staging area ● Limit vehicle speeds to 15 miles per hour ● Limit number and size of staging area entrances/exists
Stockpiles/Bulk Material Handling	
14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	● Add or remove material from the downwind portion of the storage pile ● Maintain storage piles to avoid steep sides or faces
Traffic Areas for Construction Activities	
15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	● Apply gravel/paving to all haul routes as soon as possible to all future roadway areas ● Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	
16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16.2 Stabilize soils at the completion of trenching activities.	● Pre-watering of soils prior to trenching is an effective preventive measure. ● For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching ● Washing mud and soils from equipment at the ● conclusion of trenching activities can prevent crusting and drying of soil on equipment

Table 5.4-6: Required Best Available Control Measures (SCAQMD Rule 403, Table 1)

Control Measure	Guidance
Truck Loading	
17-1 Pre-water material prior to loading; and 17.2 Ensure that freeboard exceeds six inches (CVC 23114)	● Empty loader bucket such that no visible dust plumes are created ● Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	
18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	● Haul waste material immediately off site
Unpaved Roads/Parking Lots	
19-1 Stabilize soils to meet the applicable performance standards; and 19-2 Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	● Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
Vacant Land	
20-1 In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Table 5.4-7: Fugitive Dust Control Actions (SCAQMD Rule 403, Table 1)

Fugitive Dust Source Category Control Actions	
Earth-Moving (Except Construction Cutting and Filling Areas, and Mining Operations)	
(1a)	Maintain soil moisture content at a minimum of 12 percent, as determined by the ASTM [American Society for Testing and Materials] method D2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; **OR**
(1a-1)	For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
Earth-Moving: Construction Fill Areas	
(1b)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.
Earth-Moving: Construction Cut Areas and Mining Operations	
(1c)	Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed Surface Areas (Except Completed Grading Areas)	
(2a/b)	Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed Surface Areas: Completed Grading Areas	
(2c)	Apply chemical stabilizers within five working days of grading completion; **OR**
(2d)	Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive Disturbed Surface Areas	
(3a)	Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; **OR**
(3b)	Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; **OR**
(3c)	Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; **OR**
(3d)	Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.
Unpaved Roads	
(4a)	Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; **OR**
(4b)	Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; **OR**
(4c)	Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open Storage Piles	
(5a)	Apply chemical stabilizers; **OR**
(5b)	Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; **OR**
(5c)	Install temporary coverings; **OR**
(5d)	Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	
(6a)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

4.3 NOISE

This section discusses the existing noise environment, summarizes existing noise and vibration regulations, and evaluates potential noise and vibration impacts associated with the proposed amendment to the Prima Deshecha Landfill (Landfill) General Development Plan (GDP) to include the Zone 4 Construction Projects (Project). This section also presents the Project's impact assessment methodology, potential impacts, and mitigation measures. The proposed Project's impacts are compared to the impacts identified in Final Environmental Impact Report (EIR) No. 575 and Final Supplemental EIR No. 597. The noise measurement sheets are included as Appendix C of this Supplemental Environmental Impact Report (SEIR).

For the purposes of this analysis, the term "Final EIR No. 575" is assumed to refer to the whole of the previous environmental analysis unless otherwise stated.

4.3.1 Scoping Process

The County of Orange (County) received eight comment letters during the public review period of the Initial Study/Notice of Preparation (IS/NOP). For copies of the IS/NOP comment letters, refer to Appendix A of this SEIR. During the scoping process for the proposed Project, Laura Coley Eisenberg, Senior Vice President of Open Space and Resource Management with Rancho Mission Viejo (August 13, 2020) submitted a comment regarding the proposed blasting. Specifically, it was requested that the frequency, duration, and decibel level of blasting operations be described in this SEIR. No other comments related to noise were received.

4.3.2 Summary of Previous Environmental Documents

A summary of the noise analysis in Final EIR No. 575 and Final Supplemental EIR No. 597, and the applicable addenda to those documents related to noise and vibration are provided below.

4.3.2.1 Final EIR No. 575

The noise effects of the 2001 Prima Deshecha Landfill GDP Project were identified and analyzed in Section 4.10, Noise, of Final EIR No. 575. The Addenda to Final EIR No. 575 did not change any of the conclusions of the Final EIR No. 575.

The noise analysis within Final EIR No. 575 assessed noise impacts related to potentially expanded daily operations at the Landfill and the future incorporation of a golf course on Zone 1 as well as traffic impacts associated with the completion of Avenida La Pata Avenue southward through the site to Avenida Pico.

The analysis of operations within Zone 1 determined that noise impacts associated with the 2001 GDP to the nearest receptor with a line of sight to the landfill (i.e., single-family homes at Forster

Ranch)[1] would not substantially increase and that noise levels would likely decrease over time as operations moved farther away. Potential noise impacts associated with Zone 4 were screened out due to there being no line of sight to surrounding receptors.

As it relates to traffic noise, the increase in noise would be less than 1 A-weighted decibel (dBA) and was determined to be less than significant. Furthermore, the anticipated recreational uses were qualitatively discussed and, due to the passive nature of uses such as a golf course and park, it was determined that these uses would not generate noise impacts to surrounding receptors.

Finally, a qualitative discussion of construction noise impacts indicated that construction noise impacts would be no louder than existing Landfill operations due to the use of similar heavy equipment. While no specific impacts were found related to noise in Final EIR No. 575, mitigation was provided. Mitigation measures from Final EIR No. 575 are provided in Section 4.3.11.2 of this SEIR. All the mitigation measures from Final EIR No. 575 remain as project commitments that apply to the proposed Project.

4.3.2.2 Final Supplemental EIR No. 597

Final Supplemental EIR No. 597 determined that while there would be an incremental change to construction activities at the Prima Deshecha Landfill as a result of proposed landslide stabilization measures, it was not expected to be greater than the noise levels associated with landslide stabilization construction previously analyzed in Final EIR No. 575 and was not expected to contribute significantly to noise levels because of ongoing disposal operations at the Landfill. Further, much of this landslide remediation activity was to take place in and around Zone 4, which is farther from sensitive receptor sites than current operations within Zone 1. The Pre-Mitigation and Regional Environmental Enhancement Plans support the open space quality of the area and would reduce noise emissions from post-closure activities. Due to these determinations, no further analysis was warranted and no additional mitigation was required.

4.3.2.3 Addendum No. 1 to Final Supplemental EIR No. 597

During the course of geotechnical investigations and report preparation for Zone 4 occurring in 2008–2009, the extent of hard rock (San Onofre Breccia Formation) within the Zone 4 development was evaluated. It was determined that the hard rock would require controlled blasting to allow excavation pursuant to the approved development plan. The blasted rock, once excavated, would be crushed to create an aggregate byproduct material that may be used in road base or for other on-site construction materials. The purpose of Addendum No. 1 to Final Supplemental EIR No. 597 was to evaluate these blasting and crushing/processing operations at the Landfill site and the potential impacts of these operations.

[1] Although Talega was/is geographically closer to Zone 4, Final EIR No. 575 determined that Forster Ranch was the closest sensitive receptor with a line of sight to Landfill operations and, as such, was the only sensitive receptor analyzed. In the analysis in Section 4.3.8 of this SEIR, all sensitive receptors within 7,340 feet of the Project site are analyzed, regardless of line of sight. Refer to Table 4.3.A in Section 4.3.4 (Existing Environmental Setting) of this SEIR for a list of sensitive receptors analyzed in this SEIR.

In preparing the environmental checklist for Addendum No. 1 to Final Supplemental EIR No. 597, it was determined that the Breccia project would potentially result in noise and vibration effects from blasting and rock crushing/processing that were not analyzed in Final Supplemental EIR No. 597. Therefore, a noise and vibration assessment was prepared for the Breccia project. The noise and vibration assessment prepared for Addendum No. 1 to Final Supplemental EIR No. 597 determined that the Breccia project would not result in any new significant impacts that would require mitigation or any new unavoidably significant adverse impacts.

4.3.2.4 Addendum No. 6 to Final EIR No. 575/Addendum No. 2 to Final Supplemental EIR No. 597

On September 27, 2018, the Director of OC Waste & Recycling (OCWR) approved Addendum No. 6 to Final EIR No. 575/Addendum No. 2 to Final Supplemental EIR No. 597, which addressed the following changes to the GDP:

- Revised the Prima Deshecha Landfill closure dates from 2019 to 2050 for Zone 1 and from 2067 to 2102 for Zone 4.

- Reduced the Zone 1 landfill development footprint by 1.8 ac.

These changes did not result in any increases to the following: (1) volume of accepted solid waste, (2) development footprint, (3) design capacity, (4) slopes of the ultimate fill grading plans, (5) permitted depth of waste, or (6) landfill final elevations for the Zone 1 and Zone 4 landfill development areas as analyzed in Final EIR No. 575 and Final Supplemental EIR No. 597.

Addendum No. 6 to Final EIR No. 575 found that the revised Landfill closures dates would not result in any significant impacts to noise after the incorporation of mitigation measures. According to the Addendum, the average daily tonnage received at the Landfill from 2002-2017 was 1,780 tpd, compared to the 4,000 tpd that was analyzed in Final EIR No. 575. The Addendum concluded that existing Landfill operation and construction and demolition waste recycling operations did not result in any significant noise impacts to sensitive receptors located near the Landfill, and that the continuation of Landfill operations to 2102 would also not result in any noise that would exceed those noise levels analyzed in Final EIR No. 575.

4.3.3 Technical Background

The following provides an overview of the characteristics of sound and the regulatory framework that applies to noise within the vicinity of the Project site. Supporting calculations are included in the appendices of this environmental document.

4.3.3.1 Characteristics of Sound

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel is a unit of measurement that indicates the relative intensity of a sound. Sound levels in decibels are calculated on a logarithmic basis.

An increase of 10 decibels (dB) represents a tenfold increase in acoustic energy, 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness; similarly, each 10 dB decrease in sound level is perceived as half as loud. Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for 24-hour sound measurements, which better represent how humans are more sensitive to sound at night.

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

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. The equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq}, the Community Noise Equivalent Level (CNEL), and the day-night average level (L_{dn}) based on A-weighted decibels.

CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring between 7:00 p.m. and 10:00 p.m. (defined as relaxation hours), and a 10 dBA weighting factor applied to noises occurring between 10:00 p.m. and 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and L_{dn} are within 1 dBA of each other and are normally interchangeable. Typically, local jurisdictions will use the CNEL noise scale for long-term noise impact assessment. When assessing the annoyance factor, other noise rating scales of importance include the maximum instantaneous noise level (L_{max}), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by L_{max}, which reflects peak operating conditions and addresses the annoying aspects of intermittent noise.

Noise impacts can be described in three categories. The first category includes audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 dB or greater because this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1 dB and 3 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category includes changes in noise levels of less than 1 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels (3 dB or greater) are considered potentially significant.

4.3.3.2 Characteristics of Vibration

Vibration refers to ground-borne noise and perceptible motion. Ground-borne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors where the motion may be discernible. However, without the effects associated with the shaking of a building,

there is less adverse reaction. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by occupants as motion of building surfaces, the rattling of items on shelves or hanging on walls, or a low-frequency rumbling noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings radiating sound waves. Building damage is not a factor for normal operation and heavy equipment activities, with the occasional exception of blasting and pile driving during construction.

Typical sources of ground-borne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Impacts with ground-borne vibration and noise from these sources are usually localized to areas within approximately 100 feet (ft) of the vibration source, although there are examples of ground-borne vibration causing interference out to distances greater than 200 ft (FTA 2018). When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. For most projects, it is assumed that the roadway surface will be smooth enough that ground-borne vibration from street traffic will not exceed the impact criteria; however, construction activities have the potential to result in ground-borne vibration that could be perceptible and annoying. Ground-borne noise is not likely to be a problem because noise arriving via the normal airborne path usually will be greater than ground-borne noise.

Ground-borne vibration has the potential to disturb people as well as damage buildings. Although it is very rare for ground-borne vibration to cause even cosmetic building damage, it is not uncommon for construction processes such as blasting and pile driving to cause vibration of sufficient amplitudes to damage nearby buildings (FTA 2018). Ground-borne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). RMS is best for characterizing human response to building vibration, and PPV is used to characterize the potential for damage. Decibel notation acts to compress the range of numbers required to describe vibration. Vibration velocity level in decibels is defined as:

$$L_V = 20 \log_{10} [V/V_{ref}]$$

where L_V is the velocity in decibels (VdB), "V" is the RMS velocity amplitude, and "V_{ref}" is the reference velocity amplitude, or 1 x 10^{-6} inches per second (in/sec) used in the United States.

4.3.4 Existing Environmental Setting

The Prima Deshecha Landfill site is 1,530 acres (ac) in southeastern Orange County, partially within San Juan Capistrano, San Clemente, and unincorporated Orange County. The Landfill is located at 32250 Avenida La Pata, and access is provided by Interstate 5 (I-5), State Route 74 (SR-74), and La Pata Avenue. Traffic noise on La Pata Avenue and existing operations at the Landfill property are the dominant noise sources to surrounding uses, while local traffic and maintenance activities in the surrounding communities make up the remainder of the existing noise environment. Table 4.3.A describes the surrounding noise-sensitive land uses, which are also presented graphically on **Figure 4.3.1**.

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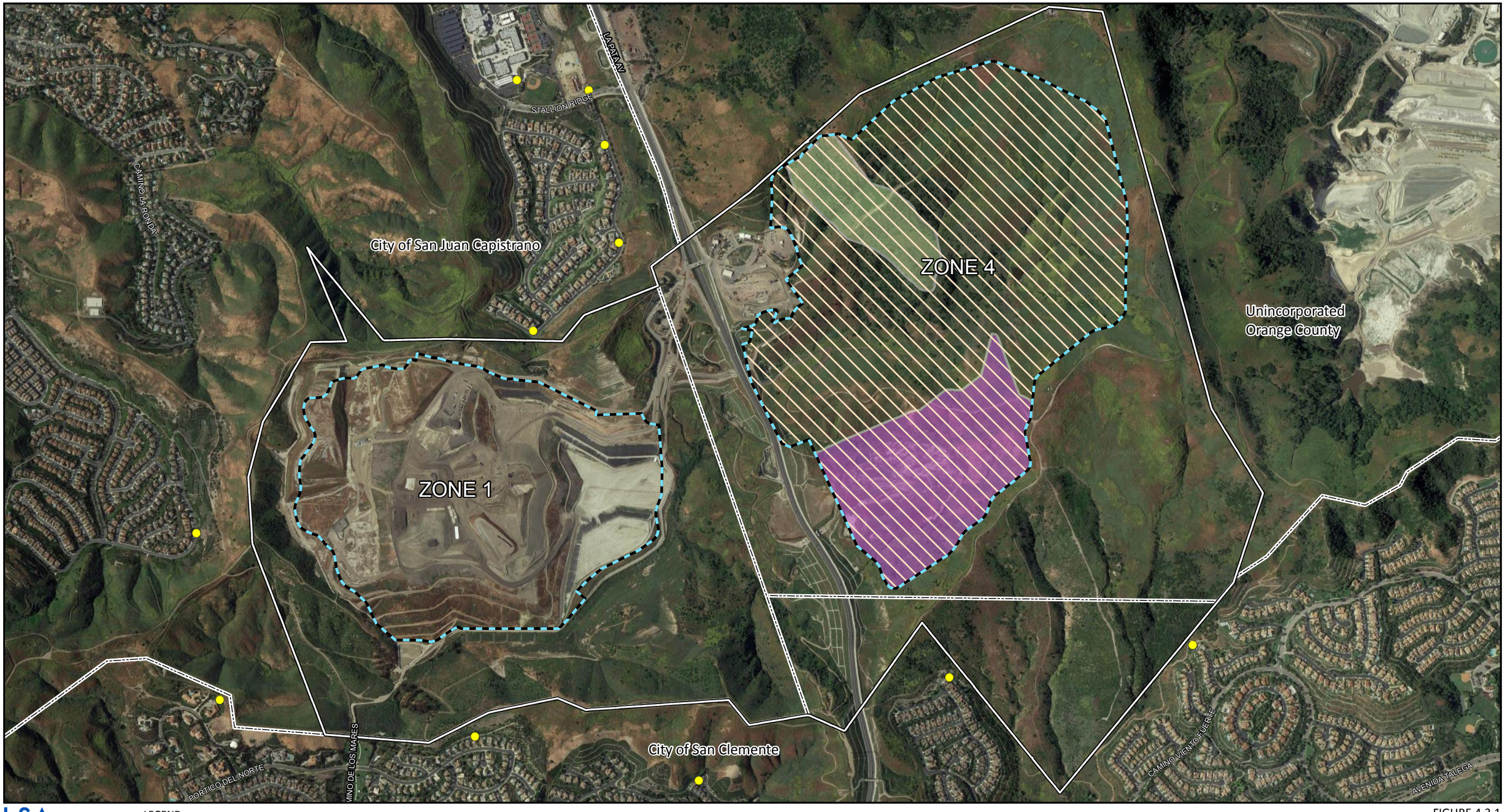

LSA

LEGEND

- Prima Deshecha Landfill (PDLF) Boundary
- Concurrent Operations of Zones 1 and 4
- Modeled Receptors
- Soil Importation for Liner Installation
- San Onofre Breccia Removal – Blasting
- San Onofre Breccia Removal – Pulverizing/Stockpiling

0 550 1100
FEET

SOURCE: OCWR (2001, 2005, 2010, 2017, 6/2020); Google (2019)

I:\OWR2001\GIS\MXD\Noise\SurroundingNoiseSensitiveRec.mxd (11/24/2020)

FIGURE 4.3.1

Prima Deshecha Landfill GDP

Surrounding Sensitive Receptors

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Table 4.3.A: Surrounding Noise-Sensitive Land Uses

Receptor	Direction Relative to Zone 4	Distance From Breccia Removal and Stockpiling Perimeter (feet)
San Juan Hills High School	Northwest	3,240
Church of Jesus Christ of Latter Day Saints	Northwest	2,460
Rancho San Juan Community	West	2,025
Rancho San Juan Hills Estates Community	West	7,340
Forster Ranch Community	Southwest	3,060
Talega Residential Community	South	1,215

Source: Compiled by LSA Associates, Inc. (2020).

To assess the existing noise conditions in the area, noise measurements were gathered at the Project site. The locations of those noise measurements are shown on **Figure 4.3.2**. Five long-term, 24-hour measurements (LT-1 through LT-5) and one 30-minute short-term measurement (ST-1) were taken from September 16 to September 17, 2020. Table 4.3.B shows the results of the noise measurements. Existing noise levels range from 46.1 dBA CNEL to 58.9 dBA CNEL at the surrounding sensitive receptors. Based on a review of the noise data gathered, an unidentifiable source of noise caused elevated noise levels at LT-4 during the evening and nighttime hours (7:00 p.m. to 3:00 a.m.). While this source of noise is likely not consistent from one day to the next, the information presented is based on the data gathered. It is also clear from a review of the data that this source was local to LT-4.

Table 4.3.B: Existing Noise Level Measurements

Location	Description	Range of Daytime Noise Levels (dBA L_{eq})	Range of Evening Noise Levels (dBA L_{eq})	Range of Nighttime Noise Levels (dBA L_{eq})	Average Daily Noise Level (dBA CNEL)
LT-1	At the corner of Via Granada and Paseo Carmona in the Rancho San Juan Community.	41.9–55.4	42.4–49.7	38.8–41.5	51.2
LT-2	Across the street from 28552 Avenida Placida in the Rancho San Juan Hills Estates Community	41.3–51.6	40.3–44.6	35.9–42.6	48.9
LT-3	Located near 3725 Diamante in the Forster Ranch Community.	39.2–48.0	38.1–43.9	35.3–42.8	46.1
LT-4	Located across the street from 23 Calle Canela in the Talega Residential Community.	42.1–59.4	41.9–47.8	34.2–41.2	50.1
LT-5	Located at the northern corner of 32 Via Balcon in the Talega Residential Community.	37.0–49.7	54.4–58.2	35.6–58.4	58.9
ST-1[1]	Located at San Juan Hills High School, 29211 Stallion Ridge, 30 feet south of Building J.	43.4–60.7	43.2–49.1	35.5–42.5	51.4

Source: Compiled by LSA Associates, Inc. (September 16–17, 2020).

[1] Hourly and daily noise levels are estimated based on the noise contour for LT-4, which is a location with a similar noise environment.

dBA = A-weighted decibels

L_{eq} = equivalent continuous sound level

CNEL= Community Noise Equivalent Level

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LSA

LEGEND

- Prima Deshecha Landfill (PDLF) Boundary
- Long-Term Monitoring Location
- Short-Term Monitoring Location

0 550 1100
FEET

SOURCE: OCWR (2001, 2005, 2010, 2017, 6/2020); Google (2019)

I:\OWR2001\GIS\MXD\Noise\NoiseMonLocs.mxd (11/24/2020)

FIGURE 4.3.2

Prima Deshecha Landfill GDP

Existing Noise Monitoring Locations

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4.3.5 Regulatory Setting

4.3.5.1 Federal Regulations

Federal Transit Administration (FTA). The County of Orange and the two cities of San Juan Capistrano and San Clemente do not have specific limits or thresholds for vibration. Vibration standards included in the FTA's *Transit Noise and Vibration Impact Assessment Manual* (2018) are used in this analysis for ground-borne vibration impacts on human annoyance, as shown in Table 4.3.C.

Table 4.3.C: Vibration Annoyance Criteria

Land Use	Maximum L_v (VdB)[1]	Description of Use
Workshop	90	Distinctly feelable vibration. Appropriate to workshops and non-sensitive areas.
Office	84	Feelable vibration. Appropriate to offices and non-sensitive areas.
Residential Day	78	Feelable vibration. Appropriate for computer equipment and low-power optical microscopes (up to 20X).
Residential Night and Operating Rooms	72	Vibration not feelable, but ground-borne noise may be audible inside quiet rooms. Suitable for medium-power microscopes (100X) and other equipment of low sensitivity.

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

The criteria for environmental impact from ground-borne vibration and noise are based on the maximum levels for a single event. Table 4.3.D lists the potential vibration building damage criteria, as suggested in the FTA *Transit Noise and Vibration Impact Assessment Manual* (2018). FTA guidelines show that a vibration level of up to 0.5 in/sec in PPV (FTA 2018) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster) and would not result in any vibration damage. For a non-engineered timber and masonry building, the building vibration damage criterion is 0.2 in/sec in PPV.

Table 4.3.D: Vibration Damage Criteria

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

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

4.3.5.2 County Regulations

Noise Element of the General Plan. Chapter VIII, Noise Element, of the County of Orange General Plan (County of Orange 2005) has developed noise standards for all noise sources. The County specifies outdoor and indoor noise limits for residential uses, places of worship, educational facilities, hospitals, hotels/motels, and commercial and other land uses. The noise standard for exterior living areas is 65 dBA CNEL. The County prohibits new residential land uses within the 65 dBA CNEL contour from any noise sources, including highways and airports.

Non-residential, noise-sensitive land uses such as hospitals, rest homes, convalescent hospitals, places of worship, and schools will not be permitted within the 65 dBA CNEL area from any source unless appropriate mitigation measures are included such that the standards contained in the Noise Element and in appropriate State and federal codes are met. The indoor noise standard is 45 dBA CNEL, which is consistent with the standard in the California Noise Insulation Standard. The County also enforces building sound transmission and indoor fresh air ventilation requirements specified in Chapter 35 of the Uniform Building Code.

Outdoor living area is a term used by the County to define spaces that are associated with residential land uses typically used for passive recreational activities or other noise-sensitive uses. Such spaces include backyards, balconies, patio areas, barbecue areas, jacuzzi areas, etc. that are associated with residential uses; outdoor patient recovery or resting areas, etc. associated with hospitals, convalescent hospitals, or rest homes; outdoor areas associated with places of worship that have a significant role in services or other noise-sensitive activities; and outdoor school facilities routinely used for educational purposes that may be adversely impacted by noise. Outdoor areas that are not usually included in this definition are: front yard areas, driveways, greenbelts, and maintenance areas at hospitals that are not used for patient activities; outdoor areas associated with places of worship and principally used for short-term social gatherings; and outdoor areas associated with school facilities that are not typically associated with educational uses and which are prone to adverse noise impacts (e.g., school play yard areas). The County does not specify outdoor noise standards for non-outdoor living areas.

Standard Conditions of Approval. The County's Standard Conditions of Approval require that all heavy vehicles or equipment, fixed or mobile, operated within 1,000 ft of a dwelling shall be equipped with properly operating and maintained mufflers. All operations shall comply with Orange County Codified Ordinance Division 6 (Noise Control). Stockpiling and/or vehicle staging areas shall be located as far as practicable from dwellings.

Noise Control Ordinance. The County's Noise Control Ordinance requires that exterior noise levels at residential properties not exceed the basic noise standard of 55 dBA between the hours of 7:00 a.m. and 10:00 p.m. and shall not exceed 50 dBA between the hours of 10:00 p.m. and 7:00 a.m., plus the following limits:

- Basic noise level for a cumulative period of not more than 30 minutes in any 1 hour; or
- Basic noise level plus 5 dBA for a cumulative period of not more than 15 minutes in any 1 hour; or
- Basic noise level plus 10 dBA for a cumulative period of not more than 5 minutes in any 1 hour; or

- Basic noise level plus 15 dBA for a cumulative period of not more than 1 minute in any 1 hour; or
- Basic noise level plus 20 dBA for any period of time.

The basic interior noise standards for residential uses are set at 45 dBA between 10:00 p.m. and 7:00 a.m. and 55 dBA between 7:00 a.m. and 10:00 p.m., plus the following limits:

- Basic noise level for a cumulative period of not more than 5 minutes in any 1 hour; or
- Basic noise level plus 5 dBA for a cumulative period of not more than 1 minute in any 1 hour; or
- Basic noise level plus 10 dBA for any period of time.

In the event that the ambient noise level exceeds any of the above noise limits, the cumulative period applicable to that category shall be increased to reflect that ambient noise level. It shall be unlawful for any person at any location within the unincorporated area of the County to create any noise or to allow the creation of any noise that causes the noise level to exceed the residential noise standards stated above. Each of the noise limits above shall be reduced 5 dBA for noise consisting of impact noise, simple tone noise, speech, music, or any combination thereof.

4.3.5.3 City Regulations

While the proposed project is located within the limits of the County of Orange, portions of the Project site and surrounding sensitive receptors are also located within the cities of San Juan Capistrano and San Clemente. Noise regulations for these jurisdictions are described below.

City of San Juan Capistrano Noise Element of the General Plan. To ensure that noise procedures do not adversely affect sensitive receptors, the City of San Juan Capistrano uses land use compatibility standards when planning and making development decisions. Table 4.3.E summarizes City noise standards for various types of land uses. The standards represent the maximum acceptable noise level and are used to determine noise impacts.

Table 4.3.E: City of San Juan Capistrano Interior and Exterior Noise Standards

Land Use	Noise Standard (dBA CNEL)	
	Interior	Exterior
Residential (all) – Single-family, multifamily, duplex, mobile home	65	45
Residential – Transient lodging, hotels, motels, nursing homes, hospitals, assisted care facilities	65	45
Private offices, churches, libraries, theaters, concert halls, meeting halls, schools	65	45
General commercial, retail, reception, restaurant	65	50
Manufacturing, industrial[1]	—	—
Parks, playgrounds	65[2]	—
Golf courses, outdoor spectator sports	70[2]	—

Source: Noise Element (City of San Juan Capistrano 1999).
[1] Noise standards not applicable to industrial districts.
[2] Outdoor environment is limited to playground areas, picnic areas, and other areas of frequent human use.
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels

The City of San Juan Capistrano Noise Element also contains goals and policies that must be used to guide decisions concerning land uses that are common sources of excessive noise levels. The City's General Plan policies most applicable to the proposed project include the following:

- **Policy 1.2:** Provide noise control measures and sound attenuating construction in areas of new construction or rehabilitation.

- **Policy 3.1:** Reduce the impacts of noise-producing land uses and activities on noise-sensitive land uses.

City of San Juan Capistrano Municipal Code. The City of San Juan Capistrano Municipal Code (Title 9, Chapter 3, Article 5, Noise Standards [residential and nonresidential]) regulates noise from stationary sources. These standards provide restrictions on the amount and duration of noise generated by stationary sources at a property, as measured at the property line of a noise receptor. These stationary-source noise standards are shown in Table 4.3.F.

Table 4.3.F: City of San Juan Capistrano Noise Standards for Stationary Noise Sources

Exterior Noise Level	Time Period
Residential, Public, and Institutional Land Uses	
65 dBA L_{eq}	7:00 AM to 7:00 PM
55 dBA L_{eq}	7:00 PM to 10:00 PM
45 dBA L_{eq}	10:00 PM to 7:00 AM
Commercial Land Uses	
65 dBA L_{eq}	At any time during the day

Source: City of San Juan Capistrano Municipal Code, Title 9: Land Use, Chapter 3: Zoning Districts and Standards, Article 5: Supplemental District Regulations, Section 9-3.531: Noise Standards (Residential and Nonresidential).
dBA = A-weighted decibels
L_{eq} = equivalent continuous sound level

The following limits, as presented in Table 3-31 of the City of San Juan Capistrano's Municipal Code, shall be applied to the standards in Table 4.3.F as applicable to the source of noise operations:

- Allowable exterior noise level for a cumulative period of not more than 30 minutes in any 1 hour; or

- Allowable exterior noise level plus 5 dBA for a cumulative period of not more than 15 minutes in any 1 hour; or

- Allowable exterior noise level plus 10 dBA for a cumulative period of not more than 5 minutes in any 1 hour; or

- Allowable exterior noise level plus 15 dBA for a cumulative period of not more than 1 minutes in any 1 hour; or

- Allowable exterior noise level plus 20 dBA for any period of time.

City of San Clemente Safety Element of the General Plan. As presented in the Safety Element of the City of San Clemente General Plan, the following represent the applicable goals and policies related to noise:

- **Goal:** Minimize exposure to excessive noise levels by taking appropriate actions to avoid or mitigate the detrimental effects of exposure to excessive noise levels on humans and animals and, in particular, on sensitive land uses.

- **Policy S-4.01: Noise Control.** Effectively control ambient and stationary noise conditions by maintaining baseline information, monitoring conditions, following State guidelines, and enforcing locally adopted ordinances and building codes.

- **Policy S-4.03: Interagency Collaboration.** Encourage and collaborate with local, regional, and statewide transportation agencies to minimize transportation related noise impacts and provide appropriate mitigation measures that also consider impacts to community character and on natural resources (e.g., views).

- **Policy S-4.06: Truck Routes.** To minimize truck traffic noise impacts to sensitive land uses, designate areas where truck traffic is prohibited.

The Safety Element also specifies that specific standards regulating the noise environment are provided by the San Clemente Noise Control Ordinance.

City of San Clemente Noise Control Ordinance. Section 8.48.050, Exterior Noise Standards, of the City's Noise Control Ordinance states that exterior noise levels at residential properties shall not exceed the allowable exterior noise standard of 55 dBA between the hours of 7:00 a.m. and 10:00 p.m. and shall not exceed 50 dBA between the hours of 10:00 p.m. and 7:00 a.m., plus the following limits:

- Allowable exterior noise level for a cumulative period of not more than 30 minutes in any 1 hour; or

- Allowable exterior noise level plus 5 dBA for a cumulative period of not more than 15 minutes in any 1 hour; or

- Allowable exterior noise level plus 10 dBA for a cumulative period of not more than 5 minutes in any 1 hour; or

- Allowable exterior noise level plus 15 dBA for a cumulative period of not more than 1 minute in any 1 hour; or

- Allowable exterior noise level plus 20 dBA for any period of time.

The allowable interior noise standard for residential uses are set at 40 dBA between 10:00 p.m. and 7:00 a.m. and 50 dBA between 7:00 a.m. and 10:00 p.m., plus the following limits:

- The allowable interior noise level plus 5 dBA for a cumulative period of more than 5 minutes in any 1 hour; or
- The allowable interior noise level plus 10 dBA for a cumulative period of more than 1 minute in any 1 hour; or
- The allowable interior noise level plus 15 dBA for any period of time.

In the event that the ambient noise level exceeds any of the above noise limits, the cumulative period applicable to that category shall be increased to reflect that ambient noise level.

4.3.6 Methodology

The City and County documents that provide criteria for assessing noise impacts are the Noise Elements of the General Plans and the Noise Ordinances within the Municipal Codes. Where appropriate, if the City or County does not provide criteria to analyze a potential impact (i.e., vibration damage), guidance from the federal level is often used. Therefore, for the purposes of this analysis, the FTA criteria will be utilized to evaluate potential vibration impacts. The evaluation of noise and vibration impacts associated with the proposed Project includes the following:

- Determination of the noise levels from vehicular traffic associated with the proposed Project using guidelines provided by the Federal Highway Administration (FHWA) and from on-site stationary sources associated with the proposed Project using reference noise data at off-site noise-sensitive uses, and comparison of these levels to the Cities' and County's pertinent noise standards
- Determination of the vibration levels at off-site noise-sensitive uses and comparison to the vibration building damage and/or human annoyance criteria recommended by the FTA
- Determination of the potential mitigation measures to reduce operational noise and vibration impacts to all off-site noise-sensitive land uses

4.3.7 Thresholds of Significance

A project would normally have a significant effect on the environment related to noise and vibration if any of the following occurs:

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

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

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles (mi) of a public airport or public use airport,

would the project expose people residing or working in the project area to excessive noise levels?

The following were used to respond to the questions above to determine whether the proposed Project would result in a significant noise impact.

- For off-site transportation-related impacts:
  - Where the existing ambient noise level is less than 65 dBA and a project-related permanent increase in ambient noise levels of 5 dBA CNEL or greater occurs, or
  - Where the existing ambient noise level is greater than 65 dBA and a project-related permanent increase in ambient noise levels of 3 dBA CNEL or greater occurs.
- For off-site non-transportation-related stationary source impacts, including operations:
  - If project operations would generate noise levels in excess of the maximum allowable noise levels for the surrounding receptors.
- For off-site vibration impacts:
  - Exceedance of the FTA standards of 0.2 PPV in/sec and 72 VdB as listed above in Tables 4.3.C and 4.3.D for vibration.

4.3.8 Project Impacts

As stated in Chapter 3.0, Project Description, the proposed Project includes the following components: (1) changes to the phasing of operations between Zone 1 and Zone 4 of the Prima Deshecha Landfill to allow for concurrent operations; (2) blasting, excavation, on-site relocation, pulverizing into soil, soil stockpiling, and off-site soil removal of hard rock material in Zone 4, referred to as the San Onofre Breccia area; and (3) imported soil trips for liner installation that will occur for all future Zone 4 development phases. The locations of these activities are shown on **Figure 3.7** in Chapter 3.0 of this SEIR.

The proposed Project would allow for concurrent operations in both Zones 1 and 4 to allow landfilling activities to shift between the two zones based on seasonal environmental conditions to minimize any potential noise impacts that may occur to existing and future residential developments near the Landfill. The proposed Project's operational Zone 1 and Zone 4 would run concurrently but would not accept disposal for each zone during the same time. The Landfill would continue to have only one active working face area on a daily basis for daily landfill disposal operations. OC Waste & Recycling (OCWR) would spend several months per year landfilling in Zone 1 before moving into Zone 4.

The proposed changes to the Landfill operations (including concurrent Landfill operations in Zone 1 and Zone 4, Breccia removal and processing, and excess soil transport off site) have the potential to generate noise and vibration impacts. The analysis contained in this section includes an evaluation of potential noise and vibration impacts due to each of these sources generated by the proposed Project.

Lastly, due to the long-term nature of all the activities analyzed in this SEIR, all activities will be assumed to be operational impacts and not construction operational impacts.

Threshold 4.2.1: Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Operations associated with the proposed Project would utilize heavy equipment that has the potential to generate noise impacts at surrounding receptors. This noise analysis considers three distinct activity components that would occur with implementation of the proposed Project, including the concurrent operations for Zone 1 and Zone 4, the blasting and stockpiling activities, and soil importation for the liner installation.

In order to conduct this evaluation, reference noise levels were first determined. Table 4.3.G lists the maximum noise levels from typical equipment that could be used at the Landfill as recommended for noise impact assessments based on a distance of 50 ft between the equipment and a noise receptor.

Table 4.3.G: Typical Maximum Equipment Noise Levels (L_{max})

Type of Equipment	Acoustical Usage Factor	Suggested Maximum Sound Levels for Analysis (dBA L_{max} at 50 ft)
Excavator	40	85
Generator	50	82
Grader	40	85
Loader	40	80
Rubber Tire Dozer	40	85
Scraper	40	85
Tractor	40	84
Truck	40	84

Source: *Highway Construction Noise Handbook* (FHWA 2006).
dBA = A-weighted decibels
FHWA = Federal Highway Administration
ft = feet
L_{max} = maximum instantaneous noise level

Each piece of equipment operates as an individual point source. Using the following equation, a composite noise level can be calculated when multiple sources of noise operate simultaneously:

$$Lmax\,(composite) = 10 * \log_{10}\left(\sum_{1}^{n} 10^{\frac{Ln}{10}}\right)$$

Using the equations from the methodology above and the reference information in Table 4.3.G, the composite noise level of each phase at a distance of 50 ft is presented in Table 4.3.H.

Table 4.3.H: Potential Noise Impacts by Phase

Phase	Equipment	Composite Maximum Noise Level at 50 ft (dBA L_{max})
Blasting	Blasting Charges	76
Breccia Removal	Drill, Dozer, Excavator, Loader, Generator	91
Stockpiling and Pulverizing	Loader, Dozer, Dump Trucks, Generator, Screening Plant, Rock Crusher	96
Daily Operations	Scraper, Dozer, Compactor, Garbage Truck	89

Source: Compiled by LSA Associates, Inc. (2020).
dBA = A-weighted decibels
L_{max} = maximum instantaneous noise level

In addition to the noise level measurements at the surrounding sensitive uses, LSA collected reference noise level measurements on September 17, 2020, to identify the specific noise levels associated with each piece of equipment used in daily Landfill operations. The composite maximum noise level measured is provided in Table 4.3.H.

Lastly, several formulae have been developed for predicting the unweighted peak noise level from a blast. The prediction formula adopted for the Proposed Project is one derived by Linehan and Wiss (1982) for the United States Bureau of Mines. The prediction formula is as follows:

$$Peak\ Overpressure = 6.31 * e^{-B} * \left(\frac{D}{\sqrt[6]{W}}\right)^{-1.16}$$

Where: e = base of natural logarithm (e = 2.7183)
D = distance from blast to receiver
W = maximum charge weight per delay (kilograms [kg])
B = scaled depth of burial ($C/W^{1/3}$), $m/kg^{1/3}$
C = depth to center of gravity of charge (meters [m])

The peak overpressures predicted by the formula above can be converted to unweighted peak sound pressure level (SPL), in decibels, using the following equation:

$$SPL = 20 \log P + 154$$

Based on information provided by the Project's Geotechnical Engineer, the charge weight would be 100 pounds and the depth of the blast would be 90 ft.

4.3.8.1 Concurrent Operations For Zones 1 and 4

In order to calculate the noise levels expected to result from Landfill operational stationary source activities, the software SoundPLAN was used. SoundPLAN is a noise modeling program that allows 3-D calculations to be made taking into account topography, ground attenuation, and shielding from structures and walls. Within the model, the noise library allows for the input of many noise sources and calculates the composite noise levels experienced at any receptor necessary. The results from any calculation can be presented in both tabular and graphic formats. Model results indicate that

maximum noise levels associated with the proposed Project's combination of equipment used on a daily basis at a distance of 50 ft would approach 89 dBA L_{max}. Due to the intervening topography, the results of the SoundPLAN model indicate that maximum noise levels at the surrounding receptors have the potential to occur when equipment is located farther from the activity boundaries because the existing hills will provide more reduction when activities are located closer to terrain.

The results of the modeling at each surrounding receptor is presented in Table 4.3.I and in graphic format on **Figures 4.3.3(a)** and **4.3.3(b)**. As shown, noise levels associated with concurrent operation of Zones 1 and 4 would not exceed thresholds and the impacts would be less than significant. No mitigation is required.

Table 4.3.I: Summary of Zone 1 and Zone 4 Operational Noise Levels

Receptor	Distance[1] (ft)	Maximum Noise Level/ Zone (dBA L_{max})	Maximum Noise Level Threshold Daytime/Nighttime (dBA L_{max}) [2]
San Juan Hills High School	3,220	41.9 / Zone 1	75 / 70
Church of Jesus Christ of Latter Day Saints	2,360	47.6 / Zone 1	75 / 70
Rancho San Juan Community	525	55.0 / Zone 1	75 / 70
Rancho San Juan Hills Estates Community	1,110	39.1 / Zone 1	75 / 70
Forster Ranch Community	1,710	49.2 / Zone 1	75 / 70
Talega Residential Community	1,185	43.5 / Zone 4	75 / 70

Source: Compiled by LSA Associates, Inc. (2020).

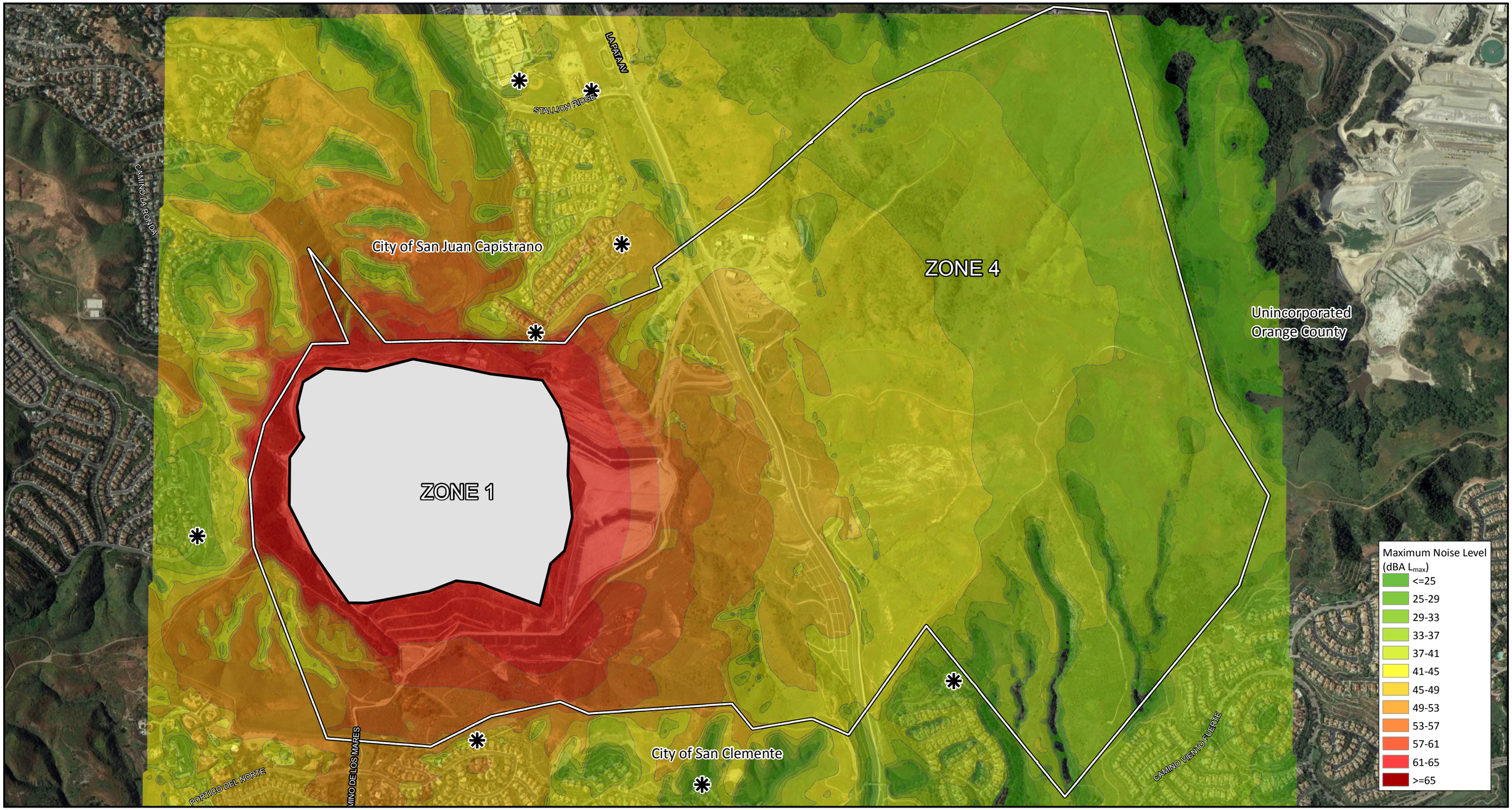
[1] Distances reflect the nearest structure of each land use category in a given direction to the nearest activity boundary. The SoundPLAN modeling will determine the maximum noise level at the receptor regardless of distance to the boundary.

[2] Per the City Municipal Codes and the County Code, the maximum noise level threshold is established by adding 20 dBA to the allowable daytime/nighttime exterior or basic noise level.

dBA = A-weighted decibels
ft = feet
L_{max} = maximum instantaneous noise level

4.3.8.2 Blasting, Breccia Removal, Pulverizing, and Stockpiling Operations

The San Onofre Breccia Formation covers approximately 76 ac and is approximately 1,800 ft by 3,800 ft. Preliminary quantity estimates of hard rock are in the range of 9 to 10 million cubic yards (mcy). This hard rock will require controlled blasting to allow excavation pursuant to the approved development plan. The purpose of Addendum No. 1 to Final Supplemental EIR No. 597 was prepared to evaluate blasting and crushing/processing operations at the Prima Deshecha Landfill site and to evaluate the potential impacts of these operations.



LSA

LEGEND

Prima Deshecha Landfill (PDLF) Boundary

Noise Receiver Location

Area Source

Zone 4 Operations

N

0 550 1100

FEET

FIGURE 4.3.3(a)

Prima Deshecha Landfill GDP

Operational Noise Levels (Zone 1 Operations)

SOURCE: OCWR (2001, 2005, 2010, 2017, 6/2020); Google (2019)

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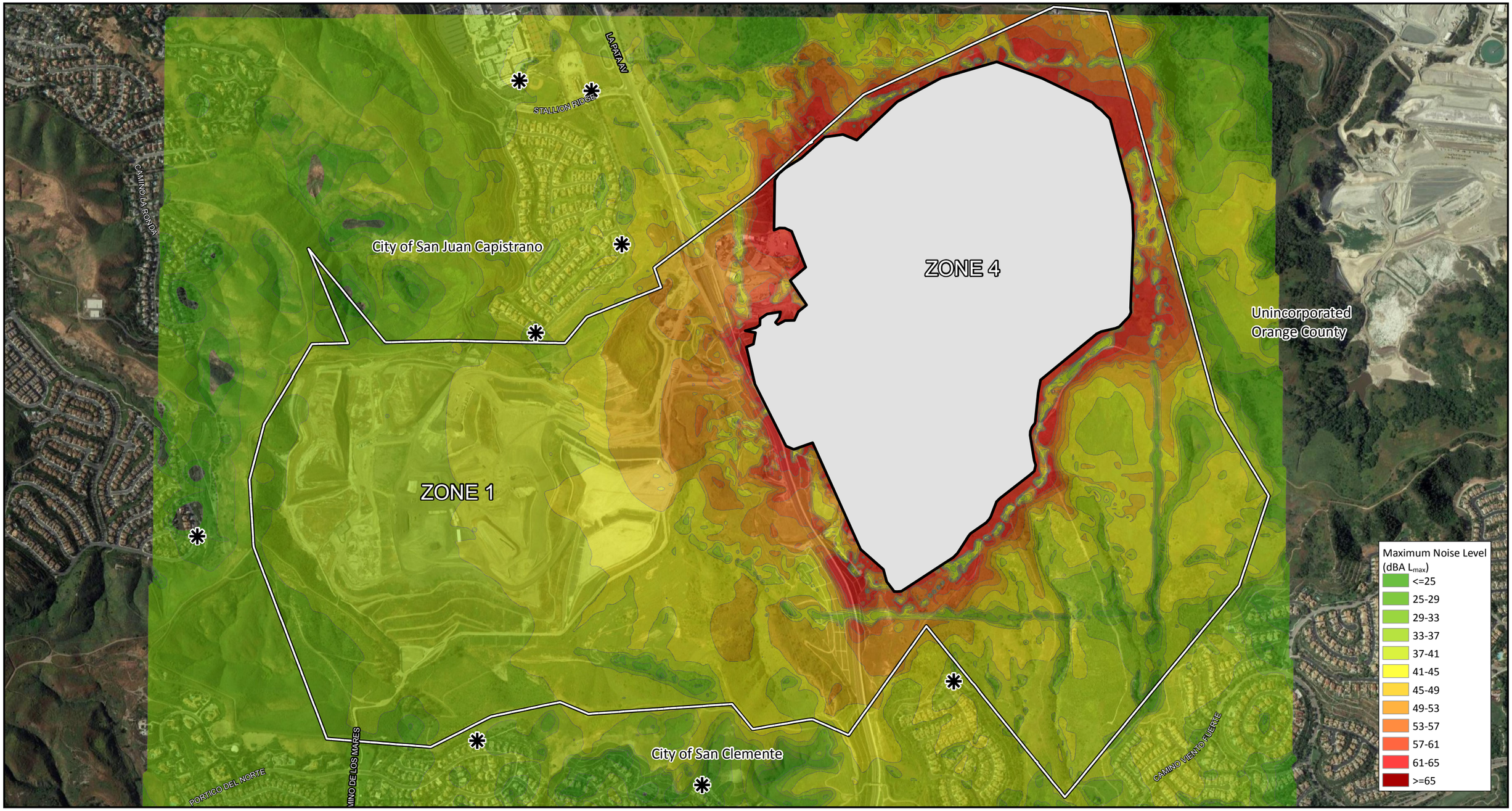

LSA

LEGEND

Prima Deshecha Landfill (PDLF) Boundary

Noise Receiver Location

Area Source

Zone 4 Operations

0 550 1100
FEET

FIGURE 4.3.3(b)

Prima Deshecha Landfill GDP

Operational Noise Levels (Zone 4 Operations)

SOURCE: OCWR (2001, 2005, 2010, 2017, 6/2020); Google (2019)

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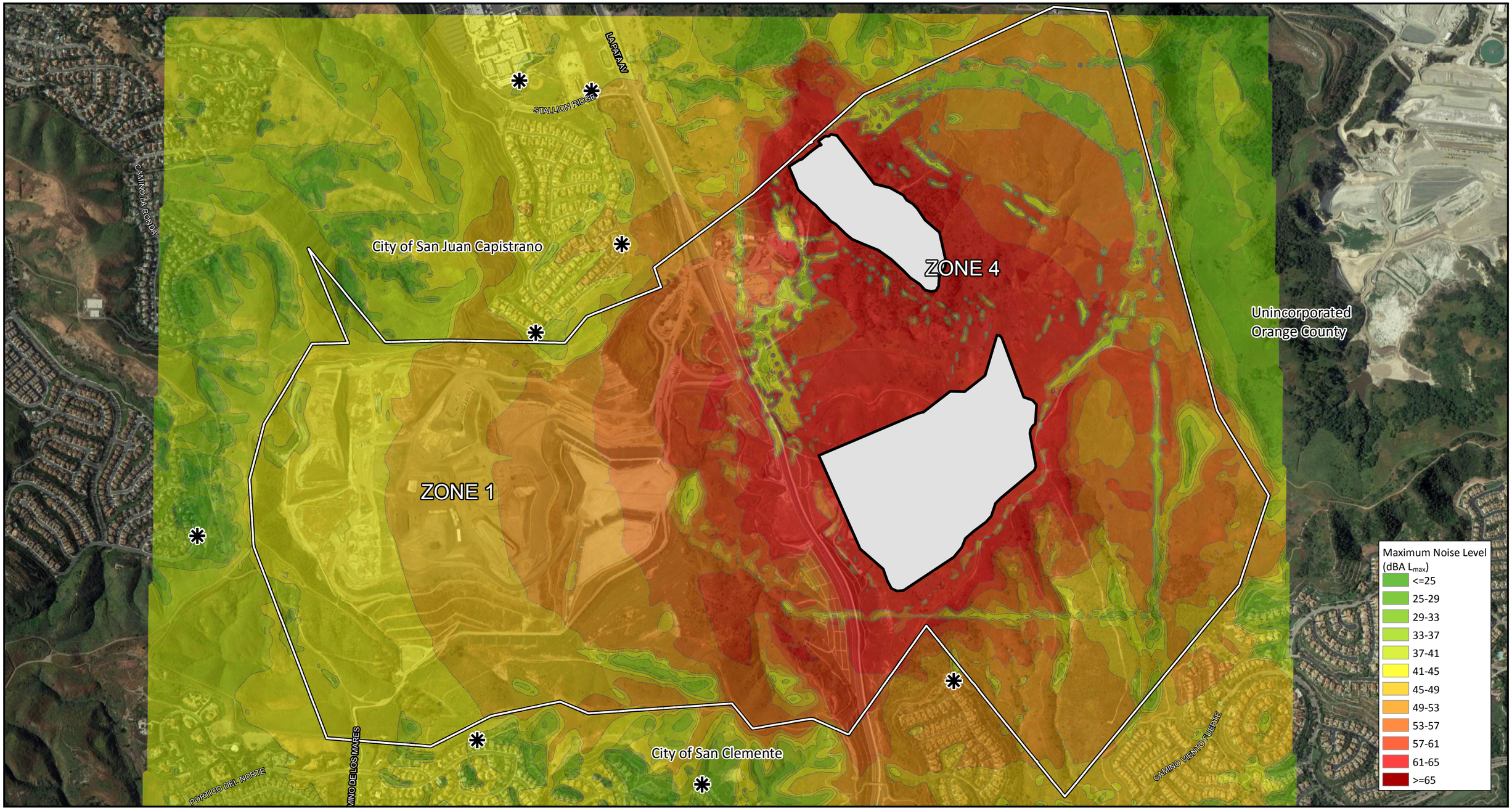

LSA

LEGEND

Prima Deshecha Landfill (PDLF) Boundary

Noise Receiver Location

Area Source

Blasting, Breccia Removal, Pulverizing, and Stockpiling Operations

0 550 1100
FEET

SOURCE: OCWR (2001, 2005, 2010, 2017, 6/2020); Google (2019)

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FIGURE 4.3.3(c)

Prima Deshecha Landfill GDP

Operational Noise Levels (Blasting, Breccia Removal, Pulverizing, and Stockpiling Operations)

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As a part of the proposed Project, the San Onofre Breccia material will be blasted, excavated, and relocated on site to the future Zone 4 Phase C area (refer to **Figure 3.5** for a Zone 4 Phasing map). The proposed Project anticipates approximately one blast per month for the duration of rock excavation. The blasting contractor would drill holes in a grid pattern to a pre-determined blast depth. Charges would be placed in the lower reaches of the drilled holes, with the upper portion of the drilled holes backfilled with stemming material to control flyrock prior to the actual blast. The drilling pattern, depth of drilled holes, amount of blasting agent used, and type of blast timing would be designed to provide a safe blast, resulting in material with a maximum particle size of approximately 12 inches. The charges would be set and the blast would normally occur on the same day the blast holes are loaded.

A blast plan would be required and would be subject to review and approval by the Orange County Fire Authority and Orange County Sheriff's Department. The blast plan would be designed to limit the ground vibrations and noise from the blasting at the property boundaries to meet local regulatory requirements. The blast plan would also be designed to protect any existing nearby structures.

Transfer trucks would travel approximately 0.5 mi within the Landfill boundaries to relocate the rock material. The proposed Project does not include the use of conveyor belts. Once at the Zone 4 Phase C area, the rock material will be pulverized into soil and then stockpiled. The feeder hopper will separate large boulders from finer rocks that do not require primary crushing, thus reducing the load to the primary crusher. The crusher product will then be passed through a series of screens that will further separate the product stream. The material that is too large to pass through the screens will then be processed in the secondary crusher. The output from the secondary crusher and undersized material will be transported to on-site stockpile areas. Rock crushing will occur concurrently with Landfill operations and will occur over the permitted life of the Landfill. Crushing operations will be limited to landfill operating hours. The analysis related to off-site truck trips associated with the excavated material removal is presented in Section 4.3.8.3.

The Zone 4 Phase C stockpile area will accommodate up to 3.3 mcy of soil material. From this location, since the San Onofre Breccia soil will be unsuitable for use as landfill daily cover but may be used for other construction purposes, the stockpiled soil may be transported off site to end markets. The proposed Project is anticipated to result in on-site relocation to Phase C and off-site exportation of approximately 1,466 cubic yards per day of soil.

Operations related to the Breccia component of the proposed Project are anticipated to begin in approximately 2023 and continue until 2042 (a duration of approximately 20 years).

As presented in Table 4.3.H, it was determined that maximum noise levels associated with blasting, Breccia removal, and pulverizing and stockpiling would reach 76 dBA L_{max}, 91 dBA L_{max}, and 96 dBA L_{max} at a distance of 50 ft, respectively. Due to the intervening topography, the results of the SoundPLAN model indicate that maximum noise levels at the surrounding receptor have the potential to occur when equipment is located farther from the activity boundaries because the existing hills will provide more reduction when activities are located closer to terrain. The results of the modeling at each surrounding receptor is presented in Table 4.3.J and in graphic format on **Figure 4.3.3(c)**.

Table 4.3.J: Summary of Blasting, Breccia Removal, and Pulverizing and Stockpiling Noise Levels

Receptor	Distance[1] (ft)	Maximum Noise Level (dBA L_{max})	Maximum Noise Level Threshold Daytime / Nighttime (dBA L_{max})[2]
San Juan Hills High School	3,240	44.6	75 / 70
Church of Jesus Christ of Latter Day Saints	2,460	52.7	75 / 70
Rancho San Juan Community	2,025	53.7	75 / 70
Rancho San Juan Hills Estates Community	7,335	36.5	75 / 70
Forster Ranch Community	3,140	45.9	75 / 70
Talega Residential Community	1,190	57.1	75 / 70

Source: Compiled by LSA Associates, Inc. (2020).

[1] Distances reflect the nearest structure of each receptor in a given direction to the nearest activity boundary. The SoundPLAN modeling will determine the maximum noise level at the receptor regardless of distance to the boundary.

[2] Per the City Municipal Codes and the County Code, the maximum noise level threshold is established by adding 20 dBA to the allowable daytime/nighttime exterior or basic noise level.

dBA = A-weighted decibels
ft = feet
L_{max} = maximum instantaneous noise level

As shown, noise levels associated with blasting, pulverizing, and stockpiling would not exceed thresholds at nearby sensitive receptors and the impacts would be less than significant. No mitigation is required.

4.3.8.3 Maximum Project Site Daily Noise Operations

The previously described operations (see Section 4.3.8.2) of blasting, Breccia removal, pulverizing, and stockpiling have the potential to occur while daily Landfill operations in Zone 1 (see Section 4.3.8.1) also occur. For the purposes of this analysis, when all sources operate simultaneously, the maximum noise level generated by the Landfill would occur.

Table 4.3.K presents the results of the modeling at each surrounding receptor during the scenario in which maximum daily operation noise levels would occur. While this scenario is very unlikely to occur because the maximum noise level at each source would have to occur simultaneously, noise levels associated with maximum Project site daily noise operations would not exceed thresholds and the impacts would be less than significant. No mitigation is required.

4.3.8.4 Truck Trips for Off-Site Material Hauling and Soil Importation for Liner Installation

In order to assess the potential traffic impacts related to off-site hauling of pulverized material and the soil import truck trips for liner installation, LSA prepared a *Traffic Impact Analysis for the Prima Deshecha Landfill General Development Plan Project* (LSA 2020; Appendix E of this SEIR) for the proposed Project. Based on the analysis results, it was determined that up to an additional 520 average daily traffic (ADT) would be generated by the proposed Project.

Table 4.3.K: Maximum Daily Operations Noise Levels

Receptor	Distance[1] (ft)	Maximum Noise Level (dBA L_{max})	Maximum Noise Level Threshold Daytime/Nighttime (dBA L_{max})[2]
San Juan Hills High School	3,220	48.7	75 / 70
Church of Jesus Christ of Latter Day Saints	2,360	56.1	75 / 70
Rancho San Juan Community	525	56.5	75 / 70
Rancho San Juan Hills Estates Community	1,110	41.6	75 / 70
Forster Ranch Community	1,710	59.1	75 / 70
Talega Residential Community	1,185	57.2	75 / 70

Source: Compiled by LSA Associates, Inc. (2020).

[1] Distances reflect the nearest structure of each receptor in a given direction to the nearest activity boundary. The SoundPLAN modeling will determine the maximum noise level at the receptor regardless of distance to the boundary.

[2] Per the City Municipal Codes and the County Code, the maximum noise level threshold is established by adding 20 dBA to the allowable daytime/nighttime exterior or basic noise level.

dBA = A-weighted decibels
ft = feet
L_{max} = maximum instantaneous noise level

As presented in the *Traffic Impact Analysis* (LSA 2020), the existing ADT along the segments analyzed ranges from 36,376 to 50,267. With implementation of the proposed project, the ADT along the segments analyzed would range from 36,584 to 50,475. The following equation was used to determine potential noise impacts:

$$\text{Change in CNEL} = 10 \log_{10} [V_{e+ht}/V_{existing}]$$

Where: $V_{existing}$ = the existing daily volume
V_{e+ht} = existing daily volumes plus project
Change in CNEL = the increase in noise level due to the project

The results of the calculations show that an increase of approximately 0.01 to 0.06 dBA CNEL is expected at the residential uses on the southeast quadrant of Ortega Highway and Avenida La Pata (roughly 1 mi from the Project site). A noise level increase of less than 1 dBA would not be perceptible to the human ear. In addition, even if the maximum noise increase associated with off-site hauling of pulverized material and soil import truck trips for liner installation were to occur closer to the Project site, it would not result in a significant impact because maximum daily operational noise levels are well below applicable thresholds (refer to Table 4.3.K). Therefore, noise impacts related to operational traffic would be less than significant. No mitigation is required.

Impact Conclusions. The proposed Project would not result in a new significant or unavoidable impact. Project-related increases in daytime noise levels would be less than significant and no additional mitigation would be required. Utilizing the same criteria used in the previous Final EIR No. 575, Final Supplemental EIR No. 597, and applicable Addenda, this analysis has determined that there would be no new significant impacts related to construction or operational noise.

All mitigation measures from Final EIR No. 575 remain as project commitments that apply to the proposed Project. The mitigation measures from Final EIR No. 575 are reiterated in Section 4.3.11.2,

Previously Adopted Mitigation. Additional mitigation measures, if any, are indicated under Section 4.3.11.3, Additional Mitigation.

Threshold 4.2.2: Would the project result in generation of excessive ground-borne vibration or ground-borne noise levels?

Less than Significant Impact. Neither the Final EIR No. 575 nor the Final Supplemental EIR No. 597 assessed vibration impacts for the Landfill operations or subsequent modifications; however, Addendum No. 1 to Final Supplemental EIR No. 597 did assess vibration impacts. The supporting technical study, *Prima Deshecha Landfill Zone 4 Noise and Vibration Analysis Report* (LSA 2010) provided expected vibration impacts due to controlled blasting operations and overburden removal, truck transport activities, conveyor transport activities, and rock crushing activities. Since the completion of that report, the Project has been revised to eliminate the use of conveyors, and the specific assumptions associated with blasting operations have been refined.

Ground-borne noise and vibration from heavy equipment activity would be mostly low to moderate. While there is currently limited information regarding vibration source levels, to provide a comparison of vibration levels expected, as shown in Table 4.3.L, a large bulldozer would generate approximately 87 VdB (0.089 PPV in/sec) of ground-borne vibration when measured at 25 ft, based on the FTA's *Transit Noise and Vibration Impact Assessment* (2018).

Table 4.3.L: Vibration Source Amplitudes for Heavy Equipment

Equipment	Reference PPV/L_V at 25 feet	
	PPV (in/sec)	L_V (VdB)[1]
Vibratory Roller/Rock Crushers	0.210	94
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

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

The distance to the surrounding receptors for vibration impact analysis is measured at the surrounding building façades and the Project site boundary (assuming the equipment would be used at or near the project boundary) because vibration impacts normally occur within the buildings. The formulae for vibration transmission are provided below.

$$L_vdB\ (D) = L_vdB\ (25\ feet) - 30\ Log\ (D/25)$$

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.1}$$

4.3.8.5 Concurrent Operations for Zones 1 and 4

During the daily operations of Zones 1 and 4, heavy equipment similar to large bulldozers would be used. As presented in Table 4.3.L, vibration levels associated with heavy equipment are estimated to be 0.089 PPV in/sec and 87 VdB. Table 4.3.M presents the results of the vibration assessment during daily operations. The results show that vibration levels related to concurrent operations at Zones 1 and 4 would be well below the applicable thresholds. No mitigation is required.

Table 4.3.M: Summary of Zone 1 and Zone 4 Operational Vibration Levels

Receptor	Distance[1] (ft)	Vibration Damage Threshold (PPV in/sec)	Vibration Annoyance Threshold (VdB)	Maximum Vibration Level (PPV)	Maximum Vibration Level (VdB)
San Juan Hills High School	3,220	0.2	72	0.0004	23.7
Church of Jesus Christ of Latter Day Saints	2,360	0.2	72	0.0006	27.8
Rancho San Juan Community	525	0.2	72	0.0031	47.3
Rancho San Juan Hills Estates Community	1,110	0.2	72	0.0014	37.6
Forster Ranch Community	1,710	0.2	72	0.0009	31.9
Talega Residential Community	1,185	0.2	72	0.0013	36.7

Source: Compiled by LSA Associates, Inc. (2020).

[1] Distances reflect the nearest structure of receptor in a given direction to the nearest project construction boundary. All other structures of each land use category in the given direction would experience lower vibration levels.

ft = feet PPV = peak particle velocity
in/sec = inches per second VdB = vibration velocity decibels

4.3.8.6 Blasting, Breccia Removal, and Pulverizing and Stockpiling Operations

In order to break up materials in Zone 1 that are too large to be removed by standard construction equipment, blasting will be used to break up the material so it can be relocated to Zone 4. Blasting is expected to occur once a month for a minimum of 20 years, and it is likely that during blasting, all other operations on the east side of Avenida La Pata would be restricted. Using equation 13 (Eq. 13) from the California Department of Transportation (Caltrans) *Transportation and Construction Vibration Guidance Manual* (2013) presented below, estimates of typical vibrations can be calculated for the nearest receptors.

$$PPV_{blast} = K \times (D/\sqrt{W})^{-1.6}$$

Where: K = a variable subject to many factors below
D = distance to the receptor (ft)
W= weight of the charge (pounds)

The variable K above is dependent on a number of factors including:

- Confinement of energy
- Elastic moduli of the rock
- Spatial distribution of energy sources

- Time of energy release
- Coupling of energy sources

To provide an estimate of potential vibration impacts, input from the Geotechnical Engineer for the Project along with a range of K values from commonly accepted vibration curves presented in the Caltrans *Transportation and Construction Vibration Guidance Manual* (2013) were used. Assuming a charge weighing 100 pounds (lbs) and K values ranging from 24 to 242, the estimated vibration impact at the nearest buildings to the west would be 0.005 to 0.049 PPV in/sec, levels that would be well below the criteria for potential building damage. Table 4.3.N shows the results of the blasting vibration analysis for all the surrounding receptors.

Table 4.3.N: Summary of Blasting Vibration Levels

Receptor	Distance[1] (ft)	Square Root Scaled Distance (ft)	Vibration Damage Threshold (PPV in/sec)	Lower End Vibration Level (PPV)	Upper End Vibration Level (PPV)
San Juan Hills High School	3,240	324	0.2	0.002	0.023
Church of Jesus Christ of Latter Day Saints	2,460	246	0.2	0.004	0.036
Rancho San Juan Community	2,025	202.5	0.2	0.005	0.049
Rancho San Juan Hills Estates Community	8,200	820	0.2	0.001	0.005
Forster Ranch Community	7,300	730	0.2	0.001	0.006
Talega Residential Community	4,540	454	0.2	0.001	0.014

Source: Compiled by LSA Associates, Inc. (2020).
[1] Distances reflect the nearest structure of each receptor in a given direction to the nearest project construction boundary. All other structures of each land use category in the given direction would experience lower vibration levels.
ft = feet
in/sec = inches per second
PPV = peak particle velocity

In addition to blasting, the operation of the rock crusher has the potential to generate the greatest vibration impacts to surrounding uses during pulverizing and stockpiling activities. While specific vibration levels for rock crushers are not available, it is expected that vibration levels would be similar to a vibrator roller. As presented in Table 4.3.L, vibration levels associated with rock crushers are estimated to be 0.210 PPV in/sec and 94 VdB. Table 4.3.O presents the results of the vibration assessment during pulverizing and stockpiling. The results show that vibration levels related to pulverizing and stockpiling would be well below the applicable thresholds. No mitigation is required.

4.3.8.7 Truck Trips for Off-Site Material Hauling and Soil Importation for Liner Installation

Once the Breccia removal operations and pulverizing of materials occur, stockpiled soil in Zone 4 would be exported off site, generating 81 truck trips per day. Additionally, in order to install the liner in Zone 4, approximately 8,108 cubic yards (cy) of soil will be imported to the Landfill, generating 23 truck trips per day. Vibration impacts associated with this activity have the potential to occur when loaded heavy trucks pass by structures along the haul route as described in the *Traffic Impact Analysis* (LSA 2020).

Table 4.3.O: Summary of Pulverizing and Stockpiling Vibration Levels

Receptor	Distance[1] (ft)	Vibration Damage Threshold (PPV in/sec)	Vibration Annoyance Threshold (VdB)	Maximum Vibration Level (PPV)	Maximum Vibration Level (VdB)
San Juan Hills High School	5,575	0.2	72	0.0005	23.6
Church of Jesus Christ of Latter Day Saints	4,990	0.2	72	0.0006	25.0
Rancho San Juan Community	3,540	0.2	72	0.0009	29.5
Rancho San Juan Hills Estates Community	7,335	0.2	72	0.0004	20.0
Forster Ranch Community	3,140	0.2	72	0.0010	31.0
Talega Residential Community	1,190	0.2	72	0.0030	43.7

Source: Compiled by LSA Associates, Inc. (2020).

[1] Distances reflect the nearest structure of each receptor in a given direction to the nearest project construction boundary. All other structures of each land use category in the given direction would experience lower vibration levels.

ft = feet PPV = peak particle velocity
in/sec = inches per second VdB = vibration velocity decibels

The nearest structures to the haul route are the multifamily homes approximately 165 ft east of Avenida La Pata and approximately 610 ft south of SR-74. Utilizing the equation above, it is expected that vibration levels would approach 0.01 PPV in/sec and would be well below the damage threshold of 0.2 PPV in/sec, resulting in a less than significant impact. No mitigation is required.

Impact Conclusions. The proposed Project would not result in a new significant or unavoidable impact. It is extremely unlikely that maximum vibration levels would be generated from each project component simultaneously because impacts associated with vibration are generally very local to the operation. In addition, vibration levels are not additive because of the different transmission paths (i.e., different distances and ground densities). Lastly, due to safety measures required in typical blasting plans, operations in proximity to blasting activities would likely be restricted, and multiple vibration-inducing activities would not occur simultaneously. Though not additive, in the event that maximum vibration levels are generated by multiple project components simultaneously, each individual vibration impact level at any given receptor would be well below the most sensitive criteria of 0.12 PPV in/sec for structures that are fragile, and the combined effect would be well below the most sensitive criteria. Project-related vibration impacts would be less than significant, and no additional mitigation would be required. Utilizing the same criteria used in the previous Final EIR No. 575, Final Supplemental EIR No. 597, and applicable Addenda, this analysis has determined there would be no new significant impacts related to construction or operational vibration.

All mitigation measures from Final EIR No. 575 remain as project commitments that apply to the proposed Project. The mitigation measures from Final EIR No. 575 are reiterated in Section 4.3.11.2, Previously Adopted Mitigation. Additional mitigation measures, if any, are indicated under Section 4.3.11.3, Additional Mitigation.

Threshold 4.2.3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The Prima Deshecha Landfill is not within an airport land use plan or within 2 mi of a public airport or public use airport. The nearest public use airport is John Wayne Airport in unincorporated Orange County, between the cities of Costa Mesa, Irvine, and Newport Beach, approximately 18.4 mi northwest of the Project site (JWA 2019). As a result, the proposed Project would not expose people residing or working in the project area to excessive noise levels from aircraft. Therefore, no noise related to the Project site's proximity to a public airport or any airport land use plan would occur, and no mitigation is required.

Impact Conclusions. The proposed Project would not result in a new significant or unavoidable impact related to proximity to a public or private airport or airstrip, and no mitigation is required. Utilizing the same criteria used in the previous Final EIR No. 575, Final Supplemental EIR No. 597, and applicable Addenda, this analysis has determined that there would be no new significant impacts related to proximity to a public or private airport or airstrip.

4.3.9 Cumulative Impacts

Less Than Significant Impact. A cumulative noise impact would occur if multiple sources of noise from cumulative projects or multiple project components combine to create impacts in close proximity to a sensitive receptor. Because noise and vibration impacts associated with the proposed Project are localized and rapidly attenuate with distance as identified in the analysis above, any cumulative projects would be located too far from the Project site to contribute to cumulative impacts related to noise levels due to typical operational activities. The location of potential traffic noise impacts are located over 1.25 mi from Landfill operations and other construction activities. Furthermore, as compared to the existing noise levels as presented in Table 4.3.B, project-related noise impacts would be below existing conditions.

Cumulative traffic noise impacts could occur as a result of increased traffic volumes on local roadways due to future growth from cumulative projects in the Project area. Cumulative traffic noise impacts are based on the difference between existing traffic volumes and future traffic volumes with the proposed Project and in combination with related projects currently being proposed or built in the vicinity of the Project site. An increase of 5 dBA CNEL where the existing ambient noise level is less than 65 dBA and an increase of 3 dBA CNEL where the existing ambient noise level is greater than 65 dBA is considered a significant impact. Utilizing the equation in Section 4.3.8.3, the increase in Project-related traffic noise would be no greater than 0.6 dBA CNEL along the haul route roadway segments for the Existing and Existing Plus Project Plus Cumulative Project condition. Noise level increases below 1.0 dBA are considered imperceptible to humans in an outdoor environment as well as being below the significance thresholds. Therefore, the proposed Project would not contribute substantially to cumulative roadway noise impacts and would have a less than cumulatively considerable impact. No mitigation is required.

In addition to traffic noise generated by cumulative projects in the area, the La Pata Transfer Station, which is located over 0.5 mi north of Zone 4, would potentially generate noise impacts to surrounding uses. Based on information provided in *Addendum 10 to Final EIR Nos. 584 and 589 to The Ranch Plan – La Pata Transfer Station Project* (OCPW 2019), exterior operations at the transfer station would generate minimal noise levels at the closest common receptor (i.e., San Juan Hills High School). The minimal noise level combined with the proposed project noise levels would still remain

well below the applicable noise level standards. Therefore, the proposed Project would not contribute substantially to cumulative operational noise impacts and would have a less than cumulatively considerable impact. No mitigation is required.

4.3.10 Level of Significance Prior to Mitigation

As presented above, operation of the proposed Project would not result in any new significant impacts as compared to the applicable noise and vibration standards and would not result in any new impacts as compared to Final EIR No. 575 and Final Supplemental EIR No. 597 and their addenda. No further mitigation measures are required.

4.3.11 Regulatory Compliance Measures and Mitigation Measures

4.3.11.1 Regulatory Compliance Measures

As presented in Section 4.3.5.2, the County of Orange Noise Ordinance, the County's Standard Conditions of Approval require that all heavy vehicles or equipment, fixed or mobile, operated within 1,000 ft of a dwelling shall be equipped with properly operating and maintained mufflers. Stockpiling and/or vehicle staging areas shall be located as far as practicable from dwellings.

4.3.11.2 Previously Adopted Mitigation

The following mitigation measures are currently in place for impacts associated with the landfill component of the 2001 GDP, as identified in Final EIR No. 575 (numerical designations are from EIR No. 575) and Final Supplemental EIR No. 597. All mitigation commitments contained within Final EIR No. 575, Final Supplemental EIR No. 597, and the 2001 GDP are applicable to the proposed Project.

MM 4.10-1 Although the construction associated with landfilling under the GDP is not anticipated to result in significant noise impacts on residential uses adjacent to the site, the IWMD shall reduce landfill operations noise impacts to the extent feasible based on available funds through the use of landscaping, berms at the face of each landfill lift, phased construction of the landfill areas and the use of buffer areas between noise sources and sensitive recreation receptors.

MM 4.10-2 During final design, the Director PF&RD shall mitigate traffic noise impacts through the use of landscaping buffers and setbacks from the street right-of-way by incorporating these features in the design of the street improvements.

MM 4.10-3 During construction operations, the Director PF&RO shall mitigate noise levels associated with the construction of on-site roadways adjacent to sensitive receptors through the use of limited construction hours, landscape buffers and sound barriers as determined appropriate.

MM 4.10-4 The PF&RD/HBP shall mitigate noise levels associated with the construction of recreation uses adjacent to sensitive receptors through the use of limited construction hours and landscape buffers as determined appropriate.

4.3.11.3 Additional Mitigation

Based on the analysis presented above and impact determinations shown in Section 4.3.8, no additional mitigation is necessary.

4.3.12 Level of Significance after Mitigation

Based on the analysis presented above, the implementation of each component of the proposed Projects would result in a less than significant impact to surrounding sensitive uses.

5.0 ENVIRONMENTAL ISSUES NOT REQUIRING SUBSTANTIAL ADDITIONAL ANALYSIS

5.1 INTRODUCTION

As noted in Chapters 1.0 and 2.0 of this Supplemental Environmental Impact Report (SEIR), State Guidelines for the Implementation of CEQA of 1970 (State CEQA Guidelines) Section 15163(a)(2) indicates that an SEIR is only required to address the information "necessary to make the previous EIR adequate for the project as revised." Accordingly, this section provides a brief summary of the environmental issues for which implementation of the proposed amendment to the Prima Deshecha Landfill (Landfill) General Development Plan (GDP) to include the Zone 4 Construction Projects (Project) has resulted in a determination of "no substantial change" over those impacts identified in Final EIR No. 575. This section is largely consistent with the information and findings in the Initial Study prepared for the proposed Project (Appendix A of this SEIR).

All mitigation commitments contained within Final EIR No. 575 and Final Supplemental EIR No. 597 and the 2001 General Development Plan (GDP) will apply to the proposed Project and are located in Chapter 8.0, Mitigation Monitoring and Reporting. These mitigation measures (contained within Table 8.A) are currently in place for impacts associated with the landfill component of the 2001 GDP, as identified in Final EIR No. 575 (numerical designations are from Final EIR No. 575).

5.2 SUMMARY OF ISSUES NOT REQUIRING ADDITIONAL ANALYSIS

5.2.1 Agriculture and Forestry

Subsequent to certification of Final EIR No. 575, the Project site has not been subject to a new agricultural use (other than grazing) and the state Important Farmland designations have not changed. The Project site is designated as urban and built-up, grazing, and other land, and is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.[1] The proposed Project would not convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or any other type of farmland to a non-agricultural use. Therefore, no impacts to farmlands would occur and no mitigation is required. Similarly, there is no forest or timberland on the Project site, and the Project site is not zoned or currently used for forest land, timberland, or timberland production. As a result, the proposed Project would not conflict with existing zoning for forest land, timberland, or timberland production.

Accordingly, the proposed Project does not result in substantial change from the previous analyses contained within Final EIR No. 575, and the analyses and mitigation measures outlined in Final EIR No. 575 are adequate to support the proposed Project. Therefore, no further analysis or additional mitigation is required.

[1] California Department of Conservation. California Important Farmland Finder. Website: https://maps.conservation.ca.gov/dlrp/ciff/ (accessed June 18, 2020).

5.2.2 Biological Resources

Final EIR No. 575 found that the construction and operation of the Prima Deshecha Landfill through completion of the GDP would result in an unavoidable significant impact to biological resources, even after the implementation of mitigation measures. Since the certification of Final EIR No. 575, OC Waste & Recycling (OCWR) has either fully implemented or will soon implement all of the mitigation measures for biological resources included in that document.

In addition, in 2007, the Prima Deshecha Landfill was included in the Orange County Southern Subregion Habitat Conservation Plan (SSHCP). As a result, OCWR has installed in excess of 122 acres (ac) of coastal sage scrub (CSS) and 19 ac of native grassland (as pre-mitigation for future biological impacts from the future Zone 4 landfill development area) within a permanently protected 530 ac area of the Prima Deshecha Landfill site designated as Supplemental Open Space by the SSHCP. This provides full compensatory mitigation for all of the upland biological impacts identified in Final EIR No. 575 that will occur with the full development of the Landfill.

The Prima Deshecha Landfill Section 404 Individual Permit also required OCWR to obtain a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB). As part of that process, a Habitat Mitigation and Monitoring Plan (HMMP) was developed to implement and maintain the mitigation required to compensate for impacts to resources under the jurisdiction of the California Department of Fish and Wildlife (CDFW), United States Army Corps of Engineers (USACE), and RWQCB. In total, OCWR will implement more than 70 ac of mitigation, preservation, and project minimization features to compensate for the permanent impact of 2.23 ac of waters of the United States and 6.44 ac of streambed and associated riparian habitat associated with development of the Landfill.

Indirect impacts from construction activities (e.g., increased noise, dust, and air emissions) would also occur in habitat adjacent to access roads, staging areas, and the Project site. Therefore, Project construction and operation could have potentially significant impacts either directly or through habitat modification to species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or United States Fish and Wildlife Service (USFWS). However, these impacts were already analyzed in Final EIR No. 575, and the proposed Project would not result in any new significant impacts or more severe impacts to biological resources beyond what was previously analyzed in Final EIR No. 575 since all areas of the Project site fall within the Landfill development areas previously analyzed; therefore, no new or additional mitigation is required. OCWR has already implemented all required upland mitigation for the impacts that were identified in Final EIR No. 575.

Accordingly, the proposed Project does not result in substantial change from the previous analyses contained within Final EIR No. 575, and the analyses and mitigation measures outlined in Final EIR No. 575 are adequate to support the proposed Project. Therefore, no further analysis or additional mitigation is required.

5.2.3 Cultural Resources

Final EIR No. 575 found that the construction and operation of the Prima Deshecha Landfill through completion of the GDP would result in no impacts to historical resources and would not cause a

substantial adverse change in the significance of a historical resource pursuant to State CEQA Guidelines Section 15064.5. Final EIR No. 575 found that the construction and operation of the GDP would result in a less than significant impact to archaeological resources after the implementation of mitigation measures. In particular, grading, earthmoving, and excavation for the landfilling activities would result in removal or destruction of the archaeological resources and possibly additional resources that may exist in both Zones 1 and 4 but which were not identified at the time Final EIR No. 575 was certified because of the heavy cover of vegetation on much of the site. These impacts were found to be significant based on the moderate to high sensitivity rating for archaeological resources assigned to the site, and mitigation was required.

More recently, additional archaeological research was conducted in support of the expansion of the Prima Deshecha Landfill into Zone 4. In 2015, a records search and site survey were conducted to identify existing cultural resources within Zone 4, and a total of 18 resources (i.e., 9 cultural resource sites and 9 isolates) were identified as having been recorded within the area. No additional cultural resources work was recommended at the 9 isolated finds. Of the 9 cultural resource sites, 1 was determined to be outside the project area, 1 was not relocated, and 2 were in an area that would not be impacted by Zone 4 construction or subsequent disposal activities. Significance testing was recommended and conducted for the remaining 5 cultural resource sites. Only 1 cultural resource site was determined to be significant, and it was recommended as eligible for listing on the California Register of Historical Resources (California Register). The California Register eligibility resulted in an archaeological excavation program to recover important site data in order to answer regionally important research questions. The conclusions of this additional archaeological research were consistent with the findings of Final EIR No. 575, which concluded the GDP would result in significant impacts to archaeological resources and that mitigation was required.

Impacts to archaeological resources were already analyzed in Final EIR No. 575 as well as in the more recent investigations discussed above, and the proposed Project would not result in any new significant impacts or more severe impacts to archaeological resources beyond what was previously analyzed in Final EIR No. 575 since all areas of the proposed Project fall within the Landfill development areas previously analyzed in Final EIR No. 575. Therefore, no new or additional mitigation is required. Due to the static nature of cultural resources in the landscape, the archaeological conditions on the Project site would be consistent with those identified in Final EIR No. 575. Implementation of mitigation measures from Final EIR No. 575 would reduce potential impacts of the proposed Project to below the threshold of significance.

Accordingly, the proposed Project does not result in substantial change from the previous analyses contained within Final EIR No. 575, and the analyses and mitigation measures outlined in Final EIR No. 575 are adequate to support the proposed Project. Therefore, no further analysis or additional mitigation is required.

5.2.4 Geology/Soils

Final EIR No. 575 found that the construction and operation of the GDP would result in a less than significant impact to geology and soils after the implementation of mitigation measures. The Project site is in Southern California, which is a seismically active region. The Project site is not within a mapped Alquist-Priolo Earthquake Fault Zone. However, the Project site is in an area with known

earthquake faults. The eastern half of the Prima Deshecha Landfill is crossed by a series of normal faults associated with the Cristianitos fault, which is located near the eastern limit of Zone 4. Branches of the Cristianitos fault include the Forster fault, which crosses through the center of Zone 4, and several other unnamed synthetic and antithetic faults that also cross Zone 4. No significant faulting has been mapped in the Zone 1 area of the Landfill. Final EIR No. 575 found that the Landfill site is not subject to seismic-related ground failure, including liquefaction. During Project construction, soil on the Project site would be exposed and there would be an increased potential for soil erosion compared to existing conditions. The removal of San Onofre Breccia material from Zone 4 may result in temporarily increased soil erosion and areas of exposed soil. In addition, during a storm event, soil erosion could occur at an accelerated rate. The potential for erosion during Project operations would be minimal because temporary impact areas on the Project site would be stabilized through revegetation or other means.

Further, blasting for use in the removal of the San Onofre Breccia Formation during the development of Zone 4 Landfill phases was anticipated in Final EIR No. 575. As stated in Final EIR No. 575, Section 4.2 Geology, Seismicity, Soils and Groundwater, page 4.2-2, “excavation of the San Onofre Breccia will vary from workable with some difficulty with heavy power equipment, to lesser weathered ‘hard’ portions probably requiring blasting to excavate.” The entire Landfill site is known to have landslide formations, which were extensively analyzed in Final EIR No. 575. Page 4.2-3 of Final EIR No. 575 stated that “landsliding is prevalent throughout the site, except in the northwest portion of the site where Waste Management Unit 1 is located. Elsewhere, landslides derived from the Capistrano and Monterey Formations cover at least 50 percent of the site area. These landslides vary in size from small surficial slumps to large landslide masses up to 120 acres in size. Landslides commonly produce hummocky topography characterized by irregular terrain comprised of low-lying ridges, knolls and shallow depressions.” Even with blasting that will be required for portions of the San Onofre Breccia Formation, there is likely a greater potential for landslides in the Capistrano and Monterey Formation areas of the Zone 4 development area, where blasting will not be utilized during excavation. Final EIR No. 575 anticipated that landslides would be located throughout the Zone 4 Landfill development area at Prima Deshecha and that landslide remediation will be performed whenever necessary. As stated in Final EIR No. 575, Section 4.2, Geology, Seismicity, Soils and Groundwater, Mitigation Measure 4.2-1a, “prior to designing each phased landfill plan and specifications, the IWMD shall conduct a geotechnical investigation to determine the extent of landslide material and the soil foundation characteristics of the proposed phase. A geotechnical report of the phased site area shall be prepared which includes a landslide excavation and removal plan prepared to the satisfaction of the Director, IWMD.” The proposed Project will not result in any new significant impacts to geology and soils or more severe impacts when compared to the analysis included in Final EIR No. 575.

Impacts to geology and soils were already analyzed in Final EIR No. 575, and the proposed Project would not result in any new significant impacts or more severe impacts to geology and soils beyond what was previously analyzed in Final EIR No. 575 since all areas of the proposed Project fall within the Landfill development areas previously analyzed in Final EIR No. 575; therefore, no new or additional mitigation is required. While the proposed Project does include the Breccia removal, the limits of excavation do not exceed the excavation limits previously analyzed in Final EIR No. 575.

Accordingly, the proposed Project does not result in substantial change from the previous analyses contained within Final EIR No. 575, and the analyses and mitigation measures outlined in EIR No. 575 are adequate to support the proposed Project. Therefore, no further analysis or additional mitigation is required.

5.2.5 Hazards and Hazardous Materials

Final EIR No. 575 found that the Prima Deshecha Landfill site is not located on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (CalEPA 2020). Therefore, neither construction nor operation of the proposed Project would pose a potential environmental concern to the surrounding area or result in any environmental violations associated with activities conducted at the Project site. Final EIR No. 575 found that the construction and operation of the GDP would result in a less than significant impact hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials after the implementation of mitigation measures. As analyzed in Final EIR No. 575, the Prima Deshecha Landfill is a solid waste landfill that does have the potential to accept household hazardous waste materials that are mixed in with regular commercial and residential solid waste. However, the amount of household hazardous waste materials disposed in the landfill is limited by the following: (1) the majority of solid waste materials received at the Landfill is first processed at materials recovery facilities/transfer stations, where household hazardous waste materials are removed from the waste stream; (2) the landfill fee booth will reject any loads for disposal that may appear to be carrying hazardous waste materials; and (3) the landfill has a load check program where haulers are randomly selected to dispose of their loads in a segregated area so that their waste loads can be closely inspected for any potentially hazardous waste materials. Hazardous waste materials that are collected are temporarily stored on site and then transported for proper off-site disposal in accordance with all federal, State, and local requirements. With implementation of the proposed Project, the Prima Deshecha Landfill would maintain its current primary use as a landfill. Concurrent operations of Zones 1 and 4 would not change the daily maximum refuse or type of refuse being accepted or permitted at the site. Any hazardous materials utilized during construction would be in limited quantities and would be used, stored, and disposed in accordance with local, State, and federal laws. Impacts from hazards and hazardous materials were already analyzed in Final EIR No. 575, and the proposed Project would not result in any new significant impacts or more severe impacts to hazards and hazardous materials beyond what was previously analyzed in Final EIR No. 575; therefore, no new or additional mitigation is required.

Accordingly, the proposed Project does not result in substantial change from the previous analyses contained within Final EIR No. 575, and the analyses and mitigation measures outlined in Final EIR No. 575 are adequate to support the proposed Project. Therefore, no further analysis or additional mitigation is required.

5.2.6 Hydrology/Water Quality

Final EIR No. 575 found that the construction and operation of the GDP would result in a less than significant impact to hydrology and water quality specifically related to a potential violation of water quality standards or waste discharge requirements after the implementation of mitigation measures, groundwater supplies, erosion and siltation, flooding, alteration of the course of a stream

or river, and stormwater drainage system capacity. The existing Landfill operation operates in compliance with Waste Discharge Requirements (WDRs) issued by the California RWQCB, San Diego Region. The proposed Project would comply with the applicable National Pollutant Discharge Elimination System (NPDES) permits and implement construction and operational Best Management Practices (BMPs) to minimize pollutants of concern in stormwater runoff. With implementation of the proposed Project, the Prima Deshecha Landfill would maintain its current primary use as a landfill, and the proposed Project would not change the daily maximum refuse or type of refuse being accepted or permitted at the site. While the proposed Project does include Breccia removal, the limits of excavation do not exceed the excavation limits previously analyzed in Final EIR No. 575. Impacts to hydrology and water quality were already analyzed in Final EIR No. 575, and the proposed Project would not result in any new significant impacts or more severe impacts to hydrology and water quality beyond what was previously analyzed in Final EIR No. 575 since all areas of the proposed Project fall within the Landfill development areas previously analyzed in Final EIR No. 575; therefore, no new or additional mitigation is required.

Accordingly, the proposed Project does not result in substantial change from the previous analyses contained within Final EIR No. 575, and the analyses and mitigation measures outlined in Final EIR No. 575 are adequate to support the proposed Project. Therefore, no further analysis or additional mitigation is required.

5.2.7 Land Use/Planning

The proposed Project does not involve any changes to the existing land uses that are outlined in the 2001 GDP and analyzed in Final EIR No. 575. The Prima Deshecha Landfill would maintain its current primary use as a landfill. Concurrent operations of Zones 1 and 4 would not change the daily maximum refuse being accepted or permitted at the site.

Final EIR No. 575 found that the construction and operation of the GDP would result in a less than significant impact to land use and planning. The Landfill is located in the western foothills of the Santa Ana Mountains and is partially within San Juan Capistrano (570 ac), San Clemente (133 ac), and unincorporated Orange County (827 ac). The Landfill has been in operation since 1976, and while residential communities have been developed around it since then, the use on the Landfill property, which is a landfill operation, has not changed. The County of Orange General Plan designation for the Landfill site is 4LS, which is a public facility with a landfill site overlay. In August 2016, the La Pata Gap Extension opened, consisting of a road built through the Landfill property that connects San Clemente and San Juan Capistrano. With the exception of vehicular traffic, the proposed Project would occur entirely within the confines of the existing Prima Deshecha Landfill, would not physically divide an established community, and would be in compliance with relevant plans, policies, and regulations including, but not limited to, the Orange County SSHCP.

Accordingly, the proposed Project does not result in substantial change from the previous analyses contained within Final EIR No. 575, and the analyses and mitigation measures outlined in Final EIR No. 575 are adequate to support the proposed Project. Therefore, no further analysis or additional mitigation is required.

5.2.8 Mineral Resources

Final EIR No. 575 found that the construction and operation of the 2001 GDP would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. The landfill development that was analyzed in Final EIR No. 575 has been in continuous operation since 1976. The implementation of the proposed Project falls within the same footprint boundary as the landfill development that was analyzed in Final EIR No. 575; therefore, no new impacts to mineral resources would occur. The primary use of the site is not mineral extraction. According to the Orange County General Plan, the site of the Project is currently designated for landfill operations, which may include materials recovery, recycling facilities, and accessory uses (e.g., borrow site areas, buffer areas, access roads). The Project would not result in the loss of a known locally important mineral resource or a known mineral resource that would be of value to the region and the residents of the State, and impacts from materials recovery operations would result in no impacts to mineral resources.

Accordingly, the proposed Project does not result in substantial change from the previous analyses contained within Final EIR No. 575, and the analyses and mitigation measures outlined in Final EIR No. 575 are adequate to support the proposed Project. Therefore, no further analysis or additional mitigation is required.

5.2.9 Population/Housing

Final EIR No. 575 found that the construction and operation of the 2001 GDP would result in no impacts to population and housing. The proposed Project does not include construction of new homes, does not include extension of roads or other infrastructure to previously undeveloped areas, and would not displace existing housing or people. Therefore, the proposed Project would not create a permanent increase in population or an increased demand for housing in Orange County or the region.

Accordingly, the proposed Project does not result in substantial change from the previous analyses contained within Final EIR No. 575, and the analyses and mitigation measures outlined in Final EIR No. 575 are adequate to support the proposed Project. Therefore, no further analysis or additional mitigation is required.

5.2.10 Public Services

Final EIR No. 575 found that the construction and operation of the GDP would result in a less than significant impact to fire protection, police protection, schools, parks, or other public facilities. Similar to the landfill development that was analyzed in Final EIR No. 575, the proposed Project does not include construction of governmental facilities, new homes, or businesses. Similar to the landfill development that was analyzed in Final EIR No. 575, the proposed Project is not anticipated to affect the population within the surrounding area. The proposed Project would not introduce new facilities requiring fire protection. Similar to the landfill development that was analyzed in Final EIR No. 575, no additional police protection would be required because OCWR provides on-site security and public access is limited. No additional schools, parks, or other public facilities would be required because no changes in area population would occur as a result of the proposed Project.

Accordingly, the proposed Project does not result in substantial change from the previous analyses contained within Final EIR No. 575, and the analyses and mitigation measures outlined in Final EIR No. 575 are adequate to support the proposed Project. Therefore, no further analysis or additional mitigation is required.

5.2.11 Recreation

Final EIR No. 575 found that the construction and operation of the GDP would result in a less than significant impact to recreation. Similar to the landfill development that was analyzed in Final EIR No. 575, the proposed Project would not increase the population in the vicinity of the Prima Deshecha Landfill such that there would be an increase in the use of existing parks or other recreational facilities. Similar to the landfill development that was analyzed in Final EIR No. 575, the proposed Project would not result in any significant impacts to recreational resources since the proposed Project would not result in any homes being built. In addition, the proposed Project would not directly or indirectly impact any existing recreational facilities. OCWR granted an easement to the Cities of San Juan Capistrano and San Clemente for a multi-use recreational trail on the Landfill site that connects the City of San Juan Capistrano trail system to the City of San Clemente trail system. The easement for the trail on the Landfill property would not be impacted by the proposed Project and will remain in place.

Accordingly, the proposed Project does not result in substantial change from the previous analyses contained within Final EIR No. 575, and the analyses and mitigation measures outlined in Final EIR No. 575 are adequate to support the proposed Project. Therefore, no further analysis or additional mitigation is required.

5.2.12 Transportation

Final EIR No. 575 found that the construction and operation of the Landfill through completion of the GDP would result in a less than significant impact to transportation. Section 15064.3 of the State CEQA Guidelines codifies that project-related transportation impacts are typically best measured by evaluating the project's vehicle miles traveled (VMT). Specifically, Subdivision (b) focuses on specific criteria related to transportation analysis and is divided into four subdivisions: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology. Subdivision (b)(1) provides guidance on determining the significance of transportation impacts of land use projects using VMT; projects within 0.5 mile (mi) of a major transit stop/high-quality transit corridor should be considered to have a less than significant impact. Subdivision (b)(2) addresses VMT associated with transportation projects and states that projects that reduce VMT (e.g., pedestrian, bicycle, and transit projects) should be presumed to have a less than significant impact. Subdivision (b)(3) acknowledges that Lead Agencies may not be able to quantitatively estimate VMT for every project type; in these cases, a qualitative analysis may be used. Subdivision (b)(4) stipulates that Lead Agencies have the discretion to formulate a methodology that would appropriately analyze a project's VMT. The provisions of State CEQA Guidelines Section 15064.3 became applicable statewide beginning July 1, 2020.

The proposed Project is neither a land use project nor a transportation project. It would not result in any long-term changes to traffic or circulation and would not develop any new land uses that would contribute to traffic congestion within the area because operation and maintenance activities

associated with the Landfill would not appreciably change in intensity or frequency. Neither construction nor operation of the proposed Project would result in additional passenger vehicle trips or include trip-inducing uses for regional daily VMT.

According to the County of Orange (County) Final Draft Guidelines for Evaluating Vehicles Miles Traveled under CEQA (LSA 2020), public services and facilities that support community health, safety, or welfare are screened from a VMT analysis. Such facilities include fire stations, police/ sheriff stations, jails, community centers, refuse stations, and landfills (i.e., Prima Deshecha Landfill). These facilities are already a part of the community and, as a public service, the VMT is accounted for in the existing regional average. In addition, the Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018) makes it clear that VMT is measured for "automobiles," which are "on-road passenger vehicles, specifically cars and light trucks." As such, heavy trucks (e.g., garbage, waste disposal, and haul trucks) are not included in the VMT for the proposed project. Furthermore, the OPR technical advisory recommends that a "small" project generating 110 average daily traffic (ADT) or less be screened out of a VMT analysis due to the presumption of a less than significant transportation impact. The proposed Project (Breccia removal and soil importation for liner installation) would require all heavy trucks. As such, the proposed Project would generate fewer than 110 passenger vehicle ADT. Therefore, the proposed project is screened from a VMT analysis and presumed to have a less than significant transportation impact.

Accordingly, the proposed Project does not result in substantial change from the previous analyses contained within Final EIR No. 575, and the analyses and mitigation measures outlined in Final EIR No. 575 are adequate to support the proposed Project. Therefore, no further analysis or additional mitigation is required.

5.2.13 Utilities/Service Systems

Final EIR No. 575 found that the construction and operation of the Prima Deshecha Landfill through completion of the GDP would result in less than significant impacts related to the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities. Similar to the landfill development analyzed in Final EIR No. 575, the proposed Project will be served by existing utility service providers for water, power, and natural gas. No significant impacts will occur.

Final EIR No. 575 found that the construction and operation of the Prima Deshecha Landfill through completion of the GDP would result in a less than significant impact related to the Landfill development's water consumption, thereby not resulting in any significant impacts to the availability of water supplies or impacting the water purveyor's ability to supply water. Similarly Final EIR No. 575 found that the construction and operation of the Landfill through completion of the GDP would result in no impacts to the existing wastewater treatment provider. The proposed Project will be served by the existing water service provider and wastewater treatment provider. The proposed Project does not contemplate any uses that are outside existing water or wastewater treatment demand projections and land uses assumed on the Project site. No significant impacts will occur.

Accordingly, the proposed Project does not result in substantial change from the previous analyses contained within Final EIR No. 575, and the analyses and mitigation measures outlined in Final EIR No. 575 are adequate to support the proposed Project. Therefore, no further analysis or additional mitigation is required.

6.0 OTHER CEQA CONSIDERATIONS

6.1 SUMMARY OF SIGNIFICANT UNAVOIDABLE IMPACTS

Section 15126.2(c) of the State Guidelines for the Implementation of CEQA of 1970 (State CEQA Guidelines) requires that an Environmental Impact Report (EIR) describe any significant impacts that cannot be avoided. Specifically, Section 15126.2(c) states that an EIR shall:

> "Describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described."

The Executive Summary of this document (Chapter 1.0) contains a detailed summary that identifies the potential environmental impacts of the proposed amendment to the Prima Deshecha Landfill (Landfill) General Development Plan (GDP) to include the Zone 4 Construction Projects (Project) as compared to existing conditions, proposed mitigation measures, and the level of significance of any impacts after mitigation. As described in detail in Chapter 4.0, Existing Environmental Setting, Environmental Analysis, Impacts, and Mitigation Measures, the proposed Project would not result in any new or more significant impacts as compared to what was analyzed and disclosed in Final EIR No. 575. For the purposes of clarity, the following is a summary of those impacts from Final EIR No. 575 and Final Supplemental EIR No. 597 that are considered significant, adverse, and unavoidable after all mitigation is applied.

6.1.1 Significant and Unavoidable Impacts from Final EIR No. 575

Final EIR No. 575 found that the construction and operation of the Prima Deshecha Landfill through completion of the 2001 General Development Plan (GDP) for the Landfill would result in an unavoidable significant adverse impact to topography, aesthetics, and biological resources.

6.1.1.1 Topography

Final EIR No. 575 concluded that the potential impacts of the 2001 GDP landfilling activities on site topography will be significant in Zones 1 and 4 as a result of cutting and grading of the existing surface features of the site and filling Zones 1 and 4 with refuse. In addition, a portion of the existing Prima Deshecha Cañada stream channel would be relocated south of Stockpile No. 1 because of the existing landslide that is currently affecting both hydrological and biological conditions of the stream. This diversion altered the naturally occurring alignment of the stream. These on-site impacts cannot be mitigated to below a level of significance. Although the surface of the developed landfill will be molded to minimize an engineered appearance (manufactured slopes), the final topographic features constitute a significant change to the environment. The impacts of the 2001 GDP on topography cannot be mitigated to a less than significant level.

6.1.1.2 Biological Resources

Final EIR No. 575 concluded that implementation of the 2001 GDP will result in potentially significant adverse impacts on native plant communities and occupied California gnatcatcher habitat. Final EIR No. 575 further concluded that there will be a significant, short-term loss of these native plant communities, including coastal sage scrub (California gnatcatcher) and riparian (least Bell's vireo) habitats between the time when the plant materials are removed during construction and when the revegetation plantings are mature. This interim loss is a significant, unavoidable adverse impact that may be mitigated to below a level of significance with a successful revegetation program that is implemented prior to impacts.

6.1.1.3 Aesthetics

Final EIR No. 575 concluded that the long-term GDP construction and site preparation activities will be highly visible from many vantage points around the site, particularly in San Clemente, thereby creating a permanent change in the overall landscape character of the area. Potentially significant aesthetic impacts of the 2001 GDP landfilling activities from vantage points within San Juan Capistrano would be reduced to a less than significant level through the implementation of mitigation measures (e.g., ensuring the Landfill is not visible from State Route 74 [SR-74]). However, potentially significant impacts from the landfilling activities within the San Clemente viewshed cannot be reduced to a less than significant level, even with the implementation of mitigation. Therefore, these impacts will remain significant and unavoidable.

6.1.2 Significant and Unavoidable Impacts from Final Supplemental EIR No. 597

The Second Amendment to the 2001 GDP did not alter project emissions as covered by Final EIR No. 575. Notwithstanding that fact, a change in the State CEQA Guidelines subsequent to certification of Final EIR No. 575 resulted in an updated impact conclusion of "significant after mitigation" for air quality impacts associated with the 2001 GDP.

Final EIR No. 575 concluded that air emissions generated by the Landfill component of the 2001 GDP exceeded South Coast Air Quality Management District (SCAQMD) thresholds of significance, and the Prima Deshecha Landfill is currently implementing several mitigation measures to reduce potential air quality impacts. The air quality impact conclusion of "less than significant" in Final EIR No. 575 was based upon the provisions contained within Section 15064(h) of the State CEQA Guidelines, which provided that an environmental impact is not significant if it complies with a standard adopted by a public agency for the purpose of environmental protection. The "standard" cited in Final EIR No. 575 to support the conclusion of less than significant impact is conformity with landfill-specific SCAQMD air quality standards, which the Landfill must meet through permit acquisition in order to continue operation. However, on October 28, 2002 (after finalization of Final EIR No. 575), the California Court of Appeal invalidated this provision in Section 15064(h) in its decision in the case of *Citizens for a Better Environment et al. vs. the California Resources Agency*; accordingly, although the Second Amendment to the 2001 GDP emissions is not different than that generated by the 2001 GDP, Final Supplemental EIR No. 597 updated the impact conclusion for air quality effects associated with the original 2001 Prima Deshecha Landfill GDP to reflect a conclusion of "significant after mitigation" based upon this change to the State CEQA Guidelines.

Implementation of the updated mitigation measures described in Section 5.4.4 of Final Supplemental EIR No. 597 would help to further reduce air quality impacts that result from operations at the Prima Deshecha Landfill; however, even with implementation of all existing and recommended mitigation measures, operations at the Landfill would result in significant and unavoidable air quality impacts.

The Second Amendment to the 2001 GDP did not result in additional impacts to surrounding communities from project-related odor considerations. However, in response to comments received during public review of Draft Supplemental EIR No. 597, OC Waste & Recycling (OCWR) agreed to use the Whispering Hills development as a periodic odor survey point when fulfilling its established commitment under Mitigation Measure 4.9-5, Energy Impacts.

6.2 ENERGY

Since certification of Final EIR No. 575 in November 2001 and certification of Final Supplemental EIR No. 597 in June 2007, there have been several revisions to the California Environmental Quality Act (CEQA) and the State CEQA Guidelines. Most recently, CEQA and the State CEQA Guidelines were updated in December 2018, and several new topics were added, one of which was Energy. The revised State CEQA Guidelines apply to a CEQA document only if the revised Guidelines are in effect when the document is sent out for public review (State CEQA Guidelines, § 15007(c)). Therefore, because OCWR has prepared a Supplemental Environmental Impact Report (SEIR), which need only contain the information necessary to make the previous EIR adequate for the project as revised, this SEIR will not address topics added in the 2018 CEQA update or any update that occurred between 2001 and the present day.

According to Section 15126.2(b) of the State CEQA Guidelines, "[i]f analysis of the project's energy use reveals that the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption use of energy, or wasteful use of energy resources, the EIR shall mitigate that energy use." Appendix F of the State CEQA Guidelines, which was in effect at the time Final EIR No. 575 was certified, is an advisory document that assists Lead Agencies in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. Not all items listed in Appendix F are applicable to every project; however, those items listed in Table 6.A are applicable and relevant to the proposed Project.

6.2.1 Electricity

Electricity is a man-made resource. The production of electricity requires the consumption or conversion of energy resources (including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources) into energy. Electricity is used for a variety of purposes (e.g., lighting, heating, cooling, and refrigeration and for operating appliances, computers, electronics, machinery, and public transportation systems) (EIA 2019b).

The proposed Project does not include any new connections to the electrical grid or an increase in use of electricity. Therefore, the proposed Project would not result in the wasteful, inefficient, or unnecessary consumption use of electricity or wasteful use of energy resources related to electricity, and no mitigation is required.

Table 6.A: Proposed Project Comparison to State CEQA Guidelines, Appendix F

Appendix F Items for Consideration	Proposed Project
1. The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project's life cycle including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed.	Operation of the proposed Project does not include any new connections to the electrical grid or an increase in use of electricity or natural gas. Energy use during construction is discussed in detail in Section 6.2 of this SEIR, would primarily involve gasoline and diesel, and represents a short-term use of readily available fuels. Maintenance use is accommodated in the operational analysis.
2. The effects of the project on local and regional energy supplies and on requirements for additional capacity.	Operation of the proposed Project does not include any new connections to the electrical grid or an increase in use of electricity or natural gas. Energy use during construction is discussed in detail in Section 6.2 of this SEIR, would primarily involve gasoline and diesel, and represents a short-term use of readily available fuels. Maintenance use is accommodated in the operational analysis.
3. The effects of the project on peak and base period demands for electricity and other forms of energy.	Operation of the proposed Project does not include any new connections to the electrical grid or an increase in use of electricity or natural gas. Energy use during construction is discussed in detail in Section 6.2 of this SEIR, would primarily involve gasoline and diesel, and represents a short-term use of readily available fuels. Maintenance use is accommodated in the operational analysis.
4. The degree to which the project complies with existing energy standards.	Operation of the proposed Project does not include any new connections to the electrical grid or an increase in use of electricity or natural gas. Energy use during construction is discussed in detail in Section 6.2 of this SEIR, would primarily involve gasoline and diesel, and represents a short-term use of readily available fuels. Maintenance use is accommodated in the operational analysis.
5. The effects of the project on energy resources.	Operation of the proposed Project does not include any new connections to the electrical grid or an increase in use of electricity or natural gas. Energy use during construction is discussed in detail in Section 6.2 of this SEIR, would primarily involve gasoline and diesel, and represents a short-term use of readily available fuels. Maintenance use is accommodated in the operational analysis.
6. The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.	The proposed Project would require transportation energy use for construction and operation. Construction transportation energy usage includes the transportation of equipment and materials to the landfill and fuel needed to operate construction equipment. Project operation includes the fuel needed to operate landfill equipment and equipment associated with the importation of soil for liner installation and the movement of trucks on site for Breccia removal operations. While alternative transportation options are not available for construction and operation of the landfill, trips associated with soil importation and Breccia removal are planned to be efficient and to maximize loads so as to reduce overall trips.

Source: Compiled by LSA Associates, Inc. (2020).
SEIR = Supplemental Environmental Impact Report

Accordingly, the proposed Project does not result in substantial change from the previous analyses contained within Final EIR No. 575, and the analyses and mitigation measures outlined in Final EIR No. 575 are adequate to support the proposed Project. Therefore, no further analysis or additional mitigation is required.

6.2.2 Natural Gas

Natural gas is a non-renewable fossil fuel. Fossil fuels are formed when layers of decomposing plant and animal matter are exposed to intense heat and pressure under the surface of the Earth over millions of years. Natural gas is a combustible mixture of hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas is found in naturally occurring reservoirs in deep underground rock formations. Natural gas is used for a variety of uses (e.g., heating buildings, generating electricity, and powering appliances such as stoves, washing machines and dryers, gas fireplaces, and gas grills) (EIA 2019c).

The proposed Project does not include any new connections to the natural gas distribution system or an increase in use of natural gas. Therefore, the proposed Project would not result in the wasteful, inefficient, or unnecessary consumption use of natural gas, or wasteful use of energy resources related to natural gas, and no mitigation is required.

Accordingly, the proposed Project does not result in substantial change from the previous analyses contained within Final EIR No. 575, and the analyses and mitigation measures outlined in Final EIR No. 575 are adequate to support the proposed Project. Therefore, no further analysis or additional mitigation is required.

6.2.3 Petroleum/Transportation Energy

Petroleum is also a non-renewable fossil fuel. Petroleum is a thick, flammable, yellow-to-black mixture of gaseous, liquid, and solid hydrocarbons that occurs naturally beneath the Earth's surface. Petroleum is primarily recovered by oil drilling. It is refined into a large number of consumer products, primarily fuel oil and gasoline.

Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles. According to the most recent data available, in 2018, total gasoline consumption in California was 365,610 thousand barrels (15.4 billion gallons) or 1,847.8 trillion British thermal units (BTU) (EIA 2019a).[1] Of the total gasoline consumption, 349,108 thousand barrels or 1,764.4 trillion BTU were consumed for transportation (EIA 2019a). Based on fuel consumption obtained from EMFAC2017, 160.5 million gallons of diesel and 1.3 billion gallons of gasoline were consumed from vehicle trips in Orange County in 2018.

Operation of the proposed Project would require consumption of nonrenewable energy resources, primarily in the form of fossil fuels (including diesel and gasoline) for automobiles, trucks, and heavy-duty equipment. Levels of construction-related and operations-related energy consumption

[1] A British Thermal Unit (BTU) is defined as the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit.

by the proposed Project were calculated using the fuel consumption factors in the EMFAC2017 and OFFROAD2017 models. As shown in Table 6.B, an estimated 40,255 gallons (gal) of gasoline and 1,822,620 gal of diesel per year would be consumed to enable Project construction and operation, accounting for both on-site vehicle and equipment use and off-site vehicle travel. It is expected that nonrenewable energy resources would be used efficiently during Landfill construction and operation activities given the financial implications of inefficient use of such resources. Therefore the amount would not result in the unnecessary, inefficient, or wasteful use of energy resources.

Table 6.B: Summary of Fuel Consumption (gal/yr)

Activities	Gasoline	Diesel
Changes to Operations Phases between Zone 1 and Zone 4	37,035	1,532,567
San Onofre Breccia Area	2,818	249,621
Imported Soil Truck Trips for Liner Installation	403	40,432
Total	**40,255**	**1,822,620**

Source: Compiled by LSA Associates, Inc. (2020).
gal/yr = gallons per year

Based on the analysis in this section, it is concluded that the proposed Project would not result in the wasteful, inefficient, and unnecessary consumption of petroleum/transportation energy. Accordingly, the proposed Project does not result in substantial change from the previous analyses contained within Final EIR No. 575, and the analyses and mitigation measures outlined in Final EIR No. 575 are adequate to support the proposed Project. Therefore, no further analysis or additional mitigation is required.

6.3 GROWTH-INDUCING IMPACTS

Sections 15126(d) and 15126.2(e) of the State CEQA Guidelines require that an EIR analyze growth-inducing impacts and discuss the ways in which a proposed project could foster economic or population growth or construction of additional housing, either directly or indirectly, in the surrounding environment. This section examines ways in which the proposed Project could foster economic or population growth, or the construction of additional housing either directly or indirectly in the surrounding environment. State CEQA Guidelines Section 15126.2(d) also requires a discussion of the characteristics of projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. To address these issues, potential growth-inducing effects were examined through analysis of the following questions:

- Would the project remove obstacles to, or otherwise foster, population growth (e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the project area, or through changes in existing regulations pertaining to land development)?

- Would the project foster economic growth?

- Would approval of the project involve some characteristic that may encourage and facilitate other activities that could significantly affect the environment?

Growth-inducing effects are not to be construed as necessarily beneficial, detrimental, or of little significance to the environment (State CEQA Guidelines, Section 15126.2(e)). This issue is presented to provide additional information on ways in which the proposed Project could contribute to significant changes in the environment beyond the direct consequences of developing the proposed land uses as described in earlier sections of this Draft SEIR.

6.3.1 Removal of Obstacles to, or Otherwise Foster, Population Growth

Implementation of the proposed Project would not involve an increase in Landfill capacity or significant changes in Landfill operations over the long term; as a result, the number of employees at the Prima Deshecha Landfill would not change substantially with implementation of the proposed Project. Employees would continue to perform similar Landfill operations, including administration, Landfill cover operations, and other Landfill-related operations in order to support operations covered under Final EIR No. 575. With the exception of the equipment needed for monthly blasting operations and removal of the Breccia, the numbers and types of equipment used at the Landfill will not change substantially as a result of the proposed Project, nor would the days of operation or schedule of the facility change substantially.

The proposed Project would not promote construction workers relocating their places of residence as a direct consequence of working on the proposed Project because any specialized blasting equipment and operation of such equipment would likely be provided by contractors working for OCWR. The work requirements of most construction projects are highly specialized, so construction workers remain at a job site only for the limited time in which their specific skills are needed to complete a particular phase (e.g., blasting of Breccia) of the construction process. In addition, the supply of general construction labor in the region has been stable over recent years (not accounting for labor market changes due to the COVID-19 pandemic), suggesting a well-functioning construction job market and available regional labor pool. Given the availability of construction workers, the proposed Project would not induce material population growth from a short-term employment perspective.

The proposed Project would not, in itself, be an inducement to growth, because the improvements under the proposed Project would not entail new residences or the extension of major infrastructure facilities (i.e., sewer or water lines, roads) that would result in secondary or indirect growth in and around the area. In addition, waste disposal needs for the region have been considered for the project based on the County of Orange Countywide Integrated Waste Management Plan (CIWMP), which assesses existing and approved development and ultimate General Plan build out for southern Orange County. Because the proposed Project does not include elements that alter refuse capacity at the site, create permanent employment opportunities, result in the extension of major infrastructure facilities, or affect regional housing trends, there will be no incremental growth-inducing effects as a result. This issue was adequately addressed in Final EIR No. 575 for the 2001 GDP as amended.

6.3.2 Foster Economic Growth

The proposed Project would not introduce new residents or populations to the Project site. While the proposed Project may generate a limited number of construction jobs, these jobs are anticipated to be filled by existing contractors working within Orange County. Any economic growth attributable to construction-related jobs would be minor in comparison to the overall County employment forecast.

6.3.3 Other Characteristics

The proposed Project does not involve any changes to the existing land uses that are outlined in the 2001 GDP and analyzed in Final EIR No. 575. The Prima Deshecha Landfill would maintain its current primary use as a landfill. Concurrent operations of Zones 1 and 4 would not change the daily maximum refuse being accepted or permitted at the site. Because the proposed Project would not modify the existing General Plan land use designations or zoning classifications on the Project site or on any off-site properties, the Project would not directly increase the cities' or County's population. In addition, the proposed Project is unlikely to attract developers or businesses to the area. Therefore, the proposed Project would not encourage or facilitate growth through land use changes or other activities that could significantly affect the environment.

6.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(d) of the State CEQA Guidelines requires that an EIR consider and discuss significant irreversible changes that would be caused by implementation of a proposed project. The State CEQA Guidelines specify that the use of nonrenewable resources during the initial and continued phases of a project should be discussed because a large commitment of such resources makes removal or non-use thereafter unlikely. Primary and secondary impacts (e.g., a highway improvement that provides access to a previously inaccessible area) should also be discussed because such changes generally commit future generations to similar uses. Irreversible damage can also result from environmental accidents associated with a project and should be discussed.

The types and level of development associated with the proposed Project would consume limited, slowly renewable, and nonrenewable resources. This consumption would occur during construction of the proposed Project and would continue throughout the operational lifetime of the proposed Project. The development of the proposed Project would require a commitment of resources that would include (1) building materials, (2) fuel and operational materials/resources, and (3) the transportation of goods and people to and from the Project site.

Implementation of the proposed Project would not result in significant changes in quantities of building materials over those assessed within the 2001 GDP and Final EIR No. 575 because no new structures are proposed. Those materials that are utilized for Breccia removal are anticipated to be in adequate supply into the foreseeable future.

Construction of the proposed Project would require consumption of resources that are not replenishable or that may renew so slowly as to be considered non-renewable. Fossil fuels (e.g., gasoline and oil) would also be consumed in the use of construction vehicles and equipment. Water, which is a limited resource, would also be consumed during construction and operation of the

proposed Project. This existing, finite energy source would thus be incrementally reduced; however, as discussed in Section 6.2, the consumption of fuels during construction and operation would not occur in a wasteful or inefficient manner. Nevertheless, the use of such resources would continue to represent a long-term commitment of essentially nonrenewable resources.

Water would be utilized for dust control and watering activities that would occur as a result of the proposed Project. These uses are currently in effect at the Landfill and are required for site mitigation responsibilities; therefore, the proposed Project is not anticipated to incrementally increase these needs to a significant level. These are not considered to be wasteful, inefficient, or unnecessary uses of water. Because sources of water for the proposed Project are available and anticipated to be in adequate supply into the foreseeable future, impacts due to this irretrievable and irreversible commitment of resources are not considered significant.

In summary, construction and operation of the proposed Project would commit the use of slowly renewable and nonrenewable resources and would limit the availability of these resources on the Project site for future generations or for other uses during the life of the proposed Project. However, the continued use of such resources during operation would be on a relatively small scale and consistent with the 2001 GDP. As a result, the use of nonrenewable resources in this manner would not result in significant irreversible changes to the environment under the proposed Project.

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7.0 ALTERNATIVES

7.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives" (State Guidelines for the Implementation of CEQA of 1970 [State CEQA Guidelines], Section 15126.6). This chapter identifies potential alternatives to the proposed amendment to the Prima Deshecha Landfill (Landfill) General Development Plan (GDP) to include the Zone 4 Construction Projects (Project) and evaluates them as required by CEQA.

Key provisions of the State CEQA Guidelines on alternatives (Sections 15126.6[b] through [f]) are summarized below to explain the foundation and legal requirements for the alternatives analysis in an EIR:

- The discussion of alternatives shall focus on alternatives to the project or its location that would feasibly attain most of the basic project objectives and that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly (Section 15126.6[b]).

- The specific alternative of "no project" shall also be evaluated along with its impact (Section 15126.6[e][1]). The "no project" analysis shall discuss the existing conditions at the time the Notice of Preparation (NOP) is published and at the time the environmental analysis is commenced, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (Section 15126.6[e][2]).

- The range of alternatives required in an EIR is governed by the "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in such a manner as to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, General Plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent) (Section 15126.6[f]).

- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR (Section 15126.6[f][2][A]).

- If the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion and should include the reasons in the EIR. For example, in some cases there may be no feasible alternative locations for a geothermal plant or mining project, which must be in close proximity to natural resources at a given location (Section 15126.6[f][2][B]).

- An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative (Section 15126.6[f][3]).

7.2 PROPOSED PROJECT

7.2.1 Project Characteristics

As described earlier in Chapter 3.0, Project Description, the proposed amendment to the 2001 GDP to include the Zone 4 Construction Projects would include the following components: (1) changes to the phasing of operations between Zone 1 and Zone 4 of the Landfill to allow for concurrent operations; (2) blasting, excavation, on-site relocation, pulverizing into soil, soil stockpiling, and off-site soil removal of hard rock material in Zone 4, referred to as the San Onofre Breccia area; and (3) imported soil trips for liner installation that will occur for all future Zone 4 development phases.

7.2.2 Project Objectives

Each alternative is analyzed to determine whether it achieves the basic objectives of the proposed Project. As discussed in Chapter 3.0, Project Description, of this Supplemental EIR (SEIR), OC Waste & Recycling (OCWR) has established specific solid waste management objectives for the proposed Project that would aid decision-makers in their review and its associated environmental impacts. The objectives identified below were utilized in the preparation of this SEIR for Amendment No. 4 to the 2001 GDP, particularly with regard to landfill design and operations.

- Optimize the use of the site as a long-term waste disposal facility.

- Minimize potential noise, dust, and odor impacts for surrounding land uses by alternating disposal operations between Zones 1 and 4 based on seasonal conditions.

- Provide for the development and long-term operation of Zone 4 through the removal of the San Onofre Breccia material.

- Provide a long-term, regional solid waste management facility with appropriate safeguards, including soil-covered liner installation of each landfill phase in order to protect public health and safety as well as water, air, soil, and other important resources that exist on site and on surrounding property.

7.2.3 Significant Unavoidable Impacts of the Proposed Project

Final EIR No. 575 and Final Supplemental EIR No. 597 concluded that development of the Landfill would result in significant and unavoidable impacts related to aesthetics and air quality even with implementation of the mitigation measures. As described in Chapter 4.0, Existing Environmental Setting, Environmental Analysis, Impacts, and Mitigation Measures, the proposed Project would not result in new or greater significant unavoidable adverse impacts related to aesthetics, air quality, or noise. In addition, as described in Chapter 5.0, Environmental Issues Not Requiring Substantial Additional Analysis, the proposed Project would not result in any new significant impacts not identified in Final EIR No. 575 that would be related to agricultural and forestry resources, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, population and housing, public services, recreation, transportation, and utility and service systems.

The following discussion focuses on alternatives that would reduce or avoid the significant adverse unavoidable impacts of the proposed Project and alternatives not previously considered in Final EIR No. 575 or Supplemental EIR No. 597. The following is a summary of the impacts that are considered significant, adverse, and unavoidable after all mitigation is applied. These impacts are also described in detail in Chapter 4.0.

7.3 ALTERNATIVES PREVIOUSLY CONSIDERED

Several alternatives were considered for detailed analysis in Final EIR No. 575 and Supplemental EIR No. 597 but were eliminated due to infeasibility.

7.3.1 Alternatives Previously Analyzed in Final EIR No. 575

7.3.1.1 No Project Alternative

The No Project Alternative analyzed in Final EIR No. 575 was based on the 1979 Development Plan, which served as the basis for the 1995 Solid Waste Facility Permit for the Landfill. This alternative would have maintained an alignment of La Pata Avenue that was inconsistent with the current Master Plan of Arterial Highways (MPAH). This alternative would have allowed for continued development of the Landfill but would have resulted in a greater area to be disturbed for landfilling and therefore greater environmental impacts. Significant impacts greater than those under the 2001 GDP that could not be mitigated to a less than significant impact were identified for topography, biological resources, and aesthetics.

7.3.1.2 Stockpile Landslide Remediation Alternatives

An alternatives analysis was performed for the permit approvals required to conduct the landslide remediation component of the 2001 Preferred Alternative. The following landslide remediation alternatives were considered but were ultimately deemed to be technologically or economically infeasible, have greater environmental impacts than the 2001 GDP, or did not accomplish the objectives of the 2001 GDP:

- **No Action Landslide Remediation Alternative:** Under the No Action Landslide Remediation Alternative, landfill development would have been restricted to north of the Prima Deshecha

Cañada streambed, and no actions would be taken to address the unstable slope located in Stockpile No. 1. This would have resulted in a smaller landfill footprint, longer haul distance for stockpiled materials, the filling of the streambed when the slope fails (which would result in uncontrolled stormwater flows), and impacts to least Bell's vireo habitat. Uncontrolled stormwater flows would also have had the potential to result in flooding impacts by exceeding the capacity of the downstream San Clemente flood control channel. This alternative would also require stockpile material to be hauled off site until it is needed for cover, and then trucked back on site. Overall refuse capacity of the Landfill would have been reduced by restricting landfilling north of the streambed. The No Action Landslide Remediation Alternative was determined to be infeasible because it would neither be cost be effective nor would it efficiently remediate the identified landslide in Stockpile Area No. 1. In addition, it could potentially result in a significantly greater adverse health and safety risk, and environmental impacts on biological resources, traffic, noise, and air quality than those associated with the 2001 GDP.

- **Stabilize Stockpile Landslide and Re-route Natural Stream to the South of Current Alignment and Install 96-Inch Reinforced Concrete Pipe (RCP):** Under this alternative, approximately 1,100,000 cubic yards (cy) of fill would have been placed over the existing stream to stabilize the landslide, and a buried pipe would be buried north of the streambed to allow for continued flow through the area. It was determined the impacts to habitat for endangered species were similar to the 2001 GDP; however, the Prima Deshecha Cañada streambed would be permanently impacted with no opportunity for restoration or re-establishment. In addition, it would not be possible to place refuse over the buried pipe, thereby reducing the landfill capacity and an associated loss of revenue. This alternative would have resulted in a permanent loss of stream habitat through the landslide area and greater operational and cost impacts than the 2001 GDP.

- **Stabilize Stockpile Landslide and Realign the Natural Stream over the Existing Stream:** Under this alternative, fill would have been placed within the existing stream to stabilize the landslide and a natural, open channel would have been constructed. This alternative would have required much greater quantities of fill and would impact least Bell's vireo habitat and jurisdictional waters until the channel was reconstructed. In addition, this alternative would not provide capacity for future stockpile needs associated with future phases of development. Over the long term, this alternative would have resulted in greater environmental impacts than the 2001 GDP due to the additional fill requirement to accommodate future stockpiling needs and stream crossings to access the stockpile.

- **Stockpile on Top of Existing Fill:** Under this alternative, stockpile material would have been placed on top of existing fill in Zone 1, resulting in a top elevation of the fill area of approximately 660 feet (ft). This elevation is 60 ft above the western and northern ridgelines and would violate the City of San Juan Capistrano General Plan and Conditional Use Permit for the site, which are conditions for the Landfill Solid Waste Facilities Permit (SWFP). This elevation would also violate the Memorandum of Understanding (MOU) with the City of San Clemente. This alternative was determined infeasible due to the violation of the conditions in the SWFP, which is the primary operating permit for the Landfill.

7.3.1.3 Alternatives Considered But Not Evaluated in Final EIR No. 575

Unconventional approaches-to waste management, including rail haul and waste-to-energy alternatives were also discussed briefly. The rail haul alternative was rejected without further analysis since its implementation is inconsistent with the Project's objective of optimizing uses of the Prima Deshecha site as a long-term integrated waste management facility. It was determined the waste-to-energy technology should be monitored in order to take advantage of the volume reductions achieved should the environmental, land use, and economic feasibility issues be resolved. However, for the near term and for the purposes of the analysis in Final EIR No. 575, this alternative was rejected because it failed to meet the Project objectives of providing a regional facility with appropriate environmental safeguards.

7.3.1.4 Environmentally Superior Alternative/Least Environmental Damaging Practicable Alternative in Final EIR No. 575

Based on the comparative analysis of the alternatives presented in Final EIR No. 575, the proposed 2001 GDP was considered to be environmentally superior in that its implementation would result in the least adverse environmental impacts, require fewer mitigation measures, and achieve the project objectives.

7.3.2 Alternatives Previously Analyzed in Supplemental EIR No. 597

7.3.2.1 No Project Alternative

The No Project Alternative analyzed in Supplemental EIR No. 597 consisted of the approved 2001 GDP, as revised by Amendment No. 1, the MOU between the County of Orange and Cities of San Juan Capistrano and San Clemente, and agreements with the Rancho Mission Viejo Company, LLC. Under the No Action Alternative, landfilling operations would continue in Zone 1; however, neither the aerial extent of the landslide nor slope-stabilization measures required for the implementation of the Zone 4 portion of the Landfill would be implemented. If landfill capacity is reduced, the need for the County to look elsewhere for refuse disposal would be considered significant, as documented within Final EIR No. 575. In addition, the No Action Alternative did not provide a Pre-mitigation Plan or Regional Environmental Enhancement Plan that could impact long-term refuse disposal services. Biological resources would also be impacted incrementally over time by indirect and direct impacts to the spring recharge area, and future supplemental water sources may result in additional impacts depending on the source and method of delivery.

7.3.2.2 Alternative 1: Maintain 2001 GDP Zone Footprint and Detention/Desilting Basin Between Zones 1 and 4

Alternative 1 consisted of the 2001 GDP design for Zone 4, including a detention/desilting basin located between Zones 1 and 4, but proposed that the basin be situated north of and outside the Prima Deshecha Cañada stream. This would have resulted in an expansion of the disturbance limits between Zones 1 and 4, which would have required extensive earthwork and would have impacted least Bell's vireo habitat.

7.3.2.3 Alternative 2: Maintain 2001 GDP Zone Footprint and Detention/Desilting Basin Between Zones 1 and 4 with Surface Water Augmentation

Alternative 2 consisted of the same footprint as described in Alternative 1 above, but also included subdrain flows to recharge the Prima Deshecha stream on the landfill property, which would not be discharged off site except during significant storm events subject to National Pollutant Discharge Elimination System (NPDES) requirements. Supplemental water source options for this alternative included connection to an off-site water source, an on-site water reservoir, irrigation water source(s), or on-site/off-site groundwater extraction. This alternative would have resulted in geotechnical impacts related to the development of Zone 4, water quality impacts depending on the selected supplemental water supply, impacts to least Bell's vireo habitat, and additional mitigation and operational costs.

7.3.2.4 Alternative 3: Modify Zone 4 Footprint to Avoid Permanent Impact to Three Least Bell's Vireo Territories

Alternative 3 would have shifted the Zone 4 grading plan east in order to place the graded slopes outside portions of the Prima Deshecha Cañada stream channel, and the location of the desilting basin would have been moved to avoid the existing streambed and riparian area. Alternative 3 would have required deeper excavation for Zone 4, resulting in significant geotechnical and groundwater uncertainties, and additional water supply would still have been required. In addition, Alternative 3 would have greatly reduced the overall Landfill capacity, thereby reducing revenue, and large volumes of soils would have been hauled off site due to the loss of stockpile area, which would add greatly to operating costs.

7.3.2.5 Alternative 4: Shift Zone 4 Footprint Southwest for Recharge Purposes

Alternative 4 would have shifted the Zone 4 landfill footprint southwest to reduce impacts to the spring recharge area, but would have required deeper excavation and higher fill elevations. Additional geotechnical considerations would have been required by shifting the footprint near the landslide complex, and drainage from the surrounding canyons would have been blocked from this new configuration, resulting in additional hydrologic and flooding impacts and thereby requiring significant subdrain enhancements. This alternative would also have reduced the overall landfill capacity, resulting in a loss of revenue and additional costs associated with additional mitigation and design for the slope stability and subdrain system.

7.3.2.6 Alternatives Considered But Not Evaluated in Supplemental EIR No. 597

Three additional alternatives were considered but eliminated due to infeasibility:

- **Reduce the Zone 4 Footprint and Deepen to Maintain Capacity:** Under this alternative, Zone 4 would have been deepened beyond historic groundwater levels to reduce impacts to the spring recharge area and least Bell's vireo habitat. This alternative was eliminated from further analysis due to significant uncertainties relative to the stability of existing subterranean landslide complexes and the potential impacts to local and regional groundwater resources.

- **Shift the Zone 4 Footprint over the Ridge into Segunda Deshecha:** Under this alternative, the footprint of Zone 4 would have been shifted east. However, this would have impacted areas designated for open space, conflict with the permitted uses in the South Orange County Natural Community Conservation Plan (NCCP) and violate established viewshed commitments with the Cities of San Juan Capistrano and San Clemente, making this alternative infeasible.

- **Shift the Zone 4 Footprint North to or Past the Property Boundary:** Under this alternative, the footprint of Zone 4 would have been shifted north to reduce impacts to least Bell's vireo and the spring recharge area. However, existing development to the north of the Landfill and significant utility line rights-of-way made this alternative infeasible.

7.3.2.7 Environmentally Superior Alternative/Least Environmental Damaging Practicable Alternative in Supplemental EIR No. 597

Analysis of feasible alternatives indicated that the Project evaluated in Supplemental EIR No. 597 was an Environmentally Superior Alternative, as considered under CEQA, and is the Least Environmentally Damaging Alternative, as considered under Section 404 of the Clean Water Act.

7.4 ALTERNATIVES CONSIDERED BUT REJECTED FROM FURTHER CONSIDERATION

7.4.1 Alternative Sites

CEQA requires that the discussion of alternatives focuses on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant impacts of the project. The key question and first step in the analysis is whether any of the significant impacts of the project would be avoided or substantially lessened by relocating the Project. Only locations that would avoid or substantially lessen any of the significant impacts of the project need be considered for inclusion in the EIR (State CEQA Guidelines, Section 15126.6[f][2][A]). Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, General Plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the project Applicant can reasonably acquire, control, or otherwise have access to the alternative site (State CEQA Guidelines, Section 15126.6[f][1]). If it is determined that no feasible alternative locations exist, the EIR must disclose the reasons for this conclusion (State CEQA Guidelines, Section 15126.6[f][2][B]).

The use of an alternative site as a project alternative is a choice that is typically characteristic of public agencies considering siting of new public facilities such as transportation systems, post offices, fire stations, public parking structures, storage yards, or government buildings. For these types of projects, the need for and development of the facility itself is the primary consideration, and the precise location, within certain parameters, is the secondary consideration.

Due to the nature of the proposed Project, which includes improvements specific to landfill operations on the Landfill site, the proposed Project is intrinsically tied to the physical location of the Prima Deshecha Landfill, which has been operating since 1976 and is permitted until 2102. In addition, as described in the alternatives from Final EIR No. 575 and Supplemental EIR No. 597, shifts in the configurations and locations of Landfill zones have been previously analyzed and were determined to be infeasible. Therefore, an alternative site is not feasible for the proposed Project.

7.5 SELECTION OF ALTERNATIVES UNDER CONSIDERATION

Section 21100 of the Public Resources Code (PRC) and Section 15126.6 of the State CEQA Guidelines require an EIR to identify and discuss a No Project Alternative and a reasonable range of alternatives to the proposed Project that would feasibly attain most of the basic objectives of the proposed Project and would avoid or substantially lessen any of the significant environmental impacts. Based on the criteria listed above, four variations of the No Project/No Development Alternative have been selected even though there are no insignificant impacts resulting from the proposed Project. Therefore, the alternatives considered in this SEIR include the following:

- **Alternative 1: No Project.** Under this alternative, the proposed Project would not be implemented on the Project site, and Landfill operations would continue as planned under existing conditions. Four variations of the No Project are provided below.
    - **Alternative 1A: No Project (All Components).** Under this alternative, the proposed Project would not be implemented on the Project site. Specifically, Landfill operations would continue at Zone 1 until closure rather than concurrent operations with Zone 4. No activities associated with the San Onofre Breccia removal would occur. The soil for the liner required for operation of Zone 4 would not be imported, and Zone 4 would not open as planned. The Landfill would close at the completion of filling activities in Zone 1.
    - **Alternative 1B: No Concurrent Operations.** The San Onofre Breccia removal and liner installation for Zone 4 would occur, but Landfill operations would continue to be processed at Zone 1 until closure and no concurrent operations would occur.
    - **Alternative 1C: No Breccia Removal.** Concurrent operations of Zones 1 and 4 and importation of soil for the installation of the liner in Zone 4 would occur, but the San Onofre Breccia material would not be removed from the site. The Landfill would close earlier than planned due to reduced landfill capacity.
    - **Alternative 1D: No Concurrent Operations or Breccia Removal.** Importation of the soil required for installation of the liner in Zone 4 would occur, but Landfill operations would continue to be processed at Zone 1 until closure before transferring operations to Zone 4, and the San Onofre Breccia material would not be removed from the site. The Landfill would close earlier than planned due to reduced landfill capacity.

Table 7.A provides a summary of the relative impacts and feasibility of each alternative. A complete discussion of each alternative is provided below.

7.5.1 No Build Alternative

7.5.1.1 Alternative 1A: No Project Alternative (All Components)

Description. Consistent with Section 15126.6 of the State CEQA Guidelines, Alternative 1A assumes the existing land uses and condition of the Project site at the time the NOP was published (July 23, 2020) would continue to exist without changes. The setting of the Project site at the time the NOP was published is described throughout Chapter 4.0 of this EIR with respect to individual

Table 7.A: Alternatives Matrix

Alternatives	Meets Purpose and Need	Optimize Site as a Long-Term Waste Disposal Facility	Minimize Noise, Dust, and Odor	Long-Term Operation of Zone 4 through Breccia Removal	Soil Covered Liner Installation to Protect Public Health, Safety, and other resources
Proposed Project	●	●	●	●	●
1A: No Project (All Components)					
1B: No Project				●	●
1C: No Project			●		●
1D: No Project					●

environmental issues, and forms the baseline of the impact assessment of the proposed Project. Alternative 1A represents the environmental conditions that would exist if no new development of any kind were to occur on the Project site. Alternative 1A anticipates that the Project site would continue with Landfill operations in Zone 1 until closure. Because no soil would be imported for liner installation in Zone 4, Alternative 1A would preclude the development of Zone 4 and landfilling operations would cease upon the closure of Zone 1.

As previously stated, the existing General Plan land use designation for the Project site is 4LS, which is a public facility with a landfill site overlay. As an active public facility, the Landfill is exempt from the Orange County Zoning Ordinance. Therefore, Alternative 1A would allow for the existing Landfill operations to continue in Zone 1. However, while Zone 4 is included in the designated Landfill use area, as stated above, there would be no improvements implemented on the Project site, including the installation of the soil liner. Therefore, Zone 4 would not be able to be used for landfilling operations. Alternative 1A would allow existing conditions on the Project site to remain unchanged, except for build out of Zone 4, as assumed under the 2001 GDP, which would not be achieved.

Environmental Analysis. The majority of Zone 4 is undeveloped in the existing condition. A vehicle storage area, located on the northern portion of Zone 4, is secured by a chain-link fence. The vehicle storage area consists of a crushed-rock gravel surface and is not paved. There are other existing uses (i.e., administrative offices/operations building, a household hazardous waste collection center, and a gas-to-energy facility) near the northwest corner of Zone 4. This alternative assumes that use of the existing vehicle storage area in Zone 4 would continue into the future. It is assumed that no new construction would occur on Zone 4.

Under Alternative 1A, the visual setting of the Project site would be altered as compared to the conditions in the analysis of the 2001 GDP because Zone 4 would no longer be graded and developed for landfilling operations. Alternative 1A would still include the development of Zone 1, but the natural landform of the Zone 4 hillside would remain in its natural condition, thereby reducing the visual impact to the existing visual character. No new air pollutant emissions would be generated by the San Onofre Breccia removal, including blasting, crushing, and stockpiling activities and soil liner importation truck trips. Operations-related air emissions, odors, and noise would continue to be concentrated in Zone 1 until closure and would no longer occur from Zone 4. No short-term or long-term construction noise impacts would occur to the surrounding area related to San Onofre Breccia removal or truck trips associated with the soil liner installation. Furthermore, no

additional vehicle trips would be generated for soil liner installation and transfer of the breccia material to on-site stockpiling or off-site locations.

Overview of Potential Impact/Comparison to Proposed Project. Alternative 1A would not result in any physical changes to the Project site and there would be no potential for new environmental impacts to occur. Overall, Alternative 1A would result in fewer environmental impacts than the proposed Project because no construction would take place.

Project Objectives. Alternative 1A would not achieve any of the Project objectives because this alternative: (a) would not optimize the long-term operation of the Landfill from utilizing Zone 4; (b) would not minimize noise, dust, or odor by shifting the location of operations from Zone 1 and Zone 4 dependent on seasonal conditions because operations would remain in Zone 1 regardless of seasonal conditions; (c) would not optimize the area available in Zone 4 from the San Onofre Breccia removal; and (d) would not include the installation of a soil line for build out of the existing Landfill zones.

Summary. While Alternative 1A would result in fewer environmental impacts, it would substantially reduce the capacity of the Landfill and would not achieve any of the Project objectives.

7.5.1.2 Alternative 1B: No Project Alternative (No Concurrent Operations)

Description. Alternative 1B assumes the existing land uses and condition of the Project site at the time the NOP was published (July 23, 2020) would continue to exist; however, only two of the three Project components would be implemented. Alternative 1B would include: (1) blasting, excavation, on-site relocation, pulverizing into soil, soil stockpiling, and off-site soil removal of hard rock material in Zone 4, referred to as the San Onofre Breccia area; and (2) imported soil trips for liner installation that will occur for all future Zone 4 development phases.

As assumed in the 2001 GDP, Alternative 1B anticipates that the Project site would continue with Landfill operations in Zone 1 until closure, and then Zone 4 operations would commence, but the two Zones would not operate concurrently. Zone 1 has an estimated closure date of approximately 2050. Zone 4 would commence operations in approximately 2050 and has an estimated closure date of approximately 2102.

Due to the timeline assumed for operation of Zone 4 under Alternative 1B, blasting of the San Onofre Breccia and importation of soil for liner installation would likely be delayed until closer to the commencement of the Zone 4 operations.

The setting of the Project site at the time the NOP was published is described throughout Chapter 4.0 of this SEIR with respect to individual environmental issues, and forms the baseline of the impact assessment of the proposed Project. In the short term, Alternative 1B would allow existing conditions on the Project site to remain unchanged. In the long term, build out of Zone 4 would occur as envisioned in the 2001 GDP.

Environmental Analysis. Under Alternative 1B, Zone 4 would result in the same visual impacts as the proposed Project. While Zone 4 would not commence operation until approximately 2050, Alternative 1B would result in the same landform and hillside alterations as the proposed Project at build out. In addition, air pollutant emissions would be generated by the San Onofre Breccia removal, including blasting, crushing, and stockpiling activities and soil liner importation truck trips. Such emissions would be the same for the proposed Project and Alternative 1B; however, in the short term, operations-related air emissions, odors, and noise would continue to be concentrated in Zone 1 until 2050 (with no seasonal changes).

Overview of Potential Impact/Comparison to Proposed Project. Alternative 1B would result in the same physical changes to the Project site as the proposed Project at build out. Alternative 1B would not allow landfilling activities to shift between Zones 1 and 4 based on seasonal environmental conditions to minimize any potential noise, dust, and odor impacts that may occur to existing residential developments located near the Landfill.

Project Objectives. Alternative 1B would achieve some of the Project objectives because this alternative would optimize the long-term operation of the Landfill through removal of the San Onofre Breccia Formation and installation of a soil line for build out of the existing Landfill zones. Alternative 1B would not minimize noise, dust, or odor by shifting the location of operations from Zone 1 and Zone 4, depending on seasonal conditions, because operations would remain in Zone 1 until build out of Zone 1 is complete.

Summary. Alternative 1B would result in the same environmental impacts in the long term and would meet many of the Project objectives. While Alternative 1B is feasible, it would not fully realize the benefits of the Project in terms of minimizing noise, dust, or odor by shifting the location of operations from Zone 1 and Zone 4, depending on seasonal conditions.

7.5.1.3 Alternative 1C: No Project Alternative (No Breccia Removal)

Description. Alternative 1C assumes the existing land uses and condition of the Project site at the time the NOP was published (July 23, 2020) would continue to exist; however, only two of the three Project components would be implemented. Alternative 1C would include: (1) changes to the phasing of operations between Zone 1 and Zone 4 of the Landfill to allow for concurrent operation; and (2) imported soil trips for liner installation that would occur for all future Zone 4 development phases. Alternative 1C assumes blasting, excavation, on-site relocation, pulverizing into soil, soil stockpiling, and off-site soil removal of hard rock material in Zone 4 (referred to as the San Onofre Breccia area) would not occur. As a result, the capacity of Zone 4 would be substantially reduced and the Landfill would close early (prior to 2102).

Environmental Analysis. Under Alternative 1C, build out of Zone 4 would result in changes to the visual setting resulting from alterations to the natural landform of the hillsides; however, the extent and severity of the changes would be reduced because the San Onofre Breccia removal would not occur. Air pollutant emissions and short-term noise would be generated by soil liner importation truck trips but would not be generated by the breccia removal, including blasting, crushing, and stockpiling activities. No short-term or long-term construction noise impacts would occur to the

surrounding area related to breccia removal. Furthermore, no additional vehicle trips would be generated for the transfer of the breccia material to on-site stockpiling or off-site locations.

Overview of Potential Impact/Comparison to Proposed Project. Alternative 1C would result in reduced aesthetic, air quality, and noise impacts as compared to the proposed Project.

Project Objectives. Alternative 1C would not achieve some of the Project objectives because this alternative would not optimize the long-term operation of the Landfill since it would result in the early closure of the Landfill and would not would not optimize the area available in Zone 4 from the San Onofre Breccia removal. Alternative 1C would minimize noise, dust, or odor by shifting the location of operations from Zone 1 and Zone 4, depending on seasonal conditions, and would include the importation of soil for liner installation for buildout of the existing Landfill zones.

Summary. While Alternative 1C would reduce aesthetic and air quality environmental impacts, it would also substantially reduce the capacity of the Landfill, thereby causing it to close early, and would not achieve all of the Project objectives.

7.5.1.4 Alternative 1D: No Project Alternative (No Concurrent Operations or Breccia Removal)

Description. Alternative 1D assumes the existing land uses and condition of the Project site at the time the NOP was published (July 23, 2020) would continue to exist; however, only one of the Project components would be implemented. Alternative 1D assumes that imported soil trips for liner installation would occur for all future Zone 4 phases. Alternative 1D assumes that neither changes to the phasing of operations between Zone 1 and Zone 4 of the Landfill to allow for concurrent operation nor blasting, excavation, on-site relocation, pulverizing into soil, soil stockpiling, and off-site soil removal of hard rock material in Zone 4, referred to as the San Onofre Breccia area, would occur. As a result, the capacity of Zone 4 would be substantially reduced and the Landfill would close early (prior to 2102).

As assumed in the 2001 GDP, Alternative 1D anticipates that the Project site would continue with Landfill operations in Zone 1 until closure, after which Zone 4 operations would commence, but the two Zones would not operate concurrently. Zone 1 has an estimated closure date of approximately 2050. Zone 4 would commence operations in approximately 2050 and has an estimated closure date of approximately 2102.

Due to the timeline assumed for operation of Zone 4 under Alternative 1D, importation of soil for liner installation would likely be delayed until closer to the commencement of Zone 4 operations.

The setting of the Project site at the time the NOP was published is described throughout Chapter 4.0 of this SEIR with respect to individual environmental issues, and forms the baseline of the impact assessment of the proposed Project. In the short term, Alternative 1D would allow existing conditions on the Project site to remain unchanged. In the long term, build out of Zone 4 would occur but with substantially reduced capacity.

Environmental Analysis. Under Alternative 1D, build out of Zone 4 would result in changes to the visual setting resulting from alterations to the natural landform of the hillsides; however, the extent and severity of the changes would be reduced because the San Onofre Breccia removal would not

occur. Air pollutant emissions and short-term noise would be generated by soil liner importation truck trips but would not be generated by the breccia removal, which would include blasting, crushing, and stockpiling activities. Emissions associated with soil liner importation would be the same for Alternative 1D and the proposed Project; however, emissions would occur in the future, closer to commencement of operations in Zone 4. In addition, the short-term, operations-related air emissions, odors, and noise would continue to be concentrated in Zone 1 until 2050 (with no seasonal changes). No short-term or long-term construction noise impacts would occur to the surrounding area related to breccia removal. Furthermore, no additional vehicle trips would be generated for the transfer of the breccia material to on-site stockpiling or off-site market locations.

Overview of Potential Impact/Comparison to Proposed Project. Alternative 1D would result in reduced aesthetic, air quality, and noise impacts as compared to the proposed Project.

Project Objectives. Alternative 1D would not achieve most of the Project objectives because this alternative: (a) would not optimize the long-term operation of the Landfill from utilizing Zone 4; (b) would not minimize noise, dust, or odor by shifting the location of operations from Zone 1 and Zone 4, depending on seasonal conditions, as operations would remain in Zone 1 regardless of seasonal conditions; and (c) would not optimize the area available in Zone 4 as a result of the San Onofre Breccia removal. Alternative 1D would include the importation of soil for liner installation for build out of the existing Landfill zones.

Summary. While Alternative 1D would result in reduced environmental impacts, it would significantly reduce the capacity of the Landfill and would not achieve most of the Project objectives.

7.6 IDENTIFICATION OF THE ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of an Environmentally Superior Alternative. State CEQA Guidelines Section 15126.6(e)(2) states that if the No Project Alternative is the Environmentally Superior Alternative, then the EIR shall also identify an Environmentally Superior Alternative among the other alternatives.

Alternative 1A, the No Project Alternative (All Components), has the least impact to the environment because it would not result in any changes from existing Landfill operating conditions. While Alternative 1A would lessen aesthetic, air quality, and noise impacts of the proposed Project, the beneficial impacts of the proposed Project—including the reduction of noise, dust, and odors, and the protection of public, health, safety, and other resources with installation of the soil for the liner—would not occur, and none of the Project objectives would be met.

Similarly, Alternative 1C (No Breccia Removal) and Alternative 1D (No Concurrent Operations or Breccia Removal) would reduce aesthetic and air quality environmental impacts, but would also substantially reduce the capacity of the Landfill, thereby causing it to close early, and would not achieve all of the Project objectives. Alternative 1B (No Concurrent Operations) would ultimately result in the same impacts as the proposed Project, but would not meet the Project objectives of minimizing noise, dust and odor.

Therefore, based on the comparative analysis of alternatives presented above, the proposed Project is considered to be environmentally superior in that its implementation would not result in any new significant adverse environmental impacts, require any new mitigation measures, and would achieve all the Project objectives.

8.0 MITIGATION MONITORING AND REPORTING PROGRAM

8.1 MITIGATION MONITORING REQUIREMENTS

Public Resources Code (PRC) Section 21081.6 (enacted by the passage of Assembly Bill [AB] 3180) mandates that the following requirements shall apply to all reporting or mitigation monitoring programs:

- The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes that have been required or incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead agency or a responsible agency, prepare and submit a proposed reporting or monitoring program.

- The lead agency shall specify the location and custodian of the documents or other materials that constitute the record of proceedings upon which its decision is based.

- A public agency shall provide measures to mitigate or avoid significant effects on the environment that are fully enforceable through permit conditions, agreements, or other measures. Conditions of project approval may be set forth in referenced documents that address required mitigation measures or, in the case of the adoption of a plan, policy, regulation, or other project, by incorporating the mitigation measures into the plan, policy, regulation, or project design.

- Prior to the close of the public review period for a Draft Environmental Impact Report (EIR), a responsible agency, or a public agency having jurisdiction over natural resources affected by the project, shall either (1) submit to the lead agency complete and detailed performance objectives for mitigation measures that would address the significant effects on the environment identified by the responsible agency or agency having jurisdiction over natural resources affected by the project, or (2) refer the lead agency to appropriate, readily available guidelines or reference documents. Any mitigation measures submitted to a lead agency by a responsible agency or an agency having jurisdiction over natural resources affected by the project shall be limited to measures that mitigate impacts to resources that are subject to the statutory authority of, and definitions applicable to, that agency. Compliance or noncompliance with that requirement by a responsible agency or agency having jurisdiction over natural resources affected by a project shall not limit the authority of the responsible agency or agency having jurisdiction over natural resources affected by a project, or the authority of the lead agency, to approve, condition, or deny projects as provided by this division or any other provision of law.

8.2 MITIGATION MONITORING PROCEDURES

The Mitigation Monitoring and Reporting Program has been prepared in compliance with PRC Section 21081.6. It describes the requirements and procedures to be followed by the County of Orange (County) to ensure that all mitigation measures adopted as part of the proposed amendment to the Prima Deshecha Landfill (Landfill) General Development Plan to include the Zone 4 Construction Projects (Project) will be carried out as described in this Supplemental EIR (SEIR).

Table 8.A lists each of the mitigation measures specified in this SEIR and identifies the party or parties responsible for implementation and monitoring of each measure.

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
FINAL EIR NO. 575 MITIGATION MONITORING AND REPORTING PROGRAM – LANDFILL COMPONENT				
Topography				
4.1-1	Prior to approval of the final cover design in the Preliminary Closure Plan by the San Diego Regional Water Quality Control Board, the Local Enforcement Agency and the California Integrated Waste Management Board, the IWMD Director shall ensure that the grading plans for final slopes for the landfill areas in Zones 1 and 4 continue to incorporate design, grading and engineering features that avoid a manufactured appearance and result in curvilinear landfill surfaces that most closely approximate the existing natural features in the area.	Plan Check	Prior to the approval of the Final Cover Design	Director, IWMD
Geology, Seismicity, Soils and Groundwater				
4.2-1a	Prior to designing each phased landfill plan and specifications, the IWMD shall conduct a geotechnical investigation to determine the extent of landslide material and the soil foundation characteristics of the proposed phase. A geotechnical report of the phased site area shall be prepared which includes a landslide excavation and removal plan prepared to the satisfaction of the Director, IWMD.	Plan Check	Prior to the design of each Landfill Phase	I
4.2-1b	For each phased grading plan, the excavation and grading plan shall ensure the stability of all cut, fill and lined slopes. Slopes shall be designed to withstand the most probable earthquake based on a return period of 100 years or as required by current regulations. Liner design plans shall be submitted to the San Diego Regional Water Quality Control Board for approval. The plans shall also be incorporated in an JTD and submitted to the LEA for approval and to the CIWMB for concurrence.	Plan Check	Prior to the approval of the Amended ROSI	I
4.2-2a	The IWMD shall demonstrate that landfill design plans comply with the state and federal seismic requirements in CCR Title 27, and 40 Code of Federal Regulations (CFR) §258.14 (Seismic Impact Zones) and §258.15 (Unstable Areas). These demonstrations shall be incorporated in the IWMD Operating Record prior to construction of said plans.	Plan Check	Prior to the approval of the Landfill Design	I
4.2-2b	Prior to commencement of daily excavations for borrow material grading plans shall be prepared, analyzed for slope stability and submitted for approval by the Director, IWMD, or his designee.	Plan Check	Prior to the commencement of daily excavations for borrow material	I Director, IWMD or designee
4.2-2c	As part of a JTD, the IWMD shall present the assumptions, methods and calculations used to demonstrate seismic safety. This measure is required only if final slopes are planned to be steeper than a ratio of 3:1 (horizontal to vertical), if the site is located in an area subject to liquefaction or in unstable areas with poor foundation conditions as described in the Seismic Safety Element of the Orange County General Plan (27 CCR 17777).	Plan Check	Prior to the approval of the Amended ROSI	I
4.2-3	As part of a JTD, the IWMD shall present the assumptions, methods and calculations used to demonstrate that differential settlement of the site will not result in future environmental impacts (27 CCR 21090).	Plan Check	Prior to the approval of the Amended ROSI	Director, IWMD
4.2-4	When the JTD is prepared, the IWMD shall identify the assumptions, methods and calculations performed to demonstrate that the excavation plans provide for sufficient quantities and sources of suitable soils or alternative cover systems for daily and intermediate cover, final cover and liner materials. This section of the JTD should also reference and summarize any borrow studies conducted to demonstrate the availability of sufficient quantities of materials. If materials are obtained on-site, the description shall include which sections of the site will be excavated for each sequence of landfilling and where these materials will be stockpiled for use. Stockpile locations should not interfere with unloading, spreading, compacting, access, safety, drainage or other operations on the site. Stockpiles should be clearly shown on the fill sequencing and excavation plans prepared for construction. (27 CCR 21600).	Plan Check	Prior to the approval of the Amended ROSI	Director, IWMD
4.2-5a	The IWMD shall continue to operate its existing leachate control system within the active landfill area. In addition, the IWMD shall be required to construct a corresponding leachate control and recovery system in those areas where new liners are placed and in areas added to the active landfill area.	Plan Check	Ongoing and prior to construction of new liners	Director, IWMD
4.2-5b	The site shall continue to operate under the groundwater monitoring requirements contained in Waste Discharge Requirements, Order No. 89-102, Technical Change Order (TCO) No. 1, Amended Waste Discharge Requirements contained in Order No. 93-86, and any future orders issued by the San Diego Regional Water Quality Control Board. TCO No. 1 contains the detailed Groundwater and Vadose Zone Monitoring Program for the Prima Deshecha Landfill.	Field Monitoring	Ongoing	Director, IWMD
4.2-5c	As part of a revised JTD, the IWMD shall present the assumptions, methods and calculations used to predict leachate generation and sizing of the components of the leachate collection system.	Plan Check	Prior to the approval of the Amended ROSI	Director, IWMD
Surface Hydrology				
4.3-1a	As part of a Joint Technical Document (JTD) to be prepared by IWMD, the IWMD shall present the assumptions, methods and calculations used to calculate the potential flow quantities for run-on, runoff, and sediment content of storm water flow used in sizing drainage and sediment control facilities.	Plan Check	Prior to the approval of the JTD	Director, IWMD
4.3-1b	As part of a JTD to be prepared by IWMD, the IWMD shall include surface drainage plans for each of the fill sequencing and excavation plans, showing both temporary and permanent systems, including all berms, down drain systems, storm drain systems, direction of flow in perimeter drainage channels, and the location of off-site discharge point for runoff water.	Plan Check	Prior to the approval of the JTD	Director, IWMD
4.3-1c	Detention, diversion, and drainage facilities shall be designed and constructed to accommodate the anticipated volume of precipitation and peak flows from surface runoff under the precipitation conditions specified in §20365 of Title 27 of the California Code of Regulations for each class of waste management unit (WMU). In addition, drainage facilities for WMUs shall be designed to prevent washout of the WMUs during a 1DO-year storm event.	Plan Check	Prior to the approval of the Amended RDSI	Director, IWMD
Water Quality				
4.4-1a	The IWMD shall comply with its National Pollutant Discharge Elimination System (NPDES) Storm Water Pollution Prevention Plan (SWPPP) and its NPDES Monitoring and Reporting Plan for the landfilling under the GDP. This plan will ensure that the measures taken to safeguard surface water quality are effective and are being correctly employed.	Plan Check	Prior to construction of landfilling improvements in Zones 1 and 4	Director, IWMD

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
4.4-1b	The IWMD shall continue to implement the existing Surface Water Runoff Monitoring Program as described in the currently effective Waste Discharge Requirements.	Field Monitoring	Ongoing	Director, IWMD
4.4-2	As part of the NPDES program and prior to approval of construction contracts, the Director, IWMD, or a designee, shall ensure that silt loading to surface waters from the construction activities will be periodically tested and controlled, where necessary, by appropriate erosion control measures, siltation basins or other settling structures.	Field Monitoring	Prior to approval of construction contracts	Director, IWMD or designee
Biological Resources				
4.5-1	The restoration of needlegrass grasslands will be incorporated into the Conceptual Coastal Sage Scrub Mitigation Plan (described in MM 4.5-2a through 2c), the Integrated Waste Management Department (IWMD) will replace impacted needlegrass grassland at a 1:1 ratio.	Plan Check	Prior to construction of landfilling improvements in Zones 1 and 4	Director, IWMD
4.5-2a	Prior to the removal of coastal sage scrub habitat resources including clearing, grubbing, mowing, discing, trenching, grading, fuel modification, or other construction related activities, the Director IWMD or his designee shall prepare and submit, in consultation with the PDSD Director of Planning or his designee, an Interim Habitat Loss Management Plan (IHLMP) to the USFWS for review and approval in compliance with the Natural Communities Conservation Plan (NCCP) and the Interim Coastal Sage Scrub (CSS) Habitat Loss Process. The County remains committed to the Natural Communities Conservation Plan (NCCP) process and intends to operate by the same procedure outlined in the Federal Endangered Species Act Section 4(d) Special Rule for Incidental Take of the coastal California gnatcatcher or other agreement as determined to be appropriate by the resource agencies.	Coastal Sage Scrub IHLMP or other resource agency approved plan	Prior to removal of coastal sage scrub habitat resources	Director, IWMD or designee/
4.5-2b	The GDP shall be amended to include all applicable provisions of the approved Southern Subregion NCCP on its adoption by the County of Orange Board of Supervisors. The NCCP implementation programs may include, but are not limited to, requirements for the removal and mitigation replacement of lost coastal sage scrub habitat, operations restrictions, instructional signs, fencing, etc.	Plan Check	Subsequent to approval of the Southern Subregional NCCP	Director, IWMD
4.5-2c	In accordance with an approved Conceptual Coastal Sage Scrub Mitigation Plan, the IWMD shall replace impacted coastal sage scrub at a 1:1 ratio replacement or as otherwise required. The IWMD shall prepare a Conceptual Coastal Sage Scrub Mitigation Plan in cooperation with the affected resource agencies (CDFG, USFWS). Guidelines for the Mitigation Plan shall be as follows: ● The mitigation areas/sites shall have been evaluated and selected on the basis of their suitability for use as coastal sage scrub revegetation areas. The parameters evaluated shall include but not be limited to soil condition, slope aspect, proximity to adjacent coastal sage scrub, level of difficulty of site preparation, and ownership status. ● The mitigation plan shall provide procedures to prepare the soils in the mitigation area, provide detailed seeding/planting mixtures; provide seeding/planting methods; and provide any other procedures, such as supplemental irrigation, mycorrhizal inoculation, etc., that will be used for successful vegetation. ● Maintenance and monitoring goals shall be established. The components and implementation of the maintenance and monitoring procedures shall be consistent with the components and implementation of mitigation measure 4.5-7a. In accordance with the approved Conceptual Coastal Sage Scrub Mitigation Plan, the IWMD shall develop a maintenance and monitoring program to ensure success of the revegetation effort. Maintenance shall include regulation inspection of the site for excessive weed growth, erosion problems, failure of irrigation system, and/or unhealthy or dying plants. Invasion of the site by weeds in the area, especially pampas grass, artichoke thistle, castor bean, fountain grass, mustard, clover, cocklebur, and tree tobacco could be a potential maintenance problem. Maintenance crews shall be able to recognize the difference between native plant and weed seedlings. A qualified biologist will be required to instruct the maintenance crew in the identification of native plant seedlings. The maintenance program shall include procedures for regular maintenance and repair of the irrigation system. A system shall be developed for reporting by the maintenance crew of any unhealthy or dying plants or failure in any of the seeded areas. This would assist the monitoring crew in the development of immediate remedial measures, such as replacing plant material, to correct the problem. To document the success of revegetation programs, the IWMD shall ensure that the progress of the revegetated area is monitored by a qualified biologist. The maintenance and monitoring plan will address unique aspects of mitigation areas. An agreement shall be developed between the County and the USFWS and CDFG on criteria that will be used to determine successful plant establishment on a mitigation site. Success criteria will include plant cover, species diversity, habitat structure, and density, and will be based on measurements made in reference to habitats near the mitigation site.	Plan Check	Prior to mitigation site preparation	Director, IWMD
4.5-3a	Prior to grading for the landfilling activities affecting riparian resources, the IWMD, as appropriate, shall ensure that all sycamore and willow trees of four or more inches in diameter at breast height (DBH), defined as 4.5 feet from mean ground level, within the grading or construction limits of the landfilling activities, whichever is greater, and within 100 feet of grading and construction operations, shall be tagged and numbered with permanent tags under the supervision of a qualified biologist. The tag numbers of the trees to be protected and those to be removed shall be noted. Those trees adjacent to the construction areas that can be avoided will be tagged for protection and fenced off with red-orange mesh fencing during grading and construction activities. Trees that cannot be avoided during construction will be tagged for removal. Records of these numbers shall be kept by the Director, IWMD or his designee for use in mitigation, replacement, and monitoring of tree resources before, during, and after grading and construction activities. In addition, prior to grading and site preparation, the Director IWMD shall ensure that all trees subject to removal are marked with a red "X" on the trunk. Trees to be preserved shall be marked with yellow flagging visible from all directions and fenced off with red-orange flexible mesh fencing during grading and construction activities.	Plan Check	Prior to grading for landfilling activities affecting riparian resources	Director, IWMD or designee

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
4.5-3b	During the process of obtaining the required 404 Permit Application and 1601 Streambed Alteration Agreement (1601/404) for encroachment into streambed areas and prior to site preparation, the Director IWMD shall prepare a Conceptual Riparian Mitigation Plan in cooperation with the affected resource agencies (CDFG, USFWS, and ACOE). Guidelines for the Mitigation Plan shall be as follows: ● The mitigation sites will be evaluated and selected on the basis of their suitability for use as riparian revegetation areas. The parameters evaluated shall include but not be limited to soil condition, hydrology, access, contiguousness with existing habitat, geology and drainage considerations, level of difficulty of site preparation, and ownership status. ● The mitigation plan shall include the procedures for soil preparation, provide seeding/planting mixtures; include the seeding/planting methods; and include any other procedures, such as supplemental irrigation, mycorrhizal inoculation, etc., that will be used. ● Maintenance and monitoring goals shall be established. The components and implementation of the maintenance and monitoring assignments are described in MM 4.5-3d.	Plan Check	Prior to mitigation site preparation	Director, IWMD
4.5-3c	In accordance with an approved Conceptual Riparian Mitigation Plan, the Director IWMD shall replace impacted riparian areas at a minimum 2:1 ratio of in-kind or higher quality habitat. The required replacement acreage will be approved by the resource agencies having jurisdiction over the impacted resources (i.e., CDFG, USFWS, and ACOE) for all the GDP uses, based on a jurisdictional delineation and vegetation mapping and the current (2001) GDP grading plan.	Field Inspection	Following implementation of Riparian Mitigation Plan	Director, IWMD
4.5-3d	During the process of obtaining the required 404 Permit and 1601 Streambed Alteration Agreement, and, in accordance with the approved Conceptual Riparian Mitigation Plan, the Director IWMD shall develop a maintenance and monitoring program to ensure success of any revegetation effort. Maintenance shall include regular inspection of the site for excessive weed growth, erosion problems, failure of irrigation system, and/or unhealthy or dying plants. Invasion of the site by weeds in the area, especially castor bean, fountain grass, mustard, clover, cocklebur, and tree tobacco, could be a potential maintenance problem. Maintenance crews shall be able to recognize the difference between native plant and weed seedlings. A qualified biologist will be required to instruct the maintenance crew in the identification of native plant seedlings. The maintenance program shall include procedures for regular maintenance and repair of the irrigation system. A system shall be developed for reporting by the maintenance crew of any unhealthy or dying plantings or failure in any of the seeded areas. This would assist the monitoring crew in the development of immediate remedial measures, such as increasing the irrigation rate or replacing plant material, to correct the problem. To document the success of revegetation programs, the Director IWMD shall ensure that the progress of the revegetated area is monitored by a qualified biologist. An agreement shall be developed between the County and the ACOE, USFWS, or CDFG on criteria that will be used to determine successful plant establishment on a mitigation site. These criteria will include plant cover, species diversity, habitat structure, and density, and will be based on measurements made in reference to habitats near the mitigation site. The qualified biologist shall monitor the site for five years or until the site complies with required performance standards. If the biologist determines that the mitigation site meets the conditions of the performance standards, documentation shall be submitted to the responsible agency for approval.	Maintenance and Monitoring Plan Check	Ongoing	Director, IWMD
4.5-3e	Prior to grading and site preparation adjacent to riparian areas outside the limits of construction, the Director IWMD shall incorporate instructions in the construction documents ensuring that, in conjunction with construction activities: ● Graded material spoils shall not be placed on or stored near any riparian areas outside the limits of construction ● The removal of streamside or bank vegetation shall be avoided wherever feasible. ● The amount of habitat removed shall be limited to the minimum amount required for construction. ● Riparian areas in the vicinity of grading or heavy recreation use, such as in Zone 1, shall be designated as Environmentally Sensitive Areas onsite preparation, grading, and construction plans and fenced off as appropriate for protection before any of these activities begin. ● Excess fill shall not be dumped in streams outside the limits of construction. ● Vehicles and equipment shall not be parked in washes or other drainages outside the limits of construction.	Plan Check	Prior to site preparation and/or grading	Director, IWMD
4.5-4a	Prior to site preparation and during final design for each phase of landfill development (i.e., Phases A - D in Zone 1 and Phases A-I in Zone 4), the Director, IWMD shall ensure that focused surveys are conducted by qualified biologists for the thread-leaved brodiaea, Coulter's saltbush, many-stemmed dudleya, southern tarplant, vernal barley, paniculate tarplant, and any other plant species that may warrant focused surveys in the future as determined by a qualified botanist. In addition, the Director IWMD shall ensure that focused surveys are conducted by qualified biologists for the western spadefoot toad, southwestern willow flycatcher, and other wildlife species that may warrant focused surveys in the future as determined by a qualified biologist. The results of surveys shall be incorporated into environmental documentation for future proposed projects within the Prima Deshecha site. Identified special status species and habitats located within 300 feet of the affected area(s) shall be mapped on grading plans for each phase of development. In addition, the Director IWMD shall implement procedures approved by the appropriate resource agencies to mitigate the potential impacts to those species. In the event that landfill activities within a phase must occur prior to the completion of spring surveys, habitat for the special status plant species shall be salvaged, stored and used in an appropriate manner as determined by a qualified biologist. The appropriate agencies will be notified prior to disturbance. All future proposed projects within the Prima Deshecha Landfill shall provide vegetation mapping on topographic maps at a scale of 1 inch equals 200 feet.	Field Surveys	Prior to site preparation and during final design for each phase of landfill development	Director, IWMD
4.5-4b	The Director IWMD shall ensure that, for the periods covering All site preparation, disturbance, or grading of native areas, the Director IWMD shall monitor wildlife habitat preservation. The purpose of this monitoring is to ensure that the Environmental Sensitive Areas and Environmentally Restrictive Areas (i.e., areas outside the grading limits) will not be adversely impacted during site preparation, grading, and construction of the landfilling activities.	Field Monitoring	Ongoing	Director, IWMD

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
	For the landfilling activities, this inspection program shall be coordinated with the Site Manager at the weekly meetings held at the Landfill to review the planned grading program for the landfilling activities. These meetings shall commence at the start of each new phase, when native ground is scheduled for disturbance (e.g., grading or stockpiling, etc.). The Director, IWMD or his designee will attend these meetings and provide a status and progress report to the Operations Manager. These meetings will be held throughout the site preparation, grading and construction periods for all the landfilling activities and the monitoring reports shall continue to be prepared and submitted by the Director, IWMD or his designee until the disturbance is completed. The monitor shall be onsite before, during, and after the completion of site preparation, grading and construction for all of the landfilling activities.			
4.5-5a	During site preparation and grading for the landfill, the IWMD shall phase these operations outside significant areas during the nesting and breeding season for the coastal California gnatcatcher. This measure shall be overseen and conducted by a qualified biologist. During site preparation and grading for the landfill, the IWMD shall phase these operations outside significant habitat areas during the nesting and breeding season for the least Bell's vireo. This measure shall be overseen and conducted by a qualified biologist. Prior to activities that may impact potential vireo habitat, updated vireo surveys will be conducted by a qualified biologist	Plan Check	Prior to site preparation or direct/indirect disturbance to native or restored areas	Director, IWMD
4.5-5b	The Director IWMD shall ensure that grading and construction operations for the landfilling are redirected temporarily around nesting sites for a distance of 500 feet for candidate and listed species of birds and a distance of 1,000 feet for raptors, during nesting and breeding seasons between February 15 and July 15, or a distance and time agreed upon by the USFWS. In the event that a coyote, bobcat or mountain lion den is located, then grading and construction operations shall be redirected temporarily around the den for a distance of 1,000 feet. The nesting sites and dens should be resurveyed toward the end of the breeding seasons and these species to verify completion of the breeding cycle. Nests and dens of non-listed species that will be removed due to grading and/or construction operations shall be removed only during the non-breeding season.	Plan Check and Field Monitoring	Prior to site preparation and construction operations	Director, IWMD
4.5-6	The Director IWMD shall ensure that during final design, the landfill operation continues to incorporate regulatory agency guidelines to reduce indirect impacts associated with noise, dust, night lighting, and blowing debris. Noise shall be controlled through the proper maintenance of the construction equipment, including trucks, bulldozers, and other mobile and fixed construction equipment. Dust shall be controlled at its source with standard wetting techniques consistent with applicable SCAQMD requirements. Low lighting alternatives and shielded lighting shall be employed to reduce indirect impacts on surrounding habitats.	Plan Check	Prior to approval of the Final Design of a landfill phase or ancillary infrastructure facility	Director, IWMD
Cultural/Scientific Resources				
4.6-1	Prior to the initiation of any site modifications, the IWMD shall contract with a County-certified archeologist who will prepare a Testing, Monitoring and Salvage Program for Archeological Resources for the GDP landfilling activities. The Plan shall identify the specific pre-disturbance subsurface testing program and the specific monitoring procedures, scheduling, staffing and other elements to ensure adequate testing, identification and salvage of archeological resources prior to and during grading, site preparation, earth moving and excavation activities associated with the GDP landfilling activities. The Plan shall also identify procedures for in-place preservation of resources including the identification of typical resources that would be preserved in-place. The Plan shall also establish the authority for halting or temporarily relocating construction during preservation activities and other procedures as necessary.	Plan Check	Prior to approval of the Final Design of a landfill phase or ancillary infrastructure facility	Director, IWMD
4.6-2	Prior to the initiation of any site modifications, the IWMD shall contract with a County-certified paleontologist who will prepare a Monitoring and Salvage Plan for Paleontological Resources for the GDP landfilling activities. The Plan will identify the specific monitoring procedures, scheduling, staffing and other elements to ensure adequate identification and salvage of fossil materials during grading, site preparation, earth moving and excavation activities associated with the GDP landfilling activities. The Plan shall also identify procedures for in-place preservation of resources including the identification of typical resources that would be preserved in-place. The Plan shall also establish the authority for halting or temporarily relocating construction during the preservation activities and other procedures as necessary.	Plan Check	Prior to approval of the Final Design of a landfill phase or ancillary infrastructure facility	Director, IWMD
Land Use/Relevant Planning				
4.7-1	During final design and implementation of the GDP landfilling activities, the IWMD shall ensure, to the extent feasible and that funding is available, that the landfill disposal areas and associated permanent and temporary landfilling facilities are sited so as to minimize visibility from beyond the site, particularly with regard to ridgelines protected by ordinances in the cities of San Clemente and San Juan Capistrano. For landfill areas and/or facilities not able to be sited below intervening protected ridgelines, options for reducing or minimizing views of operations and facilities from off-site sensitive viewsheds may include retention of natural topography, landscaping, berms and other methods as feasible and as funding is available.	Plan Check	Prior to approval of the Final Design of a landfill phase or ancillary infrastructure facility	Director, IWMD
4.7-2	Above-ground landfill facilities within the 200-foot "major ridgeline" protection zone established by the City shall be prohibited with the exception of required above- ground monitoring and maintenance facilities (e.g., risers, check valves, etc.) less than five (5) feet in height.. Non-landfill facilities or structures shall be prohibited within the 200-foot "major ridgeline" protection zone.	Plan Check	Prior to approval of the construction plans	Director, IWMD
4.7-3	Prior to the completion and approval of construction plans, the IWMD shall ensure that the design of the flare stations needed under the GDP landfilling activities incorporates the following types of features to reduce the visual effect of these facilities: ● Landscaping around the flare stations will be developed to allow for a natural appearance of the area. Cut and fill areas resulting from the construction of the flare stations will be gently contoured consistent with the area topography and will be landscaped. ● The flare stacks and other flare station facilities will be painted light brown colors, similar to the existing flare station facilities.	Plan Check	Prior to approval of the construction plans	Director, IWMD

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
Air Quality				
4.9-1	Landfill fee station personnel and/or landfill refuse inspectors shall reject extremely odorous loads for disposal in the landfill.	Field Inspection	Daily	Landfill Site Supervisor
4.9-2	The active face of the landfill shall be covered daily. If the active face is in close proximity and upwind of on-site recreation uses, masking or neutralization agents may be added to exposed refuse to reduce the odor nuisance effects on the adjacent recreation uses.	Field Inspection	Daily	Landfill Site Supervisor
4.9-3	The IWMD shall design, construct and operate new landfill areas in Zones 1 and 4 with LFG systems to maximize the collection of LFG. The LFG systems will include continuous monitoring of the LFG collection system to maximize efficient collection of LFG generated in these areas.	Plan Check	Prior to approval of the LFG system	Director, IWMD
4.9-4	During landfill operations, the IWMD shall continue regular visual inspections of the landfill cover and monitoring of LFG emissions throughout the entire refuse fill areas. The purpose of these inspections is to locate cracks or other defects or flaws in the landfill cover which may allow LFG to escape. When such areas are identified, the IWMD will implement the appropriate corrective action as soon as feasible. These corrective actions may include application and compaction of additional cover material, adjustment of the existing LFG control system and/or installation of new LFG control facilities.	Field Inspection	Quarterly	Landfill Site Supervisor
4.9-5	During landfill operations, the IWMD shall conduct periodic odor surveys on the landfill site and at various points in the area surrounding the site. The IWMD shall conduct odor surveys if any odors from the landfill are detected off-site and reported by nearby residents. When the source of these odors is identified, the IWMD will implement the appropriate corrective action as soon as feasible. These corrective actions may include application and compaction of additional cover material, use of masking or neutralizing agents, adjustment of the existing LFG control system and/or installation of new LFG control facilities.	Field Inspection	Daily	Landfill Site Supervisor
4.9-6	During landfill operations, the IWMD shall ensure that landfill operations areas that are to be left exposed temporarily, including top deck and excavation slopes, are sprayed periodically with water, as needed.	Field Inspection	Ongoing	Landfill Site Supervisor
4.9-7	On landfilled areas that are no longer in use, the IWMD will, as appropriate, incorporate dust control systems or vegetative covers, consistent with the Final Closure Plans and with IWMD's approved Rule 403 Compliance Plan for landfilling Zones 1 and 4.	Field Inspection	Ongoing	Landfill Site Supervisor
4.9-8	During landfill operations, the landfill fee station personnel and/or landfill refuse inspectors shall refrain from accepting dusty loads of refuse for disposal in either landfilling Zone 1 or 4. Alternatively, at the discretion of landfill personnel, dusty loads of refuse may be accepted for disposal, if they are sprayed with water prior to leaving the fee station and accessing the active face of the landfill.	Field Inspection	Daily	Landfill Fee Station Personnel
4.9-9a	During landfill operations, the IWMD shall maintain water trucks on-site to spray water on on-site unpaved roads as needed to minimize the generation of dust as vehicles travel on these roads, as per IWMD's approved Rule 403 Compliance Plan.	Field Inspection	Daily	Landfill Site Supervisor
4.9-9b	During landfill operations, the IWMD shall, to the extent feasible while still maintaining appropriate landfill operations, restrict vehicular travel on unpaved roads on the site. In the event that unpaved roads must be used, the IWMD shall spray water on these roads as needed.	Field Inspection	Daily	Field Inspection
4.9-9c	As unpaved on-site roads are removed from active service, the IWMD will spray these areas with a hydromulch solution or synthetic binder.	Field Inspection	Ongoing	Landfill Site Supervisor
4.9-10	During landfill operations, the IWMD will use the on-site water trucks to spray water on graded areas or areas where the vegetation has been removed or severely disturbed as a result of landfilling activities, as per IWMD's approved Rule 403 Compliance Plan.	Field Inspection	Ongoing	Landfill Site Supervisor
Noise				
4.10-1	Although the construction associated with landfilling under the GDP is not anticipated to result in significant noise impacts on residential uses adjacent to the site, the IWMD shall reduce landfill operations noise impacts to the extent feasible based on available funds through the use of landscaping, berms at the face of each landfill lift, phased construction of the landfill areas and the use of buffer areas between noise sources and sensitive recreation receptors.	Plan Check	Prior to approval of the Final Design of each landfill phase	Director, IWMD
Aesthetics				
4.11-1	Prior to final design, the IWMD, shall establish landscape standards for plantings in areas to be revegetated or screened from view. These guidelines shall illustrate all plant materials, sizes, species and quantities plus irrigation and preservation techniques. There shall be a variety of landscape types addressed including revegetating graded slopes and earthen berms, and screening of landfill operations structures and permanent landfill buildings. Roads and trail cuts will be revegetated with natural grasses, shrubs and trees to blend with the landscape character of adjacent areas. Additionally, trees selected for planting shall comply with the appropriate state and local regulatory requirements for the protection of groundwater.	Plan Check	Prior to approval of the Final Design of each landfill phase	Director, IWMD/ Director, PF&RD/HBP
4.11-2	During final design and construction, the IWMD shall ensure that plantings will be integrated with earthen berms and cut slopes to screen undesirable views. For these situations, the landscape design guidelines shall include grading guidelines which will address issues such as the areas where berms are recommended, the sizes of such berms and recommended slope gradients to minimize soil erosion.	Field Inspection	During final design of each landfill phase and construction	Director, IWMD/ Director, PF&RD/HBP
4.11-3	During final design, the IWMD shall incorporate design features to ensure that the design and exterior treatment of landfill operations structures and permanent recreation buildings vary in their visual character. Because of varying topography and vegetative cover, each structure and Zone will be visually unique in its apparent size and quality. Building materials shall be selected so that, in all conditions, all visible permanent structures will blend with the surrounding natural environment. A light earthtone surface color such as beige or sand is the desired exterior treatment color.	Plan Check	Prior to final design of landfill operational structures or permanent recreation facilities	Director, IWMD
4.11-4	As early as possible in the construction and operation of the active and closed landfill areas, the IWMD shall plant the landscape areas that will take the longest time to establish and achieve their desired visual effects. In general, rehabilitation priorities will be established based on size and visibility of the area to be landscaped. In most cases, these will be the landfilling areas in Zones 1 and 4 that are visible from adjacent land uses.	Plan Check	During preliminary design of future landfill phases	Director, IWMD

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
4.11-5	IWMD shall ensure that the design and construction of any permanent environmental control structures which occur within 200 feet of a major ridgeline are constructed in a manner which minimizes visibility off-site so as not to interrupt the natural horizon line in the existing landscape.	Plan Check	Prior to approval of permanent environmental control structure	Director, IWMD
4.11-6a	The IWMD shall ensure that the design and layout of the landfill areas includes landscaping to reduce the visual impact of the landfill surfaces following the closure of each landfill area. The IWMD shall ensure that the landscaping consists of vegetation with plantings that are consistent with the surrounding natural terrain. The IWMD shall ensure that the landscaping plantings include appropriate transitions with areas of native vegetation and areas landscaped for recreation uses. A recommended candidate plant species palette is shown in Table 4.11-1 (refer to the Draft EIR).	Plan Check	Prior to approval of Final Closure Plan	Director, IWMD
4.11-6b	Following temporary or final closure of landfill surfaces, hydroseeding shall be applied to the landfill areas and slopes by the IWMD. Hydroseeding shall be applied consistent with the Standard Specifications for Public Works Construction.	Field Inspection	Following temporary or final closure of landfill surfaces	Director, IWMD
Public Safety and Risk of Upset				
4.13.1-1	Prior to opening any recreation uses on-site, the IWMD and the PF&RD/HBP shall develop and implement site operating procedures that separate refuse and recreation vehicles either by separate access routes or separate internal circulation patterns immediately after accessing the site.	Plan Check	Prior to opening recreation uses on-site	Director, IWMD/ Director, PF&RD/HBP
4.13.1-2	The IWMD shall continue to implement on-site traffic operations procedures regarding on-site posted traffic speed limits and traffic controls for the landfilling operations in Zones 1 and 4.	Plan Check	Prior to approval of the Final Design of a landfill phase or ancillary infrastructure facility	Director, IWMD
4.13.1-3	Prior to the approval of construction plans, the IWMD shall ensure that construction activities for the landfilling uses which may temporarily bring construction equipment and ordinary vehicular traffic into closer contact, will continue to be mitigated by traffic control consisting of limiting access of vehicular traffic to construction areas. The traffic control plans for the 2001 GDP construction areas shall be consistent with existing PF&RD/Road Programs traffic control policies and procedures.	Plan Check	Prior to approval of the construction plans for landfilling uses	Director, IWMD
4.13.2-1	The IWMD will continue to implement its policy not to accept hazardous materials for disposal in the landfill. This policy will include, but not be limited to, visual inspection of loads at the fee booth and on the active face of the landfill during unloading; continued operation of the radiation detection systems at the fee booths; and landfill personnel recording the license plates of vehicles turned away at the entrance.	Field Inspection	Ongoing	Landfill Site Supervisor
4.13.2-2	Prior to opening any recreation uses on-site, the IWMD and PF&RD/HBP shall develop and implement on-site operating procedures that separate the recreation users and trash vehicles as they enter the site and that no members of the public are allowed access to the landfill areas in Zones 1 and 4 where mixing operations and disposal of biosolids with other refuse on the active face of the landfill occur.	Plan Check	Prior to opening any recreation uses on-site	Director, IWMD/ Director, PF&RD/HBP
4.13.2-3	The IWMD shall maintain and implement operating procedures for the acceptance and disposal of non-hazardous ASW, including documentation of all ASW loads received at the landfill.	Field Inspection	Ongoing	Manager, Landfill Operations
4.13.2-4	The IWMD shall continue to maintain operating procedures for the safe handling and removal of waste oil and other potentially hazardous waste materials from the on-site vehicle maintenance facility.	Field Inspection	Ongoing	Manager, Landfill Operations
4.13.2-5	The IWMD shall maximize protection of the public and landfill workers from accidental exposure to hazardous materials at the HHWCC, consistent with all applicable state and federal regulations. These measures shall include, but not be limited to, separation of recreation users from the HHWCC; proper handling and disposal of the HHW collected at the HHWCC; and on-site emergency response personnel and equipment.	Plan Check/ Field Inspection	Ongoing	Manager, Landfill Operations
4.13.4-1	The IWMD shall maintain on-site operating procedures for the avoidance and control of surface fires. These practices shall include, but not be limited to, the provision of fire extinguishers and watering vehicles, posting of No Smoking signs, ground clearing and general safe operating practices.	Plan Check/ Field Inspection	Ongoing	Manager, Landfill Operations
4.13.4-2a	Prior to the opening of public access roads on-site, the IWMD shall coordinate with the PF&RD/Road Programs on the placement of fire warning signs along public roadways through the site, warning motorists of potential fire hazards, fire conditions and other relevant information.	Plan Check	Prior to the opening of public access roads on-site	Director, IWMD/ Director, PF&RD Road Programs
4.13.4-2b	The IWMD and the PF&RD/Road Programs will ensure that all roads serving landfilling activities include road signs warning motorists and landfill patrons of potential fire hazards, fire conditions and other relevant information. This signing shall be consistent with the requirements of the County of Orange for roadway signing.	Field Inspection	Ongoing	Director/IWMD/ Director, PF&RD/Road Programs
4.13.4-2c	Prior to approval of construction plans, the IWMD shall ensure that all construction contractors and employees engaged in construction for the landfilling uses implement safe working practices regarding the potential for surface fires associated with construction equipment and personal vehicles. These practices, subject to the approval of the Orange County Fire Authority, shall include the installation of spark arresters on equipment that has the potential to emit sparks or glowing embers; avoiding parking vehicles in areas with high or very dry vegetation; restrictions on employee smoking; the use of open flames or fire in high hazard areas and other similar safe working practices.	Plan Check	Prior to approval of construction plans	Director, IWMD/ Director, PF&RD/Road Programs
4.13.4-3	Prior to commencing any new landfill phase, mitigation program or development project on the Prima Deshecha property, the grading plans and building plans will be reviewed and approved by the Orange County Fire Authority.	Plan Check (Review by OCFA)	Prior to commencing any landfill phase, mitigation program, or development project	Director, IWMD

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
4.13.5-1	The IWMD shall continue to ensure that the design and operation of the GDP landfilling activities include a LFG control system consisting of a network of collection wells, flare stacks and ERF capacity as needed as LFG generation increases, and a monitoring program, basically expanding the existing LFG control system on-site.	Plan Check	Ongoing	Director, IWMD
4.13.5-2	Prior to the issuance of building permits and during structure siting and final design, the IWMD and PF&RD/HBP shall ensure, as part of the structure siting and final design, that the construction of permanent structures with enclosed spaces on landfilled areas will not occur unless the building is designed with protection from migrating landfill gas approved by the Solid Waste Local Enforcement Agency. Such protection designs could include: gas impermeable membrane underlying the structure and/or venting of enclosed spaces in the building, particularly spaces in contact with the ground or building foundation. In addition, the building designs will incorporate an explosive gas alarm system where this would be considered to increase the overall safety of the building for occupants or users of the building.	Plan Check	Prior to issuance of building permits and during structure siting and final design	Director, IWMD/ Director, PF&RD/HBP
Transport of Disease Vectors				
4.14-1a	During landfill operations, the IWMD shall periodically monitor landfilling activities and operations in Zones 1 and 4 for the presence or potential presence of vectors including mosquitos, flies, rodents and birds, until the closure of all active landfilling and recycling activities in these zones. The IWMD will implement vector control procedures as necessary to control these pests. The IWMD will coordinate this activity with the VCD and will ensure that landfill operations staff involved in these activities are properly trained to recognize the signs of possible vector infestations and in the proper use, handling, storage and disposal of pesticides and poisons used to control these vectors.	Field Monitoring	Ongoing	Landfill Site Supervisor
4.14.1b	The IWMD shall coordinate with the Orange County Local Enforcement Agency as ii conducts its monthly site inspections. The IWMD shall implement alternate, updated or new vector control procedures as requested by the LEA.	Site Inspection	Monthly	Director, IWMD
4.14-2	Following approval of the 2001 GDP, the IWMD shall ensure that the final construction plans submitted by the construction contractors identify specific measures to remedy standing bodies of water on construction sites to the extent possible, including avoiding damming of surface flows; filling in potholes and low spots; grading and stockpiling soil such that standing bodies of water are not created; and equipment storage practices that do not result in the collection of water in or around the equipment.	Plan Check	Prior to approval of construction plans	Director, IWMD
4.14-3	Following approval of the 2001 GDP, the IWMD shall ensure that the final construction plans reflect the specific measures that will be implemented during site clearing activities by the construction contractor to remove and properly dispose of vegetation and other site clearing wastes as soon as possible.	Plan Check	Prior to approval of construction plans	Director, IWMD
4.14-4	Following approval of the 2001 GDP, the IWMD shall ensure that the final construction plans submitted by the contractor reflect specific measures to properly collect and dispose of wastes generated during construction, including waste building materials, excess soil, and food wastes generated by employees.	Plan Check	Prior to approval of construction plans	Director, IWMD
4.14-5	Following approval of the 2001 GDP, the Orange County Vector Control District shall determine the existence of species on the subject property which have the potential to carry and/or transmit the hantavirus. If warranted, specific vector control measures shall be identified and reflected on the final construction plans submitted for approval and implemented in a manner meeting the approval of the Vector Control District.	Site Inspection	Prior to approval of construction plans	Director, IWMD
Utilities				
4.16-1	Prior to approval of construction and grading plans, the IWMD will include, as part of the construction documents, requirements that the construction contractors coordinate with SCE and SDG&E to ensure that their facilities on the site are protected to prevent significant disruption to utility services during construction. The contractor will be required to provide written documentation of this coordination to the IWMD.	Plan Check	Prior to approval of construction and grading plans	Director, IWMD/ Officials of SDG&E and SCE
4.16-2	The IWMD will coordinate with Santa Fe Pacific Pipeline Partners Inc., during final design of the landfilling uses in Zone 4 regarding the precise location and depth of the existing pipelines on the site. The IWMD shall coordinate the landfill construction schedules with Santa Fe Pacific Pipeline Partners Inc., to allow the company to relocate its pipelines, if needed, prior to IWMD initiating construction of landfilling improvements in Zone 4 that would otherwise impact these pipeline facilities.	Plan Check	During final design of landfilling uses on Zone 4	Director, IWMD
4.16-3a	Prior to the commencement of any landfilling operations, a soils report and plans for all sewage disposal systems shall be submitted to the County's Plumbing/Mechanical Plan Checking Section for review and approval.	Plan Check	Prior to issuance of building permits for occupied	Plan Check
4.16-3b	Results of percolation tests and a log of soil borings, performed and reported by a Registered Environmental Health Specialist, Registered Civil Engineer or Registered Geologist, in accordance with Environmental Health's "On-Site Sewage Disposal System Guidelines" shall be submitted to the County's Plumbing/Mechanical Plan Checking Section for review and approval. The Land Use Unit of Environmental Health shall be notified at least 48 hours prior to soil testing in order to be present during testing, if deemed necessary.	Plan Check	Prior to issuance of building permits for occupied structures	Manager, Plumbing/Mechanical Plan Checking Section
4.16-3c	Each proposed individual sewage disposal system shall be designed in accordance with Environmental Health's "On-Site Disposal System Guidelines."	Plan Check	Prior to issuance of building permits for occupied structures	Manager, Environmental Health
4.16-3d	An additional soil percolation system, equal to a maximum of 100 percent of the original design capacity or as deemed necessary by the Manager, Environmental Health, shall be constructed and connected.	Plan Check	Prior to issuance of building permits for occupied structures	Manager, Environmental Health

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
FINAL EIR NO. 575 MITIGATION MONITORING AND REPORTING PROGRAM–CIRCULATION COMPONENT				
Topography				
4.1-2	The Director PF&RD shall ensure through the construction bid documents that temporary excavations and stockpiles associated with the construction of the circulation and roadway improvements are strategically located to be visible from off-site viewsheds for the shortest time possible.	Plan Check	Prior to approval of construction documents	Director, PF&RD
Geology, Seismicity, Soils and Groundwater				
4.2-6a	Prior to the final design of any circulation uses on the site, the Director PF&RD shall conduct a comprehensive geotechnical study. The study should include detailed geologic mapping, exploratory drilling, logging and sampling, laboratory testing of soil and rock samples, engineering and slope stability analyses, and cut slope and landslide removal recommendations. The final recommendations of the geotechnical study shall be incorporated in the final design of the GDP circulation elements as appropriate.	Plan Check	Prior to final design of any circulation uses on-site	Director, PF&RD
4.2-6b	Where embankment fills associated with the extension of La Pata Avenue overlie landslide deposits, the Director PF&RD will ensure that the final design incorporates removal of all highly disturbed landslide debris prior to placement of fill. The final design of the La Pata Avenue extension regarding the removal of landslide debris will be consistent with the findings of the geotechnical study, described in MM 4.2-6a, above, to reduce adverse settlement and/or potential instability of the roadfill.	Plan Check	Prior to final design of La Pata Avenue on-site	Director, PF&RD
4.2-6c	Where unstable cut slopes are found along the La Pata Avenue extension, they will require some form of stabilization. Typical measures for stabilizing permanent unstable cut slopes in the various bedrock units and landslide debris include construction of low-angle (3:1 horizontal to vertical or less) cut slopes, buttress and/or stabilization fills, and structurally reinforced fills. Stabilization measures for temporary cut slopes associated with ingress and egress from the landfill may only require constructing the cut slopes at low angles. The Director PF&RD will ensure that the appropriate measure for stabilizing the permanent cut slopes along the La Pata Avenue extension will be determined during final design of the extension, based on the findings of the geotechnical study described in MM 4.2- 6a, above.	Plan Check	Prior to final design of La Pata Avenue on-site	Director, PF&RD
4.2-7	The Director PF&RD shall incorporate the appropriate seismic design features in the final design of the La Pata Avenue extension, consistent with the geotechnical study described in MM 4.2-6a and with the current County of Orange seismic design practices and standard design practices for arterial roads.	Plan Check	Prior to final design of La Pata Avenue on-site	Director, PF&RD
Surface Hydrology				
4.3-2	The Orange County PF&RD shall ensure that the temporary and permanent grading associated with La Pata Avenue comply with street drainage design criteria in the County's Local Drainage Manual.	Plan Check	Prior to final design of La Pata Avenue on-site	Director, PF&RD
Water Quality				
4.4-3a	The Director PF&RD shall ensure that the final design of the GDP circulation and roadway improvements include features such as installation of grates in open drains and culverts to catch litter and elimination of bridge drains which drain directly into stream courses to minimize the potential water quality impacts of runoff from on-site roadways.	Plan Check	Prior to final design of any circulation uses on-site	Director, PF&RD
4.4-3b	Prior to the initiation of construction activities, the Director PF&RD shall apply for updated NPDES permit conditions for each phase of circulation use construction.	Plan Check	Prior to the initiation of construction activities	Director, PF&RD
4.4-3c	Prior to construction of La Pata Road, the Director of PF&RD will consider various engineering controls such as biofilters, vegetated swales, catch basins, filters or other similar controls in order to mitigate impacts on the quality of surface water runoff from roadway surfaces identified in a future environmental assessment for the road.	Plan Check	Prior to final design of La Pata Avenue on-site	Director, PF&RD
4.4-4a	The Director PF&RD shall ensure, as part of the construction documents for circulation and roadway improvements under the GDP, that the construction contractors implement erosion control measures conforming to County Standards for all graded or cleared areas on the site.	Plan Check	Prior to final design of any circulation uses on-site	Director, PF&RD
4.4-4b	PF&RD/Road Programs shall ensure, as part of the construction documents for the circulation uses (i.e., La Pata Avenue extension) and normal facility operating practices, that silt loading to surface waters from the construction activities will be periodically tested and controlled, where necessary, by appropriate erosion control measures, siltation basins or other settling structures.	Plan Check	Prior to final design of any circulation uses on-site	Director, PF&RD
Biological Resources				
4.5-7a	Prior to the removal of coastal sage scrub habitat resources including clearing, grubbing, mowing, discing, trenching, grading, fuel modification, or other construction related activities, the Director Public Facilities and Resources Department (PF&RD) Transportation or his designee shall prepare and submit, in consultation with the PDSD Director of Planning or his designee, an IHLMP to the USFWS for review and approval in compliance with the Natural Communities Conservation Plan (NCCP) and the Interim Coastal Sage Scrub (CSS) Habitat Loss Process. The County remains committed to the Natural Communities Conservation Plan (NCCP) process and intends to operate by the same procedure outlined in the Federal Endangered Species Act Section 4(d) Special Rule for Incidental Take of the coastal California gnatcatcher or other agreement as determined to be appropriate by the resource agencies.	Coastal Sage Scrub IHLMP or other resource agency approval plan	Prior to the removal of coastal sage scrub habitat resources	Director, PF&RD/ Director of Planning, PDSD
4.5-7b	The GDP shall be amended to include all applicable provisions of the approved Southern Subregion NCCP on its adoption by the County of Orange Board of Supervisors. The NCCP implementation programs may include, but are not limited to, requirements for the removal and mitigation replacement of lost coastal sage scrub habitat, operations restrictions, instructional signs, fencing, etc.	Plan Check	Subsequent to approval of the Southern Subregional NCCP	Director, PF&RD
4.5-7c	The IWMD shall replace impacted coastal sage scrub at a 1:1 ratio replacement or as otherwise required. The IWMD shall prepare a Conceptual Coastal Sage Scrub Mitigation Plan in cooperation with the affected resource agencies (CDFG, USFWS). Guidelines for the Mitigation Plan shall be as follows: ● The mitigation areas/sites shall have been evaluated and selected on the basis of their suitability for use as coastal sage scrub revegetation areas. The parameters evaluated shall include but not be limited to soil condition, slope aspect, proximity to adjacent coastal sage scrub, level of difficulty of site preparation, and ownership status.	Plan Check	Prior to mitigation site preparation	Director, PF&RD

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
	● The mitigation plan shall provide procedures to prepare the soils in the mitigation area, provide detailed seeding/planting mixtures; provide seeding/planting methods; and provide any other procedures, such as supplemental irrigation, mycorrhizal inoculation, etc., that will be used for successful vegetation. ● Maintenance and monitoring goals shall be established. The components and implementation of the maintenance and monitoring procedures shall be consistent with the components and implementation of mitigation measure 4.5-?a. In accordance with an approved Conceptual Coastal Sage Scrub Mitigation Plan, In accordance with the approved Conceptual Coastal Sage Scrub Mitigation Plan, the IWMD shall develop a maintenance and monitoring program to ensure success of the revegetation effort. Maintenance shall include regulation inspection of the site for excessive weed growth, erosion problems, failure of irrigation system, and/or unhealthy or dying plants. Invasion of the site by weeds in the area, especially pampas grass, artichoke thistle, castor bean, fountain grass, mustard, clover, cocklebur, and tree tobacco could be a potential maintenance problem. Maintenance crews shall be able to recognize the difference between native plant and weed seedlings. A qualified biologist will be required to instruct the maintenance crew in the identification of native plant seedlings. The maintenance program shall include procedures for regular maintenance and repair of the irrigation system. A system shall be developed for reporting by the maintenance crew of any unhealthy or dying plants or failure in any of the seeded areas. This would assist the monitoring crew in the development of immediate remedial measures, such as replacing plant material, to correct the problem. To document the success of revegetation programs, the IWMD shall ensure that the progress of the revegetated area is monitored by a qualified biologist. The maintenance and monitoring plan will address unique aspects of mitigation areas. An agreement shall be developed between the County and the USFWS and CDFG on criteria that will be used to determine successful plant establishment on a mitigation site. Success criteria will include plant cover, species diversity, habitat structure, and density, and will be based on measurements made in reference to habitats near the mitigation site.			
4.5-8a	Prior to grading for the circulation facilities, the Public Facilities and Resources Department (PF&RD), as appropriate, shall ensure that all sycamore and willow trees of four or more inches in diameter at breast height (DBH), defined as 4.5 feet from mean ground level, within the grading or construction limits of the landfilling activities, whichever is greater, and within 100 feet of grading and construction operations, shall be tagged and numbered with permanent tags under the supervision of a qualified biologist. The tag numbers of the trees to be protected and those to be removed shall be noted. Those trees adjacent to the construction areas that can be avoided will be tagged for protection and fenced off with red-orange mesh fencing during grading and construction activities. Trees that cannot be avoided during construction will be tagged for removal. Records of these numbers shall be kept by the Director, TPD and Director, PF&RD or their designees for use in mitigation, replacement, and monitoring of tree resources before, during, and after grading and construction activities. In addition, prior to grading and site preparation, the Director PF&RD shall ensure that all trees subject to removal are marked with a red "X" on the trunk. Trees to be preserved shall be marked with yellow flagging visible from all directions and fenced off with red-orange flexible mesh fencing during grading and construction activities.	Plan Check	Prior to grading for any circulation facilities affecting riparian resources	Director, PF&RD
4.5-8b	During the process of obtaining the required 404 Permit Application and 1601 Streambed Alteration Agreement (1601/404) for encroachment into streambed areas and prior to site preparation, the Director PF&RD shall prepare a Conceptual Riparian Mitigation Plan in cooperation with the affected resource agencies (CDFG, USFWS, and ACOE). Guidelines for the Mitigation Plan shall be as follows: ● The mitigation sites will be evaluated and selected on the basis of their suitability for use as riparian revegetation areas. The parameters evaluated shall include but not be limited to soil condition, hydrology, access, contiguousness with existing habitat, geology and drainage considerations, level of difficulty of site preparation, and ownership status. ● The mitigation plan shall include the procedures for soil preparation, provide seeding/planting mixtures; include the seeding/planting methods; and include any other procedures, such as supplemental irrigation, mycorrhizal inoculation, etc., that will be used. ● Maintenance and monitoring goals shall be established. The components and implementation of the maintenance and monitoring assignments are described in MM 4.5-3d.	Plan Check	Prior to mitigation site preparation	Director, PF&RD
4.5-8c	In accordance with an approved Conceptual Riparian Mitigation Plan, the Director PF&RD shall replace impacted riparian areas at a minimum 2:1 ratio of in-kind or higher quality habitat. The required replacement acreage will be approved by the resource agencies having jurisdiction over the impacted resources (i.e., CDFG, USFWS, and ACOE) for all the GDP uses, based on a jurisdictional delineation and vegetation mapping and the current (2001) GDP grading plan.	Field Inspection	Prior to site preparation	Director, PF&RD
4.5-8d	During the process of obtaining the required 404 Permit and 1601 Streambed Alteration Agreement, and, in accordance with the approved Conceptual Riparian Mitigation Plan, the Director PF&RD shall develop a maintenance and monitoring program to ensure success of any revegetation effort. Maintenance shall include regular inspection of the site for excessive weed growth, erosion problems, failure of irrigation system, and/or unhealthy or dying plants. Invasion of the site by weeds in the area, especially castor bean, fountain grass, mustard, clover, cocklebur, and tree tobacco, could be a potential maintenance problem. Maintenance crews shall be able to recognize the difference between native plant and weed seedlings. A qualified biologist will be required to instruct the maintenance crew in the identification of native plant seedlings. The maintenance program shall include procedures for regular maintenance and repair of the irrigation system. A system shall be developed for reporting by the maintenance crew of any unhealthy or dying plantings or failure in any of the seeded areas. This would assist the monitoring crew in the development of immediate remedial measures, such as increasing the irrigation rate or replacing plant material, to correct the problem. To document the success of revegetation programs, the Director PF&RD shall ensure that the progress of the revegetated area is monitored by a qualified biologist. An agreement shall be developed between the County and the ACOE, USFWS, or CDFG on criteria that will be used to determine successful plant establishment on a mitigation site. These	Maintenance and Monitoring Plan Check	Ongoing	Director, PF&RD

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
	criteria will include plant cover, species diversity, habitat structure, and density, and will be based on measurements made in reference to habitats near the mitigation site. The qualified biologist shall monitor the site for five years or until the site complies with required performance standards. If the biologist determines that the mitigation site meets the conditions of the performance standards, documentation shall be submitted to the responsible agency for approval.			
4.5-8e	Prior to grading and site preparation adjacent to riparian areas outside the limits of construction, the Director PF&RD shall incorporate instructions in the construction documents ensuring that, in conjunction with construction activities: ● Graded material spoils shall not be placed on or stored near any riparian areas outside the limits of construction ● The removal of streamside or bank vegetation shall be avoided wherever feasible. ● The amount of habitat removed shall be limited to the minimum amount required for construction. ● Riparian areas in the vicinity of grading or heavy recreation use, such as in Zone 1, shall be designated as Environmentally Sensitive Areas onsite preparation, grading, and construction plans and fenced off as appropriate for protection before any of these activities begin. ● Excess fill shall not be dumped in streams outside the limits of construction. ● Vehicles and equipment shall not be parked in washes or other drainages outside the limits of construction.	Plan Check	Prior to site preparation and/or grading	Director, PF&RD
4.5-9a	Prior to site preparation and during final design for each circulation improvement, the Director, Public Facilities and Resources Department (PF&RD) shall ensure that focused surveys are conducted by qualified biologists for the thread-leaved brodiaea, Coulter's saltbush, many-stemmed dudleya, southern tarplant, vernal barley, paniculate tarplant and any other plant species that may warrant focused surveys in the future as determined by a qualified botanist. In addition, the Director, PF&RD shall ensure that focused surveys are conducted by qualified biologists for the western spadefoot toad, southwestern willow flycatcher, and other wildlife species that may warrant focused surveys in the future as determined by a qualified biologist. The results of surveys shall be incorporated into environmental documentation for future proposed projects within the Prima Deshecha Landfill. Identified special status species and habitats located within 300 feet of the affected area (sw) shall be mapped on grading plans for each circulation improvement. In addition, the Director, PF&RD shall implement procedures approved by the appropriate resource agencies to mitigate the potential impacts to those species. In the event that landfill activities within a phase must occur prior to the completion of spring surveys, habitat for the special status plant species shall be salvaged, stored and used in an appropriate manner as determined by a qualified biologist. The appropriate agencies will be notified prior to disturbance. All future proposed projects within the Prima Deshecha Landfill shall provide vegetation mapping on topographic base maps at a scale of 1-inch equals 200-feet.	Field Surveys	Prior to site preparation or disturbance to native areas	Director, PF&RD
4.5-9b	The Director PF&RD shall ensure that, for the periods covering All site preparation, disturbance, or grading of native areas, A Resource Management Coordinator shall monitor wildlife habitat preservation. The purpose of this monitoring is to ensure that the Environmental Sensitive Areas and Environmentally Restrictive Areas (i.e., areas outside the grading limits) will not be adversely impacted during site preparation, grading, and construction of the circulation and roadway improvements. For the circulation improvements, the PF&RD Project Manager shall schedule regular progress and status meetings with the Resource Management Coordinator. These meetings shall commence at the beginning of grading for each roadway improvement, when native ground is scheduled for disturbance (e.g., grading and/or stockpiling activities, etc.). The PF&RD Project Manager will attend these meetings and provide a status and progress report to the Director, PF&RD. These meetings will be held throughout the site preparation, grading and construction periods, for all the circulation and roadway improvements. The monitoring reports shall continue to be prepared and submitted by the Director, PF&RD or his designee until the disturbance is completed. The monitor shall be onsite before, during, and after the completion of site preparation, grading and construction for all of the circulation improvements.	Field Monitoring	Ongoing	Director, PF&RD
4.5-9c	Prior to any site preparation, grading, or construction activities in native areas, the Director PF&RD will ensure that focused surveys are conducted by qualified biologists for those species that potentially occur onsite, but which were not identified during the 1998 surveys, as described earlier in this EIR.	Field Surveys	Prior to any site preparation, grading, or construction activities in native areas	Director, PF&RD
4.5-9d	In conjunction with final design and prior to any site preparation or grading in native areas, the Director PF&RD will ensure that all special status species and special habitats within 300 feet of the grading limits shall be mapped on the grading plans by a qualified biologist.	Plan Check/ Field Inspection	In conjunction with final design and prior to any site preparation or grading in native areas	Director, PF&RD
4.5-9e	Prior to any site preparation, grading, and construction activities, the Director PF&RD shall implement procedures for protecting special status and candidate species and special habitats identified and mapped on grading plans during site preparation, grading, construction, and maintenance activities for all of the circulation and roadway improvements affecting native areas.	Plan Check/ Field Inspection	Prior to any site preparation, grading, and construction activities in native areas	Director, PF&RD
4.5-10a	During site preparation and grading for the circulation uses, the Director Public Facilities and Resources Department (PF&RD) shall phase these operations outside significant habitat areas during the nesting and breeding season for the coastal California gnatcatcher. This measure will be overseen by a qualified biologist. During the site preparation and grading for circulation uses, the Director, Public Facilities and Resources Department (PF&RD) shall phase these operations outside significant habitat areas during the nesting and breeding season for the least Bell's vireo. This measure will be overseen and conducted by a qualified biologist. Prior to activities that may impact potential	Plan Check	During site preparation or direct/indirect disturbance to native or restored areas	Director, PF&RD

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
4.5-10b	The Director Public Facilities and Resources Department (PF&RD) shall ensure that grading and construction operations for the circulation uses are redirected temporarily around nesting sites for a distance of 500 feet for candidate and listed species of birds and a distance of 1,000 feet for raptors, during nesting and breeding seasons between February 15 and July 15, or a distance and time agreed upon by the USFWS. In the event that a coyote, bobcat or mountain lion den is located, then grading and construction operations shall be redirected temporarily around the den for a distance of 1,000 feet. The nesting sites and dens should be resurveyed toward the end of the breeding seasons and these species to verify completion of the breeding cycle. Nests and dens of non-listed species that will be removed due to grading and/or construction operations shall be removed only during the non-breeding season.	Field Monitoring	Prior to site preparation and construction operations	Director, PF&RD
4.5-11	The Director Public Facilities and Resources Department (PF&RD) shall ensure that during final design, the circulation component improvements continue to incorporate regulatory agency guidelines to reduce indirect impacts associated with noise, dust, night lighting, and blowing debris. Noise shall be controlled through the proper maintenance of the construction equipment, including trucks, bulldozers, and other mobile and fixed construction equipment. Dust shall be controlled at its source with standard wetting techniques consistent with applicable SCAQMD requirements. Low lighting alternatives and shielded lighting shall be employed to reduce indirect impacts on surrounding habitats.	Plan Check	Prior to approval of Final Circulation Facilities Design	Director, PF&RD
Cultural/Scientific Resources				
4.6-3	Prior to the initiation of any site modifications, the PF&RD/Road Programs shall contract with a County-certified archeologist who will prepare a Testing, Monitoring and Salvage Program for Archeological Resources for the GDP circulation and roadway improvements. The Plan shall identify the specific pre- disturbance subsurface testing program and the specific monitoring procedures, scheduling, staffing and other elements to ensure adequate testing, identification and salvage of archeological resources prior to and during grading, site preparation, earth moving and excavation activities associated with the GDP circulation and roadway improvements. The Plan shall also identify procedures for in-place preservation of resources including the identification of typical resources that would be preserved in-place. The Plan shall also establish the authority for halting or temporarily relocating construction during preservation activities and other procedures as necessary.	Plan Check	Prior to approval of final Circulation Facilities Design	Director, PF&RD/Road Programs
4.6-4	Prior to the initiation of any site modifications, the PF&RD/Road Programs shall contract with a County-certified paleontologist who will prepare a Monitoring and Salvage Plan for Paleontological Resources for the GDP circulation and roadway improvements. The Plan shall identify the specific monitoring procedures, scheduling, staffing and other elements to ensure that on-site monitoring allows for adequate identification and salvage of fossil materials during grading, site preparation, earth moving and excavation activities associated with the GDP circulation and roadway improvements. The Plan shall also identify procedures for in-place preservation of resources including the identification of typical resources that would be preserved in-place. The Plan shall also establish the authority for halting or temporarily relocating construction during the preservation activities and other procedures as necessary.	Plan Check	Prior to approval of final design for recreation uses	Director, PF&RD/Road Programs
Land Use/Relevant Planning				
4.7-4	The PF&RD/Traffic Engineering/Road Programs and PF&RD/HBP shall coordinate on the final design of the La Pata Avenue extension and the design of any trails that will cross La Pata Avenue on-site. The crossings will be designed with signing and pavement markings consistent with County standards for both vehicular and trail users regarding safe procedures for trail users in approaching and using the trail crossing and to alert drivers on La Pata Avenue of the need to stop for trail users crossing the roadway.	Plan Check	Prior to approval of the final design of La Pata Avenue	Director, PF&RD/HBP Manager, PF&RD/Traffic Engineering/Road Programs
4.7-5	When the grade separated culvert under La Pata Avenue is constructed for a trail crossing, the PF&RD/Traffic Engineering/Road Programs will remove the on street signing and pavement marking at this location. The PF&RD/HBP will be responsible for redesigning the trail as it crosses La Pata Avenue, to direct trail users to the grade separated culvert. The design of the culvert and the trail crossing should clearly restrict any future use of the at-grade crossing on La Pata Avenue. Additionally, the grade-separated culvert shall be constructed consistent with the County of Orange Regional Riding and Hiking Design Manual trail design standards. If there are other remaining at-grade trail crossings, the PF&RD/Traffic Engineering/Road Programs and PF&RD/HBP will continue to maintain the required signing and pavement markings for these crossings on La Pata Avenue.	Field Inspection	Subsequent to construction of the grade-separated culvert under La Pata Avenue	Director, PF&RD/HBP
Air Quality				
4.9-11	Prior to approval of construction plans, the IWMD will ensure that the construction contractor complies with the requirements of IWMD's Compliance Plan with SCAQMD Rule 403. These requirements address the use of one or more dust control measures and removal of tracked-out dirt from traveled roadways for construction both outside and within the landfill boundary.	Plan Check	Prior to approval of construction plans	Director, IWMD
Noise				
4.10-2	During final design, the Director PF&RD shall mitigate traffic noise impacts through the use of landscaping buffers and setbacks from the street right-of-way by incorporating these features in the design of the street improvements.	Plan Check	Prior to approval of Final Design	Director, PF&RD
4.10-3	During construction operations, the Director PF&RD shall mitigate noise levels associated with the construction of on-site roadways adjacent to sensitive receptors through the use of limited construction hours, landscape buffers and sound barriers as determined appropriate.	Plan Check	Prior to approval of Final Design	Director, PF&RD
Aesthetics				
4.11-7	During final design, the Director PF&RD shall establish landscape standards for plantings in areas to be revegetated or screened from view. These guidelines shall illustrate all plant materials, sizes, species and quantities plus irrigation and preservation techniques. There shall be a variety of landscape types addressed, including revegetating graded slopes and earthen berms. Roads and trail cuts shall be revegetated with natural grasses, shrubs and trees to blend with the landscape character of adjacent areas. Trees selected for planting shall comply with the appropriate state and local regulatory requirements for the protection of groundwater.	Plan Check	Prior to approval of Final Design	Director, PF&RD

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
4.11-8	During final design and construction, the Director PF&RD shall ensure that plantings will be integrated with earthen berms and cut slopes to screen undesirable views. For these situations, the landscape design guidelines shall include grading guidelines which will address issues such as the areas where berms are recommended, the sizes of such berms, and recommended slope gradients to minimize soil erosion.	Plan Check	Prior to approval of Final Design	Director, PF&RD
4.11-9	During design, the Director PF&RD shall ensure that the siting of permanent circulation and roadway structures does not place any structures along ridgelines so as not to interrupt the natural horizon line in the existing landscape.	Plan Check	Prior to approval of Final Design	Director, PF&RD
Light and Glare				
4.12-1a	Prior to approval of final design, the PF&RD/Road Programs shall ensure that all lighting design schemes for the interim and ultimate GDP circulation and roadway uses incorporate available technology, including fixtures, refractors, shields and lenses, to minimize potential glare.	Plan Check	Prior to approval of final design	Director, PF&RD/Road Programs
4.12-1b	In conjunction with final design, the PF&RD/Road Programs shall ensure that light fixtures along landfill access roads and parking areas; arterial roadways; and recreation access roads and parking areas are hooded and contain direct cutoff refractors to concentrate lighting on-site and minimize potential spill of light onto adjacent land uses.	Plan Check	In conjunction with final design	Director, PF&RD/Road Programs
4.12-1c	The PF&RD/Road Programs shall ensure that light standards for landfill access roads and parking areas, arterials, and recreation access roads and parking facilities are a maximum height of 40 feet.	Plan Check	Prior to approval of final design	Director, PF&RD/Road Programs
4.12-2	As part of the construction documents for the circulation and roadway uses, the PF&RD/Road Programs shall ensure that security lighting for construction staging areas for these uses is sited to minimize visibility of the lighting from adjacent land uses.	Plan Check	Prior to approval of construction documents	Director, PF&RD/Road Programs
Public Safety and Risk of Upset				
4.13.1-4	The County's PF&RD/Road Programs shall develop and implement on-site traffic operations procedures regarding on-site posted traffic speed limits and traffic controls for the La Pata Avenue extension.	Plan Check	Prior to approval of construction documents	Director, PF&RD/Road Programs
4.13.1-5	As part of the construction documents and operating procedures, PF&RD/Road Programs shall ensure that construction activities for the circulation uses, which may temporarily bring construction equipment and ordinary vehicular traffic into closer contact, will be mitigated by traffic control consisting of limiting access of vehicular traffic to construction areas. The traffic control plans for the 2001 GDP construction areas shall be consistent with existing County of Orange traffic control policies and procedures.	Plan Check	Prior to approval of construction documents	Director, PF&RD/Road Programs
4.13.4-3a	Prior to the opening of public access roads on-site, the PF&RD/Road Programs shall coordinate with the Orange County Fire Authority on the placement of fire warning signs along public roadways through the site, warning motorists of potential fire hazards, fire conditions and other relevant information.	Plan Check	Prior to opening public access roads on-site	Director, PF&RD/Road Programs
4.13.4-3b	The PF&RD/Road Programs shall ensure that all roads serving landfilling activities include road signs warning motorists and landfill patrons of potential fire hazards, fire conditions and other relevant information. This signing shall be consistent with the requirements of the County of Orange for roadway signing.	Plan Check	Prior to approval of construction documents	Director, PF&RD/Road Programs
4.13.4-4	As part of the construction documents, the Director PF&RD shall ensure that all construction contractors and employees engaged in construction for the circulation uses implement safe working practices regarding the potential for surface fires associated with construction equipment and personal vehicles. These practices, subject to the approval of the Orange County Fire Authority, shall include at a minimum, the installation of spark arresters on equipment which has the potential to emit sparks or glowing embers, avoiding parking vehicles in areas with high or very dry vegetation, restrictions on employee smoking and the use of open flames or fire in high hazard areas and other similar safe working practices.	Plan Check	Prior to approval of construction documents	Director, PF&RD/Road Programs
Transport of Disease Vectors				
4.14-6	During site operations as well as part of the closure and post-closure maintenance activities, the PF&RF/Road Programs shall regularly inspect the roadway surface and shoulders of La Pata Avenue for the presence of potholes and other surface features that allow for the collection of standing water, as part of its county-wide roadway inspection and maintenance programs. PF&RD/Road Programs shall ensure that these surface flaws are repaired as soon as feasible, to reduce the potential for vectors using these standing water bodies for breeding.	Field Monitoring	Ongoing	Director, PF&RD/Road Programs
4.14-7	During site operations as well as part of the closure and post-closure maintenance activities, the PF&RD/Road Programs shall conduct regular trash collection along the shoulders on La Pata Avenue, to collect trash blown from trash trucks or thrown out car windows, as part of its county-wide roadway trash collection program.	Field Monitoring	Ongoing	Landfill Site Supervisor
4.14-8	As part of the construction documents for the circulation and roadway improvements, the Director PF&RD shall ensure that the construction contractors remedy standing bodies of water on construction sites to the extent possible, including avoiding damming of surface flows; filling in potholes and low spots; grading and stockpiling soil such that standing bodies of water are not created; and implementing equipment storage practices that do not result in the collection of water in or around the equipment.	Plan Check	Prior to approval of construction documents	Director, PF&RD
4.14-9	As part of the construction documents and during site clearing activities, the Director PF&RD shall ensure that during site clearing activities, the construction contractor removes and properly disposes of vegetation and other site clearing wastes as soon as possible.	Field Monitoring	During site clearance activities	Director, PF&RD/Road Programs
4.14-10	As part of the construction documents for the circulation and roadway improvements, the Director PF&RD shall ensure that the construction contractor will be responsible for the proper collection and disposal of wastes generated during construction, including waste building materials, excess soil and food wastes generated by employees.	Plan Check	Prior to approval of construction documents	Director, PF&RD/Road Programs
Utilities				
4.16-4	Prior to approval of construction and grading plans, the Director PF&RD will include, as part of the construction documents, requirements that the construction contractors coordinate with SCE and SDG&E to ensure that their facilities on the site are protected to prevent significant disruption to utility services during construction. The contractor will be required to provide written documentation of this coordination to the IWMD.	Plan Check	Prior to approval of construction and grading plans	Director, PF&RD/ Officials of SDG&E and SCE

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
FINAL EIR NO. 575 MITIGATION MONITORING AND REPORTING PROGRAM – RECREATION COMPONENT				
Geology, Seismicity, Soils and Groundwater				
4.2-8	Prior to final design for the construction of any recreation uses on the site, the PF&RD/HBP shall conduct a comprehensive geotechnical study. The study should include detailed geologic mapping, exploratory drilling, logging and sampling, laboratory testing of soil and rock samples, engineering and slope stability analyses, and cut slope and landslide removal recommendations. The final recommendations of the geotechnical study shall be incorporated in the final design of the GDP recreation elements as appropriate.	Plan Check	Prior to the approval of final design of recreation improvements	Director, PF&RD/HBP
4.2-9	The PF&RD/HBP will incorporate the appropriate seismic design features in the final design of the recreation improvements, consistent with the geotechnical study described in mitigation measure 4.2-8, above, and with the current County of Orange standard seismic design practices.	Plan Check	Prior to approval of final design of recreation improvements	Director, PF&RD/HBP
Surface Hydrology				
4.3-3	The PF&RD/HBP shall ensure that the temporary and permanent grading around all structures and roadways under the interim and ultimate GDP recreation uses are designed to comply with applicable design criteria in the County's Local Drainage Manual.	Plan Check	Prior to approval of grading plans	Director, PF&RD/HBP
Water Quality				
4.4-5	The PF&RD/HBP shall operate the recreation and related improvements consistent with a comprehensive Pollution Management Plan which incorporates best management practices to reduce potential impacts to water quality. These are expected to include parking lot and street sweeping; recreation facility user education to promote responsible behavior regarding litter, hazardous materials and other materials which could cause water quality impacts; landscape management to reduce irrigation water runoff and promote elimination or conservative use of fertilizers, pesticides and other chemicals; water conservation measures to reduce discharge to sanitary and storm sewer systems; an accident, collision and spill contingency plan which mandates employee response, stockpiling of cleanup equipment and materials, notification of responsible agencies and management/disposal of contaminated materials; litter control; employee training which addresses chemical use and storage, responsible cleaning, responsible maintenance and repair of vehicles and other equipment, waste disposal and emergency response; authority of facility operator to remove vehicles observed to be leaking fluid; and other pollution prevention practices.	Plan Check	Prior to introduction of on-site recreation uses	Director, PF&RD/HBP
4.4-6a	The PF&RD/HBP shall ensure, as part of the construction documents for the recreation uses under the GDP, that the construction contractors implement erosion control measures conforming to County Standards for all graded or cleared areas on the site.	Plan Check	Prior to approval of construction documents	Director, PF&RD/HBP
4.4-6b	The construction impacts to surface water quality due to increased silt load are regulated under Federal NPDES stormwater permitting requirements. The PF&RD/HBP will apply for updated permit conditions for each phase of recreation use construction prior to the initiation of those phased construction activities.	Plan Check	Prior to approval of construction documents	Director, PF&RD/HBP
4.4-6c	Prior to approval of construction contracts, the PF&RD/HBP shall ensure that silt loading to surface waters from the construction activities will be periodically tested and controlled, where necessary, by appropriate erosion control measures, siltation basins or other settling structures.	Plan Check	Prior to approval of construction documents	Director, PF&RD/HBP
Biological Resources				
4.5-12a	Prior to the removal of coastal sage scrub habitat resources including clearing, grubbing, mowing, discing, trenching, grading, duel modification, or other construction related activities, the Director Public Facilities and Resources Department (PF&RD) or his designee shall prepare and submit, in consultation with the PDSD Director of Planning or his designee, an IHLMP to the USFWS for review and approval in compliance with the Natural Communities Conservation Plan (NCCP) and the Interim Coastal Sage Scrub (CSS) Habitat Loss Process. The County remains committed to the Natural Communities Conservation Plan (NCCP) process and intends to operate by the same procedure outlined in the Federal Endangered Species Act Section 4(d) Special Rule for incidental Take of the coastal California gnatcatcher or other agreement as determined to be appropriate by the resource agencies.	Coastal Sage Scrub IHLMP or other resource agency-approved plan	Prior to removal of coastal sage scrub habitat resources	Director, PF&RD/HBP Director of Planning, PDSD
4.5-12b	The GDP shall be amended to include all applicable provisions of the approved Southern Subregion NCCP on its adoption by the County of Orange Board of Supervisors. The NCCP implementation programs may include, but are not limited to, requirements for the removal and mitigation replacement of lost coastal sage scrub habitat, operations restrictions, instructional signs, fencing, etc.	Plan Check	Subsequent to approval of the Southern Subregional NCCP	Director, PF&RD
4.5-12c	In accordance with an approved Conceptual Coastal Sage Scrub Mitigation Plan, the IWMD shall replace impacted coastal sage scrub at a 1:1 ratio replacement or as otherwise required. The IWMD shall prepare a Conceptual Coastal Sage Scrub Mitigation Plan in cooperation with the affected resource agencies (CDFG, USFWS). Guidelines for the Mitigation Plan shall be as follows: ● The mitigation areas/sites shall have been evaluated and selected on the basis of their suitability for use as coastal sage scrub revegetation areas. The parameters evaluated shall include but not be limited to soil condition, slope aspect, proximity to adjacent coastal sage scrub, level of difficulty of site preparation, and ownership status. ● The mitigation plan shall provide procedures to prepare the soils in the mitigation area, provide detailed seeding/planting mixtures; provide seeding/planting methods; and provide any other procedures, such as supplemental irrigation, mycorrhizal inoculation, etc., that will be used for successful vegetation. ● Maintenance and monitoring goals shall be established. The components and implementation of the maintenance and monitoring procedures shall be consistent with the components and implementation of mitigation measure 4.5-7a. In accordance with the approved Conceptual Coastal Sage Scrub Mitigation Plan, the IWMD shall develop a maintenance and monitoring program to ensure success of the revegetation effort. Maintenance shall include regulation inspection of the site for excessive weed growth, erosion problems, failure of irrigation system, and/or unhealthy or dying plants. Invasion of the site by weeds in the area, especially pampas grass, artichoke thistle, castor bean, fountain grass, mustard, clover, cocklebur, and tree tobacco could	Plan Check	Prior to mitigation site preparation	Director, PF&RD

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
	be a potential maintenance problem. Maintenance crews shall be able to recognize the difference between native plant and weed seedlings. A qualified biologist will be required to instruct the maintenance crew in the identification of native plant seedlings. The maintenance program shall include procedures for regular maintenance and repair of the irrigation system. A system shall be developed for reporting by the maintenance crew of any unhealthy or dying plants or failure in any of the seeded areas. This would assist the monitoring crew in the development of immediate remedial measures, such as replacing plant material, to correct the problem. To document the success of revegetation programs, the IWMD shall ensure that the progress of the revegetated area is monitored by a qualified biologist. The maintenance and monitoring plan will address unique aspects of mitigation areas. An agreement shall be developed between the County and the USFWS and CDFG on criteria that will be used to determine successful plant establishment on a mitigation site. Success criteria will include plant cover, species diversity, habitat structure, and density, and will be based on measurements made in reference to habitats near the mitigation site.			
4.5-13a	Prior to site preparation and during final design for each recreational improvement, the Director Public Facilities and Resources Department (PF&RD) shall ensure that focused surveys are conducted by qualified biologists for the thread-leaved brodiaea, Coulter's saltbush, many-stemmed dudleya, southern tarplant, vernal barley, parniculate tarplant, and any other plant species that may warrant focused surveys in the future as determined by a qualified biologist. In addition, the Direct, PF&RD shall ensure that focused surveys are conducted by qualified biologists for the western spadefoot toad, southwestern willow flycatcher, and other wildlife species that may warrant focused surveys in the future as determined by a qualified biologist. The results of the surveys shall be incorporated into environmental documentation for future proposed projects within the Prima Deshecha Landfill. Identified special status species and habitats located within 300 feet of the affected area(s) shall be mapped on grading plans for each recreation improvement. In addition, the Director PF&RD shall implement procedures approved by the appropriate resource agencies to mitigate the potential impacts to those species. In the event that a phase would occur prior to spring surveys being conducted, habitat for the special status plant species shall be salvaged as appropriate. This material shall be used in an appropriate manner as determined by a qualified biologist. The appropriate agencies will be notified prior to disturbance. All future proposed projects within the Prima Deshecha Landfill shall provide vegetation mapping on topographic base maps at a scale of 1-inch equals 200-feet.	Field Surveys	Prior to site preparation or disturbance to native areas	Director, PF&RD/HBP
4.5-13b	The Director PF&RD shall ensure that, for the periods covering all site preparation, disturbance, or grading of native areas, A Resource Management Coordinator shall monitor wildlife habitat preservation. The purpose of this monitoring is to ensure that the Environmental Sensitive Areas and Environmentally Restrictive Areas (i.e., areas outside the grading limits) will not be adversely impacted during site preparation, grading, and construction of the recreation improvements. For the recreation improvements, the PF&RD Project Manager shall schedule regular progress and status meetings with the Resource Management Coordinator. These meetings shall commence at the beginning of grading for each recreation improvement, when native ground is scheduled for disturbance (e.g., grading and/or stockpiling activities, etc.). The PF&RD Project Manager will attend these meetings and provide a status and progress report to the Director, PF&RD. These meetings will be held throughout the site preparation, grading and construction periods, for all the recreation improvements. The monitoring reports shall continue to be prepared and submitted by the Director, PF&RD or his designee until the disturbance is completed. The monitor shall be onsite before, during, and after the completion of site preparation, grading and construction for all of the recreation improvements.	Field Monitoring	Ongoing	Director, PF&RD/HBP
4.5-14	During site preparation and grading for the recreation uses, the Director Public Facilities and Resources Department (PF&RD) shall phase these operations outside significant habitat areas during the nesting and breeding season for the coastal California gnatcatcher. This measure will be overseen by a qualified biologist. During the site preparation and grading for recreation uses, the Director, Public Facilities and Resources Department (PF&RD) shall phase these operations outside significant habitat areas during the nesting and breeding season for the least Bell's vireo. This measure will be overseen and conducted by a qualified biologist. Prior to activities that may impact potential.	Plan Check	Prior to site preparation or direct/indirect disturbance to native or restored areas	Director, PF&RD/HBP
4.5-15	The Director Public Facilities and Resources Department (PF&RD) shall ensure that grading and construction operations for the recreation uses are redirected temporarily around nesting sites for a distance of 500 feet for candidate and listed species of birds and a distance of 1,000 feet for rapiers, during nesting and breeding seasons between February 15 and July 15, or a distance and time agreed upon by the USFWS. In the event that a coyote, bobcat or mountain lion den is located, then grading and construction operations shall be redirected temporarily around the den for a distance of 1,000 feet. The nesting sites and dens should be resurveyed toward the end of the breeding seasons and these species to verify completion of the breeding cycle. Nests and dens of non-listed species that will be removed due to grading and/or construction operations shall be removed only during the non-breeding season.	Field Monitoring	Prior to site preparation and construction operations	Director, PF&RD/HBP
4.5-16	The Director Public Facilities and Resources Department (PF&RD) shall ensure that during final design, the recreation uses continue to incorporate regulatory agency guidelines to reduce indirect impacts associated with noise, dust, night lighting, and blowing debris. Noise shall be controlled through the proper maintenance of the construction equipment, including trucks, bulldozers, and other mobile and fixed construction equipment. Dust shall be controlled at its source with standard wetting techniques consistent with applicable SCAQMD requirements. Low lighting alternatives and shielded lighting shall be employed to reduce indirect impacts on surrounding habitats.	Plan Check	Prior to approval of final design for recreation uses	Director, PF&RD/HBP
Cultural/Scientific Resources				
4.6-5	Prior to the initiation of any site modifications, the PF&RD/HBP shall contract with a County-certified archeologist who will prepare a Testing, Monitoring and Salvage Program for Archeological Resources for the interim and ultimate GDP recreation activities. The Plan shall identify the specific pre-disturbance subsurface testing program and the specific monitoring procedures, scheduling, staffing and other elements lo ensure adequate testing, identification and salvage of archeological resources prior to and during grading, site	Plan Check	Prior to approval of final design for recreation uses	Director, PF&RD/HBP

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
	preparation, earth moving and excavation activities associated with the interim and ultimate GDP recreation uses. The Plan shall also identify procedures for in-place preservation of resources including the identification of typical resources that would be preserved in-place. The Plan shall also establish the authority for halting or temporarily relocating construction during preservation activities and other procedures as necessary.			
4.6-6	Prior to the initiation of any site modifications, the PF&RD/HBP will contract with a-County-certified paleontologist who will prepare a Monitoring and Salvage Plan for Paleontological Resources for the interim and ultimate GDP recreation uses. The Plan shall identify the specific monitoring procedures, scheduling, staffing and other elements to ensure adequate identification and salvage of fossil materials during grading, site preparation, earth moving and excavation activities associated with the interim and ultimate GDP recreation uses. The Plan shall also identify procedures for in-place preservation of resources including the identification of typical resources that would be preserved in-place. The Plan shall also establish the authority for halting or temporarily relocating construction during the preservation activities and other procedures as necessary.	Plan Check	Prior to approval of final design for recreation uses	Director, PF&RD/HBP
Land Use/Relevant Planning				
4.7-6	The PF&RD/Traffic Engineering/Road Programs and the PF&RD/HBP shall coordinate on the final design of the La Pata Avenue extension and the design of any trails that will cross La Pata Avenue on-site. The crossings will be designed with signing and pavement markings consistent with County standards for both vehicular and trail users regarding safe procedures for trail users in approaching and using the trail crossing and to alert drivers on La Pata Avenue of the need to stop for trail users crossing the roadway.	Plan Check	Prior to approval of the final design for La Pata Avenue	Director, PF&RD/HBP Director, PF&RD/Traffic Engineering/Road Programs
4.7-7	When the grade separated culvert under La Pata Avenue is constructed for a trail crossing, the PF&RD/Traffic Engineering/Road Programs will remove the on- street signing and pavement marking at this location. The PF&RD/HBP will be responsible for redesigning the trail as it crosses La Pata Avenue, to direct trail users to the grade separated culvert. The design of the culvert and the trail crossing should clearly restrict any future use of the at-grade crossing on La Pata Avenue. Additionally, the grade-separated culvert shall be constructed consistent with the County of Orange Regional Riding and Hiking Design Manual trail design standards. If there are other remaining at-grade trail crossings, the PF&RD/Traffic Engineering/Road Programs and PF&RD/HBP will continue to maintain the required signing and pavement markings for these crossings on La Pata Avenue.	Field Inspection	Subsequent to construction of the grade-separated culvert under La Pata Avenue	Director, PF&RD/HBP Director, PF&RD/Traffic Engineering/Road Programs
4.7-8	During final design for the recreation facilities, the PF&RD/HBP shall ensure that no permanent facilities (i.e., structural features) other than at-grade trails are located on key ridgelines in the cities of San Clemente and San Juan Capistrano. All permanent recreation facilities shall be located below these key ridgelines such that they are not visible from viewpoints within these cities.	Plan Check	Prior to approval of final design for recreation uses	Director, PF&RD/HBP
Air Quality				
4.9-12	The County of Orange PF&RD/HBP will ensure, as part of the construction documents, that the construction contractor complies with the requirements of SCAQMD Rule 403. These requirements address the use of one or more dust control measures and removal of tracked-out dirt from traveled roadways for construction both outside and within the landfill boundary. The contractors will specifically be required to cease the new grading of right-of-way when hourly average wind speeds exceed 25 miles per hour since high winds decrease the effectiveness of any dust control measures in effect.	Plan Check	Prior to approval of construction plans	Director, PF&RD/HBP
4.9-13	The PF&RD/HBP shall ensure that all purchase of new maintenance and utility equipment and golf carts are electric or are fueled by clean gaseous fuels. In the event that PF&RD/HBP contracts with concessionaires to provide either or both maintenance and golf cart services, PF&RD/HBP will include language in the contract requiring the concessionaire to use electric or clean fuel vehicles for these uses.	Plan Check	Prior to purchase of maintenance and utility equipment	Director, PF&RD/HBP
Noise				
4.10-4	The PF&RD/HBP shall mitigate noise levels associated with the construction of recreation uses adjacent to sensitive receptors through the use of limited construction hours and landscape buffers as determined appropriate.		Plan	Check
Aesthetics				
4.11-10	During final design, the PF&RD/HBP shall establish landscape standards for plantings in areas to be revegetated or screened from view. These guidelines shall illustrate all plant materials, sizes, species and quantities plus irrigation and preservation techniques. There shall be a variety of landscape types addressed, including revegetating graded slopes and earthen berms, and screening of landfill operations structures and permanent recreation buildings. Roads and trail cuts shall be revegetated with natural grasses, shrubs and trees to blend with the landscape character of adjacent areas. Trees selected for planting shall comply with the appropriate state and local regulatory requirements for the protection of groundwater.	Plan Check	Prior to approval of final design for recreation improvements	Director, PF&RD/HBP
4.11-11	During final design and construction, the PF&RD/HBP shall ensure that plantings will be integrated with earthen berms and cut slopes to screen undesirable views. For these situations, the landscape design guidelines shall include grading guidelines which will address issues such as the areas where berms are recommended, the sizes of such berms and recommended slope gradients to minimize soil erosion.	Plan Check	Prior to approval of final design and construction for recreation improvements	Director, PF&RD/HBP
4.11-12	During design, the PF&RD/HBP shall ensure that the siting of permanent aboveground recreation structures does not place any structures along ridgelines so as not to interrupt the natural horizon line in the existing landscape.	Plan Check	Prior to approval of final design for recreation improvements	Director, PF&RD/HBP
Light and Glare				
4.12-3	Prior to approval of final lighting design, the PF&RD/HBP Landscape Architecture Design Division shall ensure that all lighting design schemes for interim and ultimate GDP recreation uses incorporate available technology, including fixtures, refractors, shields and lenses, to minimize potential glare.	Plan Check	Prior to approval of final lighting design	Director, PF&RD/HBP Landscape Architecture Design Division

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
4.12-4a	In conjunction with final design, the PF&RD/HBP Landscape Architecture Design Division shall ensure that light fixtures along arterial roadways and recreation access roads, parking areas and structures are hooded and contain direct cutoff refractors to concentrate lighting on-site and minimize potential spill of light onto adjacent land uses.	Plan Check	Prior to approval of final lighting design	Director, PF&RD/HBP Landscape Architecture Design Division
4.12-4b	The PF&RD/HBP Landscape Architecture Design Division shall ensure that light standards for recreation access roads, parking facilities and some recreation structures are a maximum height of 40 feet.	Plan Check	Prior to approval of final lighting design	Director, PF&RD/HBP Landscape Architecture Design Division
4.12-5	As part of the construction documents for the recreation uses, the PF&RD/HBP shall ensure that security lighting for construction staging areas for the recreation uses is sited to minimize visibility from adjacent land uses.	Plan Check	Prior to approval of final lighting design	Director, PF&RD/HBP
Public Safety and Risk of Upset				
4.13.1-6	Prior to opening any recreation uses on the site, the IWMD and the PF&RD/HBP Regional Park Operations Division shall develop and implement site operating procedures that separate refuse and recreation vehicles either by separate access routes or separate internal circulation patterns at the point of site access.	Plan Check	Prior to opening any recreation uses on the site	Director, IWMD Director, PF&RD/HBP
4.13.1-7	Prior to the implementation of specific recreation improvements, the PF&RD/HBP Regional Park Operations Division shall develop and implement on-site traffic operations procedures regarding on-site posted traffic speed limits and traffic controls for the recreation uses in all zones.	Plan Check	Prior to approval of final design for recreation uses	Director PF&RD/HBP Regional Park Operations Division
4.13.1-8	The PF&RD/HBP Regional Park Operations Division shall continue to ensure that when construction and landfill equipment cross La Pata Avenue on the site at the intersections with temporary access roads, landfill personnel use flags and other measures to stop traffic on La Pata Avenue in order to allow the equipment to safely cross La Pata Avenue. In no case is the through traffic on La Pata Avenue to be delayed more than for the crossing of five construction vehicles at one time.	Plan Check	Prior to approval of construction documents	Director, PF&RD/HBP Regional Park Operations Division
4.13.1-9	As part of the construction documents and operating procedures, the PF&RD/HBP Regional Park Operations Division shall ensure that construction activities for the recreation uses, which may temporarily bring construction equipment and ordinary vehicular traffic into closer contact, will be mitigated by traffic control consisting of limiting access of vehicular traffic to construction areas. The traffic control plans for the GDP construction areas shall be consistent with existing County of Orange Transportation Department traffic control policies and procedures.	Plan Check	Prior to approval of construction documents	Director, PF&RD/HBP Regional Park Operations Division
4.13.2-6	Prior to opening any recreation uses on the site, the IWMD and the PF&RD/HBP shall develop and implement on-site operating procedures that separate the recreation users and trash vehicles as they enter the site and preclude access to the landfill areas by members of the public in Zones 1 and 4 where mixing operations and disposal of biosolids with other refuse on the active face of the landfill occur.	Plan Check	Prior to opening any recreation uses on-site	Director, IWMD Director, PF&RD/HBP
4.13.4-5	Prior to the opening of public access roads on-site, the PF&RD/HBP shall coordinate with the PF&RD/Road Programs on the placement of fire warning signs along public roadways through the site, warning motorists of potential fire hazards, fire conditions and other relevant information.	Plan Check	Prior to the opening of public access roads on-site	Director, PF&RD/HBP Director, PF&RD/Road Programs
5.13.4-6	Prior to approval of construction plans, the PF&RD/HBP shall ensure that all construction contractors and employees engaged in construction for the recreation uses implement safe working practices regarding the potential for surface fires associated with construction equipment and personal vehicles. These practices, subject to the approval of the Orange County Fire Authority, shall include at a minimum, the installation of spark arrestors on equipment having the potential to emit sparks or glowing embers; avoiding parking vehicles in areas with high or very dry vegetation; restrictions on employee smoking and the use of open flames or fire in high hazard areas; and other similar safe working practices.	Plan Check	Prior to approval of construction plans	Director, PF&RD/HBP OCFA
4.13.5-3	As part of the structure siting and final design, the PF&RD/HBP shall ensure that the construction of permanent structures with enclosed spaces on landfilled areas will not occur unless the building is designed with protection from migrating landfill gas approved by the Solid Waste Local Enforcement Agency. Such protection designs could include: gas impermeable membrane underlying the structure and/or venting of enclosed spaces in the building, particularly spaces in contact with the ground or building foundation. In addition, the building designs shall incorporate an explosive gas alarm system where this would be considered to increase the overall safety of the building for occupants or users of the building.	Plan Check	Prior to issuance of building permits and during structure siting and final design	Director, PF&RD/HBP
4.13.5-4	As part of the design, siting and operation of recreation uses on landfilled areas, the PF&RD/HBP shall ensure that campfires and other open fires are not constructed or allowed on the ground in recreation areas located in landfilled areas in landfill Zones 1 and 4. Aboveground barbecues and other aboveground stoves shall be allowed only in designated recreation areas, after testing conducted by IWMD and PF&RD/HBP which indicates that these types of stoves would not create or result in a fire hazard.	Plan Check	Prior to approval of final design for recreation uses	Director, PF&RD/HBP
Transport of Disease Vectors				
4.14-11a	Prior to opening any recreation use to the public, the PF&RD/HBP shall include rodent- and fly-proof refuse disposal containers in the recreation areas for visitor use.	Plan Check	Prior to opening any recreation use to the public	Director, PF&RD/HBP
4.14-11b	After the opening of each recreation use to the public, the PF&RD/HBP shall ensure that visitor and landscaping wastes generated in the recreation areas are collected regularly and are disposed of properly, in the active landfill area, for recycling or for disposal in another facility, as appropriate.	Site Inspection	Ongoing	Director, PF&RD/HBP
4.14-12a	If the golf course in Zone 1 is designed to contain water features, the PF&RD/HBP shall ensure as part of the operating contract for the golf course that the operator maintains a regular site inspection and pest control program to control mosquitos and flies potentially attracted to the water features.	Concession Contract	Prior to execution of the contract	Director, PF&RD/HBP
4.14-12b	If any of the other recreation areas are designed to contain water features, the PF&RD/HBP shall ensure that its, or any contract operator's, facility maintenance procedures include a regular site inspection and pest control program to control mosquitos and flies potentially attracted to the water features.	Concession Contract	Prior to execution of the contract	Director, PF&RD/HBP

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
4.14-13	Following approval of the 2001 GDP, the PF&RD/HBP shall ensure that the final construction plans submitted by the construction contractors will remedy standing bodies of water on construction sites to the extent possible, including avoiding damming of surface flows; filling in potholes and low spots; grading and stockpiling soil such that standing bodies of water are not created; and equipment storage practices that do not result in the collection of water in or around the equipment.	Plan Check	Prior to approval of construction plans	Director, PF&RD/HBP
4.14-14	Following approval of the 2001 GDP, the PF&RD/HBP shall ensure that the final construction plans reflect the specific measures that will be implemented during site clearing activities by the construction contractor to remove and properly dispose of vegetation and other site clearing wastes as soon as possible.	Plan Check	Prior to approval of construction plans	Director, PF&RD/HBP
4.14-15	Following approval of the 2001 GDP, the PF&RD/HBP shall ensure that the final construction plans submitted by the construction contractor reflect the specific measures to properly collect and dispose of wastes generated during construction, including waste building materials, excess soil, and food wastes generated by employees.	Plan Check	Prior to approval of construction plans	Director, PF&RD/HBP
4.14-16	Following approval of the 2001 GDP and prior to the commencement of any GDP recreation development operations, the Orange County Vector Control District shall determine the existence of species on the subject property which have the potential to carry and/or transmit the hantavirus. If warranted, specific vector control measures shall be identified and reflected on the final construction plans submitted for approval and implemented in a manner meeting the approval of the Vector Control District.	Field Inspection	Prior to commencement of any GDP recreation development operations	Director, PF&RD/HBP Orange County Vector Control District
Utilities				
4.16-5	Prior to approval of construction and grading plans, the IWMD will include, as part of the construction documents, requirements that the construction contractors coordinate with SCE and SDG&E to ensure that their facilities on the site are protected to prevent significant disruption to utility services during construction. The contractor will be required to provide written documentation of this coordination to the IWMD.	Plan Check	Prior to approval of construction and grading plans	Director, PF&RD/HBP Officials of SDG&E and SCE
4.16-6	During final design of the recreation uses in Zone 4, PF&RD shall coordinate with Santa Fe Pacific Pipeline partners, Inc., regarding the precise location and depth of the existing pipelines· on the site. The PF&RD/HBP shall coordinate the recreation construction schedules with Santa Fe Pacific Pipeline Partners, Inc., to allow the company to relocate its pipelines, if determined necessary, prior to initiating construction of recreation improvements in Zone 4 that would otherwise impact these pipeline facilities.	Plan Check	Prior to final design of the recreation uses in Zone 4	Director, PF&RD/HBP Santa Fe Pacific Pipeline Partners
4.16-7a	Prior to implementation of the 2001 GDP recreation uses, the PF&RD/HBP shall reach agreement with either the Santa Margarita Water District or the Capistrano Valley Water District to supply non-potable water to the site for landscaping use.	Service Contract	Prior to implementation of the GDP recreation uses	Director, PF&RD/HBP Santa Margarita Water District or Capistrano Valley Water District
4.16-7b	If determined necessary, the PF&RD/HBP will pursue redefinition of the jurisdictional boundaries of the service areas or improvement districts of the selected water agency to include the site in order to provide a uniform supply of non-potable water to the site. If an improvement district cannot be formed, the PF&RD/HBP will provide independent funding for the necessary water facility improvements and shall donate those funds to the appropriate water agency providing service to the site.	Service Contract	Prior to implementation of the GDP recreation uses	Director, PF&RD
4.16-8	For structures requiring sanitary facilities, PF&RD/HBP shall construct an on-site sewage disposal system in accordance with County standards in effect at that time.	Plan Check	Prior to construction of recreation uses on-site	Director, PF&RD/HBP
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT NO. 597 – MITIGATION MONITORING AND REPORTING PROGRAM				
Geophysical				
4.2-1a	Prior to designing each phased landfill plan and specifications, the IWMD shall conduct a geotechnical investigation to determine the extent of landslide material and the soil foundation characteristics of the proposed phase. A geotechnical report of the phased site area shall be prepared which includes a landslide excavation and removal plan prepared to the satisfaction of the Director, IWMD.	Plan Check	Prior to the design of each Landfill Phase	Director, IWMD or Designee
4.2-1b	For each phased grading plan, the excavation and grading plan shall ensure the stability of all cut, fill, and lined slopes. Slopes shall be designed to withstand the most probable earthquake based on a return period of 100 years or as required by current regulations. Liner design plans shall be submitted to the San Diego Regional Water Quality Control Board (RWQCB) for approval. The plans shall also be incorporated in an Joint Technical Document (JTD) and submitted to the LEA for approval and to the CIWMB for concurrence	Plan Check	Prior to the approval of the Amended RDSI	Director, IWMD or Designee
4.2-2a	The IWMD shall demonstrate that landfill design plans comply with the state and federal seismic requirements in CCR Title 27, and 40 Code of Federal Regulations (CFR) §258.14 (Seismic Impact Zones) and §258.15 (Unstable Areas). These demonstrations shall be incorporated in the IWMD Operating Record prior to construction of said plans.	Plan Check	Prior to the approval of the Landfill Design	Director, IWMD or Designee
4.2-2b	Prior to commencement of daily excavations for borrow material, grading plans shall be prepared, analyzed for slope stability, and submitted for approval by the Director, IWMD, or his designee.	Plan Check	Prior to the commencement of daily excavations for borrow material	Director, IWMD or Designee
4.2-2c	As part of a JTD, the IWMD shall present the assumptions, methods, and calculations used to demonstrate seismic safety. This measure is required only if final slopes are planned to be steeper than a ratio of 3:1 (horizontal to vertical), or if the site is located in an area subject to liquefaction or in unstable areas with poor foundation conditions as described in the Seismic Safety Element of the Orange County General Plan (27 CCR 17777).	Plan Check	Prior to the approval of the Amended RDSI	Director, IWMD or Designee
4.2-3	As part of a JTD, the IWMD shall present the assumptions, methods, and calculations used to demonstrate that differential settlement of the site will not result in future environmental impacts (27 CCR 21090).	Plan Check	Prior to the approval of the Amended RDSI	Director, IWMD or Designee

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
4.2-4	When the JTD is prepared, the IWMD shall identify the assumptions, methods, and calculations performed to demonstrate that the excavation plans provide for sufficient quantities and sources of suitable soils or alternative cover systems for daily and intermediate cover, final cover, and liner materials. This section of the JTD should also reference and summarize any borrow studies conducted to demonstrate the availability of sufficient quantities of materials. If materials are obtained on site, the description shall include which sections of the site will be excavated for each sequence of landfilling and where these materials will be stockpiled for use. Stockpile locations should not interfere with unloading, spreading, compacting, access, safety, drainage, or other operations on the site. Stockpiles should be clearly shown on the fill sequencing and excavation plans prepared for construction. (27 CCR 21600).	Plan Check	Prior to the approval of the Amended RDSI	Director, IWMD or Designee
Hydrology and Water Quality				
4.2-5a	The IWMD shall continue to operate its existing leachate control system within the active landfill area. In addition, the IWMD shall be required to construct a corresponding leachate control and recovery system in those areas where new liners are constructed and in areas added to the active landfill area.	Plan Check	Ongoing and prior to construction of new liners	Director, IWMD or Designee
4.2-5b	The site shall continue to operate under the groundwater monitoring requirements contained in Waste Discharge Requirements, Order No. 89-102, Technical Change Order (TCO) No. 1, Amended Waste Discharge Requirements contained in Order No. 93-86, and any future orders issued by the San Diego RWQCB. TCO No. 1 contains the detailed Groundwater and Vadose Zone Monitoring Program for the Prima Deshecha Landfill.	Field Monitoring	Ongoing	Director, IWMD or Designee
4.2-5c	As part of a revised JTD, the IWMD shall present the assumptions, methods, and calculations used to predict leachate generation and sizing of the components of the leachate collection system.	Prior to the approval of the Amended RDSI	Prior to the approval of the Amended RDSI	Director, IWMD or Designee
4.3-1a	As part of a JTD to be prepared by IWMD, the IWMD shall present the assumptions, methods, and calculations used to calculate the potential flow quantities for run-on, run-off, and sediment content of storm water flow used in sizing drainage and sediment control facilities.	Plan Check	Prior to the approval of the JTD	Director, IWMD or Designee
4.3-1b	As part of a JTD to be prepared by IWMD, the IWMD shall include surface drainage plans for final fill and bottom excavation plans, including any berms, down drain systems, storm drain systems, direction of flow in perimeter drainage channels, and the location of off-site discharge point for runoff water.	Plan Check	Prior to the approval of the JTD	Director, IWMD or Designee
4.3-1c	Detention, diversion, and drainage facilities shall be designed and constructed to accommodate the anticipated volume of precipitation and peak flows from surface runoff under the precipitation conditions specified in §20365 of Title 27 of the California Code of Regulations for each class of waste management unit (WMU). In addition, drainage facilities for WMUs shall be designed to prevent washout of the WMUs during a 100-year storm event.	Plan Check	Prior to the approval of the Amended RDSI	Director, IWMD or Designee
4.4-1a	The IWMD shall comply with its National Pollutant Discharge Elimination System (NPDES) Storm Water Pollution Prevention Plan (SWPPP) and its NPDES Monitoring and Reporting Plan for the landfilling under the GDP. This plan will ensure that the measures taken to safeguard surface water quality are effective and are being correctly employed.	Plan Check	Prior to construction of landfilling improvements in Zones 1 and 4	Director, IWMD or Designee
4.4-1b	The IWMD shall continue to implement the existing Surface Water Runoff Monitoring Program as described in the currently effective Waste Discharge Requirements.	Field Monitoring	Ongoing	Director, IWMD or Designee
4.4-2	As part of the NPDES program and prior to approval of construction contracts, the Director, IWMD, or a designee, shall ensure that silt loading to surface waters from the construction activities will be periodically tested and controlled, where necessary, by appropriate erosion control measures, siltation basins, or other settling structures.	Field Monitoring	Prior to the approval of construction contracts	Director, IWMD or Designee
5.3-1	The Proposed Project will comply with Section 7 of the Drainage Area Management Plan (DAMP) for Orange County through the development of a Water Quality Management Plan.	Verify inclusion in Plans and Specifications	Prior to approval of Plans and Specifications	Director, IWMD or Designee
Air Quality				
4.9-1	Landfill fee station personnel and/or landfill refuse inspectors shall reject extremely odorous loads for disposal in the landfill.	Field Inspection	Daily	Landfill Fee station personnel and/or landfill refuse inspectors
4.9-2	The active face of the landfill shall be covered daily. If the active face is in close proximity and upwind of on-site recreation uses, masking or neutralization agents may be added to exposed refuse to reduce the odor nuisance effects on the adjacent recreation uses.	Field Inspection	Daily	IWMD-Assigned Monitor
4.9-3	The IWMD shall design, construct, and operate new landfill areas in Zones 1 and 4 with LFG systems to maximize the collection of LFG. The LFG systems will include continuous monitoring of the LFG collection system to maximize efficient collection of LFG generated in these areas	Plan Check	Prior to the approval of the LFG system	Director, IWMD or Designee
4.9-4	During landfill operations, the IWMD shall continue regular visual inspections of the landfill cover and monitoring of LFG emissions throughout the entire refuse fill areas. The purpose of these inspections is to locate cracks or other defects or flaws in the landfill cover, which may allow LFG to escape. When such areas are identified, the IWMD will implement the appropriate corrective action as soon as feasible. These corrective actions may include application and compaction of additional cover material, adjustment of the existing LFG control system, and/or installation of new LFG control facilities.	Field Inspection	Quarterly	Landfill Site Supervisor
4.9-5	During landfill operations, the IWMD shall conduct periodic odor surveys on the landfill site and at various points in the area surrounding the site. The IWMD shall conduct odor surveys if any odors from the landfill are detected off site and reported by nearby residents. When the source of these odors is identified, the IWMD will implement the appropriate corrective action as soon as feasible. These corrective actions may include application and compaction of additional cover material, use of masking or neutralizing agents, adjustment of the existing LFG control system, and/or installation of new LFG control facilities.	Field Inspection	Daily	IWMD-Assigned Monitor
4.9-6	During landfill operations, the IWMD shall ensure that landfill operations areas that are to be left exposed temporarily, including top deck and excavation slopes, are sprayed periodically with water, as needed.	Field Inspection	Ongoing	IWMD-Assigned Monitor

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
4.9-7	On landfilled areas that are no longer in use, the IWMD will, as appropriate, incorporate dust control systems or vegetative covers, consistent with the Final Closure Plans and with IWMD's approved Rule 403 Compliance Plan for landfilling Zones 1 and 4.	Field Inspection	Ongoing	Landfill Site Supervisor
4.9-8	During landfill operations, the landfill fee station personnel and/or landfill refuse inspectors shall refrain from accepting dusty loads of refuse for disposal in either landfilling Zone 1 or 4. Alternatively, at the discretion of landfill personnel, dusty loads of refuse may be accepted for disposal if they are sprayed with water prior to leaving the fee station and accessing the active face of the landfill.	Field Inspection	Ongoing	Landfill Fee Station Personnel
4.9-9a	During landfill operations, the IWMD shall maintain water trucks on site to spray water on unpaved roads, as needed, to minimize the generation of dust as vehicles travel on these roads (per IWMD's approved Rule 403 Compliance Plan).	Field Inspection	Daily	Landfill Site Supervisor
4.9-9b	During landfill operations, the IWMD shall, to the extent feasible while still maintaining appropriate landfill operations, restrict vehicular travel on unpaved roads on the site. In the event that unpaved roads must be used, the IWMD shall spray water on these roads, as needed.	Field Inspection	Daily	Landfill Site Supervisor
4.9-9c	As unpaved on-site roads are removed from active service, the IWMD will spray these areas with a hydromulch solution or synthetic binder.	Field Inspection	Ongoing	Landfill Site Supervisor
4.9-10	During landfill operations, the IWMD will use the on-site water trucks to spray water on graded areas or areas where the vegetation has been removed or severely disturbed as a result of landfilling activities (per IWMD's approved Rule 403 Compliance Plan).	Field Inspection	Ongoing	Landfill Site Supervisor
5.4-1	IWMD and its contractors shall be required to comply with regional rules to reduce air pollutant emissions. SCAQMD Rule 401 sets limits on the opacity of visible plumes of dust resulting from activities at the landfill. SCAQMD Rule 402 requires that air pollutant emissions generated at the landfill not be a nuisance off site. SCAQMD Rule 403 requires that fugitive dust be controlled with the best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Two options are presented in Rule 403: monitoring of particulate concentrations or active control. Monitoring involves a sampling network around the project with no additional control measures unless specified concentrations are exceeded. The active control option does not require any monitoring, but requires that a list of measures be implemented on a daily basis. SCAQMD Rule 403 requires that "best available control measures" be utilized whenever a dust- generating activity occurs in the Air Basin. These measures are listed in Table 1 of Rule 403 and called out in Table 5.4-6 (see Attachment A) It is important to note that all applicable measures from Table 5.4-6 should be implemented to achieve the required PM10 emissions reductions. Rule 403 requires that "Large Projects" implement additional measures. A Large Project is defined as "any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic meters (5,000 cubic yards) or more than three times during the most recent 365 day period. The Prima Deshecha Landfill would be considered a Large Project under Rule 403. Therefore, the landfill is required to implement the applicable actions specified in Table 2 of the Rule. Table 2 from Rule 403 is presented as Table 5.4-7 (see Attachment A). As a Large Operation, the landfill will also be required to: ● Submit a fully executed Large Operation Notification (SCAQMD Form 403N) to the SCAQMD Executive Officer within 7 days of qualifying as a large operation; ● Include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site; ● Maintain daily records to document the specific dust-control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request; ● Install and maintain project signage with project contact signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities; ● Identify a dust control supervisor that is employed by or contracted with the property owner or developer, is on the site or available on-site within 30 minutes during working hours, has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements, and has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and ● Notify the SCAQMD Executive Officer in writing within 30 days after the site no longer qualifies as a large operation.	Verify inclusion in Plans and Specifications	Prior to approval of Plans and Specifications	Director, IWMD or Designee
5.4-2	To reduce equipment emissions, the following measures shall be implemented when feasible. ● Use low emission mobile construction equipment. "CARB Certified" heavy construction equipment conforms to the latest off-road CARB emission standards and is the lowest polluting equipment available. The use of this equipment would reduce heavy equipment NOx emissions by approximately 30 percent and heavy equipment PM10 emissions by approximately 50 percent from the emissions levels shown in Tables 5.4-3 through 5.4-5. This is a substantial reduction but will not reduce emissions to less than the significance thresholds. ● Maintain construction equipment engines by keeping them tuned. ● Use low sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2. ● Utilize existing power sources (i.e., power poles) when feasible. This measure would minimize the use of higher polluting gas or diesel generators. ● Use aqueous diesel fuel where feasible and reasonably commercially available.	Verify inclusion in Plans and Specifications	Prior to approval of Plans and Specifications	Director, IWMD or Designee

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
	● Use cooled exhaust gas recirculation (EGR) where feasible and reasonably commercially available. Several of the mitigation measures listed above are advanced emission control technologies that are currently not commercially available. For example, aqueous diesel fuel reduces NOx formation by reducing combustion temperatures, which results in lower NOx emissions. According to the SCAQMD, the current availability of this fuel technology is limited, and it may not be available for use at the landfill. In addition, with EGR diesel engines, a small amount of hot exhaust gas is routed through a cooler and is mixed with fresh air entering the engine. The exhaust gas helps reduce the temperature during combustion, which lowers the formation of thermal NOx. EGR technology is in the development phase and has not been fully commercialized. To the extent that the advanced emissions-control technologies become reasonably commercially available, or are required by the CARB from grading contractors, then such advanced emissions-control technologies will be used. ● Furthermore, a requirement to install diesel particulate filters on construction equipment used at the landfill was considered to further reduce emissions. However, the availability of construction equipment retrofitted with diesel particulate filters is limited. This is a result of operational problems in diesel engines equipped with these filters. Therefore, this potential mitigation measure for construction is considered infeasible.			
Biological Resources				
4.5-1	The restoration of needlegrass grasslands will be incorporated into the Conceptual Coastal Sage Scrub Mitigation Plan (described below in MM 4.5-2a through 2c), the IWMD will replace impacted needlegrass grassland at a 1:1 ratio.	Plan Check	Prior to construction of landfilling improvements in Zones 1 and 4	Director, IWMD or Designee
4.5-2a	Prior to the removal of coastal sage scrub habitat resources including clearing, grubbing, mowing, disking, trenching, grading, fuel modification, or other construction-related activities, the Director, IWMD or his designee shall prepare and submit, in consultation with the Planning and Development Services Department (PDSD) Director of Planning or his designee, an Interim Habitat Loss Mitigation Plan (IHLMP) to the USFWS for review and approval in compliance with the Natural Communities Conservation Plan (NCCP) and Interim Coastal Sage Scrub (CSS) Habitat Loss Process. The County remains committed to the NCCP process and intends to operate by the same procedure outlined in the Federal Endangered Species Act Section 4(d) Special Rule for Incidental Take of the coastal California gnatcatcher or other agreement as determined to be appropriate by the resource agencies.	Coastal Sage Scrub IHLMP or other resource agency approved plan	Prior to the removal of coastal sage scrub habitat resource	Director, IWMD or Designee/Director of Planning, PDSD
4.5-2b	The GDP shall be amended to include all applicable provisions of the approved Southern Subregion NCCP on its adoption by the County of Orange Board of Supervisors. The NCCP implementation programs may include, but are not limited to, requirements for the removal and mitigation replacement of lost coastal sage scrub habitat, operations restrictions, instructional signs, fencing, etc.	Plan Check	Subsequent to approval of the Southern Subregional NCCP	Director, IWMD or Designee
4.5-2c	In accordance with an approved Conceptual Coastal Sage Scrub Mitigation Plan, the IWMD shall replace impacted coastal sage scrub at a minimum 1:1 (or as otherwise stated by USFWS) replacement ratio of in-kind habitat for on-site and off-site habitat preservation, replacement, or enhancement. The IWMD shall prepare a Conceptual Coastal Sage Scrub Mitigation Plan in cooperation with the affected resource agencies (CDFG, USFWS). Guidelines for the Mitigation Plan shall be as follows: ● The mitigation areas/sites shall have been evaluated and selected on the basis of their suitability for use as coastal sage scrub revegetation areas. The parameters evaluated shall include but not be limited to soil condition, slope aspect, proximity to adjacent coastal sage scrub, level of difficulty of site preparation, and ownership status. ● The mitigation plan shall provide procedures to prepare the soils in the mitigation area, provide detailed seeding/planting mixtures; provide seeding/planting methods; and provide any other procedures (such as supplemental irrigation, mycorrhizal inoculation, etc.) that will be used for successful revegetation. ● Maintenance and monitoring goals shall be established. The components and implementation of the maintenance and monitoring procedures shall be consistent with the components and implementation of Mitigation Measure 4.5-7a. In accordance with the approved Conceptual Coastal Sage Scrub Mitigation Plan, the IWMD shall develop a maintenance and monitoring program to ensure success of the revegetation effort. Maintenance shall include regular inspection of the site for excessive weed growth, erosion problems, failure of irrigation system, and/or unhealthy or dying plants. Invasion of the site by weeds in the area, especially pampas grass, artichoke thistle, castor bean, fountain grass, mustard, clover, cocklebur, and tree tobacco could be a potential maintenance problem. Maintenance crews shall be able to recognize the difference between native plant and weed seedlings. A qualified biologist will be required to instruct the maintenance crew in the identification of native plant seedlings. The maintenance program shall include procedures for regular maintenance and repair of the irrigation system. ● A system shall be developed for reporting by the maintenance crew of any unhealthy or dying plantings or failure in any of the seeded areas. This would assist the monitoring crew in the development of immediate remedial measures, such replacing plant material, to correct the problem. To document the success of revegetation programs, the IWMD shall ensure that the progress of the revegetated area is monitored by a qualified biologist. The maintenance and monitoring plan will address unique aspects of mitigation areas. An agreement shall be developed between the County and the USFWS and CDFG on criteria that will be used to determine successful plant establishment on a mitigation site. Success criteria will include plant cover, species diversity, habitat structure, and density and will be based on measurements made in reference habitats near the mitigation site.	Plan Check	Prior to mitigation site preparation	Director, IWMD or Designee

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
4.5-3a	Prior to grading for the landfilling activities affecting riparian resources, the IWMD, as appropriate, shall ensure that all sycamore and willow trees of four or more inches in diameter at breast height (DBH), defined as 4.5 feet from mean ground level, within the grading or construction limits of the landfilling activities (whichever is greater) and within 100 feet of grading and construction operations, shall be tagged and numbered with permanent tags under the supervision of a qualified biologist. The tag numbers of the trees to be protected and those to be removed shall be noted. Those trees adjacent to the construction areas that can be avoided will be tagged for protection. Trees that cannot be avoided during construction shall be tagged for removal and fenced off with red-orange flexible mesh fencing during grading and construction activities. Records of these numbers shall be kept by the Director, IWMD or his designee for use in mitigation, replacement, and monitoring of tree resources before, during, and after grading and construction activities. In addition, prior to grading and site preparation, the IWMD shall ensure that all trees subject to removal are marked with a red "X" on the trunk. Trees to be preserved shall be marked with yellow flagging visible from all directions and fenced-off with red-orange flexible mesh fencing during grading and construction activities.	Plan Check	Prior to grading for landfilling activities affecting riparian resources	Director, IWMD or Designee
4.5-3b	During the process of obtaining the required 404 Permit Application and 1601 Streambed Alteration Agreement (1601/404) for encroachment into streambed areas and prior to site preparation, the IWMD shall prepare a Conceptual Riparian Mitigation Plan in cooperation with the affected resource agencies (CDFG, USFWS, USACE). Guidelines for the Mitigation Plan shall be as follows: ● The mitigation sites will be evaluated and selected on the basis of their suitability for use as riparian revegetation. The parameters evaluated shall include but not be limited to soil condition, hydrology, geology, and drainage considerations, level of difficulty of site preparation, access, contiguousness with existing habitat, and ownership status. ● The mitigation plan shall include the procedures for soil preparation, provide seeding/planting mixtures; include seeding/planting methods; and include any other procedures (such as supplemental irrigation, mycorrhizal inoculation, etc.) that will be used. ● Maintenance and monitoring goals shall be established. The components and implementation of the maintenance and monitoring assignments shall be consistent with the components and implementation of Mitigation Measure 4.5-3d.	Plan Check Verify inclusion in Plans and Specifications	Prior to mitigation site preparation Prior to approval of Plans and Specifications	Director, IWMD or Designee Director, IWMD or Designee
4.5-3c	In accordance with an approved Conceptual Riparian Mitigation Plan, the IWMD shall replace impacted riparian areas at a minimum 2:1 or higher ratio of in-kind or higher quality habitat. The required replacement acreage will be approved by the resource agencies having jurisdiction over the impacted resources (i.e., CDFG, USACE, USFWS), for all the GDP uses, based on jurisdictional delineations and vegetation mapping and the current 2001 GDP grading plan.	Field Inspection	Following implementation of Riparian Mitigation Plan	Director, IWMD
4.5-3d	During the process of obtaining the 404 Permit and 1601 Streambed Alteration Agreement, in accordance with the approved Conceptual Riparian Mitigation Plan, the IWMD shall develop a maintenance and monitoring program to ensure success of any revegetation effort. Maintenance shall include regular inspection of the site for excessive weed growth, erosion problems, failure of irrigation system, and/or unhealthy or dying plants. Invasion of the site by weeds in the area, especially pampas grass, artichoke thistle, mustard, clover, castor bean, fountain grass, cocklebur, and tree tobacco could be a potential maintenance problem. Maintenance crews shall be able to recognize the difference between native plant and weed seedlings. A qualified biologist will be required to instruct the maintenance crew in the identification of native plant seedlings. The maintenance program shall include procedures for regular maintenance and repair of the irrigation system. A system shall be developed for reporting by the maintenance crew of any unhealthy or dying plantings or failure in any of the seeded areas. This would assist the monitoring crew in the development of immediate remedial measures, such as increasing the irrigation rate or replacing plant material, to correct the problem. To document the success of revegetation programs, the IWMD shall ensure that the progress of the revegetated area is monitored by a qualified biologist. An agreement shall be developed between the County and the USACE, USFWS, or CDFG on criteria that will be used to determine successful plant establishment on a mitigation site. These criteria will include plant cover and density and will be based on measurements made in reference habitats near the mitigation site. The qualified biologist shall monitor the site for five years or until the site complies with required performance standards. If the biologist determines that the mitigation site meets the conditions of the performance criteria prior to the five-year period, documentation shall be submitted to the responsible agency for approval.	Maintenance and Monitoring Plan Check	Ongoing	Director, IWMD
4.5-3e	Prior to grading and site preparation adjacent to riparian areas outside the limits of construction, the IWMD shall incorporate instructions in the construction documents ensuring that, in conjunction with construction activities: ● Graded material spoils shall not be placed or stored near riparian areas outside the limits of construction. ● The removal of streamside or bank vegetation shall be avoided wherever feasible. ● The amount of habitat removed shall be limited to the minimum amount required for construction. ● Riparian areas in the vicinity of grading or heavy recreation use, such as in Zone 1, shall be designated as Environmentally Sensitive Areas onsite preparation, grading, and construction plans, and fenced off as appropriate for protection before any of these activities begin. ● Excess fill shall not be dumped in streams outside the limits of construction. ● Vehicles and equipment shall not be parked in washes or other drainages outside the limits of construction.	Plan Check	Ongoing	Director, IWMD or Designee
4.5-4a	Prior to site preparation and during final design for each phase of landfill development (i.e., Phases A–D in Zone 1 and Phases A–I in Zone 4), the Director, IWMD shall ensure that focused surveys are conducted by qualified biologists for the thread-leaved brodiaea, Coulter's saltbush, many-stemmed dudleya, southern tarplant, vernal barley, paniculate tarplant, and any other plant species that may warrant focused surveys in the future as determined by a qualified botanist. In addition, the Director, IWMD shall ensure that focused surveys are conducted by qualified biologists for the western spadefoot toad, southwestern willow flycatcher, and other wildlife species that may warrant focused surveys in the future as determined by a qualified biologist.	Field Surveys	Prior to site preparation and during final design for each phase of landfill development	Director, IWMD

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
	The results of the surveys shall be incorporated into environmental documentation for future proposed projects within the Prima Deshecha site. Identified special status species and habitats located within 300 feet of the affected area(s) shall be mapped on grading plans for each phase of development. In addition, the Director, IWMD shall implement procedures approved by the appropriate resource agencies to mitigate the potential impacts to those species. In the event that landfill activities within a phase must occur prior to the completion of spring surveys, habitat for the special status plant species shall be salvaged, stored, and used in an appropriate manner as determined by a qualified biologist. The appropriate agencies will be notified prior to disturbance. All future proposed projects within the Prima Deshecha Landfill shall provide vegetation mapping on topographic maps at a scale of 1 inch equals 200 feet.			
4.5-4b	The IWMD shall ensure that, for the periods covering all site preparation, disturbance or grading of native areas, the Director, IWMD or his designee shall monitor wildlife habitat preservation. The purpose of this monitoring is to ensure that the Environmentally Sensitive Areas and Environmentally Restrictive Areas (i.e., areas outside the grading limits) will not be adversely impacted during site preparation, grading, and construction of the landfilling activities. For the landfilling activities, this inspection program shall be coordinated with the Site Manager at the weekly meetings held at the Landfill to review the planned grading program for the landfilling activities. These meetings shall commence at the start of each new phase, when native ground is schedule for disturbance (e.g., grading or stockpiling). The Director, IWMD or his designee will attend these meetings and provide a status and progress report to the Operations Manager. These meetings will be held throughout the site preparation, grading, and construction periods for all the landfilling activities, and the monitoring reports shall continue to be prepared and submitted by the Director, IWMD or his designee until the disturbance is completed. The monitor shall be on site before, during, and after the completion of site preparation, grading, and construction for all the landfilling activities.	Field Inspection	Ongoing	Director, IWMD or Designee
4.5-5a	During site preparation and grading for the landfill, the IWMD shall phase these operations outside significant habitat areas during the nesting and breeding season for the coastal California gnatcatcher. This measure shall be overseen and conducted by a qualified biologist. During site preparation and grading for the landfill, the IWMD shall phase these operations outside significant habitat areas during the nesting and breeding season for the least Bell's vireo. This measure shall be overseen and conducted by a qualified biologist. Prior to activities that may impact potential vireo habitat, updated vireo surveys will be conducted by a qualified biologist.	Plan Check	Prior to site preparation or direct/indirect disturbance to native or restored areas	Director, IWMD
4.5-5b	The IWMD shall ensure that grading and construction operations for the landfilling are redirected temporarily around nesting sites for a distance of 500 feet for candidate and listed species of birds and a distance of 1,000 feet for raptors during nesting and breeding seasons between February 15 and July 15, or a distance and time period agreed upon by the USFWS. In the event that a coyote, bobcat, or mountain lion den is located, then grading and construction operations shall be redirected temporarily around the den for a distance of 1,000 feet. The nesting sites and dens should be resurveyed toward the end of the breeding seasons of these species to verify completion of the breeding cycle. Nests and dens that will be removed due to the grading and/or construction operations shall be removed only during the non-breeding season.	Plan Check and Field Monitoring	Prior to site preparation and construction operations	Director, IWMD
4.5-6	The IWMD shall ensure that during final design, the landfill operation continues to incorporate regulatory agency guidelines to reduce indirect impacts associated with noise, dust, night lighting, and blowing debris. Noise shall be controlled through the proper maintenance of the construction equipment, including trucks, bulldozers, and other mobile and fixed construction equipment. Dust shall be controlled at its source with standard wetting techniques consistent with applicable Southern California Air Quality Management District (SCAQMD) requirements. Low lighting alternatives and shielded lighting shall be employed to reduce indirect impacts on surrounding habitats.	Plan Check	Prior to approval of the Final Design of a landfill phase or ancillary infrastructure facility	Director, IWMD or Designee
5.5-1	**Additional Provisions for Thread-Leaved Brodiaea.** Prior to the Initiation of construction within Phase C3, OCIWMD will obtain authorization to take the thread-leaved brodiaea may be obtained from CDFG through the provisions of Section 2081(b) of the California Fish and Game Code if no federal nexus is present such as a USACE Section 404. If a USACE Section 404 Permit is being pursued, IWMD would request consultation with the USFWS under Section 7 of the FESA. Consultation is required between the USFWS and a federal agency (such as the USACE) whenever a federal action is likely to adversely affect species listed as Threatened or Endangered, such as thread-leaved brodiaea. The anticipated federal action is the issuance/amendment of a 404 permit that will affect the thread-leaved brodiaea. At the conclusion of the consultation, the USFWS will prepare a Biological Opinion based upon its review of the information provided herein. The final Biological Opinion may include an incidental take statement. As part of the consultation process under Section 7 of the FESA, the CDFG will be consulted pursuant to Section 2080.1 of the California Fish and Game Code. Because the Project will affect a state-listed species, the thread-leaved brodiaea, CDFG concurrence with the Project conservation measures is required. The mitigation for the thread-leaved brodiaea will include the following requirements: ● A pre-construction survey during the peak flowering period, approximately March through June, will be conducted by a qualified biologist. The limits of each brodiaea location within the impact area will be clearly delineated with lath and brightly colored flagging. ● The loss of thread-leaved brodiaea will be mitigated by seed and bulb collection, and revegetation into suitable mitigation site(s). A qualified biologist shall prepare a mitigation plan for review/approval by the United States Fish and Wildlife Service and oversee its implementation. The detailed mitigation plan shall include the following requirements: ○ The known populations of thread- leaved brodiaea on the project site shall be determined and mapped as the "collection area." The collection area shall include only areas within the impact footprint. ○ The existing locations of thread- leaved brodiaea shall be monitored every two weeks by a qualified biologist to determine when the seeds are ready for collection.	Verify inclusion in Plans and Specifications	Prior to the initiation of construction	Director, IWMD or Designee

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
	A qualified seed collector shall collect all of the seeds from the plants within the collection area when the seeds are ripe. The seeds will be cleaned and stored by a qualified nursery or institution with appropriate storage facilities. ○ Following the seed collection, the bulbs shall be removed by an approved method (e.g., bulb collection or block transplantation). The bulbs shall either be transplanted directly or stored by a qualified nursery or institution with appropriate storage facilities. If the bulbs are collected and the block transplantation method is not used, then the top 12 inches of topsoil from the thread-leaved brodiaea locations shall be scraped, stockpiled, and used at the selected mitigation site. ○ The mitigation site(s) shall be located in open space. The site(s) shall not attempt to enhance existing populations and shall be located so as not to be impacted by any pesticides or herbicides used on adjacent properties. ○ The thread-leaved brodiaea mitigation site(s) will be prepared for seeding as described in a conceptual restoration plan. ○ The topsoil shall be re-spread in the selected location as approved by the project biologist. Approximately 60 percent of the seeds and bulbs collected shall be spread/placed in the fall following soil preparation. Forty percent of the seed and bulbs shall be kept in storage for subsequent seeding, if necessary. ○ A detailed maintenance and monitoring plan shall be developed by a qualified biologist. The plan shall include detailed descriptions of maintenance appropriate for the site, monitoring requirements, and annual report requirements and shall have the full authority to suspend any operation in the study area which is, in the qualified biologist's opinion, not consistent with the restoration plan. Any disputes regarding the consistency of an action with the restoration plan will be resolved by the appropriate Project Applicant and the biologist. ○ The performance criteria shall be developed in the maintenance and monitoring plan and approved by a qualified biologist. The performance criteria shall also include percent cover, density, and seed production requirements. These criteria shall be developed by a qualified biologist following habitat analysis of an existing high-quality thread-leaved brodiaea population. This information will be recorded by a qualified biologist. ○ If the germination goal is not achieved following the first season, remediation measures shall be implemented prior to seeding with the remaining 40 percent of seed and bulbs. Remedial measures shall include at a minimum: soils testing, control of invasive species, soil amendments, and physical disturbance (to provide scarification of the seed) of the planted areas by raking or similar actions. Additional mitigation measures may be suggested as determined appropriate by the project biologist. ○ Potential seed sources from additional donor sites shall also be identified in case it becomes necessary to collect additional seed for use on the site following performance of remedial measures. IWMD is currently pursuing authorization to collect seed and propagate the brodiaea as well as transplantation of the plants and soils containing plants from CDFG under Section 2081(b).			
5.5-2	**Fairy Shrimp Surveys.** Prior to the initiation of construction activities that involve the removal of any pond within Zone 4, the IWMD shall have focused surveys conducted for the San Diego fairy shrimp and Riverside fairy shrimp by a biologist possessing the necessary resource agency permits. The surveys will be performed during the winter season prior to any construction activities on the site that may impact appropriate habitat for the fairy shrimp (i.e., ponds). The surveys will follow the protocol developed by the USFWS for these species. If it is determined that either or both fairy shrimp species are not present, then no further mitigation is necessary. However, if one or both fairy shrimp species are present, then consultation with the USFWS will be necessary in order to obtain a take authorization prior to any construction activities that may impact the species. The permitting process would require the preparation of a Biological Assessment which would include a mitigation plan to avoid or minimize impacts on this species.	Verify inclusion in Plans and Specifications	Prior to initiation of construction that involve the removal of any pond within Zone 4	Director, IWMD or Designee
5.5-3	**Western Spadefoot Toad Surveys.** Prior to the initiation of construction activities that involve the removal of habitat that is known and/or has the potential to support the western spadefoot toad, the IWMD shall have a focused survey conducted, where appropriate, on the project site prior to any potential impacts and during the breeding season for this species (February through May). The survey results will be submitted within 30 days after completion of the last survey to the CDFG for concurrence. Based on the May 3, 2005 survey results, a relocation program will be developed for western spadefoot on the project site. The relocation program will include a detailed methodology for locating, capturing, and relocating individuals prior to construction. The program will identify a suitable location for relocation of the western spadefoot prior to capture. The relocation program will require a biologist with the necessary permits for handling the western spadefoot. Prior to implementation of the relocation program, the program and the biologist(s) implementing the program will be subject to approval of the CDFG.	Verify inclusion in Plans and Specifications	Prior to initiation of construction activities that involve the removal of habitat that is known and/or has the potential to support the western spadefoot toad	Director, IWMD or Designee
5.5-4	**Existing Mitigation and Future Pre-Mitigation.** Any disturbance to existing or future mitigation areas, including those created by the Pre- Mitigation Plan or the Regional Environmental Enhancement Plan contained herein, shall be restored by the IWMD at the completion of the landfilling activity during the next growing season using a hydroseed mix consistent with the appropriate approved mitigation plan. All restored areas will be maintained to remove non-native invasive plant species for a maximum of three years. Implementation of this mitigation measure shall constitute full compliance with the provisions of SEIR 597 and the approved CSS/NG Mitigation Plan. No further mitigation will be assessed against IWMD by the resource agencies.	Verify inclusion in Plans and Specifications	Any disturbance to existing or future mitigation areas	Director, IWMD or Designee
Utilities and Service Systems				
4.16-1	Prior to approval of construction and grading plans, the IWMD will include, as part of the construction documents, requirements that the construction contractors coordinate with SCE and SDG&E to ensure that their facilities on the site are protected to prevent significant disruption to utility services during construction. The contractor will be required to provide written documentation of this coordination to the IWMD.	Plan Check	Prior to approval of construction and grading plans	Director, IWMD/Officials of SDG&E and SCE
4.16-2	The IWMD will coordinate with Santa Fe Pacific Pipeline Partners Inc. during final design of the landfilling uses in Zone 4 regarding the precise location and depth of the existing pipelines on the site. The IWMD shall coordinate the landfill construction schedules with Santa Fe Pacific Pipeline Partners Inc. to allow the company to relocate its pipelines, if needed, prior to IWMD initiating construction of landfilling improvements in Zone 4 that would otherwise impact these pipeline facilities.	Plan Check	During final design of landfilling uses in Zone 4	Director, IWMD or Designee

Table 8.A: Mitigation and Monitoring Reporting Program

MM No.	Mitigation Measures	Method of Verification	Responsible Party	Timing for Mitigation Measures
4.16-3a	Prior to the commencement of any landfilling operations, a soils report and plans for all sewage disposal systems shall be submitted to the County's Plumbing/Mechanical Plan Checking Section for review and approval.	Plan Check	Prior to issuance of building permits for occupied structures	Manager, Plumbing/Mechanical Plan Checking Section
4.16-3b	Results of percolation tests and a log of soil borings, performed and reported by a Registered Environmental Health Specialist, Registered Civil Engineer or Registered Geologist, in accordance with Environmental Health's On-Site Sewage Disposal System Guidelines shall be submitted to the County's Plumbing/Mechanical Plan Checking Section for review and approval. The Land Use Unit of Environmental Health shall be notified at least 48 hours prior to soil testing in order to be present during testing, if deemed necessary	Plan Check	Prior to issuance of building permits for occupied structures	Orange County Plumbing/ Mechanical Plan Checking Section
4.16-3c	Each proposed individual sewage disposal system shall be designed in accordance with Environmental Health's On-Site Disposal System Guidelines.	Plan Check	Prior to issuance of building permits for occupied structures	Manager, Environmental Health
4.16-3d	An additional soil percolation system, equal to a maximum of 100 percent of the original design capacity or as deemed necessary by the Manager, Environmental Health, shall be constructed and connected.	Plan Check	Prior to issuance of building permits for occupied structures	Manager, Environmental Health
5.6-1	SCE and SDG&E electrical transmission facilities will be relocated or re- routed, if necessary, in order to avoid service interruptions during construction of landslide remediation measures through the center of the site. IWMD will coordinate closely with SCE and SDG&E in the development of a plan to ensure cost-effective and efficient temporary facility relocation and post-construction re-establishment of transmission lines through the site.	Verify inclusion in Plans and Specifications	Prior to approval of Plans and Specifications	Director, IWMD or Designee

9.0 LIST OF PREPARERS AND PERSONS CONSULTED

9.1 COUNTY OF ORANGE

The following individuals from the County of Orange (County) were involved in the preparation of this Supplemental Environmental Impact Report (SEIR):

- Kevin Oxford, Senior Project Manager
- Nicole Walsh, Supervising Deputy County Counsel
- John Arnau, Manager (retired)
- Aimee Halligan, Senior Environmental Resources Specialist
- Kevin Gaxiola, Communications Specialist
- Joshua Farris, Communications Specialist
- Francine Bangert, Communications Specialist

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The following individuals were involved in the preparation of this SEIR. The nature of their involvement is summarized below.

9.2.1 LSA

The following individuals were involved in the preparation of this SEIR:

- Nicole Dubois, Project Manager & Principal in Charge
- Christina Maxwell, AICP, Assistant Project Manager, Senior Environmental Planner
- Andrea Bean, Environmental Planner
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- Dean Arizabal, Associate, Transportation
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- Mathew Phillips, Senior Graphics Technician
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9.3 TECHNICAL REPORT PREPARERS

The following individuals were involved in the preparation of the technical reports in support of this SEIR. The nature of their involvement is summarized below.

9.3.1 Cornerstone Studios, Inc.

The following individuals were involved in the preparation of the visual simulations (November 2020):

- Jeff Kim, PLA, ASLA, Principal
- Jinny Lee, Landscape Designer

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