DRAFT
ENVIRONMENTAL IMPACT REPORT

Remedial Action Plan for Ascon Landfill Site

Huntington Beach, California

August 2013

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State Clearinghouse #2013041010

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List of Acronyms

AB	Assembly Bill
ADT	Average Daily Trip
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
AHM	Acutely Hazardous Materials
AMP	Air Monitoring Plan
AMS	American Meteorological Society
ANSI	American National Standard Institute
AQMP	Air Quality Management Plan
ARAR	Applicable or Relevant and Appropriate Requirement
ARCC	Atlantic Richfield Company
AST	Above Ground Storage Tank
ASTDR	Agency for Toxic Substances and Disease Registry
ASTM	American Society for Testing and Materials
ATCM	Airborne Toxic Control Measure
BCY	Bank Cubic Yards
BECSP	Beach and Edinger Corridors Specific Plan
BGS	Below Ground Surface
BHRA	Baseline Health Risk Assessments
BMP	Best Management Practice
BAU	Business as Usual
C&D	Construction and Demolition
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards

List of Acronyms (Continued)

CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
Cal EPA	California Environmental Protection Agency
CALGreen Code	California Green Building Standards Code
Cal-OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAM	California Assessment Manual
CAPNA	California Polynuclear Aromatic Hydrocarbons
CARB	California Air Resources Board
CBC	California Building Code
CBSC	California Building Standards Commission
CC	Coastal Conservation
CCAA	California Clean Air Act
CCAT	California Climate Action Team
CCPS	Center for Chemical Process Safety
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEM	Conceptual Exposure Model
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFM	Cubic feet per Minute
CFR	Code of Federal Regulations
CGS	California Geological Survey

List of Acronyms (Continued)

CH_4	Methane
CHP	Cannery Hamilton Properties, LLC
CMA	Congestion Management Agency
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
COC	Constituents of Concern
COPC	Chemicals of Potential Concern
CRPR	California Rare Plant Rank
CUPA	Certified Unified Program Agency
CV-F2	Visitor-Serving Commercial with a 0.50 Floor Area Ratio
CWA	Clean Water Act
DAMP	Drainage Area Management Plan
dB	Decibel
dBA	A-weighted decibel
DCB	Dichlorobenzene
DOGGR	Department of Conservation Division of Oil, Gas, and Geothermal Resources
DOSH	Division of Occupational Safety and Health
DPF	Diesel Particulate Filter
DPM	Diesel Particulate Matter
DTSC	Department of Toxic Substances Control

List of Acronyms (Continued)

EDGAR	European Commission's Emissions Database for Global Atmospheric Research
EIR	Environmental Impact Report
EMSOFT	Exposure Model for Soil-Organic Fate and Transport
EPA	Environmental Protection Agency
EPC	Exposure Point Concentration
ESE	Environmental Science and Engineering
ESHA	Environmentally Sensitive Habitat Areas
FAR	Floor Area Ratio
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FS	Feasibility Study
FTA	Federal Transit Administration
FY	Fiscal Year
GAC	Granular Activated Carbon
GAMAQI	Guideline for Assessing and Mitigating Air Quality Impacts
GHG	Greenhouse Gas
GWP	Global Warming Potential
HARP	Hotspots Analysis and Reporting Program
HASP	Health and Safety Plan
HBZBO	Huntington Beach Zoning and Subdivision Ordinance
HCM	Highway Capacity Manual
HEAST	Health Effects Assessment Summary Table
HFC	Hydrofluorocarbons
HRA	Health Risk Assessment
HSC	Health and Safety Code

List of Acronyms (Continued)

HWCL	Hazardous Waste Control Law
I-405	Interstate 405
I-5	Interstate 5
I&SE CO	Imminent and Substantial Endangerment Determination Consent Order
I&SE-RAO	Imminent and Substantial Endangerment Determination and Order and Remedial Action Order
ICU	Intersection Capacity Utilization
I-F2	Industrial with 0.50 Floor Area Ratio
IG	Industrial General
IIPP	Injury and Illness Prevention Program
IL	Industrial Limited
ILCR	Incremental Lifetime Cancer Risk
IPCC	Intergovernmental Panel on Climate Change
IRIS	Integrated Risk Information System
IRM	Interim Removal Measure
ISCST	Industrial Source Complex Short Term
ITE	Institute of Transportation Engineer
L/kg body weight/day	Liters Per Kilogram of Body Weight Per Day
LCFS	Low Carbon Fuel Standard
L_{eq}	Equivalent Sound Level
LFG	Landfill Gas
LID	Low Impact Development
LLDPE	Linear Low Density Polyethylene
LOS	Level of Service
L_{max}	Maximum Noise Level
LST	Localized Significance Threshold

List of Acronyms (Continued)

LUFT	Leaking Underground Fuel Tank Manual
MATES	Multiple Air Toxics Exposure Study
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Level
MEI	Maximum Exposed Individual
MEIR	Maximally Exposed Individual Residential Receptor
MEO	Mineral Estate Owner
MEP	Maximum Extent Practicable
MG/KG	Milligrams per Kilogram
MG/L	Milligrams per Liter
MFR	Multi-Family Residential
M/S	Meters per Second
$\mu g/m^3$	Micrograms per Cubic Meter
µg/dL	Micrograms per Deciliter
µg/L	Micrograms per Liter
MMRP	Mitigation Monitoring and Reporting Program
MMT	Million Metric Tons
$MMTCO_2e$	Million Metric Tons Carbon Dioxide Equivalent
MM/YR	Millimeters/Year
MND	Mitigated Negative Declaration
MPAH	Master Plan of Arterial Highways
MPG	Miles per Gallon
MPH	Miles per Hour
MPO	Metropolitan Planning Organization
MRF	Material Recovery Facility
MS4	Municipal Storm Water Permit

List of Acronyms (Continued)

MSL	Mean Sea Level
MSW	Municipal Solid Waste
MT	Metric Tons
MTBE	Methyl-t-Butyl Ether
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAPL	Non-Aqueous Phase Liquid
NAVD88	North American Vertical Datum of 1988
NCP	National Contingency Plan
NDIR	Non-Dispersive Infrared Photometry
NDMA	N-nitrosodimethlyamine
NMOC	Non-Methane Organic Compounds
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxide
NOA	Notice of Availability
NOC	Notice of Completion
NOP	Notice of Preparation
NPDES	National Pollution Discharge Elimination System
O_3	Ozone
OCFCD	Orange County Flood Control District
OCTA	Orange County Transportation Authority
OCWD	Orange County Water District
OEHHA	Office of Environmental Health Hazard Assessment
OHWM	Ordinary High Water Mark
O&M	Operations and Monitoring
OPR	Office of Planning and Research

List of Acronyms (Continued)

OS-C	Open Space-Conservation
OSHA	Occupational Safety and Health Administration
OSPR	Open Space, Parks and Recreation Sub-District
OVM	Organic Vapor Monitor
P	Public
Pb	Lead
PCE	Passenger Car Equivalent
PFC	Perfluorocarbons
PCH	Pacific Coast Highway
PDFs	Project Design Features
PM	Particulate Matter
PPE	Personal Protective Equipment
PPM	Parts Per Million
PPMV	Parts Per Million by Volume
PPRTV	Provisional Peer Reviewed Toxicity Value
PRC	Public Resources Code
PS	Public/Semi-Public
PTC/PTO	Permit-to-Construct/Permit-to-Operate
QA/QC	Quality Assurance and Quality Control
RAO	Remedial Action Objectives
RAP	Remedial Action Plan
RBC	Risk-based Concentration
RCP	Regional Comprehensive Plan
RCRA	Resource Conservation and Recovery Act
REL	Reference Exposure Level
RFS	Revised Feasibility Study

RI	Remedial Investigation
RL	Low Density Residential
RM	Residential Medium Density
RMP	Manufactures Home Park
RPs	Responsible Parties
RPS	Renewable Portfolio Standard
RTIP	Regional Transportation Improvement Program
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SARWQCB	Santa Ana Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Government
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCOC	South Coast Oil Corporation
SCL	Soil Cleanup Level
SF_6	Sulfur Hexafluoride
SFR	Single-Family Residential
SIP	State Implementation Plan
SIT	Slurry Injection Technology
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLM	Sound Level Meters
SoCAB	South Coast Air Basin
SO_2	Sulfur Dioxide

List of Acronyms (Continued)

SPA	Semiperched Aquifer
SR-1	State Route 1 (Pacific Coast Highway)
SR-39	State Route 39 (Beach Boulevard)
SRA	Source Receptor Area
SRTM	Shuttle Radar Topography Mission
STLC	Soluble Threshold Limit Concentration
SVOC	Semi-Volatile Organic Compound
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solid
TeNS	Technical Noise Supplement
TMDL	Total Maximum Daily Load
TPD	Tons per Day
TPH	Total Petroleum Hydrocarbon
TQ	Threshold Quantity
TSCA	Toxic Substances Control Act
TTLC	Total Threshold Limit Concentration
UBC	Uniform Building Code
UCL	Upper Confidence Limit
UFC	Uniform Fire Code
URMP	Urban Runoff Management Plan
USACE	U.S. Army Corps of Engineers
USC	United States Code

List of Acronyms (Continued)

USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
V/C	Vehicle to Capacity
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound
VPHPL	Vehicles per Hour per Lane
WDR	Waste Discharge Requirement
WET	Waste Extraction Test
WQMP	Water Quality Management Plan

EXECUTIVE SUMMARY

This Draft Environmental Impact Report (EIR) has been prepared pursuant to the requirements of the California Environmental Quality Act (CEQA, Public Resources Code sections 21000 et. seq.) with respect to the proposed Draft Remedial Action Plan (RAP) ("the Project") for the for Ascon Landfill Site ("the Site"). In accordance with CEQA Guidelines §15123, this Section of the EIR includes a brief description of the Project; identification of significant impacts and proposed mitigation measures or alternatives that would reduce or avoid those impacts; areas of controversy known to the lead agency; and issues to be resolved including the choice among alternatives and whether and how to mitigate the potential significant impacts.

1. PROPOSED PROJECT

Background and Purpose of the RAP

The RAP describes the proposed remediation plan for the Site located at 21641 Magnolia Street in Huntington Beach, California. The Site operated as a waste disposal facility from approximately 1938 through 1984, receiving at times what is now considered hazardous waste. Since 1984, waste materials have not been accepted and the Site has remained a closed landfill facility. In 2003, the Department of Toxic Substances Control (DTSC) entered into an Imminent and Substantial Endangerment Determination and Consent Order (I&SE CO), Docket No. I&SE CO 02/03-007, and an Imminent and Substantial Endangerment Determination and Order and Remedial Action Order (I&SE-RAO), Docket No. I&SE-RAO 02/03-018, with ten Responsible Parties (RPs).[1] As a result of these agreements, the RPs are required to finance the implementation of the remediation activities at the Site.

Over the past approximately 30 years, there have been numerous and extensive investigations (i.e., waste and soil characterizations, hydrogeological assessments, biological assessments, health risk assessments, groundwater contamination assessments, air quality sampling, etc.) conducted at the Site, which have led up to preparation of the RAP. Of particular relevance, these investigations have included several Remedial Investigations (RI) to define the nature and extent of waste materials and Site conditions; two Baseline Health Risk Assessments (BHRA)[2] to evaluate potential human health risks associated with the Site; and a (Year 2000) Feasibility Study (FS)[3] and (Year 2007) Revised Feasibility Study (RFS)[4] to evaluate several remedial action alternatives for the Site and present the rationale for selecting a preferred alternative. The RFS was prepared as defined by, and in conformance with, the I&SE CO, the I&SE-RAO, and the requirements

[1] *The ten RPs are Chevron U.S.A. Inc., Texaco Inc. (Chevron U.S.A Inc. and Texaco Inc. are now considered a single party as they are wholly-owned subsidiaries of Chevron Corp.), Conoco Inc., Phillips Petroleum Company (Conoco Inc. and Phillips Petroleum Company are now combined as ConocoPhillips Company), ExxonMobil Corp., Shell Oil Company, Atlantic Richfield Company (ARC), The Dow Chemical Company, TRW (now Northrop Grumman Systems Corporation), and Southern California Edison Company. Two of the RPs, Chevron and ConocoPhillips, created a limited liability corporation called Cannery Hamilton Properties, LLC ("CHP") to purchase the Site, and CHP is the current Site owner.*

[2] *BHRA, 1997; Geosyntec, Groundwater Remedial Investigation Report (Revision 1.0)–June 14, 2007.*

[3] *ENVIRON International Corporation (Environ), 2000, Feasibility Study Report, prepared for California/Nevada Developments, LLC., November 2000. Approved by DTSC July 2001.*

[4] *Project Navigator, Ltd., 2007, Revised Feasibility Study, September 21, 2007. Approved by DTSC September 2007.*

set forth in Division 20 of the California Health and Safety Code, and Title 40 of the Code of Federal Regulations.

Since 2001, the RPs have worked with DTSC to collect additional data, conduct evaluation activities, and to complete the soil/waste RAP for the Site based on the then-existing preferred alternative from the initial FS of 2001. The 2007 RFS reflects additional information and data obtained during the implementation of the environmental evaluations and activities after approval of the initial FS in 2000. The RFS reevaluated previously considered remedial action alternatives based on the new data and current practices in hazardous waste remediation, and evaluated additional remedial alternatives that had not been considered previously.

The RFS identified and evaluated six remedial action alternatives to protect public health and the environment at the Site. The range of alternatives considered a "no action" alternative to "full removal" of all on-site contaminated materials. Throughout this EIR on-site wastes are referred to collectively as "contaminated material," which is meant solely to denote material which may be or have had contact with a contaminant ("contaminant" as used in this EIR to means "a non-native substance or chemical" but does not necessarily indicate the presence of such substance or chemical at a level that could threaten human health and safety or the environment. Similarly, the term "contaminated material" is not meant to indicate or imply that the material meets any specific definition of hazardous waste, hazardous material, or similar characterization.) Out of the alternatives provided in the DTSC-approved RFS, Alternative 4 (Partial Source Removal with Protective Cap) was selected as the "preferred alternative" for remediation of the Site. Section 2.0, *Project Description*, in this EIR provides a description of each of the alternatives considered in the RFS (and RAP), as well DTSC's methodology for selection of the preferred alternative. The alternatives were evaluated in consideration of nine criteria set forth in the National Contingency Plan ("NCP"). The NCP, under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), describes the organizational structure and procedures for preparing for and responding to discharges of oil, hazardous substances, pollutants, and contaminants. RAPs prepared by or approved by DTSC must be based upon the NCP as well as other requirements specified in Chapter 6.8 (commencing with Section 25300), Division 20 of the Health and Safety Code.

Additional studies, knowledge, and experience gained since DTSC approval of the RFS have led to modifications and updates to the RFS-selected preferred alternative in addition to taking into account the significant changes to Site conditions as a result of waste removal from the Site during the Interim Removal Measure (IRM) (discussed below). Alternative 4 as defined in the RAP, which includes the modifications and updates, is the Project being evaluated under CEQA in this EIR. Furthermore, the other remedial alternatives considered in the RFS have been modified in the RAP using the same studies, knowledge, and experience gained since the 2007 RFS and with post-IRM conditions. Therefore, the feasibility study has also been revisited in the RAP using the modified alternatives to ensure that Alternative 4 continues to be the preferred alternative. The significant elements of the Project (Alternative 4 in the RAP) are described in the sub-section, *Project Components*, below.

The draft RAP is also available for public review and comment and may be revised, as necessary, following receipt of the public comments. The RAP is required by the California Health and Safety Code, Section 25356.1 and is based on Section 25350 and Subpart E of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP; 40 CFR §300.400).

Site Description

The 38-acre Site is located at the southwest corner of Hamilton Avenue and Magnolia Street in Huntington Beach, California. Nearby land uses include a community park, high school, residential areas, light industrial operations, oil storage, a flood control channel, and a power generating plant.

The Site is comprised of two parcels: the Cannery Hamilton Properties, LLC (CHP) parcel and the City parcel. The CHP parcel is that portion of the Site currently owned by CHP. The CHP parcel is the entire Site except for an approximately 30-foot wide margin along the northern edge of the Site along Hamilton Avenue and an approximately 20-foot wide margin along the eastern edge of the Site along Magnolia Street. Collectively, these two margin areas comprise the City parcel. Control of the City Parcel has been temporarily transferred to CHP by license agreement with the City of Huntington Beach.

In the early years of operations at the Site, much of the waste came from oil drilling operations and included drilling muds, wastewater brines, and other drilling wastes. Records indicate that from 1957 to 1971, other wastes were also received by Site operators and deposited onsite. From 1971 to 1984, material deposited onsite included presumably non-hazardous solid wastes such as asphalt, concrete, metal, soil, and wood.

Most recently, the RPs under DTSC oversight conducted the IRM at the Site. The IRM was conducted between July 2010 and March 2011 and involved the removal and disposal of approximately 70,000 cubic yards of tarry materials from on-site Lagoons 1, 2 and 3. The purpose of the IRM was to enable a further assessment of the Site by allowing access to previously inaccessible materials. Specifically, the removal of the tarry materials allowed for collection from the lagoon areas of geotechnical data that has been utilized to refine the RAP and assist in remedial design planning.

Currently, the Site contains four visible impoundments (also referred to as Lagoon 1/2, 3, 4 and 5) and one liner-covered pit (Pit F- styrene tar and synthetic rubber wastes were disposed in Pit F). Several former pits and lagoons were, over the course of 30 years, filled in or covered by imported soil and construction debris. These areas currently appear as solid ground with scattered vegetative or gravel covering. All of the wastes received at the Site were placed on top of the original ground surface and were contained by berms. As the wastes accumulated, the berms were raised such that much of the Site is now 10 to 20 feet above surrounding street level.

Based on investigations over the years, the data indicates that the Site contains nearly 1.4 million cubic yards of contaminated materials.[5]

Project Components

As discussed above, Alternative 4 in the RAP is the Project being evaluated in this EIR. The remediation activities proposed as part of the Project include development of a protective cap to cover the contaminated materials after select waste deposits are removed. To enable the construction of the cap, the contaminated materials at the Site would need to be graded to reconsolidate waste from the Site perimeter to the Site interior and to create appropriate slopes for storm water runoff and collection from the cap. The remediation activities include excavation and off-site disposal of up to 30,000 cubic yards of Site contaminated materials, in addition to the removal of the Pit F waste (approximately 2,250 cubic yards), to

[5] *Ibid.*

allow for cap installation. The waste surfaces of Lagoons 3, 4 and 5 would be reinforced, as needed, to support the cap, and the lagoon material in Lagoons 4 and 5 would be held in place using cement, mixed with waste, that would be left in place under the cap (i.e., an internal geotechnical buttress). Contaminated materials on the City parcel and in the areas of the perimeter maintenance road and storm water detention basins would be excavated to at least street level and then, if necessary, to a depth achieving the Risk Based Concentrations (RBCs) (refer to Table 4-1 in the RAP), background concentrations, or until groundwater is reached.[6] Pit wastes (Pits A - E, G, and H) would be excavated as needed to at least adjacent street elevation and deeper, if necessary, to make room for the storm water detention basins.

The capped areas could vary in elevation and size depending on the area and vertical extent of source reconsolidation or removal along the east and north sides of the Site. To blend the topography of the capped Site with the surrounding vicinity and reduce its visual massing from vantage points north and east of the Site, the Site would slope gradually upward from approximately 35 feet inside the Magnolia Street fence line and approximately 45 feet within the Hamilton Avenue fence line, with a peak height of approximately 44 feet above mean sea level (MSL)[7], near the southwest corner of the Site.

A restrictive covenant would be implemented to protect the integrity of the cap and prevent any inconsistent land use. Any proposals for future alterations to the cap, including but not limited to beneficial uses of the Site (i.e. industrial, recreational, etc.) would need to be reviewed by the DTSC, and undergo separate environmental review, likely with the City of Huntington Beach as the Lead Agency. Under this Alternative, upon completion of the remediation activities as contemplated in this EIR and in accordance with the RAP would include a vegetated cover placed over the engineered cap, surrounded by an internal access road on all sides, and chain link security fencing. A long-term groundwater-monitoring program would be maintained. Alternative 4 would remove up to 32,250 cubic yards of contaminated materials from the Site. A total of approximately 206,000 cubic yards of suitable soils would need to be imported to construct the cap and backfill the non-capped areas.

A detailed description of the proposed remediation plan in the RAP is included in Section 2.0, *Project Description*, of this EIR. As stated therein, the construction schedule for the preferred alternative is estimated at approximately 11 months. The Project fieldwork can only be implemented after the EIR process is completed, which is anticipated to conclude in 2014, and after completion of the remedial design process and contractor selection. Based on this schedule, and with the necessary design and permitting activities, construction activities could potentially commence as early as 2015.

2. ISSUES RAISED DURING NOTICE OF PREPARATION PROCESS

The following summarizes the key potential environmental issues raised in response to the Notice of Preparation (NOP) and during the public scoping meetings (the numerical reference in parenthesis is the EIR section in which the analysis is provided). The NOP comments are contained in Appendix A of this EIR.

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[6] *Site-specific Risk-Based Concentrations ("RBCs") for COPCs in soil were developed for the Site for use as Soil Cleanup Levels (SCLs) in the remedial planning process. RBCs are media-specific concentrations that are protective of human health under the designated land use.*

[7] *The elevation of the street surrounding the Ascon Site ranges from approximately 5 – 7 ft MSL. All elevations in the RAP and EIR are presented relative to MSL per the NAVD88 vertical control datum.*

General

- Locations of receiving landfills (refer to Section 2.0, *Project Description,* of this EIR);
  - Nature of the Site and cap design, including vegetative characteristics and perimeter features, upon completion of the remediation activities (refer to Section 2.0, *Project Description,* and Section 4.1, *Aesthetics,* of this EIR); and
  - Potential for cumulative impacts associated with other foreseeable development within the City, particularly the Poseidon Project (refer to Section 4.1 to 4.10 of this EIR, each of which addressed cumulative impacts).

Aesthetics

- Short- and long-term impacts on the visual character of the Site and its surroundings (i.e., loss of perimeter trees) (refer to Section 4.1, *Aesthetics,* of this EIR); and
  - Impacts to Scenic Highways (i.e., Pacific Coast Highway) (refer to Section 4.1, *Aesthetics,* of this EIR).

Air Quality

- Short-term construction-related air quality impacts associated with the Project, including particulate (dust) related impacts, to nearby sensitive receptors (i.e., residential and school uses) (refer to Section 4.2, *Air Quality,* and Section 4.7, *Hazards and Hazardous Materials*, of this EIR);
- Long-term air quality impacts associated with the remediation plan (refer to Section 4.2, *Air Quality,* of this EIR); and
- Use of air emission monitors during remediation activities (refer to Section 4.2, *Air Quality,* of this EIR).

Biological Resources

- Impacts on sensitive plant and animal species (refer to Section 4.3, *Biological Resources*, of this EIR);
- Impacts on nesting birds (refer to Section 4.3, *Biological Resources,* of this EIR);
- Impacts on sensitive plant communities (refer to Section 4.3, *Biological Resources,* of this EIR);
- Impacts on wetlands (refer to Section 4.3, *Biological Resources*, of this EIR);
- Impacts on trees on the Site (refer to Section 4.3, *Biological Resources*, of this EIR); and
- Impacts on common wildlife species (refer to Section 4.3, *Biological Resources*, of this EIR).

Geology and Soils

- Stability of cap slopes and top deck of cap (refer to Section 4.4, *Geology and Soils*, of this EIR);
- Impacts regarding seismic hazards (refer to Section 4.4, *Geology and Soils*, of this EIR); and

- Potential for impacts to the cap system associated with seismic events (refer to Section 4.4, *Geology and Soils*, of this EIR).

Cultural Resources

- Potential for impacts on buried, unknown cultural resources (refer to Section 6.0, *Other Mandatory CEQA Considerations*, of this EIR).

Greenhouse Gases

- Impacts regarding greenhouse gas emissions (refer to Section 4.5, *Greenhouse Gas Emissions*, of this EIR).

Hazards and Hazardous Materials

- Health risk impacts to surrounding residents during construction and long-term operation of the remedy (refer to Section 4.6, *Hazards and Hazardous Materials*, of this EIR);
- Health risks to workers during the remediation activities (refer to Section 4.6, *Hazards and Hazardous Materials*, of this EIR);
- Health risk impacts to the environment, including impacts to wildlife (refer to Section 4.6, *Hazards and Hazardous Materials*, of this EIR);
- Health risks to surrounding residents and uses associated with potential spills or accident conditions (refer to Section 4.6, *Hazards and Hazardous Materials*, of this EIR);
- Nature of existing hazardous materials on the Site (refer to Section 4.6, *Hazards and Hazardous Materials*, of this EIR);
- Potential for long-term benzene impacts (refer to Section 4.6, *Hazards and Hazardous Materials*, of this EIR);
- Current potential for health risks under existing conditions (refer to Section 4.6, *Hazards and Hazardous Materials*, of this EIR);
- Potential for methane hazards (refer to Section 4.6, *Hazards and Hazardous Materials*, of this EIR);
- Measures to be taken to minimize health risks to surrounding community (refer to Section 4.2, *Air Quality,* and Section 4.7, *Hazards and Hazardous Materials*, of this EIR); and
- Potential for residual contaminants in the excavated pits and state of the pits after they are excavated (refer to Section 2.0, *Project Description*, and Section 4.6, *Hazards and Hazardous Materials*, of this EIR).

Hydrology and Water Quality

- Impacts on surface and groundwater quality (refer to Section 4.7, *Water Quality*, of this EIR);
- Condition of existing groundwater quality (refer to Section 4.7, *Water Quality*, of this EIR);

- Adequacy of drainage facilities (refer to Section 6.0, *Other Mandatory CEQA Considerations*, of this EIR);
- Impacts regarding flooding (refer to Section 6.0, *Other Mandatory CEQA Considerations*, of this EIR); and
- Use of groundwater monitoring wells during and after remediation activities (refer to Section 2, *Project Description*, and Section 4.7, *Water Quality*, of this EIR).

Land Use and Planning

- Project consistency with applicable zoning and General Plan land use designations for the Site (refer to Section 4.8, *Land Use and Planning*, of this EIR); and
- Potential for new land uses after the remediation activities are complete (refer to Section 4.8, *Land Use and Planning*, of this EIR).

Noise

- Project-related construction and operational (i.e., mobile/traffic noise) noise impacts (refer to Section 4.9, *Noise*, of this EIR).

Transportation/Traffic

- Project-related traffic impacts along local streets and access points (refer to Section 4.10, *Traffic/Transportation*, of this EIR);
- Adequacy of Site access and circulation, including emergency vehicle access (refer to Section 4.10, *Traffic/Transportation*, of this EIR);
- Cumulative traffic impacts (refer to Section 4.10, *Traffic/Transportation*, of this EIR); and
- Pedestrian, bicycle, and vehicle safety and conflicts with construction-related traffic (refer to Section 4.10, *Traffic/Transportation*, of this EIR).

General CEQA

- Implementation of the environmental review process in accordance with the *CEQA* (refer to this *Executive Summary*, Section 1, *Introduction*, and Section 2, *Project Description*, of this EIR);
- Location and availability of CEQA-related documents for the RAP (refer to Section 1, *Introduction*, of this EIR); and
- CEQA review process by other public agencies (i.e., City of Huntington Beach) (refer to this *Executive Summary*, and Section 1, *Introduction*, of this EIR).

3. SUMMARY OF ENVIRONMENTAL IMPACTS

This section provides a summary of impacts, mitigation measures, and impacts after implementation of the mitigation measures associated with implementation of the RAP. The summary is provided by

environmental issue area below in **Table ES-1**, Summary *of Project Impacts and Mitigation Measures*. Please refer to Section 2.0, *Project Description*, for a list of the Project Design Features (PDFs) that would be implemented by the Project relative to each environmental issue area. The PDFs, in many cases, would serve to reduce the extent of the Project's potential for environmental impacts.

Section 15126.2(b) of the 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. As shown in Table ES-1 and as analyzed in Section 4.2, *Air Quality*, even with the incorporation of all project design features and a mitigation measure to implement best available control technology, to the extent feasible, during construction, the Project would remain in exceedance of the SCAQMD regional threshold for NOx from intensive use of diesel powered heavy-duty construction equipment for most days throughout implementation of the RAP construction remediation activities. Regional PM_{10} emissions would also exceed SCAQMD regional thresholds due to equipment exhaust and fugitive dust generated from the project. Worst-case hourly emissions of NOx are predicted to result in localized concentrations of NO_2 in excess of the applicable local significance criterion (the state ambient air quality standard). In addition, 24-hour and annual emissions of PM_{10}, from dust and diesel exhaust, are predicted to result in localized concentrations in excess of the applicable significance criteria (the SCAQMD's allowable incremental increase concentrations). As such, implementation of the RAP would result in significant and unavoidable impacts with regards to regional NOx emissions and its contribution to the formation of the non-attainment pollutant ozone, localized maximum 1-hour NO_2 concentrations, 24-hour and annual PM_{10} concentrations.

Please refer to Section 4.2, *Air Quality*, of this EIR for further discussion of this topic.

4. ALTERNATIVES

The *CEQA Guidelines* section 15126.6 requires an EIR to "describe a range of reasonable alternatives to the project, or to the location of the project, which will feasibly attain most of the basic objectives of the project but will avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." The *CEQA Guidelines* direct that selection of alternatives be guided by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice.

Section 5.0, Alternatives, includes an evaluation of the alternatives considered and evaluated in this EIR. As discussed therein, the alternatives analysis includes the following three alternatives: Alternative 1 - No Action Alternative; Alternative 2 - Source Removal with Off-Site Disposal; and Alternative 3 - Lower Intensity - Extended Schedule Alternative.

Alternative 1, the No Action Alternative, is the baseline alternative presented in the 2007 RFS (RAP Alternative 1) because it represents a continuation of existing conditions and no removal of soil, material, or debris. Under this Alternative, no further action would be taken to contain, treat, or remove the impacted on-site soils and waste beyond current monitoring and maintenance activities. All existing Site features, such as the perimeter berms, fencing, vegetation, lagoons, pits, and other physical features would remain as under existing conditions.

Alternative 2, Source Removal with Off-Site Disposal, calls for bringing the Site to unrestricted use condition. Alternative 2, as discussed in the "Alternatives" section of this EIR (Section 5.0), is evaluated as "Alternative

6, Source Removal with Offsite Disposal" in the RAP. Under this Alternative, nearly all waste materials would be removed, and the Site would be excavated as needed and backfilled with suitable import materials to street grade. The specific depth of excavation needed would be determined during excavation, based on the applicable remedial goals for unrestricted land uses (i.e, residential uses). This Alternative would remove approximately 1,000,000 bank cubic yards (BCY, a measurement of volume with "in-the-ground" density) of material from the Site. Construction activities under this Alternative would occur for approximately 41 months, which is approximately 2.5 years longer than the Project. This Alternative would generally involve a similar daily intensity of activities using a similar profile of construction equipment and same number of daily construction-related vehicle trips when compared to the Project.

No cap would be developed under this Alternative. Similar to the Project, the City Parcel would be rendered usable by the City of Huntington Beach for future landscaping and streetscape improvements.

This Alternative would result in a near-flat, vacant Site suitable for unrestricted use. This Alternative anticipates that a restrictive covenant would not be imposed on the Site for future land uses, but as Table 5-1 of the RAP indicates, pending field or post-remedy conditions, a long-term restrictive covenant may be necessary. Likewise, long-term groundwater monitoring is not expected to be required with implementation of this Alternative, but field conditions may dictate that a monitoring plan be developed and maintained for up to a 30-year period following completion of the clean-up, as determined appropriate based on consultation with the Santa Ana Regional Water Quality Control Board (SARWQCB).

Alternative 3, the Lower Intensity - Extended Schedule Alternative, would remove the same amount of material from the Site and provide the same cap system and long-term design as the Project, except that construction activities would extended over an approximate three-year period, as opposed to an approximately one year period for implementation of the Project. As a result, construction related impacts would be less intense than those anticipated to result from the Project. This extended-schedule Alternative is not contemplated in the Draft RAP. The primary purpose of this Alternative is to address the Project's significant and unavoidable air quality impacts, while also reducing the extent of the daily traffic impacts (although traffic impacts would be less than significant for the Project after implementation of the prescribed mitigation measures). Regional air quality impacts are determined based on daily emission threshold levels established by the South Coast Air Quality Management District (SCAQMD). By decreasing the intensity of daily construction activities such that daily emission levels from construction activities would fall below applicable SCAQMD thresholds (after mitigation), as discussed above, the length of construction activities would be extended by approximately 24 months compared to the Project. Thus, rather than approximately 12 months of construction activities that would occur under the Project, this Alternative would result in approximately 36 months of construction activities.

It is noted that not all six of the RAP Alternatives warrant detailed analyses under CEQA, as discussed in subsection 2.0, *Alternatives Considered and Rejected*, in Section 5.0. As discussed therein, Alternatives 2, 3 and 5 in the RAP have not been further evaluated in this EIR.

Table ES-1

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
Aesthetics			
Short Term – Scenic Vista: No views of valued visual resources (e.g., Pacific Ocean, beach, Magnolia Marsh) extend across the Site. Short-term impacts with respect to views of identified visual resources would be less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Short-Term – Visual Character and Visual Quality: Because of the short-term, temporary nature of the Project's construction activities, maintenance of the existing fence, and in consideration of the existing low level of visual quality evident along the perimeters of the Site where the Site is visible enough to effect visual character (i.e., from vantage points north and east of the Site), construction activities would not substantially alter, degrade, eliminate or generate long-term contrast with the visual character of the surrounding area or the existing Site. Therefore, short-term impacts with respect to visual character would be less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Long-Term – Scenic Vista: The reconsolidation of on-site materials would not obstruct or alter views of identified visual resources (e.g., Pacific Ocean, beach, Magnolia Marsh). Therefore, implementation of the Project would result in a less than significant impact with respect to scenic vistas.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Long-Term Visual Character & Quality: The capped Site would not substantially degrade the existing visual character or quality of the Site and its surroundings. Therefore, implementation of the Project would result in a less than significant impact with respect the visual character and quality of the Site and surrounding vicinity.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
Short- and Long-Term - Scenic Resources Within a State Scenic Highway: Changes to the visual character of the Site vicinity would be largely unnoticeable from PCH. Vegetation along Magnolia Street (a City-designated Landscape Corridor and Secondary Path/Image Corridor) only marginally contributes to the visual quality of the roadway corridor, and its removal would not substantially damage scenic resources within a state scenic highway. Hence, a less than significant impact would result.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Air Quality			
Short- and Long-Term - AQMP Consistency: Implementation of the RAP would utilize equipment meeting stringent emission standards and would be consistent with the applicable growth projections and control strategies in the AQMP. Projects that are consistent with the applicable growth projections and control strategies used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's project-level recommended thresholds. Therefore, short-term and long-term impacts associated with implementation of the RAP would not conflict with or obstruct implementation of the applicable air quality plan and impacts would be less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Short Term – Violation of Air Quality Standards: Implementation of the Project would exceed significance thresholds with regard to regional NO_X emissions during the short-term. The Project would implement project design features and commit to the best available technology with regards to minimizing short-term NOx and PM_{10} emissions; however, there are no feasible mitigation measures that would further reduce these	Significant and Unavoidable	No feasible mitigation measures are available.	Significant and Unavoidable

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
emissions. Therefore, the implementation of the Project would result in a significant and unavoidable impact with regards to regional NOX and PM_{10} emissions.			
Long-Term – Violation of Air Quality Standards: Long-term implementation of the Project would not violate air quality standards or contribute substantially to an existing or projected air quality violation. Therefore, long-term impacts would be less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Cumulative Pollutant Increases: Implementation of the Project (short term) would result in a cumulatively considerable net increase of two criteria pollutants, NO_x and PM_{10}, which the region is nonattainment under applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). Even with all feasible emissions control measures, impacts would be significant and unavoidable with regard to ozone (due to regional NO_X emissions) and PM_{10} emissions. Mitigation Measure HAZ-1 would reduce PM_{10} emissions, regional PM10 emissions would continue to exceed significance thresholds.	Significant and Unavoidable	See Mitigation Measure HAZ-1 below. No additional feasible mitigation measures are available	Significant and Unavoidable
Short-Term - Sensitive Receptor Exposure to Substantial Pollutant Concentrations: Implementation of the Project is predicted to expose sensitive receptors to pollutant concentrations in excess of applicable thresholds. Short-term emissions would result in exceedances of ambient air quality standards for 1-hour NO_2, 24-hour PM_{10}, 24-hour $PM_{2.5}$ and annual PM_{10}. Mitigation measure HAZ-1 would reduce $PM_{2.5}$ to less than significant levels. However, even with implementation of project design features and mitigation measures to reduce localized emissions maximum 1-hour NO_2, 24-hour PM_{10}, and annual PM_{10}	Significant and Unavoidable	See Mitigation Measure HAZ-1 below. No additional feasible mitigation measures are available	Significant and Unavoidable

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
concentrations at nearby sensitive land uses would exceed applicable thresholds. As a result, the Project would result in a significant and unavoidable impact with regard to short-term localized emissions. The Project would not contribute to the formation of CO hotspots or Toxic Air Contaminant emissions and would result in less than significant impacts with respect to CO hotspots and TACs.			
Long-Term - Sensitive Receptor Exposure to Substantial Pollutant Concentrations: Project implementation in the long-term would not exceed the applicable air quality thresholds. Thus, long-term impacts would be less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Short-Term – Odors: Short-term remediation would not create objectionable odors affecting a substantial number of people. Therefore, short-term impacts would be less than significant. Nonetheless Mitigation Measure AIR-1 has been prescribed for the Project to ensure potential odor complaints are appropriately addressed.	Less Than Significant	**AIR-1**: Implement a protocol to address odor complaints that shall include: • Post an odor complaint telephone number at the Site, including phone numbers for the SCAQMD where odor complaints can be lodged via telephone. • Prior to the commencement of RAP activities, mail information to surrounding property owners regarding procedures to follow to lodge an odor complaint.	Less Than Significant
Long-Term – Odors: Long-term operational activities would not include objectionable odors affecting a substantial number of people. Thus, long-term odor impacts would be less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
Biological Resources			
Sensitive Plant Species: Implementation of the Project would result in a potentially substantial direct adverse effect on southern tarplant, which is a species identified as a CRPR 1B.1 species by the California Native Plant Society. Compliance with applicable regulatory requirements and implementation of the prescribed mitigation measure would reduce this potentially significant impact to a less than significant level.	Less Than Significant With Mitigation	**BIO-1:** Due to natural fluctuations in the on-site southern tarplant population, a count of southern tarplant individuals shall be conducted during the peak blooming period within the year prior to Project implementation. Based on that count, the RPs shall ensure that impacted southern tarplant individuals are mitigated at a 1:1 impact-to-mitigation ratio (i.e., based on tarplant count) at an appropriate off-site location. Mitigation of the southern tarplant shall be implemented by the following measures, which are to be documented by a qualified biologist approved by DTSC in a written compliance report(s) to DTSC to ensure the measures have been successfully implemented:: ▪ Prior to ground disturbance, all southern tarplants shall be counted and retained in place until they die back and the seed can be collected. As many plant seeds as is reasonably feasible shall be collected from the on-site southern tarplant population and stored in brown paper bags in a cool location until they have fully dried out and the seed heads dehisced. The seeds shall be processed and stored at Rancho Santa Ana Botanic Garden (or similar native plant/seed nursery) until the seeds are ready to be planted at an appropriate off-site location during the appropriate fall season. The seeds shall be planted within two years of being collected, or as otherwise recommended by a qualified biologist/restoration specialist. ▪ The RPs shall work with a qualified biologist to identify an appropriate off-site conservation area (e.g.,	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
		within the historic range of the species) that will accept the seed for broadcasting until a 1:1 impact-to-mitigation ratio for number of southern tarplant individuals is met. A southern tarplant mitigation plan shall be prepared, and planting activities shall be implemented by a qualified biologist/restoration specialist selected by the RPs and/or the off-site conservation area managers. The RPs, in consultation with a qualified biologist, shall be responsible for locating the off-site conservation area, ensuring the restoration of the impacted southern tarplant at the off-site conservation area, and ensuring maintenance within the off-site conservation area through payment of a one-time long-term management endowment to the management entity, or other approved payment mechanism, once the 1:1 ratio is met (which will be detailed in the southern tarplant mitigation plan and subject to the approval of DTSC).	
Sensitive Wildlife Species: Project implementation would not result in substantial adverse impacts to sensitive wildlife species. Impacts to sensitive wildlife species would be less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Riparian Habitat/Natural Communities: Implementation of the Project would remove the limited disturbed coastal salt marsh on the Site, which is considered a potentially significant impact. However, as prescribed in Mitigation Measure 4.3-2, payment of an in lieu mitigation fee to a conservancy group with interests in the City's Coastal Zone and/or off-site creation, restoration and/or enhancement would reduce this potentially significant impact to a less than significant level.	Less Than Significant With Mitigation	**BIO-2** The RPs shall ensure that impacted disturbed coastal salt marsh habitat (approximately 0.2 acre) is mitigated by one of the following actions: ▪ The RPs in consultation with a qualified biologist shall identify a conservation entity involved in the restoration, preservation and/or stewardship of like resources within the City's Coastal Zone and make payment of an in lieu fee to such an entity to achieve a	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
		1:1 impact-to-mitigation ratio for acreage of disturbed coastal salt marsh habitat (approximately 0.2 acre); and/or ▪ The RPs shall work with a qualified biologist to identify an appropriate off-site conservation area for the creation, restoration, and/or enhancement at a 1:1 impact-to-mitigation ratio for acreage of disturbed coastal salt marsh habitat (approximately 0.2 acre). A habitat mitigation plan shall be prepared by a qualified biologist/restoration specialist. Details shall be included as to the implementation of the plan (e.g., transplantation, seeding), maintenance, future monitoring, and success criteria. Planting activities shall be implemented by a qualified biologist/restoration specialist selected by the RPs and/or the off-site conservation area managers. The RPs shall be responsible for locating the off-site conservation area, ensuring the restoration of the coastal salt marsh at the off-site conservation area, and ensuring maintenance within the off-site conservation area through payment of a one-time long-term management endowment to the management entity, or other approved payment mechanism. The offsite mitigation is to be documented by a qualified biologist approved by DTSC in a written compliance report(s) to DTSC to ensure the measure has been successfully implemented.	
Wetlands: The Site does not support federally protected wetlands as defined by Section 404 of the Clean Water Act. Thus, no impacts to wetlands would occur.	No Impact	No mitigation measures are necessary.	No Impact

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
Wildlife Movement: While there are no fish or wildlife corridors extending through the Site, the Site has potential to support both raptor and songbird nests that are protected by Federal and State statutes. Thus, potentially significant impacts to such bird species may occur with Project implementation. Implementation of the prescribed mitigation measures would reduce this potentially significant impact to a less than significant level.	Less Than Significant With Mitigation	**BIO-3** The RPs shall be responsible for implementing mitigation to reduce potential impacts to migratory raptor and songbird species to below a level of significance in the following manner: (1) vegetation removal activities shall be scheduled outside the nesting season for raptor and songbird species (typically September 1 to February 14) to avoid potential impacts to nesting species (this will ensure that no active nests will be disturbed and that habitat removal could proceed rapidly); and/or (2) any construction activities that occur during the raptor and songbird nesting season (typically February 15 to August 31) shall require that all suitable habitat be thoroughly surveyed for the presence of nesting raptor and songbird species by a qualified biologist before commencement of clearing. If any active nests are detected, a buffer of approximately 300 feet (500 feet for raptors) shall be delineated, flagged, and avoided until the nesting cycle is complete, or otherwise protected, as determined by the qualified biologist to minimize impacts.	Less Than Significant
Conservation Plans: The Site is not located within an adopted Habitat Conservation Plan or Natural Community Conservation Plan, but portions of the Site meet the California Coastal Act's definition of an "environmentally sensitive habitat areas" (ESHA). Impacts to the Site's ESHA are considered to be a potentially significant impact. Implementation of the prescribed mitigation measures would reduce this potentially significant impact to a less than significant level.	Less Than Significant With Mitigation	Refer to Mitigation Measures BIO-1 and BIO-2.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
Geology and Soils			
Short- and Long-Term – Seismic and Geologic Stability Hazards: Implementation of the Project could expose people (i.e. workers and visitors) to fault rupture, strong seismic ground shaking, strong seismic-related ground failure, liquefaction, landslides and other ground failure hazards during short-term construction and the long-term end state of the cap and fill slopes. However, with compliance with applicable regulatory requirements and implementation of the project design features, impacts associated with seismic and geologic stability hazards would be less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Short- and Long-Term – Soil Erosion: Project implementation could result in soil erosion or the loss of topsoil during construction activities and long-term operation of the capped Site. However, compliance with applicable best management practices (BMPs) during construction and planting, compliance with erosion control measures of the City's Municipal Code and Grading Manual, and maintenance of a permanent vegetative layer on the remediated capped Site would ensure that impacts related to erosion would be less than significant.	Less Than Significant	No Mitigation Measures are necessary.	Less Than Significant
Greenhouse Gas Emissions			
Short-and Long-Term - GHG Emissions: Project implementation would result in the net increase of short-term GHG emissions during construction activities. However, the net increase in short-term GHG emissions would not exceed the applicable threshold of significance for annual GHG emissions. Further, the activities that would generate short-term GHG emissions are temporary in nature and would be necessary to implement the RAP. Long-term GHG emissions would be reduced compared to	Less Than Significant	No mitigation measures are necessary.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
existing conditions and would therefore not exceed the applicable threshold of significance for annual GHG emissions. Based on the above, short- and long-term GHG emissions associated with implementation of the RAP would result in a less than significant impact.			
Conflicts with Greenhouse Gas Reduction Plans: Project implementation would not conflict with applicable plans, policies, or regulations for reducing GHG emissions, and impacts would be less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Hazards and Hazardous Materials			
Short-Term - Routine Transport, Use, or Disposal of Hazardous Materials: The incremental increase in cancer risk at the maximum impacted residential receptor predicted to occur as a result of emissions of chemicals of potential concern (COPCs) and toxic air contaminants (TACs) during implementation of the RAP would exceed significance thresholds even with the incorporation of project design features, which would result in a potentially significant impact and mitigation measures would be required. With implementation of Mitigation Measure HAZ-1, potentially significant health risks would be reduced to a less than significant level.	Less Than Significant With Mitigation	**HAZ-1** CARB certified Level 3 diesel particulate filter (DPF) shall be installed on some of the on-site off-road equipment as needed so that a minimum of 85 percent of the annual horsepower-hours assumed in the performance of the HRA are controlled. Horsepower-hours are calculated based on equipment engine horsepower, average load factor under typical conditions and anticipated hours of operation on an annual basis. Diesel particulate filters shall reduce off-road diesel particulate matter (DPM) emissions from each piece of off-road equipment by at least 85 percent. Equipment which needs servicing (breaks down) may be replaced with Tier 3 on a temporary basis if equipment with a DPF is not commercially available. If replacement equipment is not equipped with a DPF, documentation must be provided to demonstrate that no commercially available equipment with a DPF is available.	Less Than Significant
Long-Term - Routine Transport, Use, or Disposal of Hazardous Materials: Long-term operation of the Site would generate minimal TACs through occasional worker trips for maintenance and landscaping. The cap, landfill gas collection and clean fill would minimize COPC	Less Than Significant	No mitigation measures are necessary.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
exposure. Therefore, the Project would result in a less than significant impact with regard to long-term operational COPC and TAC emissions.			
Short-Term - Upset and Accidental Release Conditions: Risks posed by the potential hypothetical release of hazardous materials or impacted materials to the environment through upset conditions or accidental release during the transport of materials off-site and on-site implementation of the RAP would be acceptable and the Project would result in a less than significant impact.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Long-Term - Upset and Accidental Release Conditions: Once implementation of the remediation activities are complete, the engineered cap would serve to prevent accidental release of contaminated material remaining on-site to the environment through an upset condition (such as a breach of the cap during a major rain or seismic event). Therefore, the Project would result in a less than significant impact with regard to accidental release of hazardous materials in the long term.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Short-Term - Hazardous Emissions or Handling of Hazardous Materials Near a School: Short-term health risks at the nearest school receptor would not exceed significance thresholds. The Project would result in a less than significant impact with regard to release or handling of hazardous materials within one-quarter mile of a school.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Long-Term - Hazardous Emissions or Handling of Hazardous Materials Near a School: Once implementation of the RAP is complete, the engineered cap and gas collection system would serve to prevent accidental release of contaminated materials remaining on-site.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
Therefore, the Project would result in a less than significant impact with regard to release or handling of hazardous materials within one-quarter mile of a school.			
Short-Term - Impacts related to being on a Hazardous Waste Site Pursuant to Government Code Section 65962.5: The Project would implement project design features and mitigation measures to reduce potentially significant short-term hazardous impacts to a less than significant level.	Less Than Significant with Mitigation	Refer to Mitigation Measure HAZ-1.	Less Than Significant
Long-Term - Impacts related to being on a Hazardous Waste Site Pursuant to Government Code Section 65962.5: Long-term operation of the Site would include a cap and gas collection system and would result in less than significant long-term impacts.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Hydrology and Water Quality			
Short-and Long-Term - Water Quality: Short-term construction and long-term operation of the Project would comply with all applicable regulatory requirements, including those described in the project design features and other regulations, regarding water quality. Compliance with applicable regulatory requirements and implementation of the project design features would ensure that construction and operational water quality impacts would be less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Short-Term – Groundwater Supplies: Conditions during construction activities would not be substantially different from existing conditions or substantially deplete groundwater supplies or interfere with groundwater recharge. Therefore, impacts with respect to groundwater recharge would be less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
Long-Term - Groundwater Supplies: The permeable detention basins, perimeter access road surface, and City parcel surfaces would allow recharge of the groundwater basin and would not interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Thus, the Project would have a less than significant impact with respect to groundwater supplies and groundwater recharge.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Land Use and Planning			
Impacts relative to Adopted Plans and Policies: Implementation of the proposed cap system as part of the Project would disallow the use of the Site for residential purposes and, as such, would not be consistent with zoning designation or the intent of the applicable land use plans and policies to encourage re-use of the Site. The Project would, however, be consistent with the applicable policies, including those within the Coastal Plan, for the remediation of the Site. Although inconsistencies with certain land use policies are anticipated, these inconsistencies would not result in adverse physical effects. Therefore, the impact of the Project with respect to land use would be less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
Noise			
Short-Term - Noise Levels in Excess of Standards/Permanent and Temporary Noise Level Increase: On-site, short-term construction activities associated with implementation of the RAP, aside from the use of the Pit F blower during nighttime, would be conducted during daytime hours specified in the City's Noise Ordinance. Given the temporary nature of the daytime construction activities associated with implementation of the RAP and the fact that daytime construction noise would not exceed the significance threshold of 80 dBA at nearby noise sensitive receptor locations, daytime short-term construction noise impacts would be less than significant. With implementation of the Mitigation Measure NOISE-1, potentially significant nighttime construction-related noise impacts related to the Pit F blower would be reduced to a less than significant level.	Less Than Significant with Mitigation	**NOISE-1** Should a blower with the potential to increase ambient noise levels to greater than 50 dBA at the exterior of nearby residences be utilized during nighttime hours during Pit F excavation activities, the RPs shall take reasonable care to locate and orient the blower in a manner that minimizes sound transmission towards the nearby residences. If, based on the noise generation level of the blower selected and the distance to the residences, the potential remains that the blower noise would exceed 50 dBA, the RPs shall provide a temporary noise barrier to reduce noise levels to ambient levels or acceptable nighttime levels pursuant to the City of Huntington Beach's Noise Ordinance and/or obtain an exemption to the Noise Ordnance for such temporary noise per Municipal Code Section 8.40.90 (j and/or k, or as otherwise applicable). If an exemption is not granted by the City, the RPs shall retain the services of a qualified acoustical engineer with expertise in design of sound isolations to ensure the Pit F blower is screened so as to meet the City's exterior noise limits (50 dBA) during nighttime hours at the property line of the nearest noise sensitive receptor locations (R1 [residential], R2 [fire station], and R3 [residential]).	Less Than Significant
Long-Term - Noise Levels in Excess of Standards: Mechanical equipment (e.g., mechanical fans) for long-term use would be designed to comply with the City's Noise Ordinance. The Project mechanical design documentation would be required to demonstrate that mechanical fan and/or other related mechanical components to the cap system noise levels would not exceed the measured ambient noise levels during daytime hours at each corresponding measurement location and	Less Than Significant with Mitigation	**NOISE-2** The RPs shall retain the services of a qualified acoustical engineer with expertise in design of sound isolations to ensure the mechanical fans and/or other related mechanical components to the cap system installed for long-term use is designed (i.e., installation of building enclosure) so as to meet the City's exterior noise limits (50 dBA) at the property line of the nearest noise sensitive receptor locations (R1 [residential], R2 [school	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
50 dBA during nighttime hours at each measurement location. Mitigation Measure NOISE-2 is prescribed to ensure that the noise impacts associated with the operation of mechanical fans would be less than significant.		and fire station], and R3 [residential]).	
Short-and Long-Term - Groundborne Vibration and Noise: Activities associated with implementation of the RAP that would create vibration would not have any effect on the existing vibration environment nearby the project area. Thus, implementation of the RAP would result in vibration impacts that are less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Transportation/Traffic			
Short-Term – Traffic: Short-term construction activities associated with implementation of the RAP would impact four study intersections on Beach Boulevard during the P.M. peak hour and one study intersection on Beach Boulevard during the A.M. peak hour under Project Operating Year (2015) Plus Project Conditions. Implementation of the prescribed mitigation measures would reduce traffic impacts to a less than significant level under this scenario.	Less Than Significant With Mitigation	**TRAF-1:** Beach Boulevard at Edinger Avenue – P.M. Peak Hour. The Responsible Parties shall coordinate with Caltrans and the City of Huntington Beach Public Works Department to update the traffic signal timings to provide additional capacity at this intersection to be consistent with the detailed Synchro reports provided in Appendix G of the Traffic Study. Signal timing at this intersection shall be optimized to improve P.M. operations to LOS D and delay of 45.8 seconds, or as determined appropriate by Caltrans. The Responsible Parties shall reimburse the City and/or Caltrans, as required by their appropriate fee programs, for updating traffic signal timings per this mitigation measure. This mitigation measure is to be verified by the DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities. **TRAF-2:** Beach Boulevard at Talbert Avenue – P.M. Peak Hour. The Responsible Parties shall coordinate with Caltrans and the City of Huntington Beach Public Works Department to update the traffic signal timings to provide	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
		additional capacity at this intersection consistent with the detailed Synchro reports provided in Appendix G of the Traffic Study. Signal timing at this intersection shall be optimized to improve P.M. operations to LOS D and delay of 51.8 seconds, or as determined appropriate by Caltrans. The Responsible Parties shall reimburse the City and/or Caltrans, as required by their appropriate fee programs, for updating traffic signal timings per this mitigation measure. This mitigation measure is to be verified by the DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities. **TRAF-3**: Beach Boulevard at Garfield Avenue – P.M. Peak Hour. The Responsible Parties shall coordinate with Caltrans and the City of Huntington Beach Public Works Department to update the traffic signal timings to provide additional capacity at this intersection consistent with the detailed Synchro reports provided in Appendix G of the Traffic Study. Signal timing at this intersection shall be optimized to improve P.M. operations to LOD D and delay of 53.0 seconds, or as determined appropriate by Caltrans. The Responsible Parties shall reimburse the City and/or Caltrans, as required by their appropriate fee programs, for updating traffic signal timings per this mitigation measure. This mitigation measure is to be verified by the DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities. **TRAF-4**: Beach Boulevard at Atlanta Avenue – P.M. Peak Hour. The Responsible Parties shall coordinate with Caltrans and the City of Huntington Beach Public Works Department to update the traffic signal timings to provide additional capacity at this intersection consistent with the detailed Synchro reports provided in Appendix G of the	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
		Traffic Study. Signal timing at this intersection shall be optimized to improve P.M. operations to LOS D and a delay of 43.2 seconds or as determined appropriate by Caltrans. The Responsible Parties shall reimburse the City and/or Caltrans, as required by their appropriate fee programs, for updating traffic signal timings per this mitigation measure. This mitigation measure is to be verified by the DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities. **TRAF-5:** Beach Boulevard at Pacific Coast Highway – A.M. Peak Hour. The Responsible Parties shall coordinate with Caltrans and the City of Huntington Beach Public Works Department to update the traffic signal timings to provide additional capacity at this intersection consistent with the detailed Synchro reports provided in Appendix G of the Traffic Study. Signal timing at this intersection shall be optimized to improve A.M. operations to LOS C and delay of 34.2 seconds, or as determined appropriate by Caltrans. The Responsible Parties shall reimburse the City and/or Caltrans, as required by their appropriate fee programs, for updating traffic signal timings per this mitigation measure. This mitigation measure is to be verified by the DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities.	
Long-Term – Traffic: Long-term operation of the Site would result in a nominal effect on traffic conditions and impacts would be less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
Short-Term – CMP Intersections: The implementation of the RAP would not conflict with the applicable Orange County CMP level of service standards or travel demand measures for designated roads or highways along the proposed haul routes. Impacts to CMP intersections would be less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Long-Term – Congestion Management Program (CMP) Intersections: Long-term operation of the Site would result in a nominal effect on traffic conditions and impacts to CMP intersections would be less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Short- and Long-Term – Emergency Access: The Site's ingress and egress driveways would be designed to meet City of Huntington Beach standards. The site ingress/egress driveways may be adjusted or shift during the construction process to allow for construction of the cap. All site access and circulation would be reviewed by the City of Huntington Beach Department of Public Works and Fire Department to ensure that the Site provides adequate emergency access. As discussed above, the Project would also result in less than significant traffic impacts with implementation of the prescribed mitigation measures. Accordingly, the function of the street system would remain, and there would be available capacity to accommodate the projected traffic volumes, in addition to emergency vehicles. In addition, during construction activities on the Site, it may be necessary to close the shared parking/bicycle lane on eastbound Hamilton Avenue along the Site frontage. This lane closure could potentially affect the current Magnolia Street/Hamilton Avenue intersection by closing the existing shared through/right-turn lane. With this	Less Than Significant	No mitigation measures are necessary.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Issue	Project Impact	Mitigation Measures	Level of Significance After Mitigation
temporary closure, the eastbound approach would be reconfigured to include a shared left-turn/through/right-turn lane. This lane closure could potentially affect emergency access should the intersection operate a deficient level of service. As discussed in the traffic impact analysis above, the intersection would remains at LOS A with the implementation of the lane closure during both the AM and PM peak hours. As such, the temporary lane closure would not result in substantial adverse emergency access impacts. Overall, based on the above, impacts related to emergency access would be less than significant.			
Long-Term – Emergency Access: Project implementation would provide adequate emergency access throughout short- and long-term construction and operational activities, respectively. Further, emergency access would be substantially impaired in the surrounding roadway network. Thus, impacts would be less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Short-Term – Alternative Transportation Facilities: Implementation of the project design features would ensure that impacts to alternative transportation facilities and services are less than significant.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant
Long-Term – Alternative Transportation Facilities: At the termination of short-term construction remediation activities, the use of existing adjacent alternative transportation facilities would be restored. Thus, no long-term impacts to alternative transportation facilities would result from implementation of the Project.	Less Than Significant	No mitigation measures are necessary.	Less Than Significant

Alternatives Impacts

With regards to the No Project Alternative, as this Alternative would not include short-term remediation activities, key short-term impacts such as those relating to traffic, air quality, hazardous materials, and noise would not occur and therefore would be less than the Project. However, as the Site would not be remediated under this Alternative, key long-term impacts relating to air quality, hazardous materials and water quality would be greater under this Alternative than those of the Project.

As Alternative 2, Source Removal with Off-Site Disposal (Alternative 6 in the RAP), would generally include more intense construction activities over a longer period of time, key short-term impacts regarding air quality, hazardous materials, water quality, noise and traffic would be greater under this Alternative than under the Project. However, key long-term impacts regarding air quality, hazardous materials and water quality would be less under this Alternative than those of the Project.

As indicted above, Alternative 3, the Lower Intensity - Extended Schedule Alternative, would remove the same amount of material from the Site and provide the same cap system and long-term design as the Project, except that construction activities would be less intense compared to the Project, which would result in an extended construction schedule. Due to the lower intensity of daily construction activities, the Project's significant and unavoidable regional NO_x and PM_{10} air quality impact during construction activities would not occur under this Alternative. Under this Alternative, regional NO_x and PM_{10} air quality impacts would be less than significant. Nonetheless, even at a lower intensity, this Alternative would result in significant and unavoidable localized 1-hour NO_2, 24-hour and annual PM_{10} impacts, but at a reduced level compared to the Project. However, it is noted, that short-term water quality impacts would be greater under this Alternative than those of the Project. Generally, long-term impacts would be similar to the Project, as the same cap system over the Site would be implemented under this Alternative and the Project.

A complete comparative summary of the environmental impacts anticipated under each alternative with the environmental impacts associated with the project is provided in Table 5-20 of Section 5.0, *Alternatives*, in this EIR, while a summary of the ability of each alternative to meet the project objectives is provided in Table 5-21.

Environmentally Superior Alternative

Section 15126.6(e)(2) of the *CEQA Guidelines* indicates that an analysis of alternatives to a proposed project shall identify an environmentally superior alternative among the alternatives evaluated in an EIR. The *CEQA Guidelines* also state that should it be determined that the No Project Alternative is the environmentally superior alternative, the EIR shall identify another environmentally superior alternative among the remaining alternatives. With respect to identifying an environmentally superior alternative among those analyzed in this EIR, the range of feasible alternatives to be considered includes the: Alternative 1 - No Action Alternative; Alternative 2 - Source Removal with Off-Site Disposal; and Alternative 3 - Lower Intensity - Extended Schedule Alternative.

Alternative 3 would result in impacts similar to or better (reduced) than those for the Project for several of the issue areas, with the notable exception of short-term water quality impacts, wherein a longer construction schedule extending through three wet seasons slightly increases the chance of impacting groundwater. The lower intensity would reduce the Project's significant and unavoidable regional NOx and

PM_{10} air quality impact to less than significant levels. However, the Project's 1-hour localized NO_2 impact remains significant and unavoidable. Even with the lower daily and annual emissions of PM_{10} under this Alternative, it is expected to result in localized 24-hour and annual concentrations of PM_{10} that exceed applicable thresholds and impacts would remain significant and unavoidable. Because Alternative 3 would reduce most short-term impacts, including eliminate the Project's significant and unavoidable short-term regional NOx air quality impact and have similar long-term impacts, Alternative 3 is selected as the Environmentally Superior Alternative.

While Alternative 3 is identified as the Environmentally Superior Alternative in this Draft EIR, this does not mean it is selected as the remediation plan for the Site at this time by DTSC. DTSC will consider the analysis included within this EIR along with public input throughout the environmental review process in their decision-making process to select the remediation plan for the Site.

1.0 Introduction

1.0 INTRODUCTION

This document is a Draft Environmental Impact Report (EIR) that has been prepared at the direction and under the supervision of the Department of Toxic Substances Control (DTSC) in accordance with the California Environmental Quality Act (CEQA) and the Guidelines for California Environmental Quality Act (CEQA Guidelines), as amended.[1,2] The Remedial Action Plan (RAP) (also referred to as the "Project") for the Ascon Landfill Site (Site) describes the proposed remediation plan for the Site. A detailed discussion of the Project is provided in Section 2.0, *Project Description*, of this EIR.

1. PURPOSE OF THE EIR

DTSC is the Lead Agency under CEQA responsible for preparing the EIR for the proposed RAP Project (State Clearinghouse No. 2013041010). This EIR has been prepared in conformance with CEQA (California Public Resources Code Section 21000 et seq.) and the *CEQA Guidelines* (California Code of Regulations, Title 14, Section 15000 et seq.). The principal *CEQA Guidelines* sections governing content of this document are Sections 15120 through 15132 (Content of an EIR).

In accordance with Section 15121 of the *CEQA Guidelines*, the purpose of the EIR is to serve as an informational document that:

> *"…will inform public agency decision makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project."*

This Draft EIR has been prepared as a Project EIR pursuant to Section 15161 of the *CEQA Guidelines*. As stated in this section:

> *"This type of EIR should focus on the changes in the environment that would result from the development project. The EIR shall examine all aspects of the project including planning, construction, and operation."*

It is important to note that this EIR is focused on the implementation of the RAP. Any subsequent development on the Ascon Landfill Site would be subject to independent environmental review. This Project EIR is intended to provide the environmental information necessary for DTSC to make a final decision on the approval of the RAP. This EIR is also intended to support discretionary reviews and decisions by other agencies.

This document analyzes the environmental effects of the Project to the degree of specificity appropriate to the currently proposed actions, as required by Section 15146 of the *CEQA Guidelines*. This analysis considers the actions associated with the Project and determines the short-term and long-term effects associated with

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[1] *Public Resources Code Section 21000-21178.*

[2] *California Code of Regulations Title 14, Chapter 3, Section 15000-15387.*

their implementation. This EIR discusses both the direct and indirect impacts of this Project, as well as the cumulative impacts associated with other past, present, and reasonably foreseeable future projects. CEQA requires the preparation of an objective, full disclosure document to 1) inform agency decision makers and the general public of the direct and indirect environmental effects of the proposed action, 2) provide mitigation measures to reduce or eliminate significant adverse effects, and 3) identify and evaluate reasonable alternatives to the Project.

2. EIR REVIEW PROCESS

This EIR has been prepared to meet all of the substantive and procedural requirements of CEQA (California Public Resources Code [PRC] Sections 21000 et seq.), as amended; California CEQA Guidelines (California Code Regulations Title 14, Sections 15000 et seq.); and the rules, regulations and procedures for the implementation of CEQA as executed by DTSC. Accordingly, DTSC has been identified as the Lead Agency for this Project, taking primary responsibility for conducting the environmental review process and approving or denying the Project.

In compliance with the *CEQA Guidelines*, DTSC has provided opportunities for the public to participate in the environmental review process. During the preparation of the EIR, an effort was made to contact various Federal, State, regional, and local government agencies and other interested parties to solicit comments and inform the public of the Project. This included, as further described below, the distribution of a Community Notice and Notice of Preparation (NOP), as well as two public scoping meetings.

Pursuant to the provision of Section 15082 of the *CEQA Guidelines*, DTSC published the NOP on April 4, 2013 in two local newspapers of general circulation within the project vicinity, the Huntington Beach Wave (OC register) and the Huntington Beach Independent. In addition, DTSC mailed a "Community Notice" to public agencies, special districts, homeowners and residents within a ¼–mile radius of the Site, and other interested individuals indicating that the NOP/Initial Study is available for a 30-day review and comment period commencing April 4, 2013, and ending May 3, 2013. The Notice was mailed to approximately 1,900 property owners, as well as the occupants of the residences, within the mailing radius. In addition, copies of the Notice were made available to students at Edison High School. The purpose of the NOP was to formally convey that DTSC is preparing an EIR for the Project, and to solicit input regarding the scope and content of the environmental information to be included in the EIR. A description of the Project was circulated with the Community Notice.

In addition, in accordance with Public Resources Code Section 21083.9, the first of two public scoping meetings was held for the Project on April 23, 2013, in the Edison High School Cafeteria, 21400 Magnolia Street, Huntington Beach, 92646. This first Public Scoping Meeting was held in the local neighborhood and was targeted for the local community. A second scoping meeting was held on Wednesday, May 1, 2013, in the City of Huntington Beach, City Council Chambers, 2000 Main Street, Huntington Beach, 92648, and was targeted for public agencies, including City officials. This second scoping meeting was also open to the general public. The scoping meetings were held to provide interested individuals/groups and public agencies the opportunity to provide input as to the scope and content of the environmental information that should be included in the EIR. In an effort to ensure comments were accurately recorded, a court reporter transcribed the proceedings at the scoping meetings. In addition, DTSC provided comment forms at the scoping meetings so that written comments could be mailed to DTSC prior to close of the 30-day review period. Comments on the NOP/Initial Study could be submitted in writing by either completing a comment

form available at the scoping meetings (a comment form was also included in the Community Notice) or providing written comments by mail or via e-mail. Comments on the scope and content of the EIR were received from various public agencies and individuals from the public. The NOP/Initial Study comments are contained in Appendix A of this EIR and summarized in the Executive Summary under the "Issues Raised During the NOP Process" subheading.

Based on the Initial Study prepared in association with the NOP and comments received during the public review period, Section 4.0 of this EIR addresses the following environmental topics where the potential for significant impacts was identified: Aesthetics, Air Quality, Biological Resources, Geology/Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology/Water Quality, Land Use and Planning, Noise, and Transportation/Traffic. For each of the environmental issues described above, the Project's potential to result in direct, indirect and cumulative impacts are addressed and feasible mitigation measures are provided where necessary to address significant impacts. Section 6.0, *Other Mandatory CEQA Considerations*, includes a discussion of those environmental issues (e.g., Mineral Resources, Public Services, Population and Housing, etc.) where the characteristics of the Project made it clear that impacts would not be significant and further evaluation of such issues in the EIR was not necessary.

This Draft EIR is subject to a 45-day public review period by responsible and trustee agencies, members of the public and other interested parties. The review period commences August 29, 2013, and ends October 14, 2013. In accordance with the provision of Sections 15085(a) and 15087(a)(1) of the *CEQA Guidelines*, DTSC, serving as the Lead Agency, has circulated a Notice of Availability (NOA) of a Draft EIR to all residents within a ¼-mile radius of the Site, in addition to public agencies, organizations, and individuals that commented on the NOP. The NOA indicates that an informational public meeting on the EIR environmental review process will be held on September 12, at Edison High School. The NOA also indicates the Draft EIR will be available for review at the following locations:

- Huntington Beach Central Library - 7111 Talbert Avenue, Huntington Beach, CA 92648, phone # (714) 842-4481
- Banning Branch Library - 9281 Banning Avenue, Huntington Beach, CA 92646, phone # (714) 375-5005
- Department of Toxic Substances Control - 5796 Corporate Avenue, Cypress, CA 90630, phone # (714) 484-5337
- DTSC's EnviroStor website at www.EnviroStor.dtsc.ca.gov. Enter "Huntington Beach" as the City and select "Ascon Landfill Site" in the list of projects within the scroll-down menu.

The NOA further states that DTSC will prepare and transmit a Notice of Completion (NOC) to the State Clearinghouse. Proof of publication is available at DTSC. All comments on the EIR should be addressed to:

Department of Toxic Substances Control
Attn: Safouh Sayed, DTSC Project Manager
5796 Corporate Avenue
Cypress, CA 90630-4732
RE: Ascon Landfill RAP
Or via email at: Safouh.Sayed@dtsc.ca.gov

Any agency, organization or members of the public desiring to comment on the EIR must submit their comments in writing to Safouh Sayed prior to the end of the public review period. Upon the close of the public review period, DTSC will proceed to evaluate and prepare written responses to all relevant written comments received from both citizens and public agencies during the public review period. DTSC's responses at this point in the process will be limited to issues relating to the adequacy of the EIR, and not the relative merits of the Project.

The Final EIR will consist of the Draft EIR, corrections and additions to the Draft EIR, responses to comments addressing concerns raised by responsible agencies or reviewing parties, and a mitigation monitoring and reporting program (MMRP). According to PRC Section 21081.6, for projects in which significant impacts will be avoided by mitigation measures, the Lead Agency must include a MMRP. The purpose of the MMRP is to ensure compliance with required mitigation during implementation of the project. After the Final EIR is completed, and at least 10 days prior to its certification, a copy of the response to comments on the Draft EIR will be provided or made available to all commenting parties.

According to PRC Section 21081, the Lead Agency must make specific Findings of Fact (Findings) before approving the Final EIR, when the EIR identifies significant environmental impacts that may result from a project. The purpose of the Findings is to establish the link between the contents of the Final EIR and the action of the Lead Agency with regard to approval or rejection of the proposed project. Prior to approval of a project, one of three findings must be made, as follows:

- Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.
- Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
- Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

Environmental impacts may not always be mitigated to a less than significant level. When this occurs, impacts are considered significant and unavoidable. If DTSC concludes that the Project would result in significant and unavoidable effects, which are identified in this Draft EIR, DTSC must adopt a "statement of overriding considerations" prior to approval of the Project in compliance with PRC Section 21081. Such statements are intended under CEQA to provide a written means by which DTSC balances the benefits of the Project and the significant and unavoidable environmental impacts. Where DTSC concludes that the economic, legal, social, technological, or other benefits outweigh the unavoidable environmental impacts, DTSC may find such impacts "acceptable" and approve the Project.

3. FORMAT OF THE EIR

The EIR includes an Executive Summary and eight sections as well as appendices, which are organized as follows:

Executive Summary. This section presents a summary of the Project and alternatives, potential impacts and mitigation measures, and impact conclusions regarding significant unavoidable adverse impacts and

effects not found to be significant. This section also summarizes the issues raised in the NOP comment letters regarding the scope and content of the EIR under the "Issues Raised During NOP Process" subheading.

1. **Introduction**. This section provides: a description of the purpose of the EIR; CEQA compliance information relative to the Project and the EIR; a brief overview of the environmental review process; and an outline of the organization of the EIR.

2. **Project Description**. Describes the location, details and objectives for the Project.

3. **Basis for Cumulative Analysis**. This section contains a list of related projects anticipated to be built within the project vicinity.

4. **Environmental Impact Analysis**. This section contains the environmental setting, Project and cumulative impact analyses, mitigation measures, and conclusions regarding the level of significance after mitigation for each of the following environmental issues: Aesthetics, Air Quality, Biological Resources, Geology/Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology/Water Quality, Land Use and Planning, Noise, and Transportation/Traffic.

5. **Alternatives**. This section evaluates the environmental effects of the Project alternatives, including the No Project Alternative. It also identifies the environmentally superior project.

6. **Other Mandatory CEQA Considerations**. This section includes a discussion of issues required by CEQA that are not covered in other sections. This includes discussions of unavoidable adverse impacts, impacts found not to be significant, irreversible environmental changes, potential secondary effects caused by the implementation of the mitigation measures for the Project, and growth inducing impacts.

7. **List of Preparers**. This section lists all of the persons that contributed to the preparation of this EIR, the Lead Agency, and the Responsible Parties (RPs).

8. **References**. This section lists all the references utilized in preparation of the EIR.

This EIR includes the environmental analysis prepared for the Project and appendices as follows:

- Appendix A – Notice of Preparation/Initial Study/NOP Comment Letters
- Appendix B – Air Quality Worksheets
- Appendix C – Biological Resources Data
- Appendix D – Greenhouse Gas Worksheets
- Appendix E – Health Risk Assessment
- Appendix F – Noise Worksheets
- Appendix G - Traffic Study
- Appendix H – Alternatives Analyses Worksheets
- Appendix I – Cultural Resources Data

2.0 Project Description

2.0 PROJECT DESCRIPTION

INTRODUCTION

This section of the EIR provides a description of the existing conditions at the Ascon Landfill Site ("Site"), the background of the Site, the process by which the proposed remediation plan was selected by Department of Toxic Substances Control (DTSC), and a description of the proposed remediation plan.

Remedial Action Plan Background

The Draft Remedial Action Plan (RAP) (also referred to as the "Project") presents the proposed remediation plan for the Site. The Site operated as a waste disposal facility from approximately 1938 through 1984, receiving at times what is now considered hazardous waste. Since 1984, waste materials have not been accepted, and the Site has remained a closed landfill facility. In 2003, DTSC entered into an Imminent and Substantial Endangerment Determination Consent Order (I&SE CO), Docket No. I&SE CO 02/03-007, and an Imminent and Substantial Endangerment Determination and Order and Remedial Action Order (I&SE-RAO), Docket No. I&SE-RAO 02/03-018, with ten Responsible Parties (RPs).[1] As a result of these agreements, the RPs are required to implement the remediation activities (clean-up plan) at the Site.

Over the past approximately 30 years, there have been numerous and extensive investigations (i.e., waste and soil characterizations, hydrogeological assessments, biological assessments, health risk assessments, groundwater contamination assessments, air quality sampling, etc.) conducted at the Site, which have led up to preparation of the RAP. Of particular relevance, these investigations have included several Remedial Investigations (RIs) to define the nature and extent of waste materials and Site conditions; two Baseline Health Risk Assessments (BHRA)[2] to evaluate potential human health risks associated with the Site; and a Feasibility Study (FS)[3] and Revised Feasibility Study (RFS)[4] to evaluate several remedial action alternatives for the Site and present the rationale for selecting a preferred alternative.

Out of the alternatives provided in the DTSC-approved RFS, Alternative 4 (Partial Source Removal with Protective Cap) was selected as the "preferred alternative" for remediation of the Site. The preferred alternative included the partial removal of existing on-site material and installation of a protective cap that would allow the Site to be developed with a to-be-determined mix of restricted commercial, light industrial, and/or recreational uses, subject to future approval by DTSC and/or other agencies and public entities, such as the City of Huntington Beach. Additional studies, knowledge, and experience gained since DTSC approval of the RFS have led to modifications and updates to the RFS-selected preferred alternative, in addition to taking into account the significant changes to Site conditions as a result of waste removal from the Site during the Interim Removal Measure (IRM), described below. Alternative 4 as defined in the RAP, which includes the modifications and updates, is the Project being evaluated under CEQA in this EIR. Furthermore,

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[1] *The ten RPs are Chevron U.S.A. Inc., Texaco Inc. (Chevron U.S.A Inc. and Texaco Inc. are now considered a single party as they are wholly-owned subsidiaries of Chevron Corp.), Conoco Inc., Phillips Petroleum Company (Conoco Inc. and Phillips Petroleum Company are now combined as ConocoPhillips Company), ExxonMobil Corp., Shell Oil Company, Atlantic Richfield Company (ARC), The Dow Chemical Company, TRW (now Northrop Grumman Systems Corporation), and Southern California Edison Company.*

[2] *Geosyntec, Groundwater Remedial Investigation Report (Revision 1.0)–June 14, 2007.*

[3] *ENVIRON International Corporation (Environ), 2000, Feasibility Study Report, prepared for California/Nevada Developments, LLC., November 2000. Approved by DTSC July 2001.*

[4] *Project Navigator, Ltd., 2007, Revised Feasibility Study, September 21, 2007. Approved by DTSC September 2007.*

the other remedial alternatives considered in the RFS have been modified in the RAP using the same studies, knowledge, and experience gained since the 2007 RFS and with post-IRM conditions. Therefore, the feasibility study has also been revisited in the RAP using the modified alternatives to determine if the selection of Alternative 4 continues to be the preferred alternative.

1. PROJECT LOCATION AND SURROUNDING USES

The approximately 38-acre Site is located at the southwest corner of the intersection of Hamilton Avenue and Magnolia Street (21641 Magnolia Street) in the southeast portion of the City of Huntington Beach, California. The Site is identified by Assessor's Parcel Numbers 114-150-75, 114-150-78, 114-150-79, and 114-150-80.

Regional access to the Site is provided via the Interstate 405 (I-405) Freeway, State Highway 39 (Beach Boulevard), and State Highway 1 (Pacific Coast Highway or PCH) as shown in **Figure 2-1**, *Regional and Local Vicinity Map*. The Site is located approximately five miles south of I-405, one mile east of Beach Boulevard, and one-quarter mile north of PCH. **Figure 2-2**, *Surrounding Land Uses*, provides an aerial photograph of the Site and surrounding land uses. As indicated in Figure 2-2, the Site is bounded by Hamilton Avenue to the north, Magnolia Street to the east, an oil storage tank area to the south, and light industrial uses and the Huntington Beach Flood Control Channel (Huntington Beach Channel) to the west. The Site is surrounded by the following land uses: Edison Park and Community Center to the north across Hamilton Avenue; Edison High School near the northeast corner of Hamilton Avenue and Magnolia Street; single-family residential uses east of Magnolia Street; and the AES power plant to the southwest.

2. SITE OWNERSHIP

The Site is comprised of two primary parcels: the Cannery Hamilton Properties, LLC (CHP)[5] parcel and the City parcel. The CHP parcel is that portion of the Site currently owned by CHP. The CHP parcel is the entire Site except for an approximately 30-foot wide margin along the northern edge of the Site along Hamilton Avenue and an approximately 20-foot wide margin along the eastern edge of the Site along Magnolia Street. Collectively, these two margin areas comprise the City parcel (refer to **Figure 2-3**, *Site Ownership*).

In addition, it is acknowledged that Ownership of the Site is divided into separate surface and subsurface mineral estates. CHP owns the surface estate, but others own the subsurface mineral estate (mineral estate owners, or the "MEOs"). The MEOs hold title to the oil and gas resources underlying the Site. By law, surface estate ownership is subordinate to the rights of subsurface owners.

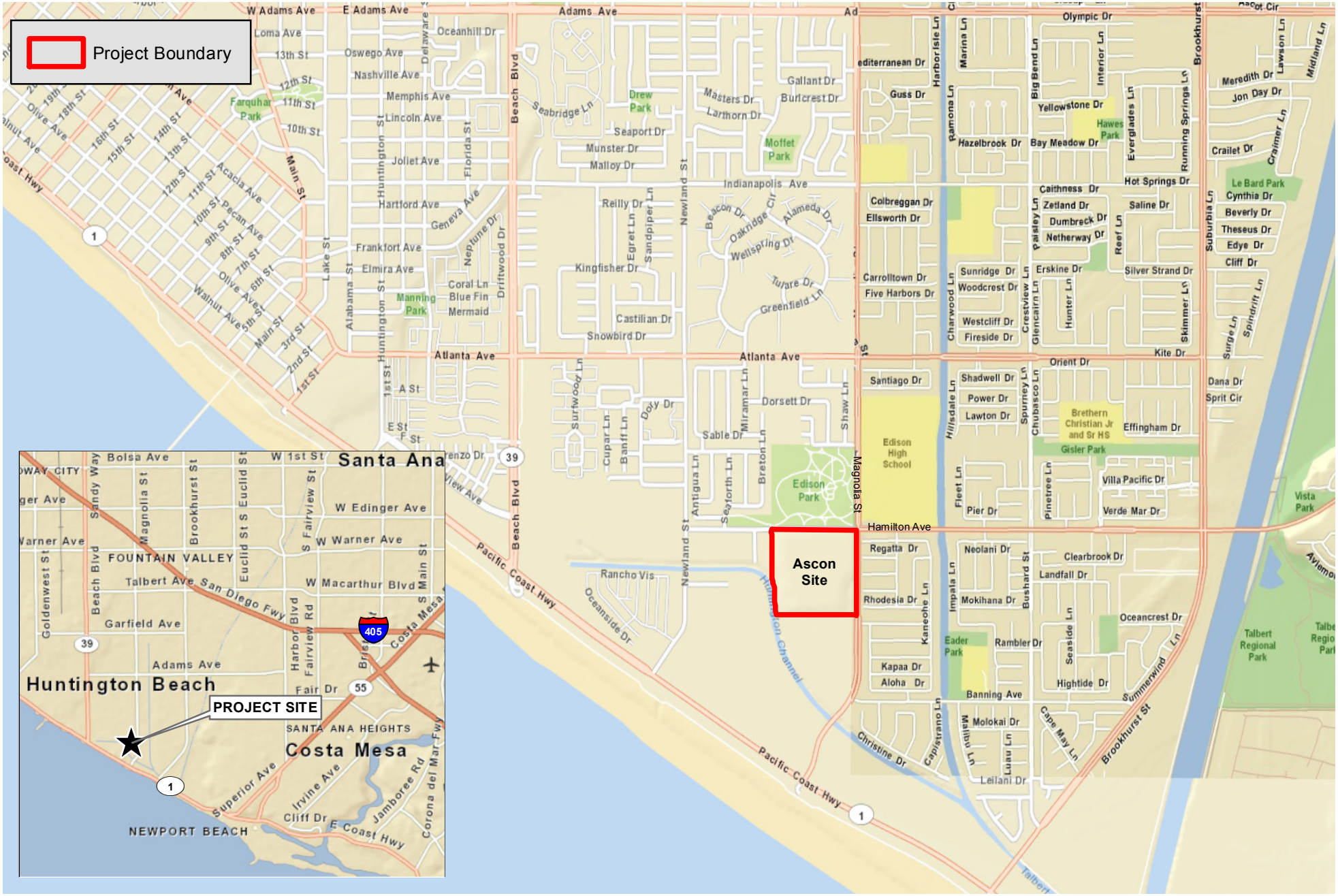
3. EXISTING SITE CONDITIONS

Topography

The Site is located in a low-lying coastal area that gently slopes to the south/southwest toward the Pacific Ocean. The surface topography of adjacent properties is generally flat with elevations ranging from 5 to 10 feet above mean sea level (MSL)[6]. The natural topography of the Site has been disturbed extensively over the

[5] *Two of the RPs, Chevron and ConocoPhillips, created a limited liability corporation called Cannery Hamilton Properties, LLC to purchase the Site, and CHP is the current Site owner.*

[6] *All elevations in the RAP and EIR are presented relative to MSL per the NAVD88 vertical control datum.*



PCR

Regional and Local Vicinity Map

RAP EIR - Ascon Landfill Site

Source: Esri, 2010; PCR Services Corporation, 2013.

FIGURE

2-1

PCR

Surrounding Land Uses

RAP EIR - Ascon Landfill Site
Source: Project Navigator, 2013.

FIGURE
2-2

LEGEND

- Perimeter Fence
- Property Boundary
- Site Boundary

N

0 400 Feet

Site Ownership

RAP EIR - Ascon Landfill Site

Source: Project Navigator, 2013.

FIGURE

2-3

PCR

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years by the operation of the landfill and waste disposal activities. Elevation ranges from approximately 5 feet above MSL at the southeastern corner to approximately 25 feet above MSL near the center of the Site.

An earthen berm, approximately 10 to 20 feet high, has been constructed around much of the Site perimeter to contain on-site pits, lagoons, and former lagoon areas. The outside slopes of the perimeter berm are covered with shrubs, scattered small trees, and other vegetation. The central portion of the northern berm along Hamilton Avenue was reduced in height by up to approximately 8 feet in 2005 during the Emergency Action removal, explained below.

Site Features

The Site is currently a closed landfill. A perimeter chain link fence with three locked vehicular gates encloses the Site. Generally, the interior of the Site beyond the perimeter berms and construction fencing are not visible from surrounding roadways and land uses. At the present time there are four lagoons on the Site (refer to **Figure 2-4**, *Site Features*). In addition to the lagoons, the Site includes various former pits that have been backfilled with construction debris and/or fill material, each of which are of relatively limited areal extent at less than 100 feet on a side. Pits A, B, and H are located in the northwest corner of the Site; Pits C, D, E, F, and G are located in the southeast corner of the Site (Figure 2-4). Available records show that Pits A and B were used for disposal of oily wastes and Pits C and D were used for disposal of chromic and sulfuric acids. Oily wastes were placed in Pit E; styrene tar and synthetic rubber wastes were disposed in Pit F. Records regarding the types of wastes disposed of in Pits G and H are not available. Investigations show that material from Pit F appears to have migrated in the subsurface to an areal extent of approximately 1.1 acres, all within the Site fence line.

It is apparent from an inspection of the Site, as well as from historical aerial photographs, that large quantities of construction debris, such as concrete rubble, asphalt, wood, and other construction wastes, have been disposed at the Site. The volume of construction debris at the Site prior to the IRM was estimated at 69,000 cubic yards.[7]

Figure 2-4 shows that, in addition to the lagoon and pit areas, the majority of the Site's interior is vacant with intermittent vegetation located throughout the Site. Vegetation on-site is dominated by non-native ruderal (i.e., weedy) species and ornamental vegetation. However, the western and southern perimeters of the Site are mostly lined with mature Lollipop trees (*Myoporum laetum*). In addition, in the southwest corner of the site is approximately 0.2 acres of coastal salt marsh, which is a sensitive natural community considered to be environmentally sensitive habitat area (ESHA) by the California Coastal Act and City of Huntington Beach's Coastal Element of the General Plan. Also, much of the disturbed areas within the Site provide suitable conditions to support southern tarplant (*Centromadia [Hemizonia] parryi* ssp*. australis*), which is listed by the California Native Plant Society (CNPS) as "seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)." Section 4.3, *Biological Resources*, provides a detailed discussion of the biological resources on the Site.

There are also interior dirt and gravel roadways and/or pathways located throughout the Site. In addition, there is an oil production facility consisting of two oil wells on leased property situated on-site along the western perimeter of the project Site, separated from the majority of the Site by chain link fencing. This

[7] *Project Navigator, Ltd., 2007, Revised Feasibility Study, September 21, 2007.*

facility is operated by third parties (South Coast Oil Corporation [SCOC], or its successor) and is not owned, operated, or leased by the RPs. Access to the SCOC property is gained via Surveyor Circle located to the west of the Site. The SCOC site is an active oil producing site.

Figure 2-5 (a-b), *Site Photographs*, provides photographs of the exisitng site conditions, described above. Figure 2-4 identifies the locations of the photographs in Figure 2-5.

Groundwater

Data collected from 25 groundwater monitoring wells installed throughout the Site show that groundwater is present at shallow depths below ground surface (bgs). The groundwater elevations are near mean sea level (MSL), as expected from the Site's proximity to the Pacific Ocean and adjacent Huntington Beach Flood Control Channel. Groundwater elevation has varied a few feet over time with seasonal variations. Monitoring well data show that the highest groundwater elevations occur in the southwest corner of the Site near the flood control channel at near 0 feet MSL, while lowest groundwater elevations occur in the northwest corner of the Site at approximately -5 feet MSL. A tidal study reported in July 2003 showed that the flood control channel recharges, or contributes to, groundwater at the southwestern corner of the Site, and that the Site does not contribute groundwater to the channel. The groundwater flow direction in the area of the Site adjacent to the flood control channel is generally toward the north or northeast (away from the channel) while groundwater flow across the Site is generally northward. In the southeastern portion of the Site, the groundwater flow direction, at times, has a slight component to the east.

As discussed in Section 4.7, *Water Quality*, of this EIR, the underlying aquifers beneath the Site are not used as a water resource due to seawater intrusion, and there are no drinking water wells within three (3) miles of the Site. Salinity measured in groundwater confirms seawater impacts to groundwater under and in the vicinity of the Site.[8]

Waste Types

The total number of waste types previously accepted at the Site is not known. Past investigators have summarized the types of wastes reportedly disposed of at the Site. The largest volumes of wastes disposed at the Site were drilling mud and oil field wastes. Other wastes reportedly disposed of at the Site include the following:

- Chromic and sulfuric acids
- Aluminum slag
- Magnesium and potassium chloride
- Corrosive material (acid sludges)
- Mercaptans
- Styrene
- Styrene tars

[8] *Geosyntec, Groundwater Remedial Investigation Report (Revision 1.0)–June 14, 2007.*

LEGEND

- Internal Fences
- Site Gate
- Trailer
- Buried Pits
- # Photograph Locations

N

0 440 Feet

Site Features

RAP EIR - Ascon Landfill Site

Source: Project Navigator, 2013.

FIGURE

2-4

PCR

Photograph 1: Northerly view of Lagoon 1-2.

Photograph 2: Easterly view towards Lagoon 1-2.

Photograph 3: Northwesterly view of SCOC oil operations.

Photograph 4: Easterly view of Lagoon 4.

Photograph 5: Northerly view of Lagoon 4.

Photograph 6: Southerly view of Lagoon 3.

PCR

Site Photographs

RAP EIR - Ascon Landfill Site

Source: PCR Services Corporation, 2013.

FIGURE

2-5a

Photograph 7: Northerly view of Lagoon 5.

Photograph 8: View of on-site construction debris materials.

Photograph 9: Southerly view of typical on-site vegetation and drainage swale.

Photograph 10: View of Pit F (Styrene Pit).

Photograph 11: Southwesterly view of on-site access roads.

Photograph 12: Easterly view of on-site earthen detention basin.

PCR

Site Photographs

RAP EIR - Ascon Landfill Site

Source: PCR Services Corporation, 2013.

FIGURE

2-5b

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- Polyester resin fractions
- Phenolic wastes
- Synthetic rubber
- Fuel oil (unusable/out of specification)
- Oily wastes
- Construction and other debris (soil, concrete, asphalt, wood, metal, abandoned vehicles, etc.).

Of the reported wastes, not all of these wastes have been identified at the Site as a result of the remedial investigations. The thickness of the Site waste varies from a few feet to as much as 20 feet. In various areas throughout the Site, soil and construction debris, consisting of wood, brick, concrete, and asphalt were placed over much of the waste material and can currently be seen throughout the Site. In such areas, it is estimated that the combined thickness of solid debris and waste materials ranges from approximately five to 25 feet.

Throughout this EIR these wastes may be referred to collectively as "contaminated material," which is meant solely to denote material which may be or have had contact with a contaminant (i.e. non-native substance or chemical). The term "contaminated material" is not meant to indicate or imply that the material was found to meet any specific definition of hazardous waste, hazardous material, or similar characterization, or to indicate the presence of such substance or chemical at a level that could threaten human health and safety or the environment. Likewise, the adjective "hazardous," when used in a description of a Site material, is not meant to indicate or imply that the material was found to meet any definition of hazardous waste, except when specifically noted as such.

4. BACKGROUND

Site History

The Site was operated as a waste disposal facility from approximately 1938 through 1984 receiving many types of materials, some of which are now known to be hazardous. The waste brought to the Site was placed on top of the original ground surface and contained by earthen berms. As the waste accumulated, the berms were raised such that much of the Site surface is now approximately 10 to 20 feet above the surrounding street level.

Based on the review of the aerial photos, it appears that nearly the entire Site was used at some time for waste disposal. There is evidence that up to eight discrete disposal pits (Pits A through H) existed in the northwestern and southeastern portions of the Site (refer to Figure 2-4 for pit locations). These pits, except for Pit F, appear to have been subsequently backfilled with construction debris and fill material, as have former lagoon areas.

During the early years of operation, most of the waste disposed of on the Site came from oil drilling operations. Oil field wastes included drilling muds, wastewater brines, and other drilling wastes. Records show that from 1957 to 1971, other wastes, such as chromic acid, sulfuric acid, aluminum slag, fuel oils, styrene and other wastes were also disposed on the Site.

A separate landfill, the Cannery Street Disposal Site, was located north of the Site and operated by the County of Orange from 1957 to 1969. Aerial photographs taken in 1961 and 1967, during operation of the Cannery Street Disposal Site, show that the southern extent of the landfill was aligned with the northern extent of the east-west power transmission line right-of-way, creating a buffer of over 200 feet between the Ascon Landfill Site and the Cannery Street Disposal Site during all operating phases of both landfills.

From 1971 to 1984, inert solid wastes such as asphalt, concrete, metal, soil, and wood were disposed on the Site. From 1984 to 2002, the Site remained essentially unchanged. Site visits made by investigators during 1997 found old drums, vehicles, motorcycles, trailers, and miscellaneous debris scattered throughout the Site, most of which has now been removed. There was an unauthorized firewood operation on a portion of the Site in 1996 and 1997. There were also other indications of trespassers entering and possibly living at the Site. Beginning in 2002, the RPs undertook routine maintenance and housekeeping at the Site, and security has been significantly improved, which has reduced trespassing.

Until July 2004, equipment remained on a two-acre oil production lease area in the east-central portion of the Site. The oil production well (Krik Well No. 80) and associated tank storage were removed during clean-up operations in response to a crude oil release from the well that occurred on March 17, 2004. Krik Well No. 80 was abandoned by the California Department of Conservation, Division of Oil, Gas & Geothermal Resources on March 27, 2004, and oil production activities ceased at the Krik release site (oil production facilities remain at the western perimeter at the SCOC site). The removal action in response to the release was completed on April 27, 2004, and a Krik Well No. 80 Release Completion Report was submitted to the EPA on June 14, 2004.[9]

In 2005 through early 2006, an Emergency Action was undertaken that consisted of material removal, berm strengthening, Site grading, and installation of best management practices for storm water control. In 2010 through early 2011, the IRM was performed to remove most of the tarry materials from select lagoons. More information regarding the Emergency Action and the IRM is presented below.

Summary of Key Interim Actions

Emergency Action (2005)

In July 2005, following record amounts of rainfall, the RPs commenced an Emergency Action, under DTSC oversight, to address concerns about potential release of waste from the Site. The rainfall resulted in approximately 3.8 million gallons of storm water collecting on-site, which presented a risk of potential failure of the north berm. Because of observed cracks in the north berm and ponded water on Hamilton Avenue, the on-site water was treated, pumped, and discharged under permit to the Orange County Sanitation District.

The primary objective of the Emergency Action was to strengthen the north berm by reducing the load on the berm, and to mitigate potential seepage along the northern edge of the Site. The following work was performed in the Emergency Action: removal of a significant portion of drilling mud from Lagoons 4 and 5, reshaping of the north berm to reduce the height, flattening of the north (outboard) slope, and installation of an under drain (toe drain) at the toe of the outboard slope of the north berm. The excavated drilling mud

[9] *Letter from Robert Wise, Federal On-Scene Coordinator, to CHP, dated April 27, 2004.*

was mixed with Site soil to improve material handling characteristics and then transported by end-dump trucks to an approved disposal facility. Approximately 47,000 cubic yards of waste and soil were removed from the Site. In addition, a buttress constructed from on-site concrete debris was placed at the southern portion of Lagoon 4 to support the internal berm between Lagoons 3 and 4 after the removal of some drilling mud from Lagoon 4. The Emergency Action was completed in January of 2006.

Interim Removal Measure (2010-2011)

From July 2010 through March 2011, the RPs conducted an IRM to remove approximately 70,000 cubic yards of tarry waste materials from Lagoons 1, 2, and 3 in order to safely investigate the material beneath Lagoons 1 and 2 via a drilling program. It was determined by the RPs and DTSC that geotechnical data from this drilling program were needed for remedy planning. The results of the investigation indicated that the deeper soils under these lagoon areas are similar to deeper soils elsewhere at the Site.

During the IRM, investigations of the removed tarry materials concluded that recycling/reclamation of these materials was infeasible. In addition to removal of the tarry waste materials, the IRM included placement of gravel on internal roads and other non-vegetated areas for erosion and dust control.

There were five lagoons prior to completion of the IRM, which combined the footprint of Lagoons 1 and 2. The other areas formerly occupied by lagoons have been filled in and covered over with soil and construction debris. The lagoons were used mainly for disposal of oil production wastes such as drilling mud, brines, and petroleum-contaminated soil. Most of the tarry materials that were contained within Lagoons 1 and 2 were excavated and disposed off-site during the IRM. Because of the IRM, Lagoons 1 and 2 have presently become a single open depression, referred to as Lagoon 1-2.

The removal of lagoon waste during implementation of the IRM is a principal reason for the need to update the RFS remedial alternatives and comparative anlaysis from the feasibility study in the RAP, in addition to other needed modifications, including updated remedial technologies, volumes and costs.

Other Interim Removal Activities

In addition to the Emergency Action and IRM, several other activities have been implemented at the Site to provide protection for the public and Site workers. These actions include the following:

- Implementation of a storm water pollution prevention plan program and installation of storm water collection improvements, including collection swales and storm water detention basins. The swales and detention basins channel storm water that isn't already captured in the lagoons and reduce potential sediments in any storm water runoff. Storm water runoff, if any, is sampled and tested, with results reported to the Regional Water Quality Control Board (RWQCB) and DTSC. Site inspections are conducted during rain events and once per month during the wet season to ensure that storm water handling improvements (Best Management Practices) are operating correctly and that repairs are made as necessary.
- Maintenance of the chain-link security fence to prevent trespassers.

- Construction of separate fences around Pit F, Lagoons 1-2 and 3, and Lagoons 4 and 5 to provide extra barriers of protection around waste material. Bird netting was formerly placed over Lagoons 1 and 2, but was removed for the IRM.
- Installation of special locks on entrance gates to allow emergency access for police and fire department personnel.
- Posting of No Trespassing and Proposition 65 warning signs on the perimeter fence and the entrance gates, and hazardous waste signs at significant Site features.
- Installation of high-visibility posts along all access roads throughout the Site to assist emergency (i.e., fire and police) personnel for nighttime emergency access and to delineate "No Equipment Zones" that protect sensitive biological resources.
- Collection and removal of 55-gallon drums strewn throughout the Site (most of which contained drill cuttings or purge water from previous soil and groundwater investigations).
- Destruction (abandonment) of Well No. 80 near Magnolia St. following the 2004 blow-out. The oil well was properly destroyed (abandoned), and contaminated soils and vegetation were removed and disposed off-site.
- Installation of a reinforced polypropylene cover, a high density polyethylene cover, and a second reinforced polypropylene cover (three covers) over the original cover on Pit F in order to mitigate emissions and odors.
- Installation of new padlocks on the groundwater monitoring wells.
- Installation of flush-mount well boxes for groundwater monitoring wells located in Edison Park and in the Site entrance driveway from Hamilton Avenue.
- Implementation of regular Site security and status inspections to check for trespassers and make any necessary repairs.
- Inspections, as necessary, and treatment of ponded storm water, if any, by the Orange County Vector Control District to ensure against on-site flourishing of mosquitoes or vermin.
- Implementation of regular geotechnical inspections to verify that Site improvements made during the Emergency Action and the Interim Removal Measure are performing as designed.
- Annual weed abatement activities.
- Placement of on-site trailers and gravel parking lots.

In addition to above listed activities, numerous risk assessments have been conducted for the Site. Two BHRAs were performed to identify and evaluate the potential risks to human and ecological receptors posed by Site conditions. One BHRA addressed potential risk due to on-site soils and was completed by Environmental Science and Engineering (ESE). This BHRA was submitted to DTSC in 1997[10], and DTSC approved it in June of 2001. A reevaluation of the BHRA was conducted in 2002 to provide a more refined estimate of potential off-site risks using more detailed modeling and the latest toxicity values.[11] The results of the reevaluation indicated that estimated risks and non-cancer hazards were within the risk management

[10] *Environmental Science and Engineering, Inc. (ESE), 1997a, Remedial Investigation Report, Ascon Property, prepared for Savannah Resources Corporation, August 30, 1996, Revision 01 - June 11, 1997.*

[11] *Geosyntec, 2002, Re-evaluation of Air Pathway Analysis, Revised Air Pathway Risk Assessment ("Re-evaluation").*

range of $1x10^{-4}$ to $1x10^{-6}$ and below the threshold value (Hazard Index) of 1, respectively, for all offsite receptors. In addition to the reevaluation, perimeter air monitoring was conducted between August 2002 and December 2003 to evaluate the potential for offsite air impacts from the Site and to establish a baseline for comparison purposes for future remedial activities. The results of the air monitoring indicated that measured concentrations would not pose a significant health risk or were generally within background levels for those chemicals commonly detected in air within the Los Angeles Area.

The second BHRA addressed groundwater and was completed as a part of the Groundwater Remedial Investigation, Revision 1.0, prepared by Geosyntec.[12] This BHRA was approved by DTSC in July of 2007. These BHRAs estimate risks during periods of inactivity at the Site ("baseline conditions"). The results of these risk assessments are presented in Section 4.6, *Hazards and Hazardous Materials*, of this EIR.

Summary and Evaluation of Alternatives and Selection of the Remedy Per RFS and RAP

Remedial Alternatives Considered

The RFS, conditionally approved by DTSC in August 2007, screened alternatives for remediation of the Site. The stated objectives of the RFS were to evaluate remedial technologies available to address impacted media at the Site,[13] to evaluate and confirm the appropriateness of process options to implement those technologies, to assemble remedial alternatives and evaluate them against the nine criteria set forth in the National Contingency Plan ("NCP"), summarized below, and to recommend a preferred alternative. The NCP, under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), describes the organizational structure and procedures for preparing for and responding to discharges of oil, hazardous substances, pollutants, and contaminants. RAPs prepared or approved by DTSC under Health and Safety Code Section 25356.1 must be based upon the NCP, and other specified requirements.

The approach and analysis used in the RFS were conducted in accordance with DTSC requirements as follows. The RFS first identified remedial action objectives and requirements for the Site. Next, various treatment technologies and remediation processes were reviewed for their applicability to the Ascon wastes. To evaluate the effectiveness of candidate technologies, focused, low volume treatability studies were conducted on specific wastes. Based on the technology reviews, the specific Ascon field-testing results, the conclusions of the 2000 FS report, and additional groundwater and soils investigations conducted from 2004 through 2007, six specific remedial alternatives were selected for detailed evaluation and comparison and are discussed in greater detail in the RFS. These RFS alternatives have been modified in the RAP as discussed above and detailed below, and the prior feasibility study was revisited and documented in the RAP to verify that the modified Alternative 4 remained the preferred alternative.

The 2013 updates to the comparative analysis in the feasibility study were limited to 1) refinement of the remedial alternatives with current Site conditions and conceptual design results, including updated volumes, schedule durations, costs, and other project metrics of the various alternatives, 2) updating the potential remedial technologies to be employed to achieve the remedial objectives, and 3) re-evaluating the comparative evaluation of the alternatives. The update did not include new remedial alternatives. The significant elements of each updated alternative are described below.

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[12] *Geosyntec, 2007, Groundwater Remedial Investigation, Revision 1.0, Ascon Landfill Site, Huntington Beach, California, June 14, 2007.*

[13] *The affected media at the Site are soils and drilling muds in the former and current lagoons and in the pits, tarry waste in Pit F, Pit F-impacted soils, construction debris throughout the Site, and shallow groundwater beneath the Site.*

Alternative 1: No Action - Alternative 1 consists of no further action at the Site and is required to be evaluated as a baseline alternative under the NCP. If Alternative 1 were implemented, no further action would be taken to contain, treat, or remove the affected soils, groundwater, or waste. While the existing fencing would restrict entrance to the Site, direct contact with Site wastes could occur to workers and trespassers. The City parcel would continue to be impacted by contaminated materials. The No Action alternative would continue to include a long-term groundwater monitoring program (all alternatives would contain a groundwater monitoring program). The No Action Alternative approximate cost of $13.8 million would include maintenance and monitoring over the next 30 years.

Alternative 2: Limited Waste Removal - Alternative 2 would include removal of the Pit F waste with off-site disposal. The lagoon areas would be covered with acceptable soils to prevent direct exposure. Waste would remain on the City parcel, and the CHP parcel and City parcel would be deed restricted to prevent any inconsistent development or activities at the Site. Note that the 2007 RFS-presented Alternative 2 included the removal of tarry liquids from the lagoons, removal that was performed during the IRM.

Alternative 2 would remove approximately 2,250 bank cubic yards (BCY, a measurement of volume with "in-the-ground" density) of waste from the Site and would be completed approximately five (5) months from commencement. A total of approximately 9,600 cubic yards of soils would need to be imported onto the Site to cover the lagoon areas. The construction ("capital") cost would be approximately $6.9 million, and the Operations and Maintenance (O&M) costs would be approximately $19.3 million over 30 years. This would bring the total present worth cost of Alternative 2 to approximately $26.23 million.

Alternative 3: Protective Cap - Alternative 3 would include development of a protective cap to cover the remaining materials after select waste deposits are removed. To enable the construction of the cap, the waste and soils at the Site would need to be graded to reconsolidate waste from the Site perimeter to the Site interior and to create appropriate slopes for storm water runoff and collection from the cap.[14] Alternative 3 would include excavation and off-site disposal of up to 30,000 BCY of Site waste and soils, in addition to the removal of the Pit F waste (2,250 BCY), to allow for cap installation. The waste surfaces of Lagoons 4 and 5 would be reinforced to support the cap, and the lagoon waste would be held in place using sheet piling (i.e., a form of driven piling using sheets of steel to obtain a continuous barrier) that would be driven into native soils underneath the lagoons. Contaminated materials on the City parcel and in the areas of the perimeter maintenance road and storm water detention basins would be excavated to at least street level and then, if necessary, to a depth achieving the applicable Risk-based Concentrations (RBCs) (see Table 4-1 in the RAP), background concentrations, or until groundwater is reached. Pit wastes (Pits A - E, G, and H) would be excavated as needed to at least adjacent street elevation and deeper, if necessary, to make room for the storm water detention basins. The entire Site within the property boundaries (CHP parcel), except the perimeter maintenance road and storm water detention basins, would be capped, and a long-term groundwater-monitoring program would be maintained. The CHP parcel would be deed restricted to prevent development and activities incompatible with the cap, but commercial or recreational uses would be allowed.

Alternative 3 would remove up to approximately 32,250 BCY of waste from the Site and would be completed approximately 11 months from commencement. A total of approximately 206,000 cubic yards of suitable

[14] *Reconsolidation of waste generally involves excavation of waste within an area and moving the waste to a different area. In this case, waste near the Site perimeter or above the final cap elevation would be reconsolidated to areas that would be under the cap.*

soils would need to be imported onto the Site to construct the cap and backfill the non-capped areas. Capital cost would be approximately $36.9 million, and the O&M costs would be approximately $22 million over 30 years. The total present worth cost of Alternative 3 would therefore be approximately $58.8 million.

Alternative 4: Partial Source Removal with Protective Cap - Alternative 4 was the RFS-recommended alternative and is similar to the protective cap of Alternative 3. To enable the construction of the cap, the waste and soils at the Site would need to be graded to reconsolidate waste from the Site perimeter to the Site interior and to create appropriate slopes for storm water runoff and collection from the cap. Alternative 4 includes excavation and off-site disposal of up to 30,000 BCY of Site contaminated materials, in addition to the removal of the Pit F waste (approximately 2,250 BCY), to allow for cap installation. The waste surfaces of Lagoons 3, 4 and 5 would be reinforced, as needed, to support the cap, and the lagoon material in Lagoons 4 and 5 would be held in place using cement, mixed with waste, that would be left in place under the cap (i.e., an internal geotechnical buttress). Contaminated materials on the City parcel and in the areas of the perimeter maintenance road and storm water detention basins would be excavated to at least street level and then, if necessary, to a depth achieving the RBCs (refer to Table 4-1 in the RAP), background concentrations, or until groundwater is reached. Pit wastes (Pits A - E, G, and H) would be excavated as needed to at least adjacent street elevation and deeper, if necessary, to make room for the storm water detention basins.

The capped areas could vary in elevation and size depending on the area and vertical extent of source reconsolidation or removal along the east and north sides of the Site. To blend the topography of the capped Site with the surrounding vicinity and reduce its visual massing from vantage points north and east of the Site, the Site would slope gradually upward from approximately 35 feet inside the Magnolia Street fence line and approximately 45 feet within the Hamilton Avenue fence line, with a peak height of approximately 44 feet MSL, approximately 37 to 39 feet above street level, near the southwest corner of the Site.

A restrictive covenant would be implemented to protect the integrity of the cap and any prevent inconsistent land uses. Any proposals for future alterations to the cap, including but not limited to beneficial uses of the Site (i.e. industrial, recreational, etc.) would need to be reviewed by the DTSC, and undergo separate environmental review, likely with the City of Huntington Beach as the Lead Agency. Implementation of this Alternative, upon completion of the remediation activities as contemplated in this EIR and in the RAP, would include a vegetated cover placed over the engineered cap, surrounded by an internal access road on all sides, and chain link security fencing. A long-term groundwater-monitoring program would be maintained. Details are provided in Section 6 below.

Alternative 4 would remove up to 32,250 BCY of contaminated materials from the Site which would be completed approximately 11 months from commencement. A total of approximately 206,000 cubic yards of suitable soils would need to be imported to construct the cap and backfill the non-capped areas. Construction cost would be approximately $36.6 million, and the O&M costs would be approximately $22 million over 30 years. Thus, the total present worth cost of Alternative 4 is approximately $58.6 million.

Alternative 5: Source Removal with Off-Site Disposal and SIT (Slurry Injection Technology) - Alternative 5 calls for complete removal of all Site waste through off-site disposal or slurry injection technology (pumping the waste deep underground into the fractured oil reservoir). After removal or injection of the waste, impacted groundwater at the Site would be removed or treated, if necessary, to meet groundwater objectives

after a post-remediation risk assessment is conducted. A groundwater-monitoring program would be maintained. If groundwater objectives are found to be unachievable following soils/waste removal, then the CHP Parcel would be deed restricted to prevent incompatible development and activities.

Alternative 5 would remove approximately 710,000 BCY of material from the Site, inject approximately 305,000 BCY of waste into the subsurface fractured oil reservoir, which would be completed approximately 55 months (4.5 years) from commencement. A total of approximately 521,000 cubic yards of suitable soils would need to be imported to backfill the excavation and leave appropriately graded slopes. The construction or capital cost would be approximately $251.5 million, and the O&M costs, if O&M is needed for long-term groundwater monitoring, would likely be $10.4 million over 30 years. This would bring the total present worth cost of Alternative 5 to approximately $262 million.

Alternative 6: Source Removal with Off-Site Disposal - Alternative 6 would remove and transport all on-site waste materials off-site for disposal. Alternative 6 would remove approximately 1,010,000 BCY of material from the Site and would be complete approximately 41 months from commencement. A total of approximately 521,000 cubic yards of suitable soils would need to be imported to backfill the excavation and leave appropriately graded slopes. The capital cost would be approximately $292 million, and the O&M costs, if O&M is needed for long-term groundwater monitoring, would likely be $10.4 million over 30 years. This would bring the total present worth cost of Alternative 6 to approximately $302 million.

To enable comparisons, the significant elements of the alternatives are summarized in **Table 2-1**, *Components of RFS Remedial Alternatives*. Also, **Table 2-2**, *Metrics of RFS Remedial Alternatives*, summarizes the present worth capital and O&M costs, volumes of waste to be removed, volume of import soils, estimated number of truck trips needed, and estimated duration of the construction for each alternative.

Long-Term Groundwater Monitoring and Contingency Mitigation. All remedial alternatives would contain a groundwater-monitoring program. This long-term monitoring program would be similar to the Interim Groundwater Monitoring Program now in place, or, in the cases of Alternatives 1 and 2, potentially the same, with groundwater sampling and analyses performed at a regular interval from wells generally near the Site perimeter. Because the status of certain monitoring wells would change during remedial construction, existing wells to be used, new wells to be installed, and other specifics for the long-term program would be identified during the development of an O&M Plan for the Site. The proposed groundwater contingency program that outlines the means to verify future impacts to off-site groundwater, if any, and subsequent steps to remedy the impacts is described under the "Description of the Project" section below (Section 6.0).

Evaluation Criteria

The NCP mandates a detailed evaluation of remedial alternatives retained after the screening analysis. This involved assessing each of the remedial alternatives against nine NCP criteria and comparing the relative performance of the remedial alternatives against those criteria. The nine NCP evaluation criteria are listed below. An alternative must meet NCP Criteria 1 and 2, the "threshold criteria" to be recommended. NCP Criteria 3 through 7, the "balancing criteria" are evaluated to determine the best overall solution. After public comment, DTSC may alter its preference on the basis of the "modifying criteria," Criteria 8 and 9.

1. ***Overall protection of human health and the environment***: Whether an alternative provides adequate protection and eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.

Table 2-1

Components of RFS Remedial Alternatives

Metrics of Remedy Alternatives	Alt 1 No Action	Alt 2 Limited Waste Removal	Alt 3 Protective Cap	Alt 4 Partial Source Removal with Protective Cap [a]	Alt 5 Source Removal (with Off-site Disposal and SIT)	Alt 6 Source Removal (with Off-site Disposal)
Deed Restriction(s)		●	●	●	○	○
Remove Waste from City Parcel			●	●	●	●
Remove Pit F Area Wastes		●	●	●	●	●
Remove Lagoon 4 and 5 Wastes (Partial or Complete)			○	○	●	●
Remove Pits A-E, G and H			○	○	●	●
Remove All Waste					●	●
Cap			●	●		
Long-Term Groundwater Monitoring	●	●	●	●	○	○

● = *component*
○ = *potential component, pending on design and field or post-remedy conditions*

Source: Project Navigator, Ltd, Remedial Action Plan, 2013

Table 2-2

Metrics of RFS Remedial Alternatives

Metrics of Remedy Alternatives	Alt 1 No Action	Alt 2 Limited Waste Removal	Alt 3 Protective Cap	Alt 4 Partial Source Removal with Protective Cap	Alt 5 Source Removal (with Off-site Disposal and SIT)	Alt 6 Source Removal (with Off-site Disposal)
Remedy Construction Costs ($MM)	$0	$6.9	$36.9	$36.6	$252	$292
Operational and Maintenance ($MM)	$13.8	$19.3	$22.0	$22.0	$10.4	$10.4
Total Present Worth Cost ($MM)	$13.8	$26.2	$58.8	$58.6	$262	$303
Volume of Waste Removed from Site (1,000 cy)[a,b]	0	2.25	32.3	32.3	710	1,014
Volume of Import Soils (1,000 cy)	0	9.6	205.8	205.8	521	521
Estimated # of One Way Truck Trips –Waste	0	290	4,830	4,830	90,400	129,340
Estimated # of One Way Truck Trips –Import	0	1,160	24,700	24,700	62,500	62,500
Estimated Duration of Remedy Construction (months)	0	5	11	11	55	41

[a] *For Alt. 3 and 4 - Includes the maximum volume of waste that would be disposed off-site. The minimum volume would be 2,250 cy.*
[b] *For Alt. 5 - Includes only solid material disposed off-site - not waste injected via slurry injection well(s).*

Source: Project Navigator, Ltd, Remedial Action Plan, 2013

2. ***Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)***: Whether the alternative meets state and federal environmental laws, regulations, and other requirements that pertain to the Site and, if not, whether a waiver is justified.
3. ***Long-term effectiveness and permanence***: The ability of an alternative to maintain protection of human health and the environment over time, and the reliability of such protection.
4. ***Reduction of toxicity mobility and volume through treatment***: An alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the volume of contaminated materials remaining.
5. ***Short-term effectiveness***: How fast the alternative reaches the clean-up goal and the risks the alternative poses to workers, residents, and the environment during construction or implementation of the alternative.
6. ***Implementability***: The technical and administrative feasibility of implementing the alternative, such as relative availability of goods and services. Also, whether the technology has been used successfully on other similar sites.
7. ***Cost***: Estimated capital and operations, maintenance, and monitoring (O&M) costs, as well as present worth costs.
8. ***State acceptance***: Whether DTSC agrees with the analyses and recommendations of the RI/FS and the RAP.
9. ***Community acceptance***: Evaluated after public comment period on the RAP.

Alternatives Analysis and Recommended Alternative

The purpose of the evaluation of relative performance of the alternatives is to select a preferred remedial alternative that would be most suitable for the Site, based on the NCP criteria. In the comparative analysis/evaluation, the remedial alternatives are weighed against each of the nine NCP criteria, and comparisons between alternatives are made to assist in screening out inferior alternatives and selecting a preferred alternative. The preferred alternative becomes the alternative that meets the threshold criteria (criteria 1 and 2 below, numbered for convenience in discussion) and best achieves a balance between the balancing criteria (criteria 3 through 7). The modifying criteria (number 8 and 9) are used to guide DTSC's approval of Site remediation activities. A summary of the evaluation follows.

1. ***Overall protection of human health and the environment***: The capping and source removal alternatives (3 through 6) meet this criterion by minimizing or eliminating risks from direct contact with waste and impacted soils and by removing contaminant pathways to groundwater either through removal or isolation of waste from precipitation. Alternatives 1 and 2 fail this criterion because they do not provide adequate elimination of direct contact with the bulk of the waste and because percolation to groundwater is neither minimized nor prevented.
2. ***Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)***: Alternatives 3 through 6 would meet this criterion. Alternatives 1 and 2 fail the chemical ARAR criterion because they do not provide protection of air and groundwater as mandated by regulation. Because Alternatives 1 and 2 fail to meet either threshold criteria, they are screened out and not addressed further in the criteria analysis.
3. ***Long-term effectiveness and permanence***: Of the remaining Alternatives, Alternatives 5 and 6 provide a high degree of confidence regarding long-term effectiveness and permanence because

all waste materials are removed from the Site or deep well injected. The capping Alternatives 3 and 4, through the use of an engineered and maintained cap, provide a lower, but significant, degree of long-term effectiveness and permanence, and represent a moderate level of confidence that the criterion would be achieved. The cap would isolate waste and thereby protect against human exposure, percolating storm water and lateral migration. The cap would be maintained and regularly inspected to ensure effectiveness, and all elements of the selected alternative would be formally reviewed every five years by DTSC to ensure protection of human health and the environment. To protect the integrity and effectiveness of the cap, a restrictive covenant would be recorded by the property owner for the Site.

4. ***Reduction of toxicity mobility and volume through Treatment***: None of the alternatives treat significant quantities of waste to alter the waste's inherent toxicity, migration, or volume. However, the cap Alternative 3 and 4 isolate the waste and thereby prevent migration of contaminants from the waste (i.e., mobility reduction). Alternatives 3 and 4 also result in a reduction of on-site volume, through removal and off-site disposal and/or treatment at a disposal facility. Alternatives 5 and 6 provide the highest degree of volume reduction through removal and off-site disposal and/or treatment.

5. ***Short-term effectiveness***: Alternatives 5 and 6 present the greatest short-term negative impacts in that all waste is excavated and removed, resulting in significant dust, noise, odors, and truck traffic, and more so than would result under Alternatives 3 or 4, which require the excavation and removal of smaller volumes of waste. While chemical air emissions from on-site waste have been effectively controlled through vapor suppressants, experience has shown that odors would likely be associated with excavation of the waste. Also, the importing of fill soils for the cap construction of Alternatives 3 or 4, although significant in volume and with commensurate trucking, dust, and noise, is significantly less than the import needed for the Site-wide backfill of Alternatives 5 and 6 (i.e., short-term negative impacts are much more severe for Alternatives 5 and 6).

   The duration of the clean-up operations for each alternative is listed in Table 2-2. The cap options (Alternatives 3 and 4) would take far less time to complete than would the removal alternatives (Alternatives 5 and 6). Alternative 5 would take the longest (approximately 4.5 years) due to the slow rate of deep well injection.

6. ***Implementability***: Alternative 5 is deemed to be the least implementable due to the permitting process for SIT, a technology relatively new to California that would necessitate the drilling of a new deep injection well. Alternative 6 would also present potential implementation issues in that the total removal of waste could strain transportation and landfill capacities because of the limited number of appropriate waste haulers available in California and due to the large volume of waste that would need to be disposed at appropriate landfills with limited capacities.

   Alternatives 3 and 4 use proven capping technologies and could be readily implemented, although Alternative 3 would be more difficult to implement than Alternative 4 due to potential difficulties associated with the sheet pile wall needed within Lagoons 4 and 5, the installation of which includes noise from driving the sheet piles and the possibility of breaching the native soils' natural containment of Site contaminants.

7. ***Cost***: Present worth costs, updated in 2013, are listed for each alternative in Table 2-2. Alternatives 3 and 4 are less costly than Alternatives 5 and 6, largely due to the cost of waste transportation and off-site disposal associated with Alternatives 5 and 6.

8. ***State or Regulatory acceptance***: The SIT component of Alternative 5 is expected to be unacceptable to regulatory bodies due to the need to drill a new deep well and use reservoir fracturing technology to inject the slurried waste. Regulatory acceptance for the other alternatives would be determined through the commenting and approval process.

9. ***Community acceptance***: The community has not yet been given the opportunity to formally respond to the alternatives. The community would be able to respond on the proposed RAP during the public comment period and at another public meeting specifically called for that purpose.

RFS-Recommended Alternative

Alternative 4, *Partial Source Removal with Protective Cap*, was the recommended remedial alternative of the RFS, and the modified Alternative 4 was confirmed by DTSC in 2013 as the preferred remedial alternative in the Draft RAP. The rationale for selecting Alternative 4 is as follows:

Between the complete removal alternatives (Alternatives 5 and 6), Alternative 6 is preferable due to the difficulty of implementing SIT in Alternative 5 the sole distinguishing element, aside from the greater waste removal to off-site facilities under Alternative 6. Because Alternative 6 is preferable between Alternatives 5 and 6, Alternative 5 is not considered further.

The primary advantage of Alternative 4 over the other cap alternative, Alternative 3, is the greater feasibility of constructing the buttress in Lagoons 4 and 5, using cement mixed with the lagoon materials called for in Alternative 4, to hold the material that would remain in place in Lagoons 4 and 5, over the installation of sheet piling called for in Alternative 3. Because sheet piling in Lagoons 4 and 5 versus mixing material in Lagoons 4 and 5 with cement is the only significant difference between Alternatives 3 and 4, and Alternative 4 is preferable between them, Alternative 3 is not considered further.

The benefits of Alternative 4 over Alternative 6 is that Alternative 4 would provide the fastest and most cost-effective means to protect human health and the environment, but with less impact to the environment, surrounding communities, and on-site workers during implementation than would result under Alternative 6. The primary benefit of Alternative 6 over Alternative 4 is that Alternative 6 would provide more long-term effectiveness and permanence through off-site disposal of all waste.

The disadvantage of Alternative 6 when compared to Alternative 4 is that any increase of long-term permanence and protection of human health and the environment would be achieved at a cost of significantly greater potential impacts to the community during implementation of the remedy. These impacts include potential emissions, odors, truck traffic, and noise, all of which would persist significantly longer under Alternative 6 than under Alternative 4. Alternative 6 would also present significantly greater economic cost than any other alternative. Nonetheless, the impacts of Alternative 6 are evaluated against the Project in Section 5.0, *Alternatives*, of this EIR. For purposes of this EIR analysis, Alternative 6 in the RAP is presented as "Alternative 3" in Section 5.0.

The benefits of Alternative 4 over Alternative 6 are:

- Fewer negative impacts would result from implementation as compared to Alternative 6 (i.e., significantly less potential odors, emissions, dust, truck traffic, noise);
- Implementation of Alternative 4 would be completed much faster than Alternative 6 (approximately 2.5 years shorter time to implement Alternative 4 than Alternative 6);
- For hauling waste to off-site facilities, Alternative 4 would require approximately 124,500 fewer one-way truck trips than Alternative 6;
- For hauling import soils, Alternative 4 would require approximately 37,800 fewer import one-way truck trips than Alternative 6; and
- Alternative 4 would be completed at a lower relative cost than Alternative 6 (implementation of Alternative 6 would cost approximately five times that of Alternative 4).
- Alternative 4 would provide the greatest balance between short-term and long-term effectiveness.

Based on the above, Alternative 4 was selected as the preferred alternative and is proposed by DTSC as the Project in this EIR under CEQA.

Please refer to the RFS for a more detailed evaluation of the process conducted under DTSC's direction and oversight, and for additional details on each of the pre-modified alternatives. The RFS is available for review on DTSC's EnviroStor website at www.EnviroStor.ca.gov and at the Ascon Landfill website at: http://www.ascon-hb.com, located under the 'Site Documents' tab. Please refer to the RAP for a more detailed evaluation of the updated alternatives.

5. PROJECT OBJECTIVES

The following objectives have been established by DTSC for the Project. The objectives will aid decision makers in their review of the Project and environmental impacts, and alternatives.

1. To reduce the potential for long-term risks to life, property and the environment (inclusive of nearby residences, schools, parks, and businesses) from contaminated materials and waste.
2. To reduce the potential for short-term risks (during implementation activities) to life, property and the environment (inclusive of nearby residences, schools, parks, businesses, and on-site workers) from contaminated materials and waste through proper handling, treatment and disposal.
3. To ensure that contaminated materials and waste are transported in a safe, efficient and coordinated manner to minimize risks to sensitive uses (such as nearby residences and schools).
4. To reduce the potential for on-site contaminated materials to impact groundwater or migrate off-site.
5. To remediate the Site to enhance public health, safety and welfare and ultimately allow potential new uses of the site that will not endanger human health and the environment.
6. To remediate the Site in a timely, expedient, and cost effective manner.

6. DESCRIPTION OF THE PROJECT

Overview and Safety Measures

Implementation of the RAP would include the following primary components: removal of some of the most hazardous materials from the Site (i.e., styrene materials in Pit F); grading of the Site to reconsolidate waste materials such that the perimeter berms are removed from the City parcel and the Site topography gradually

slopes up from Hamilton Avenue and Magnolia Street to a "high point" in the southwestern corner of the Site (away from the nearby residences); and installation of a "protective cap" over the Site (except City Parcel, perimeter road and storm water detention basins) with self-sustaining vegetation (e.g., grass) on the surface. The completion schedule duration for the remedial action fieldwork (construction activities) is estimated to be approximately 11 months.

During the remediation activities, numerous safety measures would be implemented to verify that field activities are conducted in a manner protective of the health of on-site workers and the public. These safety measures would include, but are not limited to, the following.

Worker Protection. The Project would implement a site-specific Health and Safety Plan (HASP). The HASP would address health risks and hazards for each Project phase, and would include, but not be limited to, requirements to provide or ensure the following: employee training assignments to assure compliance with Title 8 of the California Code of Regulations; personal protective equipment; frequency and types of air monitoring; environmental sampling techniques and instrumentation to be used; Site safety and control measures; decontamination procedures; emergency procedures such as spills or fires; procedures for providing potable water and a sanitary facilities to Project personnel; and, procedures to verify that adequate illumination is provided. Implementation of the HASP would ensure that all Project personnel would be responsible for operating in accordance with the most current Occupational Safety and Health Administration (OSHA) regulations including 29 CFR 1910.120 (hazardous waste operations and emergency response), and 29 CFR 1926 (construction industry standards), as well as other applicable federal, state, and local laws and regulations.

Air Monitoring and Dust Control. The Project would implement a perimeter air monitoring plan (AMP), including time-averaged sampling for dust and volatile chemicals and real-time perimeter air monitoring for odors, dust, and volatile chemicals. During the remediation activities, water and/or Rusmar® foam, or similar suppressant, would be applied to the waste materials to suppress potential dust and emissions of potential chemicals of concern. The AMP would include action levels with corresponding actions if/when action levels are exceeded.

The Project would implement fugitive dust control measures consistent with SCAQMD rules and regulations. The dust control measures would consist of various elements including: proper maintenance and watering of internal haul roads; water spraying of soil excavated and placed for cover or soil reconsolidation; applying water on intermediate soil cover areas; and seeding/planting native vegetation on the completed protective cap. In addition, traffic speeds of no more than 10 miles per hour (mph) would be maintained for on-site haul trucks, and no more than 15 mph for non-haul truck vehicles on all on-site, unpaved road surfaces. Further, to minimize fugitive dust from haul loads, water and/or Rusmar® foam, or similar suppressant, would be applied to these loads.

During excavation of Pit F, a temporary structure (e.g., Sprung) would be installed to capture potential fugitive dust and volatile emissions resulting from soil handling. Materials excavated from Pit F would be placed in sealed bins that would be loaded onto trucks for transport off-site, resulting in lower fugitive emissions. Additional details regarding this temporary structure and sealed bins are discussed below.

Groundwater Monitoring. The Project would continue to monitor groundwater levels and quality within the numerous monitoring wells located near the Site perimeter[15] to confirm that groundwater contamination does not extend horizontally beyond the Site boundaries.

Traffic Control. During major construction operations, trucks entering and exiting the Site would be required to follow a City-approved traffic plan that establishes the trucking route, days and hours of truck operation, the maximum number of trucks per day, and various requirements to provide traffic, pedestrian and bicycle safety. Traffic lane closures that would be necessary during stages of the project would be performed in accordance with a City-approved traffic control plan. Near the Site, construction flagmen would be positioned at both the ingress and egress points of the Site to provide additional safety during turning movements into and out of the Site.

Haul Trucks. Prior to leaving the Site, each truck would be inspected and decontaminated as necessary to remove loose debris in tire wells and on the truck exterior. Hazardous waste haul truck operators (drivers) are required to have the proper registration to haul hazardous waste.[16] Trucks transporting hazardous waste are required to maintain a hazardous waste manifest that describes the content of the materials in the event of a spill. These manifests would be supplied by the waste receiver facility and prepared by the contractor or trucking company and the Ascon Landfill Site RP representative(s) prior to export off-site. The contracted trucking company would be a certified hazardous waste transportation contractor, if the material is profiled as hazardous.

Noise Control. Site activities would be conducted in compliance with Cal-OSHA regulations and the City of Huntington Beach Noise Ordinance. Workers would be provided with hearing protection (e.g., ear plugs or muffs) to reduce exposure from continued on-site noise levels. Noise-intensive activities, such as concrete crushing, would occur a suitable distance from the nearest residences if noise levels would be above the City's limit, unless other forms of noise attenuation, such as acoustical curtains, are used to reduce noise levels to below the City's Noise Ordinance limit.

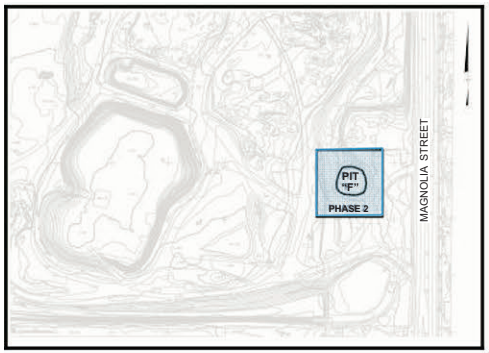
Community Relations. Community relations outreach would be conducted by the RPs and DTSC to inform residents in adjacent neighborhoods of current and upcoming remediation activities and the overall Project process. A telephone number would be established to allow community members to ask questions regarding the remediation activities on the Site. DTSC would also provide updates on the DTSC Envirostor website to provide information to the community during Project implementation.

Project Phasing

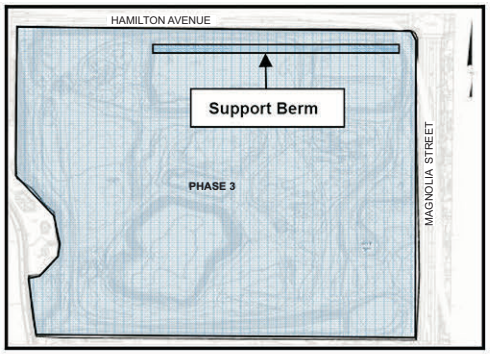
The volume of waste materials to be excavated from the Site is estimated to be no more than 32,250 BCY for planning purposes, most of which would be hauled in end-dump trucks to an off-site disposal site permitted to accept the waste material. The Project is planned to be implemented in approximately 10 phases, as described below. Some phases would overlap, as noted below, and thus would not be conducted in a linear sequence. **Figure 2-6**, *Project Phasing*, provides an illustration of the work areas during each phase of the Project, as well as the anticipated

[15] *Many or all of the existing groundwater monitoring wells located on-site would be properly destroyed (abandoned) during remedy implementation, and therefore, new wells would be installed as part of the groundwater monitoring program to be followed after the remedy is completed.*

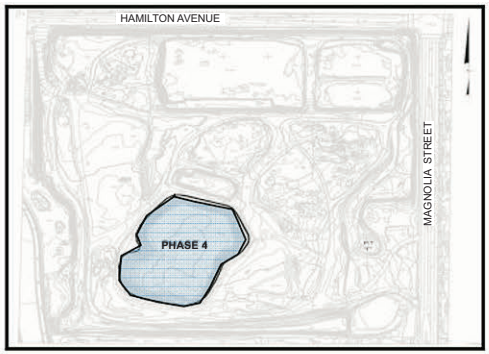
[16] *http://www.dtsc.ca.gov/HazardousWaste/Transporters/upload/Hazardous-Waste-Transporter-Requirements.pdf*



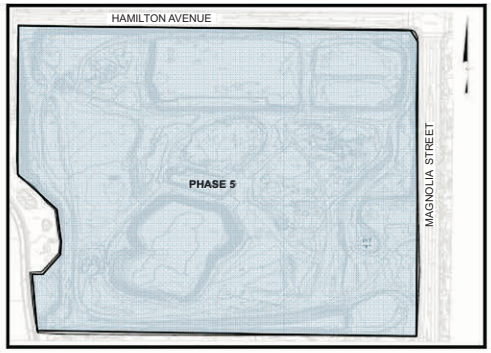
PHASE 2 - PIT F



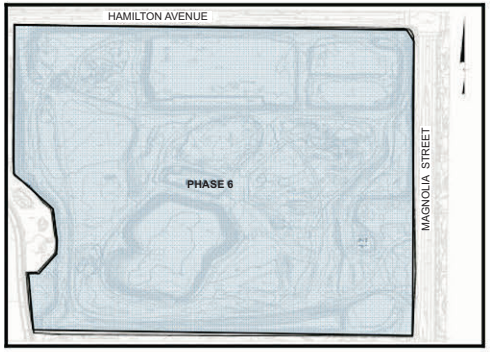
PHASE 3 - CUT/FILL TO TOP OF WASTE



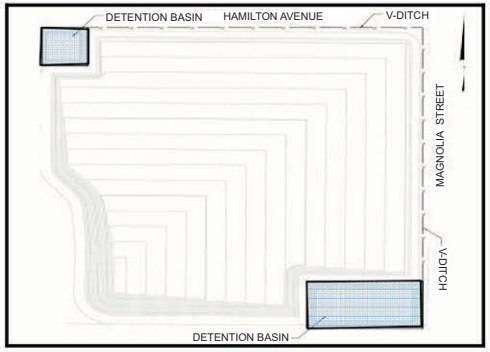
PHASE 4 - TREATMENT CELL



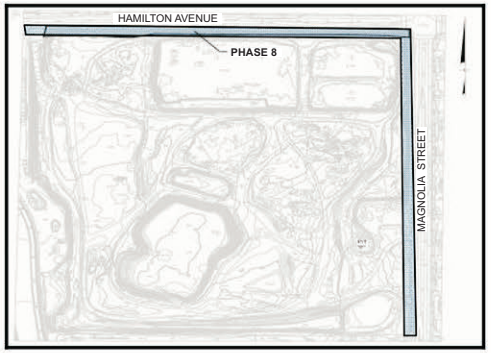
PHASE 5 - CONCRETE DEBRIS; CONSOLIDATE, REDUCE, AND PLACE AS SELECT DEEP FILL



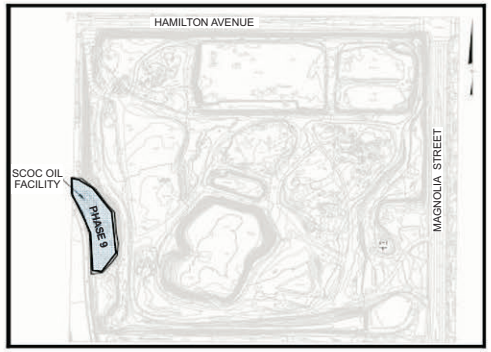
PHASE 6 - FILL TO FINAL GRADE



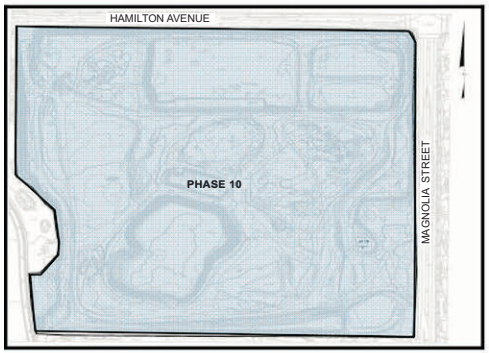
PHASE 7 - SURFACE WATER CONTROLS



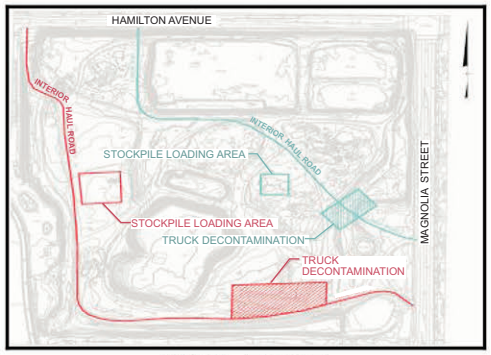
PHASE 8 - CITY PARCEL



PHASE 9 - SOUTH COAST OIL CORPORATION



PHASE 10 – SITE RESTORATION



HAUL ROAD STAGING AREAS

PCR

N

Project Phasing

RAP EIR - Ascon Landfill Site

Source: Geosyntec Consultants, 2012.

FIGURE

2-6

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interior haul road locations. **Table 2-3**, *Activity by Phase*, indicates the activities that would occur in each phase. Also, **Table 2-4**, *Earthwork Quantities*, indicates the amount of daily earthwork, average and maximum truck trips per day, and durations of each task.

Phase 1 - Mobilization

Phase 1 would begin with general mobilization, which includes establishing a staging area with office trailer(s), installing utilities, bringing in earthwork and supporting equipment (e.g., water tower, foam units), bringing in and setting up perimeter air monitoring equipment, and installing storm water best management practice (BMP) features for construction, etc. Phase 1 would also consist of clearing activities, which includes removal of interior fencing and existing tall vegetation and establishing haul roads and work platforms. Haul roads within the Site would be established and maintained throughout the Project. The removal of tall vegetation could occur in advance of other mobilization activities, depending on the time of year of removal.

Phase 2 – Pit F

Upon completion of mobilization activities in Phase 1, Pit F materials would be excavated for transport and off-site disposal (Phase 2) at a facility permitted to accept the waste material. The area surrounding Pit F would be temporarily graded to a working elevation. A temporary structure (e.g., Sprung) is planned to be constructed over Pit F. The structure would be operated as a negative-pressure air enclosure whose effluent would be treated using granular activated carbon (GAC) to capture emissions from the excavated waste prior to discharge to the atmosphere. Construction equipment operating within this enclosed structure would require exhaust emissions to be directly discharged to the outside using flexible piping (also known as a "snorkel") attached to the equipment exhaust. This is primarily to ensure worker safety through the reduction of buildup and exposure to toxic air contaminants (TACs) such as Diesel Particulate Matter (DPM). The excavation of Pit F, consisting of approximately 2,250 BCY, would be performed under the enclosure by slot cutting, utilizing slurry trench technology. The trenches from which the Pit F materials would be excavated would be filled with a slurry to minimize potential emissions from the Pit F waste and inflow of groundwater. The Pit F materials would be excavated through the slurry. The excavated slots would then be backfilled with a mix of sand, water, and additives such as Portland cement (i.e., "flowable fill"). Upon completion of the excavation, the non-hazardous slurry would either be absorbed into adjacent soils or be disposed of with the excavated materials. The Pit F materials are planned to be loaded into sealed roll-off bins, or similar, and staged on-site. The staged bins would be transported to the disposal facility utilizing bin trucks and/or rail transportation. Excavation, loading of bins, and backfilling would be performed under the negative-pressure structure. Although the excavation volume is anticipated to be approximately 2,250 BCY, the volume of Pit F removal could be up to approximately 4,500 BCY. Upon completion of Pit F work, the Pit F area would consist of cured flowable fill from working grade to the depth needed to remove the pit materials (up to approximately 30 feet below working grade [i.e., structure floor at approximately 13 feet MSL]).

A new haul road is anticipated to be built on-site that would enter the Site near the northwest corner of Lagoon 4 from Hamilton Avenue. This haul road would allow trucks to travel shorter distances during certain phases, reducing the amount of fugitive dust and exhaust emissions. The haul road would travel south along the western boundary of Lagoon 4, then head east along the southern boundary of Lagoon 4, north of Lagoon 3. The haul road would then travel south to the Pit F area and exit on Magnolia Street. Depending on the timing of the new road, a new curb cut may be necessary in order for trucks to come on-site from Hamilton Avenue onto this haul road.

Table 2-3

Activity by Phase

Activity	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8	Phase 9	Phase 10
Install and uninstall temporary facilities including utilities.	●			●				●		●
Mobilize and demobilize equipment	●	●	●				●	●		●
Clear and grub; no potential for contact with VOC impacted material	●	●	●		●			●	●	
Excavate Pit F Waste and place in bins		●								
Install/backfill with flowable fill		●	●							
Transport and dispose of Pit F waste in bins		●								
Excavate, grade, backfill, handle, haul, stockpile, windrow potentially VOC-impacted material including monitoring excavation and SCAQMD Rule 1166 compliance		●	●	●	●			●	●	
Apply foam or other suppressants		●	●	●	●			●	●	
Dust control measures	●	●	●	●	●	●	●	●	●	●
Excavate, grade, backfill, handle, haul clean import soil						●	●			●
Import fill using bottom dump trucks						●			●	
Install/maintain SWPPP features	●	●	●	●	●	●	●	●	●	●

Source: Geosyntec Consultants, 2013

Table 2-4

Earthwork Quantities

Depth (ft bgs)	Duration of Task	Average Daily Qty Excavated	Max Qty Excavated During One Day	Avg Number of Truck Trips During One Day	Max Number of Truck Trips During One Day
Phase 2 Pit F, Task 1; Clear and grub, prepare haul roads, lay-down areas and initial grade					
N/A	30 days	N/A	N/A	(2) 10CY On-road dump trucks	(5) 10CY On-road dump trucks
Phase 2 Pit F, Task 2, Traffic Control and Temporary Fencing					
N/A	5 days	N/A	N/A	N/A	N/A
Phase 2 Pit F, Task 3; Assemble Sprung Structure					
N/A	15 days	N/A	N/A	N/A	N/A
Phase 2 Pit F, Task 4; Slurry Trench Excavation (waste in bins)					
0 to 27.5	8 days	300 CY	400CY	N/A	N/A
Phase 2 Pit F, Task 5; Transport and Dispose of Impacted Material					
N/A	16 days	N/A	N/A	13	15
Phase 3 North Slope, Task 1; Install slurry wall					
12	21 days	208 CY	225 CY	21 Concrete Trucks	25 Concrete Trucks
Phase 3, Task 2; Cut/fill to top of waste					
0 to 16.5	116 days	2,300 CY	2,500 CY	N/A	N/A
Phase 3, Task 3; Place waste in treatment cell, stockpile .or compact					
N/A	110 days	N/A	N/A	N/A	N/A
Phase 3, Task 4; Excavate, stockpile, and export up to 30,000 BCY					
N/A	13 days	2,300 CY	2,500 CY	90 End dumps	100 End dumps
Phase 4, Task 1; Treat VOC-impacted material					
N/A	136 days	N/A	N/A	N/A	N/A
Phase 5, Concrete debris; Consolidate, reduce and place as select deep fill					
N/A	60 days	N/A	N/A	N/A	N/A
Phase 6, Fill to Final Grade (import)					
N/A	102 days	N/A	N/A	115 bottom dumps	200 bottom dump
Phase 7, Surface Water Controls, Task 1; Install detention basins					
N/A	22 days	N/A	N/A	N/A	N/A
Phase 7, Surface Water Controls, Task 1; Install v-ditches					
N/A	20 days	N/A	N/A	N/A	N/A
Phase 8, City Property, Task 1; Cut and backfill					
6	6 days	2,300 CY	2,300 CY	N/A	N/A
Phase 8, Task 2, Utility poles					
8	4 days	2 CY	2 CY	N/A	N/A
Phase 9, South Coast Oil Corporation, Task 1; Cut					
7.5	6 days	2,000 CY	2,200 CY	N/A	N/A
Phase 9, Task 2; Backfill to top of final grade					
N/A	8 days	N/A	N/A	70 end dumps	80 end dumps
Phase 10, Site Restoration					
N/A	N/A	N/A	N/A	N/A	N/A

Source: Geosyntec Consultants, 2013

Phase 3 – Cut and Fill Activities

Upon completion of Phase 2, Phase 3 of the Project would consist of grading, reconsolidation, and compaction of existing site materials. After clearing and grubbing, materials would be excavated and moved to designated fill areas on the Site and then compacted. Prior to commencement of grading in the northern and northeastern portions of the Site, adjacent to Hamilton Avenue and the northern Site area along Magnolia Street, the contents of Lagoons 4 and 5 that are remaining in place would be retained with a new berm constructed south and west of and parallel to the existing berms, inside the lagoons. This berm would be constructed by mixing the lagoon material with a binding material (e.g., cement, fly ash, lime kiln material, etc.) in the desired location of the new berm, which would be left in place under the cap as part of the preferred alternative. After construction of the berm, Phase 3 would continue with the excavation and relocation of Lagoon 4 and 5 materials located to the north and east of the newly constructed berm to appropriate fill areas, on-site.

Excavation would be most extensive for those portions of the Site designated as the stormwater detention basins, future perimeter road (an approximately 15 to 25-foot wide margin inside the CHP property line) and the City parcel (an approximately 30-foot wide margin along the northern edge of the Site along Hamilton Avenue and an approximately 20-foot wide margin along the eastern edge of the Site along Magnolia Street). Details regarding the perimeter access road and the City parcel are described under Phase 8 below. Preliminary excavation would be performed for the stormwater detention basin during this phase. Final surface water controls including the detention basin, ditches and drains would be installed once final grade (Phase 5) has been achieved.

If at any time during the excavation and reconsolidation VOC-contaminated materials[17] are encountered, they would be placed in an emissions treatment/control cell ("emissions control cell") approved by the South Coast Air Quality Management District (SCAQMD) in accordance with SCAQMD Rule 1166. All material excavated during Phase 3, as well as any material excavated during any other future project implementation Phase, would be monitored for VOCs and handled per the Site's SCAQMD Rule 1150/1166 permit. Material designated as VOC-contaminated per SCAQMD Rule 1166 would be treated and retained on-site in the emissions control cell, which cell will likely be located in the former Lagoons 1 and 2 area per the SCAQMD Permit-to-Construct/Permit-to-Operate (PTC/PTO) for this system, or removed and disposed at an off-site disposal facility permitted to accept this material. Additional details are presented under Phase 4 below.

The Site would be graded, including excavation where necessary, and backfilled to the top of subgrade, the final elevation of the waste prior to capping. Some excavated and graded materials (non-VOC contaminated materials) may be stockpiled on-site and would be used as fill as necessary to achieve subgrade. Other materials could be stockpiled for removal/disposal as part of the potential 32,250 BCY removal.

With regard to the other pit wastes (Pits A - E, G, and H), the remediation plan would remove these wastes and contaminated materials to the approximate adjacent street elevation (exact elevation to be determined

[17] *VOC-contaminated material is defined by SCAQMD as excavated soil that measures greater than 50 parts per million (ppm) total volatile organic compounds (VOCs) as measured with an organic vapor analyzer (OVA) (e.g., PID), within three inches of the excavated material within three minutes of excavation.*

during remedial design).[18] These materials would be excavated and placed under the cap or disposed of off-site as part of the potential 32,250 BCY removal.

Groundwater, which may be exposed in the bottom of excavations, may be reused on-site or pumped into a water treatment system, if necessary, and discharged or disposed. Surface water would be managed appropriately under the General Construction National Pollution Discharge Elimination System (NPDES) permit from the State Water Resources Control Board (SWRCB) and the Site's Construction Storm Water Pollution Prevention Plan (SWPPP), and by one or more of the following three methods: (a) discharge to the City of Huntington Beach storm drain system after appropriate treatment using existing Best Management Practices (BMPs); (b) use as construction water; or (c) use as dust control water.

While not part of the Project, there would be an investigation of the locations of former groundwater monitoring wells AW-6 and AW-7, thought to be located under Hamilton Avenue based on anomalies found during a magnetic survey. If and when found, AW-6, and AW-7 wells would be properly abandoned/destroyed.

Phase 4 – Treatment Cell

During Phases 3, 5, and 6, treatment of any VOC-contaminated materials would be performed by placement of the material in windrows in the emissions control cell and covering with vapor collection piping and plastic sheeting, per the SCAQMD PTC/PTO. Emissions collected from these materials would be transported through the piping using a blower and treated with granular activated carbon prior to discharge to the atmosphere.

Phase 5 – Concrete Debris

Concurrent with the cut and fill of existing material to achieve subgrade (Phase 3); some existing concrete debris and rubble would be consolidated and placed on-site as select deep fill (i.e., the debris would be placed in locations and at depths so as to avoid detrimental impacts to the geotechnical stability of the cover system). As needed, some concrete debris may be broken and/or crushed with a breaker attachment on an excavator or a concrete crusher.

Phase 6 – Cap Construction

Phase 6 of the Project would consist of construction of the final cover system (or "cap"). Cap construction would occur as cut/fill activities are completed during Phase 3. Thus, there would be overlap between Phase 6 and Phases 3 and 5. As subgrade is achieved in portions of the cut and fill area, construction of the final cover system could be initiated. This would include the installation of the gas collection layer and associated conveyance features (e.g., piping, strip composite, etc.), as well as the import, placement, and compaction of cover material. Bottom dump/belly dump trucks would be used up to 10 hours per workday to import approximately 240,000 BCY of cover materials over a period of 102 workdays, with a delivery rate of up 200 import trucks per workday. The cover materials would be graded to final grade. The cover system would not be constructed over the City parcel, the perimeter access road, or the SCOC area, although these areas

[18] *Note that the removal/excavation in at least portions of Pits A, H, C, D, and G is anticipated to be down to the bottom of the detention basins in these areas (exact elevation to be determined during remedial design).*

would receive import soils to fill any excavations, as needed to achieve final grade. The perimeter access road is planned to be constructed along the perimeter of the Site, outside of the toe of the cap and within the Ascon property line (on the CHP parcel).

The cap over the Site would likely be a continuously and gently sloped cap, where the southwestern portion of the cap would be at a higher elevation than the cap at its northern and eastern extents. This design has evolved since the proposal of a two-tiered cap as described in the 2007 RFS and 2007 Draft RAP for Alternative No. 4. The conceptual cap configuration is illustrated in **Figure 2-7**, *Conceptual Cap Configuration*. The capped areas may vary in elevation and size from those shown in Figure 2-7 and described herein depending on the final area and vertical extent of source removal along the east and north sides of the Site, all of which would be determined during the remedial design. The Project Description used in this EIR, which serves as the basis for analysis of potential impacts, represents the reasonably foreseeable details regarding implementation of the RAP at the time of the analyses. The constructed cap would be designed to meet applicable laws and regulations, and would include a drainage system to collect and remove percolated storm water and a gas collection and removal system.

The cover system is anticipated to include the following elements, or a combination thereof:

1. Main Cap - The upper deck of the cap would include a 3% gradient surrounded by side slopes along the Site perimeter with a 3H:1V (horizontal to vertical) gradient (side slopes are discussed below). The cap is anticipated to include, from top to bottom, a 2-foot vegetative cover soil layer, a geonet biotic layer to prevent wildlife intrusion (burrowing) at the mid depth of the vegetative cover soil layer, a geosynthetic drainage layer (may be nonwoven geotextile or geocomposite and strip composite, if necessary, as determined during final design), a geomembrane barrier layer (60 mil[19] thick [0.060 inches] linear low density polyethylene [LLDPE] geomembrane), a vapor collection system, and a 2-foot thick foundation layer comprised of in-place or reconsolidated waste materials and/or import fill. The geomembrane layer would minimize surface water infiltration into the underlying material. A gas collection and treatment system with granular activated carbon (GAC) would be installed to collect and treat gases before discharge to the atmosphere. The conceptual profile for the main cap ("top deck") is illustrated in **Figure 2-8**, *Conceptual Cap Profiles*. The profile shown in Figure 2-8 is a conceptual illustration and the remedial design would be subject to review and approval by DTSC.

2. Side Slopes - The cap's side slopes along the perimeter of the cap are expected to include from top to bottom, a 4-foot thick vegetative cover soil layer, a geonet biotic layer placed one foot below the surface, and a 2-foot thick foundation layer comprised of *in-situ* materials. The conceptual profile of the cap on the side slopes is illustrated in Figure 2-8. The profile shown in Figure 2-8 is a conceptual illustration and the remedial design would be subject to review and approval by DTSC.

3. To monitor the effectiveness of the cap to contain soil gas, a series of soil gas monitoring probes would be installed, with soil gas collection screens at a depth of approximately five feet below street level (i.e., above groundwater level). The number and spacing of soil gas monitoring probes will comply with the April 1, 2011, amendment of SCAQMD Rule 1150.1, except that the shallow groundwater table at Ascon precludes

[19] *mil = a thousandth of an inch*

LEGEND

- EXISTING MAJOR GROUND CONTOUR
- EXISTING MINOR GROUND CONTOUR
- 25 — PROPOSED MAJOR GROUND CONTOUR
- PROPOSED MINOR GROUND CONTOUR
- PROPERTY BOUNDARY
- CAP FOR TOP DECK AREA (FIGURE 2)
- CAP FOR SIDE SLOPES (FIGURE 2)
- STORM WATER DETENTION BASINS (NOTE 1)
- OIL LEASE PROPERTY (NOTE 2)
- PERIMETER ACCESS ROAD (NOTE 3)
- CITY OF HUNTINGTON BEACH (NOTE 3)
- APPROXIMATE GAS TREATMENT SYSTEM LOCATION

ELEVATION OF MAGNOLIA STREET = 6.5 TO 7.5 FT
ELEVATION OF HAMILTON AVENUE = 4.1 TO 6.5 FT
ELEVATION AT TOP OF EAST AND NORTH SIDE SLOPES = 13 FT
ELEVATION AT HIGH POINT NEAR SOUTHWEST CORNER = 44 FT
SETBACK OF TOE OF SIDE SLOPES FROM PROPERTY BOUNDARY:
NORTH AND EAST = 15 FT
SOUTH AND WEST = 25 FT

ALL ELEVATIONS ARE APPROXIMATE AND IN FEET ABOVE MEAN SEA LEVEL (NAVD88)

NOTES:

1. STORM WATER DETENTION BASINS EXCAVATED INTO NATIVE SOIL. WASTE MATERIAL EXCAVATED AND RECONSOLIDATED UNDER FINAL COVER.
2. OIL LEASE PROPERTY WASTE MATERIAL, RELATED TO ASCON OPERATIONS, IF PRESENT, EXCAVATED AND RECONSOLIDATED UNDER FINAL COVER OR DISPOSED OFF-SITE AT APPROVED DISPOSAL FACILITY (DEPENDING ON TIMING OF CLOSURE CONSTRUCTION AND LEASE STATUS).
3. PERIMETER ROAD AND CITY OF HUNTINGTON BEACH PARCEL WASTE MATERIAL EXCAVATED TO A MAXIMUM DEPTH OF 4 FEET BELOW GROUND SURFACE AND RECONSOLIDATED UNDER FINAL COVER.

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N

0 300 Feet

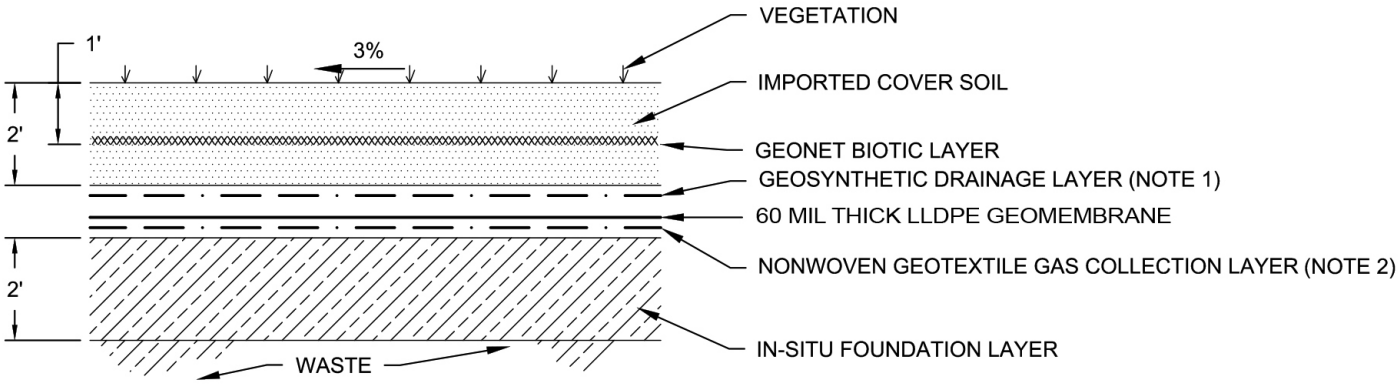
Conceptual Cap Configuration

RAP EIR - Ascon Landfill Site

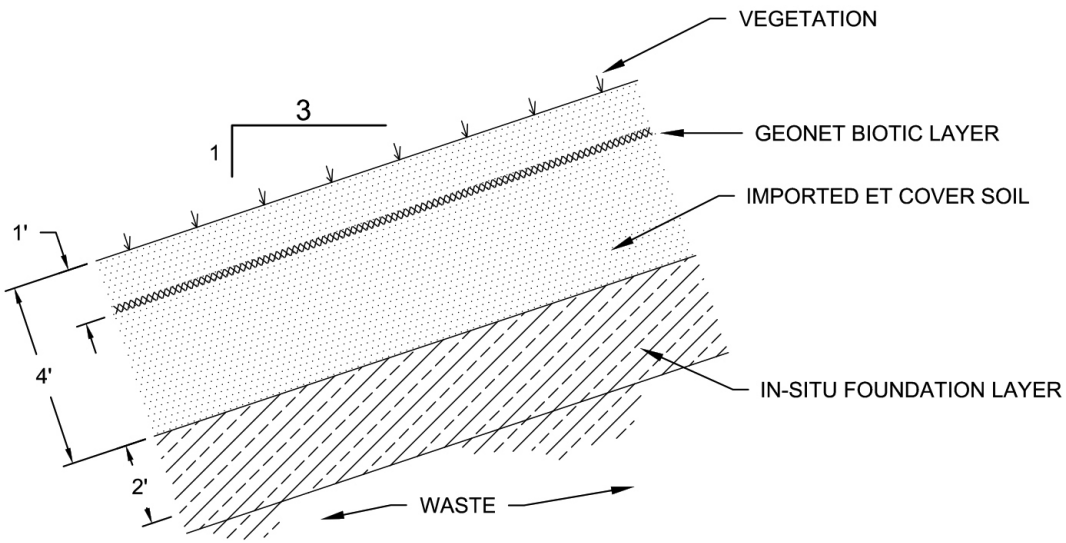
Source: Project Navigator, Ltd., 2013.

FIGURE

2-7



PROFILE OF PROPOSED CAP FOR TOP DECK
(GEOMEMBRANE)



PROFILE OF PROPOSED CAP ON SIDE SLOPES
(EVAPOTRANSPIRATIVE)

NOTES:

1. DRAINAGE LAYER MATERIAL MAY BE NONWOVEN GEOTEXTILE OR GEOCOMPOSITE, AS DETERMINED DURING FINAL DESIGN.
2. GAS COLLECTION LAYER TO BE UNDERLAIN BY GEOCOMPOSITE STRIP AND/OR PIPE NETWORK, TO COLLECT AND CONVEY GAS TO TREATMENT SYSTEM, AS DETERMINED DURING FINAL DESIGN.

The cap profiles shown in this figure are conceptual. The final cap profiles will be subject to review and approval by DTSC.

PCR

Conceptual Cap Profiles

RAP EIR - Ascon Landfill Site

Source: Project Navigator, 2013.

FIGURE

2-8

the installation of multiple-depth probes starting at 10 feet below ground surface, requirements otherwise specified by the rule. These monitoring wells would be monitored following cap construction to determine whether soil gases have migrated from under the cap.

The details of the soil gas monitoring system would be provided in a remedial design package to be prepared subsequent to DTSC approval of the Final RAP. The system components would be maintained according to a written O&M Plan. The O&M Plan for the proposed remedy would be developed after the remedial design plans are approved by DTSC.

Also, the specifics of the cap's vapor collection and treatment system would be determined in the design plans. Currently, for purposes of this EIR analysis, it is anticipated that the gas collection system would be located on the western portion of the Site along the perimeter access road. If necessary, the long-term parking area of the Site would be along the western Site perimeter near the gas collection system, remote from nearby single-family residential uses.

An active vapor treatment system would operate for an initial approximately two-week startup period, after which the need for continued operation would be determined in consultation with DTSC and based on criteria set forth in the O&M Plan. Prior to discontinuing or adjusting to intermittent operation of the active vapor treatment system, the RPs would consult with DTSC regarding the plan to modify or discontinue the operation of the system. The recovery system's passive operation would comply with the April 1, 2011, amendment of SCAQMD Rule 1150.1 requirements.

Phase 7 – Surface Water Controls

During implementation of the remediation activities, storm water falling on the Site would be managed through the Site's storm water system under the General Construction NPDES permit from the SWRCB and the Site's Construction SWPPP. This is anticipated to be similar to the existing storm water management practices.

After the remedy is complete, storm water would be managed per the General Industrial NPDES permit from the SWRCB and the Site's Industrial SWPPP as appropriate. It is anticipated that detention basins and storm water swales, or V-ditches, would be installed along the perimeter of the final cover. Diversion berms would be installed above the final cover as needed. It is anticipated that storm water would be discharged from the on-site detention basins to the City's storm drain system in a manner similar to existing practices. The detention basins are illustrated in Figure 2-7.

Phase 8 – City Parcel

During the latter part of Phase 3, the City parcel and on-site perimeter access road areas would be excavated as needed and backfilled with suitable import materials to top of final design grade. In the City parcel, all above street-level materials would be removed. The depth of excavation needed would be determined during excavation, based on the applicable remedial goals. Due to the future land uses of the perimeter road and City parcel, the RAP established RBCs for use as Soil Cleanup Levels (SCLs) for each of the Chemicals of Potential Concern (COPCs) assuming potential exposure for future construction and commercial workers (see Table 4-1 of the Draft RAP). Waste materials, if any, found below street-level within the City parcel with concentrations of COPCs that exceed the RBCs (or exceed background concentrations if background is higher

than the RBC) would be removed and replaced with clean fill. The excavated materials would be reconsolidated in a fill area to be capped on-site, treated on-site, or removed off-site, as appropriate. To assess if the RBCs and City of Huntington Beach Soil Cleanup Standards have been met in the area of the perimeter access road around the cap and in the City parcel during fieldwork, COPC concentrations in soils would be measured at the excavation bottoms during remedy implementation, provided the excavation did not proceed down to native soils. One confirmation sample would be collected for every 100 linear feet in the City parcel and the area of the perimeter access road around the cap from the bottom of the excavation, anticipated to be approximately two feet below existing ground surface for the City parcel and approximately four feet below existing ground surface in the perimeter access road. However, for planning purposes in this EIR, it assumed that excavation in the City parcel could occur to a maximum depth of six (6) feet deep (approximately to groundwater), although such an extensive excavation is not likely to be needed. The lateral excavation limits for the City parcel would be the fence line along Hamilton Avenue and Magnolia Street, and the CHP parcel property line for the perimeter access road area. Soil samples would be collected and analyzed for the COPCs shown on Table 4-1 of the Draft RAP. Analytical results would be compared to the RBCs (or to background concentrations for those higher than the RBC) for each COPC to determine if additional action is warranted.

The City parcel excavation would occur prior to completion of filling to final grade and cap construction (Phase 6).

Phase 9 – South Coast Oil Corporation (SCOC) Site

Prior to completion of Phase 6, any Ascon-related contaminated materials in the SCOC area may be excavated, as needed, and backfilled with suitable import materials. Any excavated waste material from the SCOC property would be placed and reconsolidated on-site under the Site's cap and/or transported and disposed off-site, pending the timing of the remediation of the SCOC area. Due to the active oil lease for the minerals beneath the SCOC property, the removal of contaminated materials from the SCOC area could be postponed or conducted by the mineral estate owners and/or mineral estate lessees at a later time. Nevertheless, for CEQA planning purposes, it is assumed that the excavation would be simultaneous with the remediation activities and the materials would be incorporated under the remedy cap as necessary and appropriate.

Phase 10 - Site Restoration

Phase 10 of the Project would consist of Site restoration activities including demobilizing Project equipment, final grading of the perimeter road, and establishing grasses and/or other vegetation on the cap. In addition, this phase would establish monitoring and maintenance requirements, including groundwater monitoring and soil gas monitoring and documentation in the O&M Plan.

Grasses and/or other shallow-rooted vegetation are planned to be grown on the completed cap to provide erosion control and improve aesthetics. The grasses would be self sustaining (i.e., no irrigation beyond initial growth cycle) and maintained according to the O&M Plan, likely including conducting weed abatement annually for fire prevention if growth is a potential fire hazard. No perimeter landscaping is proposed as part of the Project. The Groundwater Monitoring Contingency Program is discussed in detail within Section 4.7, *Hydrology and Water Quality*. Air Quality monitoring during the remediation activities is discussed in detail within Section 4.2, *Air Quality*, and Section 4.6, *Hazards and Hazardous Materials*, as appropriate.

Finally, this phase would establish and implement administrative controls/deed restrictions, as appropriate, to assure appropriate limitations on any future land use and activities.

Construction Schedule

The completion schedule duration for the proposed remedial action fieldwork is estimated to be approximately 11 months. The remediation time frame allows for some downtime due to rain or other delays. The remedial action fieldwork would begin after the final remedial design is completed and approved or a design/build approach is implemented, and after contracting and permitting are completed. The remedial design, contracting, and permitting are anticipated to be completed approximately one year after the EIR and RAP are approved at which time the remedial action fieldwork can begin. This schedule can be implemented only after the EIR is certified, and fieldwork can begin only after securing applicable approvals and permits from DTSC and other agencies. Based on this schedule, and with the necessary design and permitting activities, construction activities could potentially commence as early as 2015.

Construction Equipment and Truck Activities

Implementation of the Project would require the use of various pieces of heavy equipment throughout the construction activities. Heavy equipment that would be used during Project implementation would likely include, but is not limited to, tracked excavators, front-end loaders, bulldozers, water trucks, dump trucks, etc. Light duty vehicles such as pickup trucks and other support vehicles also would likely be used during the Project. The Project would use construction equipment compliant with EPA Tier 3 emissions standards if commercially available.

Project implementation would include use of five-axle semi-tractor trailer trucks and/or semi-tractor trailer end-dump trucks, and possibly tanker trucks, to haul waste materials from the Site to the appropriate off-site receiver facility. Trucks exporting soil would be model year 2007 or newer, if available, where engines would have lower pollutant emissions compared to older model year trucks. The daily maximum number of trucks visiting the Site for export and import of construction materials would likely vary by phase. The maximum number of daily import truck trips is expected to occur during Phase 6, and may include up to 200 maximum daily bottom or end dumps for import materials.

The Project activities are expected to occur on-site Monday through Saturday, from 7:00 a.m. to 6:00 p.m., with employee arrival, safety meetings, and work day preparations (e.g., equipment inspections) beginning as early as 6:00 a.m. As many as 37 employees and up to 10 visitors are expected to be routinely on-site. Haul trucks are proposed to access the Site no earlier than 6:00 a.m. and depart the Site no later than 6:00 p.m., Monday through Saturday. In any one hour, up to 25 haul trucks may enter the Site and up to 25 haul trucks may depart from the Site. Non material hauling trucks and other Project-related vehicles would also be allowed to access the Site between 6:00 a.m. and 6:00 p.m. Monday through Saturday. To ensure continuous pedestrian (including bicycle) and vehicular safety at the entrance and exit points of the Site, a flag person would be available during work hours to assist with truck ingress and egress, as needed.

The haul route to the Site would have haul trucks exit the I-405 Freeway at Beach Boulevard. Trucks would then travel south on Beach Boulevard to PCH, turn left on PCH to Newland Street, go north on Newland Street to Hamilton Avenue, and turn right on Hamilton Avenue to the current Site entrance. The current Project entrance for haul trucks is located on Hamilton Avenue west of Magnolia Street. Future entrance(s)

along Hamilton Avenue may be needed to accommodate cap construction activities. Trucks leaving the Site would exit the Site on Magnolia Street and travel south to PCH. The trucks would then travel northwest on PCH and north on Beach Boulevard to the freeway entrance for the I-405. The haul route(s) on municipal streets would be stipulated in a Construction Traffic Management/Haul Route Plan reviewed and approved by the City of Huntington Beach prior to Project implementation.

Prior to leaving the Site, each truck would be inspected and decontaminated as necessary to remove loose debris in tire wells and on the truck exterior. The contracted trucking company would be a certified hazardous waste transportation contractor, if the material is profiled as hazardous.

The receiver facility where material would be transported depends on the types of wastes to be removed from the Site. Proposed potential receiver destinations for contaminated materials include: Waste Management Kettleman Hills Facility (Kettleman City, California), McKittrick Facility (McKittrick, California), Clean Harbors' Buttonwillow Facility (Buttonwillow, California), US Ecology (Beatty, Nevada), Clean Harbors Environmental Services Aragonite and Grassy Mountain Facilities (Utah), ECDC (Utah), La Paz County Landfill (Arizona), Copper Mountain Landfill (Arizona), and South Yuma County Landfill (Arizona). The mode of transportation to these facilities could include truck haulers (e.g., end dumps, bin haulers with sealed roll-off bins for Pit F waste) and, potentially, train (likely only if taken out of state). If by train, roll-off bins may be transferred in Alhambra or along a rail spur in Huntington Beach. If dewatering is necessary, transportation may include vacuum trucks for liquids, when disposed off-site.

Proposed potential receiver locations for "green" waste and other non-impacted refuse include: Orange County's Frank R. Bowerman, Olinda Alpha, and Prima Deschecha landfills, Waste Management Azusa and El Sobrante landfills, Republic Sunshine Canyon landfill, and Los Angeles County Sanitation District Puente Hills landfill.

Long-Term Operations

This environmental analysis for the Project evaluates the implementation of the RAP, specifically, the proposed remediation activities described above needed to achieve the requirements of the Imminent and Substantial Endangerment Determination Consent Order issued by DTSC. The remediation activities would be concluded when the Site consists of a vegetated cap (e.g., grasses and/or other low vegetation) over the majority of the Site, surrounded by perimeter fencing, and the City parcel cleared and returned to existing street grade. Section 4.1, *Aesthetics*, includes visual simulations of the pre- and post-remediated Site. Essentially, if the remediation plan is implemented, the Site would represent a near-flat and vacant, vegetated capped site. Public access to the Site would be restricted following completion of the Project.

Subsequent development on the capped site following completion of the RAP is not contemplated as part of this Project. At this time, it is not possible to determine how long the capped Site would remain in its remediated state. Since the Project does not propose specific development on the Site after the remediation activities, any subsequent development proposals may be subject to a deed covenant. Such development would likely require DTSC approval and a subsequent entitlement process, including environmental review as appropriate pursuant to CEQA.

The following long-term activities are anticipated after the remediation activities are complete:

- Maintenance of a landfill gas collection and treatment system. Landfill gasses collected from under the cap would be routed to a GAC system before being emitted to the atmosphere to minimize the release of COPCs.
- Maintenance of a long-term groundwater monitoring program to ensure compliance with the remedial action objectives ("RAOs") identified in the RFS. The long-term groundwater monitoring program would include monitoring and sampling perimeter wells. Should impacts be found and verified above threshold levels at the Site perimeter, a contingency plan would be followed, as appropriate.
- Maintenance of cap vegetation would include annual weed abatement (e.g., mowing) for fire prevention.
- Implementation of an O&M Plan to ensure the above referenced activities are being properly implemented. The O&M Plan would be reviewed by DTSC every five (5) years.

Project Design Features

Project Design Features (PDFs) are specific design elements proposed by the RPs that would be incorporated into the Project to prevent the occurrence of or to minimize the significance of potential environmental effects. Because PDFs have been incorporated into the Project, they do not constitute mitigation measures, as defined by Section 15126.4 of the State CEQA Guidelines (Title 14 of the California Code of Regulations). However, PDFs would be included in the Mitigation Monitoring and Reporting Program (MMRP) to ensure their implementation as a part of the Project. As with mitigation measures, if the Project is modified through the public hearing process in a manner that would require modification(s) to the PDFs, the RPs may be permitted to modify the PDFs before they are included in the MMRP proposed for adoption. The Project would implement the below listed PDFs. Note that some of the PDFs may be similar to other PDFs as each PDF was developed in response to individual environmental issue areas.

Aesthetics

PDF 1-1 The upper deck of the cap would include a three percent (3%) gradient surrounded by side slopes along the cap perimeter with a horizontal-to-vertical gradient of three to one (3H:1V), excluding the Site perimeter access road, City parcel, SCOC area, and storm water detention basins. (This PDF to be verified prior to approval of the Final Cap Design Plan by the DTSC, Unit Chief, Brownfields & Environmental Restoration.)

PDF 1-2 The cap would be vegetated with self-sustaining vegetation (such as grasses and/or other vegetation) on the surface. (This PDF to be verified prior to approval of the Final Cap Design Plan by the DTSC, Unit Chief, Brownfields & Environmental Restoration.)

PDF 1-3 The RPs would conduct weed abatement and litter control on the vegetated cap cover on a periodic basis to maintain the appearance and low-lying vegetation of the cap and minimize the potential for fire hazard. (This PDF to be verified through compliance reports submitted by the RPs to the DTSC, Unit Chief, Brownfields & Environmental Restoration.)

PDF 1-4 The position of the new fence lines along Magnolia Street and Hamilton Avenue would be located along the property line approximately 20 and 30 feet further from each street,

respectively, than presently positioned. Also, with the 15-foot wide perimeter road along Magnolia Street and Hamilton Avenue, the cap would not begin to rise until approximately 35 to 45 feet inside the present fence line. (This PDF to be verified prior to approval of the Final Cap Design Plan by the DTSC, Unit Chief, Brownfields & Environmental Restoration.)

Air Quality

PDF 2-1 All off-road diesel construction equipment remaining on-site for more than 15 work days shall meet USEPA Tier 3 off-road emission standards, if commercially available locally. Use of Tier 3 engines results in a substantial reduction in NO_X emissions compared to similar Tier 2 or lower engines, and has been shown to increase fuel economy over similar Tier 2 engines.[20] Documentation of all off-road diesel construction equipment on-site including Tier 3 certification shall be maintained and made available to DTSC for inspection upon request.

PDF 2-2 All on-road waste haul trucks exporting soil to the appropriate receiver facility shall be model year 2007 or newer or retrofitted to comply with USEPA Year 2007 on-road emissions standards. Documentation of all on-road trucks exporting soil shall be maintained and made available to DTSC for inspection upon request.

PDF 2-3 The Project would prohibit the idling of on- and off-road heavy duty diesel vehicles for more than five minutes at a time. This project design feature is consistent with California regulations and laws as well as CARB Air Toxics Control Measure (ATCM) requirements.

PDF 2-4 The Project, during the remediation activities, would implement a perimeter air monitoring plan (AMP). The AMP include real-time perimeter air monitoring for odors, dust, and volatile chemicals, as well as more limited time-integrated sampling for volatile chemicals and dust at the locations and frequencies outlined in the AMP, which will be approved by the DTSC. During the excavation activities, water and/or Rusmar® foam, or similar suppressant (e.g. Soil Seal), would be applied to the waste materials as necessary to suppress potential dust, odors, and emissions, including volatiles. The AMP would include action levels with corresponding actions if/when action levels are exceeded. Air monitoring logs will be maintained on-site at all times per the AMP. A log containing dates on which action levels are triggered and response will be maintained on-site. These logs will be made available to DTSC and SCAQMD for inspection upon request.

PDF 2-5 A protective cap, inclusive of a gas collection and treatment system, would be installed to collect and treat landfill gas and other emissions generated by the Site. A vegetated cover would be planted and maintained on the completed protective cap.

PDF 2-6 The Project would comply with applicable SCAQMD rules that govern the control of air pollutant emissions from the Site, including: SCAQMD Rule 1150 – Excavation of Landfill Site, and SCAQMD Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil.

[20] *Komatsu Technical Report, Development of Tier 3 Engine ecot3, Vol. 52, No. 157, http://www.komatsu.com/CompanyInfo/profile/report/pdf/157-03_E.pdf. 2006. Accessed June 2013.*

- Submit a Mitigation Plan in accordance with Attachment A of SCAQMD Rule 1166, and obtain approval from the SCAQMD. A copy of the approved plan must be on-site during the entire excavation period.
- Monitor for the presence of VOC, and implement the approved mitigation plan when VOC-contaminated soil, as defined in Rule 1166, is detected.
- If required, obtain a SCAQMD Permit for Project activities, and provide a copy of said Permit to the DTSC.

PDF 2-7 During excavation of Pit F, a temporary structure (e.g., Sprung or similar) would be installed to capture potential odors and volatile emissions resulting from soil handling. Exhaust from Pit F will be treated using granular activated carbon (GAC) units which will be maintained according to manufacturer specifications. Off-road equipment operating under the Pit F temporary structure will be snorkeled (exhausted) directly outside of the structure for worker safety reasons. The temporary structure and GAC would capture and control at least 95 percent of VOC emissions. Materials excavated from Pit F would be placed in sealed or covered bins that would be loaded onto trucks for transport off-site, resulting in lower volatile emissions. Maintenance logs for the GAC system, including dates activated carbon is changed, will be maintained on-site.

PDF 2-8 The Project would implement fugitive dust control measures consistent with SCAQMD rules and regulations. The dust control measures would consist of various elements including: proper maintenance and watering of internal haul roads; water spraying of soil excavated and placed for cover or soil reconsolidation; applying water on intermediate soil cover areas; and seeding/planting vegetation on the completed protective cap. This project design feature is consistent with SCAQMD Rule 403 requirements.

PDF 2-9 Traffic speeds of no more than 5 miles per hour (mph) would be maintained for haul trucks when on-site, and no more than 15 mph for non-haul truck vehicles on all on-site, unpaved road surfaces. Signs will be posted throughout the Site to remind equipment operators and truck drivers of the speed limits.

PDF 2-10 Exposed surfaces and active excavation sites would be controlled with water and/or suppressants certified by CARB, the SCAQMD, or other air pollution control agency, to control fugitive dust. Such suppressants include foams, nontoxic binders, or other suppressants to reduce fugitive dust emissions. Logs of water purchase or usage and suppressant application (including brand/manufacturer, date of application, area treated and amount applied) will be maintained on-site and made available to DTSC and SCAQMD for inspection upon request.

PDF 2-11 Prior to leaving the Site, each haul truck, and other delivery trucks that come in contact with Site waste, would be inspected and put through procedures as necessary to remove loose debris from tire wells and on the truck exterior. Haul truck operators (drivers) would be required to have the proper training and registration by the State and as applicable to the material they would be hauling. Trucks transporting hazardous waste are required to maintain a hazardous waste manifest that describes the content of the materials. These manifests would be supplied by the waste receiver facility and prepared by the contractor or trucking company and the Ascon Landfill Site RP representative(s) prior to export off-site. The contracted trucking company would be a certified hazardous

waste transportation contractor, if the material is profiled as hazardous. A log of manifest data will be maintained on-site and made available to DTSC for inspection upon request.

PDF 2-12 Waste haul trucks and soil delivery trucks entering and exiting the Site would be required to follow a City-approved traffic plan that establishes the trucking route, days and hours of truck operation, the maximum number of trucks per day, and various requirements to provide traffic, pedestrian and bicycle safety. Truck operators will be provided with a trucking route map and hours of operation allowed.

PDF 2-13 To the maximum practical extent, recyclable materials, including non-hazardous construction and demolition debris, would be reused or recycled.

Biological Resources

No PDFs are applicable.

Geology and Soils

PDF 4-1 Prior to the start of construction, a geotechnical evaluation prepared by a registered geotechnical engineer would be prepared and submitted to the DTSC for review and approval. The evaluation would comply with all applicable state and local code requirements and would include, but not be limited to:

- Analysis of the expected seismic ground shaking at the Site from known active faults using applicable methods;
- Analysis of the liquefaction potential using applicable methods;
- Analysis of the potential for earthquake-induced settlements using applicable methods;
- Analysis of the earthquake-induced lateral spreading using applicable methods;
- Analysis of the fault rupture potential and its impacts. The analysis should be performed using applicable methods;
- Slope stability analysis to ensure the slopes for the cap will be stable from the expected ground shaking and potential liquefaction hazards;
- Analysis of geotechnical recommendations for grading, including suitability of imported soil, excavation characteristics, and placement and compaction of fill material;
- Development of site-specific design measures to address seismic, liquefaction, settlement, slope-stability, grading and other geologic hazards in accordance with the geotechnical analyses; and
- Deterministic analysis of potential seismic ground shaking and recommended structural features needed to minimize seismic damage to the landfill cap.

PDF 4-2 Prior to construction, a site-specific Health and Safety Plan would be developed and submitted to DTSC for review in accordance with applicable regulations. Specific

measures to reduce the potential physical hazards associated with strong seismic ground shaking, liquefaction, subsidence, unstable soil conditions, temporary slopes and excavations, permanent slopes, and other earthwork-related conditions during construction would be addressed in accordance with the applicable regulations.

PDF 4-3 To control soil erosion during construction, Best Management Practices (BMPs) for the control of erosion during construction would be incorporated into the Project's Storm Water Pollution Prevention Plan (SWPPP) and made available to the City of Huntington Beach for review prior to the initiation of construction. Long-term erosion control would include the planting and maintenance of grass and/or other shallow-rooted vegetation within the 2-foot soil cover overlying the Site's engineered cap. This PDF to be verified prior to the completion of construction activities by DTSC, Unit Chief, Brownfields & Environmental Restoration.

PDF 4-4 During construction, the Project geotechnical engineer would regularly monitor construction activities and test soils to ensure that materials used in construction and grading of slopes are consistent with the recommendations presented in the site-specific geotechnical evaluation and the plans and specifications approved by the regulatory agency. This PDF to be verified through monthly compliance reports submitted by the RPs to the DTSC, Unit Chief, Brownfields & Environmental Restoration.

PDF 4-5 During construction, the Project geotechnical engineer would regularly monitor stability of slopes and excavations to ensure safe working conditions for personnel and equipment. This PDF would be verified through monthly compliance reports submitted by the RPs to the DTSC, Unit Chief, Brownfields & Environmental Restoration.

PDF 4-6 During the long term operation of the remediated capped Site, the Responsible Parties, in coordination with the DTSC, would provide monitoring and inspection of the cap to ensure the structural integrity of the cap and permanent fill slopes. Geotechnical monitoring would occur during operations and maintenance (O&M), per the O&M Plan for the Site. Any cracks, subsidence, settling, or other physical changes (including, but not limited to, evidence of burrowing activity by coyotes or other medium- to large-sized mammals capable of breaching the geonet biotic layer) to the cap would be noted, and damage would be repaired in accordance with DTSC standards and/or other applicable regulatory requirements. This PDF to be verified through quarterly compliance reports submitted by the RPs to the DTSC, Unit Chief, Brownfields & Environmental Restoration.

PDF 4-7 The operation and maintenance of the gas collection and treatment system would include contingency plans in the event of a significant seismic event or power outage. Preliminarily, following each seismic event of magnitude 5 or greater in the immediate vicinity of the Site, inspection and routine monitoring of the system would be performed in accordance with a DTSC-approved Operations and Maintenance (O&M) Plan.

Greenhouse Gas Emissions

PDF 5-1 All off-road diesel construction equipment remaining on-site for more than 15 work days shall meet USEPA Tier 3 off-road emission standards, if commercially available locally. Use of Tier 3 engines has been shown to increase fuel economy over similar Tier 2 engines.[21]

PDF 5-2 All on-road export haul trucks shall at minimum comply with USEPA 2007 on-road emissions standards.

PDF 5-3 The Project would comply with the use of low carbon vehicle fuels as required under State law.

PDF 5-4 To the maximum practical extent, recyclable materials, including non-hazardous construction and demolition materials, would be reused or recycled.

PDF 5-5 A protective cap, inclusive of a landfill gas collection and treatment system, would be installed to treat landfill gas and minimize odors generated by the Site.

Hazards and Hazardous Materials

Project design features listed in other sections are applicable to reducing potential hazards and hazardous materials impacts. These PDFs include the following:

- PDF 2-2 to PDF 2-11 (Air Quality)
- PDF 4-1 (Geology and Soils)
- PDF 7-1 and 7-9 (Water Quality)

No other PDFs are applicable to hazards and hazardous materials.

Water Quality

PDF 7-1 Prior to the start of RAP implementation, an application for a Coastal Development Permit would be submitted by the RPs to the City of Huntington Beach and a Notice of Intent would be submitted to the SWRCB to comply with the General Construction NPDES Permit. To comply with NPDES Permit conditions, a Water Quality Management Plan (WQMP) and Construction Storm Water Pollution Prevention Plan (SWPPP) would include descriptions of best management practices (BMPs) that would reduce the potential for discharge of pollutants in runoff into the storm drain system during grading and construction. Typical BMPs include silt fences, fiber rolls, stockpile management,

[21] *Komatsu Technical Report, Development of Tier 3 Engine ecot3, Vol. 52, No. 157, http://www.komatsu.com/CompanyInfo/profile/report/pdf/157-03_E.pdf. 2006. Accessed June 2013.*

spill prevention and control, and the use of protective sheeting or tarps prior to any rain event on steep slopes. BMPs would minimize erosion from, and stabilization of, disturbed surfaces. Site specific BMPs would be available to the City of Huntington Beach for review. The SWPPP would require that all structural and non-structural BMPs described in the WQMP be installed and implemented in accordance with approved plans and specifications prior to the beginning of construction activities.

PDF 7-2 Plans for the remedy stormwater collection system would be submitted for approval to the City of Huntington Beach Department of Public Works. The stormwater collection system would be designed to divert rainfall from the Site surface to two unlined detention basins. The conceptual cap design includes two detention basins to be located on-site in uncapped areas of native or imported soils. The uncapped detention basins, perimeter access road and City parcel would be unlined to allow percolation. A diversion system consisting of V-ditches and/or swales would be installed along the perimeter of the final cover to collect and redirect runoff from the cap to the detention basins prior to runoff entering the perimeter road and City parcel. The system would be in compliance with the General Industrial NPDES Permit with the California SWRCB and the Site's Industrial SWPPP. The stormwater collection plan would be reviewed and approved by the City of Huntington Beach Department of Public Works prior to construction of the stormwater detention basins.

PDF 7-3 Silty-clay layers which underlie the site and provide protection for the existing groundwater table would be kept in an undisturbed condition to the maximum extent feasible. Visual soil inspections would occur as necessary by a qualified geologist during excavation activities that are anticipated to occur close to the silty clay layer to ensure silty clay layers are preserved.

PDF 7-4 If groundwater of the SPA were encountered during excavation activities (besides Pit F), the removal of materials at that location would be terminated, with the exception of at Pit F. The excavation site (except at Pit F) would be backfilled with soils to prevent waste materials from entering groundwater. This PDF to be verified by the DTSC, Unit Chief, Brownfields & Environmental Restoration in monthly compliance certification reports submitted by the project contractor.

PDF 7-5: For contingency planning, construction dewatering may be required during removal of Pit F materials. If dewatering is necessary, contact water would be disposed off-site or treated prior to discharge in accordance with applicable NPDES and dewatering permit requirements implemented by the SARWQCB. This PDF to be verified by the DTSC, Unit Chief, Brownfields & Environmental Restoration in monthly compliance certification reports submitted by the project contractor.

PDF 7-6 After completion of the cap, a 30-year Operations and Maintenance (O&M) Plan would outline long-term groundwater monitoring requirements under a Groundwater Contingency Program. The long-term groundwater-monitoring program would be similar to the interim groundwater monitoring program now in place. Groundwater monitoring and sampling would be performed at regular intervals from wells located generally near the Site perimeter. During the proposed long-term program, if any

chemical concentrations in a perimeter, downgradient well are detected above threshold limits (i.e., Maximum Contaminant Levels or vapor-risk values), and are not within background levels (i.e., above levels already present due to natural occurrence), steps would be taken to further assess and remedy the condition as appropriate. This PDF to be verified by the DTSC, Unit Chief, Brownfields & Environmental Restoration in semi-annual groundwater monitoring reports submitted by the RPs.

PDF 7-7 Installation of new monitoring wells would be performed in accordance with the Cal EPA guidelines, *Monitoring Well Design and Construction for Hydrogeologic Characterization (1995)* and *California Well Standards (1991)*. Well replacement activities would comply with the Cal EPA's and State of California guideline standards for borehole construction; stratigraphic control; installation procedures; well casing and screen materials; well casing diameters; casing cleaning requirements; well intake design; documentation of well design, construction, and development; and processes for the decommissioning of groundwater monitoring wells and boreholes. All work would be conducted by qualified contractors. This PDF to be verified by the DTSC, Unit Chief, Brownfields & Environmental Restoration in monthly compliance certification reports submitted by the project contractor.

PDF 7-8 During implementation of the RAP, site inspections would be conducted prior to and during rain events and once per month during the wet season per the Site-specific Construction SWPPP to verify that on-site stormwater handling improvements (BMPs) are operating correctly and so that repairs can be made, as needed. During construction and operation, stormwater runoff from the Site would be sampled and tested per applicable SARWCQB requirements, and results would be reported to the SARWQCB. This PDF to be verified by the DTSC, Unit Chief, Brownfields & Environmental Restoration in Annual Report(s) for Stormwater Discharges Associated with Construction Activities for the Site submitted by the Responsible Parties.

PDF 7-9 The proposed cap system would include a geomembrane layer on the top deck to minimize surface water infiltration into the underlying waste materials to a degree equivalent to cover systems installed at transfer, storage and disposal facilities, the design requirements for which are set forth in California's Title 22, section 66265.310(a). The side slopes would include a four-foot thick vegetated evapotranspirative soil layer, geonet biotic layer, and two-foot thick foundation layer to minimize precipitation infiltrating the waste materials and, thus, potentially entering the groundwater supply. The cap would also prevent the exposure of the waste materials to collected or sheet-flow precipitation. The design of the cap will be reviewed and approved by the DTSC, Unit Chief, Brownfields & Environmental Restoration prior to construction of the cap.

PDF 7-10 A cover of grass and/or other shallow-rooted vegetation would be provided on the top deck and side slopes of the cap to control erosion and minimize potential movement of materials from under the cap into surface runoff. In addition, the perimeter road would be surfaced with gravel to minimize soil erosion during rain events. The design of the cap and side slopes will be reviewed and approved by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to construction of the cap.

Land Use

No PDFs are applicable.

Noise

PDF 9-1 The Project contractor(s) shall equip all construction machinery and equipment, fixed or mobile, with properly operating and maintained noise mufflers, consistent with manufacturers' standards.

PDF 9-2 Engine idling from construction equipment such as bulldozers and haul trucks shall be limited, to the extent feasible.

PDF 9-3 To the extent feasible, construction activities shall be scheduled so as to avoid operating several pieces of heavy equipment simultaneously, which causes high noise and vibration levels.

Traffic

PDF 10-1 Prior to the start of construction, the project contractor, in coordination with the DTSC and City of Huntington Beach, would prepare a Construction Traffic Management/Haul Route Plan to be implemented during implementation of the RAP. The Plan would identify all traffic control measures, signs, and delineators to be implemented by the construction contractor through the duration of construction activities associated with the RAP. The Plan shall also consider construction traffic from nearby simultaneous construction activities and pedestrian safety related to school and bike routes. The Plan would be subject to final approval by the City of Huntington Beach Public Works Department.

PDF 10-2 During RAP construction activities that encroach upon Magnolia Street or Hamilton Avenue, temporary barricades (e.g., "K rails") would be placed on the southbound side of Magnolia Street and/or the eastbound side of Hamilton Avenue to provide a buffer between construction activities and the public street. If a temporary lane closure is required along Hamilton Avenue, the Responsible Parties would coordinate with the City of Huntington Beach Public Works Department to identify appropriate traffic measures such as lane restriping or re-painting the directional lane arrows, if determined necessary in consultation with City Staff. This PDF to be verified as part of the Construction Traffic Management/Haul Route Plan subject to review and approval by the City of Huntington Beach Public Works Department.

PDF 10-3 During RAP construction activities, left turns by trucks entering or exiting the Site shall be limited to four or fewer axle, single-trailer trucks unless assisted by safety flagmen to direct vehicular traffic, pedestrians and bicyclists. This PDF to be verified as part of the Construction Traffic Management Plan subject to review and approval by the City of Huntington Beach Public Works Department.

PDF 10-4 During RAP construction activities, on-going communication would be maintained with school administration at Edison High School, providing sufficient notice to forewarn students and parents/guardians when existing pedestrian, bicycle and vehicle routes to the school may be affected to maintain school traffic, bicycle and pedestrian safety. This PDF to be verified by the DTSC, Unit Chief, Brownfields & Environmental Restoration in quarterly compliance certification reports submitted by the RPs.

PDF 10-5 During RAP construction activities, to maintain school traffic, bicycle and pedestrian safety, haul trucks or trucks larger than four-axle, single trailer trucks would not be permitted to travel on Magnolia Street or Hamilton Avenue past Edison High School. This PDF to be verified within the haul route plan subject to approval by the City of Huntington Beach Public Works Department.

PDF 10-6 During RAP construction activities, temporary traffic control signage and flagmen would be present during import/export on Magnolia Street and Hamilton Avenue at the ingress/egress driveways to direct vehicular traffic, pedestrians and bicyclists around the construction site in order to maintain school traffic and pedestrian safety. This PDF to be verified by the DTSC, Unit Chief, Brownfields & Environmental Restoration in quarterly compliance certification reports submitted by the RPs.

PDF 10-7 During RAP construction activities that encroach upon Magnolia Street or Hamilton Avenue, signage would be posted along the Site perimeter to notify pedestrians to use the sidewalks along the north side of Hamilton Avenue and the east side of Magnolia Street in place of the barricaded areas on the south side of Hamilton Avenue and the west side of Magnolia Street. This PDF to be verified by the DTSC, Unit Chief, Brownfields & Environmental Restoration in quarterly compliance certification reports submitted by the RPs.

PDF 10-8 During RAP construction activities that encroach upon Magnolia Street or Hamilton Avenue, signage would be posted along the Site perimeter to notify cyclists of alternative routes that can be used in lieu of the eastbound Hamilton Avenue and the southbound Magnolia Street bike lanes. An alternative east-west bicycle route near the Site would be Banning Avenue. Alternative north-south bicycle routes include Newland Street, Bushard Street, and Brookhurst Street. These alternative routes provide connection to many of the same destinations as Hamilton Avenue and Magnolia Street, particularly to the Pacific Ocean. This PDF to be verified by the DTSC, Unit Chief, Brownfields & Environmental Restoration in quarterly compliance certification reports submitted by the RPs.

7. USES OF THE EIR AND REQUIRED AGENCY ACTIONS AND PERMITS

Permits and other approvals required prior to the implementation of the RAP are anticipated to include, but may not be limited to, those listed in **Table 2-5**, *Subsequent Permits, Approvals, Review and Consultation Requirements*.

Table 2-5

Subsequent Permits, Approvals, Review and Consultation Requirements

Agency	Approval
California Department of Toxic Substances Control	▪ Approval of the proposed RAP pursuant to California Health and Safety Code Section 25356.1 ▪ Approval of the Final Design of the Cap
State Water Resources Control Board	▪ General Construction NPDES Permit for construction activities. (The existing General Industrial NPDES Permit would be kept in place as necessary.)
South Coast Air Quality Management District	▪ Rule 1166/Rule 1150 permit for any necessary handling of VOC-impacted materials ▪ Permit-to-Construct/Permit-to-Operate for the planned emissions control cell in Lagoon 1-2 ▪ Permit-to-Construct/Permit-to-Operate for the landfill gas collection and treatment system
City of Huntington Beach	▪ Coastal Development Permit per California Coastal Act ▪ Approval of Construction Traffic Management/Haul Route Plan ▪ Construction and Grading Permits ▪ Permit(s) for encroachment into street and sidewalk rights of way.
Orange County Health Care Agency, Environmental Health Division	▪ Well Construction/Destruction Permit to install/abandon/destruct groundwater monitoring wells.

Source: PCR Services Corporation, 2013.

3.0 Basis for Cumulative Analysis

3.0 BASIS FOR CUMULATIVE ANALYSIS

The California Environmental Quality Act (CEQA) requires that EIRs analyze cumulative impacts. As defined in *CEQA Guidelines* Section 15355, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other foreseeable projects causing related impacts in the vicinity of the Project. *CEQA Guidelines* Section 15130(a) states that an EIR must discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in Section 15065(c)(a)(3). Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but must briefly describe its basis for concluding that the incremental effect is not cumulatively considerable. However, an EIR should not discuss impacts which do not result in part from the project evaluated in the EIR. Furthermore, when the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR must briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. A lead agency must identify facts and analysis supporting the lead agency's conclusion that the cumulative impact is less than significant.

In addition, CEQA *Guidelines* Section 15130(b) indicates that the analysis of cumulative impacts shall reflect the severity of the impacts and the likelihood of occurrence, but the discussion need not provide the same level of detail as is provided for the impacts attributable to the project alone. Instead, the discussion of cumulative impacts is guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of the other projects which do not contribute to the cumulative impact.

A project has "cumulatively considerable" impacts when its incremental effects "are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. Cal. Pub. Res. Code § 21083(b); see also CEQA *Guidelines* § 15355(b).

For an adequate discussion of significant cumulative impacts, the *CEQA Guidelines* (Section 15130(b)(1)(A) and (B)) allow an environmental impact report to determine cumulative impacts and reasonably foreseeable growth based on either of the following methods:

- A list of past, present, and probable future projects producing related or cumulative impacts; or
- A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental planning document that has been adopted or certified and described or evaluated regional or area-wide conditions contributing to the cumulative impact.

For the purposes of the cumulative impacts analysis for the Project, DTSC has opted to use the list approach for evaluating cumulative effects. Based on correspondence with the City of Huntington Beach Planning Department, DTSC developed a list of past, present and probable future projects. The list of identified related projects is provided in **Table 3-1,** *Related Projects List,* with the locations of each of the related projects listed in **Figure 3-1**, *Related Projects Map*.

Although the projects listed below serve as the primary bases for evaluation of cumulative impacts, the approach to these analyses varies for certain environmental issues. The cumulative analyses for each environmental issue are presented in the applicable environmental issue sections in Chapter 4, *Environmental Impact Analysis*, of this EIR.

Table 3-1

Related Projects List

Map No.	Name	Location	Description	Could Project be Complete and in Operation by 2015?	Could Project be Complete and in Operation by 2020?
1	Poseidon Desalination Facility	21730 Newland Street (off of Pacific Coast Highway)	A 50 million gallon per day seawater desalination facility, including potential water distribution line along Hamilton Avenue north of Ascon Landfill Site.	No	Yes
2	Plains All American Pipeline Tanks (Removal)	West of Magnolia, south of Ascon site	Removal of three above ground crude oil storage tanks.	Yes	--
3	Beach Promenade	Southeast corner of Beach Boulevard and Atlanta Avenue	Maximum development square footage approved for this project is 38,634 sf to the existing 85,107 sf commercial center. The project includes a 2.07 acre frontage road and 0.61 acre adjacent to the westerly property to enlarge site from 6.24 acres to 9.42 acres.	Yes	--
4	Hilton Waterfront Beach Resort Expansion	21100 Pacific Coast Highway (bounded on the north by Pacific Avenue, on the east by Twin Dolphin Drive, on the south by Pacific Coast Highway, and on the west by the existing Hilton Waterfront Beach Resort)	The project consists of an additional 156 new guestrooms and related facilities.	No	Yes
5	Pacific City	Along Pacific Coast Highway, between Huntington Street and First Street	The project consists of 516 residential apartment units, 191,000 square feet of commercial, retail, restaurant, entertainment, office, and hotel development. The hotel would be a 250-room, luxury boutique hotel, spa and health club, with 12,000 square feet of restaurant.	No	Yes
6	Atlanta Avenue Widening Project	South side of Atlanta Avenue, between Huntington Street and Delaware Street	Widen the south side of Atlanta Avenue, between Huntington Street and Delaware Street.	Yes	--
7	Pierside Pavilion Expansion	300 Pacific Coast Highway (northeast corner of Pacific Coast Highway and Main Street)	The project consists of 27,772 square feet of mixed use, visitor serving office building, 9,401 square feet of infill expansion by extending existing storefronts, 10,527 square feet of retail, 5,705 square feet of restaurant, 21,441 square feet of office, 6,146 square feet of outdoor dining.	Yes	--

Table 3-1 (Continued)

Related Projects List

Map No.	Name	Location	Description	Could Project be Complete and in Operation by 2015?	Could Project be Complete and in Operation by 2020?
8	Beach Walk	19891 and 19895 Beach Boulevard (west side of Beach Boulevard between Utica and Adams Avenue – across from Newland Shopping Center)	The project consists of 173 multi-family apartment units.	Yes	--
9	Hoag Medical Building	19582 Beach Boulevard (east side of Beach Boulevard, south of Yorktown Avenue)	The project involves the construction of an approximately 52,775-square-foot, three-story addition to an existing 52,177-square-foot medical office building and a 486-space parking structure.	No	Yes
10	Beach & Ellis – Elan Apartments	18502 and 18508-18552 Beach Boulevard (southeast corner of Beach Boulevard and Ellis Avenue)	The project consists of 274 residential units, 8,500 square feet of commercial, 17,540 square feet of public open space, and 31,006 square feet of residential private open space.	No	Yes
11	Casa Rincon	18431 Beach Boulevard (west side of Beach Boulevard, north of Ellis Avenue)	The project involves the construction of a four-story, 24-unit multi-family development.	No	Yes
12	Oceana Apartments	18151 Beach Boulevard (west side of Beach Boulevard)	The project consists of 91 affordable housing units.	No	Yes
13	Gun Range	Central Park (proximate to Gothard Street and Talbert Avenue)	Clean-up and re-use of the site.	Yes	--
14	Huntington Beach Senior Center	Central Park (southwest of intersection of Goldenwest Street and Tablet Avenue).	The project consists of a 45,000 square feet of senior center.	No	Yes
15	Longs Drugs	17725 Beach Boulevard (Northwest corner of Beach Boulevard and Newman Avenue)	The project involves the construction of an 8,800 sf drugstore with a drive-through pharmacy.	Yes	--
16	Fein Medical Office Building	7922 Liberty Avenue (south side of Liberty Avenue, west of Beach Boulevard).	The project involves the construction of a 6,480 square feet medical office building.	Yes	--

Table 3-1 (Continued)

Related Projects List

Map No.	Name	Location	Description	Could Project be Complete and in Operation by 2015?	Could Project be Complete and in Operation by 2020?
17	Rainbow Disposal	17121 Nichols Street	Master plan for Rainbow to expand the existing Material Recovery Facility (MRF) and Transfer Station from the current 2,800 tons per day (TPD) to 4,000 TPD. These new buildings and operations would enable Rainbow to continue to process curbside recyclables, construction and demolition (C&D) debris, greenwaste, and commercial municipal solid waste (MSW), and to do so while improving environmental conditions around the facility as compared to current operations.	Yes	--
18	Warner Nichols	Warner Avenue and Nichols Lane	General Plan and Zoning Map Amendments from residential to commercial on approximately 1.1 gross acres and industrial on approximately 3.3 gross acres and demolition or removal of existing historic structures.	Yes	--
19	Edinger Hotel	Southeast corner of Edinger Avenue and Parkside Lane	The proposed Edinger Hotel project consists of a 200-room, 115,000-square-foot, six-story hotel on a 84,829-square-foot lot in the Town Center Boulevard area of the Beach and Edinger Corridors Specific Plan (BECSP).	No	Yes
20	The Village at Bella Terra	West of Bella Terra Mall between Edinger Avenue and Center Avenue	Mixed-use project with 467 residential units with 13,500 square feet of residential amenities, 17,500 square feet of mixed-used retail and restaurant uses on ground floor of the residential building, 12,000 square feet of freestanding retail and restaurants as well as 1,920 square feet of pavilion building within a landscaped greenbelt area.	Yes	--
21	Archstone II	Southwest corner of Edinger Avenue and Gothard Street.	The project consists of a 500 unit apartment complex (approximately 466,230 square feet).	Yes	--
22	Edinger Walmart	6912 Edinger Avenue (southwest corner of Edinger Avenue and Goldenwest Street).	The project involves the re-use of a vacant 100,865-square-foot retail building for a Walmart store.	Yes	--
23	The Boardwalk	Northeast corner of Gothard Street and Center Avenue	The project consists of 487 dwelling units and 14,500 square feet of commercial area with a ½ acre public park.	Yes	--
24	Skate Park Project	7461 Center Avenue (east of Gothard Street)	The project consists of 15,900 square feet of skate plaza area, 11,850 square feet of skate bowl area, and 3,500 square feet of skate shop/concession building.	Yes	--

Table 3-1 (Continued)

Related Projects List

Map No.	Name	Location	Description	Could Project be Complete and in Operation by 2015?	Could Project be Complete and in Operation by 2020?
25	Amstar/Red Oak Project (formerly known as The Ripcurl)	Southeast corner of Gothard Street and Center Avenue.	A mixed-use project consists of 10,000 square feet of commercial uses on the ground floor and 440 residential units above the ground floor (five stories).	Yes	--

Notes:

Source: PCR Services Corporation, 2013.

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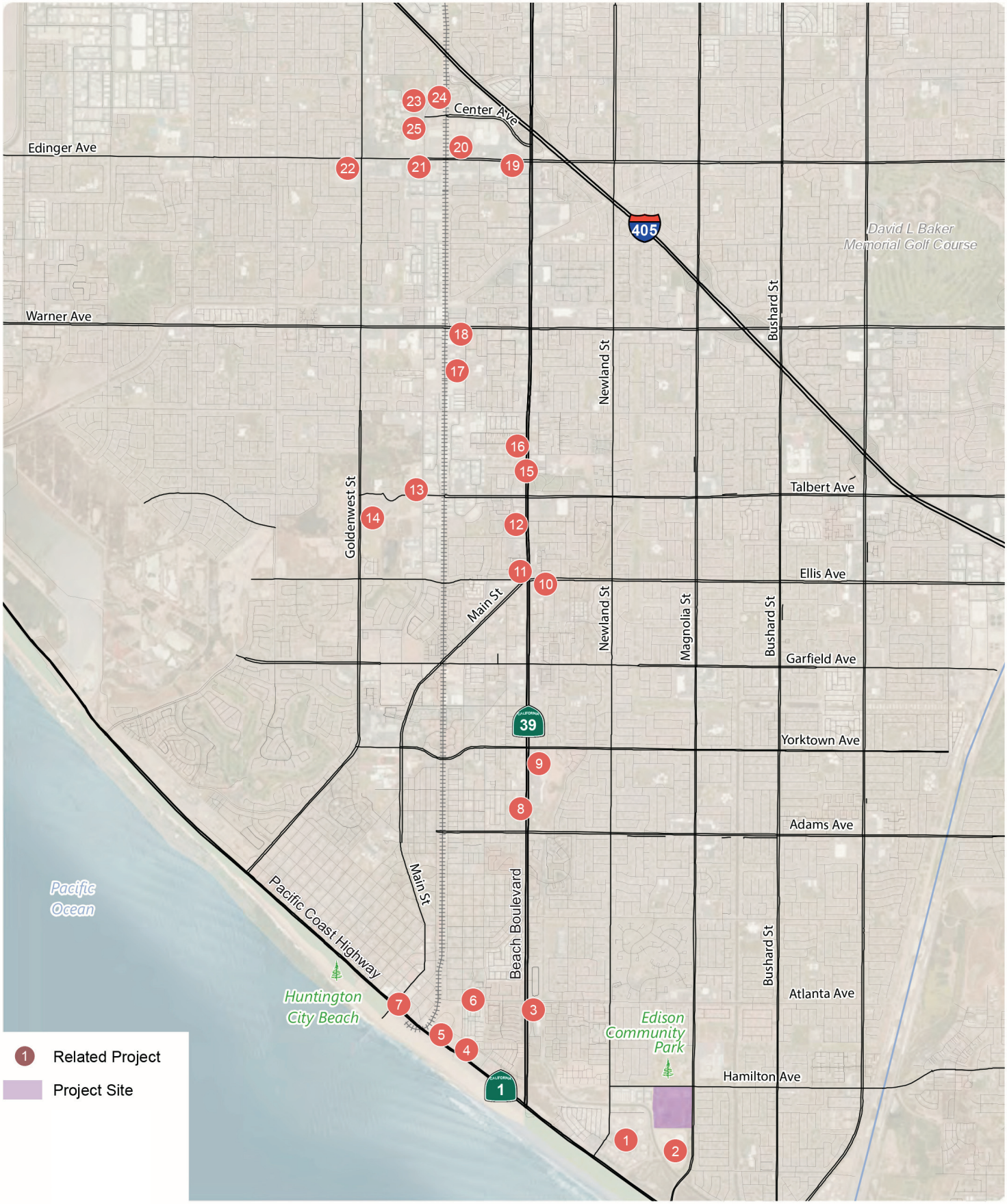

PCR

N

Not to scale

Related Projects

RAP EIR - Ascon Landfill Site

Source: Fehr & Peers, 2013.

FIGURE

3-1

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4.0 Environmental Impact Analysis

4.1 AESTHETICS

This section addresses applicable programs and plans, existing conditions, and the potential for the Project to have an impact on visual character, views, and scenic resources. Information in this section was compiled from site photographs and site surveys conducted in Spring 2013. In addition, visual simulations are provided to illustrate the "before" and "after" Project conditions.

1. ENVIRONMENTAL SETTING

Regulatory Framework

State of California

California's Scenic Highway Program was created by the Legislature in 1963 to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. The status of a proposed state scenic highway changes from eligible to officially designated when the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a Scenic Highway. Pacific Coast Highway (PCH), located approximately one-quarter mile southwest of the Site, is identified by the State of California as an Eligible State Scenic Highway but is not formally designated as a State Scenic Highway. The Site is partially visible from PCH.

Orange County

The County of Orange General Plan Transportation Element contains a Scenic Highway Plan, which identifies Landscape Corridors and Viewscape Corridors. A Viewscape Corridor is a route which traverses a corridor within which unique or unusual scenic resources and aesthetic values are found. This designation is intended to minimize the impact of land development upon the scenic resources along the route. The Site is not located immediately adjacent to a designated Landscape or Viewscape Corridor. However, PCH is designated as a Viewscape Corridor and the Site is partially visible from PCH.

City of Huntington Beach

General Plan - Land Use Element

The City of Huntington Beach General Plan Land Use Element provides direction for future development of the City. The Land Use Element recognizes scenic features, such as the Pacific Ocean and beach-front area, as recreational and visual resources that attract many visitors to Huntington Beach. The Land Use Element also recognizes the previously proposed, but unrealized, Magnolia Pacific Specific Plan that designated the Site for residential development. The Magnolia Pacific Specific Plan is discussed in detail below. The Land Use Element contains goals and policies to maintain the visual character of the City. The following aesthetic goals and policies are relevant to the Site:

> *Goal LU 4: Achieve and maintain high quality architecture, landscape, and public open spaces in the City.*

- *Objective LU 4.1: Promote the development of residential, commercial, industrial, and public buildings and sites that convey a high quality visual image and character.*
  - *Policy LU 4.1.3: Require property owners to maintain landscaping, remove and abate weeds, and replace unhealthy or dead landscape.*
  - *Policy LU 4.1.6: Require that commercial and industrial development incorporate adequate drought-conscious irrigation systems and maintain the health of the landscape.*

General Plan – Urban Design Element

The City of Huntington Beach General Plan Urban Design Element seeks to direct the organization, scale, density, and pattern of the community's built environment and open spaces to maintain the quality of the Huntington Beach physical and visual character. The Urban Design Element recognizes that these components collectively play a significant role in projecting a positive and unique image for Huntington Beach. Like the Land Use Element, the Urban Design Element recognizes that the Pacific Ocean is Huntington Beach's most prominent visual resource. Its views from PCH, peripheral streets, and surrounding neighborhoods and districts enhance the visual quality and ambiance of the City and help orient the traveler. In addition to identifying positive visual elements, it is also recognized that the City has some visual elements which confuse, diffuse, and weaken the community's identity. Elements that contribute negatively to the visual quality of the community include oil production and utility facilities.

The Urban Design Element designates Magnolia Street as a Secondary Path/Image Corridor. The Urban Design Element defines a "path" as a route providing the means of vehicular and pedestrian movement in the community, connecting land uses and areas of activity. Since people observe their city while moving through it, paths form the predominant image of the community. The Urban Design Element identifies two types of paths; primary and secondary. Primary paths are the principal corridors carrying larger volumes of traffic and typically crossing community boundaries. Secondary paths carry less traffic and often originate or terminate within the City's boundaries.

The Urban Design Element contains goals and policies relevant to the visual character of the City: The following aesthetic goals and policies are relevant to the Site:

- *Objective 2.2: Minimize the visual impacts of oil production facilities and other utilities where they encroach upon view corridors or are visually incompatible with their surrounding uses.*
  - *Policy 2.2.2: Require the removal of non-productive oil production facilities and the restoration of the vacated site.*

General Plan – Circulation Element

The City of Huntington Beach General Plan Circulation Element covers various circulation issues in the City, such as: regional mobility; roadway circulation; neighborhood traffic management; public transportation; transportation demand management; parking; pedestrian, bicycle, and equestrian paths; waterway facilities; and scenic corridors. With respect to scenic corridors, the Circulation Element designates the PCH as a Landscape Corridor and Major Urban Scenic Corridor. Further, Figure CE-12 of the Circulation Element

identifies Magnolia Street from Hamilton Avenue to PCH as a City-designated Landscape Corridor. The General Plan Circulation Element contains the following goals and policies relevant to Landscape Corridors:

Goal CE 7: Maintain and enhance the visual quality and scenic views along designated corridors.

- *Objective CE 7.1: Enhance existing view corridors along scenic corridors and identify opportunities for the designation of new view corridors.*
  - *Policy CE 7.1.4: Establish landscape and urban streetscape design themes for landscape corridors, minor scenic urban corridors, and major urban scenic corridors which create a different character enhancing the corridor's surrounding land uses. For example, the design theme for corridors adjacent to residential neighborhoods should be different than the design theme for industrial or commercial uses.*
  - *Policy CE 7.1.6: Require any side slopes and earthen berms adjacent to roadways be landscaped appropriately to minimize visual impacts along scenic highways.*
- *Objective CE 7.3: Protect scenic corridors and open space/landscape areas by blending man-made features with the natural environment.*
  - *Policy CE 7.3.1: Require that new development include landscaping that is compatible with the visual character of the designated scenic highways and corridors.*

General Plan – Environmental Resources/Conservation Element

The City of Huntington Beach General Plan Environmental Resources/Conservation Element generally seeks to protect natural resources and open space within the City, but includes goals and policies to protect the visual quality of the City. The following aesthetic goals and policies relevant to aesthetics:

Goal ERC 4: Maintain the visual quality of the City's natural land form and water bodies.

- *Objective ERC 4.1: Enhance and preserve the aesthetic resources of the City, including natural areas, beaches, bluffs, and significant public views.*
  - *Policy ERC 4.1.6: Require that future development be designed and sited to maintain the natural topographic characteristics of the City including the minimization of the area and height of cuts and fills.*

General Plan – Coastal Element

The City of Huntington Beach General Plan Coastal Element addresses the requirements of the Coastal Act and guides growth, development, enhancement, and preservation of the City's Coastal Zone and its resources. The Site is located within Zone 5 – Beach Boulevard to Santa Ana River. The Coastal Element identifies the Pacific Ocean as the City's most prominent visual resource. Views of the ocean/shoreline are afforded from several places along the PCH, peripheral streets, and surrounding neighborhoods and districts. The Coastal Element further identifies that scenic opportunities identified within the Zone 5 area are the views looking towards the shoreline, beaches, and the ocean. These views enhance the visual quality and ambiance of the City and help orient the traveler. The Coastal Element recognizes the Ascon Site as containing waste and subject to a specific plan overlay (i.e., the Magnolia Pacific Specific Plan discussed below). The following aesthetic goals and policies are relevant to the Site:

Goal C 4: Preserve and, where feasible, enhance and restore the aesthetic resources of the City's coastal zone, including natural areas, beaches, harbors, bluffs and significant public views.

- *Objective C 4.7: Improve the appearance of visually degraded areas within the Coastal Zone.*
  - *Policy C 4.7.10: Encourage the remediation and cleanup of the NESI (Ascon) site. Work with other responsible agencies and property owner to facilitate site clean-up.*

Magnolia Pacific Specific Plan

The Magnolia Pacific Specific Plan, adopted in November 1992, envisions the development of the Ascon Site as a residential community containing up to 502 residential units in a mixture of single-family detached homes and multi-family units, with landscaping, recreational areas, roadways, and on-site utilities infrastructure.

The Magnolia Pacific Specific Plan establishes the general type, location and character of the residential development, while allowing for creative design concepts within the overall framework of the plan. The objective of the development plan is to implement the goals and policies of the Huntington Beach General Plan by defining the physical development of the Site.

Because the proposed RAP incorporates land use controls (restrictions) that would prohibit the development of the Site with residential uses, the guidelines of the Specific Plan would not apply to the remediation of the Site.

Existing Conditions

Viewsheds in the Site Vicinity

A viewshed is a geographic area composed of land, water, biotic, and/or cultural elements that may be seen from one or more viewpoints and that has inherent scenic qualities and/or aesthetic values. A viewshed can consist of two types of views, "focal views" and "panoramic views." "Focal views" consist of views of a particular object, scene, setting, or feature of visual interest; "panoramic views" or vistas consist of views of a large geographic area for which the view may be wide and extend into the distance. Structures and other elements proposed as part of a project may obstruct focal or panoramic views. View ranges are typically discussed in the following context: short-range (views from 0 feet to ¼ mile); intermediate-range (1/4 mile to 1 mile); and long-range (views beyond 1 mile).

Through its General Plan, the City of Huntington Beach has identified the Pacific Ocean, beach area, and protected coastal wetlands (i.e., Magnolia Marsh) as visual resources in the Site vicinity for which the viewshed is important. Within the Site vicinity, public view corridors with views of these valued visual resources are provided along PCH, the segment of Newland Street between Biscayne Drive and PCH, and Magnolia Street between Banning Drive and PCH.

There are no public views of these visual resources from within the Site, as access is restricted to a limited number of employees. In addition, the Site's size and unique topography obstruct ground-level views across the Site, and as such, no views of identified visual resources are provided across the Site from off-site vantage points.

Visual Character of the Site Vicinity

Visual character refers to the overall aesthetics of an area or a field of view. Visual character is influenced by various elements such as size, shape, color, texture, and general composition, as well as the relationships between these elements. Visual resources effect the visual character of an area and often consist of unique

or prominent natural or man-made attributes or several small features that, when viewed together, create a whole that is visually interesting or appealing. Visual character is also discussed in terms of visual quality, which is a subjective value that assesses the character, condition, and quality of a viewshed or other visual resource and how it is perceived, preferred, or otherwise valued by the public. For the purposes of this analysis, visual quality is assigned a value of low, medium, or high. An example of low visual quality would be a site with a dilapidated building and no visually appealing landscaping. Essentially, low visual quality areas typically have little to no visually interesting or appealing features. Examples of medium visual quality would include developed urbanized areas with buildings/facilities, as well as landscaping, which are routinely maintained to be visually cohesive with surrounding areas. Medium visual quality areas typically have a moderate level of visual appeal to the public. An example of viewshed with a high visual quality would be a panoramic view of the Pacific Ocean or beach area. High visual quality areas typically include visual resources that are highly valued by the public.

The visual character of the Site vicinity is somewhat defined by the Site's size and raised topography in an otherwise topographically flat area. Specifically, the Site in combination with adjacent uses creates a large view obstruction that results in areas of notably differing visual character around the Site. For instance, the visual character of the area north and east of the Site is suburban in nature, consisting of the Edison Community Park, Edison High School campus, and single-family residential homes typical of walled residential communities within and around Huntington Beach. The park and school campus include large open space areas with mature trees. In comparison, the visual character of the area south and west of the Site is industrial in nature. Specifically, the AES Power Plant—an approximately 15-story power plant with an industrial appearance consisting of exterior piping, exposed steel framework, and flue-gas stacks—is located west of the Site across the Orange County Flood Control District (OCFCD) Huntington Beach Channel. The AES Power Plant comprises a notable feature of the skyline in the Site vicinity. In addition, a tank farm operated by Plains All American Pipeline consisting of three, large circular tanks is presently located directly south of the Site. South and west of these industrial uses, the visual character becomes dominated by the Pacific Ocean and beach uses. **Figure 2-2**, *Sur rounding Land Uses*, in Section 2.0, *Project Description*, illustrates the surrounding uses near the Site.

Magnolia Street between Hamilton Avenue and PCH is a City-designated Landscape Corridor. Between Hamilton Avenue and the Orange County Flood Control District (OCFCD) Huntington Beach Channel, the visual character of Magnolia Street is in part defined by landscaped medians and mature trees lining the east side of the street, however there is no landscaped median adjacent to the Site. The only trees located within the public right-of-way are median trees, where present, and those occurring on the east side of Magnolia Street across from the Site; while the rest of the trees are located on private property (i.e., residential backyards, on-site trees). Nonetheless, the net effect of the public and private landscaping is a tree-lined corridor. The on-site perimeter vegetation, including a number of trees, only marginally contributes to this effect because the trees are somewhat obstructed by the existing chain-link fence with green privacy screen. In addition to being partially obstructed, the on-site trees are not routinely pruned or trimmed except occasionally during weed abatement activities, and many are overgrown and have dead branches and fallen branches that are not removed. Low-lying vegetation on the perimeter berm is green seasonally and spotty with barren areas in numerous places during dormant months. To the south of the Site along the western side of Magnolia is an open space grass area with mature trees, part of the Plains All American Pipeline property. The on-site perimeter fence, which extends eastward into the street right-of-way, forms the northern boundary of this open space grass area.

Views / Visual Character of the Ascon Site

Public views of the Site are available from Hamilton Avenue and Edison Community Park to the north; Edison High School to the northeast; Magnolia Street to the east; and from PCH, Huntington State Beach, and Huntington Beach Trail (a concrete multi-use path that parallels the beach from Seal Beach Boulevard to the Santa Ana River) to the south and southwest. Private views of the Site are available from the residential development located east of Magnolia Street and from the commercial and industrial uses located south and west of the Site. Because of the vicinity's relatively flat topography, most view locations offer only short-range views, with intermediate- and long-range views being obstructed by perimeter features (i.e., perimeter berm, vegetation) and landfilled materials that extend into the viewshed above the perimeter features.

Generally, the visual character of the Site itself is defined by its perimeter features, including the earthen perimeter berms that range in height from approximately 10 to 20 feet above street grade, perimeter vegetation on the berms, and a chain link fence topped with barbed wire and faced with green privacy fabric. These perimeter features result in a generally low visual quality and obstruct views of the Site's interior features (e.g., internal access roads, lagoons, disposal pits, construction debris, and vegetation), which are depicted in **Figures 2-5a and 2-5b** in Section 2.0 of this EIR. As these interior features are not visible from surrounding uses, they do not positively or negatively contribute to the visual character of the Site and its surroundings.

Figure 4.1-1, *View Locations to the Site,* provides an illustration of the pubic vantages in the surrounding vicinity with views to the Site. **Figure 4.1-2a** and **4.1-2b**, *Existing Views to the Site*, provide illustrations of the view locations shown in Figure 4.1-1. Views of the Site from these vantage points are discussed in detail immediately below.

Figure 4.1-2a, *View Location 1***,** illustrates views looking west to the Site from Magnolia Street and residential uses east of the Site (at the approximate location of Niguel Circle). Viewers from this location include motorists and pedestrians along Magnolia Street and residents east of Magnolia Street. As shown in Figure 4.1-2a, short-range views towards the Site from this view location are of the Site itself, which is defined by the earthen berm, perimeter vegetation, and a chain link fence with green privacy fabric along the eastern Site boundary. The visual character of the Site vicinity is defined by Magnolia Street and the residential homes east of Magnolia Street. The visual quality of the Site from this view location is low as a result of the chain-link fence with green privacy screen, perimeter berm, and unmaintained mature perimeter vegetation. The visual quality of Magnolia Street in the surrounding vicinity is higher than that of the Site because of cohesive visual elements (e.g., uniform building styles) and well-maintained buildings, landscaping and streetscaping. Because of the Site's unique topography and perimeter features, no intermediate- or long-range views are available, and no panoramic or focal views of identified visual resources (e.g., Pacific Ocean, beach, Magnolia Marsh) are available across the Site from this view location, nor would they be if the landfill were not there.

Figure 4.1-2a, *View Location 2*, illustrates views looking south to the Site from Edison Community Park north of the Site. Viewers from this location include motorists and pedestrians along Hamilton Avenue and visitors of Edison Community Park. As shown in Figure 4.1-2a, short-range views south towards the Site from this view location are of the Site itself, and are predominately of the perimeter berm and chain-link fence. Because no trees are present along the northern Site boundary, views of the earthen berm are more defined from this view location. For instance, two distinctive terraces of landfilled material are visible from Edison Community Park. The lower terrace consists of the perimeter berm, which is comprised of fill materials with low-lying shrubbery and weedy vegetation, while the upper terrace is comprised of an

PCR

N

0 800 1,600 Feet

View Locations to the Site

RAP EIR - Ascon Landfill Site

Source: Aerial Express, 2009; PCR Services Corporation, 2013.

FIGURE

4.1-1

View Location 1: Westerly view from Magnolia Street and and residential uses east of the Site. Perimeter features obstruct interior views and views across the Site.

View Location 2: Southerly view from Hamilton Avenue and Edison Community Park north of the Site. Perimeter features obstruct interior views and views across the Site.

View Location 3: Easterly view from the intersection of Pacific Coast Highway and Beach Boulevard. Existing inervening development obstructs views of the Site.

PCR

Existing Views to the Site

RAP EIR - Ascon Landfill Site

Source: PCR Services Corporation, 2013.

FIGURE

4.1-2a

View Location 4: Northerly view from the intersection of Pacific Coast Highway and Magnolia Street. Views of the Site are largely obstructed by the tank farm, but the southern perimeter tree line is partially visible.

View Location 5: Northerly view from the Huntington Beach State Beach along the Huntington Beach Trail. Views of the Site are largely obstructed by intervening development, but the southern perimeter tree line is partially visible.

PCR

Existing Views of the Site

RAP EIR - Ascon Landfill Site
Source: PCR Services Corporation, 2013.

FIGURE
4.1-2b

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interior berm. The perimeter berm is partially obstructed by the existing chain-link fence with green privacy fabric. Interior fencing on the upper terrace is also visible from Edison Community Park. These features when viewed together form a cluttered visual appearance that does not contribute positively to the visual character of the Site vicinity from this view location. As a result, the visual quality of the Site from this view location is low. The visual quality of Hamilton Avenue and the Edison Community Park in the surrounding vicinity is higher than that of the Site because of well-maintained open space areas, landscaping with mature vegetation, and streetscaping. Views from Edison High School are similar to those from Edison Community Park, except that the mature vegetation (mostly trees along the eastern perimeter berm) at the northeast corner of the Site is more prominent from Edison High School. As with View Location 1, because of the Site's unique topography and perimeter features, no intermediate-range views towards the Site are available. Long-range views from this view location are limited to the upper portions of the AES Power Plant and flue-gas stacks, and power lines extending northward from the power plant, which are visible across the Site. No panoramic or focal views of identified visual resources are available across the Site from this view location. The power plant and related infrastructure are not considered valued visual resources.

Figure 4.1-2a, *View Location 3*, illustrates views looking east to the Site from the intersection of PCH and Beach Boulevard west of the Site. Viewers from this location include motorists and pedestrians along PCH and Beach Boulevard. As shown in Figure 4.1-2a, the visual quality of views towards the Site from this view location is medium in that short- and intermediate-range views are defined by the intersection of arterial roadways, un-landscaped surface parking areas, chain-link fencing, protected wetland areas, single-story residential and commercial development typical of that in Huntington Beach, and power transmission towers. Also, as shown in Figure 4.1-2a, this intervening development entirely obstructs views of the Site from this location, and the Site does not positively or negatively contribute to the area's visual character or visual quality. In addition, no long-range views of the Site or across the Site are available from this view location.

Figure 4.1-2b, *View Location 4*, illustrates views looking north to the Site from the intersection of PCH and Magnolia Street south of the Site. Viewers from this location include motorists and pedestrians along PCH and Magnolia Street, and visitors of Magnolia Marsh. The visual quality toward the Site from this view location is medium because views of features with a high visual quality, such as Magnolia Marsh, mix with views of features of a low visual quality, such as industrial development. Specifically, as shown in Figure 4.1-2b, short-range views toward the Site from this view location are defined by Magnolia Marsh, which provides open space and visual relief from industrial uses along this stretch of PCH. Intermediate-range views are of the tank farm immediately south of the Site. The tank farm consists of three, large circular fuel storage tanks. The tank farm contributes to an industrial visual character that also consists of the AES Power Plant, transmission towers and lines, and transformer stations. Due to the existing topography and intervening development, views of the Site from this view location are subordinate to short- and intermediate-range views and are highly limited due to distance and intervening features such as the tank farm. Those small sections of the Site that are visible feature trees growing along the Site's southern perimeter, which do not contribute in a meaningful way to the visual character or visual quality of the viewshed due to their minimal visibility. Additionally, no panoramic or focal views of identified visual resources are available across the Site from this view location.

Figure 4.1-2b, *View Location 5*, illustrates views north to the Site from PCH, Huntington Beach State Beach, and Huntington Beach Trail south of the Site. Viewers from this location include visitors of the Huntington Beach State Beach and the Huntington Beach Trail. As with View Location 4, the visual quality toward the

Site from this view location is medium because views of features with a high visual quality, such as Magnolia Marsh, mix with views of features of a low visual quality, such as roadway infrastructure and industrial development. Specifically, as shown in Figure 4.1-2b, short-range views towards the Site consist of features within Huntington State Beach (e.g., intersection signals, parking lot entry booth, lifeguard facility, refreshment/bathroom buildings) and PCH. Intermediate-range views towards the Site are of Magnolia Marsh and the tank farm. Views of the Site itself are predominately obstructed by the tank farm and are limited to small sections of the Site where trees along the Site's southern perimeter are visible through the spaces in between the tank farm. While the trees on the Site provide some visual relief and break up the mass of the storage tanks, the views from this view location to the Site are not considered scenic. Further, the limited views of the Site do not contribute in a meaningful way to the visual character or visual quality of the viewshed. No long-range views are available, and no panoramic or focal views of identified visual resources are available across the Site from this view location.

2. ENVIRONMENTAL IMPACTS

Methodology

Views

The analysis of view impacts is based in part on the evaluation of visual simulations showing existing and future conditions from representative view locations within the vicinity of the Site. These view locations were chosen with an emphasis on views of the Site from public vantage points. The intent of the evaluation of views is to determine whether views of valued visual resources would be obstructed or diminished as a result of the implementation of the RAP. The views of visual resources would be diminished if implementation of the RAP results in the removal, alteration, or demolition of existing features or elements that substantially contribute to the valued views from public vantage points. The evaluation further considers whether implementation of the RAP would enhance views of valued visual resources and whether implementation of design features would offset or mitigate impacts on views.

The analysis of potential impacts to views of identified visual resources includes an analysis of views from identified public view locations, including Edison Community Park, Huntington Beach State Beach, Huntington Beach Boardwalk, Hamilton Avenue, and Magnolia Street (designated as a Landscape Corridor in the General Plan Land Use Element and as a Secondary Path/Image Corridor in the General Plan Urban Design Element). Under the CEQA Guidelines, a private residence is not considered a viewing location since views of broad horizons, aesthetic structures, and other scenic resources would not be available to the public. In addition, the California courts have held that "obstruction of a few private views in a project's immediate vicinity is not generally regarded as a significant environmental impact."[1]

Visual Character

Existing visual character of the Site and surrounding vicinity is compared to the expected appearance of the Site with implementation of the RAP to determine whether the visual character of the Site and its surroundings would be substantially degraded. The visual character of the Site and/or surrounding vicinity would be substantially degraded if implementation of the RAP would result in the loss of aesthetic features or the introduction of contrasting features that could degrade the visual quality and character of the Site or

[1] *Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego, 139 Cal. App. 4th 249, 279 (2006).*

its surrounding uses. Factors such as changes in the appearance of the Site, proposed grading, perimeter treatments and other features are taken into account. The analysis of visual quality is based in part on visual simulations depicting the visual character of the Site under existing and future conditions. The analysis also accounts for the extent to which future conditions with the Project would support or impede fulfillment of relevant plans and policies that address visual character.

Significance Criteria

For purposes of this EIR, DTSC has utilized the checklist questions in Appendix G of the *CEQA Guidelines* as thresholds of significance to determine whether a project would have a significant environmental impact regarding aesthetics. Based on the size and scope of the Project and the potential for aesthetics impacts, the thresholds identified below are included for evaluation in this EIR. Please refer to Section 6.0, *Other Mandatory CEQA Considerations*, for a discussion of other issues associated with the evaluation of aesthetics where the characteristics of the Project made it clear that effects would not be significant and further evaluation in this section was not warranted.

Would the Project:

4.1-1 Have a substantial adverse effect on a scenic vista (refer to Impact Statement 4.3-1);

4.1-2 Substantially degrade the existing visual character or quality of the site and its surroundings (refer to Impact Statement 4.3-3); and

4.1-3 Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic resources within a state scenic highway (refer to Impact Statement 4.3-2).

Project Features

The following Project Design Features (PDFs) form the basis of the Project and would be included in the Mitigation Monitoring and Reporting Program (MMRP) for the Project. These features would prevent the occurrence and/or minimize the significance of potential aesthetic impacts.

PDF 1-1 The upper deck of the cap would include a three percent (3%) gradient surrounded by side slopes along the cap perimeter with a horizontal-to-vertical gradient of three to one (3H:1V), excluding the Site perimeter access road, City parcel, SCOC area, and storm water detention basins. (This PDF to be verified prior to approval of the Final Cap Design Plan by DTSC, Unit Chief, Brownfields & Environmental Restoration.)

PDF 1-2 The cap would be vegetated with self-sustaining vegetation (such as grasses and/or other vegetation) on the surface. (This PDF to be verified prior to approval of the Final Cap Design Plan by DTSC, Unit Chief, Brownfields & Environmental Restoration.)

PDF 1-3 The RPs would conduct weed abatement and litter control on the vegetated cap cover on a periodic basis to maintain the appearance and low-lying vegetation of the cap and minimize the potential for fire hazard. (This PDF to be verified through compliance

reports submitted by the RPs to DTSC, Unit Chief, Brownfields & Environmental Restoration.)

PDF 1-4 The position of the new fence lines along Magnolia Street and Hamilton Avenue would be located along the property line approximately 20 and 30 feet further from each street, respectively, than presently positioned. Also, with the 15-foot wide perimeter road along Magnolia Street and Hamilton Avenue, the cap would not begin to rise until approximately 35 to 45 feet inside the present fence line. (This PDF to be verified prior to approval of the Final Cap Design Plan by DTSC, Unit Chief, Brownfields & Environmental Restoration.)

Analysis of Project Impacts

Scenic Vista/Visual Character and Visual Quality

Impact 4.1-1	Would the project have a substantial adverse effect on a scenic vista?
Impact 4.1-2	Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

As indicated by the above thresholds, this subsection summarizes analyses of potential impacts to both valued visual resources and visual character. For the analyses below, potential impacts to views are described first, followed by potential impacts to visual character. The discussion of potential view impacts includes an analysis of views of the Site and views across the Site. The analysis is based in part on visual simulations showing existing and future conditions at five view locations in the vicinity of the Site. A legend identifying the view locations in the simulations is provided in Figure 4.1-1.

Short-Term Impacts

Scenic Vista

As discussed in the Existing Conditions section above, due to the Site's existing topography and intervening development, there are no views of valued visual resources (e.g., Pacific Ocean, beach, Magnolia Marsh) that extend across the Site. Mass grading of on-site materials during the RAP implementation process would not create views of visual resources across the Site. In addition, a chain-link fence, or similar structure, would remain throughout most of the implementation process (e.g., partial removal of existing on-site material, grading, installation of a protective cap). As a result, short-term impacts with respect to views of identified visual resources would be less than significant.

Visual Character and Visual Quality

Views of the Site during the RAP implementation process would generally only occur from Magnolia Street, Hamilton Avenue, residential development east of the Site, Edison High School, and Edison Community Park (View Locations 1 and 2). Views of the Site from the remaining view locations are obstructed by existing topography and intervening development, and views of short-term activities would be highly limited, if available at all. The removal of the existing on-site vegetation, perimeter berms along Magnolia Street and Hamilton Avenue, and perimeter fencing during implementation of the RAP would temporarily expose construction equipment and the mass grading of the Site to casual observers. Views during this time could include on-site grading and waste removal activities and associated heavy equipment (e.g., graders,

bulldozers, tractor trailers, semi-tractor-trailers), stockpiles of materials, and vehicle staging and parking areas. Implementation of the RAP would include removal of on-site vegetation, and when combined with grading, would expose underlying soil resulting in a short term barren appearance of the land surface. However, implementation of the RAP would be only temporarily disruptive with active construction occurring over an approximate one-year period.

As discussed in the Existing Conditions section above, only the Site's perimeter trees along Magnolia Street contribute to the visual character of the Site. However, the perimeter berm vegetation is partially obstructed from view by the existing chain link fence with green privacy fabric and is not currently maintained, and as such, the trees only marginally contribute to the visual character and visual quality for motorists and pedestrians along Magnolia Street. There are no features along the Site's northern perimeter that contribute to the visual character or visual quality of the Site for motorists and pedestrians along Hamilton Avenue, and for visitors of Edison Community Park. Because of the short-term, temporary nature of the RAP construction activities, maintenance of the existing fence, and in consideration of the existing low level of visual quality evident along the perimeters of the Site where the Site is visible enough to effect visual character (i.e., from vantage points north and east of the Site), construction activities would not substantially alter, degrade, eliminate or generate long-term contrast with the visual character of the surrounding area or the existing Site. Based on the above, short-term impacts with respect to visual character would be less than significant.

Long-Term Impacts

The capped Site would represent a closed landfill with a vegetated cap that gently rises from street grade at a significant offset from the present fence line. As under existing conditions, the reconsolidated on-site materials would represent a recognizable topographic feature in the otherwise flat Site vicinity. The landform of the capped Site is depicted in Figure 2-7 of Section 2.0 of this EIR. As shown therein, the capped Site's landform would assume the approximate shape of an uneven, gradually sloped wedge. To blend the topography of the capped Site with the surrounding vicinity and reduce its visual massing from vantage points north and east of the Site, the Site would slope gradually upward from approximately 35 feet inside the Magnolia Street fence line and approximately 45 feet within the Hamilton Avenue fence line, with a peak height of approximately 44 feet mean sea level (msl), approximately 37 to 39 feet above street level, near the southwest corner of the Site (PDF 1-1). The Site's north and east sides would have two slope gradients, a gradually sloping (3 percent gradient) upper portion (top deck), and a more steeply sloping (horizontal-to-elevation ratio of 3:1, or approximately 18.5 percent gradient) lower portion (side slopes) necessary to ensure proper function of the vegetated cap (PDF 1-1). The elevation at which the upper and lower slopes meet is dependent on the location along the perimeter. For instance, the upper and lower slopes would meet at approximately 6 to 8 feet above street level along the northern and eastern perimeter. However, the elevation at which they meet would increase gradually towards the southwest along the southern and western perimeters. At the southwest corner of the Site, the lower slope with the horizontal-to-elevation ratio of 3:1 would extend to the full height of 44 feet msl. The two exceptions to the Site's general landform are the two storm water detention basins proposed at the Site's northwest and southeast corners. These features would be located close to street level, and landform adjacent to the basins would be sloped to accommodate them. An internal access road approximately 15 to 25 feet in width would be located along the perimeter of the Site and adjacent to the inside of the chain-link fence.

The cap would be planted with self-sustaining vegetation (grasses and/or low vegetation) to ensure barren soils are not exposed (PDF 1-2). The vegetated cap would be maintained periodically to reduce the potential for fire hazard and to maintain an orderly appearance. Once established, the vegetation would not be

irrigated, but would be allowed to green and brown with seasonal variations in weather and precipitation (PDF 1-3).

View Location 1 (Magnolia Street/Residential Uses)

Figure 4.1-3, *View Location 1: Westerly View from Magnolia Street and Residential Uses East of the Site*, illustrates the existing conditions of the Site and a visual simulation of the capped Site as viewed from Magnolia Street and the residential uses east of the Site.

Scenic Vista

As discussed in the Existing Conditions section above, the Site's existing topography and intervening development obstructs views of identified visual resources (e.g., Pacific Ocean, beach, Magnolia Marsh) across the Site from this view location. As shown in Figure 4.1-3, this condition would not change and upon completion of remediation activities the capped Site would continue to be of a height and mass that would obstruct ground-level views across the Site. Although not an identified visual resource, views of the Edison Community Park would be improved for motorists and pedestrians along Magnolia Street from this view location as a result of the reduced height of materials at the northeast corner of the Site and introduction of the perimeter road. With the removal of vegetation along the Site's eastern perimeter berm, the upper portion of the AES Power Plant would become visible from this view location; however, it would be a subordinate feature of the viewshed because of its distance from this view location. Furthermore, consolidating materials towards the southwest corner of the Site would maintain a visual buffer between the residential/public and industrial land uses in the surrounding area. Thus, the remediated, capped Site would result in a less than significant impact with respect to views of identified visual resources across the Site from this view location.

Visual Character

As discussed in the Existing Conditions section above, existing views of the Site for motorists and pedestrians along Magnolia Street, and residential development from this view location are defined by the perimeter features (i.e., earthen berm, perimeter vegetation, and chain link fence) along the eastern Site boundary that result in a low visual quality. Views do not extend beyond these features. The visual character of Magnolia Street is defined in part by landscaped medians and trees lining the east side of the street (no landscaped median is adjacent to the Site); however, the existing on-site vegetation is partially obstructed by the existing chin-link fence with green privacy fabric and only marginally contributes to the visual character of Magnolia Street. No other features of the Site contribute to the visual character or visual quality of the Site vicinity.

As discussed above, the remediated capped Site would represent a closed landfill with a vegetated cap. By reconsolidating on-site materials towards the southwest portion of the Site, the topography of the capped Site along Magnolia Street would be close to the street grade with the top of the cap (side) slope being up to approximately 6.5 feet higher than the toe of the cap. In comparison to existing conditions, in which the earthen berm rises steeply from the street along many segments of the perimeter, the capped Site would result in a topography that is more visually consistent with the street right-of-way. The reduced slope in combination with vegetation removal would eliminate impediments to current views along Magnolia Street created by the existing chain-link fence with green privacy fabric, perimeter berm, and perimeter vegetation, and views for casual observers would extend into the Site rather than end at the Site boundary as under existing conditions. In this way, despite the maximum height of 44 feet msl at the southwest corner of the

Existing

Proposed

PCR

View location 1: Westerly View from Magnolia Street and Residential Uses East of the Site

RAP EIR - Ascon Landfill Site

Source: PCR Services Corporation, 2013.

FIGURE

4.1-3

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Site (an increase of approximately 20 feet over existing conditions), the remediated capped Site would introduce intermediate-range views of the Site and reduce the visual massing for motorists and pedestrians along Magnolia Street when compared to existing conditions, due to both the enhanced offset and the more gradual rise of the cap. Nonetheless, the reconsolidated on-site materials and cap would still represent a recognizable topographic feature in the otherwise flat Site vicinity from this view location.

By replacing the existing fence with a new offset fence that does not have a privacy screen and removing trees along the Site's eastern perimeter, the visual character of vegetation along Magnolia Street would vary from existing conditions. As discussed above, by removing the existing fence privacy screen and planting low-lying grasses and/or other vegetation on a gradually up-sloping and set-back hill, the perceived visual massing of on-site materials from Magnolia Street would be reduced. In addition, intermediate-range views of the vegetated cap would become more visually consistent with the form and texture of grass at the open space immediately south of the Site and at the southern portion of Edison Community Park, which would become more visible to motorists and pedestrians along Magnolia Street (i.e., removal of the blind corner). An additional benefit of the proposed cap offset, aside from aesthetics, would be enhanced traffic safety because of the improvement in traffic visibility at the intersection of Magnolia Street and Hamilton Avenue. Because adjacent open space areas are irrigated, some degree of visual contrast in the color of vegetation would occur when the on-site grasses are allowed to brown during the dry season. Further, grasses may achieve a greater height on-site than at the open space area south of the Site. However, because the vegetation would be maintained on a periodic basis, there would be some improvement in the visual quality of on-site vegetation when compared to the existing unmaintained perimeter vegetation (PDF 1-3). Further, the proposed chain-link fence at its set-back location and without green privacy screen would no longer obstruct views onto the Site. As a result of the periodic maintenance of vegetation and less obstructive fencing, the capped Site would result in a more uniform and maintained appearance when compared to existing conditions. The detention basin at the southeast corner of the Site would appear as a rectangular-shaped man-made depression with sloped walls that would neither add nor subtract to the visual character and visual quality of the capped Site. By restoring right-of-way to Magnolia Street (PDF 1-1), the roadway configuration and width would become more visually consistent with Magnolia Street north and south of the Site, and the City would be provided greater flexibility to implement a streetscape plan consistent with the aesthetic goals of the City's General Plan. Lastly, the restored right-of-way and gradually sloping vegetated slope would also provide a visual connection between the open space and sidewalks adjacent to the west side of Magnolia Street north and south of the Site.

By providing a gradually sloping capped Site that extends views into the site and includes low-lying grasses and vegetation, the remediated capped Site would not substantially degrade the existing visual character or quality of the Site and its surroundings from this view location despite the removal of existing trees along Magnolia Street. A less than significant impact on aesthetic resources from location 1 would therefore result from implementation of the RAP.

View Location 2 (Hamilton Avenue/Edison Community Park)

Figure 4.1-4, *View Location 2: Southerly Views from Hamilton Avenue and Edison Community Park North of the Site*, illustrates the existing conditions of the Site and a visual simulation of the capped Site as viewed from Hamilton Avenue and Edison Community Park north of the Site.

Scenic Vista

As discussed in the Existing Conditions section above, the Site's existing topography and intervening development obstruct views of identified visual resources (e.g., Pacific Ocean, beach, Magnolia Marsh) across the Site from this view location. Further, it is acknowledged that the ocean, beach, and marsh would not be visible from eye level at Edison Park even if the landfill were never there due to the channel berms, an "intervening development." As shown in Figure 4.1-4, this condition would not change as a result of implementation of the RAP. Views of Magnolia Street would be improved for motorists and pedestrians along Hamilton Avenue, and for visitors of Edison Community Park from this view location as a result of the reduced height of materials at the northeast corner of the Site and construction of a perimeter road. Because materials would be reconsolidated to an approximate height of 44 feet msl (an increase of 20 feet) towards the southwest corner of the Site, the reconsolidated materials would obstruct existing views of the upper portion of the AES Power Plant for motorists and pedestrians along Hamilton Avenue, and for visitors of Edison Community Park; however, the power plant is not considered a valued visual resource. In this manner, the Site would continue to act as a visual and noise buffer between the residential/public and industrial uses in the surrounding area. Thus, the remediated capped Site would result in a less than significant impact with respect to views of identified visual resources across the Site from this view location.

Visual Character

As discussed in the Existing Conditions section above, existing views of the Site for motorists and pedestrians along Hamilton Avenue, and visitors of Edison Community Park from this view location are defined by perimeter features (i.e., earthen berm and chain link fence) along the northern Site boundary that result in a low visual quality. Views of the Site's northern boundary under current conditions do not contribute to a positive sense of visual character in the Site vicinity from this view location because the visible terraces contain a variety of materials and vegetation, combined with the internal fencing located above the perimeter chain-link fence with privacy fabric presently create a cluttered appearance. With the exception of long-range views of the upper portion of the AES Power Plant, views do not extend beyond these features.

As discussed above, the Site upon completion of the RAP would represent a closed capped landfill. The impact to visual character at this view location would be similar to that from View Location 1. By reconsolidating on-site materials towards the southwest portion of the Site, the capped Site's reduced slope would be more visually consistent with the street right-of-way, and views for the casual observer would extend into the Site rather than end at the Site boundary as under existing conditions. For these reasons, as with View Location 1, the remediated, capped Site would introduce intermediate-range views of the Site from this view location and reduce the visual massing of the Site from this view location when compared to existing conditions for motorists and pedestrians along Hamilton Avenue and from Edison Community Park north of the Site. Nonetheless, the reconsolidated on-site materials and cap would represent a recognizable topographic feature in the otherwise flat Site vicinity from this view location.

As with View Location 1, the intermediate-range views of the vegetated cap would become more visually consistent with the form and texture of grass areas at the southern portion of Edison Community Park. Although the proposed vegetated cap would contain vegetation similar to existing vegetation along the Site's northern perimeter, because implementation of the RAP would remove the visually inconsistent features along the Site's northern perimeter (i.e., chain-link fence with green privacy fabric, upper terrace of partially unvegetated landfilled materials, internal fencing), the proposed vegetated cap would be more consistent,

Existing

Proposed

PCR

View Location 2: Southerly View from Hamilton Avenue and Edison Community Park North of the Site

RAP EIR - Ascon Landfill Site

Source: PCR Services Corporation, 2013.

FIGURE

4.1-4

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with open space areas in Edison Community Park. Because the vegetated cap would not be irrigated once vegetation is established or maintained as regularly as the grass areas in Edison Community Park, there would be some visual contrast between the vegetated cap and surrounding landscaping areas for motorists and pedestrians along Hamilton Avenue and users of Edison Community Park when the vegetation is allowed to brown during the dry season. Further, grasses may achieve a greater height on-site than at Edison Community Park. However, the periodic maintenance of proposed vegetation would represent a marginal improvement to visual quality over existing conditions, where existing vegetation is not uniform in appearance or routinely maintained. Also, by replacing two terraces of visually inconsistent materials (e.g., perimeter berm, internal berm, interior fencing) with periodically maintained grasses and/or other vegetation, the Site itself would present a more uniform appearance from this view location. This would constitute a marginal improvement in the visual quality of the Site over existing conditions, where the visible internal berm is partially unvegetated, resulting in a somewhat cluttered appearance. The detention basin at the northwest corner of the Site would appear as a rectangular-shaped man-made depression that would neither add nor subtract to the visual character and visual quality of the capped Site. Further, as with View Location 1, by restoring the right-of-way to Hamilton Avenue, the roadway configuration and width would become more visually consistent with Hamilton Avenue west and east of the Site, and the City would be provided greater flexibility to implement a streetscape plan consistent with the surrounding vicinity.

By providing a gradually sloping capped Site that extends views into the Site and includes low-lying grasses and vegetation that are maintained on a periodic basis, the remediated, capped Site would not substantially degrade the existing visual character or quality of the Site and its surroundings from this view location, and a less than significant impact would result.

View Location 3 (Intersection of PCH and Beach Boulevard)

Figure 4.1-5, *View Location 3: Easterly Views from the Intersection of the Pacific Coast Highway and Beach Boulevard West of the Site*, illustrates existing conditions of the Site and a visual simulation of the capped Site as viewed from the southern end of Beach Boulevard where it intersects PCH. As shown therein, the Site is not visible under existing or proposed conditions.

Scenic Vista

As discussed in the Existing Conditions section above, no views of or across the Site are available for motorists and pedestrians along PCH from this view location because the existing intervening development obstructs such views. With implementation of the RAP, on-site materials would not be of sufficient height or mass to be visible from this view location. Thus, implementation of the RAP would result in no impact with respect to views of or across the Site from this view location.

Visual Character

The visual character in the vicinity of View Location 3 would remain unaltered because the remediated, capped Site would not be visible from this view location. Thus the remediated, capped Site would not substantially degrade the existing visual character or quality of the Site and its surroundings from this view location, and no impact would result.

View Location 4 (Intersection of PCH and Magnolia Street)

Figure 4.1-6, *View Location 4: Northerly View from the Intersection of Pacific Coast Highway and Magnolia Street South of the Site*, illustrates existing conditions of the Site and a visual simulation of the capped Site from Magnolia Street where it intersects PCH south of the Site.

Scenic Vistas

As discussed in the Existing Conditions section above, short-range views toward the Site from this view location for motorists and pedestrians along PCH and visitors to Magnolia Marsh are defined by the Magnolia Marsh, while intermediate-range views are defined by the tank farm immediately south of the Site. The tank farm contributes to the industrial visual character of the Site vicinity from this view location and with the exception of the trees along the Site's southern perimeter, largely obstructs views of the Site. No long-range views of visual resources are available across the Site from this view location. This condition would not change as a result of implementation of the RAP. Site features would continue to be obstructed by intervening development and no views of visual resources across the Site would be available. Thus, implementation of the RAP would result in a less than significant impact with respect to views of the Site and views across the Site from this view location.

Visual Character

As discussed in the Existing Conditions section above, from this view location, the Site is largely obstructed from view and does not contribute to the visual character of the Site vicinity, which has a medium level of visual quality resulting from the combination of Magnolia Marsh and nearby industrial development.

Upon implementation of the RAP, the southern portions of the vegetated cap would become visible through the existing tank farm for motorists and pedestrians along PCH, and for visitors of Magnolia Marsh. As shown in Figure 4.1-6, although the proposed landform of the capped Site would represent the most notable departure from surrounding topography at the Site's southwest corner, the vegetated cap would nonetheless be approximately the same height, mass, and color as the existing trees it would replace along the Site's southern perimeter. Thus, similar to the existing tree line, the vegetated cap from this view location would continue to be subordinate to short- and intermediate-range views of Magnolia Marsh and the tank farm. Consequently, the vegetated cap would neither add to nor subtract from the area's predominately industrial visual character, and would be largely unnoticeable to casual observers along PCH or at Magnolia Marsh. Thus, implementation of the RAP would not substantially degrade the existing visual character or quality of the Site and its surroundings from this view location and a less than significant impact would result.

View Location 5 (Huntington Beach State Beach and Huntington Beach Trail)

Figure 4.1-7, *View Location 5: Northerly View from the Huntington Beach State Beach and Huntington Beach Trail South of the Site*, illustrates existing conditions and a visual simulation of the capped Site as viewed from the Huntington Beach State Beach and Huntington Beach Trail southwest of the Site.

Scenic Vista

As discussed in the Existing Conditions section above, short-range views for visitors of Huntington Beach State Beach and Huntington Beach Trail towards the Site consist of structures supporting the Huntington

Existing

Proposed

PCR

View Location 3: Easterly View from the Intersection of Pacific Coast Highway and Beach Boulevard West of the Site

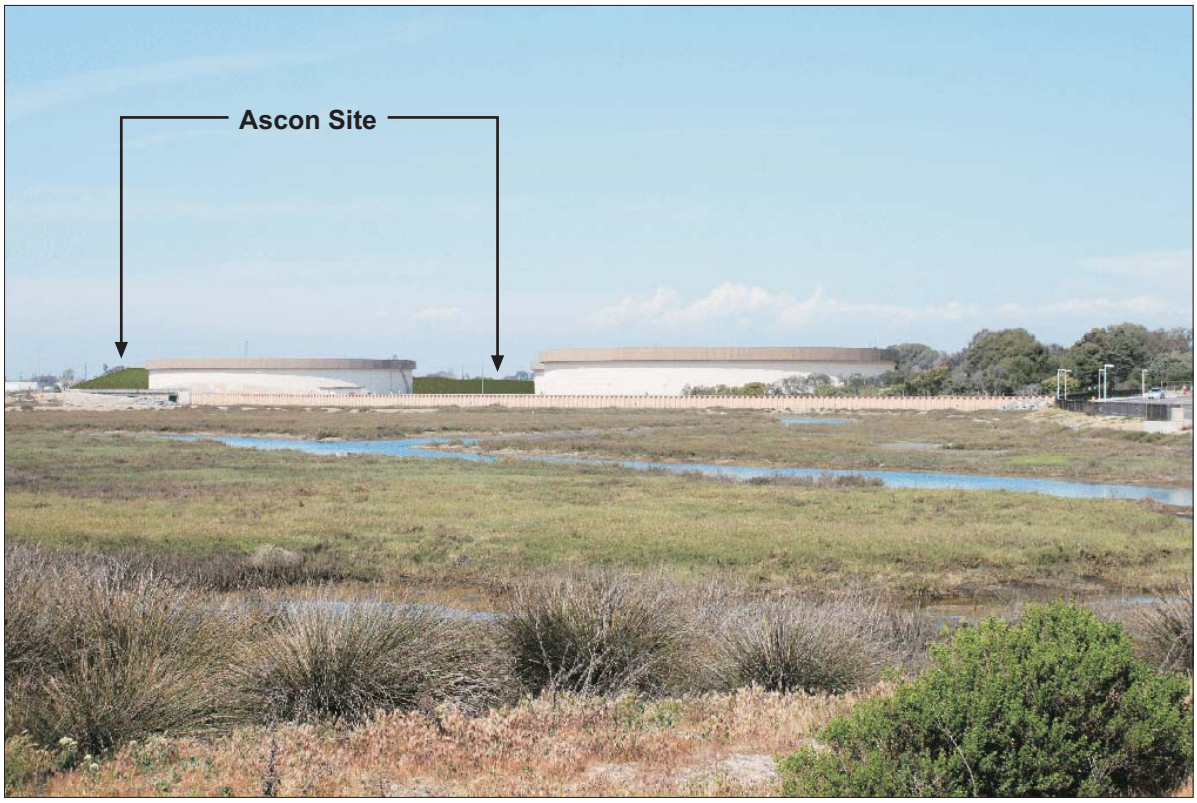
RAP EIR - Ascon Landfill Site

Source: PCR Services Corporation, 2013.

FIGURE

4.1-5

Existing



Proposed

PCR

View Location 4: Northerly View from the Intersection of Pacific Coast Highway and Magnolia Street South of the Site

RAP EIR - Ascon Landfill Site

Source: PCR Services Corporation, 2013.

FIGURE

4.1-6

Existing

Proposed

PCR

View Location 5: Northerly View from the Huntington Beach State Beach and Huntington Beach Trail South of the Site

RAP EIR - Ascon Landfill Site

Source: PCR Services Corporation, 2013.

FIGURE

4.1-7

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Beach State Beach and PCH. Intermediate-range views towards the Site are of Magnolia Marsh and the tank farm. The tank farm contributes to the industrial visual character and medium level of visual quality of the Site vicinity from this view location and, with the exception of the trees along the Site's southern perimeter, largely obstructs views of the Site. This condition would not change as a result of implementation of the RAP. Site features would continue to be obstructed by intervening development and no views of visual resources across the Site would be available. Thus, implementation of the RAP would result in a less than significant impact with respect to views of the Site and views across the Site from this view location.

Visual Character

As discussed in the Existing Conditions section above, from this view location, the Site is largely obstructed from view and does not contribute to the visual character of the Site vicinity, which has a medium level of visual quality resulting from the combination of features of the Huntington Beach State Beach, Magnolia Marsh, roadway infrastructure, and industrial development.

Upon implementation of the RAP, the southern portions of the vegetated cap would become visible through the existing fuel storage tanks for visitors of the Huntington Beach State Beach and Huntington Beach Trail.

As shown in Figure 4.1-7, although the proposed landform of the capped Site would represent the most notable departure from surrounding topography at the Site's southwest corner, the vegetated cap would nonetheless be similar in height, mass, and color as the existing trees it would replace along the Site's southern perimeter. Thus, similar to the existing tree line, the vegetated cap from this view location would continue to be subordinate to short- and intermediate-range views of the features of Huntington Beach State Beach, Magnolia Marsh, and the Plains All American tank farm. Consequently, the vegetated cap would neither add nor subtract from the area's predominately industrial visual character, and would be largely unnoticeable to casual observers visiting Huntington Beach State Beach and the Huntington Beach Trail. Thus, the remediated, capped Site would not substantially degrade the existing visual character or quality of the Site and its surroundings from this view location, and a less than significant impact would result.

Conclusion. The reconsolidation of on-site materials would not obstruct or alter views of identified visual resources (e.g., Pacific Ocean, beach, Magnolia Marsh). The existing vegetation along Site's eastern perimeter only marginally contributes to the visual character of the Site vicinity. Implementation of the RAP would remove this unmaintained vegetation and, along with the removal of other perimeter features, would open up views into the interior of the Site. These interior views, where available, would be of a vegetated cap that would be maintained periodically and would reduce the number of visually inconsistent elements in viewsheds of the Site. As a result, the capped Site would not substantially degrade the existing visual character or quality of the Site and its surroundings. Thus, implementation of the RAP would result in a less than significant impact with respect to scenic vistas and visual character and quality of the Site and surrounding vicinity.

Scenic Resources Within a Scenic Highway

Impact 4.1-3:	Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic resources within a state scenic highway?

Short-Term Impacts

Short-term construction activities associated with RAP implementation would not be visible from PCH, which, as discussed in the Existing Conditions section above, is a roadway identified by the State of California as an Eligible State Scenic Highway but is not formally designated as a State Scenic Highway. PCH is also designated as a Landscape Corridor and Major Urban Scenic Corridor by the City's General Plan Circulation Element. As discussed above, views from Magnolia Street (a designated Landscape Corridor) during RAP implementation (e.g., partial removal of existing on-site material, grading, installation of a protective cap) could include grading and waste removal activities and associated heavy equipment (e.g., graders, bulldozers, tractor trailers, semi-tractor-trailer); stockpiles of materials; vehicle staging and parking areas; and exposed underlying soils. However, implementation of the RAP would be only temporarily disruptive with construction occurring over an approximately one-year period. The Site's perimeter trees only marginally positively contribute to the visual character of the Site. Thus, removal of this vegetation would not substantially damage scenic resources, including trees within a state scenic highway, and a less than significant impact would result.

Long-Term Impacts

As mentioned above, PCH is identified by the State of California as an Eligible State Scenic Highway but is not formally designated as a State Scenic Highway. PCH is also designated as a Landscape Corridor and Major Urban Scenic Corridor by the City's General Plan Circulation Element. As further discussed above, the visual character of the Site and surrounding vicinity from PCH is industrial in nature, and no historic resources, trees, rock outcroppings, or historical resources are present in the Site vicinity. As demonstrated in Figure 4.1-6 (View Location 4), the vegetated cap would be a subordinate feature of the viewshed from PCH, largely obstructed from view by existing industrial uses. Because the minor changes to the visual character would be largely unnoticeable to the casual observer, they would not substantially degrade the visual character of the Site vicinity from PCH. Thus, the implementation of the RAP would result in a less than significant impact with respect to scenic resources along PCH.

Magnolia Street is designated as a Landscape Corridor in the City's General Plan Circulation Element and as a Secondary Path/Image Corridor in the City's General Plan Urban Design Element. As discussed above, the City's intention for Landscape Corridors is to maintain and enhance visual character and scenic views through landscape design themes, landscaped slopes and berms, and by blending man-made features with the natural environment. The City of Huntington Beach has not developed typical roadway sections for designated Landscape Corridors. The roadway's designation as a Secondary Path/Image Corridor recognizes that views of valued visual resources are available along the segment of Magnolia Street closest to the Pacific Ocean. No scenic buildings or rock outcroppings are located along Magnolia Street in the vicinity of the Site. However, as discussed above, the existing on-site perimeter vegetation combines with other vegetation along Magnolia Street to form a tree-lined corridor between the Huntington Beach Channel and Hamilton Avenue.

As discussed above, the capped Site would not include vegetation along the Site's eastern perimeter as under existing conditions. While the existing on-site vegetation contributes to a tree-lined corridor along Magnolia

Street, it is partially obstructed from view by the existing fence and privacy screening. Additionally, the vegetation is not routinely pruned or trimmed, and many trees are overgrown and have dead and fallen branches. Low-lying vegetation on the perimeter berm is green seasonally and spotty with barren areas in numerous places during dormant months. Thus, existing vegetation only marginally contributes to the visual character of Magnolia Street between the Huntington Beach Channel and Hamilton Avenue, and its removal would not substantially damage scenic resources, including trees within the designated corridor. The remaining landscaped trees along this segment of Magnolia Street, which contribute more so to the visual character of the Landscaped Corridor, would not be affected by implementation of the RAP. As a result, the remediated capped Site would result in a less than significant impact to the designated Landscape Corridor.

Conclusion. Changes to the visual character of the Site vicinity would be largely unnoticeable from PCH. Vegetation along Magnolia Street (a City-designated Landscape Corridor and Secondary Path/Image Corridor) only marginally contributes to the visual quality of the roadway corridor, and its removal would not substantially damage scenic resources within a state scenic highway. Hence, a less than significant impact would result.

Consistency With City of Huntington Beach General Plan Goals and Policies

The City's General Plan contains goals, objectives, and policies that are relevant to aesthetics and are presented in the General Plan Land Use Element, Urban Design Element, Circulation Element, Environmental Resources/Conservation Element, and Coastal Element. As mentioned in the Regulatory Framework above, the City identifies the Pacific Ocean and beach as significant recreational and visual resources that attract many visitors to Huntington Beach. The City also identifies Magnolia Street as a City-designated Landscape Corridor and Secondary Path/Image Corridor. As discussed below in **Table 4.1-1**, *Project Consistency with Huntington Beach General Plan*, implementation of the RAP would be consistent with the applicable goals and policies of the City of Huntington Beach General Plan pertaining to aesthetics.

Table 4.1-1

Project Consistency with the Applicable Goals and Policies of the Huntington Beach General Plan

Goals, Objectives and Policies	Project Consistency
Land Use Element	
Goal LU-4. Achieve and maintain high quality architecture, landscape, and public open spaces in the City.	**Partially Consistent.** Implementation of the RAP would reconsolidate existing on-site landfilled materials. With the exception of vegetation along the Site's eastern perimeter, the Site currently does not contribute to the visual character of the Site vicinity. Vegetation along the eastern perimeter marginally contributes to the visual quality. This vegetation would be removed, reducing the perimeter landscaping at the Site. Nonetheless, the implementation of the RAP would restore right-of-way to Magnolia Street and Hamilton Avenue (i.e., fence line would be repositioned approximately 20 to 30 feet into the Site), reconsolidate on-site materials towards the southwest portion of the Site to be more topographically consistent with vantage points north and east of the Site, remove visually disjointed on-site features (e.g., variety of visible material types, internal fencing), and install grasses and/or other vegetation that would be maintained on a

Table 4.1-1 (Continued)

Project Consistency with the Applicable Goals and Policies of the Huntington Beach General Plan

Goals, Objectives and Policies	Project Consistency
	periodic basis. These actions would result in a more uniform Site appearance from off-site vantage points to the north and south.
Objective LU 4.1. Promote the development of residential, commercial, industrial, and public buildings and sites that convey a high quality visual image and character.	**Partially Consistent.** To improve the Site's visual character from public vantage points north and east of the Site, on-site materials would be reconsolidated to form a gradually sloping hill extending upward from Magnolia Street and Hamilton Avenue. The removal of visually disjointed on-site features (e.g., variety of visible material types and internal fencing) would reduce the cluttered appearance of the Site along Hamilton Avenue, resulting in a more uniform appearance from vantage points to the north. The restoration of the right-of-way to Magnolia Street and Hamilton Avenue would result in a roadway width and visual character more consistent with adjacent segments of those roadways. Nonetheless, the reconsolidated on-site materials would represent a readily recognizable topographic feature in the otherwise flat Site vicinity from off-site vantage points.
Policy LU 4.1.3. Require property owners to maintain landscaping, remove and abate weeds, and replace unhealthy or dead landscape.	**Consistent.** As discussed above, existing vegetation along the Site's eastern perimeter is partially obstructed by the existing chain-link fence with privacy screen. Low-lying vegetation on the perimeter berm is also spotty with barren areas in numerous places during dormant months. Implementation of the RAP would remove this vegetation and replace it with a gradually sloped berm vegetated with grass. Weed abatement of the vegetated cap cover would occur on a periodic basis to maintain an orderly appearance of the vegetated cap (PDF 1-3).
Policy LU 4.1.6. Require that commercial and industrial development incorporate adequate drought-conscious irrigation systems and maintain the health of the landscape.	**Consistent.** Once self-sustaining vegetation is well-established, the vegetated cap would not be regularly irrigated, but rather, would be allowed to green and brown with natural seasonal cycles. On-site vegetation would be maintained with the periodic weed abatement program described above (PDF 1-3).
Urban Design Element	
Objective 2.2. Minimize the visual impacts of oil production facilities and other utilities where they encroach upon view corridors or are visually incompatible with their surrounding uses.	**Consistent.** As discussed above, by reconsolidating on-site materials towards the southwest portion of the Site, the capped Site would result in a topography that is more visually consistent with the street right-of-way. The reconsolidation of materials towards the southwest corner would also reduce the visual massing of the Site from Magnolia Street and Hamilton Avenue. The SCOC oil production facilities in the western portion of the Site are currently not visible from surrounding view corridors (i.e., Hamilton Avenue and Magnolia Street). Under the RAP, views of the oil production facilities in the SCOC property would be highly limited, if at all, from only the Hamilton view corridor due to the topography of the capped Site. As

Table 4.1-1 (Continued)

Project Consistency with the Applicable Goals and Policies of the Huntington Beach General Plan

Goals, Objectives and Policies	Project Consistency
	such, views of oil production facilities would be minimized consistent with this policy.
Circulation Element	
Goal CE 7. Maintain and enhance the visual quality and scenic views along designated corridors.	**Partially Consistent.** Magnolia Street is a designated City Landscape Corridor and Secondary Path/Image Corridor. Implementation of the RAP would remove existing vegetation along the Site's eastern boundary that marginally contributes to a positive visual character of the roadway corridor. Implementation of the RAP would restore the right-of-way to Magnolia Street, and the roadway configuration and width would become more consistent with adjacent segments of Magnolia Street. In addition, the City would be provided greater flexibility to implement a streetscape plan consistent with the aesthetic goals of a Landscape Corridor as identified in of the City's General Plan. Further, on-site grasses and/or other vegetation would be maintained on a periodic basis to reduce the potential for fire hazards and maintain a more uniform appearance of the Site.
Objective CE 7.1. Enhance existing view corridors along scenic corridors and identify opportunities for the designation of new view corridors.	**Consistent.** As discussed above, implementation of the RAP would remove existing vegetation along the Site's eastern boundary that marginally contributes to a positive visual character of the roadway corridor. Implementation of the RAP would restore the right-of-way to Magnolia Street, and the roadway configuration and width would become more consistent with adjacent segments of Magnolia Street. In addition, the City would be provided greater flexibility to implement a streetscape plan consistent with the aesthetic goals of a Landscape Corridor as identified in the City's General Plan. Further, on-site grasses and/or other vegetation would be maintained on a periodic basis to reduce the potential for fire hazards and maintain a more uniform appearance of the Site.
Policy CE 7.1.4. Establish landscape and urban streetscape design themes for landscape corridors, minor scenic urban corridors, and major urban scenic corridors which create a different character enhancing the corridor's surrounding land uses. For example, the design theme for corridors adjacent to residential neighborhoods should be different than the design theme for industrial or commercial uses.	**Consistent.** The partially obstructed and unmaintained vegetation along the eastern perimeter marginally contributes to the visual quality of Magnolia Street. This vegetation would be removed, reducing the perimeter landscaping at the Site. Further, implementation of the RAP does not include perimeter landscaping. The Site acts as a visual barrier between residential/open space uses and industrial uses. Upon implementation of the RAP, the Site would continue to serve this function, resulting in continued areas of differing visual character and landscape/streetscape treatment.
Policy CE 7.1.6. Require any side slopes and earthen berms adjacent to roadways be landscaped appropriately to minimize visual impacts along scenic highways.	**Consistent.** As discussed above, the earthen berm would be vegetated with self-sustaining vegetation (grasses and/or other vegetation) (PDF 1-2). The RPs would conduct weed abatement on the vegetated cap cover on a

Table 4.1-1 (Continued)

Project Consistency with the Applicable Goals and Policies of the Huntington Beach General Plan

Goals, Objectives and Policies	Project Consistency
	periodic basis to maintain the appearance and low-lying vegetation and reduce the potential for fire hazard (PDF 1-3).
Objective CE 7.3. Protect scenic corridors and open space/landscape areas by blending man-made features with the natural environment.	**Consistent.** The partially obstructed vegetation along the eastern perimeter marginally contributes to the visual quality of Magnolia Street. This vegetation would be removed, reducing the perimeter landscaping at the Site. Implementation of the RAP does not include perimeter landscaping. However, implementation of the RAP would replace the steeply sloped earthen berm with a gradually upward sloping (3H:1V gradient) cap from Magnolia Street (PDF 1-1). Further, the capped Site would include a perimeter access road approximately 15 feet in width along Magnolia Street and Hamilton Avenue. These features would be more topographically consistent with the topography of Magnolia Street, thus blending the Site with the topography of the surrounding natural environment. In addition, on-site grasses and/or other vegetation would be maintained on a periodic basis to reduce the potential for fire hazards and maintain a more uniform appearance of the Site.
Policy CE 7.3.1. Require that new development include landscaping that is compatible with the visual character of the designated scenic highways and corridors.	**Partially Consistent.** Implementation of the RAP does not include perimeter trees because the cap cannot support deep-rooted vegetation. Nonetheless, on-site grasses and/or other vegetation would be part of the completed cap, and maintained on a periodic basis to reduce the potential for fire hazards and maintain a more uniform appearance of the Site. In addition, the City would be provided greater flexibility to implement a streetscape plan consistent with the aesthetic goals of a Landscape Corridor as identified in the City's General Plan.
Environmental Resources/Conservation Element	
Goal ERC 4. Maintain the visual quality of the City's natural land form and water bodies.	**Partially Consistent.** As discussed above, the capped Site would continue to represent a noticeable topographic feature in the otherwise relatively flat landscape. However, by reconsolidating on-site materials, on-site slopes would be more gradual than under existing conditions, and the visual massing of the Site would be reduced from vantage points north and east of the Site.
Objective ERC 4.1. Enhance and preserve the aesthetic resources of the City, including natural areas, beaches, bluffs, and significant public views.	**Consistent.** No ground-level views of identified visual resources are available across the Site. This would continue to be the case following implementation of the RAP, as on-site materials would still be of a sufficient height and mass to continue obstructing views. The partially obstructed vegetation along the eastern perimeter marginally contributes to the visual quality of Magnolia Street. No other features of the existing Site contribute to the visual character or quality of the Site vicinity. By providing a uniform visual appearance that is

Table 4.1-1 (Continued)

Project Consistency with Huntington Beach General Plan

Goals, Objectives and Policies	Project Consistency
	maintained periodically, the vegetated cap would represent a marginal improvement in the visual character of the Site from Magnolia Street when compared to existing conditions.
Objective ERC 4.1.6. Require that future development be designed and sited to maintain the natural topographic characteristics of the City including the minimization of the area and height of cuts and fills.	**Partially Consistent.** As discussed above, the capped Site would continue to represent a noticeable topographic feature in the otherwise relatively flat landscape. However, by reconsolidating on-site materials, on-site slopes would be more gradual than under existing conditions and the visual massing of the Site would be reduced from vantage points north and south of the Site.
Coastal Element	
Goal C 4: Preserve and, where feasible, enhance and restore the aesthetic resources of the City's coastal zone, including natural areas, beaches, harbors, bluffs and significant public views.	**Consistent.** No ground-level views of identified visual resources are available across the Site because of the elevated topography of the landfill and other development. This would continue to be the case following implementation of the RAP.
Objective C 4.7: Improve the appearance of visually degraded areas within the Coastal Zone.	**Consistent.** RAP implementation will result in more gradual on-site slopes than under existing conditions, making the Site more topographically consistent with the Site vicinity. In addition, implementation of the RAP would remove visually disjointed on-site features (e.g., variety of visible material types, internal fencing), and install grasses and/or other vegetation that would be maintained on a periodic basis. These actions would result in a more uniform Site appearance from off-site vantage points to the north and east.
Policy C 4.7.10: Encourage the remediation and cleanup of the NESI (Ascon) site. Work with other responsible agencies and property owner to facilitate site clean-up.	**Consistent.** As discussed above, by reconsolidating on-site materials, on-site slopes would be more gradual than under existing conditions, making the Site more topographically consistent with the Site vicinity reducing the visual massing of the Site from vantage points north and east. Further, implementation of the RAP would remove visually disjointed on-site features (e.g., variety of visible material types and internal fencing), and install grasses and/or other vegetation that would be maintained on a periodic basis. These actions would result in a uniform Site appearance from off-site vantage points to the north and east.

Source PCR Services Corporation, 2013.

3. CUMULATIVE IMPACTS

As discussed in Section 3, *Basis for Cumulative Analysis,* of this Draft EIR, there are 25 related projects within the vicinity of the Site. Of these projects, two are located in the immediate vicinity of the Site and would potentially contribute to a cumulative aesthetic impact when combined with the RAP implementation. These two projects are the Poseidon Resources Desalination Plant (Related Project No. 1) and Fuel Storage Tank Removal Project (Related Project No.2), located immediately west and south of the Site, respectively.

As part of the Poseidon Resources Seawater Desalinization Facility Project two existing large circular fuel storage tanks on the AES power plant site would be replaced with a saltwater desalinization facility consisting of several treatment buildings, an administration building, and several ancillary features, with a maximum height of approximately 35 feet above grade on a 13-acre portion of the existing AES property. Because the proposed desalinization facility would replace existing fuel storage tanks on a site occupied by industrial land uses (e.g., AES Power plant, fuel storage tanks), the desalinization plant would not represent a significant change to the industrial visual character of that site to the casual observer from identified view locations. For instance, the current above ground tanks within the future Poseidon footprint are approximately 40 feet in height, and thus, the proposed facility would be slightly shorter than current uses. As such, development of Poseidon facility when combined with the capped Site would not substantially degrade the visual character of the Site vicinity. Further, no views of scenic resources are currently visible across the Site from identified locations, and the development of the proposed desalinization plant would not change this condition.

The Fuel Storage Tank Removal Project would occur on the property immediately south of the Site and includes the removal of the three large circular fuel storage tanks from the tank farm property. The fuel storage tanks are industrial in nature and do not contribute to the visual quality of the Site vicinity. The removal of the fuel storage tanks would not be noticeable by the casual observer from vantage points west, north, and east of the tank site because intervening development (including the Site) obstructs views from these locations. However, the Fuel Storage Tank Removal Project would be visible from vantage points south of the Site, including from PCH, Huntington Beach State Beach, and the Huntington Beach Trail (View Locations 4 and 5). From these view locations, the removal of the tanks in combination with the vegetated cap would serve to reduce the industrial visual character of the Site vicinity. The removal of the fuel storage tanks would also improve visibility of the vegetated cap from these view locations. However, the existing fuel storage tanks do not contribute to the visual quality of the Site vicinity and the replacement of the tanks with the vegetated cap in the viewshed would not detract from the visual character of the Site vicinity. For instance, although the vegetated cap would be a visible topographic feature on the relatively flat landscape, it would be a subordinate visual feature that is consistent with the color, form, and texture of vegetation of the coastal wetlands. In addition, as discussed above, the vegetated cap would be approximately the same height, mass, and color as the existing trees it would replace along the Site's southern perimeter. Thus, even with the removal of the tanks, the vegetated cap would not be a significant contributing factor to the visual character of the Site vicinity. Lastly, no existing viewsheds of scenic resources would be obstructed.

Conclusion. Implementation of the RAP cumulatively combined with other related projects would not result in substantial cumulative adverse effects related to visual character or viewsheds of scenic resources. Thus, cumulative aesthetic resources impacts would be less than significant.

4. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the project design features would ensure that impacts regarding aesthetics are less than significant.

4.2 AIR QUALITY

This section addresses the air emissions that would be generated by the proposed Remedial Action Plan (RAP) (also referred to as the "Project") at the Ascon Landfill Site ("Site"). The analysis addresses the consistency of the Project with the air quality policies set forth within the South Coast Air Quality Management District's (SCAQMD) Air Quality Management Plan, and the City of Huntington Beach General Plan. Also, because the Project involves hauling up to 32,250 bank cubic yards (BCY) to appropriate receiver facilities, which likely includes landfills in the San Joaquin Valley Air Basin (SJVAB) and/or out of State, the Project is anticipated to result in truck trips in portions of the SJVAB. The analysis of Project-generated air emissions therefore focuses on whether the Project would cause an exceedance of an ambient air quality standard or SCAQMD or San Joaquin Valley Air Pollution Control District (SJVAPCD) significance thresholds. The analysis of Project-generated air emissions also assesses whether the Project would result in short-term emissions from truck trips in the SJVAB that would cause an exceedance of the SJVAPCD significance thresholds. The analysis of Project-generated air emissions is based on conservative assumptions and modeling results, as opposed to actual data. Calculation worksheets, assumptions, and model outputs used in the analysis are contained in Appendix B of this EIR.

1. ENVIRONMENTAL SETTING

Regulatory Framework

A number of statutes, regulations, plans, and policies address air quality issues. The Site and vicinity are subject to air quality regulations developed and implemented at the federal, state, and local levels.

Federal

Federal Clean Air Act

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years, with the most recent amendments in 1990. At the federal level, the United States Environmental Protection Agency (USEPA) is responsible for implementation of some portions of the CAA (e.g., certain mobile source and other requirements). Other portions of the CAA (e.g., stationary source requirements) are implemented by state and local agencies.

The CAA establishes federal air quality standards, known as National Ambient Air Quality Standards (NAAQS) and specifies future dates for achieving compliance. The CAA also mandates that the state submit and implement a State Implementation Plan for areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met. The 1990 amendments to the CAA identify specific emission reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA which are most applicable to the Project include Title I (Nonattainment Provisions) and Title II (Mobile Source Provisions). Title I requirements are implemented for the purpose of attaining NAAQS for the following criteria pollutants: (1) ozone (O_3); (2) nitrogen dioxide (NO_2); (3) sulfur dioxide (SO_2); (4) particulate matter (PM_{10}); (5) carbon monoxide (CO); and (6) lead (Pb). **Table 4.2-1**, *Ambient Air Quality Standards*, shows the NAAQS currently in effect for each criteria pollutant. The NAAQS were last amended in September 2006 to

Table 4.2-1

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [a]		Federal Standards [b]		
		Concentration [c]	Method [d]	Primary [c,e]	Secondary [c,f]	Method [g]
Ozone ($O^{3)}$	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m³)		0.075 ppm (147 µg/m³)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		—		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	15 µg/m³		
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Non-Dispersive Infrared Photometry NDIR)	35 ppm (40 mg/m³)	None	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10mg/m³)		9 ppm (10 mg/m³)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		—	—	
Nitrogen Dioxide (NO_2)[h]	1 Hour	0.18 ppm (338 µg/m³)	Gas Phase Chemi-luminescence	100 ppb (188 µg/m³)	None	Gas Phase Chemi-luminescence
	Annual Arithmetic Mean	0.030 ppm (56 µg/m³)		53 ppb (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[i]	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)[9]
	3 Hour	—		—	0.5 ppm (1300 µg/m³)	
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[i]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[i]	—	
Lead[j,k]	30 Day Average	1.5 µg/m³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m³ (for certain areas)[k]	Same as Primary Standard	
	Rolling 3-Month Average[k]	--		0.15 µg/m³		
Visibility Reducing Particles[l]	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates (SO_4)	24 Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			

Table 4.2-1 (Continued)

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [a]		Federal Standards [b]		
		Concentration [c]	Method [d]	Primary [c,e]	Secondary [c,f]	Method [g]
Vinyl Chloride[j]	24 Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

[a] *California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.*

[b] *National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 micrograms/per cubic meter (µg/m³) is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.*

[c] *Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.*

[d] *Any equivalent procedure which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.*

[e] *National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.*

[f] *National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.*

[g] *Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA.*

[h] *To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb.*

[i] *On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.*

[j] *CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.*

[k] *The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.*

[l] *In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.*

Source: California Air Resources Board, Ambient Air Quality Standards (6/7/12), http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed June 2013.

include an established methodology for calculating fine particulate matter ($PM_{2.5}$) as well as revoking the annual PM_{10} threshold. The NAAQS were amended in July 1997 to include an 8-hour standard for O_3 and to adopt a NAAQS for $PM_{2.5}$.

The Site is located within the South Coast Air Basin (SoCAB), which is an area designated as non-attainment because it does not currently meet NAAQS for certain pollutants regulated under the CAA. The CAA set

certain deadlines for meeting the NAAQS within the SoCAB including the following: (1) 1-hour O_3 by the year 2010; (2) 8-hour O_3 by the year 2024;[1] (3) PM_{10} by the year 2006; and (4) $PM_{2.5}$ by the year 2015. Nonattainment designations are categorized into seven levels of severity: (1) basic, (2) marginal, (3) moderate, (4) serious, (5) severe-15, (6) severe-17, and (7) extreme.[2] On June 11, 2007, the USEPA reclassified the SoCAB as a federal "attainment" area for CO and approved the CO maintenance plan for the SoCAB.[3] The SoCAB has met the PM_{10} standards at all monitoring stations and a request for re-designation to attainment is pending with U.S. EPA.[4] **Table 4.2-2**, *South Coast Air Basin Attainment Status*, lists the criteria pollutants and their relative attainment status for the Orange County portion of the SoCAB.

Table 4.2-2

South Coast Air Basin Attainment Status (Orange County)

Pollutant	National Standards	California Standards
Ozone (1-hour standard)	N/A [a]	Nonattainment - Extreme
Ozone (8-hour standard)	Nonattainment - Extreme	Nonattainment
Carbon Monoxide	Attainment	Attainment
Nitrogen Dioxide	Attainment	Nonattainment
Sulfur Dioxide	Attainment	Attainment
PM_{10} (24-hour standard)	Nonattainment – Serious [b]	Nonattainment
PM_{10} (annual standard)	N/A [b]	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
Lead	Attainment/Unclassified	Attainment
Visibility Reducing Particles	N/A	Unclassified
Sulfates	N/A	Attainment
Hydrogen Sulfide	N/A	Unclassified
Vinyl Chloride	N/A	N/A [c]

N/A = not applicable

[a] *The NAAQS for 1-hour ozone was revoked on June 15, 2005, for all areas except Early Action Compact areas.*

[b] *The SoCAB has met the PM_{10} standards at all monitoring stations and a request for re-designation to attainment is pending with USEPA. The SoCAB remains officially as nonattainment until the USEPA issues a final rule designating the SoCAB as attainment. The NAAQS for annual PM_{10} was revoked on September 21, 2006.*

[c] *In 1990 the CARB identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the CARB does not monitor or make status designations for this pollutant.*

Source: U.S. Environmental Protection Agency, The Green Book Nonattainment Areas for Criteria Pollutants, http://www.epa.gov/oaqps001/greenbk/index.html. Accessed June 2013; California Air Resources Board, Area Designations Maps/State and National, http://www.arb.ca.gov/desig/adm/adm.htm. Accessed June 2013.

[1] *The 8-hour ozone attainment deadline for the 1997 standard of 80 parts per billion is 2024. The 8-hour ozone attainment deadline for the 2008 standard of 75 parts per billion is 2032.*

[2] *The "-15" and "-17" designations reflect the number of years within which attainment must be achieved.*

[3] *"Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes: California, Final Rule." Federal Register 72 (11 May 2007):26718-26721*

[4] *South Coast Air Quality Management District, 2012 Air Quality Management Plan, http://www.aqmd.gov/aqmp/2012aqmp/index.htm. Accessed June 2013.*

Potential receiver facilities for materials excavated from the Site are located in the SJVAB and out of state. Thus, the Project may result in export truck trips in portions of the SJVAB. **Table 4.2-3**, *San Joaquin Valley Air Basin Attainment Status*, lists the criteria pollutants and their relative attainment status for the SJVAB.

Table 4.2-3

San Joaquin Valley Air Basin Attainment Status

Pollutant	National Standards	California Standards
Ozone (1-hour standard)	N/A [a]	Nonattainment - Severe
Ozone (8-hour standard)	Nonattainment - Extreme	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Unclassified	Attainment
Sulfur Dioxide	Attainment	Attainment
PM_{10} (24-hour standard)	Attainment	Nonattainment
PM_{10} (annual standard)	N/A [b]	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
Lead	Attainment/Unclassified	Attainment
Visibility Reducing Particles	N/A	Unclassified
Sulfates	N/A	Attainment
Hydrogen Sulfide	N/A	Unclassified
Vinyl Chloride	N/A	N/A [c]

N/A = not applicable

[a] *The NAAQS for 1-hour ozone was revoked on June 15, 2005, for all areas except Early Action Compact areas.*
[b] *The NAAQS for annual PM_{10} was revoked on September 21, 2006.*
[c] *In 1990 the CARB identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the CARB does not monitor or make status designations for this pollutant.*

Source: U.S. Environmental Protection Agency, The Green Book Nonattainment Areas for Criteria Pollutants, http://www.epa.gov/oaqps001/greenbk/index.html. Accessed June 2013; California Air Resources Board, Area Designations Maps/State and National, http://www.arb.ca.gov/desig/adm/adm.htm. Accessed June 2013.

Title II of the CAA pertains to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have strengthened in recent years to improve air quality. For example, the standards for nitrogen oxide (NO_X) emissions have lowered substantially, and the specification requirements for cleaner burning gasoline are more stringent.

State

California Clean Air Act

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the State to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. Table 4.2-1 shows the CAAQS currently in effect for each of the criteria pollutants as well as the other pollutants recognized by the State. As shown in Table 4.2-1, the CAAQS include more stringent standards than the

NAAQS for most of the criteria air pollutants. In general, the California standards are more health protective than the corresponding NAAQS. In addition, the California Air Resources Board (CARB) has established standards for other pollutants recognized by the State, such as sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

Table 4.2-2 provides a summary of the attainment status of the Orange County portion of the SoCAB with respect to the state standards. The SoCAB is designated as attainment for the California standards for sulfates and unclassified for hydrogen sulfide and visibility-reducing particles. Because vinyl chloride is a carcinogenic toxic air contaminant, the CARB does not classify attainment status for this pollutant. Table 4.2-3 provides a summary of the attainment status of the SJVAB with respect to the state standards.

California Air Resources Board Air Quality and Land Use Handbook

The CARB published the *Air Quality and Land Use Handbook* in April 2005 to serve as a general guide for considering impacts to sensitive receptors from facilities that emit toxic air contaminant (TAC) emissions. The recommendations provided therein are voluntary and do not constitute a requirement or mandate for either land use agencies or local air districts. The goal of the guidance document is to protect sensitive receptors, such as children, the elderly, acutely ill, and chronically ill persons, from exposure to TAC emissions. Some examples of CARB's siting recommendations include the following: (1) avoid siting sensitive receptors within 500 feet of a freeway, urban road with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day; (2) avoid siting sensitive receptors within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration unit operations exceed 300 hours per week); and (3) avoid siting sensitive receptors within 300 feet of any dry cleaning operation using perchloroethylene and within 500 feet of operations with two or more machines.

California Air Resources Board On-Road and Off-Road Vehicle Rules

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other TACs. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given time.

In 2008 CARB approved the Truck and Bus regulation to reduce PM and NO_X emissions from existing diesel vehicles operating in California. The requirements were amended in December 2010 and apply to nearly all diesel fueled trucks and busses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. For the largest trucks in the fleet, those with a GVWR greater than 26,000 pounds, there are two methods to comply with the requirements. The first way is for the fleet owner to retrofit or replace engines, starting with the oldest engine model year, to meet 2010 engine standards, or better. This is phased over 8 years, starting in 2015 and would be fully implemented by 2023, meaning that all trucks operating in the State subject to this option would meet or exceed the 2010 engine emission standards for NO_X and PM by 2023. The second option, if chosen, requires fleet owners, starting in 2012, to retrofit a portion of their fleet with diesel particulate filters (DPFs) achieving at least 85 percent removal efficiency, so that by January 1, 2016 their entire fleet is equipped with DPFs. However, DPFs do not lower NO_X emissions. Thus, fleet owners choosing the second option must still comply with the 2010 engine emission standards for their trucks and busses by 2020.

In addition to limiting exhaust from idling trucks, CARB recently promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower (hp) such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by the CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission controlled models. Implementation is staggered based on fleet size (which is the total of all off-road horsepower under common ownership or control), with the largest fleets to begin compliance by January 1, 2014. Each fleet must demonstrate compliance through one of two methods. The first option is to calculate and maintain fleet average emissions targets, which encourages the retirement or repowering of older equipment and rewards the introduction of newer cleaner units into the fleet. The second option is to meet the Best Available Control Technology (BACT) requirements by turning over or installing Verified Diesel Emission Control Strategies (VDECS) on a certain percentage of its total fleet horsepower. The compliance schedule requires that BACT turn overs or retrofits (VDECS installation) be fully implemented by 2023 in all equipment in large and medium fleets and across 100 percent of small fleets by 2028.

Regional

South Coast Air Quality Management District

The SCAQMD has jurisdiction over air quality planning for all of Orange County, Los Angeles County except for the Antelope Valley, the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County. The SoCAB is a subregion within SCAQMD jurisdiction. While air quality in this area has improved, the SoCAB requires continued diligence to meet air quality standards.

The SCAQMD has adopted a series of Air Quality Management Plans (AQMP) to meet the CAAQS and NAAQS. The 2012 AQMP incorporates the latest scientific and technological information and planning assumptions, including the Southern California Association of Government's (SCAG) 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which is discussed later in the next section, and updated emission inventory methodologies for various source categories.[5] The Final 2012 AQMP was adopted by the AQMD Governing Board on December 7, 2012.

Since the 2012 AQMP is the most recent plan to achieve air quality attainment within the region, the 2012 AQMP is the most appropriate plan to use for consistency analysis. The AQMP builds upon other agencies' plans to achieve federal standards for air quality in the SoCAB. It incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, and on-road and off-road mobile sources. The 2012 AQMP builds upon improvements in previous plans, and includes new and changing federal requirements, implementation of new technology measures, and the continued development of economically sound, flexible compliance approaches. In addition, it highlights the significant amount of emission reductions needed and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the timeframes allowed under the federal CAA.

[5] *South Coast Air Quality Management District, 2012 Air Quality Management Plan, http://www.aqmd.gov/aqmp/2012aqmp/index.htm. Accessed June 2013.*

The 2012 AQMP's key undertaking is to bring the SoCAB into attainment with NAAQS for 24-hour $PM_{2.5}$ by 2014. It also intensifies the scope and pace of continued air quality improvement efforts toward meeting the 2024 8-hour ozone standard deadline with new measures designed to reduce reliance on the CAA Section 182(e)(5) long-term measures for NO_X and volatile organic compound (VOC) reductions. SCAQMD expects exposure reductions to be achieved through implementation of new and advanced control technologies as well as improvement of existing technologies.

The control measures in the 2012 AQMP consist of four components: (1) SoCAB-wide and Episodic Short-term $PM_{2.5}$ Measures; (2) Contingency Measures; (3) 8-hour Ozone Implementation Measures; and (4) Transportation and Control Measures provided by the SCAG. The Plan includes eight short-term $PM_{2.5}$ control measures, 16 stationary source 8-hour ozone measures, 10 early action measures for mobile sources and seven early action measures proposed to accelerate near-zero and zero emission technologies for goods movement related sources, and five on-road and five off-road mobile source control measures. In general, the District's control strategy for stationary and mobile sources is based on the following approaches: (1) available cleaner technologies; (2) best management practices; (3) incentive programs; (4) development and implementation of zero- near-zero technologies and vehicles and control methods; and (5) emission reductions from mobile sources.

The *CEQA Air Quality Handbook* (the Handbook) was published by the SCAQMD in November 1993 to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts. The Handbook provides standards, methodologies, and procedures for conducting air quality analyses in EIRs and was used extensively in the preparation of this analysis. However, the SCAQMD is currently in the process of replacing the Handbook with the *Air Quality Analysis Guidance Handbook*. While this process is underway, the SCAQMD recommends that lead agencies avoid using the screening tables in the Handbook's Chapter 6 (Determining the Air Quality Significance of a Project), because the tables were derived using an obsolete version of CARB's mobile source emission factor inventory, and the trip generation characteristics of the land uses identified in these screening tables were based on the fifth edition of the Institute of Transportation Engineer's (ITE) Trip Generation Manual, instead of the most current sixth edition. Additionally, the lead agency should avoid using the on-road mobile source emission factors in Table A9-5-J1 through A9-5-L (EMFAC7EP Emission Factors for Passenger Vehicles and Trucks, Emission Factors for Estimating Material Hauling, and Emission Factors for Oxides of Sulfur and Lead). The SCAQMD instead recommends using other approved models to calculate emissions from land use projects, such as the CalEEMod modeling software, released February 2011.[6]

In addition, the SCAQMD has published a guidance document called the *Localized Significance Threshold Methodology* for CEQA Evaluations that is intended to provide guidance in evaluating localized effects from mass emissions during construction.[7] The SCAQMD adopted additional guidance regarding $PM_{2.5}$ in a document called *Final Methodology to Calculate Particulate Matter $(PM)_{2.5}$ and $PM_{2.5}$ Significance Thresholds*.[8] This latter document has been incorporated by the SCAQMD into its CEQA significance thresholds and *Localized Significance Threshold Methodology*.

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[6] *South Coast Air Quality Management District, CEQA Air Quality Handbook (1993), http://www.aqmd.gov/ceqa/oldhdbk.html. Accessed June 2013.*

[7] *South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008).*

[8] *South Coast Air Quality Management District, Final Methodology to Calculate Particulate Matter (PM)2.5 and PM2.5 Significance Thresholds, (2006).*

The SCAQMD has also adopted land use planning guidelines in the Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning (May 2005) ("Guidance Document"), which considers impacts to sensitive receptors from facilities that emit TAC. SCAQMD's distance recommendations are the same as those provided by CARB (e.g., a 500-foot siting distance for sensitive land uses proposed in proximity of freeways and high-traffic roads, and the same siting criteria for distribution centers and dry cleaning facilities). The Guidance Document introduces land use related policies that rely on design and distance parameters to minimize emissions and lower potential health risk. SCAQMD's guidelines are voluntary initiatives recommended for consideration by local planning agencies.

Several SCAQMD rules adopted to implement portions of the AQMP may apply to the implementation of the RAP. For example, SCAQMD Rule 403 requires implementation of best available fugitive dust control measures during active construction periods capable of generating fugitive dust emissions from on-site earth-moving activities, construction/demolition activities, and construction equipment travel on paved and unpaved roads. The Project may be subject to the following SCAQMD rules and regulations:

Regulation IV – Prohibitions: This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air emissions, fuel contaminants, start-up/shutdown exemptions and breakdown events. The following is a list of rules which may apply to the implementation of the RAP:

- **Rule 402 – Nuisance:** This rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, 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.
- **Rule 403 – Fugitive Dust:** This rule requires projects to prevent, reduce or mitigate fugitive dust emissions from a site. Rule 403 restricts visible fugitive dust to the project property line, restricts the net PM_{10} emissions to less than 50 micrograms per cubic meter ($\mu g/m^3$) and restricts the tracking out of bulk materials onto public roads. Additionally, projects must utilize one or more of the best available control measures (identified in the tables within the rule). Mitigation measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering, using chemical stabilizers and/or ceasing all activities. Finally, a contingency plan may be required if so determined by the USEPA.

Regulation XI – Source Specific Standards: Regulation XI sets emissions standards for different specific sources. The following is a list of rules which may apply to the implementation of the RAP:

- **Rule 1150 – Excavation of Landfill Sites:** This rule sets requirements for excavation of an active or inactive landfill. The rule requires development of an Excavation Management Plan approved by the Executive Officer. The Plan shall, as a minimum, provide information regarding the quantity and characteristics of the material to be excavated and transported, and shall identify mitigation measures to be activated as necessary during excavation to ensure that a public nuisance condition does not occur. Mitigation measures shall be selected after consideration of the physical characteristics of the landfill. Such mitigation measures may include gas collection and disposal, baling, encapsulation, covering of the material, chemical neutralizing, or other measures approved by the Executive Officer.

- **Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil:** This rule sets requirements to control the emission of VOCs from excavating, grading, handling and treating VOC-contaminated soil as a result of leakage from storage or transfer operations, accidental spillage, or other deposition. The rule set standards for the handling of VOC-contaminated soil at or from an excavation or grading site.

San Joaquin Valley Air Pollution Control District

The most likely receiver facilities for hazardous waste excavated from the Site are located in the SJVAB and out of state. The SJVAPCD has jurisdictional control of air quality issues in the SJVAB. Thus, emissions caused by the transport of materials from the Site to a receiver facility may fall under the jurisdiction of the SJVAPCD.

The SJVAPCD is pursuing a dual-path strategy to meet federal health standards through traditional SJVAPCD regulation and the Fast Track, which contains three primary components: expedited regulations by the CARB and the USEPA; significant increases in incentive funding to be used in the Valley; and innovative emission-reduction measures. The SJVAPCD has adopted the 2007 Ozone Plan to attain the USEPA's ozone standard and the 2012 $PM_{2.5}$ Plan in December 2012 to address the USEPA's 24-hour $PM_{2.5}$ standard. The SJVAPCD 2007 Ozone Plan[9] calls for a substantial reduction of NO_X (an ozone precursor) by implementing regulatory measures for mobile and stationary sources and by providing incentives for emission reductions and the deployment of advanced technologies. In September 2007, CARB modified the mobile source control strategies contained in the state portion of the State Implementation Plan to accelerate emission reductions from mobile sources. In addition, CARB created a task force to identify ways to meet the federal O_3 standard in the SJVAB before the deadline of 2024. The task force presented findings to CARB on November 7, 2007, that demonstrated that the attainment could be achieved by 2017 instead of 2024. The 2012 $PM_{2.5}$ Plan[10] establishes the SJVAPCD's strategy for attaining the $PM_{2.5}$ standard as expeditiously as possible. The 2012 $PM_{2.5}$ Plan incorporates CARB's regulatory framework to reduce emissions from on-road trucks, which is based on a multi-year effort to replace older, dirtier engines with cleaner engines that meet more stringent emission standards. The 2012 $PM_{2.5}$ Plan demonstrates that all areas of the Valley will attain the standard by the deadline of 2019. The SJVAPCD is planning to address the USEPA's revised 2008 8-hour ozone standard with an ozone plan in 2015 and will be developing a new plan for USEPA's revoked 1-hour ozone standard.

The SJVAPCD has jurisdiction over existing, new, and modified sources of air emissions within the SJVAB. The Site is not located in the SJVAB; thus on-site activities and emissions would not be subject to SJVAPCD rules and regulations. While implementation of the RAP would potentially result in off-site truck trips to an existing receiver facility in the SJVAB, such facilities operate in accordance with their own permits, including operating conditions specified in required Permits to Construct/Permits to Operate from the SJVAPCD. Thus, the activities and emissions that may occur on-site at existing receiver facilities in the SJVAB due to receipt of waste from the Project would already be accounted for and analyzed in its permits and are not subject to analysis, control, or mitigation in this EIR.

[9] *San Joaquin Valley Air Pollution Control District, 2007 Ozone Plan, (2007).*

[10] *San Joaquin Valley Air Pollution Control District, 2012 PM2.5 Plan, (2012).*

Southern California Association of Governments

The SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the federally designated metropolitan planning organization (MPO) for the majority of the southern California region and is the largest MPO in the nation. With regard to air quality planning, SCAG has prepared the 2012-2035 RTP/SCS, which addresses regional development and growth forecasts and forms the basis for the land use and transportation control portions of the AQMP and are utilized in the preparation of the air quality forecasts and consistency analysis included in the AQMP. The RTP/SCS and AQMP are based on projections originating within local jurisdictions.

In 2008, SCAG released the Regional Comprehensive Plan (RCP) which addresses regional issues such as housing, traffic/transportation, water, and air quality. The RCP serves as an advisory document to local agencies in the southern California region for their information and voluntary use for preparing local plans and handling local issues of regional significance. The RCP presents a vision of how southern California can balance air quality with growth and development by including goals such as: reducing emissions of criteria pollutants to attain federal air quality standards by prescribed dates and stated ambient air quality standards as soon as practicable; reverse current trends in greenhouse gas emissions to support sustainability goals for energy, water supply, agriculture, and other resource areas; and to minimize land uses that increase the risk of adverse air pollution-related health impacts from exposure to TACs, particulates (PM_{10} and $PM_{2.5}$) and carbon monoxide.

San Joaquin Valley Metropolitan Planning Organization

The San Joaquin Valley and the eight countywide MPOs began the San Joaquin Valley Blueprint process in 2006. The eight Valley MPOs prepared separate countywide blueprints, which were then consolidated into a single Valley-wide Blueprint. The process included three major phases: (1) Values and Vision; (2) Goals, Objectives, and Performance Measures; and (3) Evaluation of Alternative Growth Scenarios. On April 1, 2009, San Joaquin Valley Regional Policy Council, the decision-making body for the Valley-wide process, approved Scenario B+ and 12 Smart Growth Principles (”Valley Blueprint”), concluding the San Joaquin Valley Blueprint planning process. The Valley Blueprint serves as a vision for the future of the San Joaquin Valley, in which less land is consumed for development, more resources are preserved for future generations, distinctive communities are enhanced, and provides for a variety of transportation options. The Valley Blueprint would reduce transportation-related emissions, which contribute to regional O_3 and $PM_{2.5}$ ambient air quality exceedances in the SJVAB.

Local

Orange County Congestion Management Plan

The Congestion Management Plan (CMP) for Orange County was developed to meet the requirements of Section 65089(b) of the California Government Code. In enacting the CMP statute, the State legislature noted the increasing concern that urban congestion was impacting the economic vitality of the State and diminishing the quality of life in many communities. The CMP was created to further the following objectives:

- To link land use, transportation and air quality decisions.

- To develop a partnership among transportation decision makers to encourage that appropriate transportation solutions include all modes of travel.
- To propose transportation projects which are eligible for State gas tax funds.

Reducing urban congestion generally results in co-benefits to air quality as idling or slow-moving vehicles tend to emit more air pollutants compared to vehicles moving at typical roadway speeds on a per hour and per mile basis.

City of Huntington Beach General Plan

Local jurisdictions, such as the City of Huntington Beach, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City of Huntington Beach is also responsible for the implementation of transportation control measures as outlined in the AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits and monitors and enforces implementation of such mitigation measures.

Applicable measures per the Air Quality Element of the General Plan are specified below:

Goal AQ-1: Improve regional air quality by (a) decreasing reliance on single occupancy vehicular trips, (b) increasing efficiency of transit, (c) shortening vehicle trips through a more efficient jobs-housing balance and a more efficient land use pattern, and (d) increasing energy efficiency.

- Objective AQ 1.4: Reduce the number of truck trips during daily peak travel periods.
- Objective AQ 1.5: Reduce the number and shorten the distance of vehicle trips through sound land use planning, and improve the City's current 0.89 jobs/housing ratio.
- Objective AQ 1.7: Reduce vehicle emissions through traffic flow improvements, and use of alternate fuel consuming vehicles.
- Objective AQ 1.9: Minimize sensitive uses' (residential, hospitals, schools, etc.) exposure to toxic emissions.

Magnolia Pacific Specific Plan

The Magnolia Pacific Specific Plan, adopted in November 1992, establishes a set of development guidelines and specific standards applicable to the Site. The Specific Plan constitutes the current zoning of the Site, which envisions the Site as a residential community equivalent to the RM (Residential Medium Density) zone. The overall development concept for the Magnolia Pacific Specific Plan establishes the general type, location and character of development within the boundaries of the Site, while allowing for creative design concepts according to the framework of the plan. The objective of the development plan is to implement the goals and policies of the Huntington Beach General Plan by defining the physical development of the Site. Included in the development plan are five components: (1) Development Objectives; (2) Land Use Plan; (3)

Circulation Plan; (4) Open Space/Recreation; and (5) Public Facilities. While the Specific Plan does not specifically include an air quality section, it does contain several measures pertaining to the air quality-related issues such as encouraging bicycle and pedestrian access, using energy efficient lighting, synchronizing traffic signals, and controlling dust during construction activities.

Existing Conditions

Certain air pollutants have been recognized to cause 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. Such pollutants have been identified and regulated as part of the overall endeavor to prevent further deterioration, and facilitate improvement, of air quality.

The following pollutants are regulated by the USEPA and subject to emission reduction measures adopted by federal, state and other regulatory agencies.

Ozone (O_3): Ozone is a secondary pollutant formed by the chemical reaction of volatile organic compounds and NO_X under certain meteorological conditions such as high temperature and stagnation episodes. An elevated level of ozone irritates the lungs and breathing passages, causing coughing and pain in the chest and throat, thereby increasing susceptibility to respiratory infections and reducing the ability to exercise. Effects are more severe in people with asthma and other respiratory ailments. Long-term exposure may lead to scarring of lung tissue and may lower lung efficiency.

Carbon Monoxide (CO): Carbon monoxide is primarily emitted from combustion processes and motor vehicles due to incomplete combustion of fuel. Elevated concentrations of CO weaken the heart's contractions and lower the amount of oxygen carried by the blood. It is especially dangerous for people with chronic heart disease. Inhalation of carbon monoxide can cause nausea, dizziness, and headaches at moderate concentrations and can be fatal at high concentrations.

Particulate Matter (PM_{10} and $PM_{2.5}$): The human body naturally prevents the entry of larger particles into the body. However, small particles, with an aerodynamic diameter equal to or less than ten microns (i.e., PM_{10}) and even smaller particles with an aerodynamic diameter equal to or less than 2.5 microns (i.e., $PM_{2.5}$), can enter the body and are trapped in the nose, throat, and upper respiratory tract. These small particulates could potentially aggravate existing heart and lung diseases, change the body's defenses against inhaled materials, and damage lung tissue. The elderly, children, and those with chronic lung or heart disease are most sensitive to PM_{10} and $PM_{2.5}$. Lung impairment can persist for two to three weeks after exposure to high levels of particulate matter. Some types of particulates could become toxic after inhalation due to the presence of certain chemicals on or mixed with the particulates and the chemicals' reaction with internal body fluids.

Nitrogen Oxides (NO_X): Major sources of NO_X include power plants, large industrial facilities, and motor vehicles. Nitrogen oxides are emitted from combustion processes and irritate the nose and throat. It increases susceptibility to respiratory infections, especially in people with asthma. The principal concern of NO_X is as a precursor to the formation of ozone.

Sulfur Dioxide (SO_2): Major sources of SO_2 include power plants, large industrial facilities, diesel vehicles, and oil-burning residential heaters. Emissions of sulfur dioxide aggravate lung diseases, especially bronchitis. It also constricts the breathing passages, especially in asthmatics and people involved in moderate to heavy exercise. Sulfur dioxide can potentially cause wheezing, shortness of breath, and coughing. High levels of particulates appear to worsen the effect of sulfur dioxide, and long-term exposure to both pollutants leads to higher rates of respiratory illness.

Lead (Pb): Lead is emitted from industrial facilities and from the sanding or removal of old lead-based paint. Smelting or processing the metal is the primary source of lead emissions, which is primarily a regional pollutant. Lead affects the brain and other parts of the body's nervous system. Exposure to lead in very young children impairs the development of the nervous system, kidneys, and blood forming processes in the body.

Regional Air Quality – South Coast Air Basin

The Project is located within the SoCAB, which is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The SoCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area in Riverside County. The terrain and geographical location create the distinctive climate of the SoCAB, as the SoCAB is a coastal plain with connecting broad valleys and low hills.

The southern California region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the SoCAB is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the SoCAB, making it an area of high pollution potential.

The greatest air pollution impacts throughout the SoCAB occur from June through September. This condition is generally attributed to the large amount of pollutant emissions, light winds, and shallow vertical atmospheric mixing. This frequently reduces pollutant dispersion, thus causing elevated air pollution levels. Pollutant concentrations in the SoCAB vary with location, season, and time of day. Ozone concentrations, for example, tend to be lower along the coast, higher in the near inland valleys, and lower in the far inland areas and adjacent desert. Over the past 30 years, substantial progress has been made in reducing air pollution levels in southern California.

The SCAQMD has conducted South Coast Air Basin-wide air toxics studies called the Multiple Air Toxics Exposure Study (MATES), which are aimed at estimating the cancer risk from toxic air emissions throughout the air basin by conducting a comprehensive monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to fully characterize health risks for those living in the air basin. The final draft of the third update of the study, MATES III, was released in September 2008. The study concluded that the average carcinogenic risk from air pollution in the SoCAB is approximately 1,200 in one million. Mobile sources (e.g., cars, trucks, trains, ships, aircraft, etc.) represent the greatest contributors. Approximately 85 percent of the risk is attributed to diesel particulate matter (DPM) emissions,

approximately 10 percent to other toxics associated with mobile sources (including benzene, butadiene, and formaldehyde), and approximately 5 percent of all carcinogenic risk is attributed to stationary sources (which include industries and other certain businesses, such as dry cleaners and chrome plating operations).

As part of the MATES III study, the SCAQMD has prepared a series of maps that show regional trends in estimated outdoor inhalation cancer risk from toxic emissions, as part of an ongoing effort to provide insight into relative risks. The maps are generated using a 2-kilometer (1.24-mile) grid over the SoCAB and reports carcinogenic risk within each grid space (each covering an area of 4 square kilometers or 1.54 square miles). The MATES III cancer risk map estimates represent the estimated number of additional cancers in a population of one million individuals that are exposed over a 70-year lifetime (incremental cancer risk). The MATES III map, which is the most recently available map to represent existing conditions near the Site, is provided in **Figure 4.2-1**, *Total Cancer Risk from Regional Toxic Emissions in the Area around the Ascon Landfill Site*. As shown, the estimated cancer risk for that location is estimated at 478 cancers per million, while the vast majority of the area ranges between 500 and 1,200 cancers per million.[11] Generally, the risk from air toxics is lower near the coastline: it increases inland, with higher risks concentrated near large diesel sources (e.g., freeways, airports, and ports).

Regional Air Quality – San Joaquin Valley Air Basin

The SJVAB is the second largest air basin in the state, averaging approximately 250 miles long and 80 miles wide. Topographically, the SJVAB is defined by the Sierra Nevada Mountains to the east, the Coast Range to the west, and the Tehachapi Mountains to the south, and it opens to the sea at the Carquinez Strait where the San Joaquin–Sacramento Delta empties into San Francisco Bay. These topographic features result in weak airflow, which is blocked vertically by high barometric pressure over the SJVAB. Most of the surrounding mountains are above the normal height of the summer inversion layer.[12] As a result, the majority of the SJVAB is highly susceptible to pollutant accumulation over time. Pollutants of concern in the SJVAB include ozone and particulate matter, which are classified as regional pollutants because they can be transported away from the emission source before concentrations peak. As shown in Table 4.2-3, the SJVAPCD is nonattainment for O_3, PM_{10}, $PM_{2.5}$ (state and/or federal standards). According to emissions inventory data from CARB, the vast majority of the SJVAB NO_X emissions are attributed to mobile sources (83 percent).[13] Mobile sources account for a smaller percentage of the SJVAB VOC, PM_{10}, and $PM_{2.5}$ emissions (37 percent, 8 percent, and 19 percent, respectively).[14]

Local Air Quality

Existing Pollutant Levels at Nearby Monitoring Stations

The SCAQMD maintains a network of air quality monitoring stations located throughout the SoCAB and has divided the SoCAB into air monitoring areas. The monitoring station that collects data most representative of the Site is the Costa Mesa Monitoring Station (North Coastal Orange County). Criteria pollutants monitored at this station include O_3, CO, SO_2, and NO_2. The monitoring station that collects PM_{10} and $PM_{2.5}$

[11] *South Coast Air Quality Management District, MATES III, Multiple Air Toxics Exposure Study, MATES III Carcinogenic Risk Interactive Map, http://www.aqmd.gov/prdas/matesIII/matesIII.html. Accessed June 2013.*

[12] *San Joaquin Valley Air Pollution Control District, Guide for Assessing and Mitigating Air Quality Impacts, (2002).*

[13] *California Air Resources Board, Emissions Inventory Data, San Joaquin Valley Air Basin, http://www.arb.ca.gov/ei/maps/basins/absjvmap.htm. Accessed June 2013.*

[14] *Ibid.*

data most representative of Site conditions is the South Long Beach Monitoring Station (South Coastal LA County). The most recent data available from these monitoring stations encompass the years 2007 to 2011.[15] The data, shown in **Table 4.2-4**, *Pollutant Standards and Ambient Air Quality Data*, indicate the following pollutant trends:

Ozone (O_3). During the 2007 to 2011 reporting period, the maximum 1-hour ozone concentration was recorded in 2010 at 0.097 ppm. During this period, the California standard of 0.09 ppm was exceeded one time during 2010. The National standard of 0.12 ppm was not exceeded during the reporting period. The maximum eight-hour ozone concentration recorded during the reporting period was 0.079 ppm, reported in 2008. During the reporting period, the California 8-hour average standard of 0.07 ppm was exceeded between two and six times annually, with the highest number of exceedances in 2008. The National 8-hour average standard of 0.08 ppm was exceeded between zero and three times annually, with the highest number of exceedances in 2008.

Particulate Matter (PM_{10}). The highest recorded concentration during the period of 2007 to 2011 was 75 micrograms per cubic meter (μg/m^3), which was recorded in 2007. During this same time period, the California PM_{10} standard was exceeded between zero and five times annually, with the highest number of exceedances in 2007. The National PM_{10} standard was not exceeded during this period. PM_{10} is monitored every six days coincident to a national schedule; thus, PM_{10} exceedances are based on the number of days that sampling occurred. The maximum recorded arithmetic mean (i.e., average) concentration of 30.5 μg/m^3 was recorded in 2009.

Particulate Matter ($PM_{2.5}$). Maximum 24-hour $PM_{2.5}$ concentrations varied between 33.7 μg/m^3 and 82.9 μg/m^3 between 2007 and 2011. During these years the National standard was exceeded between zero and twelve times per year with the maximum number of exceedances occurring in 2007. The highest number of exceedances were recorded in 2007. The highest annual arithmetic mean was 14.6 μg/m^3, recorded in 2007.

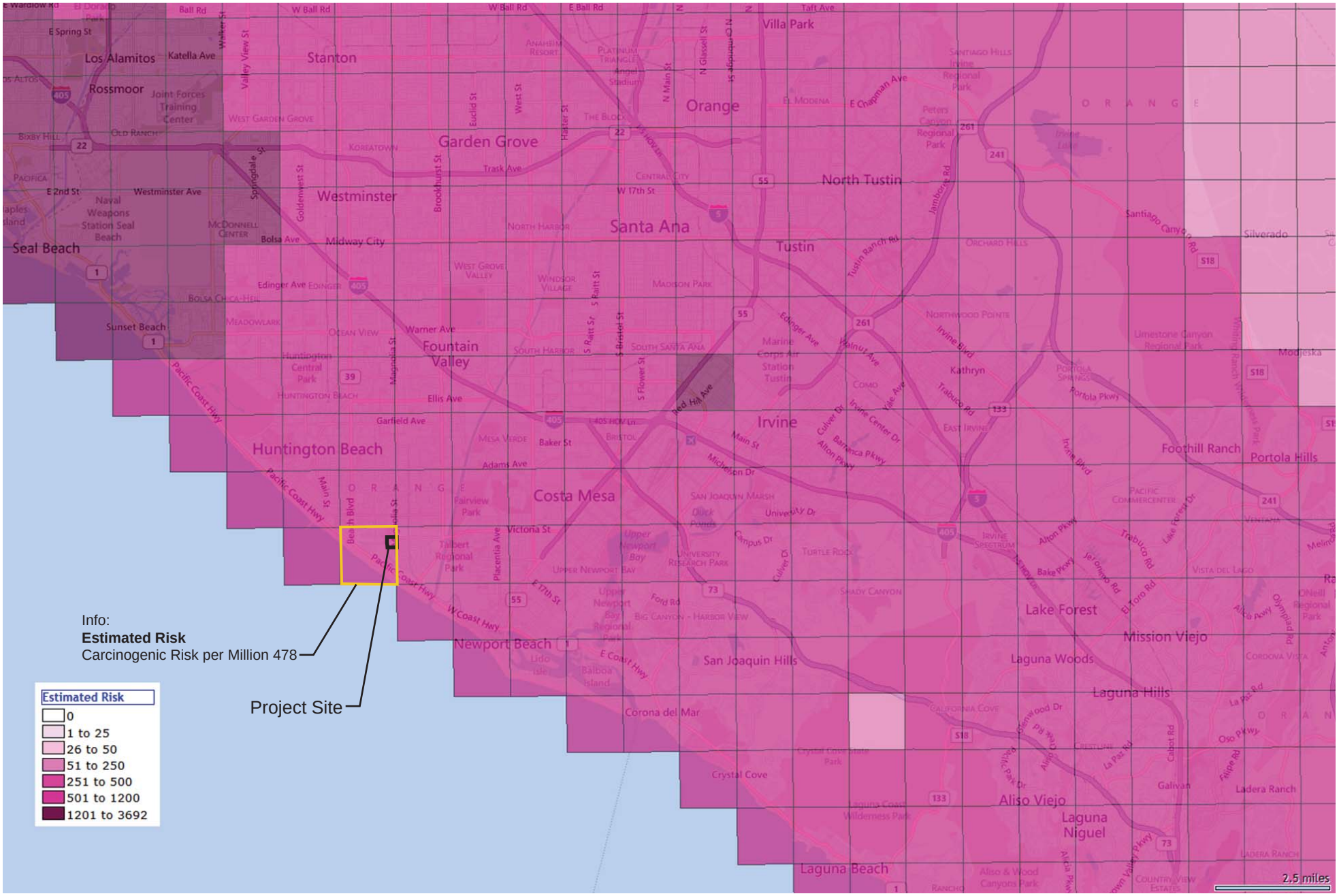
Carbon Monoxide (CO). The highest 1-hour CO concentration was 5 ppm, reported in 2007 and the highest 8-hour CO concentration was 3.1 ppm, also reported in 2007. Neither the California nor the National CO standards were exceeded during the 2007 to 2011 reporting period.

Nitrogen Dioxide (NO_2). The highest 1-hour concentration of NO_2 was recorded in 2008 and was 0.08 ppm. The highest annual arithmetic mean was 0.0134 ppm, recorded in reporting year 2009. Neither the California nor the National NO_2 standards were exceeded during the reporting period.

Sulfur Dioxide (SO_2). The highest 1-hour concentration of SO_2 was 0.02 ppm, recorded in 2007. The highest 24-hour concentration was 0.004 ppm recorded in 2007 and 2009. No exceedances of the California or National SO_2 standards were recorded during this reporting period. The highest annual arithmetic mean was 0.0011 ppm recorded in 2008.

Lead (Pb). The highest 30-day average concentration of lead was 0.02 μg/m^3 recorded in 2007, below the California 1.5 μg/m^3 standard. The highest calendar quarter concentration was 0.01 μg/m^3, in 2007, 2008 and 2010, below the National 1.5 μg/m^3 standard. The data demonstrate that the area is currently in compliance with California and National standards for Pb, as no exceedances were recorded.

[15] *South Coast Air Quality Management District, Historical Data by Year, http://www.aqmd.gov/smog/historicaldata.htm. Accessed June 2013.*



PCR

Total Cancer Risk from Regional Toxic Emissions in the Area around the Ascon Landfill Site

RAP EIR - Ascon Landfill Site

Source: SCAQMD MATES III Carcinogenic Risk Interactive Map. http://www3.aqmd.gov/webappl/matesiii/ Accessed July 2013.

FIGURE

4.2-1

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Table 4.2-4

Pollutant Standards and Ambient Air Quality Data[a,c]

Pollutant/Standard[a,b]	2007	2008	2009	2010	2011
Ozone					
O_3 (1-hour)					
Maximum Concentration (ppm)	0.082	0.094	0.087	0.097	0.093
Days > CAAQS (0.09 ppm)	0	0	0	1	0
Days > NAAQS (0.12 ppm)	0	0	0	0	0
O_3 (8-hour)					
Maximum Concentration (ppm)	0.072	0.079	0.075	0.076	0.077
4th High 8-hour Concentration (ppm)	0.065	0.075	0.066	0.060	0.063
Days > CAAQS (0.07 ppm)	2	6	3	2	2
Days > NAAQS (0.08 ppm)	0	3	0	1	1
Particulate Matter (PM_{10})					
PM_{10} (24-hour)					
Maximum Concentration (μg/m³)	75	62	62	44	50
Samples > CAAQS (50 μg/m³)	5	1	3	0	0
Samples > NAAQS (150 μg/m³)	0	0	0	0	0
PM_{10} (Annual Average)					
Annual Arithmetic Mean (20 μg/m³)	30.2	29.1	30.5	22.0	28.7
Particulate Matter ($PM_{2.5}$)					
$PM_{2.5}$ (24-hour)					
Maximum Concentration (μg/m³)	82.9	57.2	63.4	33.7	42.0
Samples > NAAQS (65 μg/m³)	1	0	0	0	0
Samples > NAAQS (35 μg/m³)	12	8	6	0	3
$PM_{2.5}$ (Annual)					
Annual Arithmetic Mean (15 μg/m³)	14.6	14.2	13.0	10.4	10.7
Carbon Monoxide					
CO (1-hour)					
Maximum Concentration (ppm)	5	3	3	2	------
Days > CAAQS (20 ppm)	0	0	0	0	
Days > NAAQS (35 ppm)	0	0	0	0	
CO (8-hour)					
Maximum Concentration (ppm)	3.1	2.0	2.2	2.1	2.2
Days > CAAQS (9 ppm)	0	0	0	0	0
Days > NAAQS (9 ppm)	0	0	0	0	0
Nitrogen Dioxide					
NO_2 (1-hour)					
Maximum Concentration (ppm)	0.07	0.08	0.07	0.07	0.06
Days > CAAQS (0.25 ppm)	0	0	0	0	0
NO_2 (Annual)					
Annual Arithmetic Mean (0.053 ppm)	0.0132	0.0132	0.0130	0.0113	0.01

Table 4.2-4 (Continued)

Pollutant Standards and Ambient Air Quality Data[a]

Pollutant/Standard[a,b]	2007	2008	2009	2010	2011
Sulfur Dioxide					
SO_2 (1-hour)					
Maximum Concentration (ppm)	0.02	0.01	0.01	0.01	0.008
Days > CAAQS (0.25 ppm)	0	0	0	0	0
SO_2 (24-hour)					
Maximum Concentration (ppm)	0.004	0.003	0.004	0.002	------
Days > CAAQS (0.04 ppm)	0	0	0	0	
Days > NAAQS (0.14 ppm)	0	0	0	0	
SO_2 (Annual)					
Annual Arithmetic Mean (0.03 ppm)	0.001	0.0011	------	------	------
Lead					
Maximum 30-day average (μg/m³)	0.02	0.01	0	0.01	0.013
Maximum calendar quarter (μg/m³)	0.01	0.01	0	0.01	0.009

ppm = parts per million; μg/m³= micrograms per cubic meter; -- = Data not available

[a] *Monitoring data from the North Coastal Orange County station (Station No. 3195) was used for O_3, CO, NO_2, and SO_2 concentrations. Monitoring data from the South Coastal Los Angeles County station (Station No. 072) was used for PM_{10}, $PM_{2.5}$, lead and sulfate concentrations.*

[b] *An exceedance does not necessarily constitute a violation of an ambient air quality standard. Violations are defined in 40 CFR 50 for NAAQS and 17 CCR 70200 for CAAQS.*

[c] *Statistics may include data that are related to an exceptional event.*

Source: South Coast Air Quality Management District, Historical Data by Year, 2007-2011, http://aqmd.gov/smog/historicaldata.htm. Accessed June 2013.

Sulfates. The maximum 24-hour concentration of sulfates was 13.6 μg/m³ recorded in 2009, below the 25 μg/m³ California standard. These data confirm that the SoCAB is currently designated as attainment with respect to the State standard for sulfates.

Visibility Reducing Particles. The SoCAB is currently designated as "unclassified" with respect to the California standard for visibility reducing particles. Continuous monitoring is not currently performed within the SoCAB for this standard.

Hydrogen Sulfide. The SoCAB is currently designated as "unclassified" with respect to the California standard for hydrogen sulfide. The CARB does not perform or require ambient monitoring of this pollutant.

Vinyl Chloride. The SoCAB is currently designated as "unclassified" with respect to the State standard for vinyl chloride. In 1990, the CARB identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the CARB does not perform or require ambient monitoring for this pollutant.

Existing Emissions

The natural topography of the Site has been disturbed extensively over the years by the operation of the landfill and waste disposal activities. The majority of the Site's interior is vacant with intermittent vegetation located throughout the Site (see Figure 2-4). There are also interior dirt and gravel roadways and/or pathways located throughout the Site. The existing Site generates emissions of VOCs and methane from landfill gas released from the surface. In addition, the Site generates periodic exhaust emissions from mobile sources visiting the Site for routine maintenance and housekeeping. The current levels of emissions are minimal due to the surface layer, which acts as a natural earthen cap, and the relatively low number of vehicle trips to the Site.

Sensitive Receptors and Locations

Some population groups, including children, elderly, and acutely and chronically ill persons (especially those with cardio-respiratory diseases), are considered more sensitive to air pollution than others. Sensitive land uses close to the Site are shown in **Figure 4.2-2**, *Closest Sensitive Receptor Locations*, and include the following:

- Residential east of the Site. Single-family residential uses are located east of Magnolia Street, approximately 30 meters (100 feet) east of the Site;
- Residential northwest of the Site. Single-family residential uses are located along Hatteras Drive north of the SCE right-of-way, approximately 90 meters (300 feet) northwest of the Site;
- Edison High School. Edison High School is located near the northeast corner of Hamilton Avenue and Magnolia Street north of the SCE right-of-way, approximately 120 meters (400 feet) northeast of the Site;
- Community Center. The Community Center is located north of Hamilton Avenue to the north of the SCE right-of-way, approximately 150 meters (500 feet) north of the Site.

2. ENVIRONMENTAL IMPACTS

Significance Criteria

For purposes of this EIR, DTSC has utilized the checklist questions in Appendix G of the *CEQA Guidelines* as significance criteria to determine whether a project would have a significant environmental impact regarding air quality. Based on the size and scope of the Project and the potential for air quality impacts, the criteria identified below are included for evaluation in this EIR.

Would the Project:

- **4.2-1** Conflict with or obstruct implementation of the applicable air quality plan (refer to Impact Statement 4.2-1);
- **4.2-2** Violate any air quality standard or contribute substantially to an existing or projected air quality violation (refer to Impact Statement 4.2-2);
- **4.2-3** 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors) (refer to Impact Statement 4.2-3);

- **4.2-4** Expose sensitive receptors to substantial pollutant concentrations (refer to Impact Statement 4.2-4); or
- **4.2-5** Create objectionable odors affecting a substantial number of people (refer to Impact Statement 4.2-5).

The State CEQA Guidelines (Section 15064.7) provide that, when available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make determinations of significance. The potential air quality impacts of the Project are, therefore, evaluated according to thresholds developed by the SCAQMD in the CEQA Air Quality Handbook, Air Quality Analysis Guidance Handbook, and subsequent SCAQMD guidance, discussed below. The potential air quality impacts are also evaluated according to thresholds developed by the SJVAPCD in the *Guideline for Assessing and Mitigating Air Quality Impacts* (GAMAQI).[16] These thresholds generally incorporate the checklist questions contained in Appendix G of the State CEQA Guidelines.

Short-Term Emissions

Regional Emissions (South Coast Air Basin)

Based on criteria set forth in the SCAQMD Handbook, the Project would have a significant impact with regard to short-term emissions if the following would occur:

- Regional short-term emissions from both direct and indirect sources would exceed any of the following SCAQMD prescribed threshold levels: (1) 75 pounds a day for VOC; (2) 100 pounds per day for NO_X; (3) 550 pounds per day for CO; (4) 150 pounds per day for sulfur oxides (SO_X); (5) 150 pounds per day for PM_{10}; or (6) 55 pounds per day $PM_{2.5}$.[17]

Regional Emissions (San Joaquin Valley Air Basin)

Based on recommended criteria set forth in the SJVAPCD GAMAQI, the Project would have a significant impact with regard to short-term emissions if the following were to occur:

- Regional short-term emissions from both direct and indirect sources would exceed any of the following SJVAPCD prescribed threshold levels: (1) 10 tons per year for VOC; (2) 10 tons per year for NO_X; or (3) 15 tons per year for PM_{10}.[18]

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[16] *San Joaquin Valley Unified Air Pollution Control District, Guide for Assessing and Mitigating Air Quality Impacts, (2002).*

[17] *South Coast Air Quality Management District, SCAQMD Air Quality Significance Thresholds, March 2011, http://www.aqmd.gov/ceqa/handbook/signthres.pdf. Accessed June 2013.*

[18] *The SJVAPCD has also set a threshold for PM_{10} from a project's direct and indirect operations, although it is not yet published in the GAMAQI. Although the threshold is not specifically for construction-related emissions, the Project's direct and indirect construction-related short-term emissions will be compared to the PM_{10} threshold shown.*

PCR

N

0 750 1,500 Feet

Closest Sensitive Receptor Locations

RAP EIR - Ascon Landfill Site

Source: Google (Aerial), 2011; PCR Services Corporation, 2013.

FIGURE

4.2-2

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Localized Emissions

In addition, the SCAQMD has developed methodology to assess the potential for localized emissions to cause an exceedance of applicable ambient air quality standards. Impacts would be considered significant if the following were to occur:

- Maximum daily localized short-term emissions are greater than the applicable Localized Significance Thresholds (LST), resulting in predicted ambient concentrations in the vicinity of the Site greater than the most stringent ambient air quality standards for CO or NO_2;[19] or
- Maximum localized short-term PM_{10} or $PM_{2.5}$ emissions during construction are greater than the applicable LSTs, resulting in predicted ambient concentrations in the vicinity of the site to exceed 50 $\mu g/m^3$ over five hours (SCAQMD Rule 403 control requirement).[20]

Long-Term Emissions

Based on criteria set forth in the SCAQMD *CEQA Air Quality Handbook*, the Project would have a significant impact with regard to operational emissions if the following were to occur:

- Long-term emissions exceed 10 tons per year of volatile organic gases or any of the following SCAQMD prescribed threshold levels: (1) 55 pounds a day for VOC; (2) 55 pounds per day for NO_X; (3) 550 pounds per day for CO; (4) 150 pounds per day for SO_X; (5) 150 pounds per day for PM_{10}; or (6) 55 pounds per day for $PM_{2.5}$;[21] or
- Long-term emissions cause or contribute to an exceedance of the California 1-hour or 8-hour CO standards of 20 or 9.0 parts per million (ppm), respectively, at an intersection or roadway within one-quarter mile of a sensitive receptor.

Toxic Air Contaminants

For purposes of CEQA, the DTSC has established thresholds of significance applicable to the Project for TAC emissions during implementation of the RAP. The significance criteria and analysis of potential impacts related to TAC emissions are provided in Section 4.6, *Hazards and Hazardous Materials*, of this EIR.

Odors

The SCAQMD *CEQA Air Quality Handbook* contains thresholds consistent with Appendix G CEQA guidelines regarding odors. Based on these guidelines, the Project would have a significant impact from odors, if:

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[19] *South Coast Air Quality Management, LST Methodology, http://www.aqmd.gov/ceqa/handbook/lst/Method_final.pdf. Accessed June 2013.*

[20] *South Coast Air Quality Management, LST Methodology, http://www.aqmd.gov/ceqa/handbook/lst/Method_final.pdf. Accessed June 2013.*

[21] *South Coast Air Quality Management District. SCAQMD Air Quality Significance Thresholds. http://www.aqmd.gov/ceqa/handbook/signthres.pdf. Accessed June 2013.*

- Short-term emissions create objectionable odors, which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or
- Long-term emissions create objectionable odors, which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public.

Project Design Features

The following Project Design Features (PDFs) would result in a reduction in air pollutant emissions and are proposed as part of the Project.

PDF 2-1 All off-road diesel construction equipment remaining on-site for more than 15 work days shall meet USEPA Tier 3 off-road emission standards, if commercially available locally. Use of Tier 3 engines results in a substantial reduction in NO_X emissions compared to similar Tier 2 or lower engines, and has been shown to increase fuel economy over similar Tier 2 engines.[22] Documentation of all off-road diesel construction equipment on-site including Tier 3 certification shall be maintained and made available to DTSC for inspection upon request.

PDF 2-2 All on-road waste haul trucks exporting soil to the appropriate receiver facility shall be model year 2007 or newer or retrofitted to comply with USEPA Year 2007 on-road emissions standards. Documentation of all on-road trucks exporting soil shall be maintained and made available to DTSC for inspection upon request.

PDF 2-3 The Project would prohibit the idling of on- and off-road heavy duty diesel vehicles for more than five minutes at a time. This project design feature is consistent with California regulations and laws as well as CARB Air Toxics Control Measure (ATCM) requirements.

PDF 2-4 The Project, during the remediation activities, would implement a perimeter air monitoring plan (AMP). The AMP include real-time perimeter air monitoring for odors, dust, and volatile chemicals, as well as more limited time-integrated sampling for volatile chemicals and dust at the locations and frequencies outlined in the AMP, which will be approved by the DTSC. During the excavation activities, water and/or Rusmar® foam, or similar suppressant (e.g. Soil Seal), would be applied to the waste materials as necessary to suppress potential dust, odors, and emissions, including volatiles. The AMP would include action levels with corresponding actions if/when action levels are exceeded. Air monitoring logs will be maintained on-site at all times per the AMP. A log containing dates on which action levels are triggered and response will be maintained on-site. These logs will be made available to DTSC and SCAQMD for inspection upon request.

PDF 2-5 A protective cap, inclusive of a gas collection and treatment system, would be installed to collect and treat landfill gas and other emissions generated by the Site. A vegetated cover would be planted and maintained on the completed protective cap.

[22] *Komatsu Technical Report, Development of Tier 3 Engine ecot3, Vol. 52, No. 157, http://www.komatsu.com/CompanyInfo/profile/report/pdf/157-03_E.pdf. 2006. Accessed June 2013.*

PDF 2-6 The Project would comply with applicable SCAQMD rules that govern the control of air pollutant emissions from the Site, including: SCAQMD Rule 1150 – Excavation of Landfill Site, and SCAQMD Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil.

- Submit a Mitigation Plan in accordance with Attachment A of SCAQMD Rule 1166, and obtain approval from the SCAQMD. A copy of the approved plan must be on-site during the entire excavation period.
- Monitor for the presence of VOC, and implement the approved mitigation plan when VOC-contaminated soil, as defined in Rule 1166, is detected.
- If required, obtain a SCAQMD Permit for Project activities, and provide a copy of said Permit to the DTSC.

PDF 2-7 During excavation of Pit F, a temporary structure (e.g., Sprung or similar) would be installed to capture potential odors and volatile emissions resulting from soil handling. Exhaust from Pit F will be treated using granular activated carbon (GAC) units which will be maintained according to manufacturer specifications. Off-road equipment operating under the Pit F temporary structure will be snorkeled (exhausted) directly outside of the structure for worker safety reasons. The temporary structure and GAC would capture and control at least 95 percent of VOC emissions. Materials excavated from Pit F would be placed in sealed or covered bins that would be loaded onto trucks for transport off-site, resulting in lower volatile emissions. Maintenance logs for the GAC system, including dates activated carbon is changed, will be maintained on-site.

PDF 2-8 The Project would implement fugitive dust control measures consistent with SCAQMD rules and regulations. The dust control measures would consist of various elements including: proper maintenance and watering of internal haul roads; water spraying of soil excavated and placed for cover or soil reconsolidation; applying water on intermediate soil cover areas; and seeding/planting vegetation on the completed protective cap. This project design feature is consistent with SCAQMD Rule 403 requirements.

PDF 2-9 Traffic speeds of no more than 5 miles per hour (mph) would be maintained for haul trucks when on-site, and no more than 15 mph for non-haul truck vehicles on all on-site, unpaved road surfaces. Signs will be posted throughout the Site to remind equipment operators and truck drivers of the speed limits.

PDF 2-10 Exposed surfaces and active excavation sites would be controlled with water and/or suppressants certified by CARB, the SCAQMD, or other air pollution control agency, to control fugitive dust. Such suppressants include foams, nontoxic binders, or other suppressants to reduce fugitive dust emissions. Logs of water purchase or usage and suppressant application (including brand/manufacturer, date of application, area treated and amount applied) will be maintained on-site and made available to DTSC and SCAQMD for inspection upon request.

PDF 2-11 Prior to leaving the Site, each haul truck, and other delivery trucks that come in contact with Site waste, would be inspected and put through procedures as necessary to remove loose debris from tire wells and on the truck exterior. Haul truck operators (drivers) would be required to have the proper training and registration by the State and as

applicable to the material they would be hauling. Trucks transporting hazardous waste are required to maintain a hazardous waste manifest that describes the content of the materials. These manifests would be supplied by the waste receiver facility and prepared by the contractor or trucking company and the Ascon Landfill Site RP representative(s) prior to export off-site. The contracted trucking company would be a certified hazardous waste transportation contractor, if the material is profiled as hazardous. A log of manifest data will be maintained on-site and made available to DTSC for inspection upon request.

PDF 2-12 Waste haul trucks and soil delivery trucks entering and exiting the Site would be required to follow a City-approved traffic plan that establishes the trucking route, days and hours of truck operation, the maximum number of trucks per day, and various requirements to provide traffic, pedestrian and bicycle safety. Truck operators will be provided with a trucking route map and hours of operation allowed.

PDF 2-13 To the maximum practical extent, recyclable materials, including non-hazardous construction and demolition debris, would be reused or recycled.

Methodology

The evaluation of potential impacts to local and regional air quality that may result from the short- and long-term implementation of the RAP is conducted as follows:

Consistency with Air Quality Plan

The SCAQMD is required, pursuant to the Clean Air Act, to reduce emissions of criteria pollutants for which the SoCAB is in non-attainment (e.g., ozone and PM_{10}). Implementation of the RAP would be subject to the SCAQMD's 2012 AQMP, which contains a comprehensive list of pollution control strategies directed at reducing emissions and achieving ambient air quality standards. These strategies are developed, in part, based on regional growth projections prepared by the SCAG. As part of its air quality planning, SCAG has prepared the Regional Comprehensive Plan and Guide (RCPG), which provides the basis for the land use and transportation components of the AQMP and are used in the preparation of the air quality forecasts and the consistency analysis included in the AQMP. Both the RCPG and AQMP are based, in part, on projections originating with county and city general plans.[23]

The 2012 AQMP was prepared to accommodate growth, reduce the high levels of pollutants within the areas under the jurisdiction of SCAQMD, return clean air to the region, and minimize the impact on the economy. Projects that are consistent with the assumptions used in the AQMP do not interfere with attainment because the growth is included in the projections utilized in the formulation of the AQMP. Thus, projects, uses, and activities that are consistent with the applicable growth projections and control strategies used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's recommended thresholds.

[23] *SCAG serves as the federally designated MPO for the Southern California region.*

Short-Term Emissions

Regional Emissions

Implementation of the RAP has the potential to generate short-term criteria pollutant emissions through the use of heavy-duty construction equipment and through vehicle trips generated from workers traveling to and from the Site. In addition, fugitive dust emissions would result from various soil handling activities and unpaved road dust from on-site vehicle travel. Mobile source emissions, primarily NO_X, would result from the use of construction equipment such as dozers and loaders. Construction emissions can vary substantially from day-to-day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources.

Daily regional emissions caused by the implementation of the RAP are forecasted by assuming a conservative estimate of construction (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile-source and fugitive dust emissions factors derived from USEPA AP-42 emission factors, SCAQMD CEQA Handbook, and the CARB Emissions Factor (EMFAC2011) on-road mobile source emissions model. Details are presented in Appendix B of this Draft EIR.

The Project would consist of implementation of the RAP, which would entail partial removal of on-site material and the installation of a protective cap and is expected to commence with ten construction phases, beginning in the year 2015. Mass grading is expected to occur, after the excavation of select on-site waste materials, to backfill the site to achieve final elevations that allow for proper drainage, as well as to remediate the City parcel and portions of the South Coast Oil Corporation (SCOC) area. Hauling activities would include debris and waste removal, which includes the excavation and export of up to approximately 32,250 BCY of waste materials, as well as the import of approximately 240,000 BCY of cover materials. A summary of the phases of construction and equipment that would be used during implementation of the RAP is provided below:

- Phase 1 – Mobilization and maintain haul roads
  - Maintain haul roads and fencing for the duration of the project. Duration: 230 days.
  - Likely equipment needed: backhoe
- Phase 2 – Pit F Excavation
  - Clear and grub Pit F area, install temporary structure, slurry trench excavation of Pit F. Duration: 40 days.
  - Likely equipment needed: excavators, loaders, backhoes, dozers, Crane, portable generator, haul trucks.
- Phase 3 – Cut/Fill to Top of Waste
  - Install berm along northern and eastern slopes and cut/fill to top of waste. Place select waste in SCAQMD Rule 1166 treatment cell. Duration: 145 days.
  - Likely equipment needed: excavators, loaders, backhoes, dozers, compactor, articulated dump trucks, haul trucks
- Phase 4 – SCAQMD Rule 1166 Treatment Cell
  - Treatment of SCAQMD Rule 1166 VOC-impacted material. Duration: 140 days.

  - Likely equipment needed: backhoe, dozers, excavator

- Phase 5 – Concrete Debris Consolidation
  - Consolidate concrete debris and break apart for fill or other uses on-site. Duration: 60 days
  - Likely equipment needed: backhoe with breaker attachment

- Phase 6 – Fill to Final Grade (construction of cap)
  - Import soil and fill to final grade. Duration: 100 days.
  - Likely equipment needed: compactor, dozer, haul trucks

- Phase 7 – Install Storm water Controls
  - Install storm water detention basins and v-ditches to channel storm water on-site. Duration: 65 days.
  - Likely equipment needed: excavators, dump trucks

- Phase 8 – Cut and Backfill City parcel
  - Cut and fill the City parcel along the northern and eastern perimeters of the site. Also, protect in place the utility poles along the northern boundary of the site. Duration: 6 days.
  - Likely equipment needed: excavators, articulated dump trucks, auger, backhoe

- Phase 9 – Cut and Backfill SCOC Parcel (this phase may occur along with other RAP phases, or may be conducted at a later time)
  - Cut and fill the SCOC parcel to the west of the site. Duration: 14 days.
  - Likely equipment needed: excavators, articulated dump trucks, backhoe

- Phase 10 – Site Restoration
  - Plant vegetation, final grading of the perimeter road and demobilization of equipment. Duration: 10 days.

As the Project would handle large amounts of soil, fugitive dust would be generated through various activities such as excavation, traversing on-site roads, grading activities, stockpile wind erosion, and concrete breaking. A diagram illustrating the expected depths of cut and fill activities is provided in Figure 4.6-4, *Ascon Excavation/Infill Depths*, in Section 4.6, *Hazards and Hazardous Materials*, of this EIR. Emissions from each of these individual activities were calculated based on emission factors obtained from USEPA AP-42 emission factors derived for soil handling activities and the SCAQMD CEQA Handbook for concrete breaking. In addition to fugitive dust emissions, volatile compounds contained within the Site have the potential to volatilize during soil handling. Emissions of volatile compounds were calculated based on soil chemical sampling data and the USEPA Exposure Model for Soil-Organic Fate and Transport (EMSOFT) model.[24]

Exhaust from anticipated on-site equipment (i.e., off-road equipment) and on-road truck engines also have the potential to generate criteria pollutant emissions. Off-road equipment emission factors were based on EPA Tier 3 emission standards. In addition, horsepower, hours and days of operation, and engine load factor

[24] *U.S. Environmental Protection Agency, EMSOFT: Exposure Model for Soil-Organic Fate and Transport, http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=2862. Accessed June 2013.*

were also included in the exhaust emissions calculations. On-road truck emissions were calculated based on EMFAC2011 emission factors for vehicle class T7 (Heavy-Heavy Duty Trucks). Road dust emissions from on-road trucks were calculated using the most recent USEPA AP-42 emission factor equation for paved roads.[25] Criteria pollutant engine emissions from trucks exporting waste to an appropriate receiver landfill were calculated separately for the SoCAB and the SJAB based on travel distance. Trucks importing soil and supplies were assumed to originate within the SoCAB.

Trucks exporting soil would likely travel to a receiver landfill located outside of the SoCAB. Truck travel emissions were calculated separately for the SoCAB (Huntington Beach to the SoCAB boundary) and the San Joaquin Valley Air Basin (SoCAB boundary to an appropriate receiver facility in the San Joaquin Valley Air Basin). It was assumed that soil import trucks and vendor trucks would originate from within the SoCAB.

A complete listing of the equipment by phase, approximate RAP phase durations, emission factors, and calculation parameters used in this analysis is included within the emissions calculation worksheets that are provided in Appendix B of this EIR.

Localized Emissions

The localized effects from the on-site portion of daily emissions are evaluated at nearby sensitive receptor locations potentially impacted by the Project consistent with the SCAQMD's LST methodology, which provides guidance on analyzing localized emissions for comparison to state and federal AAQS. LSTs are only applicable to the following criteria pollutants: NO_X, CO, PM_{10}, and $PM_{2.5}$. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable state or federal AAQS, and are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA) and distance to the nearest sensitive receptor. For PM_{10} and $PM_{2.5}$, LSTs were derived based on requirements in SCAQMD Rule 403, Fugitive Dust.

The SCAQMD LST methodology provides mass rate look-up tables for projects which disturb less than five acres per day and specifies detailed dispersion modeling for projects that disturb more than five acres per day. As the Project would disturb more than five acres per day, detailed dispersion modeling is performed consistent with SCAQMD LST guidelines. The SCAQMD recommends that the USEPA AERMOD dispersion model be used for detailed modeling of project-related emissions.

Dispersion modeling was performed using the USEPA AERMOD model (version 12345) with meteorological data obtained from the SCAQMD Costa Mesa monitoring station. Modeled receptors were placed at sensitive receptor locations including residential and school uses and with a 25-meter grid spacing consistent with the SCAQMD AERMOD modeling guidance.[26] Due to the relatively short distance between the Site and closest sensitive receptors, conversion of NO_X to NO_2 was assumed to be 10 percent, consistent with SCAQMD LST guidance. A complete listing of the localized emissions analysis and dispersion modeling parameters are provided in Appendix B of this EIR.

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[25] *U.S. Environmental Protection Agency, AP-42, Chapter 13.2.1, (January 2011).*

[26] *South Coast Air Quality Management District, AQMD Modeling Guidance for AERMOD, http://www.aqmd.gov/smog/metdata/AERMOD_ModelingGuidance.html. Accessed June 2013.*

Implementation of the RAP will consist of several different phases which will take place at different areas of the Site. As a result, localized pollutant emissions will vary spatially (location) and temporally over time. In order to capture the worst-case scenario, sources located closest to sensitive receptors (residences to the east and Edison High School to the northeast) were included in the dispersion modeling. In addition, phases which are scheduled to overlap with these sources were also included in the analysis.

Long-Term Emissions

If the RAP is implemented, the remediated, capped site would be a closed, capped site. Long-term implementation of the RAP would entail periodic maintenance and housekeeping, including groundwater monitoring and landscaping as needed. Thus, long-term emissions would be caused by stationary (landfill gas generation), mobile (on-road and off-road), and area (landscape equipment) sources.

Although long-term emissions from all sources are expected to be minimal, similar to current levels, emissions were quantified. The CalEEMod software, developed by the SCAQMD, is used to forecast the daily regional emissions from mobile and area sources that would occur during long-term operations. In calculating mobile-source emissions, the CalEEMod default trip length assumptions are applied to the average daily trip (ADT) estimates provided by the project's traffic consultant to arrive at vehicle miles traveled (VMT). Maintenance and housekeeping trips to support long-term RAP activities are assumed to occur once a month. Stationary-source emissions are compiled using procedures outlined in the Handbook. A complete listing of the operational assumptions used in this analysis is included within the CalEEMod printout sheets that are provided in Appendix B of this EIR. Calculations of the landfill gas generated by the Site are based on data and evaluations provided by the *Ascon Landfill Site Revised Landfill Gas Emissions Evaluation*.[27]

Odors (Short-Term and Long-Term)

Odors are defined by chemicals in a gas phase which are detected through the sense of smell. Certain odors may be declared a nuisance if a considerable number of people exposed find the smell objectionable. Classification of odors as a nuisance is typically subjective in nature and will vary from person to person. Each odor-causing chemical has a unique odor detection threshold which means that compounds, even if present at the same concentration, may have markedly different odor impacts.[28] Due to the difficulties of measuring odor using monitoring equipment, nuisance odors are usually defined based on the potential for a considerable number of people to find the smell objectionable rather than a quantitative modeling analysis. The determination of odor impacts is based on the potential to result in short-term or long-term nuisance odors affecting a considerable number of persons in violation of SCAQMD Rule 402.

[27] *Ascon Landfill Site Revised Landfill Gas Emissions Evaluation. Geosyntec Consultants. April 2013*

[28] *Overview of Odor Measurement Techniques. Brewer and Cadwallader. University of Illinois. 2003.*

Analysis of Project Impacts

Air Quality Plan Conflicts

Impact 4.2-1	Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Short-Term Impacts

Under this criterion, the SCAQMD recommends that a Lead Agency demonstrate that a project would not directly obstruct implementation of an applicable air quality plan and that a project be consistent with the assumptions (typically land-use related, such as resultant employment or residential units) upon which the air quality plan are based. Implementation of the RAP would result in an increase in short-term employment as compared to existing conditions. Being relatively small in number and temporary in nature, construction jobs under this the Project are generally not considered inconsistent with the assumptions upon which the AQMP are based. Control strategies in the AQMP with potential applicability to short-term emissions from construction activities include ONRD-04 and OFFRD-01, which are intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment by accelerating replacement of older, emissions-prone engines with newer engines meeting more stringent emission standards. Implementation of the RAP would incorporate a number of PDFs that are designed to reduce short-term emissions from construction equipment. The RAP would use construction equipment that meet or exceed stringent Tier 3 emission standards for off-road equipment (PDF 2-1) and 2007 or better standards for on-road waste haul trucks (PDF 2-2), and would comply with anti-idling restrictions pursuant to CARB's ATCM (PDF 2-3). The RAP would use a temporary structure to capture potential fugitive dust and volatile emissions resulting from soil handling during the excavation of Pit F (PDF 2-7). In addition, the RAP would comply with SCAQMD regulations and permitting requirements for controlling fugitive dust and volatile emissions from the Site (see SCAQMD Rules 403, 1150 and 1166) (PDF 2-6 and PDF 2-8). The PDFs listed above, in addition to the other PDFs discussed previously, are generally consistent with the 2012 AQMP control strategies intended to reduce emissions from construction equipment and operations. Because implementation of the RAP would not be inconsistent with the growth projections (jobs and housing) used in the development of the AQMP and would be consistent with the control strategies intended to reduce emissions from construction equipment, the Project would not conflict with or obstruct implementation of the AQMP, and impacts would be less than significant.

The only sources of increased air pollutant emissions resulting from the Project that are expected to occur in the SJVAB and subject to CEQA review are haul trucks. Emission standards for haul trucks are regulated at the state and federal level by CARB and USEPA, respectively, and are therefore not subject to control measures adopted by local air agencies. Thus, hauling of soil, debris, and other materials into SJVAB is not inconsistent with the SJVAPCD's air quality plan. Nonetheless, it should be noted that implementation of the RAP would be required to use on-road waste haul trucks that meet or exceed Year 2007 emission standards, which would minimize emissions in the SJVAB.

Long-Term Impacts

Implementation of the RAP would result in a closed, fenced and capped site. Future development of the Site is not part of the Project or any Alternative considered in this EIR, and would be subject to separate environmental clearance. Only periodic maintenance is anticipated following implementation of the RAP. Thus, the Project would not result in a change in long-term employment as compared to existing conditions.

Being relatively small in number, the continuation of maintenance jobs is generally not considered inconsistent with the assumptions upon which the AQMP was based. When originally adopted, the Magnolia Pacific Specific Plan contemplated housing upon the Site after completion of the clean-up, and current zoning is supportive of future residential development. However, the City of Huntington Beach, as demonstrated in its latest update to the Housing Element of the General Plan, is not dependent on the Site to meet its future housing demand, and as stated earlier, no future development plans are contemplated as part of this Project or any Alternative. Nonetheless, the Project may be supportive of future residential development, and as such, is considered not inconsistent with the population growth assumptions upon which the AQMP was based.

Because future development of the Site, if any, is not considered at this time, it would be highly speculative and inappropriate to assess the applicability of control strategies in the AQMP to the long-term operation of the Site. Because the Project would not be inconsistent with the growth projections (jobs and housing) used in the development of the AQMP and emissions would be negligible (see detailed discussion under Impact Statement 4.2-2), the Project would not conflict with or obstruct implementation of the AQMP, and impacts would be less than significant.

Conclusion. Implementation of the RAP would utilize equipment meeting stringent emission standards and would be consistent with the applicable growth projections and control strategies in the AQMP. Projects that are consistent with the applicable growth projections and control strategies used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's project-level recommended thresholds. Therefore, short-term and long-term impacts associated with implementation of the RAP would not conflict with or obstruct implementation of the applicable air quality plan and impacts would be less than significant.

Violation of Air Quality Standards

Impact 4.2-2	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Short-Term Emissions

Regional Short-Term Impacts

Implementation of the RAP has the potential to create short-term air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated from construction workers traveling to and from the Site. In order to provide a conservative analysis, it is assumed that all construction activities included in the RAP would be initiated as early as 2015 and completed in one year.[29] This assumption is conservative as it represents the minimum timeframe anticipated for construction stages within the RAP's overall development period. This is of particular importance as the short-term emissions are directly related to the duration and intensity of construction activities (i.e., emissions increase as the amount of construction increases). Emission rates representative of certain stages of RAP implementation (i.e., construction worker trips and delivery vehicle trips) can also decrease over time in response to the use

[29] *Completion of the Project may occur after 2015 depending on the actual start date. However, for the purposes of the emissions analyses, a completion date of 2015 would result in a conservative analysis as emissions tend to decline with future years due to newer vehicles meeting more stringent emission factors.*

of newer vehicles or equipment that emit lower levels of pollutant emissions. Assumptions for each construction phase and the equipment that would be used during RAP implementation are provided in Appendix B of this Draft EIR.

As discussed previously, implementation of the RAP consists of several phases. A detailed description of activities which will result in fugitive or exhaust emissions during each month of remediation is described below.

Month 1: Implementation of the RAP begins with General Mobilization, which consists of establishing a staging area, bringing in earthwork and supporting equipment, bringing in and setting up perimeter air monitoring equipment, clearing activities, and establishing haul roads, which would be maintained throughout RAP implementation. Pit F activities would also commence at this time. As discussed previously, implementation of the RAP would incorporate PDFs, including a temporary structure that would be constructed over Pit F (PDF 2-7), with volatile emissions being treated by GAC. Pit F materials would be excavated for transport and off-site disposal. The excavation of Pit F would occur under the negative-pressure enclosure and would utilize slurry trench technology. Excavated materials would be loaded into sealed roll-off bins and transported to the receiver facility off-site using bin trucks.

Month 2: General Mobilization and Pit F activities would continue. Cut and Fill activities would commence at this time. Activities during this phase consist of the grading, reconsolidation, and compaction of existing Site materials. A berm would first be constructed inside Lagoons 4 and 5 to support the contents, which will remain in place south and west of the new berm under the protective cap. Grading and excavation of Lagoon 4 and 5 materials north and east of the berm would then be performed. Excavated materials designated as VOC-contaminated per SCAQMD Rule 1166 would be treated on-site in an emissions control cell. Other non-VOC-contaminated materials would be stockpiled on-site or removed for off-site disposal.

Month 3: General Mobilization, Cut and Fill, and Treatment Cell activities would continue. VOC-contaminated materials would be treated by placement in windrows in the emissions control cell located in the former Lagoons 1 and 2 area and covered with vapor collection piping and plastic sheeting. Emissions collected would be transported through the collection piping using a blower and treated with granular activated carbon before being discharged to the atmosphere. Concrete Debris activities would also commence at this time. Existing concrete debris would be consolidated and placed on-site as deep fill or stockpiled on-site for further on-site processing (breaking and sizing) and re-use.

Month 4: General Mobilization, Cut and Fill, Treatment Cell, and Concrete Debris activities would continue.

Month 5: General Mobilization, Cut and Fill, Treatment Cell, and Concrete Debris activities would continue while Cap Construction would begin. During this phase, construction of the cover system would occur and consist of achieving subgrade in portions of the cut and fill area, the installation of the geocomposite gas collection layer, and the import, placement, and compaction of cover materials. Approximately 240,000 cubic yards of cover materials would be imported over 102 workdays at a rate of up to 200 trucks per day.

Months 6-7: General Mobilization, Cut and Fill, Treatment Cell, and Cap Construction activities would continue.

Month 8: Treatment Cell and Cap Construction activities would continue. Surface Water Controls activities would commence. Detention basins and storm water swales would be installed in the cover materials as storm water controls. City parcel activities would also begin. The City parcel and on-site perimeter access road area would be excavated and backfilled to achieve final design grade. Any excavated materials would be placed and reconsolidated under the Site's cap. After excavation of the City parcel, the cover materials will be graded to final grade.

Month 9: Cap Construction, Surface Water Controls, and City parcel activities would continue.

Month 10: Surface Water Control activities would continue, while SCOC Site activities would commence, if possible. Waste materials from the oil production facility on-site would be excavated as needed and backfilled with suitable import materials. Excavated waste materials would be placed under the Site's cap if done concurrent with the RAP phases.

Months 11-12: All other phases of activities would have been completed by this time. Site restoration of the RAP would commence and would consist of final grading of the perimeter road, establishing vegetation on the Site's cap, and demobilization of the on-site equipment.

Criteria pollutant emissions were calculated for each individual phase of remediation separately. However, as each phase has the potential to overlap with one another, maximum daily emissions in the SoCAB are presented in **Table 4.2-5** *Unmitigated Regional Maximum Short-Term Emissions, South Coast Air Basin*.

These emission forecasts reflect a specific set of conservative assumptions in which the major remediation activities of the RAP would be completed within 12 months. If implementation of the RAP is delayed or occurs over a longer time period, maximum daily emissions could be reduced because of, as examples, the availability of a more modern, cleaner burning, construction equipment fleet mix, or a less intensive buildout schedule (lower daily emissions occurring over a longer time interval).

The emissions levels in Table 4.2-5 represent the highest daily emissions projected to occur on any one day during each month. As presented in Table 4.2-5, short-term daily maximum regional emissions would not exceed the SCAQMD daily significance thresholds for CO, VOC, SO_X, or $PM_{2.5}$ at any time during the 12-month construction schedule. However, maximum regional emissions are estimated to exceed the SCAQMD daily significance thresholds for NO_X and PM_{10} during periods of heavy use of heavy-duty construction equipment. Thus, regional construction emissions resulting from the project would result in a significant short-term impact.

It should be noted that the assumptions used to calculate emissions contained in Table 4.2-5 include PDFs to reduce NO_X emissions. Such features include using Year 2007 and newer trucks for soil export and USEPA Tier 3 emissions complaint equipment on-site.

Regional emissions were also calculated for soil export trucks travelling within the SJVAB. As shown in **Table 4.2-6**, *Unmitigated Regional Maximum Short-term Emissions, San Joaquin Valley Air Basin*, emissions from soil export trucks would be less than the SJVAPCD CEQA significance thresholds which is based on an annual emission rate (tons/year). Therefore, implementation of the RAP would result in a less than significant impact with regard to regional emissions within the San Joaquin Valley Air Basin.

Table 4.2-5

Unmitigated Regional Maximum Short-Term Emissions [a]
(pounds per day)
South Coast Air Basin

	Regional Emissions [b]					
	VOC	NO_X	CO	SO_X	PM_{10} [c]	$PM_{2.5}$ [c]
Individual Months						
Month 1	4	65	61	<1	13	6
Month 2	8	137	110	<1	23	10
Month 3	24	384	244	<1	98	27
Month 4	21	305	199	<1	83	23
Month 5	29	556	250	<1	157	35
Month 6	29	556	250	<1	157	35
Month 7	28	535	238	<1	151	33
Month 8	31	593	279	<1	179	38
Month 9	30	577	262	<1	177	37
Month 10	17	385	164	<1	108	21
Month 11	11	151	84	<1	39	9
Month 12	<1	4	4	<1	<1	<1
Maximum Regional Emissions	**31**	**593**	279	1	179	38
SCAQMD Daily Significance Thresholds	75	100	550	150	150	55
Over/(Under)	(44)	493	(271)	(149)	29	(17)
Exceed Threshold?	**No**	**Yes**	**No**	**No**	**Yes**	**No**

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately. Emission quantities are rounded to "whole number" values. As such, the "total" values presented herein may be one unit more or less than actual values. Exact values (i.e., non-rounded) are provided in the model printout sheets and/or calculation worksheets that are presented in Appendix B.*

[b] *Shaded values indicate an exceedance of the significance threshold.*

[c] *PM_{10} and $PM_{2.5}$ emissions estimates are based on compliance with SCAQMD Rule 403 requirements for fugitive dust suppression.*

Source: PCR Services Corporation, 2013

Although the most likely destination for soil export trucks would be a receiver facility in San Joaquin Valley as discussed previously, the RPs may decide to have waste hauled to a different receiver facility in Nevada, Utah, or Arizona, resulting in haul truck travel into or through other air basins. Emissions were calculated for the on-road truck travel into or through these air basins and the maximum daily or annual emissions are listed along with the applicable thresholds are shown in **Table 4.2-7**, *Unmitigated Regional Maximum Short-Term Emissions, Optional Receiving Facilities.*

As shown in Table 4.2-7, if an optional receiver facility is selected that would require travel through the Mojave Desert Air Basin (and ultimately out of state to Nevada or Utah) or the Salton Sea Air Basin (and ultimately out of state to Arizona), maximum daily NO_X emissions from haul trucks travelling through these two air basins would exceed the respective Mojave Desert Air Quality Management District (MDAQMD) and SCAQMD daily thresholds. Emissions of other pollutants would not exceed applicable daily thresholds. The number of waste export trips needed to implement the Project would not result in emissions which exceeded

Table 4.2-6

Unmitigated Regional Maximum Short-term Emissions [a]
(tons per year)
San Joaquin Valley Air Basin [b]

	Regional Emissions [b]					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Individual Phases						
Soil Export Truck Emissions	1	7	3	<1	1	<1
SJVAPCD Annual Significance Thresholds	10	10	–	–	15	–
Over/(Under)	(9)	(3)	N/A	N/A	(14)	N/A
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately. Emission quantities are rounded to "whole number" values. As such, the "total" values presented herein may be one unit more or less than actual values. Exact values (i.e., non-rounded) are provided in the model printout sheets and/or calculation worksheets that are presented in Appendix B.*

[b] *Emissions include soil export truck exhaust and road dust*

Source: PCR Services Corporation, 2013

the MDAQMD annual thresholds. Travel through the Great Basin Valleys Air Basin (enroute to Nevada) would not exceed the daily or annual thresholds for any pollutant. Thus, impacts in the Salton Sea Air Basin and the Mojave Desert Air Basin would be significant for NO_X on a worst-case day, but less than significant on an annual basis; daily and annual impacts in the Great Basin Valleys Air Basin would be less than significant.

Long-Term Impacts

Regional Long-Term Impacts

Regional air pollutant emissions associated with long-term operations of the capped site would be generated by the long-term activities, including maintenance of a landfill gas collection and treatment system, groundwater monitoring, maintenance of a groundwater monitoring system, landscaping as needed, and worker commute trips to support these activities. As discussed above, these emissions are considered to be negligible. Emissions of landfill gas would consist of VOCs and methane. A protective cover with a gas collection and treatment system with GAC would be installed as part of the RAP to collect and treat gases before discharge to the atmosphere. The gas collection system under the cap would have a capture rate of at least 75 percent.[30] The GAC system will achieve a minimum of 95 percent capture rate of VOCs (for treatment or destruction off-site) that pass through the gas collection system.[31] The collective capture rates of VOCs were incorporated into the long-term regional emissions calculations presented in Table 4.2-7.

[31] *ASCON Landfill Site. ASCON: Responses to Remedy EIR HRA Data Request Memo. Project Navigator. October 11, 2011.*

[31] *ASCON Landfill Site. ASCON: Responses to Remedy EIR HRA Data Request Memo. Project Navigator. October 11, 2011.*

Table 4.2-7

Unmitigated Regional Maximum Short-Term Emissions [a]
Optional Receiving Facilities

	Regional Emissions [b]					
	VOC	NO_X	CO	SO_X	PM_{10} [c]	$PM_{2.5}$ [c]
Mojave Desert Air Basin						
Soil Export Truck Emissions (lb/day)	16	188	83	1	16	8
MDAQMD Daily Significance Thresholds [d]	137	137	548	137	82	82
Over/(Under)	(121)	51	(465)	(136)	(66)	(74)
Exceed Daily Threshold?	**No**	**Yes**	**No**	**No**	**No**	**No**
Soil Export Truck Emissions (tons/year)	**<1**	**11**	**5**	**<1**	**<1**	**<1**
MDAQMD Annual Significance Thresholds [d]	25	25	100	25	15	15
Over/(Under)	(24)	(14)	(95)	(25)	(14)	(15)
Exceed Annual Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Great Basin Valleys Air Basin						
Soil Export Truck Emissions (lb/day)	**5**	**54**	**24**	**<1**	**5**	**2**
MDAQMD Daily Significance Thresholds [e]	137	137	548	137	82	82
Over/(Under)	(132)	(83)	(524)	(137)	(77)	(80)
Exceed Daily Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Soil Export Truck Emissions (tons/year)	**<1**	**3**	**1**	**<1**	**<1**	**<1**
MDAQMD Annual Significance Thresholds [e]	25	25	100	25	15	15
Over/(Under)	(25)	(22)	(99)	(25)	(15)	(15)
Exceed Annual Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Salton Sea Air Basin						
Soil Export Truck Emissions (lb/day)	**11**	**131**	**58**	**<1**	**11**	**5**
SCAQMD Daily Significance Thresholds [f]	75	100	550	150	150	55
Over/(Under)	(64)	31	(492)	(149)	(139)	(50)
Exceed Daily Threshold?	**No**	**Yes**	**No**	**No**	**No**	**No**

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately. Emission quantities are rounded to "whole number" values. As such, the "total" values presented herein may be one unit more or less than actual values. Exact values (i.e., non-rounded) are provided in the model printout sheets and/or calculation worksheets that are presented in Appendix B.*

[b] *Shaded values indicate an exceedance of the significance threshold.*

[c] *Emissions include soil export truck exhaust and road dust.*

[d] *Source: Mojave Desert Air Quality Management District CEQA and Federal Conformity Guidelines, (2011).*

[e] *The Great Basin Unified Air Pollution Control District has not adopted regional thresholds of significance for use in CEQA analyses for short-term construction-related emissions and generally does not require calculation of construction-related emissions. For the purposes of this analysis, the thresholds from the neighboring Mojave Desert Air Quality Management District have been used to assess the potential for impacts in the Great Basin Valleys Air Basin.*

[f] *Source: SCAQMD Air Quality Significance Thresholds, (2011).*

Source: PCR Services Corporation, 2013

Mobile-source emissions were calculated using the CalEEMod emissions inventory model, which multiplies an estimate of the increase in daily VMT by applicable EMFAC2007 emissions factors. The CalEEMod model output and worksheets for calculating regional operational daily emissions are provided in Appendix B of this Draft EIR. As shown in **Table 4.2-8**, *Unmitigated Project - Estimate of Long-term Emissions,* regional operational emissions would remain below SCAQMD CEQA significance thresholds. As a result, impacts related to regional emissions from long-term operations of the proposed RAP would be less than significant.

Table 4.2-8

Unmitigated Project -
Estimate of Long-Term Emissions [a]
(pounds per day)
South Coast Air Basin

	Regional Emissions [b]					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Individual Phases						
Long-term Net Operational Emissions [c]	<1	<1	<1	<1	<1	<1
SCAQMD Daily Significance Thresholds	55	55	550	150	150	55
Over/(Under)	(55)	(55)	(550)	(150)	(150)	(55)
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately. Emission quantities are rounded to "whole number" values. As such, the "total" values presented herein may be one unit more or less than actual values. Exact values (i.e., non-rounded) are provided in the CalEEMod model printout sheets and/or calculation worksheets that are presented in Appendix B.*

[b] *Shaded values indicate an exceedance of the significance threshold.*

[c] *Emissions include off-site exhaust and roadway dust from visitors traveling to the Site to perform periodic maintenance activities, and on-site landfill gas generation.*

Source: PCR Services Corporation, 2013

Mitigation Measures

The project would implement PDFs and commit to the best available technology with regards to minimizing short-term NO_X and PM_{10} emissions. As discussed previously, PDFs would be implemented to reduce emissions of NO_X and PM_{10} which includes USEPA Tier 3 complaint off-road equipment (PDF 2-1), dust suppressants (PDFs 2-8 and 2-10), speed reduction on-site (PDF 2-10), and enhanced track-out prevention devices (PDF 2-11). Although these PDFs have been taken into account in the analyses presented in Table 4.2-5, Table 4.2-6, and Table 4.2-7, project-related pollutant concentrations are predicted to exceed thresholds. There are no feasible mitigation measures that would further reduce these emissions. Therefore, the implementation of the RAP would result in a significant and unavoidable impact with regards to short-term regional NO_X and PM_{10} emissions.

Conclusion. Implementation of the RAP is predicted to result in short-term emissions that would exceed the significance threshold with regards to regional NO_X and PM_{10} emissions even with implementation of PDFs to

reduce emissions. Even with all feasible emissions control measures, short-term impacts would be significant and unavoidable with regard to ozone (due to regional NO_X emissions) and particulates. However, long-term implementation of the RAP would not result in long-term emissions that exceed the significance threshold and would not violate air quality standards or contribute substantially to an existing or projected air quality violation. Thus, impacts related to regional emissions from the long-term implementation of the RAP would be less than significant.

Cumulative Pollutant Increases

Impact 4.2-3	Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Implementation of the RAP would result in the emission of criteria pollutants for which the region is in nonattainment in the short- and long-term. The Orange County portion of the Basin is designated nonattainment for ozone, PM_{10}, and $PM_{2.5}$. However, as stated above, worst-case emissions from the short-term implementation of the RAP would exceed applicable mass emission thresholds for regional NO_X and PM_{10}. As discussed above, PDFs implemented to reduce these regional emissions during the short-term would not reduce emissions below regional significance thresholds. Implementation of the RAP would result in a cumulatively considerable net increase of a criteria pollutant for which the region is non-attainment, and, therefore, project impacts would be significant.

Mitigation Measures

As discussed previously, PDFs would be implemented to reduce emissions of NO_X and PM_{10}, which includes USEPA Tier 3 complaint off-road equipment (PDF 2-1), dust suppressants (PDFs 2-8 and 2-10), speed reduction on-site (PDF 2-10), and enhanced track-out prevention devices (PDF 2-11). Although these PDFs have been taken into account in the analyses presented in Table 4.2-5, Table 4.2-6, and Table 4.2-7, project-related pollutant concentrations are predicted to exceed thresholds. There are no feasible mitigation measures that would reduce these emissions beyond the measures already incorporated as PDFs. Therefore, the implementation of the RAP would result in a significant and unavoidable impact.

Conclusion. With respect to short-term emissions, implementation of the RAP is predicted to result in a cumulatively considerable net increase of a criteria pollutant for which the region is nonattainment under applicable federal and state AAQS (including releasing emissions which exceed quantitative thresholds for ozone precursors). Even with all feasible emissions control measures, impacts would be significant and unavoidable. Long-term emissions from the Project would not exceed the thresholds of significance and would not result in a cumulatively considerable net increase of a criteria pollutant for which the region is nonattainment. Thus, long-term impacts would be less than significant.

Exposure to Substantial Pollutant Concentrations

Impact 4.2-4	Would the project expose sensitive receptors to substantial pollutant concentrations?

Short-Term Impacts

Localized Short-Term Impacts

Because the Site is larger than five acres, the impacts of on-site daily emissions of NO_X, PM_{10}, and $PM_{2.5}$ during RAP implementation were analyzed using dispersion modeling, in accordance with SCAQMD LST and AERMOD modeling methodology. Although the project is larger than five acres, localized emissions of CO are well below the LST look-up threshold for a 1-acre site with a 25 meter receptor distance. Since localized emissions of CO are well below the most stringent LST threshold, off-site CO concentrations will likely remain below ambient air quality standards, and dispersion modeling was not required for CO.

It was determined that localized emissions resulting from excavation of the City parcel along the north-east corner of the Site would result in the greatest off-site pollutant concentrations for residential and school receptors. Emissions generated during excavation of the SCOC parcel to the west of the Site would result in the greatest off-site pollutant concentrations for off-site worker receptors.

Modeled receptors were placed at locations to represent residential receptors directly east of the Site, school receptors to the north-east, and worker receptors directly to the west of the Site. Residential and school receptors were analyzed for 1-hour, 24-hour, and annual averaging periods. Worker receptors were analyzed for pollutants with 1-hour averaging period as workers do not routinely remain at their place of employment for long periods of time (24-hours or longer). Ambient NO_2 concentrations and meteorological data were obtained from the SCAQMD Costa Mesa monitoring station.

The results of the dispersion modeling are presented in **Table 4.2-9**, *Unmitigated Localized Short-Term Dispersion Analysis*. It should be noted that the results listed below are maximum values and do not represent relative average pollutant concentrations. Pollutant concentrations resulting from localized project emissions would remain below ambient air quality standards for annual NO_2. Concentrations would exceed the thresholds for 1-hour NO_2, 24-hour PM_{10}, 24-hour $PM_{2.5}$ and annual PM_{10}.

The NO_X emissions are generated by the combustion of diesel fuel in the equipment needed to implement the RAP. The particulate matter emissions resulting in the PM_{10} and $PM_{2.5}$ impacts are a combination of dust created by the earthmoving and associated activities needed to remove or consolidate on-site materials and the exhaust of DPM from the combustion of fuel in the equipment on-site. As discussed previously, PDFs would be implemented to reduce localized emissions of NO_X, PM_{10}, and $PM_{2.5}$, which includes USEPA Tier 3 complaint off-road equipment (PDF 2-1), dust suppressants (PDFs 2-8 and 2-10), speed reduction on-site (PDF 2-10), and enhanced track-out prevention devices (PDF 2-11). Although these PDFs have been taken into account in the analyses presented on Table 4.2-9, project-related pollutant concentrations are predicted to exceed thresholds and would result in significant impacts.

Table 4.2-9

Unmitigated Localized Construction Dispersion Analysis [a]

Pollutant and Averaging Period [b, c]	Residential Receptor	School Receptor [d]	Worker Receptor [d]
PM_{10} (24-hr) – (µg/m³)			
Project Incremental Concentration	48.6		
LST Threshold	10.4		
Over/(Under)	38.2		
Exceed Threshold?	**Yes**		
PM_{10} (Annual) – (µg/m³)			
Project Incremental Concentration	7.4		
LST Threshold	1		
Over/(Under)	6.4		
Exceed Threshold?	**Yes**		
$PM_{2.5}$ (24-hr) – (µg/m³)			
Project Incremental Concentration	10.8		
LST Threshold	10.4		
Over/(Under)	0.4		
Exceed Threshold?	**Yes**		
NO_2 (1-hr) (µg/m³) – 98th Percentile			
Project Incremental Concentration	74	28	223
Background Concentration [e]	132	132	132
Project + Background Concentration	206	160	355
LST Threshold [f]	188	188	188
Over/(Under)	18	(28)	167
Exceed Threshold?	**Yes**	**No**	**Yes**
NO_2 (Annual) – (µg/m³)			
Project Incremental Concentration	13		
Background Concentration	24		
Project + Background Concentration	37		
LST Threshold [g]	57		
Over/(Under)	(20)		
Exceed Threshold?	**No**		

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately.*

[b] *Modeling runs assume maximum days of emissions resulting from overlapping phases in accordance with the Project-specific schedule.*

[c] *Shaded values indicate an exceedance of the significance threshold.*

[d] *Only AAQS with averaging times of less than 24-hours apply to school and worker receptors.*

[e] *The 3-year average of the 98th percentile of the yearly distribution of 1-hour daily maximum concentrations.*

[f] *Threshold is calculated based on the federal 1-hr NO_2 threshold of 0.1 ppm (98th percentile)*

[g] *Threshold is calculated based on the state annual NO_2 threshold of 0.03 ppm and the previous 3-years of ambient NO_2 concentration data from the Costa Mesa monitoring station*

Source: PCR Services Corporation, 2013.

Long-Term Impacts

Localized Long-Term Impacts

The Site is not expected to generate large number of vehicle trips aside from the occasional maintenance worker or official visitor/regulator. In addition, the project will implement a gas collection and treatment system to minimize landfill off-gassing of VOC emissions. Therefore, localized concentrations resulting from on-site criteria pollutant emissions would not result in a noticeable increase in ambient air quality pollutant levels. As a result, the project would result in a less than significant impact with regard to localized long-term emissions.

Traffic congestion has the potential to expose sensitive receptors to high levels of CO. Traffic-congested roadways and intersections have the potential to generate localized high levels of CO within approximately 1,000 feet of a roadway.[32] The SCAQMD recommends an evaluation of potential localized CO impacts when vehicle to capacity (V/C) ratios are increased by two percent or more at intersections with a level of service (LOS) of C or worse. However, the project will not result in a large number of vehicle trips, and long-term operation of the project will not likely result in a CO hotspot. As a result, the project would result in a less than significant impact with regard to CO hotspots.

Mitigation Measures

There are no feasible mitigation measures that would reduce localized NO_X emissions beyond those measures that would already be incorporated as PDFs. In addition to contributing to the exceedance of the 24-hour PM_{10}, 24-hour $PM_{2.5}$ and annual PM_{10} threshold, on-site DPM emissions were also shown to result in incremental increases in off-site cancer risks in excess of the applicable health risk threshold unless mitigated (see Section 4.6, *Hazards and Hazardous Materials*, of this EIR). Thus, under Mitigation Measure HAZ-1 the RPs are required to ensure that a majority of the diesel powered off-road equipment (based on annual horsepower hours) to be used on-site include diesel particulate filters, to the extent practical. However, even with implementation of Mitigation Measure HAZ-1, the incremental increase in the localized annual PM_{10} and 24-hour PM_{10} concentrations (comprised of dust and DPM) at the nearest off-site receptor is predicted to exceed the applicable thresholds. There are no feasible mitigation measures that would reduce localized PM_{10} emissions beyond those measures that would already be incorporated as PDFs.

With respect to localized $PM_{2.5}$, Mitigation Measure HAZ-1 is predicted to reduce the incremental increase in 24-hour $PM_{2.5}$ concentrations at nearby off-site receptors to a less than significant level. Based on calculations in Section 4.6, *Hazards and Hazardous Materials*, the DPM component of $PM_{2.5}$ is 58 percent of the total localized $PM_{2.5}$ emissions. The mitigation measure would reduce the DPM component of $PM_{2.5}$ by 70 percent. Taking into account this reduction, the incremental increase in 24-hour $PM_{2.5}$ concentrations would be reduced to approximately 6.5 $\mu g/m^3$, which is less than the threshold of 10.4 $\mu g/m^3$. Thus, the mitigated localized 24-hour $PM_{2.5}$ concentrations would be less than significant. However, implementation of the RAP would result in significant and unavoidable impacts with regards to localized 1-hour NO_2, 24-hour PM_{10}, and annual PM_{10} levels.

[32] *California Department of Transportation,* Transportation Project-Level Carbon Monoxide Protocol*, (1997) 4-7.*

Conclusion. Implementation of the RAP is predicted to expose sensitive receptors to substantial pollutant concentrations. Short-term emissions are predicted to result in exceedances of ambient air quality standards for 1-hour NO_2, 24-hour PM_{10}, and annual PM_{10} even with implementation of PDFs and mitigation measures to reduce localized emissions (see Mitigation Measure HAZ-1 in Section 4.6, *Hazards and Hazardous Materials*, of this EIR). As a result, the proposed RAP would result in a significant and unavoidable impact with regard to short-term localized emissions. On-site long-term emissions would not exceed the LSTs thresholds and would result in less than significant localized impacts. The proposed RAP would not contribute to the formation of CO hotspots and would result in less than significant long-term impacts with respect to CO hotspots.

Odors

Impact 4.2-5	Would the Project create objectionable odors affecting a substantial number of people?

Short-Term Impacts

Odor generating compounds may be released during excavation. Prior work at the Site demonstrated that odors resulting from excavation can at times be objectionable. The detection of odors does not necessarily equate to a health risk (refer to Section 4.6, *Hazards and Hazardous Materials*, of this EIR for a discussion of health risks associated with implementation of the RAP).

Implementation of the RAP would include the following primary components: removal of the most hazardous materials from the Site (i.e., materials in Pit F); grading of the Site to reconsolidate materials such that the perimeter berms are removed from the City parcel and the Site topography gradually slopes up from Hamilton Avenue and Magnolia Street to a "high point" in the southwestern corner of the Site (away from the nearby residences); and installation of a "protective cap" over the Site with self-sustaining vegetation on the surface. Of these activities, the excavation and removal of the Pit F materials would have the most potential for creating odors. However, as part of the PDFs, a temporary structure (e.g., Sprung or similar) would be installed over Pit F to capture volatile emissions and odors resulting from soil handling during the Pit F excavation. Materials excavated from Pit F would be placed in sealed or covered bins which would be loaded onto trucks for transport off-site. During the remediation of areas other than Pit F, water or Rusmar® foam), or similar suppressant, would be applied to the waste materials to suppress potential emissions and odors.

Implementation of the RAP would include the preparation of an Air Monitoring Plan, which will be approved by DTSC, and overseen by DTSC and the SCAQMD. The air monitoring plan will include the following:

- A weather station to monitor wind speed and wind direction;
- Measurement of direct readings at multiple perimeter locations; and
- Odor and VOCs monitoring and mitigation if action levels are reached.

Compliance with SCAQMD Rule 1166 would control VOC emissions, including odorous compounds, during implementation of the RAP. The Air Monitoring Plan and the SCAQMD Rule 1166 permit specify the methods to be used to identify VOC-contaminated soil, as defined by the Rule, and the measures to be taken to minimize emissions, including using approved suppressants. In addition, on-site representatives of the RPs (e.g. remediation contractor) will implement mandated observation, air monitoring, and air sampling

methods, including monitoring of odors at the fence line, that will be used to ensure minimal potential for off-site impacts related to odor.

Waste, soil, dust, emissions, and odors will be monitored through measures incorporated in the Air Monitoring Plan, the Health and Safety Plan, the Transportation Plan, and the appropriate permits for the Site actions.

Per the Air Monitoring Plan, vapor suppressants such as foam, soil sealant or water, would be sprayed on the tarry materials during excavation activities. Stockpiles would also be sprayed with vapor suppressants or covered with soil sealants at the end of each work day.

In order to prevent nuisance odors from reaching nearby sensitive receptors, odors would be monitored by worker perception during excavation activities, and the relative strength of odors would be recorded in field forms on an hourly basis. Odors would be qualitative and comparatively ranked by worker perception on a scale of 1 to 5 as shown in a prior Air Monitoring Plan.[33] If a level three (or higher) odor ranking is recorded at any property perimeter location, additional vapor suppressant measures would be taken to reduce odors to an acceptable level. A level three odor classification is defined as an odor of moderate intensity that would be readily detected and might be regarded with disfavor. In addition, excavation activities would be halted until odor issues are resolved. Implementation of the measures identified in the Air Monitoring Plan is anticipated to effectively minimize odor impacts. Emissions and odors would be controlled to the maximum extent possible and odor-related impacts would be less than significant.

Nonetheless, to address odor complaints if they arise, the DTSC has mandated (see Mitigation Measure AIR-1) that the RPs establish and maintain signage specifying the manner in which the public can register odor complaints. If odor complaints are received, staff located on-site would seek to verify the odor complaint and identify the source. If odors are verified, additional suppressants and watering would be applied or work would be suspended temporarily until nuisance odors are no longer detected.

Long-Term Impacts

According to the SCAQMD CEQA Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, municipal landfills, dairies, and fiberglass molding. The proposed RAP does not include any uses identified by the SCAQMD as being associated with odors. The Project results in a closed landfill with a vegetated cap (e.g., grasses and low shrubbery) over the majority of the Site. A protective cover with a gas collection and treatment system routed to GAC would be installed as part of the RAP to collect and treat gases before discharge to the atmosphere. Therefore, the long-term activities of the proposed RAP would not be a source of odors, and potential odor impacts would be less than significant.

Conclusion. Implementation of the RAP would not create objectionable odors affecting a substantial number of people. The potential for short-term odors would be limited and minimized through the preparation and implementation of an Air Monitoring Plan and compliance with SCAQMD Rule 1166. The potential for long-term odors would be limited and minimized through the installation of a protective cover

[33] *Interim Removal Measure Workplan: Lagoons 1 and 2, May 2010.*

with a gas collection and treatment system routed to GAC. Thus, implementation of the remediation activities would have a less than significant impact. Nonetheless, to address odor complaints, if they arise, the DTSC has mandated that the RPs establish and maintain signage specifying the manner in which the public can register odor complaints, which is included as Mitigation Measure AIR-1.

Mitigation Measures

Although odor impacts are expected to be less than significant, DTSC has created Mitigation Measure AIR-1 to address the potential for odor complaints.

AIR-1 Implement a protocol to address odor complaints that shall include:

- Post an odor complaint telephone number at the Site, including phone numbers for the SCAQMD where odor complaints can be lodged via telephone.
- Prior to the commencement of RAP activities, mail information to surrounding property owners regarding procedures to follow to lodge an odor complaint.

Consistency With City of Huntington Beach General Plan Goals and Policies

The City's General Plan contains goals, objectives, and policies that are relevant to air quality and are presented in the General Plan Air Quality Element. As discussed in **Table 4.2-10**, *Comparison of the Project to the Applicable Policies of the Huntington Beach General Plan Air Quality Element*, implementation of the RAP would be consistent with the applicable goals and policies of the City of Huntington Beach General Plan pertaining to air quality.

3. CUMULATIVE IMPACTS

Short-Term Impacts

Of the 24 related projects that have been identified within the Project area, there are a number of related projects that have not yet been built or are currently under construction. Since the RPs have no control over the timing or sequencing of the related projects, any quantitative analysis to ascertain daily construction emissions that assumes multiple, concurrent construction projects would be entirely speculative. For this reason, the SCAQMD's methodology to assess a project's cumulative impact differs from the cumulative impacts methodology employed elsewhere in this Draft EIR.

With respect to the Project's short-term air quality emissions and cumulative SoCAB-wide conditions, the SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the AQMP pursuant to Federal CAA mandates. As such, implementation of the RAP would comply with SCAQMD Rule 403 requirements and implement all feasible mitigation measures. In addition, the Project would comply with adopted AQMP emissions control measures. Per SCAQMD rules and mandates as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures, and compliance with adopted AQMP emissions control measures) would also be imposed on construction projects SoCAB-wide, which would include each of the related projects mentioned above. Nevertheless, regional NO_X and PM_{10} emissions associated with implementation of the RAP would result in significant short-term impacts to air quality. As such, cumulative short-term impacts to air quality during proposed RAP implementation would also be significant and unavoidable *(Impact Statement 4.2-2)*.

Table 4.2-10

Comparison of the Project to the Applicable Policies of the Huntington Beach General Plan Air Quality Element

Policy	Project Consistency Analysis
AQ 1.4: Reduce the number of truck trips during daily peak travel periods.	**Consistent.** Implementation of the RAP would result in short-term truck trips to and from the Site. The Project would implement a Construction Traffic Management/Haul Route Plan to ensure construction-related traffic is as efficient as possible (PDF 10-1). The Plan would identify the City-approved truck hauling route, the days and hours of truck operation, and the maximum number of trucks per day (PDF 2-12). The truck trips would be distributed throughout the work day, which would also reduce the number of truck trips occurring during peak travel periods. Implementation of the RAP would not result in long-term truck trips to and from the Site, with the exception of infrequent maintenance and housekeeping trips, which would not cause or contribute to roadway congestion.
AQ 1.5: Reduce the number and shorten the distance of vehicle trips through sound land use planning, and improve the City's current 0.89 jobs/housing ratio.	**Not Applicable.** The majority of vehicle trips associated with the Project are during the short-term (construction) implementation phase. Haul trucks entering and exiting the Site would be required to follow a City-approved traffic plan that establishes the trucking route, days and hours of truck operation, the maximum number of trucks per day, and various requirements to provide traffic, pedestrian and bicycle safety, and truck operators will be provided with a trucking route map and hours of operation allowed (PDF 2-12). Implementation of the RAP would result in short-term (construction) employment opportunities for persons residing in the City and nearby areas. However, due to the nature of construction work, it is not feasible to implement a worker trip reduction plan, i.e. car pools, flexible start/end times, telecommuting, etc. Because implementation of this Project will not change long-term job creation or housing availability, it will not impact the City's efforts to improve the long-term jobs/housing ratio. Thus, this policy is not applicable to the Project.
AQ 1.7: Reduce vehicle emissions through traffic flow improvements, and use of alternate fuel consuming vehicles.	**Consistent:** The Project would implement the prescribed traffic mitigation measures in Section 4.10, *Traffic and Circulation*, in this EIR to ensure that efficient traffic flows with the Project occur during implementation of the RAP. No new traffic improvements would be required by the Project to ensure adequate traffic flow on the local roadway network. Since 2010, all highway diesel fuel sold in California must be ultra low sulfur diesel. Off-road equipment would be required to meet Tier 3 emissions

Table 4.2-10 (Continued)

Comparison of the Project to the Applicable Policies of the General Plan Air Quality Element

Policy	Project Consistency Analysis
	standards, which have been demonstrated to improve fuel economy compared to similar equipment meeting Tier 2 standards (PDF 2-1). On-road export haul trucks would be required to meet 2007 or better emission standards (PDF 2-2). Mitigation Measure HAZ-1 (see Section 4.6, *Hazards and Hazardous Materials*, of this EIR) would require the use of diesel control technologies, such as diesel particulate filters, to reduce diesel emissions. Construction equipment and worker vehicles would also use low carbon fuels, to the extent required under California law.
AQ 1.9: Minimize sensitive uses' (residential, hospitals, schools, etc.) exposure to toxic emissions.	**Consistent.** Implementation of the RAP would result in short-term TAC emissions; however, impacts would be less than significant with mitigation at all nearby sensitive receptors (see Section 4.6, *Hazards and Hazardous Materials*, of this EIR). Long-term emissions, including TAC emissions, would be reduced compared to existing conditions, which would reduce long-term TAC exposure to all nearby sensitive uses (see Section 4.6, *Hazards and Hazardous Materials*, of this EIR).

Source: PCR Services, Inc., 2013.

Potential sources that may emit odors during short-term construction activities would include the use of architectural coatings and solvents. Implementation of the RAP would include the preparation of an Air Monitoring Plan, which will be approved by DTSC and overseen by DTSC and the SCAQMD, and would control short-term odorous emissions. SCAQMD Rule 1166 is designed to control VOC emissions, including odorous compounds, during implementation of the RAP. Mandatory compliance with SCAQMD rules would also control short-term odorous emissions. Thus, odor impacts from the related projects are anticipated to be less than significant individually, as well as cumulatively in conjunction with the proposed RAP.

Long-Term Impacts

The SCAQMD's approach for assessing cumulative impacts related to operations or long-term implementation is based on attainment of ambient air quality standards in accordance with the requirements of the Federal and State Clean Air Acts. As discussed earlier, the SCAQMD has developed a comprehensive plan, the 2007 AQMP, which addresses the region's cumulative air quality condition.

A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant. Because the SoCAB is currently in nonattainment for ozone, PM_{10} and $PM_{2.5}$, related projects could exceed an air quality standard or contribute to an existing or projected air quality exceedance. Cumulative impacts to air quality are evaluated under two sets of thresholds for CEQA and the

SCAQMD. In particular, CEQA Guidelines Sections 15064(h)(3) provides guidance in determining the significance of cumulative impacts. Specifically, Section 15064(h)(3) states in part that:

> *"A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem (e.g., water quality control plan, air quality plan, integrated waste management plan) within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency…"*

For purposes of the cumulative air quality analysis with respect to CEQA Guidelines Section 15064(h)(3), the proposed RAP's incremental contribution to cumulative air quality impacts is determined based on compliance with the SCAQMD adopted 2012 AQMP. Implementation of the RAP would not conflict with or obstruct implementation of the applicable air quality plan, which in this case is the AQMP. As discussed previously, implementation of the RAP would be consistent with the growth projections in the AQMP and the control strategies intended to reduce emissions from construction equipment and operations. Thus, given the RAP's consistency with the AQMP, the Project's incremental contribution to cumulative air quality effects is not cumulatively considerable, per CEQA Section 15064(h)(3).

Nonetheless, SCAQMD no longer recommends relying solely upon consistency with the AQMP as an appropriate methodology for assessing cumulative air quality impacts. The SCAQMD recommends that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality. As discussed above, long-term emissions would not exceed the SCAQMD regional significance thresholds. Therefore, the long-term emissions of non-attainment pollutants and ozone precursors would be cumulatively less than significant.

With respect to potential odor impacts, neither the Project nor any of the related projects (which are primarily institutional, general office, residential, retail, and restaurant uses) have a high potential to generate odor impacts.[34] Furthermore, any related project that may have a potential to generate objectionable odors would be required by SCAQMD Rule 402 (Nuisance) to implement BACT to limit potential objectionable odor impacts to a less than significant level. Thus, potential odor impacts from the Project and related projects are anticipated to be less than significant individually and cumulatively.

4. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Short-Term Impacts

Implementation of the RAP is not expected to conflict with or obstruct implementation of an applicable air quality plan, and no mitigation is needed in regard to that issue.

[34] *According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding.*

Implementation of the PDFs described above would reduce short-term emissions of NO_X and PM_{10}. However, even with implementation of these design features, short-term emissions would continue to exceed the applicable regional emission significance thresholds. There are no feasible mitigation measures that would further reduce these emissions beyond those measures that would already be incorporated as PDFs. Therefore, the implementation of the RAP would result in a significant and unavoidable impact with regards to regional NO_X and PM_{10} emissions.

Implementation of the RAP would result in a cumulative net increase of a criteria pollutant for which the region is nonattainment under applicable federal or state AAQS (including releasing emissions which exceed quantitative thresholds for ozone precursors). Even with all feasible emissions control measures, impacts would be significant and unavoidable with regard to regional ozone and particulate matter.

Implementation of the PDFs described above would reduce localized emissions of NO_X (exhaust), PM_{10}, and $PM_{2.5}$ (fugitive dust and exhaust). Mitigation Measure HAZ-1, designed to reduce the carcinogenic health risks associated with DPM exposure to less than significant levels, would also reduce PM_{10} and $PM_{2.5}$ emissions from exhaust. There are no feasible mitigation measures that would further reduce 1-hour NO_2, 24-hour PM_{10}, and annual PM_{10} emissions beyond those measures that would already be incorporated as PDFs. Mitigation Measure HAZ-1 would reduce the localized 24-hour $PM_{2.5}$ concentrations to less than the significance thresholds. Thus, the implementation of the RAP would result in significant and unavoidable impacts with regards to localized 1-hour NO_2, 24-hour PM_{10}, and annual PM_{10} levels. Localized 24-hour $PM_{2.5}$ concentrations would be mitigated to a less than significant level.

Implementation of the PDFs would reduce odor impacts to less than significant levels. The DTSC has established Mitigation Measure AIR-1 to implement a protocol to address odor complaints, should they arise during implementation of the RAP. Odor impacts would be less than significant.

Long-Term Impacts

Implementation of the RAP would generate long-term emissions that would result in less than significant impacts.

4.3 BIOLOGICAL RESOURCES

This section analyzes the Project's potential impacts on biological resources. Relevant regulations and existing conditions are described, as well as the potential for the Project to impact sensitive plant species, sensitive wildlife species, sensitive natural habitat communities, and wildlife corridors. Information in this section is largely based on the findings and documentation from: site surveys conducted by Dudek & Associates, Inc. (Dudek) in 1996 and 2004; surveys conducted by PCR in 2009 and 2010; and most recently a site reconnaissance by PCR on March 20, 2013 to update the Site conditions. Site conditions prior to March 20, 2013 were documented in the IS/MND prepared and certified for the Interim Removal Measure (IRM). These studies and other relevant information supporting the evaluation in this section are included in Appendix C of this EIR.

1. ENVIRONMENTAL SETTING

Regulatory Framework

Federal

Sensitive Resource Classification – Endangered Species Act-Federal Protection and Classification

The Federal Endangered Species Act (FESA) of 1973 defines an endangered species as "any species which is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species which is likely to become an Endangered Species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA, unless properly permitted, it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. It should be noted that the FESA does not protect or regulate Federal threatened or endangered listed plant species on private property unless a federal action, such as regulatory permit approval or federal funding, is involved.

Federal Clean Water Act (CWA), Section 404

Section 404 of the Federal Clean Water Act (CWA) regulates the discharge of dredged material, placement of fill material, or excavation within "waters of the U.S." and authorizes the Secretary of the U.S. Army, through the Chief of Engineers, to issue permits for such actions. "Waters of the U.S." are defined by the CWA as "rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands." Wetlands are defined by the CWA as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions." The permit review process entails an assessment of potential adverse effects to U.S. Army Corps of Engineers (USACE) jurisdictional "waters of the U.S." and wetlands.

Federal Clean Water Act (CWA), Section 401

Section 401 of the CWA requires that:

> *"any applicant for a Federal permit for activities that involve a discharge to waters of the State, shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act."*

The mission of the California Regional Water Quality Control Board (RWQCB) is to develop and enforce water quality objectives and implement plans that will best protect the beneficial uses of the State's waters, recognizing local differences in climate, topography, geology, and hydrology.

Before the USACE will issue a Section 404 permit, the Project Applicant must apply for and receive a Section 401 water quality certification from the RWQCB. A complete application for 401 Certification will include a detailed Water Quality Management Plan (WQMP) that addresses the key water quality features of the Project to ensure the integrity of water quality in the area during and post-construction.

Under separate authorities granted by state law (i.e., the Porter-Cologne Water Quality Control Act), a RWQCB may choose to regulate discharges of dredge or fill materials by issuing or waiving (with or without conditions) Waste Discharge Requirements (WDRs), a type of State discharge permit, instead of taking a water quality certification action. Processing of a WDR is similar to that of a Section 401 certification; however, the RWQCB has slightly more discretion to add conditions to a project under the Federal CWA Section 401 provisions.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) protects migratory bird species from destruction or harm. This protection extends to individuals as well as any part, nest, or eggs of any bird listed as migratory.

In practice, federal permits potentially impacting migratory birds typically have conditions that require pre-disturbance surveys for nesting birds, and, in the event nesting is observed, a buffer area with a specified radius must be established within which no disturbance or intrusion is allowed until the young have fledged and left the nest, or it has been determined that the nest has failed. If not otherwise specified in the permit, the size of the buffer area varies with species and local circumstances (e.g., presence of busy roads, intervening topography, etc.), and is based on the professional judgment of a qualified biologist.

State

State of California Fish and Game Code, Section 1602

Section 1602 of the California Fish and Game Code requires any entity (e.g., person, state or local government agency, or public utility) which proposes a project that will substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, must first notify the California Department of Fish and Wildlife (CDFW) of the project. In the course of this notification process, the CDFW will review the project as it affects streambed habitats within the project area. The CDFW may then place

conditions on the Section 1602 clearance to avoid, minimize, and mitigate the potentially significant adverse effects within CDFW jurisdictional limits.

Sensitive Resource Classification

California Endangered Species Act

California's Endangered Species Act (CESA) defines an endangered species as:

> *"…a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease."*

The State defines a threatened species as:

> *"a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species."*

Candidate species are defined as:

> *"…a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list."*

Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the FESA, CESA does not include listing provisions for invertebrate species.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened or endangered species by stating:

> *"no person shall import into this State, export out of this State, or take, possess, purchase, or sell within this State, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided."*

Under the CESA, "take" is defined as, "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

Other State of California Protections

Some sensitive mammals and birds are protected by the State as Fully Protected Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively.

Additionally, California Species of Special Concern are species designated by CDFW as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. These species are not federally or state-listed, but warrant consideration in the preparation of CEQA biological assessments as a "special status" species.

The California Natural Diversity Database (CNDDB), a CDFW species account database, provides information on the localities of known observations of sensitive species and habitats. The CNDDB was reviewed as part of this EIR assessment of biological resources to determine the potential presence of sensitive species and habitats on the Site.

California Native Plant Society

The California Native Plant Society (CNPS) is a statewide non-profit (non-governmental organization) plant conservation organization dedicated to the monitoring and protection of sensitive species in California. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California. The CNPS has developed five California Rare Plant Rank (CRPR) categories:

- Rank 1A Presumed extinct in California.
- Rank 1B Plants Rare, Threatened, or Endangered in California and elsewhere.
- Rank 2 Plants Rare, Threatened, or Endangered in California, but more common elsewhere.
- Rank 3 Plants about which we need more information – a review list.
- Rank 4 Plants of limited distribution – a watch list.

The CNPS recently added "threat ranks" which parallel the ranks used by the CNDDB. These ranks are added as a decimal code after the CRPR List (e.g., List 1B.1). The threat codes are as follows:

- 0.1 – Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat);
- 0.2 – Fairly endangered in California (20-80% occurrences threatened);
- 0.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

The California Native Plant Society listings serve as the candidate list for listing as Threatened and Endangered by CDFW. The CRPR categories are without CEQA or FESA standing. However, under CEQA the CDFW regards plants with CRPR ranking of 1 and 2 to be "rare" and subject to full consideration in a CEQA biological assessment.

Local

City of Huntington Beach General Plan Coastal Element

The City of Huntington Beach adopted a Coastal Element as part of its General Plan on November 15, 1999. On June 14, 2001, the California Coastal Commission certified the element. As amended through October

2011, the Coastal Element identifies three "environmentally sensitive habitat areas" (ESHA), as defined in the California Coastal Act, within the City and includes policies to protect and enhance these areas in accordance with the California Coastal Act. These designated ESHAs are: 1) the Huntington Beach wetland areas; 2) the California least tern nesting sanctuary; and 3) the wetlands and eucalyptus ESHA on the Parkside site. Although it is within the coastal zone, the Site does not include or abut any of these three Coastal Element designated ESHAs (the nearest portions of the Huntington Beach wetland area ESHAs are approximately 0.20 miles to the south and 0.25 miles to the west). Although the Site is not within and does not contain a Coastal Element designated ESHA, the coastal salt marsh and southern tarplant present on-site meet the criteria for an ESHA due to the rarity of these resources and the ease of disruption of these habitats.

Per the Coastal Element, "environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. In the event that development is permitted in an ESHA area pursuant to other provisions of this LCP, a "no-net-loss" policy (at a minimum) shall be utilized."

Existing Conditions

Determinations that sensitive species occur or potentially could occur within the Site are based on one or more of the following: (1) the direct observation of the species during one of the biological surveys; (2) a record reported in the CNDDB; and (3) the Site is within known distribution of a species and contains appropriate habitat.

Currently, the Site is highly disturbed from past landfill activities. Vegetation on-site is dominated by non-native ruderal (i.e., weedy) species (e.g., shortpod mustard [*Hirschfeldia incana*]) and ornamental vegetation (e.g., lollypop tree [*Myoporum laetum*], hottentot fig [*Carpobrotus edulis*]). A list of plant species observed within the Site is included in Appendix C in this EIR. In the southwest corner of the Site, there are scattered patches of constituent elements of coastal salt marsh, including common pickleweed (*Salicornia pacifica*), saltgrass (*Distichlis spicata*), alkali weed (*Cressa truxillensis*), and alkali mallow (*Malvella leprosa*) interspersed with ruderal vegetation and ornamental hottentot fig. It is not known whether the native plants in this area are a remnant of historical conditions or the result of the colonization of areas disturbed by historical clearing and land uses. In either case, this disturbed coastal salt marsh vegetation covers a very small area (approximately 0.2 acre), is completely isolated from the wetland complexes in the vicinity, and offers limited habitat functions and values as a coastal salt marsh community. As mentioned above, the remaining 38.0 acres of the Site is disturbed or supports ruderal or ornamental vegetation (**Figure 4.3-1**, *Plant Communities*).[1] The Orange County/Huntington Beach Flood Control Channel is immediately adjacent to the Site to the west, and the nearest undeveloped areas consist of wetlands approximately 0.2 miles to the south, and undeveloped land 0.25 miles to the west.

Although the Site is a landfill and includes waste materials, southern tarplant can be found within disturbed areas that support favorable conditions for this species (e.g., suitable soils, coastal proximity, relatively flat topography, etc.). Southern tarplant (*Centromadia [Hemizonia] parryi* ssp*. australis*) is a sensitive plant species and is listed as a CRPR 1B.1 ("seriously endangered in California [over 80 percent of occurrences threatened/high degree and immediacy of threat"]) species. Approximately 67,000 individuals of southern

[1] *The map of plant communities was updated via review of current aerial photography to reflect the current site conditions.*

tarplant were mapped within the Site during surveys conducted by PCR in 2009. Sensitive plants surveys were conducted again by PCR in 2010, and approximately 660,500 individuals of southern tarplant[2] were observed. The IRM Mitigated Negative Declaration (MND)[3] concluded that approximately 154,400 southern tarplant individuals were slated to be impacted as a result of the IRM. The number of tarplants actually impacted by the IRM was reduced to approximately 153,200 through further avoidance and then mitigated accordingly. Therefore, approximately 507,300 southern tarplant individuals remained on-site after the IRM. The locations of the southern tarplant documented during the IRM are shown in **Figure 4.3-2**, *Sensitive Plant Locations*. It is acknowledged that tarplant populations fluctuate from year to year depending on variability in precipitation, temperatures, and weather conditions, among other factors and, as such, the precise number of tarplants in any given season could be higher or lower than approximately 507,300.

Surveys conducted by Dudek in 2004 documented two individuals of spiny rush (*Juncus acutus* ssp. *leopoldii*) (CRPR 4.2 - "Plant of Limited Distribution [watch list], fairly endangered in California") within the south-central portion of the Site. However, this species was not observed during sensitive plant surveys conducted by PCR in 2009 and 2010.

Aside from the southern tarplant and spiny rush discussed above, no other plant or wildlife species of concern were observed within the Site during the 1996, 2004, 2009, 2010, or 2013 surveys. No additional sensitive plant or wildlife species are expected to occur prior to implementation of the RAP.

Due to the absence of jurisdictional field indicators (e.g., an ordinary high water mark [OHWM], a defined bed-and-bank), the Site does not support "waters of the U.S./State" or wetlands as regulated under the jurisdiction of the USACE, CDFW, and/or RWQCB.[4] However, the 0.2 acre of disturbed coastal salt marsh meets the "one parameter definition" (California Code of Regulation Title 14 {14CCR]) of a coastal wetland (§30121 and §13577(b) Code of Regulations) as regulated by the California Coastal Commission under the California Coastal Act. The Coastal Commission's "one parameter definition" requires evidence of a single parameter only to establish wetland conditions and is defined as follows:

> *"Wetlands shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly*

---

[2] *The following methodology was used to count southern tarplant population on-site. While surveying in the field and mapping southern tarplant, a 4-meter (13.1 feet) rule was used to separate polygons for mapping purposes. This distance used is a mapping tool based on the detectability of the plants, the general accuracy of the Global Positioning System (GPS), and time constraints. This heuristic criterion is not specifically tied to southern tarplant biology (i.e., reproductive biology or seed dispersal) and thus is not intended to reflect reproductively isolated sub-populations, the total extent of the southern tarplant seed bank, or any other feature of the species' life history. To obtain these estimates, all individuals were either directly counted in a polygon/point location or were estimated by using a clumped counting and extrapolation method, which involved counting individual plants in small areas of a polygon/point location, then extrapolating out over other areas of the polygon, until a total was obtained. Most of the polygon/point location estimates were independently made by two biologists, and then compared for consistency. Polygons/point locations were mapped with the GPS unit, by drawing polygons on 7.5-minute USGS quadrangle maps, or by a combination of the two. Professional judgment and experience were used to delineate these polygons/point locations based on the detectability of the species.*

[3] *PCR Services Corporation. October 2009. Initial Study/Mitigated Negative Declaration. Interim Removal Measure Workplan for Ascon Landfill Site, Huntington Beach, California. Prepared for the Department of Toxic Substances Control.*

[4] *Although hydrophytic plant species and wetland hydrology occur on-site, the USACE three-parameter definition of a wetland is not met as hydric soils are not present on-site.*

Project Boundary

Plant Communities

DCSM - Disturbed Coastal Salt Marsh (0.2 acres)

DIS - Disturbed (16.3 acres)

ODP - Oil Disposal Pond (7.1 acres)

ORN - Ornamental (5.3 acres)

RUD - Ruderal (8.7 acres)

RUD/BS - Ruderal / Baccharis Scrub (0.6 acres)

PCR

N

0 200 400 Feet

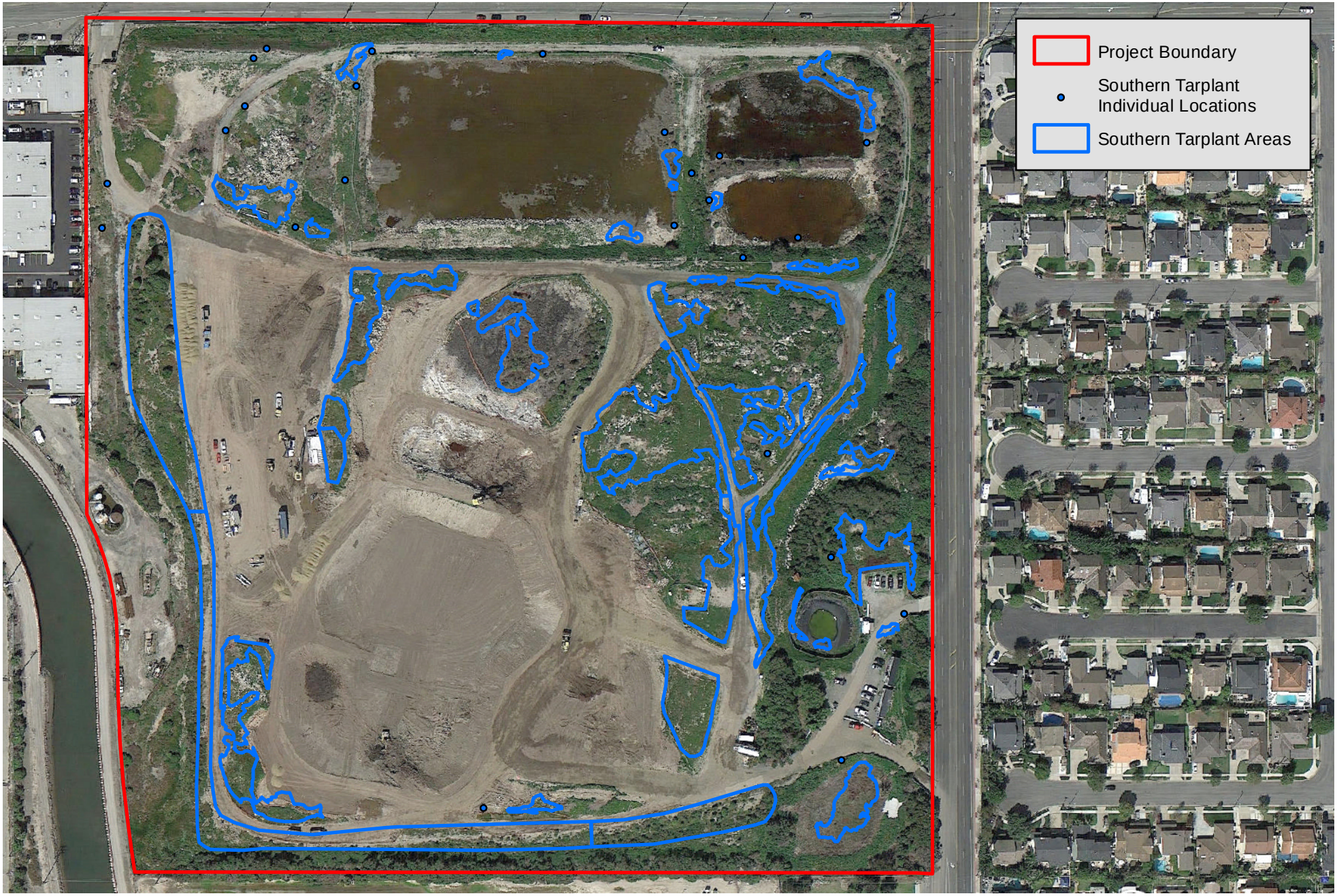
Plant Communities

RAP EIR - Ascon Landfill Site

Source: Google (Aerial), 2011; PCR Services Corporation, 2013.

FIGURE

4.3-1



PCR

N

0 200 400 Feet

Sensitive Plant Locations

RAP EIR - Ascon Landfill Site

Source: Google (Aerial), 2011; PCR Services Corporation, 2013.

FIGURE

4.3-2

> *developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate.*
>
> *Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep water habitats (14 CCR Section 13577)."*

While the disturbed coastal salt marsh is not inundated with water, it is likely that the water table is near the surface as the Site supports hydrophytic vegetation. Thus, the disturbed coastal salt marsh meets the Coastal Commission's "one parameter wetland definition," as defined above. In addition, the 0.2 acre of disturbed coastal salt marsh vegetation is considered rare and worthy of consideration under the CDFW's CNDDB.

Under the City's General Plan Coastal Element (Coastal Element) definition of an ESHA (which is consistent with the Coastal Act §30107.5), disturbed coastal salt marsh and the southern tarplant meet the definition of an ESHA (**Figure 4.3-3**, *Locations of Environmentally Sensitive Habitat Areas (ESHA)*). Coastal Act §30107.5 defines ESHA as "Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities or development."

Despite the Site meeting the City's definition of an ESHA, it is also acknowledged that the Site has been identified as a California hazardous substance release site and DTSC has ordered it to be remediated under the Imminent and Substantial Endangerment Determination and Order and Remedial Action Order (Order) under Health and Safety Code sections 25358.3(a), 25355.5(a)(1)(B), 58009 and 58010 (Docket No. I & SE-RAO 02/03-018).

2. ENVIRONMENTAL IMPACTS

Significance Criteria

For purposes of this EIR, DTSC has utilized the checklist questions in Appendix G of the *CEQA Guidelines* as significance criteria to determine whether a project would have a significant environmental impact regarding biological services. Based on the size and scope of the Project and the potential for biological resource impacts, the criteria identified below are included for evaluation in this EIR. Please refer to Section 6.0, *Other Mandatory CEQA Considerations*, for a discussion of other issues associated with the evaluation of biological resources where the characteristics of the Project made it clear that effects would not be significant and further evaluation in this section was not warranted.

Would the Project:

- **4.3-1** Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Wildlife Service (refer to Impact Statement 4.3-1);
- **4.3-2** Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California

Department of Fish and Wildlife or U. S. Fish and Wildlife Service (refer to Impact Statement 4.3-2);

- **4.3-3** Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (refer to Impact Statement 4.3-3);

- **4.3-4** Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (refer to Impact Statement 4.3-4); and

- **4.3-5** Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (refer to Impact Statement 4.3-5).

Methodology

For the purpose of this section, Project-related impacts on biological resources could take two forms, direct and indirect. Direct impacts are considered to be those that involve the loss, modification or disturbance of natural habitats (i.e., vegetation or natural communities), which, in turn, directly affect plant and wildlife species dependent on that habitat. Direct impacts also include the destruction of individual plants or wildlife, which is typically the case in species of low mobility (i.e., plants, amphibians, reptiles, and small mammals). The collective loss of individuals in these manners may also directly affect regional population numbers of a species or result in the physical isolation of populations, thereby reducing genetic diversity and, hence, population stability. Indirect impacts are considered to be those that involve the effects of increases in ambient levels of sensory stimuli (e.g., noise, light), unnatural predators (e.g., domestic cats and other non-native animals), and competitors (e.g., exotic plants, non-native animals). Indirect impacts may be associated with the construction and/or eventual habitation/operation of a project; therefore, these impacts may be both short-term and long-term in their duration. These impacts are commonly referred to as "edge effects" and may result in changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to project sites. This CEQA evaluation of indirect impacts considers the quality and quantity of loss relative to the wildlife and habitat found on the Site compared to that which is preserved in the surrounding areas (i.e., City of Huntington Beach Coastal Zone).

For the purposes of this impact analysis the following definitions will apply:

- "Substantial adverse effect" means loss or harm of a magnitude which, based on current scientific data and knowledge would: (1) substantially reduce population numbers of a listed, candidate, sensitive, rare, or otherwise special status species; (2) substantially reduce the distribution of a sensitive natural community/habitat type; or (3) eliminate or substantially impair the functions and values of a biological resource (e.g., wetlands) compared and contrasted to the interrelated biological components and systems of the City's Coastal Zone. "Conflict" relates to contradictions of a magnitude quantified and qualified in biological science, which, based on foreseeable circumstances, would preclude or prevent substantial compliance with such statutes as the California Coastal Act and City General Plan Coastal Element.

PCR

N

0 200 400 Feet

Locations of Environmentally Sensitive Habitat Areas (ESHA)

RAP EIR - Ascon Landfill Site

Source: Google (Aerial), 2011; PCR Services Corporation, 2013.

FIGURE

4.3-3

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- "Rare" means (1) that the species exists in such small numbers throughout all, or a significant portion of, its range or region that it may become endangered if its environment worsens; or (2) the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the FESA. This would be especially true if the Project contributed in a measurable, "significant way" to the demise of a rare, threatened or endangered species.

Project Design Features

As proposed and required for complete remediation of the Site under the Imminent and Substantial Endangerment Determination and Order and Remedial Action Order (Order) under Health and Safety Code sections 25358.3(a), 25355.5(a)(1)(B), 58009 and 58010 (Docket No. I & SE-RAO 02/03-018), the Project would result in removal of all existing biological resources on the Site. Upon completion of the remediation activities, the Site would include a vegetated cap over the entire Site (excluding the SCOC oil lease site, storm-water detention basins, perimeter access road, and City parcel). No specific Project Design Features (PDFs) have been identified for the Project pertaining to biological resources.

Analysis of Project Impacts

Candidate, Sensitive, and Special Status Species

Impact 4.3-1	Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Sensitive Plant Species

Implementation of the Project would result in the direct removal of all biological resources within the Site. A list of plant species observed within the Site is included in Appendix C in this EIR.

Although surveys conducted by Dudek in 1996 documented that no sensitive plant species were observed or likely to be present, surveys conducted by Dudek in 2004 and by PCR in 2009, 2010, and 2013 documented the presence of sensitive plant species within the Site. Surveys conducted by Dudek in 2004 documented two individuals of spiny rush (CRPR 4.2) within the south-central portion of the Site and approximately 1,300 individuals of southern tarplant (CRPR 1B.1) within the southern portions of the Site.

PCR did not detect the two individuals of spiny rush during focused sensitive plant species surveys conducted in 2009 and 2010. However, during focused sensitive plant species surveys conducted in 2009, PCR documented approximately 67,000 individuals of southern tarplant within 3.1 acres throughout the eastern, western and southern portions of the Site. In 2010, approximately 660,500 individuals of southern tarplant were observed throughout the Site. As previously stated, approximately 153,200 southern tarplant individuals were impacted by the IRM and were mitigated for accordingly. Therefore, approximately 507,300 southern tarplant individuals remained on-site after the IRM. Southern tarplant populations fluctuate from year to year depending on variability in precipitation, temperatures, and weather conditions, among other factors and, as such, the precise number of tarplants in any given season could be higher or lower than 507,300.

Although the southern tarplant does not carry a federal or state listing as threatened or endangered, it is a CRPR List 1B.1 species which is considered "seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)." The southern tarplant individuals of the remaining population on Site would be directly and permanently impacted with implementation of the Project. This is considered a significant impact.

An analysis of known regional southern tarplant populations was conducted in 2009 to determine if the IRM would significantly reduce regional population numbers. At that time, a reasonable effort was made to understand the known regional population numbers of the southern tarplant within the defined region. The defined region included the historical range of the species. Historically, southern tarplant was fairly widespread and known to most commonly occur in mesic coastal grassland and along every alkaline ditch or estuary border in the southern Los Angeles Basin. Southern tarplant was most abundant in the southeastern Los Angeles Basin between the Palos Verdes Peninsula and Newport Beach and Irvine. However, sparse occurrences are also known from Santa Barbara, Ventura and San Diego Counties. Therefore, the defined region for purposes of this analysis is bounded in the north by the Santa Ynez Mountains; the east by the San Gabriel Mountains, Puente Hills, Chino Hills, Santa Ana Mountains, Agua Tibia Mountains, and the Laguna Mountains; the west by the Pacific Ocean; and the south by the extensive urbanized areas of southern San Diego County. As such, a CNDDB search was conducted for this species throughout Santa Barbara, Ventura, Los Angeles, Orange and San Diego Counties. Unfortunately, little updated information on this species exists in the CNDDB. Only a handful of then-recent occurrences were reported, which totaled approximately 240,300 southern tarplant individuals (which does not include the approximately 660,500 southern tarplant individuals counted within the Site in 2010). It should be noted, however, that the CNDDB is limited to information voluntarily submitted on a project by project basis and may not accurately reflect the true population trends in the region. As such, there may have been other significant populations that were undocumented within the CNDDB. Although approximately 153,200 southern tarplant individuals were impacted by the IRM, these individuals are being mitigated for at a 1:1 ratio; therefore, the 153,200 southern tarplant individuals should be considered in the existing regional population. Thus, the minimum present regional population (excluding the population present on the Site) is estimated at approximately 240,300 southern tarplant individuals (2009 regional evaluation), assuming they remain, plus the 153,200 individuals (from the IRM mitigation).

From 2009 to 2010, there was a ten-fold increase in southern tarplant individuals present on the Site (i.e., from 67,000 to 660,500). Although all of the factors contributing to this increase cannot be definitively determined (e.g., variability in precipitation, temperatures, weather conditions, etc.), it is possible that similar increases may have also occurred in other existing southern tarplant populations in the region from 2009 to 2010. The regional numbers estimated above are therefore considered a conservative, minimum total. Personal communication by PCR with the Bolsa Chica Land Trust supported this assumption, as the known population of southern tarplant on Bolsa Chica lands increased from 2009 to 2010.[5] However, the exact quantification of such increases has not been recorded. Thus, the minimum present regional estimate (excluding the population present on the Site) of 240,300 southern tarplant individuals (2009 regional evaluation), assuming they remain, plus the 153,200 individuals (from the IRM mitigation) is a conservative estimate and may be low if other southern tarplant populations experienced similar growth in total population during the 2010 season.

[5] *Telephone communication between PCR and Kim Kolpin., July 8, 2010.*

A review of the CNDDB was conducted again in 2013 by PCR. Because all occurrences documented in the CNDDB do not include a precise quantification of southern tarplant individuals on-site (i.e., some occurrences are general estimates [e.g., "a few," "several hundred," ">1,000"] or do not include an estimate at all), a total regional number of individuals is difficult to quantify.[6] However, the occurrences documented within the CNDDB have not changed appreciably since 2009, with the exception of at least one occurrence that was revisited and revised to include approximately 1,000 individuals less than originally recorded, as well as a few additional occurrences that have been documented since 2009 and have contributed a combined total of approximately 5,000 more southern tarplant individual to the known regional population estimate. Correspondence with local botanist Fred Roberts indicated that there may also be some fluctuations and reductions in occurrences of southern tarplant populations in the CNDDB since they have been recorded and further studies are needed to confirm these populations.[7]

Despite uncertainty in the current size of the regional southern tarplant population, the loss of the Site's southern tarplant population would represent a significant impact on a project-specific and regional basis.[8]

Mitigation Measure BIO-1 has been prescribed to reduce project and cumulative impacts to the southern tarplant to a less than significant level. As stated above, southern tarplant populations fluctuate from year to year. Thus, per Mitigation Measure BIO-1, it would be necessary to conduct a future count of the Site's southern tarplant population during the peak blooming period within the year prior to Project implementation. Based on that count, the RPs would need to ensure that impacted southern tarplant individuals are mitigated at a 1:1 impact-to-mitigation ratio at an appropriate off-site location(s).[9]

Conclusion. Implementation of the Project would result in a potentially substantial direct adverse effect on southern tarplant, which is a species identified as a CRPR 1B.1 species by the California Native Plant Society. Compliance with applicable regulatory requirements and implementation of the prescribed mitigation measure would reduce this potentially significant impact to a less than significant level.

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[6] *An "occurrence" in the CNDBB is indicative of a location where the species was observed. An "occurrence" may or may not include data on the number of individual species observed.*

[7] *Telephone communication between PCR biologist Maile Tanaka and botanist Fred Roberts., June 11 2013.*

[8] *Southern tarplant populations with over 1,000 plants should be considered significant at a regional scale, per email communication on July 28, 2009 between PCR biologist Maile Tanaka and botanist Fred Roberts re: regional population trends of the southern tarplant. Correspondence included in Appendix C of this EIR.*

[9] *Off-site mitigation is recommended over on-site mitigation for the following reasons: (1) The Site is a remediation site that would be almost entirely covered with a cap system. Future maintenance and/or uses on-site may conflict with the long-term conservation of a southern tarplant population if it were re-established on-site. Thus, off-site mitigation with a long-term protection mechanism (e.g., conservation easement, deed restriction, etc.) would ensure the mitigated southern tarplant population is conserved in perpetuity to the extent reasonably feasible. (2) If an off-site receptor site is chosen that is already under the stewardship of conservation interests, then off-site transplantation to within these areas would ensure the population is properly established, maintained and managed. (3) The Ascon Site is highly disturbed vacant land surrounded by intensive industrial and residential land uses that supports an isolated population of southern tarplant. An off-site receiver site would have potential to support equal, if not greater, ecological functions and values if part of a larger, natural open space area, and may also provide beneficial genetic exchange with other populations if southern tarplant populations are already present within those areas.*

Mitigation Measures

BIO-1 Due to natural fluctuations in the on-site southern tarplant population, a count of southern tarplant individuals shall be conducted during the peak blooming period within the year prior to Project implementation. Based on that count, the RPs shall ensure that impacted southern tarplant individuals are mitigated at a 1:1 impact-to-mitigation ratio (i.e., based on tarplant count) at an appropriate off-site location. Mitigation of the southern tarplant shall be implemented by the following measures, which are to be documented by a qualified biologist approved by DTSC in a written compliance report(s) to DTSC to ensure the measures have been successfully implemented:

- Prior to ground disturbance, all southern tarplants shall be counted and retained in place until they die back and the seed can be collected. As many plant seeds as is reasonably feasible shall be collected from the on-site southern tarplant population and stored in brown paper bags in a cool location until they have fully dried out and the seed heads dehisced. The seeds shall be processed and stored at Rancho Santa Ana Botanic Garden (or similar native plant/seed nursery) until the seeds are ready to be planted at an appropriate off-site location during the appropriate fall season. The seeds shall be planted within two years of being collected, or as otherwise recommended by a qualified biologist/restoration specialist.
- The RPs shall work with a qualified biologist to identify an appropriate off-site conservation area (e.g., within the historic range of the species) that will accept the seed for broadcasting until a 1:1 impact-to-mitigation ratio for number of southern tarplant individuals is met. A southern tarplant mitigation plan shall be prepared, and planting activities shall be implemented by a qualified biologist/restoration specialist selected by the RPs and/or the off-site conservation area managers. The RPs, in consultation with a qualified biologist, shall be responsible for locating the off-site conservation area, ensuring the restoration of the impacted southern tarplant at the off-site conservation area, and ensuring maintenance within the off-site conservation area through payment of a one-time long-term management endowment to the management entity, or other approved payment mechanism, once the 1:1 ratio is met (which will be detailed in the southern tarplant mitigation plan and subject to the approval of DTSC).

Sensitive Wildlife Species

Implementation of the Project would result in the direct removal of all biological resources within the Site. No sensitive wildlife species were observed or reported by Dudek in 1996 or 2004 or by PCR in 2009, 2010, or 2013. Although the Site is disturbed, there is low potential for the Site to support foraging habitat for the white-tailed kite (*Elanus leucurus*), a State Fully Protected Species. However, potential foraging habitat also occurs within undeveloped lands to the west and south of the Site for this species and therefore; implementation of the Project would not be expected to reduce regional population numbers. Therefore, impacts to this sensitive wildlife species are considered adverse, but less then significant and no mitigation measures would be required. Due to the disturbed nature of the Site, which is surrounded by development in all directions, no other sensitive wildlife species are expected to occur on site. Furthermore, because the nearest undeveloped areas consist of wetlands approximately 0.20 miles to the south and undeveloped land 0.25 miles to the west, no indirect impacts to sensitive wildlife from construction-related activities (e.g., lighting, noise, dust) would occur. A list of wildlife species PCR observed during surveys conducted from 2009 to 2013 within the Site is included in Appendix C of this EIR.

Conclusion. Based on the analysis above, impacts to sensitive wildlife species are considered less than significant.

Riparian Habitat and Sensitive Natural Communities

Impact 4.3-2	Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U. S. Fish and Wildlife Service?

Approximately 0.2 acre of disturbed coastal salt marsh is located within the southwestern corner of the Site (refer to Figure 4.3-1). Albeit disturbed, localized and isolated with limited habitat functions and values, this vegetation meets the criteria to be considered as an ESHA by the California Coastal Act and City's Coastal Element. However, it should be noted that, although the Coastal Element identifies three ESHAs within the City (the Huntington Beach wetland areas, the California least tern nesting sanctuary, and the wetlands and eucalyptus ESHA on the Parkside site) and includes policies to protect and enhance these areas, none of these ESHAs are located within or abutting the Site.

As noted above, the Site has been identified as a California hazardous waste facility and is to be remediated under the Imminent and Substantial Endangerment Determination and Order and Remedial Action Order. Therefore, the Project would remove all on-site disturbed coastal salt marsh. This significant impact would be reduced to a less than significant level with implementation of Mitigation Measure BIO-2.

Conclusion. Implementation of the Project would remove the limited disturbed coastal salt marsh habitat on the Site, which is considered a potentially significant impact. However, as prescribed in Mitigation Measure 4.3-2, payment of an in lieu mitigation fee to a conservancy group with interests in the City's Coastal Zone and/or off-site creation, restoration and/or enhancement would reduce this potentially significant impact to a less than significant level.

Mitigation Measures

BIO-2 The RPs shall ensure that impacted disturbed coastal salt marsh habitat (approximately 0.2 acre) is mitigated by one of the following actions:

- The RPs in consultation with a qualified biologist shall identify a conservation entity involved in the restoration, preservation and/or stewardship of like resources within the City's Coastal Zone and make payment of an in lieu fee to such an entity to achieve a 1:1 impact-to-mitigation ratio for acreage of disturbed coastal salt marsh habitat (approximately 0.2 acre); and/or
- The RPs shall work with a qualified biologist to identify an appropriate off-site conservation area for the creation, restoration, and/or enhancement at a 1:1 impact-to-mitigation ratio for acreage of disturbed coastal salt marsh habitat (approximately 0.2 acre). A habitat mitigation plan shall be prepared by a qualified biologist/restoration specialist. Details shall be included as to the implementation of the plan (e.g., transplantation, seeding), maintenance, future monitoring, and success criteria. Planting activities shall be implemented by a qualified biologist/restoration specialist selected by the RPs and/or the off-site conservation area managers. The

RPs shall be responsible for locating the off-site conservation area, ensuring the restoration of the coastal salt marsh at the off-site conservation area, and ensuring maintenance within the off-site conservation area through payment of a one-time long-term management endowment to the management entity, or other approved payment mechanism. The offsite mitigation is to be documented by a qualified biologist approved by DTSC in a written compliance report(s) to DTSC to ensure the measure has been successfully implemented.

Wetlands

Impact 4.3-3	Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

A jurisdictional delineation was conducted by PCR on January 23, 2009. The Site does not support "waters of the U.S./State" or wetlands as regulated under the jurisdiction of the USACE, CDFW, and/or RWQCB.[10] Therefore, the Site does not support federally protected wetlands as defined by Section 404 of the Clean Water Act. In addition, because the nearest wetlands are approximately 0.2 mile to the south of the Site, no indirect impacts from construction-related activities (e.g., lighting, noise, dust) would occur.

Conclusion. The Site does not support federally protected wetlands as defined by Section 404 of the Clean Water Act. Therefore, no impacts to wetlands would result from implementation of the RAP.

Mitigation Measures

No mitigation measures are necessary.

Wildlife Movement

Impact 4.3-4	Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

There are no fish or wildlife corridors extending through the Site. The nearest surface water body, the Orange County/Huntington Beach Flood Control Channel, is located adjacent to the Site at its southwestern perimeter. Although the Channel supports open water and could be utilized by migratory birds, it serves as marginal wildlife habitat as it is channelized and does not support native riparian plant communities in the area adjacent to the Site. Furthermore, higher quality habitat for foraging opportunities occurs within the wetlands approximately 0.20 miles to the south and undeveloped land 0.25 miles to the west; therefore, there are other habitat areas within the immediate vicinity of the Site which would be far more attractive to support any wildlife passing nearby than the Site itself. Because there is nearby and available attractive

[10] *Although hydrophytic plant species and wetland hydrology occur on-site, the three-parameter definition of a wetland is not met as hydric soils are not present on-site. The lack of hydric soils on the Site are documented in Wetlands Data Sheets contained in Appendix C of this EIR.*

habitat areas that could be utilized during Site remediation activities by migratory birds, indirect impacts to wildlife utilizing the Channel from construction-related activities (e.g., lighting, noise, dust) would be less than significant.

The Site has the potential to support both raptor and songbird nests due to the presence of localized areas of trees, shrubs, and ground cover. Disturbing or destroying active nests is a violation of the MBTA (16 U.S.C. 703 et seq.) and the California Department of Fish and Game Code Sections 3503, 3503.5 and 3513. These statutes make it unlawful to pursue, hunt, take, capture, kill or sell birds listed therein ("migratory birds"). The statutes do not discriminate between live or dead birds or bird parts including feathers, eggs and nests. Over 800 raptor and songbird species are currently covered under the MBTA. Nesting activity typically occurs from February 15 to August 31. In addition, nests and eggs are protected under Fish and Game Code Section 3503. The removal of vegetation during the breeding season is considered a potentially significant impact. With implementation of Mitigation Measure BIO-3, potentially significant impacts to migratory raptor and songbird species would be reduced to a less than significant level.

Conclusion. While there are no fish or wildlife corridors extending through the Site, the Site has potential to support both raptor and songbird nests that are protected by federal and state statutes. Thus, potentially significant impacts to such bird species may occur with Project implementation. Implementation of the prescribed mitigation measure would reduce this potentially significant impact to a less than significant level.

Mitigation Measures

BIO-3 The RPs shall be responsible for implementing mitigation to reduce potential impacts to migratory raptor and songbird species to below a level of significance in the following manner: (1) vegetation removal activities shall be scheduled outside the nesting season for raptor and songbird species (typically September 1 to February 14) to avoid potential impacts to nesting species (this will ensure that no active nests will be disturbed and that habitat removal could proceed rapidly); and/or (2) any construction activities that occur during the raptor and songbird nesting season (typically February 15 to August 31) shall require that all suitable habitat be thoroughly surveyed for the presence of nesting raptor and songbird species by a qualified biologist before commencement of clearing. If any active nests are detected, a buffer of approximately 300 feet (500 feet for raptors) shall be delineated, flagged, and avoided until the nesting cycle is complete, or otherwise protected, as determined by the qualified biologist to minimize impacts.

Conservation Plans

Impact 4.3-5	Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan*?*

The Site is not located in an area that is included in any federal, state, local, or regional Habitat or Natural Community Conservation Plan. Therefore, Project implementation would not conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

However, portions of the Site meet the California Coastal Act's definition of an ESHA. Under the California Coastal Act policy, no development or anthropogenic disturbances (unless resource dependent) are allowed within an ESHA (Coastal Act §30240). Therefore, any impacts to an ESHA would be considered potentially significant. Although the Project would directly impact individuals of southern tarplant and areas of disturbed coastal salt marsh, the Site has been identified as a California hazardous waste facility and is ordered to be remediated under the Imminent and Substantial Endangerment Determination and Order and Remedial Action Order. Further, Mitigation Measures BIO-1 and BIO-2 would mitigate impacts to southern tarplant and disturbed coastal salt marsh, respectively. Implementation of the prescribed mitigation measures would reduce potentially significant impacts in this regard to a less than significant level.

Conclusion. The Site is not located within an adopted Habitat Conservation Plan or Natural Community Conservation Plan, but portions of the Site meet the California Coastal Act's definition of an ESHA. Impacts to the Site's ESHA are considered to be a potentially significant impact. Implementation of the prescribed mitigation measures would reduce this potentially significant impact to a less than significant level.

Mitigation Measures

Refer to Mitigation Measures BIO-1 and BIO-2. No additional mitigation measures are necessary.

Consistency With City of Huntington Beach General Plan Goals and Policies

The City's General Plan contains goals and policies that are relevant to biological resources and are presented in the General Plan Natural Resources Element as well as in other elements. The relevant policies are included in **Table 4.3-1**, *Comparison of the Project to the Applicable Policies of the Huntington Beach General Plan Natural Resources Element*. As discussed in Table 4.3-1, implementation of the RAP would be consistent with the applicable goals and policies of the City of Huntington Beach General Plan pertaining to biological resources.

Table 4.3-1

Comparison of the Project to the Applicable Policies of the Huntington Beach General Plan Natural Resources Element

Goal/Policy	Project Consistency Analysis
ERC 2: Protect and preserve significant habitats of plant and wildlife species, including wetlands, for their intrinsic values.	**Consistent.** As discussed in the analysis above, the Site includes southern tarplant, which is a species identified as a CRPR 1B.1 species by the California Native Plant Society. In addition, a limited area of disturbed coastal salt marsh habitat exists on the Site. Albeit disturbed, localized and isolated with limited habitat functions and values, this vegetation meets the criteria to be considered as an ESHA by the California Coastal Act and City's Coastal Element. As it is not feasible to preserve the existing on-site southern tarplant or disturbed coastal salt marsh habitat under the proposed remediation activities, mitigation measures have been prescribed to address impacts to these biological resources. Implementation of the prescribed mitigation measures would reduce potentially significant impacts to a less than significant level. As these resources would be mitigated at a 1:1 ratio, there would be no net overall

Table 4.3-1 (Continued)

Comparison of the Project to the Applicable Policies of the Huntington Beach General Plan Natural Resources Element

Goal/Policy	Project Consistency Analysis
	loss to these biological resources impacted by the Project.
ERC 2.1: Evaluate, enhance, and preserve the City's important habitat areas.	**Consistent.** See response to ERC 2, above.
ERC 2.1.2: Identify and protect significant habitats in the Gibbs Park, Balsa Chica, Huntington Beach Wetlands, and throughout the City, to the extent feasible.	**Consistent.** See response to ERC 2, above.
ERC 2.1.4: Investigate the possibility of including the lands along the Huntington and Talbert channels into the wetlands preserve.	**Consistent:** A biological investigation conducted for the Project found that the Site does not support "waters of the U.S./State" or wetlands as regulated under the jurisdiction of the USACE, CDFW, and/or RWQCB.
ERC 2.1.5: Identify and deternine whether wetlands, coastal dunes, bluffs, or riparian areas, will be given Environmentally Sensitive Habitat Area (ESHA) status under the Coastal Plan.	**Consistent.** See response to ERC 2, above.
ERC 2.1.10: Conduct construction activities to minimize adverse impacts on existing wildlife resources.	**Consistent:** Implementation of the Project would result in the direct removal of numerous common wildlife species within the Site. Common wildlife species (e.g. rabbits, squirrels, opossums) present within the Site occur in large numbers throughout the region and their removal does not rise to the level of a significant impact. Also, no sensitive wildlife species were observed during the biological resources investigations conducted at the Site. However, the Site has the potential to support both raptor and songbird nests due to the presence of localized areas of trees, shrubs, and ground cover. Thus, Mitigation Measure BIO-3 has been prescribed for the Project, which includes measures to minimize impacts to migratory raptor and songbird species.
ERC 2.1.14: Establish a mitigation monitoring program for all projects, including the Wetlands Restoration Plan and Implementation Program, to insure continued viability of restored wetlands and ESHAs. If feasible, a test program shall be established as a prelude to major restoration efforts. These will document conditions by which various habitats are best established, and define criteria for success in the Wetlands Restoration Plan and Implementation Program.	**Consistent:** All mitigation measures prescribed in this assessment of impacts to biological resources will be included within a mitigation monitoring and reporting program (MMRP) to be prepared for the Project. Impacts to the Site's disturbed coastal salt marsh, considered as an ESHA by the California Coastal Act and City's Coastal Element, would be mitigated at a 1:1 ratio which would ensure the continued viability of this habitat. A qualified biologist would oversee the implementation of the mitigation measures to ensure the success of the mitigation measures.
ERC 2.1.21(c): Require efforts which reduce urban storm water, including the: c. establishment of runoff controls for soils removed in restoration and/or remediation of oil sites.	**Consistent:** As discussed in Section 4.7, *Water Quality*, the Project would implement PDF 7-1 and comply with applicable regulatory requirements during Site remediation activities to minimize the potential for off-site water quality impacts. Per PDF 7-1, the Project would implement a Water Quality Management Plan (WQMP) and Construction Storm Water Pollution

Table 4.3-1 (Continued)

Comparison of the Project to the Applicable Policies of the Huntington Beach General Plan Natural Resources Element

Goal/Policy	Project Consistency Analysis
	Prevention Plan (SWPPP) consisting of best management practices (BMPs) that would reduce the potential for discharge of pollutants in runoff into the storm drain system during grading and construction. These efforts would effectively reduce storm water runoff and potential contaminants that could adversely impact biological resources off-site.

Source: PCR Services, Inc., 2013.

3. CUMULATIVE IMPACTS

A cumulative impact analysis was conducted to determine the scope of impacts from the Project on southern tarplant within a defined geographic region. Although more information is being gathered on the species and additional known populations of the species (including recent populations identified in Long Beach and Seal Beach were each estimated to support over 5,000 individuals) have been identified,[11] many of the region's populations have been extirpated, and the majority of the remaining populations are located in Orange County. The CNDDB reports that Orange County has approximately 26 populations of southern tarplants, or over one-third of all populations currently cited in the CNDBB. The Orange County populations account for approximately 85 percent of all individual southern tarplants and represent the highest number of remaining populations.[12] Of the known southern tarplant populations, many are currently within existing preservation areas such as the populations at Newport Bay Regional Park, Bolsa Chica Ecological Reserve, Mason Regional Park, San Joaquin Wildlife Preserve, and the Orange County Nature Reserve. Regarding potential impacts to these populations, one of Orange County's largest reported populations at Canada Chiquita (reported to support up to 140,000 individuals),[13] may be impacted if the proposed 241 Toll Road extension project is eventually approved and constructed. As noted previously, the entire existing on-site population would be permanently impacted as a result of the Project.

The estimated number of individuals within the regional southern tarplant population (excluding the population present on the Site) was on the order of approximately 240,300 individuals (2009 regional evaluation). Cumulative impacts on the regional southern tarplant population are therefore considered to be significant because the Project and other reasonably likely projects would impact a large portion of the estimated regional population (conservatively assumes that a significant, yet to be determined, number of

[11] *Email communication on August 5, 2009 between PCR biologist Crysta Dickson and Tony Bomkamp, Glen Lukos Associates, re: regional population trends of the southern tarplant. Correspondence included in Appendix C of this EIR.*

[12] *Email communication on July 28, 2009 between PCR biologist Maile Tanaka and Fred Roberts re: regional population trends of the southern tarplant. Correspondence included in Appendix C of this EIR.*

[13] *County of Orange and USFWS. July 2006. Southern Subregion Natural Community Conservation Plan/Master Streambed Alteration Agreement/Habitat Conservation Plan.*

individuals could be impacted by the Project and approximately 140,000 individuals could be impacted by the 241 Toll Road extension). However, because the outcome of the 241 Toll Road extension is uncertain, cumulative impacts were also analyzed under the assumption that the 241 Toll Road extension project is not implemented. If so, then the Canada Chiquita population would be preserved, and the cumulative impacts resulting from implementation of the Project would be to a smaller portion of the regional population. Nonetheless, the southern tarplant is limited in distribution, and considering the reasonably foreseeable projects which may impact the species, with or without the Canada Chiquita population that would be impacted by the 241 Toll Road project, cumulative impacts to the regional population of southern tarplant that would result from implementation of the RAP is considered potentially significant in the absence of mitigation. Thus, per Mitigation Measure BIO-1, direct impacts to southern tarplants must be mitigated at a 1:1 impact-to-mitigation ratio at an off-site location. With implementation of Mitigation Measure BIO-1, potentially significant impacts to the southern tarplant would be reduced to a less than significant level.

In addition, with the implementation of mitigation measures and compliance with existing regulations, there would be no significant cumulative impacts to coastal salt marsh habitat or migratory birds. Furthermore, the loss of approximately 38.2 acres of low-to-marginal quality foraging habitat for non-sensitive raptor species is not expected to substantially affect these species to a point where their survival in the region is threatened. The Site is currently disturbed and therefore, does not serve as optimal foraging habitat for these species. Additionally, these species are mobile and are expected to locate additional foraging habitat elsewhere in the region.

Conclusion. The Project cumulatively combined with other reasonably foreseeable projects would result in potentially significant cumulative adverse effects related to southern tarplant. Implementation of the prescribed mitigation measure would reduce cumulative impacts to southern tarplant to a less than significant level.

4. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the prescribed mitigation measures would reduce potentially significant biological resources impacts to a less than significant level.

4.4 GEOLOGY AND SOILS

INTRODUCTION

This section describes the existing geologic conditions of the Site and applicable regulations related to geology and soils and evaluates: 1) seismic hazards including surface rupture, ground shaking, liquefaction, subsidence; and 2) other geologic issues, including potentially unstable soils and slopes. The analysis in this section was prepared in coordination with Ninyo & Moore Geotechnical and Environmental Sciences Consultants and is based in part on information and data available from the United States Geological Survey (USGS), State of California Division of Mines and Geology and the City of Huntington Beach. Reference documents include federal and state seismic hazards map and studies, Interim Removal Measure (IRM) plans and data applicable to the Site, and the City of Huntington Beach General Plan and Municipal Code. All reference materials are listed in Section 8.0, *References,* of this EIR.

1. ENVIRONMENTAL SETTING

Regulatory Framework

Key laws and regulations pertaining to geology, soils, and seismicity that are most relevant to the Project are summarized below.

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code Section 2621) was enacted by the State of California in 1972 to reduce the risk to life and property from surface fault rupture during earthquakes.[1] The Alquist-Priolo Earthquake Fault Zoning Act prohibits the location of most types of structures intended for human occupancy across the traces of active faults. The act requires that development permits for projects in "Earthquake Fault Zones" be withheld until geologic investigations demonstrate that the sites are not threatened by surface displacement from future fault rupture. To be zoned under the Alquist-Priolo Earthquake Fault Zoning Act, a fault must be considered active, or both sufficiently active and well-defined. The California Geological Survey (CGS) defines an active fault as one that has had surface displacement within Holocene time (about the last 11,000 years); and a sufficiently active fault as one that has evidence of Holocene surface displacement along one or more of its segments or branches. The CGS considers a fault to be well defined if its trace is clearly detectable as a physical feature at or just below the ground surface[2]. Although no habitable structures are proposed by the Project, the "Earthquake Fault Zones" maps help identify areas in the vicinity of the Site where potential surface fault rupture hazards may exist.

Seismic Hazards Mapping Act

In order to address the effects of strong ground shaking, liquefaction, landslides, and other ground failures due to seismic events, the State of California passed the Seismic Hazards Mapping Act of 1990 (Public

[1] *The Act was originally entitled the Alquist-Priolo Geologic Hazards Zone Act.*

[2] *Hart, E.W., and Bryant, W.A., 1997, Fault-Rupture Hazard Zones in California, Alquist-Priolo Special Studies Zone Act of 1972 with Index to Special Studies Zones Maps: California Division of Mines and Geology, Special Publication 42.*

Resources Code Section 2690-2699). Under the Seismic Hazards Mapping Act, the State Geologist is required to delineate "seismic hazard zones." Cities and counties must regulate certain development projects within these zones until the geologic and soil conditions of the Site are investigated and appropriate mitigation measures, if any, are incorporated into development plans. The State Mining and Geology Board provides additional regulations and policies to assist municipalities in preparing the Safety Element of their General Plan and encourages land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety. Under Public Resources Code Section 2697, cities and counties shall require, prior to the approval of a Project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard. Each city or county shall submit one copy of each geotechnical report, including mitigation measures, to the State Geologist within 30 days of its approval. Under Public Resources Code Section 2698, nothing is intended to prevent cities and counties from establishing policies and criteria which are stricter than those established by the Mining and Geology Board.

State publications supporting the requirements of the Seismic Hazards Mapping Act include the California Geological Survey SP 117, *Guidelines for Evaluating and Mitigating Seismic Hazards in California*, and SP 118, *Recommended Criteria for Delineating Seismic Hazard Zones in California*. The objectives of SP 117 are to assist in the evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigations and to promote uniform and effective statewide implementation of the evaluation and mitigation elements of the Seismic Hazards Mapping Act. SP 118 implements the requirements of the Seismic Hazards Mapping Act in the production of Probabilistic Seismic Hazard Maps for the State.

California Health and Safety Code

California Health and Safety Code Section 25534.05(c), requires that external events, including seismic events, must be considered and addressed when they may result in the release of a regulated substance.

California Code of Regulations Title 22

Under Title 22, geologic features of and any potential geologic hazards must be addressed through performance standards and structural design to ensure that adjacent properties and the environment would not be affected by releases of material caused by external events, such as geologic or seismic activity. To assess the potential environmental impacts on geologic resources that could result from implementation of the RAP, equivalent performance standards to those for Transfer, Storage and Disposal facilities set forth in Title 22 were applied to the proposed cap in lieu of seismic standards set forth in the California Building Code (CBC) or local code requirements for structures.

Local – City of Huntington Beach

General Plan Environmental Hazards Element

The City of Huntington Beach's General Plan is a fundamental policy document that provides the framework for management and utilization of economic, physical and human resources. The Environmental Hazards Element of the General Plan provides goals, objectives, and policies to reduce the potential risk of death, injuries, property damage, and economic and social dislocation resulting from natural and human-induced hazards. The Environmental Hazards Element specifically addresses coastal hazards, geologic hazards, seismic hazards, flood hazards, wildland and urban fire hazards, hazardous materials, aviation hazards, and

disaster planning. The Project's consistency with applicable General Plan safety goals and policies is provided later in this EIR section.[3]

Huntington Beach Municipal Code

The City of Huntington Beach Municipal Code regulates grading, fill, and excavation, as well as safety requirements including the Building Code (Section 17.04) and Grading and Excavation Code (Section 17.05). The Grading and Excavation Code sets forth rules and regulations to control excavation, grading, and earthwork construction, including fills and embankments, and establishes administrative requirements for issuance of grading permits and approval of plans and inspection of grading construction. Section 17.05 requires a soil and engineering geology report for grading projects. In accordance with Section 17.05.150, recommendations included in the reports and approved by the Director of the City of Huntington Beach Department of Public Works shall be incorporated into grading plans or specifications. Under Section 17.05.310, faces of fill slopes shall be prepared and maintained to control against erosion and, where necessary, temporary or permanent erosion control devices shall be employed to control erosion and provide safety. All work must be completed in accordance with the final approved grading plan and required reports by the Director as well as any other appropriate requirements of Sections 17.04 and 17.05 as determined appropriate by the City before final approval of the grading permit.

City of Huntington Beach Grading Manual

The City of Huntington Beach Grading Manual (November 1994) is administered by the Director of the City of Huntington Beach Department of Public Works in accordance with Section 17.05.03 of the Municipal Code. The grading manual sets forth rules and procedures related to excavation, grading, and earthwork construction, including fills and embankments. The Grading Manual also establishes administrative requirements for issuance of grading permits and approvals of plans and inspection of grading construction, as well as the requirements for soils and engineering geology and seismicity reports, including drawings and supplements. The Grading Manual provides standards related to fill slopes, fill materials, compaction, slope angle, and setbacks of slopes from the permit area boundary. Under the Grading Manual, no fill slopes shall exceed more than two horizontal to one vertical (2:1), competency of fill soils is required, and compaction standards of a minimum of 90 percent are required. Under the Grading Manual, the toes of fill slopes shall be set back as far as necessary from the outer property boundaries of the permit area in accordance with Detail 1 (page 14 of the Grading Manual). The Grading Manual also addresses erosion control and grading inspection during construction activities.

City of Huntington Beach Seismic Design Guidelines

The City of Huntington Beach Seismic Design Guidelines is based primarily on the Seismic Structural Provisions of the CBC. The Seismic Design Guidelines are administered by the Director of the City of Huntington Beach Department of Public Works. All required seismic reports for new structures must comply with the design guidelines set forth in the Design Guidelines or referenced to the CBC.

Existing Conditions

The City of Huntington Beach is located in a low-lying coastal area that gently slopes toward the Pacific Ocean. The surface topography of properties surrounding the Site is generally flat with elevations ranging

[3] *For ease of reading, the policy tables are located at the end of this EIR section.*

from 5 to 10 feet above mean sea level (MSL). The natural topography of the Site has been disturbed extensively over the years by the operation of the landfill and waste disposal and removal activities. The current elevation of the Site ranges from approximately 5 feet above MSL at the southeastern corner to approximately 25 feet above MSL near the center of the Site. An earthen berm, approximately 10 to 20 feet above street grade, has been constructed around much of the Site perimeter to contain on-site waste materials in the pits, lagoons, and former lagoon areas. The outside slopes of the perimeter berm are covered with shrubs, scattered small trees, and other vegetation.

Regional Geology

The Site is located on the southwestern portion of the Coastal Plain of Orange County. The Coastal Plain is bounded on the northeast by the Santa Ana Mountains, on the east by the San Joaquin Hills and on the south and west by the Pacific Ocean. The complex geomorphology in the area was created by regional tectonic activity. This activity has uplifted the San Joaquin Hills into an elongated arched fold (anticlinorium) trending to the northwest from San Juan Capistrano and Huntington Mesa. This anticlinal folding has occurred as this entire section of the southern California coast was uplifted by the San Joaquin Hills blind thrust fault. The San Joaquin Hills lie within the northern part of the Peninsular Ranges geomorphic province which extends 900 miles southward from the Santa Monica Mountains to the tip of Baja California. The northwest-trending Newport-Inglewood fault zone transects the Coastal Plain creating a line of low mesas and valleys or gaps. The valley areas are synclinal troughs filled with thick layers of permeable and impermeable sediments overlying bedrock of the San Pedro Formation. It is these sediments that form the Orange County Water Basin. One of the major water basins in Orange County is the Talbert Gap. This gap was formed in the Pleistocene age when the sea level retreated and the meandering Santa Ana River eroded the mesas. At the end of the last ice age during the Holocene age, the sea level rose, and the gap was filled up to about 170 feet of alluvial and coastal sediments. The Holocene sediments consist of an upper unit and a lower unit. The upper unit is approximately 70 feet thick and consists of unconsolidated clay, silt, sand and peat deposits. The lower unit is approximately 100 feet thick and consists of sand and gravel and forms the Talbert Aquifer. The Huntington Beach Mesa and the Newport Beach Mesa, located adjacent to the Talbert Gap, are underlain by Pleistocene age marine deposits overlying bedrock of the San Pedro Formation.

Subsurface Soil Conditions

The on-site soils consist of contaminated materials and construction debris that were placed on top of the original ground surface when the Site operated as an active landfill. Much of the waste material was derived from drilling operations and included drilling muds, wastewater brines, and other drilling wastes. In addition, the Site includes various former pits that have been subsequently backfilled with construction debris and/or fill material. The construction debris includes non-hazardous solid wastes such as asphalt, concrete, metal, soil, and wood.

The upper Holocene unit described in the previous section, makes up the unconsolidated sediments immediately underlying the Site (below the waste materials). The sediments are described as being comprised of an upper silty-clay layer that ranges from 2 to 10 feet thick and a lower water-bearing sandy unit. The lower sandy unit is comprised of unconsolidated sand with layers of silty sand, clay and silt.[4]

[4] *Geosyntec, 2007,* Groundwater Remedial Investigation, Revision 1.0*, Ascon Landfill Site, Huntington Beach, California, June 14, 2007.*

Groundwater Conditions

In the vicinity of the Site, groundwater is found primarily in two hydrologic units: 1) a shallow sandy unit designated the Semiperched Aquifer (SPA), and 2) the deeper underlying sandy unit known as the Talbert Aquifer. Groundwater in the SPA generally ranges from near 0 feet MSL in the southwest Site corner to -5 feet MSL in the northwest Site corner.[5] The top of the Talbert Aquifer is located beneath the SPA at a depth of approximately 70 feet below the area's natural ground surface. None of this groundwater is used for drinking or municipal purposes.

Faulting and Seismicity

Based on criteria established by the CGS, faults can be classified as active, potentially active, or inactive. Active faults are those that historically produced earthquakes or faults that have shown evidence of movement within the past 11,000 years (during the Holocene Epoch). Alquist-Priolo Earthquake Fault Zone Maps delineate active faults considered by the State to be "sufficiently active" and "well defined." This means that documented activity has occurred during the Holocene Epoch or that clear fault traces occur in Holocene age materials. These active faults are mapped and identified by the State of California as Alquist-Priolo Earthquake Fault Zones. Potentially active faults have demonstrated displacement within the last 1.6 million years (during the Pleistocene Epoch), but do not displace Holocene strata. Inactive faults do not exhibit displacement younger than 1.6 million years before the present. In addition, there are buried thrust faults, which are low angle reverse faults with no surface exposure. Due to their buried nature, the existence of buried thrust faults is usually not known until they produce an earthquake. The seismically active Southern California region is crossed by numerous active and potentially active faults and is underlain by several blind thrust faults. The San Joaquin Hills Blind Thrust is located approximately 3.9 miles to the east. A description of Alquist-Priolo Earthquake Fault Zones is presented below:

<u>Newport-Inglewood Fault Zone</u>: The Newport-Inglewood Fault Zone is a broad zone of diagonal faults and folds striking southeastward from near Santa Monica across the Los Angeles basin to Newport Beach. Altogether these various faults constitute a system more than 150 miles long that extends into Baja California, Mexico. Faults having similar trends and projections occur offshore from San Clemente and San Diego (the Rose Canyon and La Nacion Faults). A near-shore portion of the Newport-Inglewood Fault Zone was the source of the destructive 1933 Long Beach earthquake. The Newport-Inglewood fault is capable of generating a moment magnitude M_{MAX} 7.1 earthquake.[6]

Regional geologic maps indicated buried strands of the active Newport-Inglewood fault near the southern boundary and along the eastern boundary of the Site. These strands continue below developed areas to the northwest and southwest of the Site.[7] These fault strands are mapped as buried beneath alluvial deposits and continue below adjacent developed areas to the northwest and southwest of the Site. The southern strand is categorized by the City of Huntington Beach as Category C, requiring special studies, including a subsurface investigation, for critical or important land uses. The eastern strand near Magnolia Avenue is

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[5] *Geosyntec, 2007,* Groundwater Remedial Investigation, Revision 1.0, *Ascon Landfill Site, Huntington Beach, California, June 14, 2007; Geosyntec, 2013,* Interim Groundwater Monitoring Report – March 2013, *May 10, 2013.*

[6] *Cao, Tianqing, Bryant William A., Roshandel, Badie, Branum, David, and Wills, Christopher J., 2003, The Revised 2002 California Probabilistic Seismic Hazard Maps, Adapted by California Geological Survey, dated June.*

[7] *Morton, D.M., 2004, Preliminary Digital Geologic Map of the Santa Ana 30' x 60' Quadrangle, Version 2.0, Southern California, Open File Report 99-172.*

categorized by the City as Category B, requiring special studies, including subsurface evaluation of faults, for all habitable structures.[8]

San Joaquin Hills Blind Thrust Fault: The seismic hazards in Southern California have been further complicated with the recent realization that major earthquakes can occur on large thrust faults that are concealed at depths between 3 to 12 miles, referred to as "blind thrusts." The uplift of the San Joaquin Hills is produced by a southwest dipping blind thrust fault that extends at least 8 miles from northwestern Huntington Mesa to Dana Point and comes to within one mile of the ground surface. Recent studies suggest that uplift of the hills began in the Late Quaternary and continues during the Holocene. Uplift rates have been estimated between 0.25 and 0.5 millimeters/year (mm/yr). The San Joaquin Hills fault is estimated to be capable of generating a moment magnitude M_{MAX} 6.6 earthquake.[9]

Seismic Hazards

Potential hazards associated with seismic conditions at the Site include fault rupture, soil liquefaction, earthquake-induced vertical and lateral displacements, and earthquake-induced settlement. These hazards are described below.

Fault Rupture

Fault rupture refers to the extension of a fault to the ground surface by which the ground breaks, resulting in an abrupt relative ground displacement; for example, vertical or horizontal offset. Surface fault ruptures are the result of stresses relieved during an earthquake event, and often cause damage to structures located within the rupture zone. Regional geologic maps indicated buried strands of the active Newport-Inglewood fault near the southern boundary and along the eastern boundary of the Site. These strands continue below developed areas to the northwest and southwest of the Site.[10] These fault strands are mapped as buried beneath alluvial deposits and continue below adjacent developed areas to the northwest and southwest of the Site. The southern strand is categorized by the City of Huntington as Category C, requiring special studies including a subsurface investigation, for critical or important land uses. The eastern strand is categorized by the City as Category B, requiring special studies including subsurface evaluation of faults for all habitable structures. While two strands of the Newport-Inglewood fault are mapped as buried beneath alluvium near the Site, these strands and the Site are not a designated an Alquist-Priolo Earthquake Fault Zone. Because the Site is not located within an active Alquist-Priolo Earthquake zone, the probability of ground rupture at the Site is low.

Liquefaction

Liquefaction is the phenomenon in which loosely deposited granular soils and cohesionless fine-grained soils located below the water table undergo rapid loss of shear strength due to excess pore pressure generation when subjected to strong earthquake-induced ground shaking. This can result in ground shaking of sufficient duration that results in the loss of grain-to-grain contact due to a rapid rise in pore water pressure.

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8 *City of Huntington Beach, General Plan, Environmental Hazards Element, 1996.*

9 *Cao, Tianqing, Bryant William A., Roshandel, Badie, Branum, David, and Wills, Christopher J., 2003, The Revised 2002 California Probabilistic Seismic Hazard Maps, Adapted by California Geological Survey, dated June.*

10 *Morton, D.M., 2004, Preliminary Digital Geologic Map of the Santa Ana 30' x 60' Quadrangle, Version 2.0, Southern California, Open File Report 99-172.*

The rapid rise in pore water pressure causes the soil to behave as a fluid for a short period of time. Liquefaction is known generally to occur in saturated or near-saturated cohesionless soils at depths shallower than 50 feet below the ground surface. Liquefaction is also known to occur in relatively fine-grained soils (i.e., sandy silt) with a plasticity index of not higher than 7. Factors known to influence liquefaction potential include composition and thickness of soil layers, grain size, relative density, groundwater level, degree of saturation, and both intensity and duration of ground shaking.

The CGS designates areas of liquefaction throughout California. Specifically, areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicates a potential for permanent ground displacements have been identified. The Site is designated within an area identified by the State of California as being potentially susceptible to liquefaction.[11] Further, the City of Huntington Beach General Plan, Environmental Hazards Element, identifies the Site as being within a "Very High" liquefaction potential area. Groundwater levels at the Site generally range from near 0 feet MSL in the southwest Site corner to -5 feet MSL in the northwest Site corner. Accordingly, due to the presence of shallow groundwater and unconsolidated sandy deposits underlying the Site, there is a potential for liquefaction to occur at the Site.

Lateral Spreading

Liquefaction-induced lateral spreading is the lateral movement of ground in which cohesive soils layers may fracture, subside, rotate, or disintegrate as a result of seismic activity. During an earthquake, lateral spreading usually takes place along weak shear zones that have formed within a liquefiable soil layer. Lateral spreading has generally been observed to take place in the direction of a free-face (i.e., retaining wall, slope, channel) but has also been observed to a lesser extent on ground surfaces with very gentle slopes. For sites located in proximity to a free-face, the amount of lateral ground displacement is strongly correlated with the distance of the site from the free-face. Other factors such as earthquake magnitude, distance from the earthquake epicenter, thickness of the liquefiable layers, and the fines content and particle sizes of the liquefiable layers also affect the amount of lateral ground displacement. Given that the Site is susceptible to liquefaction, the potential for seismic-induced lateral spreading also exists.

Earthquake-Induced Settlement

Earthquake-induced settlement results from densification of non-cohesive granular soils which occur as a result of reduction of volume during or after an earthquake event. The magnitude of settlement that results from the occurrence of liquefaction is typically greater than the settlement that results solely from densification during strong ground shaking in the absence of liquefaction. The unconsolidated sandy deposits that underlie the Site could be subject to earthquake-induced settlement should strong ground shaking occur at the Site.

Landslides

Landslides occur as a result of the downward movement of masses of loosened soil and/or rock down a hillside or moderately steep slope. Fundamentally, landslides are the result of a hill slope material's loss of

[11] *California Department of Conservation, Division of Mines and Geology, State of California, 1997, Seismic Hazard Zones Official Map, Newport Beach Quadrangle, 7.5-Minute Series, Scale 1:24,000, Open-File Report 97-08, dated April 7.*

strength, often due to an increase in pore-water pressures and the forces of gravity, causing a tendency to move downward. The high variability of landslides is caused by many factors, including, but not limited to, steepness of slope, type of material, water content of slope soils, amount of vegetation, areas subject or prone to soil loss due to manmade activities, and earthquake or strong ground motion. While the Site does include perimeter berms, the berms are stable and do not include substantial slopes considered to be susceptible to landslide hazards. Further, the area around the Site is relatively flat and lacks substantial slopes.

Subsidence

Subsidence is characterized as a sinking of the ground surface relative to surrounding areas, and can generally occur where deep alluvial soil deposits are present in valley and basin areas. Subsidence is typically associated with groundwater withdrawal or other fluid withdrawal from the ground such as oil and natural gas. Subsidence can result in development of ground cracks that could cause damage to surface improvements.

Due to oil drilling within the Huntington Beach Oil Field, soil subsidence has occurred within the City of Huntington Beach. The majority of the subsidence has occurred approximately 3 miles to the northwest of the Site, where approximately 10 inches or more of subsidence has been documented from 1976 to 1986. Subsidence in the vicinity of the Site during this same time period was approximately 1 inch or less. Re-pressurization by injection (water flooding) has been used to stabilize this vertical movement within the region. The rate of subsidence (about 0.6-1 inch/year) should diminish for fields with water flooding or re-pressurization programs.[12] With stabilization techniques, subsidence is not considered a serious geologic hazard in the area.

2. ENVIRONMENTAL IMPACTS

Significance Criteria

For purposes of this EIR, DTSC utilized the checklist questions in Appendix G of the *CEQA Guidelines* as thresholds of significance to determine whether a Project would have a significant environmental impact regarding geology and soils. Based on the size and scope of the Project and the potential for geology and soils impacts, the thresholds identified below are included for evaluation in this EIR. Please refer to Section 6.0, *Other Mandatory CEQA Considerations*, for a discussion of other issues associated with the evaluation of geology and soils where the characteristics of the Project made it clear that effects would not be significant and further evaluation in this section was not warranted.

Would the Project:

4.4-1 Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death, involving (refer to Impact Statement 4.4-1):

[12] *City of Huntington Beach, General Plan, Environmental Hazards Element, page V-EH-13, 1996.*

- Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault,
- Strong seismic ground shaking,
- Seismic-related ground failure, including liquefaction, or
- Landslides;

4.4-2 Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse (refer to Impact Statement 4.4-2); and

4.4-3 Result in substantial soil erosion or the loss of topsoil (refer to Impact Statement 4.4-3).

Project Design Features

Project Design Features (PDFs) to be implemented by the Project would include provisions for grading and design measures in light of seismic considerations set forth in a design-level geotechnical evaluation prepared by a registered geotechnical engineer. The geotechnical report would be subject to review and approval by the City of Huntington Beach. The proposed PDFs include, but are not limited to, the following:

PDF 4-1 Prior to the start of construction, a geotechnical evaluation prepared by a registered geotechnical engineer would be prepared and submitted to DTSC for review and approval. The evaluation would comply with all applicable state and local code requirements and would include, but not be limited to:

- Analysis of the expected seismic ground shaking at the Site from known active faults using applicable methods;
- Analysis of the liquefaction potential using applicable methods;
- Analysis of the potential for earthquake-induced settlements using applicable methods;
- Analysis of the earthquake-induced lateral spreading using applicable methods;
- Analysis of the fault rupture potential and its impacts. The analysis should be performed using applicable methods;
- Slope stability analysis to ensure the slopes for the cap will be stable from the expected ground shaking and potential liquefaction hazards;
- Analysis of geotechnical recommendations for grading, including suitability of imported soil, excavation characteristics, and placement and compaction of fill material;
- Development of site-specific design measures to address seismic, liquefaction, settlement, slope-stability, grading and other geologic hazards in accordance with the geotechnical analyses; and
- Deterministic analysis of potential seismic ground shaking and recommended structural features needed to minimize seismic damage to the landfill cap.

PDF 4-2 Prior to construction, a site-specific Health and Safety Plan would be developed and submitted to DTSC for review in accordance with applicable regulations. Specific measures to reduce the potential physical hazards associated with strong seismic ground shaking, liquefaction, subsidence, unstable soil conditions, temporary slopes and excavations, permanent slopes, and other earthwork-related conditions during construction would be addressed in accordance with the applicable regulations.

PDF 4-3 To control soil erosion during construction, Best Management Practices (BMPs) for the control of erosion during construction would be incorporated into the Project's Storm Water Pollution Prevention Plan (SWPPP) and made available to the City of Huntington Beach for review prior to the initiation of construction. Long-term erosion control would include the planting and maintenance of grass and/or other shallow-rooted vegetation within the 2-foot soil cover overlying the Site's engineered cap. This PDF to be verified prior to the completion of construction activities by DTSC, Unit Chief, Brownfields & Environmental Restoration.

PDF 4-4 During construction, the Project geotechnical engineer would regularly monitor construction activities and test soils to ensure that materials used in construction and grading of slopes are consistent with the recommendations presented in the site-specific geotechnical evaluation and the plans and specifications approved by the regulatory agency. This PDF to be verified through monthly compliance reports submitted by the RPs to DTSC, Unit Chief, Brownfields & Environmental Restoration.

PDF 4-5 During construction, the Project geotechnical engineer would regularly monitor stability of slopes and excavations to ensure safe working conditions for personnel and equipment. This PDF would be verified through monthly compliance reports submitted by the RPs to DTSC, Unit Chief, Brownfields & Environmental Restoration.

PDF 4-6 During the long term operation of the remediated capped Site, the Responsible Parties, in coordination with DTSC, would provide monitoring and inspection of the cap to ensure the structural integrity of the cap and permanent fill slopes. Geotechnical monitoring would occur during operations and maintenance (O&M), per the O&M Plan for the Site. Any cracks, subsidence, settling, or other physical changes (including, but not limited to, evidence of burrowing activity by coyotes or other medium- to large-sized mammals capable of breaching the geonet biotic layer) to the cap would be noted, and damage would be repaired in accordance with DTSC standards and/or other applicable regulatory requirements. This PDF to be verified through quarterly compliance reports submitted by the RPs to DTSC, Unit Chief, Brownfields & Environmental Restoration.

PDF 4-7 The operation and maintenance of the gas collection and treatment system would include contingency plans in the event of a significant seismic event or power outage. Preliminarily, following each seismic event of magnitude 5 or greater in the immediate vicinity of the Site, inspection and routine monitoring of the system would be performed in accordance with a DTSC-approved Operations and Maintenance (O&M) Plan.

Methodology

Geological impacts have been evaluated in two ways: 1) Impacts of the Project on the local geologic environment, and 2) Impacts of geohazards on components of the Project that may result in substantial

damage to structures or infrastructure, or expose people to substantial risk of injury during short-term construction or the long-term maintenance of the Site. Impacts would be considered significant if the Project meets one or more of the significance criteria listed below.

Analysis of Project Impacts

Seismic and Geologic Stability Hazards

Impact 4.4-1	Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death, involving: ▪ Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault, ▪ Strong seismic ground shaking, ▪ Seismic-related ground failure, including liquefaction, or ▪ Landslides.
Impact 4.4-2	Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Short-Term Impacts

Fault Rupture. As discussed in the Existing Conditions section above, the Site is located within the Newport-Inglewood Fault Zone. Regional geologic maps indicate buried strands of the active Newport-Inglewood fault near the southern boundary of the Site and along the eastern boundary. These strands continue below developed areas to the northwest and southwest of the Site. The southern strand is categorized by the City of Huntington as Category C, requiring special studies including a subsurface investigation, for critical or important land uses. While the Site is subject to seismic ground-shaking (analyzed below), the Site is not located within a designated Alquist-Priolo Earthquake Fault Zone, and the potential for surface fault rupture to occur at the Site is considered low. Therefore, impacts regarding fault rupture during construction would be less than significant.

Seismic Ground Shaking. As indicated in the Existing Conditions section above, the Site is located in a seismically active region. There is potential for significant ground shaking at the Site during a strong seismic event on the Newport-Inglewood Fault Zone and other active regional faults in the Southern California area.

During construction, on-site personnel, mostly workers, could be exposed to seismic ground-shaking hazards. However, construction of the Project would involve grading in relatively open areas and would not involve excavation near or under any occupied structures or structures where any activities are conducted. In addition, the Project would implement a site-specific Health and Safety Plan that includes specific measures to reduce the potential for physical hazards associated with strong seismic-ground shaking that may occur during Project construction activities. These measures would include having an Occupational Safety and Health Administration (OSHA) competent person available to evaluate excavation work areas and temporary slopes for unsafe working conditions prior to work activities. Under the Health and Safety Plan, if

unsafe conditions are found, all work in that immediate area would cease until the necessary precautions have been taken to eliminate the hazardous condition. If a significant earthquake should occur, all work would immediately cease and workers would remain in open areas until the hazard has passed. A geotechnical engineer would be immediately called to the Site to evaluate the Site for unsafe conditions. If unsafe conditions are found, measures would be taken to eliminate any hazardous condition.

In addition to the site-specific Health and Safety Plan, Project construction activities must comply with the requirements imposed by DTSC and the City of Huntington Beach. Through compliance with these requirements, ground-shaking or other seismic effects during construction would be considered less than significant.

Liquefaction and Lateral Spreading. As described in the Existing Conditions section, the Site is subject to strong seismic ground shaking and liquefaction hazards. The Site is located within an area identified by the State of California and the City of Huntington Beach as being susceptible to liquefaction. Groundwater levels at the Site generally range from near 0 feet MSL in the southwest Site corner to -5 feet MSL in the northwest Site corner. Sediments underlying the Site include layers of unconsolidated, saturated, sands. Based on these geologic considerations, the potential for liquefaction and seismic-induced lateral spreading exists at the Site.

During construction, on-site personnel could be exposed to these geologic hazards. However, construction of the Project would involve grading in relatively open areas and would not require excavation near or under any occupied structures or structures where any activities are conducted. In addition, as a part of the Project's design features, site-specific liquefaction analysis would be performed by the geotechnical engineer to evaluate the potential for liquefaction and related seismic-induced lateral spreading to occur at the Site (PDF 4-1). Site-specific measures would be developed, if necessary, to address potential liquefaction hazards. The Project would also implement a site-specific Health and Safety Plan described above, that would include measures to reduce the potential for physical effects related to geologic hazards (PDF 4-2). Monitoring of the Site would also occur on a regular basis throughout the construction activities to ensure soils are stable within the Site (PDF 4-4 and 4-5).

In addition to the site-specific Health and Safety Plan and monitoring activities, Project construction activities would be subject to regulations of the Huntington Beach Municipal Code (Section 17.05 – Grading and Excavation), which govern grading, fill, and excavation, as well as safety requirements including the Huntington Beach Building Code (Section 17.04 – Building Code).

Overall, while the Project would be required to comply with applicable seismic-related regulatory requirements, implementation of the Project's design features would further ensure that seismic-related ground shaking hazards, including liquefaction and lateral spreading during construction, would be less than significant.

Earthquake-Induced Settlement. Earthquake-induced settlement could occur at the Site, due to the presence of unconsolidated sandy deposits underlying the Site. The magnitude of settlement that results from the occurrence of liquefaction is typically greater than the settlement that results solely from densification during strong ground shaking in the absence of liquefaction. As discussed in the liquefaction analysis above, the same PDFs and regulations (refer to PDFs 4-1, 4-2, 4-4 and 4-5) discussed therein would

also address settlement-related hazards. With implementation of the Project's design features and compliance with applicable codes and regulations, impacts regarding earthquake-induced settlement would be less than significant.

Unstable Soil and Slopes. Project implementation would involve excavation of on-site soil, waste impacted soil, and construction debris, and placement of fill material to design grades using conventional earth-moving equipment. Temporary slopes and excavations constructed during Project implementation could expose on-site personnel to potentially unstable soil conditions. However, Project construction would adhere to a site-specific Health and Safety Plan (PDF 4-2) that would reduce the potential for physical hazards associated with unstable slopes and other earthwork-related hazards during construction. Safety measures would also include having an OSHA-trained person available to identify soil types, the stability of temporary slopes, and other earthwork-related hazards or potentially unsafe conditions and authority to take prompt corrective actions. Corrective actions may include laying back temporary slopes to lesser gradients, removal of surcharge loads from the tops of temporary slopes, and the use of shoring to protect workers, as appropriate. If unsafe conditions are found, all work in that immediate area shall cease until the necessary precautions have been taken to eliminate the hazardous condition.

In addition, earthwork would be performed in accordance with Chapter 33 of the CBC, which governs safety during construction and the protection of adjacent public and private property. Specifically, Section 3304, Site Work, includes requirements for safeguards at work sites to ensure stable excavations and cut or fill slopes. With implementation of the Project's design features along with the Project's compliance with applicable codes and regulations, impacts regarding unstable soil conditions would be less than significant.

Landslides. The off-site area around the Site is relatively flat and lacks significant slopes. As such, the hazard from slope instability in the form of landslides impacting the Site from off-site sources is considered low. The construction of the cap would include a peak height of approximately 44 feet MSL, approximately 37 to 39 feet above street level, near the southwest corner of the Site and slopes inclined at 3:1 (horizontal to vertical) gradients.[13] As a part of the Project's design features (refer to PDF 4-1), slope stability analysis would be performed by the geotechnical engineer, in compliance with the Grading and Excavation Code (Section 17.05 of the Municipal Code) and the City of Huntington Beach Grading Manual, to ensure that the slopes would be stable under seismic loading at the proposed 3:1 inclinations. In addition, the Project would also implement a site-specific Health and Safety Plan, as described above, that would include measures to reduce the potential for physical effects related to geologic hazards (PDF 4-2). Monitoring of the Site would also occur on a regular basis throughout the construction activities to ensure soils and slopes are stable within the Site (PDF 4-4 and 4-5). In addition, it is acknowledged that the Project proposes slopes that are less substantial than the existing slopes; hence, even further long-term stability would be expected compared to existing conditions. With implementation of the Project's design features and compliance with applicable codes and regulations, the landslide impacts during construction activities would be less than significant.

Subsidence. Although active oil pumping occurs near the Site, the Project would not include installation of additional oil wells. Available information suggests that subsidence in the vicinity of the Site has been minimal and would diminish for fields with water flooding or re-pressurization programs.[14] With

[13] *Project Navigator, Ltd., 2013, Draft Remedial Action Plan.*

[14] *City of Huntington Beach, General Plan, Environmental Hazards Element, page V-EH-13, 1996.*

stabilization techniques currently practiced in the region, subsidence is not considered a serious geologic hazard in the area. Regardless, as discussed in the liquefaction analysis above, the same PDFs and regulations (refer to PDFs 4-1, 4-2, 4-4 and 4-5) discussed therein would also address subsidence-related hazards. With implementation of the Project's design features and compliance with applicable codes and regulations, impacts regarding subsidence would be less than significant.

Long-Term Impacts

Fault Rupture. The Site is not located within a designated Alquist-Priolo Earthquake Fault Zone, and the potential for surface fault rupture to occur at the Site is considered low. However, if movement on a currently unknown active fault beneath the Site caused cracking or rupture of the cap, PDF 4-6, which requires long-term monitoring of the cap and fill slopes, would enable the observation of any cracks, subsidence, settling, or other physical changes to the cap or fill slopes. As required under PDF 4-6, any damage would be noted and repaired in accordance with DTSC standards and/or other applicable regulatory requirements. Because monitoring and repairs of any damage would be required and because the Site contains no habitable structures, hazards to persons resulting from fault rupture would be less than significant.

Seismic Ground Shaking. Because of potential seismic activity (ground shaking) that could occur at the Site, a seismic and soils and geology report would be required to evaluate the stability of the permanent cap and fill slope during the maximum considered earthquake (PDF 4-1). Based on the analysis of maximum ground shaking, the geotechnical report would recommend design conditions to ensure that ground shaking would not adversely affect the cap and fill slopes. The Project would comply with all applicable regulatory requirements and site-specific structural design of the cap and fill slopes in accordance with the geotechnical recommendations. Furthermore, long-term monitoring of the remediated capped Site would further ensure that potentially significant ground shaking would not result in a significant impact on the integrity of the cap and fill slopes (PDF 4-6). Monitoring would occur on a regular basis as identified in the O&M Plan. In addition, after any significant seismic event (magnitude 5 or greater), the gas collection and treatment system would be inspected and monitored to ensure its continued performance (PDF 4-7). Further, per PDF 4-7, electrical outages as a result of a seismic event would be addressed by a backup power system that would supply power to the gas collection and treatment system. Therefore, with compliance with applicable regulatory requirements and implementation of the Project's design features, impacts with respect to seismic ground shaking would be less than significant.

Liquefaction and Lateral Spreading. Site-specific liquefaction analysis would be performed by the geotechnical engineer to evaluate the potential for liquefaction and related seismic-induced lateral spreading at the Site (PDF 4-1). The results of the analysis and subsequent recommendations would be incorporated into final structural design to ensure that the cap and fill slopes are designed to withstand the anticipated liquefaction and lateral spreading hazards. The Project would comply with applicable seismic-related regulatory requirements and incorporate recommended structural design, and long-term monitoring of the remediated, capped Site (PDF 4-6) would further ensure that liquefaction and lateral spreading impacts would be less than significant.

Earthquake-induced Settlements. Earthquake-induced settlements could occur at the Site, due to the presence of unconsolidated sandy deposits underlying the Site. The magnitude of settlement that results from the occurrence of liquefaction is typically greater than the settlement that results solely from

densification during strong ground shaking in the absence of liquefaction. As a part of the Project's design features, a site-specific evaluation would be performed to ensure that earthquake settlement would be adequately addressed in the Project design (PDF 4-1). In addition, monitoring of the Site would also occur throughout the lifetime of the capped Site to ensure soils and slopes are stable within the Site (PDF 4-6). With implementation of the Project's design features along with the Project's compliance with applicable codes and regulations and long-term monitoring, earthquake-induced settlement impacts would be less than significant.

Landslides. The off-site area around the Site is relatively flat and lacks significant slopes. As such, the potential for off-site landslides impacting the Site is considered low. The permanent fill slopes would be up to approximately 34 feet high, inclined at 3:1 (horizontal to vertical) gradients.[15] As a part of the Project's design features, slope stability analysis would be performed by the geotechnical engineer (PDF 4-1), in compliance with 17.05 of the Municipal Code (Grading and Excavation), and the City of Huntington Beach Grading Manual. To ensure that the slopes would be stable under seismic loading at the proposed 3:1 inclinations, the geotechnical report would provide recommendations that would be incorporated into the structural design of the permanent fill slopes. In addition, monitoring of the Site would also occur throughout the lifetime of the capped Site to ensure soils and slopes are stable within the Site (PDF 4-6). With implementation of structural design features in accordance with the approved geotechnical report and long-term monitoring of the integrity of the cap and fill slopes, potential impacts resulting from off- and on-site landslides would be less than significant.

Subsidence. The geotechnical report would identify any subsidence in the area, evaluate potential effects on the RAP's final cap and fill slopes (PDF 4-1), and incorporate design features to address any subsidence effects discovered at the Site. With the implementation of structural design features in accordance with the approved geotechnical report and long-term monitoring of the cap for subsidence (PDF 4-6), settling, or other physical changes to the cap and permanent fill slopes, impacts related to subsidence would be less than significant.

Conclusion. Implementation of the Project could expose people (i.e. workers and visitors) to fault rupture, strong seismic ground shaking, strong seismic-related ground failure, liquefaction, landslides and other ground failure hazards during short-term construction and the long-term operation of the cap and fill slopes. However, with compliance with applicable regulatory requirements and implementation of the PDFs, impacts associated with seismic and geologic stability hazards would be less than significant.

Soil Erosion

Impact 4.4-3:	Would the Project result in substantial soil erosion or the loss of topsoil?

Short-Term Impacts

During construction activities associated with implementation of the RAP, soils and fill soils imported to the Site could be exposed to rain and wind, thus allowing for possible erosion. Potential soil erosion would be minimized through implementation of standard erosion control measures, including BMPs incorporated into the SWPPP, implemented during excavation and placement of fill. BMPs could include, but are not limited to,

[15] *Project Navigator, Ltd., 2013, Draft Remedial Action Plan, April 3.*

water bars, silt fences, and staked straw bales. Section 17.05.310 of the Municipal Code and the City of Huntington Beach Grading Manual also address erosion control during grading and other construction activities. Implementation of erosion and sediment control BMPs, described in greater detail in Section 4.7, *Hydrology and Water Quality*, of this EIR and requirements of the Municipal Code and Grading Manual, would ensure that impacts pertaining to soil erosion from construction activities would be less than significant.

Long-Term Impacts

The Project's engineered cap would include a 2-foot-deep soil layer on the cap surface that would be vegetated with grasses and other shallow-rooted vegetation. During long-term operation of the Project, the vegetated cover would minimize exposure of fill soils to precipitation and wind and substantially reduce erosion potential on the Site. Permanent erosion control and drainage systems are also required under Section 17.05 (Grading and Excavation) of the Municipal Code and City's Grading Manual. With the use of the vegetated cover and compliance with applicable regulations, impacts with respect to erosion of soils would be less than significant.

Conclusion: Implementation of the RAP could result in soil erosion or the loss of topsoil during construction activities and long-term operation of the capped Site. However, compliance with applicable BMPs during construction and planting, compliance with erosion control measures of the Municipal Code and Grading Manual, and maintenance of a permanent vegetated layer on the remediated capped Site would ensure that impacts related to erosion would be less than significant.

Consistency With City of Huntington Beach General Plan Goals and Policies

As discussed above, the Project would comply with all applicable federal, state, and local laws and regulations related to geology and soils. The City of Huntington Beach General Plan, including the Environmental Hazards Element contains various goals and policies related to geology and soils. As shown in **Table 4.4-1**, *Comparison of the Project with Applicable Goals and Policies of the Huntington Beach General Plan*, the Project would be consistent with the applicable goals and policies of the City's General Plan.

3. CUMULATIVE IMPACTS

The geology and soils study area includes (1) the area that could be affected by Project activities and (2) the areas affected by other projects whose activities could directly or indirectly affect the geology and soils of the Site. Geology and soils impacts are generally site-specific and there is typically little, if any, cumulative relationship between the development of a project and development within a larger cumulative area, such as the citywide development. For example, construction of engineered slopes at the Site would not alter geologic events or affect the level of intensity at which a seismic event on an adjacent site is experienced. However, during construction, grading activities may expose more persons (on-site employees) to geologic hazards. Although there are several foreseeable projects planned within the local vicinity, most notably the Poseidon Desalination facility, these projects would be required to comply with the applicable state and local requirements, such as the CBC and Huntington Beach Building Code. Related projects in the vicinity are expected to comply with existing regulations in accordance with current engineering practices. Seismic impacts are also a regional issue addressed through regional compliance with applicable codes and design standards, including common standards set forth in the CBC. Because regulations applicable to seismic hazards are consistent throughout the region and similarly imposed, cumulative geotechnical and soils impacts would be less than significant.

Table 4.4-1

Comparison of the Project with Applicable Goals and Policies of the Huntington Beach General Plan

Goals, Objectives and Policies	Project Consistency
Environmental Hazards Element	
Goal EH 1.1: Ensure that the number of deaths and injuries, levels of property damage, levels of economic and social disruption, and interruption of vital services resulting from seismic activity and geologic hazards shall be within levels of acceptable risk.	**Consistent.** Compliance with applicable codes and regulations and Seismic Design Criteria, would ensure that geologic hazards associated with ground shaking, liquefaction, settlement, unstable slopes, landslides, and other hazards would be reduced to an acceptable level of risk.
Policy EH 1.1.2: Support land use patterns, Zoning Ordinances and location criteria that mitigate potential risks posed by development in hazard areas, or which significantly reduce risk from seismic hazards.	**Consistent.** Implementation of the RAP would result in a closed, capped Site and does not include development (e.g. structures) suitable for human inhabitation. The only anticipated structure is a small facility to house the pumps and granulated activated carbon (GAC) system associated with the gas collection and treatment system. This structure would be designed to protect the equipment from the elements and to provide noise reduction, but is not intended for use as office or other industrial space. Although, any seismic damage to the engineered cap could be considered potentially hazardous because of the proximity of a school, residential neighborhood, and public park. However, compliance with applicable codes and regulations and Seismic Design Criteria, would mitigate and significantly reduce risk from seismic hazards.
Policy EH 1.1.3: Require seismic/geological assessment prior to construction in an Alquist-Priolo Earthquake Fault Zone.	**Not Applicable.** The Site is not located within an Earthquake Fault zone. As such, this policy is not applicable.
Policy EH 1.1.4: Evaluate the levels of risk based on the nature of the hazards and assess acceptable risk based on the human, property, and social structure damage compared to the cost of corrective measures to mitigate or prevent damage.	**Consistent.** Although the Site has potential for geologic-related risks related to potential seismic ground shaking, liquefaction, slope stability, and other hazards, the approved geotechnical report would address geologic hazards and recommend structural design features that would reduce risk to acceptable levels.

Source PCR Services Corporation, 2013.

Conclusion. The Project cumulatively combined with other reasonably foreseeable projects would not result in substantial cumulative adverse effects related to geology and soils. Thus, cumulative geology and soil impacts would be less than significant.

4. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Compliance with applicable regulatory requirements and implementation of the Project's design features would ensure geology and soils impacts are less than significant.

4.5 GREENHOUSE GAS EMISSIONS

This section describes applicable regulations that address greenhouse gas (GHG) emissions and global climate change and assesses the potential impacts of the Project in terms of GHG and global climate change.

State law defines GHG emissions to include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Existing conditions at the Site and influences on global climate change are also described, and an analysis is provided to assess potential cumulative and Project related contributions to global climate change that would be caused by implementation of the Project. The analysis accounts for energy and resource conservation measures that have been incorporated into the proposed RAP and pertinent State mandated GHG emission reduction measures. GHG emission calculations prepared for the Project are provided in Appendix D.

1. ENVIRONMENTAL SETTING

Regulatory Framework

Federal

The United States Environmental Protection Agency (USEPA) is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO_2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the Energy Star labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

In *Massachusetts v. Environmental Protection Agency* (Docket No. 05–1120), the U.S. Supreme Court held in April of 2007 that the USEPA has statutory authority under Section 2020 of the federal Clean Air Act (CAA) to regulate GHGs. The court did not hold that the US EPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare.

The US President signed Executive Order 13432 on May 14, 2007, directing the USEPA, along with the Departments of Transportation, Energy, and Agriculture, to initiate a regulatory process that responds to the Supreme Court's decision. Executive Order 13432 was codified into law by the 2009 Omnibus Appropriations Law signed on February 17, 2009. The order sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, sustainable buildings, electronics stewardship, fleets, and water conservation. In addition, the order requires more widespread use of Environmental Management Systems as the framework in which to manage and continually improve these sustainable practices. This Executive Order requires federal agencies to lead by example in advancing the nation's energy security and environmental performance by achieving the following goals:

- **Energy Efficiency:** Reduce energy intensity 30 percent by 2015, compared to a fiscal year (FY) 2003 baseline.
- **Greenhouse Gases:** Reduce GHG emissions through a 30 percent reduction of energy intensity by 2015, compared to an FY 2003 baseline.
- **Renewable Power:** At least 50 percent of current renewable energy purchases must come from new renewable sources (in service after January 1, 1999).
- **Building Performance:** Construct or renovate buildings in accordance with sustainability strategies, including resource conservation, reduction, and use; siting; and indoor environmental quality.
- **Water Conservation:** Reduce water consumption intensity 16 percent by 2015, compared to an FY 2007 baseline.
- **Vehicles:** Increase purchase of alternative fuel, hybrid, and plug-in hybrid vehicles when commercially available.
- **Petroleum Conservation:** Reduce petroleum consumption in fleet vehicles by 2 percent annually through 2015, compared to an FY 2005 baseline.
- **Alternative Fuel:** Increase use of alternative fuel consumption by at least 10 percent annually, compared to an FY 2005 baseline.
- **Pollution Prevention:** Reduce use of chemicals and toxic materials and purchase lower risk chemicals and toxic materials.
- **Procurement:** Expand purchases of environmentally sound goods and services, including bio-based products.
- **Electronics Management:** Annually, 95 percent of electronic products purchased must meet Electronic Product Environmental Assessment Tool standards where applicable; enable Energy Star® features on 100 percent of computers and monitors; and reuse, donate, sell, or recycle 100 percent of electronic products using environmentally sound management practices.

On May 19, 2009, the President announced a national policy for fuel efficiency and emissions standards in the U.S. auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy (CAFE) standards and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO_2 per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO_2 per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle.[1]

On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the federal CAA. The USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO_2,

[1] *U.S. Environmental Protection Agency, "EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks," http://www.epa.gov/oms/climate/documents/420f12051.pdf. 2012.*

CH_4, N_2O, HFCs, PFCs, and SF_6) on December 7, 2009. The Endangerment Finding is required before USEPA can regulate GHG emissions under Section 202(a)(1) of the CAA consistently with the U.S. Supreme Court decision. The USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not themselves impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

State

In response to growing scientific and political concern regarding global climate change, in the last decade California has promulgated a series of executive orders, laws, and regulations aimed at reducing both the level of GHGs in the atmosphere and emissions of GHGs from commercial and private activities within the State.

California Air Resources Board

The California Air Resources Board (CARB), a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards (CAAQS)), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts. The SIP is required for the State to take over implementation of the federal CAA.

Executive Order S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels;
- By 2020, California shall reduce GHG emissions to 1990 levels; and
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

The Secretary of CalEPA is required to coordinate efforts of various agencies in order to collectively and efficiently reduce GHGs. Some of the agency representatives involved in the GHG reduction plan include the Secretary of the Business, Transportation and Housing Agency, the Secretary of the Department of Food and Agriculture, the Secretary of the Resources Agency, the Chairperson of CARB, the Chairperson of the California Energy Commission, and the President of the Public Utilities Commission. Representatives from these agencies comprise the California Climate Action Team (CCAT).

The CCAT provides biennial reports to the Governor and Legislature on the state of GHG reductions in the state as well as strategies for mitigating and adapting to climate change. The first CCAT Report to the

Governor and the Legislature in 2006 contained recommendations and strategies to help meet the targets in Executive Order S 3-05.[2] The 2010 CCAT Report, finalized in December 2010, expands on the policy oriented 2006 assessment.[3] The new information detailed in the CCAT Report includes development of revised climate and sea-level projections using new information and tools that have become available in the last two years; and an evaluation of climate change within the context of broader social changes, such as land-use changes and demographic shifts.

California Assembly Bill 32 (AB 32, Nunez) (Chapter 488, Statutes of 2006)[4]

In 2006, the California State Legislature adopted Assembly Bill 32 (AB 32) (Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006, focusing on reducing GHG emissions in California to 1990 levels by 2020. As required by AB 32, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was set at 427 million metric tons (MMT) carbon dioxide equivalent (CO_2e). CARB also projected the state's 2020 GHG emissions under business as usual (BAU) conditions - that is, emissions that would occur without any plans, policies, or regulations to reduce GHG emissions. CARB originally used an average of the state's GHG emissions from 2002 through 2004 and projected the 2020 levels at approximately 596 $MMTCO_2e$. Therefore, under this original projection, the state must reduce its 2020 BAU emissions by 28.4 percent in order to meet the 1990 target. CARB updated their 2020 BAU emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions required by regulation that were recently adopted for motor vehicles and renewable energy.[5] CARB's revised 2020 BAU emissions estimate is 507 $MMTCO_2e$. Therefore, the emission reductions necessary to achieve the 2020 emissions target of 427 $MMTCO_2e$ would be 80 $MMTCO_2e$, or a reduction of GHG emissions by 15.8 percent.

AB 32 defines GHGs as CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under AB 32, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020. On or before June 30, 2007, CARB was required to publish a list of discrete early action GHG emission reduction measures that would be implemented to be made enforceable by 2010. In 2007, CARB published its Final Report for Proposed Early Actions to Mitigate Climate Change in California.[6] This report described recommendations for discrete early action measures to reduce GHG emissions as part of California's AB 32 GHG reduction strategy. Resulting from this are three new regulations proposed to meet the definition of "discrete early action greenhouse gas reduction measures," including the following: a low carbon fuel standard; reduction of HFC 134a (HFC used in automobile air-conditioning systems) emissions from non-professional servicing of motor vehicle air conditioning systems; and improved landfill gas capture. CARB estimates that by 2020, the reductions from those three measures would range from 13 to 26 $MMTCO_2e$. Six additional early-action regulations were adopted on October 25, 2007 that targeted:

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[2] *California Environmental Protection Agency, California Climate Action Team Report to the Governor and the Legislature, (2006).*

[3] *California Environmental Protection Agency, California Climate Action Team Report to the Governor and the Legislature, (2010).*

[4] *http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.pdf.*

[5] *California Air Resources Board, "Greenhouse Gas Inventory – 2020 Emissions Forecast," http://www.arb.ca.gov/cc/inventory/data/forecast.htm._2012.*

[6] *California Air Resources Board, Proposed Early Actions to Mitigation Climate Change in California, 2007.*

motor vehicles; auxiliary engines from docked ships; PFCs from the semiconductor industry; propellants in consumer products; automotive maintenance; and SF_6 from non-electricity sectors.

California Assembly Bill No. 1493 (AB 1493, Pavley), (Chapter 200, Statutes of 2002)[7]

In response to the transportation sector accounting for more than half of California's CO_2 emissions, AB 1493 (Chapter 200, Statutes of 2002), enacted on July 22, 2002, required CARB to set GHG emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is non-commercial personal transportation manufactured in and after 2009. In setting these standards, CARB must consider cost effectiveness, technological feasibility, economic impacts, and provide maximum flexibility to manufacturers. The State of California in 2004 submitted a request for a waiver from federal clean air regulations, which ordinarily preempts state regulation of motor vehicle emission standards, to allow the state to require reduced tailpipe emissions of CO_2. In late 2007, the USEPA denied California's waiver request. In early 2008, the state brought suit against USEPA related to this denial. In January 2009, the President directed the USEPA to assess whether its denial of the waiver was appropriate under the federal CAA. In June 2009, the USEPA granted California the waiver.

However, as discussed previously, the USEPA and USDOT have adopted federal standards for model year 2012 through 2016 light-duty vehicles. In light of the USEPA and USDOT standards, California - and states adopting California emissions standards - have agreed to defer to the proposed national standard through model year 2016. The 2016 endpoint of the federal and state standards is similar, although the federal standard ramps up slightly more slowly than required under the state standard. The state standards (called the Pavley standards) require additional reductions in CO_2 emissions beyond model year 2016 (referred to as Pavley Phase II standards). As noted above, the USEPA and USDOT have adopted GHG emission standards for model year 2017 through 2025 vehicles. These standards are slightly different from the Pavley Phase II standards, but the State of California has agreed not to contest these standards, in part due to the fact that while the national standard would achieve slightly less reductions in California, it would achieve greater reductions nationally and is stringent enough to meet state GHG emission reduction goals.[8] CARB is in the process of adopting regulations that would allow manufacturers to comply with the 2017-2025 national standards to meet state law.

Executive Order S-01-07

Executive Order S-01-07 was enacted by Governor Schwarzenegger on January 18, 2007. The order mandates the following: (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and (2) that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established in California.

Senate Bill 97 (SB 97, Dutton) (Chapter 185, Statutes of 2007)[9]

Senate Bill 97 (SB 97) (Chapter 185, Statutes of 2007), enacted in 2007, amended the California Environmental Quality Act (CEQA) to clearly establish that GHG emissions and the effects of GHG emissions

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[7] *http://www.leginfo.ca.gov/pub/01-02/bill/asm/ab_1451-1500/ab_1493_bill_20020722_chaptered.pdf.*

[8] *California Air Resources Board, "Advanced Clean Cars Summary," http://www.arb.ca.gov/msprog/clean_cars/acc%20summary-final.pdf. Accessed June 2013.*

[9] *http://opr.ca.gov/docs/SB_97_bill_20070824_chaptered.pdf.*

are appropriate subjects for CEQA analysis. It directed the California Office of Planning and Research (OPR) to develop revisions to the State CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions" and directed the Resources Agency to certify and adopt these revised State CEQA Guidelines by January 2010. The revisions were completed in March 2010 and codified into the California Code of Regulations and became effective within 120 days pursuant to CEQA. The amendments provide regulatory guidance for the analysis and mitigation of the potential effects of GHG emissions. The CEQA Guidelines require:

- Inclusion of GHG analyses in CEQA documents;
- Determination of significance of GHG emissions; and
- If significant GHG emissions would occur, adoption of mitigation to address significant emissions.

Senate Bill 375 (SB 375, Steinberg) (Chapter 728, Statutes of 2008)[10]

SB 375 (Chapter 728, Statutes of 2008), which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions, was adopted by the State on September 30, 2008. Under SB 375, CARB is required, in consultation with the metropolitan planning organizations (MPOs), to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. On September 23, 2010, CARB adopted the vehicular GHG emissions reduction targets for the Southern California Association of Governments (SCAG), which is the MPO for the region in which the City of Huntington Beach is located. The target is a per capita reduction of 8 percent for 2020 and 13 percent for 2035 compared to the 2005 baseline. Of note, the proposed reduction targets explicitly exclude emission reductions expected from the AB 1493 and the low carbon fuel standard regulations.

Under SB 375, the target must be incorporated within that region's Regional Transportation Plan (RTP), which is used for long-term transportation planning, in a Sustainable Communities Strategy (SCS). Certain transportation planning and programming activities would then need to be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plan) are not required to be consistent with either the RTP or SCS. On April 4, 2012, SCAG adopted the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Using growth forecasts and economic trends, the RTP/SCS provides a vision for transportation throughout the region for the next 20 years. It considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address mobility needs. The RTP/SCS successfully achieves and exceeds the greenhouse gas emission-reduction targets set by CARB by achieving a 9 percent reduction by 2020 and 16 percent reduction by 2035 compared to the 2005 level on a per capita basis. This RTP/SCS also meets criteria pollutant emission budgets set by the USEPA.

Title 24, Building Standards Code and CALGreen Code

The California Energy Commission (CEC) first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels

[10] *http://www.leginfo.ca.gov/pub/07-08/bill/sen/sb_0351-0400/sb_375_bill_20080930_chaptered.pdf.*

would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."[11] The CALGreen Code is not intended to substitute for or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC). When the CALGreen code went into effect in 2009, compliance through 2010 was voluntary. As of January 1, 2011, the CALGreen code is mandatory for all new buildings constructed in the state. The CALGreen code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design and overall environmental quality.[12] CALGreen was most recently updated in 2013 to include new mandatory measures for residential as well as nonresidential uses; the new measures take effect on January 1, 2014.[13]

Senate Bill 1078 (SB 1078, Sher) (Chapter 516, Statutes of 2002)[14] and Senate Bill 107 (SB 107, Simitian) (Chapter 464, Statutes of 2006)[15] and Executive Order S-14-08

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008, Governor Schwarzenegger signed Executive Order S-14-08, which expands the State's Renewables Portfolio Standard (RPS) to 33 percent renewable power by 2020. Pursuant to Executive Order S-21-09, CARB was also preparing regulations to supplement the RPS with a Renewable Energy Standard that will result in a total renewable energy requirement for utilities of 33 percent by 2020. But on April 12, 2011, Governor Jerry Brown signed SB X1-2 to increase California's RPS to 33 percent by 2020.

Regional

The Project is located in the South Coast Air Basin (Basin). Air emissions are regulated by the South Coast Air Quality Management District (SCAQMD). The SCAQMD is responsible for promoting and improving the air quality of the Basin. This is accomplished though air quality monitoring, evaluation, education, implementation of control measures to reduce emissions from stationary sources, permitting and inspection of pollution sources, enforcement of air quality regulations, and by supporting and implementing measures to reduce emissions from motor vehicles. After AB 32 was passed, SCAQMD formed a Climate Change Committee along with a Greenhouse Gases CEQA Significance Thresholds Working Group and the SoCal

[11] *California Building Standards Commission, 2010 California Green Building Standards Code, (2010).*

[12] *California 2010 Green Building Standards code, California Code of Regulations Title 24, Part 11.*

[13] *California 2013 Green Building Standards code, California Code of Regulations Title 24, Part 11*

[14] *http://www.energy.ca.gov/portfolio/documents/documents/SB1078.PDF.*

[15] *http://www.leginfo.ca.gov/pub/05-06/bill/sen/sb_0101-0150/sb_107_bill_20060926_chaptered.pdf.*

Climate Solutions Exchange Technical Advisory Group. On September 5, 2008, the SCAQMD Board approved the SCAQMD Climate Change Policy, which outlines actions the District will take to assist businesses and local governments in implementing climate change measures, decrease the agency's carbon emissions, and provide information to the public regarding climate change. On December 5, 2008, the Board approved interim CEQA GHG significance thresholds for stationary source projects where it is the lead agency. The threshold is a tiered approach to determine a project's significance, with 10,000 metric tons (MT) of CO_2e as a screening numerical threshold for stationary source projects. In order to provide guidance to local lead agencies on determining the significance of GHG emissions identified in CEQA documents, the GHG CEQA Significance Threshold Working Group drafted thresholds with the intent of capturing 90 percent of development projects.[16] Under Tiers 1 and 2, projects that are exempt from CEQA or consistent with an approved local GHG reduction plan can be found to be less than significant. Under Tier 3, a project's GHG emissions are compared to the draft screening thresholds. At present, the SCAQMD has not formally adopted thresholds for use by other lead agencies, but recommends that industrial projects utilize the 10,000 $MTCO_2e$ screening level that has been adopted for SCAQMD projects. Under Tier 4, a project's GHG emissions are compared to a performance standard, such as achieving a percentage reduction in GHG emissions from a base case scenario or achieving a project-level efficiency target of 4.8 $MTCO_2e$ per service population.

Additionally, SCAQMD Rule 1150 – Excavation of Landfill Site, Rule 1150.1 – Control of Gaseous Emission from Municipal Solid Waste Landfills, and Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil, would govern the control of air pollutant emissions from the landfill on-site. A brief summary of these rules are provided below:

Regulation XI – Source Specific Standards: Regulation XI sets emissions standards for different specific sources.

- **Rule 1150 – Excavation of Landfill Sites:** This rule sets requirements for excavation of an active or inactive landfill. The rules require development of an Excavation Management Plan approved by the Executive Officer. The Plan shall, as a minimum, provide information regarding the quantity and characteristics of the material to be excavated and transported, and shall identify mitigation measures to be activated as necessary during excavation to ensure that a public nuisance condition does not occur. Mitigation measures shall be selected after consideration of the physical characteristics of the landfill. Such mitigation measures may include gas collection and disposal, baling, encapsulation, covering of the material, chemical neutralizing, or other measures approved by the Executive Officer.
- **Rule 1150.1 – Control of Gaseous Emissions From Municipal Solid Waste Landfills:** The purpose of this rule is to reduce non-methane organic compounds (NMOC), volatile organic compound (VOC), and toxic air contaminant (TAC) emissions from Municipal Solid Waste (MSW) landfills to prevent public nuisance and possible detriment to public health caused by exposure to such emissions. This rule also reduces methane emissions, a greenhouse gas.
- **Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil:** This rule sets requirements to control the emission of VOCs from excavating, grading, handling and treating VOC-contaminated soil (as defined under the Rule) at or from an excavation or grading site.

[16] *South Coast Air Quality Management District, "Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting #15," http://www.aqmd.gov/ceqa/handbook/GHG/2010/sept28mtg/sept29.html. 2010.*

Local

The City of Huntington Beach has adopted building and green building (e.g., CALGreen) standards in Title 17, Chapters 17.04 and 17.06, respectively, of the Municipal Code. The "HB Goes Green"[17] program encourages citizens to go green, providing citizens with current information about available programs that provide assistance to home and business owners interested in incorporating sustainable designs to lower energy costs and reduce environmental impact. In addition, the City requires that all new permit and plan review applications submitted shall comply with the mandatory measures of CALGreen. While the above referenced local regulations and programs help to reduce GHG emissions, the Project would not construct buildings subject to these requirements.

Existing Conditions

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation and storms. Historical records indicate that global climate changes have occurred in the past due to natural phenomena; however, data indicate that the current global conditions differ from past climate changes in rate and magnitude. The United Nations Intergovernmental Panel on Climate Change (IPCC) attributes the current changes in global climate to anthropogenic activities.[18] The term GHG refers to gases that trap long-wave radiation or heat in the atmosphere, which in turn heats the surface of the Earth. Without human intervention, the Earth maintains an approximate balance between the GHG emissions in the atmosphere and the storage of GHGs in the oceans and terrestrial ecosystems. GHGs are the result of both natural and anthropogenic activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions.

The Federal Government and State of California recognized that anthropogenic (human-caused) GHG emissions are contributing to changes in the global climate and such changes are having and will have adverse effects on the environment, the economy, and public health. While worldwide contributions of GHG emissions are expected to have widespread consequences, it is not possible to link particular changes to the environment of California or elsewhere to GHGs emitted from a particular source or location. In other words, emissions of GHGs have the potential to cause global impacts in addition to local impacts. Increased concentrations of GHGs in the Earth's atmosphere have been linked to global climate change and such conditions as rising surface temperatures, melting icebergs and snowpack, rising sea levels, and the increased frequency and magnitude of severe weather conditions. Existing climate change models also show that climate warming portends a variety of impacts on agriculture, including loss of microclimates that support specific crops, increased pressure from invasive weeds and diseases, and loss of productivity due to changes in water reliability and availability. In addition, rising temperatures and shifts in microclimates associated with global climate change are expected to increase the frequency and intensity of wildfires.

The most common GHG that results from human activity is CO_2, which represents approximately 77 percent of total anthropogenic GHG emissions in the atmosphere,[19] followed by CH_4 and N_2O. Scientists have established a Global Warming Potential (GWP) to gauge the potency of each GHG's ability to absorb and re-

[17] *http://www.huntingtonbeachca.gov/residents/green_city/mayor.cfm*

[18] *Intergovernmental Panel on Climate Change,* Fourth Assessment Report: The Physical Science Basis, Summary for Policy Makers*, 2007.*

[19] *Intergovernmental Panel on Climate Change,* Fourth Assessment Report: Synthesis Report*, 2007.*

emit long-wave radiation. The GWP of a gas is determined using CO_2 as the reference gas with a GWP of 1 over 100 years. For example, a gas with a GWP of 10 is 10 times more potent than CO_2 over 100 years. The sum of each GHG multiplied by its associated GWP is referred to as carbon dioxide equivalents (CO_2e). The measurement unit CO_2e is used to report the combined potency of GHG emissions. Standard GWP values have been established for the GHGs defined by state law, such as CH_4, which has a GWP of 21, and NO_2, which has a GWP of 310.[20]

Greenhouse Gas Inventory

Worldwide man-made emissions of GHGs were approximately 40,000 $MMTCO_2e$ annually including ongoing emissions from industrial and agricultural sources but excluding emissions from land use changes (e.g., deforestation).[21] CO_2 emissions from fossil fuel use accounts for 56.6 percent of the total emissions of 49,000 $MMTCO_2e$ (including emissions from land use changes), and CO_2 emissions from all sources accounts for 76.7 percent of the total. Methane emissions account for 14.3 percent, and N_2O emissions for 7.9 percent.[22] The European Commission's Emissions Database for Global Atmospheric Research (EDGAR) reported global emissions of carbon dioxide alone for 2011 at 34,000 MMT, an all-time high. In 2011, the United States was the world's second largest emitter of carbon dioxide at 5,420 MMT (China was the largest emitter of carbon dioxide at 9,700 MMT).[23]

California is the second largest contributor of GHGs in the U.S. (Texas is number one) and the 14th largest in the world.[24] CARB compiles GHG inventories for the State of California. Based on the 2010 GHG inventory data (i.e., the latest year for which data are available from CARB), California emitted 451.6 $MMTCO_2e$ including emissions resulting from imported electrical power and 408.1 $MMTCO_2e$ excluding emissions related to imported power.[25] Between 1990 and 2010, the population of California grew by approximately 7.5 million (from 29.8 to 37.3 million).[26] This represents an increase of approximately 25 percent from 1990 population levels. In addition, the California economy, measured as gross state product, grew from $773 billion in 1990 to $1.87 trillion in 2010 representing an increase of approximately 142 percent (over twice

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[20] *In accordance with international and U.S. convention to maintain the value of the carbon dioxide 'currency', GHG emission inventories are calculated using the GWPs from the IPCC Second Assessment Report (*Climate Change 1995: The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the Intergovernmental Panel on Climate Change*, 1996).*

[21] *Intergovernmental Panel on Climate Change,* Fourth Assessment Report: Synthesis Report*, 2007. Based on the most recent global data from 2004. While more recent data are available from Annex I countries (countries with GHG reductions obligations), Non-Annex I countries (countries without GHG reduction obligations) typically do not have more recent data.*

[22] *Carbon dioxide equivalent (CO_2e) is a quantity that describes, for a given mixture and amount of GHGs, the amount of CO_2 (usually in metric tons; million metric tons [megaton] = $MMTCO_2e$ = terragram [Tg] CO_2 Eq; 1,000 MMT = gigaton) that would have the same global warming potential (GWP) when measured over a specified timescale (generally, 100 years).*

[23] *PBL Netherlands Environmental Assessment Agency and the European Commission Joint Research Center,* Trends in Global CO_2 Emissions 2012 Report*, 2012.*

[24] *CARB, "California Greenhouse Gas 2000-2010 Inventory by Scoping Plan Category - Summary," http://www.arb.ca.gov/cc/inventory/data/data.htm. Accessed March 2013.*

[25] *Ibid.*

[26] *U.S. Census Bureau, "Data Finders," http://www.census.gov/. 2009; California Department of Finance, "E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2010, with 2000 Benchmark," http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2001-10/. 2010.*

the 1990 gross state product).[27] Despite the population and economic growth, California's net GHG emissions only grew by approximately 6 percent. The CEC attributes the slow rate of growth to the success of California's renewable energy programs and its commitment to clean air and clean energy.[28] **Table 4.5-1**, *State of California GHG Emissions,* identifies and quantifies statewide anthropogenic GHG emissions and sinks (e.g., carbon sequestration due to forest growth) in 1990 and 2010 (i.e., the most recent year in which data are available from CARB). As shown in the table, the transportation sector is the largest contributor to statewide GHG emissions at 38 percent in 2010. California emissions are due in part to its large size and large population. By contrast, California had the fifth lowest CO_2 emissions per capita from fossil fuel combustion in the U.S., due to the success of its energy efficiency and renewable energy programs and commitments that have lowered the state's GHG emissions rate of growth by more than half of what it would have been otherwise.[29]

Table 4.5-1

State of California GHG Emissions

Category	Total 1990 Emissions ($MMTCO_2e$)	Percent of Total 1990 Emissions	Total 2010 Emissions ($MMTCO_2e$)	Percent of Total 2010 Emissions
Transportation	150.7	35%	173.2	38%
Electric Power	110.6	26%	93.3	21%
Commercial	14.4	3%	13.5	3%
Residential	29.7	7%	29.4	7%
Industrial	103.0	24%	86.0	19%
Recycling and Waste[a]	–	–	7.0	2%
High GWP/Non-Specified[b]	1.3	<1%	15.7	3%
Agriculture	23.4	5%	32.5	7%
Forestry	0.2	<1%	0.2	<1%
Forestry Sinks	-6.7		--[c]	--
Net Total	**426.6**	**100%**	**451.6**	**100%**

[a] *Included in other categories for the 1990 emissions inventory.*

[b] *High GWP gases are not specifically called out in the 1990 emissions inventory.*

[c] *Revised methodology under development (not reported for 2010).*

Sources: CARB, Staff Report – California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit, (2007); CARB, "California Greenhouse Gas 2000-2010 Inventory by Scoping Plan Category – Summary," http://www.arb.ca.gov/cc/inventory/data/data.htm. Accessed April 2013.

[27] *California Department of Finance, "Financial & Economic Data: Gross Domestic Product, California," http://www.dof.ca.gov/HTML/FS_DATA/LatestEconData/FS_Misc.htm. Accessed March 2013. Amounts are based on current dollars as of the date of the report (June 2012).*

[28] *CEC, Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004, (2006).*

[29] *CARB, "California Greenhouse Gas 2000-2010 Inventory by Scoping Plan Category – Summary," http://www.arb.ca.gov/cc/inventory/data/data.htm. Accessed March 2013.*

The Site currently generates GHG emissions from a variety of sources, including equipment used for maintenance activities and worker commute trips. The largest existing source, however, is from landfill gas generation. As an industrial landfill, the Site generates landfill gas as a result of anaerobic decomposition. A landfill gas assessment was performed on-site that detected a maximum methane concentration of 24 percent and average of 3.16 percent. A landfill gas evaluation estimated that the maximum landfill gas and methane generation rates occurred in 1984 at approximately 20 cubic feet per minute (cfm) and 0.65 cfm, respectively. The estimated methane generation rate generally decreases over time, down to 0.37 cfm for the current year 2013, and is expected to be approximately 0.32 cfm by 2020.[30] This corresponds to emissions of approximately 5.85 MT methane for the year 1984, 3.34 MT methane for the year 2013, and 3.2 MT methane for the year 2020, respectively.[31] The estimated quantities of GHGs generated at Ascon are based on models and are not directly measured.

Effects of Global Climate Change

The scientific community's understanding of the fundamental processes responsible for global climate change has improved over the past decade, and its predictive capabilities are advancing. However, there remain significant scientific uncertainties in, for example, predictions of local effects of climate change, occurrence, frequency, and magnitude of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the Earth's climate system and inability to accurately model it, the uncertainty surrounding climate change may never be completely eliminated. Nonetheless, the IPCC, in its *Fourth Assessment Report*, stated that, "it is likely that there has been significant warming due to human activity over the past 50 years."[32] In addition, the *Fourth Assessment Report* holds that the impacts of future climate change will vary across regions. While "large-scale climate events have the potential to cause very large impacts," the impacts of future climate change will be mixed across regions.[33] A report from the National Academy of Sciences concluded that 97 to 98 percent of the climate researchers most actively publishing in the field support the tenets of the IPCC in that climate change is very likely caused by human (i.e., anthropogenic) activity.[34]

According to CARB, the potential impacts in California due to global climate change may include: loss in snow pack; sea level rise; more extreme heat days per year; more high ozone days; more large forest fires; more drought years; increased erosion of California's coastlines and sea water intrusion into the Sacramento and San Joaquin Deltas and associated levee systems; and increased pest infestation.[35] Below is a summary of some of the potential effects, reported by an array of studies that could be experienced in California as a result of global warming and climate change.

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[30] *Geosyntec Consultants,* Revised Landfill Gas Emissions Evaluation for the Ascon Landfill Site*, April 2013.*

[31] *Conversion performed by PCR, as shown in Appendix D.*

[32] *Intergovernmental Panel on Climate Change, Fourth Assessment Report, Summary for Policy Makers, (2007).*

[33] *Intergovernmental Panel on Climate Change, Fourth Assessment Report, Summary for Policy Makers.*

[34] *Anderegg, William R. L., J.W. Prall, J. Harold, S.H., Schneider, Expert Credibility in Climate Change, Proceedings of the National Academy of Sciences of the United States of America. 2010;107:12107-12109.*

[35] *California Environmental Protection Agency, Climate Action Team,* Climate Action Team Report to Governor Schwarzenegger and the Legislature*, (2006).*

Air Quality

Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore, its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state.[36]

In 2009, the California Natural Resources Agency (CNRA) published the *California Climate Adaptation Strategy*[37] as a response to the Governor's Executive Order S-13-2008. The CNRA report lists specific recommendations for state and local agencies to best adapt to the anticipated risks posed by a changing climate. In accordance with the *California Climate Adaptation Strategy*, the CEC was directed to develop a website on climate change scenarios and impacts that would be beneficial for local decision makers.[38] The website, known as Cal-Adapt, became operational in 2011.[39] The information provided from the Cal-Adapt website represents a projection of potential future climate scenarios. The data are comprised of the average values from a variety of scenarios and models and are meant to illustrate how the climate may change based on a variety of different potential social and economic factors. According to the Cal-Adapt website, the City of Huntington Beach could result in an average increase in temperature of approximately 6 to 10 percent (about 3.5 to 6.0°F) by 2070-2090, compared to the baseline 1961-1990 period.

Water Supply

Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. Studies have found that, "Considerable uncertainty about precise impacts of climate change on California hydrology and water resources will remain until we have more precise and consistent information about how precipitation patterns, timing, and intensity will change."[40] For example, some studies identify little change in total annual precipitation in projections for California while others show significantly more precipitation.[41] Even assuming that climate change leads to long-term increases in precipitation, analysis of the impact of climate change is further complicated by the fact that no studies have identified or quantified the runoff impacts such an increase in precipitation would have in particular watersheds.[42] Also, little is known about how groundwater recharge and water quality would be affected. Higher rainfall could lead to

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[36] *California Energy Commission, Scenarios of Climate Change in California: An Overview, February 2006. http://www.energy.ca.gov/2005publications/CEC-500-2005-186/CEC-500-2005-186-SF.PDF.*

[37] *California Natural Resources Agency, Climate Action Team, 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008, (2009).*

[38] *California Natural Resources Agency, 2009 California Climate Adaptation Strategy, (2009).*

[39] *The Cal-Adapt website address is: http://cal-adapt.org.*

[40] Pacific Institute for Studies in Development, Environment and Security, *Climate Change and California Water Resources: A Survey and Summary of the Literature, July, 2003. http://www.pacinst.org/reports/climate_change_and_california_water_resources.pdf*

[41] Pacific Institute for Studies in Development, Environment and Security, *Climate Change and California Water Resources: A Survey and Summary of the Literature, July, 2003. http://www.pacinst.org/reports/climate_change_and_california_water_resources.pdf*

[42] *California Climate Change Center (2006).*

greater groundwater recharge, although reductions in spring runoff and higher evapotranspiration could reduce the amount of water available for recharge. [43]

The California Department of Water Resources report on climate change and effects on the State Water Project (SWP), the Central Valley Project, and the Sacramento-San Joaquin Delta, concludes that "climate change will likely have a significant effect on California's future water resources…[and] future water demand." It also reports that "much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain." It also reports that the relationship between climate change and its potential effect on water demand is not well understood, but "[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future." Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows.[44]

Hydrology and Sea Level Rise

As discussed above, climate changes could potentially affect: the amount of snowfall, rainfall and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes: expansion of seawater as the oceans warm, and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California's water supply. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

According to the data provided from the Cal-Adapt website, the project region could experience increased risk of flooding from anticipated future sea level rise. The outer portions of the Site, as well as surrounding off-site areas, would have an increased risk of flooding from a 100-year flood event with a 4.6 feet (1.4 meter) rise in sea level.

Agriculture

California has a $30 billion agricultural industry that produces half the country's fruits and vegetables. Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thus affect their quality.[45]

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[43] *California Climate Change Center (2006).*

[44] *California Department of Water Resources Climate Change Report, Progress on Incorporating Climate Change into Planning and Management of California's Water Resources, July 2006. http://baydeltaoffice.water.ca.gov/climatechange/DWRClimateChangeJuly06_update8-2-07.pdf*

[45] *California Climate Change Center, (2006).*

Ecosystems and Wildlife

Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists expect that the average global surface temperature could rise by 2-11.5°F (1.1-6.4°C) by 2100, with significant regional variation.[46] Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Sea level could rise as much as two feet along most of the U.S. coast. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes such as carbon cycling and storage.[47]

2. ENVIRONMENTAL IMPACTS

Significance Criteria

For purposes of this EIR, DTSC has utilized the checklist questions in Appendix G of the *CEQA Guidelines* as thresholds of significance to determine whether the Project would have a significant environmental impact regarding GHG and climate change. Based on the size and scope of the Project and the potential for GHG impacts, the thresholds identified below are included for evaluation in this EIR. Please refer to the Methodology section below for a discussion of the numeric thresholds utilized to determine whether significant GHG/climate change impacts would occur as a result of Project implementation.

Would the Project:

- **4.5-1** Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance (refer to Impact Statement 4.5-1); or
- **4.5-2** Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHG (refer to Impact Statement 4.5-2).

Project Design Features

The following Project Design Features (PDFs) would result in a reduction in GHG emissions and are proposed as part of the Project.

PDF 5-1 All off-road diesel construction equipment remaining on-site for more than 15 work days shall meet USEPA Tier 3 off-road emission standards, if commercially available locally. Use of Tier 3 engines has been shown to increase fuel economy over similar Tier 2 engines.[48]

[46] *National Research Council, Advancing the Science of Climate Change, (2010).*

[47] *Parmesan, C., 2004. Ecological and Evolutionary Response to Recent Climate Change. Parmesan, C and Galbraith, H, 2004. Observed Ecological Impacts of Climate Change in North America. Arlington, VA: Pew. Cent. Glob. Clim. Change*

[48] *Komatsu Technical Report, Development of Tier 3 Engine ecot3, Vol. 52, No. 157, http://www.komatsu.com/CompanyInfo/profile/report/pdf/157-03_E.pdf. 2006. Accessed June 2013.*

PDF 5-2 All on-road export haul trucks shall at minimum comply with USEPA 2007 on-road emissions standards.

PDF 5-3 The Project would comply with the use of low carbon vehicle fuels as required under State law.

PDF 5-4 To the maximum practical extent, recyclable materials, including non-hazardous construction and demolition materials, would be reused or recycled.

PDF 5-5 A protective cap, inclusive of a landfill gas collection and treatment system, would be installed to treat landfill gas and minimize odors generated by the Site.

Methodology

Section 15064.7 of the CEQA Guidelines defines a threshold of significance as an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. CEQA leaves the determination of significance to the reasonable discretion of the lead agency and encourages lead agencies to develop and publish thresholds of significance to use in determining the significance of environmental effects. However, as of June 2013, DTSC has not proposed or approved specific numeric thresholds for GHG emissions. Also, CARB, the SCAQMD, the City of Huntington Beach, and the County of Orange Land Use Planning have not yet formally adopted specific quantitative significance thresholds directly applicable to the Project. The SCAQMD released a draft guidance document regarding interim CEQA GHG significance thresholds applicable to development projects in October 2008. The SCAQMD proposed a screening level under which project impacts are considered "less than significant." The screening level thresholds were intended "to achieve the same policy objective of capturing 90 percent of the GHG emissions from new development projects."[49] It should be noted that these thresholds were never adopted by the SCAQMD.

Nonetheless, for CEQA purposes, DTSC has determined that the appropriate threshold of significance to assess the short- and long-term GHG impacts of a project of this nature with respect to significance criterion 4.5-1 is the SCAQMD's 10,000 $MTCO_2e$ per year threshold. In addition, with respect to significance criterion 4.5-2, DTSC has determined that the appropriate threshold of significance is assessing the Project's general consistency with the goals of AB 32. While AB 32 does not prescribe specific project-level measures, the *Climate Change Scoping Plan* provides strategies for the State to reduce GHG emissions in order to achieve the 2020 target.

Short-Term GHG Emissions

Short-term GHG emissions from heavy-duty construction equipment from vehicle trips generated from export and import of materials, visitors and workers traveling to and from the Site were compiled assuming a conservative estimate of construction activities (i.e., assuming all activities occur at the earliest feasible date) and applying the mobile-source emissions factors derived from CARB's on-road and off-road emissions models (e.g., OFFROAD and EMFAC), which are emissions estimation models developed by CARB and

[49] *SCAQMD, Board Meeting, December 5, 2008, Agenda No. 31, Interim GHG Significance Threshold Proposal – Key Issues/Comments Attachment D.*

frequently used to calculate emissions from construction activities. The output values used in this analysis were adjusted to be project-specific, based on equipment usage rates, type of fuel, and implementation schedule.

Short-term GHG emissions resulting from implementation of the RAP were developed for off-road construction equipment that would be used on-site and on-road construction equipment which can travel on- and off-site. GHG emissions from off-road equipment (dozers, loaders, sweepers, and other heavy-duty construction equipment) and on-road vehicles (tractor trailers, light duty trucks, employee vehicles, etc., which can travel on highways and local roads) were evaluated separately to account for the CARB's published emissions factors for both categories of equipment. The emission factor for CO_2 for off-road vehicles (i.e., vehicles not licensed to travel on public roadways) utilized in the analysis were based on calendar year 2015 emission rates from CARB's OFFROAD2007 Model. GHG emissions for off-road equipment were then calculated by multiplying an emission factor by the horsepower, load factor, and operational hours for each type of equipment.

On-road equipment emissions are generated from pick-up trucks, water trucks, dump trucks, haul trucks, delivery trucks, and other on-road vehicles (i.e., vehicles licensed to travel on public roadways). Exhaust emissions from on-road on-site sources were calculated using the emission factors for CO_2 from CARB's on-road emission factor model. The emission factors correspond to fleet average factors for calendar year 2015 and later. Emissions factors for heavy-duty diesel vehicles and trucks were based on EMFAC2011 emission factors for the vehicle classification "heavy-heavy-duty diesel single construction truck (T7 single construction)." The EMFAC2011 factors account for start-up, running, and idling. A complete listing of the short-term GHG emission assumptions used in this analysis is included within the CalEEMod printout sheets that are provided in Appendix D.

Long-Term GHG Emissions

Long-term GHG emissions are based on calculations of the landfill gas generated by the Site are based on data provided by the *Ascon Landfill Site Revised Landfill Gas Emissions Evaluation* by Geosyntec Consultants, using a spreadsheet model prepared by CARB based on the IPCC methodology.[50] This model uses default IPCC input parameters and applicable Site-specific data for the existing conditions at the Site. In addition, long-term GHG emissions would be caused by mobile sources (on-road and off-road). Worker commute trips to support long-term RAP activities are assumed to occur once a month. A complete listing of the long-term GHG emission assumptions used in this analysis is included within the CalEEMod printout sheets that are provided in Appendix D.

Emissions calculations for the Project include credits or reductions for project design features and other GHG reducing measures required by regulation. Emissions caused by the supply of electricity to run the landfill gas collection system as well as the sequestration of GHGs by vegetation on-site were not included as they are expected to be negligible.

[50] *Geosyntec Consultants,* Ascon Landfill Site Revised Landfill Gas Emissions Evaluation*, April 2013; California Air Resource Board Implementation of IPCC's First Order Decay Model, IPCC Spreadsheet for Estimating Methane Emissions from Solid Waste Disposal Sites (IPCC Waste Model). Model spreadsheet available at http://www.arb.ca.gov/cc/protocols/localgov/localgov.htm*

Analysis of Project Impacts

Greenhouse Gas Emissions

Impact 4.5-1	Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance?

Short-Term

Implementation of the RAP has the potential to generate short-term GHG emissions through the use of heavy-duty construction equipment and through vehicle trips generated from export and import of materials, visitors and workers traveling to and from the project site. As described in Section 2, *Project Description*, of this EIR, the Project would consist of implementation of the RAP, which would entail partial removal of on-site material and the installation of a protective cap and is expected to occur within ten construction phases as early as calendar year 2015. A complete listing of the equipment by phase, RAP phase durations, emission factors, and calculation parameters used in this analysis is included within the emissions calculation worksheets that are provided in Appendix D of this EIR.

Project design features implemented during the construction activities that would limit, minimize, and reduce short-term GHG emissions include: utilizing construction equipment meeting the USEPA Tier 3 off-road emission standards (PDF 5-1); utilizing on-road export haul trucks that at a minimum comply with the USEPA 2007 on-road emissions standards (PDF 5-2); utilizing low carbon fuels as required by state law (PDF 5-3); and, to the maximum practical extent, recyclable materials, including non-hazardous construction and demolition debris, would be reused or recycled. Implementation of the RAP is projected to emit a total of approximately 6,900 metric tons of CO_2e over the implementation schedule of approximately one year. The majority of the emissions would be attributed to haul trucks exporting on-site materials or importing soil for the protective cover.

Results of this analysis are presented in **Table 4.5-2**, *Short-Term Greenhouse Gas Emissions*. As shown in Table 4.5-2 the short-term GHG emissions would not exceed SCAQMD's 10,000 $MTCO_2e$ per year threshold.

Table 4.5-2

Short-Term Greenhouse Gas Emissions

Emission Source	CO_2e (Metric Tons)
Implementation of the RAP (Total)	6,940[a]
Applicable threshold	**10,000**
Exceeds Significance Threshold?	**No**

[a] *Emissions calculations are included in Appendix D of this EIR.*

Source: PCR Services Corporation, 2013.

Long-Term

Long-term implementation of the RAP would entail periodic visits by employees/contractors to perform groundwater monitoring, landscaping, and other maintenance as needed. Because waste materials will remain on-site, the Site could generate landfill gas. The treatment system (e.g., granular activated carbon [GAC] filtration) is not expected to destroy or capture GHGs, and any GHGs generated on-site are expected to be emitted to the atmosphere.

Implementation of the RAP would require a permit from the SCAQMD. Specifically, as previously discussed, SCAQMD Rules 1150 and 1166 would govern the control of emissions from the Site. A gas collection system (PDF 5-5) would be installed that would be subject to SCAQMD's permit to operate rules and regulations. It should be noted that the majority of the potential GHG emissions during RAP implementation are from short-term, mobile sources (see Table 4.5-2) not subject to SCAQMD permitting requirements.

Emissions of GHGs were calculated for the implementation of the RAP for the year 2015. As shown in **Table 4.5-3**, *Annual Greenhouse Gas Emissions*, GHG emissions associated with the long-term impacts operation of the Site were estimated to be approximately 5 metric tons CO_2e per year. Emissions of GHGs occurring on the Site under existing conditions were also calculated based on the landfill gas estimates for the Site and the periodic maintenance and inspection activities that occur at the Site. As shown in Table 4.5-3, the GHG emissions for 2015 would be slightly reduced compared to existing conditions and the net long-term emissions would be reduced. Overall, long-term GHG emissions would not exceed SCAQMD's 10,000 $MTCO_2e$ per year threshold.

Table 4.5-3

Year 2015 Greenhouse Gas Emissions

Emission Source	CO_2e (Metric Tons/Year)[a]
Proposed Project	
On-Road Mobile Sources	1.1
Landfill Gas Generation	77
Project Total	**78**
Existing Site	**80**
Net Total	**(2)**
Applicable Threshold	**10,000**
Exceeds Significance Threshold	**No**

[a] *Emissions calculations are included in Appendix D of this EIR.*

Source: PCR Services Corporation, 2013.

Conclusion. Implementation of the RAP would result in the net increase of short-term GHG emissions during construction activities. However, the net increase in short-term GHG emissions would not exceed the applicable threshold of significance for annual GHG emissions. Further, the activities that would generate short-term GHG emissions are temporary in nature and necessary to implement the RAP. Long-term GHG

emissions would be reduced compared to existing conditions and would therefore not exceed the applicable threshold of significance for annual GHG emissions. Based on the above, short- and long-term GHG emissions associated with implementation of the RAP would result in a less than significant impact.

Conflicts with Greenhouse Gas Reduction Plans

Impact 4.5-2	Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

As discussed in the Regulatory Framework section above, the State has promulgated regulations and programs for the purpose of reducing GHG emissions. The GHG emissions analysis in this EIR was performed in accordance with SCAQMD and CARB guidance developed in compliance with, and as a result of, those regulations and programs. The result of the analysis of the Project's potential impacts in terms of GHG and global climate change indicates that the short-term and long-term GHG emissions from the Project alone would not be expected to cause a direct physical change in the environment. Therefore, the Project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHG.

The purpose of the proposed RAP is to remediate a waste disposal site by partially removing some of the contaminated material[51] and installing a protective cover that includes a gas collection system. Thus, the intent of the Project is to minimize the emissions caused by an existing source. Therefore, although implementation of the RAP would result in a slight, temporary increase in GHG emissions in the short-term, overall, the Project would be considered consistent with the general goals of AB 32 in that it aims to reduce overall emissions generated by the Site. In support of AB 32, the State has promulgated laws and strategies aimed at reducing GHG emissions, some of which are applicable to the proposed Project. Consistent with AB 32, the Project would minimize short-term GHG emissions by using equipment that meet stringent USEPA emissions standards, using low carbon vehicle fuels as required under state law, and prohibiting diesel-fueled commercial motor vehicle idling consistent with CARB requirements. The Project would also reduce long-term GHG emissions by removing on-site materials that generate landfill gas emissions. Given the relatively low amounts of methane from the landfill gas, and given that the methane generation would decline substantially over time (about 0.65 cfm in 1984, 0.37 cfm in 2013, and 0.32 cfm by 2020), methane destruction using equipment such as a thermal oxidizer, which results in emissions of its own, is not required.

Additionally, the Project would meet other applicable GHG reduction goals by incorporating strategies such as recycling non-hazardous on-site material to the maximum extent possible and using recycled materials (i.e., recycled crushed or broken concrete) as components of clean fill or other onsite uses. Use of recycled materials is consistent with CARB's strategy pursuant to AB 32 to reduce waste generation and associated emissions. It should be noted that the GHG emissions shown in Table 4.5-2 are based on construction equipment operating continuously throughout the work day. In reality, construction equipment tends to

[51] *Throughout this EIR on-site wastes are referred to collectively as "contaminated material," which is meant solely to denote material which may be or have had contact with a contaminant ("contaminant" as used in this EIR to mean "a non-native substance or chemical" but does not necessarily indicate the presence of such substance or chemical at a level that could threaten human health and safety or the environment. Similarly, the term "hazardous material" is not meant to indicate or imply that the material meets any specific definition of hazardous waste, hazardous material, or similar characterization.).*

operate periodically or cyclically throughout the work day. Therefore, the GHG emissions shown reflect a conservative estimate.

Since AB 32 sets statewide targets for future GHG emissions, the Scoping Plan and other implementing tools of the law are clear that the reductions are not expected to occur uniformly from all sources or sectors. **Table 4.5-4,** *GHG Reduction Strategies*, contains a list of GHG-reduction strategies applicable to the Project, the identified related projects, and future development similar in scope and location. Included are the regulations or guidelines from which the strategies were developed. The project-level analysis above highlights the manner by which the Project intends to meet many of these strategies. Because the Project would not conflict with strategies to reduce GHG emissions, it would be consistent with the overarching regulation to reduce GHG emissions. Therefore, implementation of the Project would not conflict with plans for reducing GHG emissions and impacts relative to this threshold would be less than significant.

Table 4.5-4

GHG Reduction Strategies

Source	Description	Demonstration of Project Consistency
AB 1493 (Pavley Regulations)	Reduces GHG emissions in new passenger vehicles from 2012 through 2016. Also reduces gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020	Applies to all new vehicles.
Low Carbon Fuel Standard	Establishes protocols for measuring life-cycle carbon intensity of transportation fuels and helps to establish use of alternative fuels.	Applies to fuels utilized by the Project.
Climate Action Team	Reduce diesel-fueled commercial motor vehicle idling.	Project is committed to implementing.

Source: PCR Services, 2013; Climate Action Team, Attorney General's Office, 2011.

Conclusion. Project implementation would not conflict with applicable plans, policies, or regulations for reducing GHG emissions, and impacts relative to this threshold would be less than significant.

3. CUMULATIVE IMPACTS

Emitting GHGs into the atmosphere is not itself an adverse environmental effect. Rather, it is the increased accumulation of GHGs in the atmosphere that may result in global climate change. The resultant consequences of that climate change can cause adverse environmental effects. Due to the complex physical, chemical, and atmospheric mechanisms involved in global climate change, it is not possible to predict the specific impact, if any, to global climate change from one project's relatively small incremental increase in emissions.

As shown in Table 4.5-4, implementation of the RAP would reduce the Site's contribution to city-, county-, and statewide GHG emissions. However, it is not possible at this time to accurately quantify GHG emissions expected from the related projects or the GHG reductions anticipated from the above-listed strategies. Because of the complex physical, chemical and atmospheric mechanisms involved in global climate change,

there is no basis for concluding that an emissions increase resulting from the Project and the related projects could actually cause a measurable increase in global GHG emissions sufficient to force global climate change. In addition, emissions models used for project-level evaluations do not fully reflect improvements in technology and other reductions in GHG emissions that are likely to occur pursuant to State regulations, such as AB 1493, SB 1368, AB 32, and Executive Order S-3-5, as well as future federal and/or state regulations. Therefore, it is not possible or meaningful to calculate emissions from each of the identified related projects and compare that with a numeric threshold or reduction target.

The Project would cause an increase in the GHG emissions in the short-term, but is not expected to exceed the applicable significance threshold. Further, the intent of the Project is consistent with the State's plans for reducing GHG emissions. The Project would minimize short-term GHG emissions by using the newest, cleanest, most energy efficient equipment when available. Also, long-term GHG emissions would be reduced compared to existing conditions. Therefore, implementation of the RAP would have a less than significant impact on the environment based on the above mentioned thresholds. Based on the above considerations, the Project would not cause a cumulatively considerable impact and mitigation measures would not be required.

4. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the PDFs and compliance with applicable regulations would ensure GHG impacts are less than significant.

4.6 HAZARDS AND HAZARDOUS MATERIALS

This section analyzes the Project's potential impacts from hazards and hazardous materials. Relevant regulations and existing conditions are described, as well as the potential for the Project to impact sensitive receptors. Information in this section is largely based on the findings and documentation from two Baseline Health Risk Assessments (BHRAs) in 1997 and 2007 that were performed to identify and evaluate the potential risks to human and ecological receptors posed by Site conditions and additional studies performed in 2003, 2004, 2006, 2007, and 2011. Data from these studies, as well as other relevant information supporting the evaluation in this section, are documented in the Health Risk Assessment and supporting calculations included in Appendix E of this EIR.

1. ENVIRONMENTAL SETTING

Regulatory Framework – Overview of Waste-related Laws and Regulations

Federal

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (USEPA), through the Code of Federal Regulations (CFR), defines a hazardous waste as a substance that (1) may cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness and (2) that poses a substantial present or potential future hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed. Hazardous waste can also be ignitable, corrosive, or reactive (explosive). Hazardous and toxic substances are defined as chemicals (chemicals, dusts, mixtures, paints, fuels, solvents, etc.) present in the workplace which are capable of causing harm. A material that contains defined amounts of toxic chemicals may also be classified as a hazardous material. The USEPA has developed a list of specific hazardous wastes that are in the form of solids, semi-solids, liquids, and gases. A summary of potentially relevant major federal, state, and local laws regarding hazards and hazardous materials are provided below.

Resource Conservation and Recovery Act

The Federal Resource Conservation and Recovery Act (RCRA) (42 United States Code [USC] §6901-6992(k)) regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. Under RCRA, the U.S. Environmental Protection Agency (USEPA), through the Code of Federal Regulations (CFR), defines a hazardous waste as a substance that (1) may cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness and (2) that poses a substantial present or potential future hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed. Hazardous waste can also be ignitable, corrosive, or reactive (explosive).[1] A material that contains defined amounts of toxic chemicals may also be classified as a hazardous material. The USEPA has developed lists of specific wastes that are classified as hazardous. A summary of potentially relevant major federal, state, and local laws regarding hazards and hazardous materials are provided below.

[1] *U.S. Environmental Protection Agency; 40 CFR 261.3.*

RCRA allows individual states to develop their own program for the regulation of hazardous waste as long as it is at least as stringent as RCRA. The State of California has developed the California Hazardous Waste Control Law (HWCL) (Health and Safety Code [HSC] §25100 et seq. and 22 California Code of Regulations [CCR] §66260.1 et seq.), and the USEPA has authorized RCRA enforcement by the State of California. Primary authority for the statewide administration and enforcement of the HWCL rests with the California Environmental Protection Agency (Cal EPA) Department of Toxic Substances Control.

Under RCRA, a waste is hazardous if it belongs to any one of four waste categories as outlined below:

- Listed Wastes: specific wastes that EPA has determined are hazardous. The lists include the F-list (certain wastes from common manufacturing and industrial processes), K-list (certain wastes from specific industries), and P- and U-lists (certain wastes from specific commercial chemical products);
- Characteristic Wastes: wastes that do not meet any of the listings above but that exhibit ignitability, corrosivity, reactivity, or toxicity;
- Universal Wastes: batteries, pesticides, mercury-containing equipment (e.g., thermostats) and lamps (e.g., fluorescent bulbs); and,
- Mixed Wastes: waste that contains both radioactive and hazardous waste components.

RCRA Hazardous Waste Characterization/Classification

Under RCRA, waste characterization can be based on generator knowledge and/or testing to determine toxicity, ignitability, corrosivity and/or reactivity. To characterize a waste as RCRA hazardous for toxicity, sample results must be compared to the Toxicity Characteristic Leaching Procedure (TCLP) value for a particular constituent. The total concentration of a particular constituent must be compared to 20 times (20X) the threshold of the TCLP for that constituent. If the concentration does not exceed the 20X value, then the material is not considered RCRA hazardous; however, if the concentration exceeds this 20X value, then the sample must be analyzed for solubility using a TCLP method. If the result from TCLP test exceeds the TCLP value for the particular constituent, then the material is considered a RCRA-hazardous waste. If the TCLP result does not exceed the TCLP value for a particular constituent, then the material is non-hazardous under RCRA, though it can still be classified as hazardous under California law based on the results of a Waste Extraction Test (WET (see description below for non-RCRA hazardous waste characterization).

All RCRA-hazardous waste must either be disposed in a Class I landfill (i.e., sites that may accept hazardous and non-hazardous wastes), which may require some form of pre-treatment, or be destroyed via incineration or other appropriate methodology approved by the USEPA.

Non-RCRA Hazardous Waste Characterization/Classification

To characterize a waste as non-RCRA hazardous, the total concentration of a constituent must be compared to the Total Threshold Limit Concentration (TTLC) threshold value, and to 10 times (10X) the value of the Soluble Threshold Limit Concentrations (STLC) for that constituent. If the total concentration does not exceed the TTLC threshold or the 10X value, then the material is not non-RCRA hazardous; however, if the concentration exceeds this TTLC threshold, then it is considered non-RCRA hazardous, or if the concentration does not exceed the TTLC threshold, but exceeds the 10X value, then the sample must be analyzed for solubility using a WET. If the WET result exceeds the STLC threshold value for a particular

constituent, then the material is considered a non-RCRA or California hazardous waste, and a TCLP test could be required to determine if this waste is RCRA hazardous. If the TTLC result does not exceed the TTLC threshold and the WET result does not exceed the STLC threshold value for a particular constituent, then the material is non-hazardous, pending the results of the TCLP test if the total concentration exceeds 20X the TCLP threshold.

For example, the STLC value for lead is 5 mg/L, and the TCLP value for lead is 5 mg/L. If a sample with a total lead concentration less than 50 milligrams per kilogram (mg/kg), which is less than 10X the STLC value, then the material would be considered non-hazardous, pending the results of the TTLC test. If the total lead concentration (results from TTLC test) in a particular sample is between 50 and 100 mg/kg, then a WET would be required. If the result of the WET was below the STLC value, this sample would be considered non-hazardous; however, if the result of the WET was greater than the STLC value (i.e. 5 mg/L for lead) then the material would be considered non-RCRA hazardous.

If the total concentration of lead in the sample is 100 mg/kg or greater, then a TCLP test would be required to determine if the waste was RCRA hazardous or not (i.e., the 20X rule identified above). As such, the sample would be analyzed using the TCLP test, and if the result was greater than the TCLP threshold for lead (i.e., 5 mg/L), the material would be considered RCRA hazardous waste. If the TCLP result was less than 5 mg/L, then a WET would still be required to determine if the material is non-RCRA hazardous. As described above, if the TTLC result is greater than the TTLC threshold value or if the WET result is greater than the STLC value, then the material is non-RCRA hazardous, and, if not, the material would be considered non-hazardous.

If a sample contained lead at a total concentration (TTLC test result) greater than 1,000 mg/kg (the lead TTLC threshold value), it is automatically considered non-RCRA hazardous waste. A TCLP test would be required to determine if the waste is RCRA hazardous as outlined above due to the 20X rule. If the TCLP result is greater than 5 mg/L it is RCRA hazardous; if not, it is considered non-RCRA hazardous.

When multiple samples are taken of a large quantity of waste, appropriate averaging techniques are used to develop an average concentration of chemicals of potential concern (COPCs). This is done so that a small pocket of waste with a high concentration of a COPC (i.e., "nugget" effect) does not inappropriately define the entire waste quantity.

Non-Hazardous Waste

Materials that are not hazardous under California or federal law are considered non-hazardous and can be disposed in a Class III landfill (i.e., sites that may accept non-hazardous wastes). Materials disposed of in Class III landfills can include construction debris (i.e., asphalt, concrete, wood, etc.) and soil that is determined to be non-hazardous based on the results of analytical tests performed on the material.

National Contingency Plan/Comprehensive Environmental Response, Compensation, & Liability Act

The National Contingency Plan (NCP) is a blueprint for responding to both oil spills and hazardous substance releases originally prepared under the Clean Water Act. Following the passage of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1980, the NCP was broadened to cover releases at waste sites. CERCLA established the Federal Superfund program to respond to releases and threatened releases of hazardous substances at sites on the National Priority List (NPL), which are considered sufficiently impacted to justify the use of public funds for remediation, if no responsible parties

are willing or able to perform the remediation. The NPL includes nine criteria with which to evaluate remedial alternatives.[2] An acceptable alternative must meet Criteria 1 and 2, known as "threshold criteria," in order to be carried further in the analysis. Criteria 3 through 7, known as "balancing criteria," are evaluated to determine the best overall solution. Criteria 8 and 9, known as "modifying criteria," are evaluated based on State and public comment. The evaluation of these last two criteria is accomplished through the CEQA process. Two of the basic purposes of CEQA are to inform governmental decision-makers and the public about the potential significant effects, if any, of proposed activities and to provide opportunities for other agencies and the public to review and comment on draft environmental documents, such as this EIR. After public and agency comment throughout the required CEQA process, the DTSC may alter its preference on the basis of the last two modifying criteria. The relative consistency of the Project and other considered alternatives is evaluated in the 2007 Revised Feasibility Study (RFS) with these criteria is described in Section 2.0, *Project Description*, of this EIR.

Superfund Amendments and Reauthorization Act

The Superfund Amendments and Reauthorization Act (SARA) pertains primarily to emergency management, reporting of releases, and compilation of data for public information (community right to know) purposes. SARA does not apply to the Project because the Site is not on the NPL.

Federal Occupational Safety and Health Administration

The Federal Occupational Safety and Health Act of 1970, which is implemented by the Federal Occupational Safety and Health Administration (OSHA), contains provisions with respect to hazardous materials handling. Federal OSHA requirements, including those set forth in 29 CFR §1910, et seq. and 29 CFR §1926 are designed to promote worker safety, worker training, and a worker's right–to-know. To the extent these laws and rules apply to the Project, they are accounted for and applied in the Health and Safety Plan (HASP) that will apply to all remediation activities.

State

California Code of Regulations

California law establishes a program of state "Superfund" sites, which are sites not on the NPL, but which the state believes are sufficiently problematic to warrant state intervention in the event that no responsible parties address the conditions. Like CERCLA, the state "Superfund" program contains mechanisms by which the state requires cooperation. The state "Superfund" program is substantially the same as CERCLA. The State of California Code of Regulations (CCR) establishes standards related to toxins and waste disposal. A summary of key standards related to remedial activities of hazardous materials are provided below. The Ascon Site is not listed on the NPL, but is a state "Superfund" site, subject to the requirements of California statutes and regulations relating to remediation of "hazardous substances," at listed sites. The California definition of "hazardous substance" utilizes, in large part, the same definitional language as CERCLA, but is more broad, and includes more substances as "hazardous substances" than the CERCLA definition. Those substances are the non-RCRA or California hazardous wastes.

[2] *40 CFR §300.430.*

California Hazardous Waste (aka "Non-RCRA Hazardous Waste") and *California Code of Regulations Title 22*

Among other things, Title 22 relates to the cleanup and prevention of toxins in soils and water. Sections 66261.1 through 66261.126 provide for the identification and listing of hazardous waste and criteria for identifying the characteristics of hazardous waste, sampling methods, hazardous constituents, and basis for listing hazardous waste. Title 22 identifies and lists hazardous wastes and standards applicable to generators and transporters of hazardous waste. It provides standards for owners and operators of hazardous waste transfer, treatment, storage and disposal facilities. Title 22 establishes the minimum standards for acceptable management of hazardous waste. It also governs enforcement and inspections. Selection and ranking criteria for hazardous waste sites requiring remedial action are identified. It governs site and facility cleanup services, corrective action, and site remediation.

California Code of Regulations Title 23

Title 23 addresses public health and safety issues related to hazardous materials and wastes, and it specifies disposal requirements. Title 23 includes requirements intended to protect waters of the state from discharges of hazardous substances. General closure requirements and criteria are provided in Title 23, Chapter 16.

California Health and Safety Code

The California Health and Safety Code, section 25356 establishes criteria for the protection of public health, safety, and the environment associated with toxic substances. The DTSC enforces cleanup of contaminated sites through the implementation of Remedial Action Plans (RAPs), which are regulated by CERCLA and Section 25356.1 of the California Health and Safety Code.

California Hazardous Waste Control Law (HWCL)

The HWCL is the primary hazardous waste statute in the State of California. The HWCL implements RCRA as a "cradle-to-grave" waste management system in the State of California. HWCL specifies that generators have the primary duty to determine whether their wastes are hazardous and to ensure their proper management. The HWCL also establishes criteria for the reuse and recycling of hazardous wastes used or reused as raw materials. The HWCL exceeds federal requirements by mandating source reduction planning and a much broader requirement for permitting facilities that treat hazardous waste. It also regulates a number of types of wastes and waste management activities that are not covered by federal law with RCRA.

Disposal Facilities for Wastes

California has Class I, II and III receiver facilities. Class I facilities may accept both RCRA and non-RCRA or California hazardous wastes; Class II facilities may accept "designated"[3] non-hazardous wastes; and Class III

[3] *Designated waste (non-municipal, non-hazardous) is waste that under ambient environmental conditions at a waste management unit, could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state. Designated waste is permitted to be received by Class II landfills, which are specially designed to reduce the risks of groundwater contamination from industrial wastes.*

facilities may only accept non-hazardous wastes."[4] Non-hazardous wastes can include construction debris (i.e., asphalt, concrete, wood, etc.) and soil that is determined to be non-hazardous.

All non-RCRA/California hazardous wastes must either be disposed in a Class II landfill (i.e., sites that may accept "designated" and non-hazardous wastes), a Class I landfill or be destroyed via incineration or other appropriate methodology approved by the USEPA. Note that since material disposed of in Class II landfills are not considered hazardous waste by RCRA, it would not require pre-treatment prior to disposal.

In California, options for disposal of hazardous waste are limited by the capacity of the available receiver facilities under each facility's permit. It may, therefore, be necessary to utilize out of state receiver facilities for some of the wastes required to be disposed of at Class I facilities. In California, the Buttonwillow facility is a Class I landfill, the Westmorland facility is a Class I/II landfill, and the Kettleman Hills facility is a Class I/II/III landfill. The Project could potentially utilize these and other out of state Class I landfills. California-hazardous wastes are not considered hazardous out of state, so these wastes can be received by any out of state landfill.

Department of Toxic Substances Control

The DTSC oversees and enforces the cleanup of soils and groundwater, and evaluates soil, water, and air samples taken at waste or contaminated sites. Primary authority for the statewide administration and enforcement of the HWCL rests with the DTSC. Pursuant to HSC §25355.5, DTSC may enter into agreements to provide remediation oversight services with responsible parties for cleanup of contaminated sites, such as the Project.[5]

In 2003, the DTSC entered into an Imminent and Substantial Endangerment Determination Consent Order (I&SE CO), Docket No. I&SE CO 02/03-007, and an Imminent and Substantial Endangerment Determination and Order and Remedial Action Order (I&SE-RAO), under Health and Safety Code sections 25358.3(a), 25355.5(a)(1)(B), 58009 and 58010 (Docket No. I&SE-RAO 02/03-018), with ten Responsible Parties (RPs). As a result of these agreements, the RPs developed various remediation alternatives, and those alternatives were evaluated. Implementation of the Project would result in the implementation of the Remedial Action Plan (RAP) at the Site. The RAP sets out a remediation consisting of partial source removal and offsite disposal, with a protective cap ("the Project").

DTSC oversight services may include, but are not limited to, review and comment on: Site Investigation and Characterization; Sampling Plans and Workplans; Health and Safety Plans; Risk Assessment; Preliminary Endangerment Assessment; Remedial Technology Selection and Implementation Strategy; Remediation Goals Establishment; and Public Participation Documents. Recently, DTSC oversaw the following field activities at the Site (See also Section 2.0, Project Description):

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[4] *Land Disposal Section – Wastes Allowed for Discharge at Disposal Facilities, http://www.waterboards.ca.gov/water_issues/programs/land_disposal/walist.shtml. Accessed July 2013.*

[5] *For the purposes of this section of the EIR, the term "contaminated" when used in reference to soil or materials at the Site means soil or materials at the Site that are or have been in contact with COPCs. This does not mean that the Site necessarily meets the definition of "contaminated" when the term is used in any federal, state, or local regulatory context, nor does it imply that the "contaminated" material presents a risk to human health or the environment.*

Emergency Action (2005)

In July 2005, following record amounts of rainfall, the RPs commenced an Emergency Action, under DTSC oversight. The amount of rainfall received during the 2004 – 2005 wet season presented a risk of potential failure of the north berm along Hamilton Avenue. The primary objective of the Emergency Action was to strengthen the north berm by reducing the load on the berm, and to mitigate potential seepage along the northern edge of the Site. The following work was performed in the Emergency Action: removal of a significant portion of drilling mud from Lagoons 4 and 5, reshaping and strengthening of the north berm to reduce the height, flattening out the north (outboard) slope, and installation of an under drain (toe drain) at the toe of the outboard slope of the north berm. The excavated drilling mud was mixed with Site soil to improve material handling characteristics, and was then transported by end-dump trucks to an approved receiver facility. Approximately 47,000 cubic yards of material were removed from the Site. In addition, a buttress constructed from on site concrete debris was placed at the southern portion of Lagoon 4 to support the internal berm between Lagoons 3 and 4 after the removal of some drilling mud from Lagoon 4. The Emergency Action was completed in January of 2006.

Interim Removal Measure (2010-2011)

From July 2010 through March 2011, the RPs conducted an Interim Removal Measure (IRM) to remove approximately 70,000 cubic yards of tarry waste materials from Lagoons 1, 2, and 3 in order to safely investigate the soils beneath Lagoons 1 and 2 via a drilling program. The results of the investigation indicated that the deeper soils under these lagoon areas are similar to deeper soils elsewhere at the Site. Implementation of the IRM resulted in significant removal of Site waste that the Baseline Health Risk Assessment had concluded posed the greatest potential risks for human health and the environment. During the IRM pre-sampling event, investigations of the removed tarry materials concluded that recycling/reclamation of these materials was infeasible. Most of the tarry materials that were contained within Lagoons 1 and 2 were excavated and disposed off-site during the IRM. Because of the IRM, Lagoons 1 and 2 have presently become a single open depression, referred to as Lagoon 1-2. In addition to removal of the tarry waste materials, the IRM included placement of gravel along internal roads for erosion and dust control.

Other Site Activities

In addition to the Emergency Action and IRM, several other activities have been implemented at the Site to provide protection for the public and Site workers. These actions include the following:

- Implementation of a storm water pollution prevention plan (SWPPP) program and installation of storm water collection improvements, including collection swales and storm water detention basins. The swales and detention basins channel storm water that isn't already captured in the lagoons and reduce potential sediments in any storm water runoff. Storm water runoff, if any, is sampled and tested per the Site's Industrial SWPPP, with results reported to the Regional Water Quality Control Board (RWQCB) and DTSC. Site inspections are conducted during rain events and once per month during the wet season per the Site's Industrial SWPPP to ensure that storm water handling improvements (Best Management Practices or "BMPs") are operating correctly and that repairs are made as necessary.
- Maintenance of the chain-link security fence to prevent trespassers from entering the Site.

- Construction of separate fences around Pit F, Lagoons 1-2 and 3, and Lagoons 4 and 5 to provide extra barriers of protection around waste material. Bird netting was formerly placed over Lagoons 1 and 2 before the IRM was conducted.
- Installation of special locks on entrance gates to allow emergency access for police and fire department personnel.
- Posting of No Trespassing and Proposition 65 warning signs on the perimeter fence and the entrance gates, and hazardous waste signs at significant Site features.
- Installation of high-visibility posts along all access roads throughout the Site to assist emergency (i.e., fire and police) personnel for nighttime emergency access and to delineate "No Equipment Zones" that protect sensitive biological resources.
- Collection and removal of 55-gallon drums from the Site (most of which contained drill cuttings or purge water from previous soil and groundwater investigations).
- Well destruction (abandonment) of Well No. 80 (an oil well) near Magnolia St. following a blow-out in 2004. The oil well was properly destroyed (abandoned), and contaminated material and vegetation were removed and disposed off-site.
- Installation of a reinforced polypropylene covers over the existing covers on Pit F in order to mitigate potential emissions and odors.
- Installation of new padlocks on the groundwater monitoring wells.
- Installation of flush-mount well boxes for groundwater monitoring wells located in Edison Park and the Site's Hamilton Avenue driveway.
- Implementation of regular Site security and status inspections to check for trespassers and make any necessary repairs.
- Inspections, as necessary, and treatment of ponded storm water, if any, by the Orange County Vector Control District to ensure against on-site flourishing of mosquitoes or vermin.
- Implementation of regular geotechnical inspections to verify that Site improvements made during the Emergency Action and the IRM are performing as designed.
- Weed abatment activites.
- Placement of on-site trailer and gravel parking lots.

California Office of Environmental Health Hazard Assessment

The Office of Environmental Health Hazard Assessment (OEHHA) is the state agency for the assessment of health risks posed by environmental contaminants. The mission of OEHHA is to protect human health and the environment through scientific evaluation of risks posed by hazardous substances. The Office is one of five state departments within the Cal EPA. OEHHA implements the Safe Drinking Water and Toxic Enforcement Act of 1986, commonly known as Proposition 65, and compiles the state's list of substances known or suspected to cause cancer or reproductive harm. The Office also develops health-protective exposure levels for contaminants in air, water, and soil as guidance for regulatory agencies and the public. These include public health goals for contaminants in drinking water and both cancer potency factors and non-cancer reference exposure levels for the Air Toxics Hot Spots Program (Assembly Bill [AB] 2588).

California Environmental Protection Agency

In January 1996, Cal EPA adopted regulations implementing a "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program). The program addresses hazardous waste generators and hazardous waste on-site treatment, underground storage tanks (USTs) and above ground storage tanks (ASTs), hazardous material release response plans and inventories, risk management and prevention programs, and Uniform Fire Code (UFC) hazardous materials management plans and inventories. The Unified Program is implemented at the local level by a local agency: the Certified Unified Program Agency (CUPA). The CUPA is responsible for consolidating the administration of the six program elements within its jurisdiction. In the City of Huntington Beach the Huntington Beach Fire Department handles the "Business Plan" element while the Orange County Health Care Agency handles all other elements.

California Occupational Safety and Health Administration

Locally, the U.S. Department of Labor has delegated the authority to administer OSHA regulations to the State of California. The California OSHA program (CalOSHA) (codified in the CCR, Title 8, or 8 CCR generally and in the Labor Code §6300-6719) is administered and enforced by the Division of Occupational Safety and Health (DOSH). CalOSHA is very similar to the Federal OSHA program. For example, both programs contain rules and procedures related to exposure to hazardous materials during demolition and construction activities. CalOSHA standards establish exposure limits for certain air contaminants, which define the maximum amount of hazardous airborne chemicals to which an employee may be exposed over specific periods. Employers are required to provide a written health and safety program, worker training, emergency response training, and medical surveillance. CalOSHA requires employers to implement a comprehensive, written Injury and Illness Prevention Program (IIPP). An IIPP is an employee safety program for potential workplace hazards, including those associated with hazardous materials.

California Department of Transportation

The California Department of Transportation (Caltrans) sets standards for trucks in California which are enforced by the California Highway Patrol. Trucks transporting hazardous waste are required to maintain a hazardous waste manifest. This manifest is required to describe the contents of the material in the truck so that wastes can be readily identified in the event of a spill.

State regulations require the use of certified hazardous waste haulers for the transport of hazardous waste in California. Certified waste haulers are required to adhere to certain inspection and maintenance schedules and maintain sufficient insurance coverage. These regulations would apply to trucks that transport hazardous materials from the Site under the Project.

California Water Resources Control Board

Responsibility for the protection of water quality in California resides with the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs). The SWRCB establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and state water quality statutes and regulations. The Site is within the jurisdiction of the Santa Ana RWQCB (SARWQCB), as discussed below.

Regional

Santa Ana Regional Water Quality Control Board

The SARWQCB develops and implements Water Quality Control Plans (Basin Plans) that consider regional beneficial uses, water quality characteristics, and water quality problems. It implements a number of federal and state laws, the most important of which are the State Porter-Cologne Water Quality Control Act and the Federal Clean Water Act. Refer to Section 4.7, *Water Quality*, of this EIR for a detailed discussion of the applicable water quality regulations.

The SARWQCB has jurisdiction in matters concerning the management of potential sources of surface and groundwater contamination, including cleanup of underground and above ground storage tanks spills.

South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) regulates emissions associated with the excavation and remediation of certain contaminated materials through SCAQMD Rule 1166, Volatile Organic Compound Emissions from Decontamination of Soil. This rule requires development and approval of a mitigation plan, monitoring of volatile organic compound (VOC) concentrations, and implementation of the mitigation plan if "VOC-contaminated material"[6] is detected. The SCAQMD also regulates fugitive dust emissions through SCAQMD Rule 403, Fugitive Dust. This rule requires the implementation of best available fugitive dust control measures during active construction periods capable of generating fugitive dust emissions from on-site earth-moving activities, construction/demolition activities, and construction equipment travel on paved and unpaved roads.

Local

City of Huntington Beach

The City of Huntington Beach maintains standards for soil clean-up when restoring hydrocarbon contaminated material to a clean condition in order to protect the health and safety of the community. The standards applicable to the Project are contained in the Fire Department City Specifications No. 426 (Fire Safety Requirement for Construction Sites) and No. 431-92 (Soil Clean-Up Standard), which are described below.[7] Future development of the Site is not contemplated as part of the Project and a restrictive covenant would be recorded by the property owners for the Site in order to protect the integrity and effectiveness of the proposed cap. While these City requirements are included in summary fashion for completeness, and while the City of Huntington Beach will be fully consulted and fully advised as to the plans and implementation of the remedy at the Ascon Site, it is the DTSC's responsibility to ensure that City requirements are met.

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[6] *VOC-contaminated material is defined by SCAQMD as excavated soil that measures greater than 50 ppm total VOCs as measured with an OVA (e.g., PID), within three inches of the excavated material within three minutes of excavation.*

[7] *City of Huntington Beach, Fire Prevention Code Enforcement, City Specifications, No. 422, No. 429, and No. 431-92, http://www.huntingtonbeachca.gov/government/departments/fire/fire_prevention_code_enforcement/fire_dept_city_specifications.cfm. Accessed July 2013.*

City Specification No. 426: Fire Safety Requirement for Construction Sites[8]

This Specification applies to structures in the course of construction, alteration or demolition, including those in underground locations, and prescribes safeguards for construction, alteration and demolition operations to provide reasonable safety to life and property from fire during such operations. In addition, the Specification provides standards for flammable gases and requires that vehicle access for firefighting be provided to all construction or demolition sites.

City Specification No. 431-92: Soil Clean-Up Standard

City Specification No. 431-92 would apply to the City parcel. According to the specification, soils sampled during site assessments that fail California Assessment Manual (CAM) criteria would be excavated and disposed of at a receiver facility.[9] Soils which contain less than the screening levels shall not be required to undergo soil remediation provided that certain requirements are met as stated in the Specification.

Soil impacts that are outside of the cap that are in excess of the screening criteria extending deeper than 20 feet below ultimate finished grade or within five (5) feet of the groundwater table, whichever is shallower, and not exhibiting characteristics of material considered hazardous for disposal purposes, may be considered for non-remediation. Approval for non-remediation shall be by certification of the DTSC in approval of the RAP and shall be issued with findings as appropriate. The lateral and vertical extent of this contaminated material left in place shall be determined using the Site's applicable Risk-based Concentrations RBC's, as identified in the RAP, and screening criteria as appropriate. This extent shall be reported to the City and disclosed to subsequent property owners in a format approved by the Fire Department or DTSC as the lead oversight agency for the Project.

Soil that is stockpiled on-site can be evaluated for reuse on-site. Specifications for reuse of crude oil contaminated material as road subgrade are identified in City Specification No. 431-92 under the subheading "Specifications for Reuse of Crude Oil Contaminated Soils as Road Subgrade." Soil that is planned for reuse on-site should be sampled at a frequency sufficient to adequately characterize the degree and composition of the impacts. A sampling plan shall be submitted to the DTSC for approval prior to reuse. Reconsolidation of waste from one are of the Site to another does not constitute reuse.

Soil can be remediated on-site as long as it does not exhibit any characteristics of material considered hazardous for disposal purposes. On-site remediation must comply with all applicable federal, state, county, and City regulations. Remediation activities shall be performed within a designated area. A remediation plan shall be approved by the Fire Department or DTSC as the lead oversight agency for the Project.

The presence of a Site Auditor, as identified in City Specification No. 431-92 under the subheading "Scope of Contract Specifications for On-Site Auditing During Grading Activities" shall be a requirement placed on all

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[8] *This Specification was not available on the City's website at the time of this analysis. Based on a telephone conversation between PCR Services Corporation and the Fire Department at (714) 536-5411 on July 11, 2013, Specification 426 was unavailable in print or electronic form. The Specification is based on the California Fire Code; thus, the description provided herein is based on the California Fire Code, Chapter 14 (Fire Safety During Construction and Demolition).*

[9] *CAM is a manual or list that is used to identify heavy metals that are found in soil or ground water samples. These types of heavy metals are the result of end-stage hydrocarbon production. The CAM manual that is recognized in the petroleum chemical field lists 17 different metals: 1. Ag- Silver; 2. As- Arsenic; 3. Ba- Barium; 4. Be- Beryllium; 5. Cd- Cadmium; 6. Cr- Chromium; 7. Co- Cobalt; 8. Cu- Copper; 9. Mo- Molybdenum; 10. Ni- Nickel; 11. Pd- Palladium; 12. Sb- Antimony; 13. Se- Selenium; 14. Ti- Thallium; 15. V- Vanadium; 16. Zn- Zinc; and 17. Hg- Mercury.*

significantly large oil field properties and on smaller properties where a reasonably large number of contamination sources are deemed to remain unsampled following completion of the applicable approved sampling protocol. The requirement for a Site Auditor shall be at the discretion of the Fire Department or DTSC as the lead oversight agency for the Project.

Existing Conditions

Site Topography

The Site is located on the southwestern portion of the Coastal Plain of Orange County. The natural topography of the Site has been disturbed extensively over the years by the operation of the landfill and waste disposal activities. Elevation ranges from approximately 5 feet above MSL at the southeastern corner to approximately 25 feet above MSL near the center of the Site. An earthen berm, approximately 10 to 20 feet high, has been constructed around much of the Site perimeter to contain on-site pits, lagoons, and former lagoon areas. The central portion of the northern berm along Hamilton Avenue was reduced in height by up to approximately 8 feet in 2005 during the Emergency Action removal as discussed previously.

Site Features

The Site was operated as a waste disposal facility from 1938 until its closure in 1984. In 2003, the RPs and DTSC entered into the IS&E Consent Order as described above (section entitled "Department of Toxic Substances Control"). Subsequently, the removal actions discussed above were conducted during 2005-2006 (the Emergency Action) from 2010 through 2011 (the IRM). In 2004, oil production equipment was removed from the Site and an idle oil well was abandoned/destroyed by the California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR). Several other parties who wished to develop the Site had been requested to participate in the Site remediation, and some had attempted unsuccessfully, to implement remediation prior to the RPs' involvement.

Records show that from 1957 to 1971, chromic acid, sulfuric acid, aluminum slag, fuel oils, styrene, and other wastes were disposed of at the Site. From 1971 to 1984, inert solid waste such as asphalt, concrete, metal, soil and wood was disposed of at the Site. Since 1966, there have been over 30 investigations conducted at the Site to characterize surface materials, wastes, soils and water. In 1997, a remedial investigation (RI) was performed to characterize waste on-site and to summarize previous investigations. Site visits made by investigators during 1997 found old drums, vehicles, motorcycles, trailers and miscellaneous debris.

After the 1997 RI, many additional and more broadly scoped investigations have been conducted by the RPs, including Technical Memorandum No. 1, Pilot Study No. 3, and the Groundwater Remedial Investigation. These investigations, including the 1997 RI, were summarized in the 2007 Revised Feasibility Study (RFS), which contains a waste characterization database with over 80,000 data points. The 2007 RFS represented the most comprehensive data set available for the Site and was used to characterize existing conditions at the time. Data from several other subsequent investigations were added to the 2007 database. This database was used to characterize current Site conditions. Details of the 2007 RFS and other remedial investigations conducted by the RPs are discussed in further detail in the Health Risk Assessment (HRA) as Appendix E and the RAP.

Remedial investigations characterized waste at the Site by waste types (wood, metal, industrial, etc.) and through chemical sampling. Waste types were mainly identified through visual assessment while chemical

sampling required laboratory analysis of water or soil samples. Conclusions from these investigations are summarized below.

Waste Types

The on-site soils consist of waste materials, waste impacted soils, and construction debris that were placed on top of the original ground surface when the Site operated as an active landfill. Much of the waste material was derived from drilling operations and included drilling muds, wastewater brines, and other drilling wastes. In addition, the Site includes various former pits that have been subsequently backfilled with construction debris and/or fill material. The construction debris includes non-hazardous solid wastes such as asphalt, concrete, metal, soil, and wood. The volume of construction debris at the Site prior to the IRM was estimated at 69,000 cubic yards.

At the present time there are four lagoons on the Site (refer to Figure 2-4, Site Features, in Section 2.0, Project Descption, of this EIR) as well as various former pits that have been subsequently backfilled with construction debris and/or fill material, each of which are of relatively limited areal extent at less than 100 feet on a side. Pits A, B, and H are located in the northwest corner of the Site; Pits C, D, E, F, and G are located in the southeast corner of the Site (Figure 2-4). Available records show that Pits A and B were used for disposal of oily wastes and Pits C and D were used for disposal of chromic and sulfuric acids. Oily wastes, possibly containing styrene, were placed in Pit E; styrene tar and synthetic rubber wastes were disposed in Pit F. Investigations show that material from Pit F appears to have migrated in the subsurface to an extent of approximately 1.1 acres, all within the Site fence line. Records regarding the types of wastes disposed of in Pits G and H are not available.

The total number of waste types accepted at the Site is not known. Past investigators have summarized the types of wastes reportedly disposed of at the Site. The largest volumes of wastes disposed at the Site were drilling mud and oil field wastes. Other wastes reportedly disposed of at the Site included the following:

- Chromic and sulfuric acids
- Aluminum slag
- Magnesium and potassium chloride
- Corrosive material (acid sludges)
- Mercaptans
- Styrene
- Styrene tars
- Polyester resin fractions
- Phenolic wastes
- Synthetic rubber
- Fuel oil (unusable/out of specification)
- Oily wastes
- Construction and other debris (soil, concrete, asphalt, wood, metal, abandoned vehicles, etc.).

The thickness of the Site waste varies from a few feet to as much as 25 feet thick. In various areas throughout the Site, soil and construction debris, consisting of wood, brick, concrete, and asphalt, were placed over much of the waste material and, until substantial quantities were removed by the RPs as part of the Emergency Action and IRM, could be seen throughout the Site. In some areas, it is estimated that the combined thickness of solid debris and waste materials still ranges from approximately five to 25 feet.

Chemicals of Potential Concern

Some of the waste on the Site, though legally deposited, are considered to be hazardous and may volatilize when exposed to the atmosphere resulting in air emissions of toxic air contaminants (TACs). In addition, non-volatile TACs contained in soil may be released into the air in the form of fugitive dust through wind erosion, reentrained dust, or soil handling activities. TACs are defined by California Health and Safety Code Section 39655 as follows:

> *"Toxic air contaminant" means an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412(b)) is a toxic air contaminant.*

Exposure to TACs may create adverse health effects, such as cancer and/or non-cancerous chronic and/or acute health impacts. Various Site soil and soil gas investigations have been conducted dating as far back as the 1980s and yielding over 80,000 data points. Based on available toxicity values from OEHHA or EPA databases, some of these chemicals have been identified as TACs. Those chemicals that have a potential to cause adverse human health impacts are defined as COPCs. **Table 4.6-1**, *List of Chemicals of Potential Concern in Soil Samples*, lists the COPCs detected in soil samples that are or have historically been associated with the Site. **Table 4.6-2**, *List of Chemicals of Potential Concern in Soil Gas Samples*, lists the COPCs detected in soil gas samples that are or have historically been associated with the Site. Additional details regarding COPC screening and analysis for the Project are described later in this document.

Regional Health Risks

The SCAQMD has conducted a series of region-wide air toxics studies called the Multiple Air Toxics Exposure Study (MATES), which are aimed at estimating the cancer risk from toxic air emissions throughout the South Coast Air Basin (SoCAB) by conducting a comprehensive monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to fully characterize health risks for those living in the air basin. The final draft of the third update of the study, MATES III, was released in September 2008. The study concluded that the average carcinogenic risk from air pollution in the SoCAB is approximately 1,200 in one million. Mobile sources (e.g., cars, trucks, trains, ships, aircraft, etc.) represent the greatest contributors. Approximately 85 percent of the risk is attributed to diesel particulate emissions, approximately 10 percent to other toxics associated with mobile sources (including benzene, butadiene, and formaldehyde), and approximately 5 percent of all carcinogenic risk is attributed to stationary sources (which include industries and other certain businesses, such as dry cleaners and chrome plating operations).

Table 4.6-1

List of Chemicals of Potential Concern Detected in Soil Samples

No.	CAS No.	Chemical Name
1	100-41-4	Ethylbenzene
2	100-42-5	Styrene
3	10042-59-8	2-Propyl-1-heptanol
4	1024-57-3	Heptachlor epoxide
5	1031-07-8	Endosulfan sulfate
6	103-65-1	n-Propylbenzene
7	104-51-8	n-Butylbenzene
8	105-67-9	2,4-Dimethylphenol
9	106-42-3	P-XYLENE
10	106-43-4	4-Chlorotoluene
11	106-46-7	1,4-Dichlorobenzene
12	106-93-4	1,2-Dibromoethane
13	107-06-2	1,2-Dichloroethane
14	108-38-3	M-Xylene
15	108-67-8	1,3,5-Trimethylbenzene
16	108-88-3	Toluene
17	108-90-7	Chlorobenzene
18	108-95-2	Phenol
19	11096-82-5	Aroclor 1260
20	11097-69-1	Aroclor 1254
21	117-81-7	Bis(2-ethylhexyl) phthalate
22	120-12-7	Anthracene
23	120-82-1	1,2,4-Trichlorobenzene
24	123-79-5	Hexanedioic acid, dioctyl ester
25	12672-29-6	Aroclor 1248
26	12674-11-2	Aroclor 1016
27	127-18-4	Tetrachloroethene
28	12789-03-6	Chlordane
29	129-00-0	Pyrene
30	132-64-9	Dibenzofuran
31	1330-20-7	Xylenes (total)
32	135-98-8	(1-Methylpropyl)benzene
33	1653-40-3	6-Methyl-1,1-heptanol
34	179601-23-1	m,p-Xylenes
35	18540-29-9	Chromium (VI)
36	191-24-2	Benzo(g,h,i)perylene
37	193-39-5	Indeno(1,2,3-cd)pyrene
38	1985-57-5	(1,1-Dimethylbutyl)benzene
39	2049-95-8	(1,1-Dimethylpropyl)benzene
40	205-99-2	Benzo(b)fluoranthene
41	206-44-0	Fluoranthene
42	207-08-9	Benzo(k)fluoranthene
43	208-96-8	Acenaphthylene
44	218-01-9	Chrysene
45	22531-20-0	6-Ethyl-1,2,3,4-tetrahydronaphthale
46	22975-62-8	1-(1-Methylethenyl)-4-propylbenzene
47	26952-21-6	ISOOCTANOL
48	2719-52-0	(1-Methylbutyl)benzene
49	2883-05-8	2-Cyclohexyldecane
50	2958-76-1	2-Methyldecahydronaphthalene
51	309-00-2	Aldrin
52	319-84-6	alpha-BHC
53	319-85-7	beta-BHC
54	319-86-8	delta-BHC
55	33213-65-9	Endosulfan II
56	3875-51-2	1-Methylethylcyclopentane
57	4218-48-8	1-Ethyl-4-(1-methylethyl)benzene
58	496-10-6	Octahydroindene
59	50-29-3	4,4'-DDT
60	50-32-8	Benzo(a)pyrene
61	5103-74-2	gamma-Chlordane
62	527-53-7	1,2,3,5-Tetramethylbenzene
63	53469-21-9	Aroclor 1242
64	53494-70-5	Endrin ketone
65	5364-83-0	(1-Propenyl)cyclohexane
66	53-70-3	Dibenz(a,h)anthracene
67	54340-86-2	4-(2-Butenyl)-1,2-dimethylbenzene
68	5557-93-7	1-(1-Methylethenyl)-2-(1-methylethyl
69	56-55-3	Benz[a]anthracene
67	58-89-9	gamma-BHC (Lindane)
68	591-78-6	2-Hexanone
69	60-57-1	Dieldrin
70	65-85-0	Benzoic acid
71	67-64-1	2-Propanone
72	67-66-3	Chloroform
73	68334-30-5	DRO (C13-C22)
74	71-43-2	Benzene
75	71-55-6	1,1,1-Trichloroethane
76	72-43-5	Methoxychlor
77	72-54-8	4,4'-DDD
78	72-55-9	4,4'-DDE
79	7421-93-4	Endrin aldehyde
80	7439-92-1	Lead
81	7439-97-6	Mercury
82	7439-98-7	Molybdenum
83	7440-02-0	Nickel
84	7440-22-4	Silver
85	7440-28-0	Thallium
86	7440-36-0	Antimony
87	7440-38-2	Arsenic
88	7440-39-3	Barium
89	7440-41-7	Beryllium
90	7440-43-9	Cadmium
91	7440-47-3	Chromium
92	7440-48-4	Cobalt
93	7440-50-8	Copper
94	7440-62-2	Vanadium
95	7440-66-6	Zinc
96	7446-09-5	Sulfur dioxide
97	75-09-2	Methylene Chloride
98	75-15-0	Carbon Disulfide
99	75-25-2	Bromoform
100	75-34-3	1,1-Dichloroethane

Table 4.6-1 (Continued)

List of Chemicals of Potential Concern in Soil Samples

No.	CAS No.	Chemical Name	No.	CAS No.	Chemical Name
101	75-35-4	1,1-Dichloroethene	117	87-61-6	1,2,3-Trichlorobenzene
102	75-69-4	Trichlorofluoromethane	118	91-17-8	Decahydronaphthalene
103	76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	119	91-20-3	Naphthalene
104	76-44-8	Heptachlor	120	91-57-6	2-Methylnaphthalene
105	7782-49-2	Selenium	121	91-94-1	3,3'-Dichlorobenzidine
106	78-00-2	Organic Lead	122	92-87-5	Benzidine
107	78-93-3	2-Butanone	123	941-60-6	1,1,4-6-Tetramethylindane
108	79-00-5	1,1,2-Trichloroethane	124	95-47-6	o-Xylene
109	79-34-5	1,1,2,2-Tetrachloroethane	125	95-50-1	1,2-Dichlorobenzene
110	8006-61-9	GRO (C16 - C12)	126	95-63-6	1,2,4-Trimethylbenzene
111	83-32-9	Acenaphthene	127	959-98-8	Endosulfan I
112	84-74-2	Di-n-butyl phthalate	128	96-12-8	1,2-Dibromo-3-Chloropropane
113	85-01-8	Phenanthrene	129	98-06-6	tert-Butylbenzene
114	85-68-7	Benzyl butyl phthalate	130	98-82-8	1-Methylethylbenzene
115	86-30-6	N-Nitrosodiphenylamine	131	99-87-6	p-Isopropyltoluene
116	86-73-7	Fluorene			

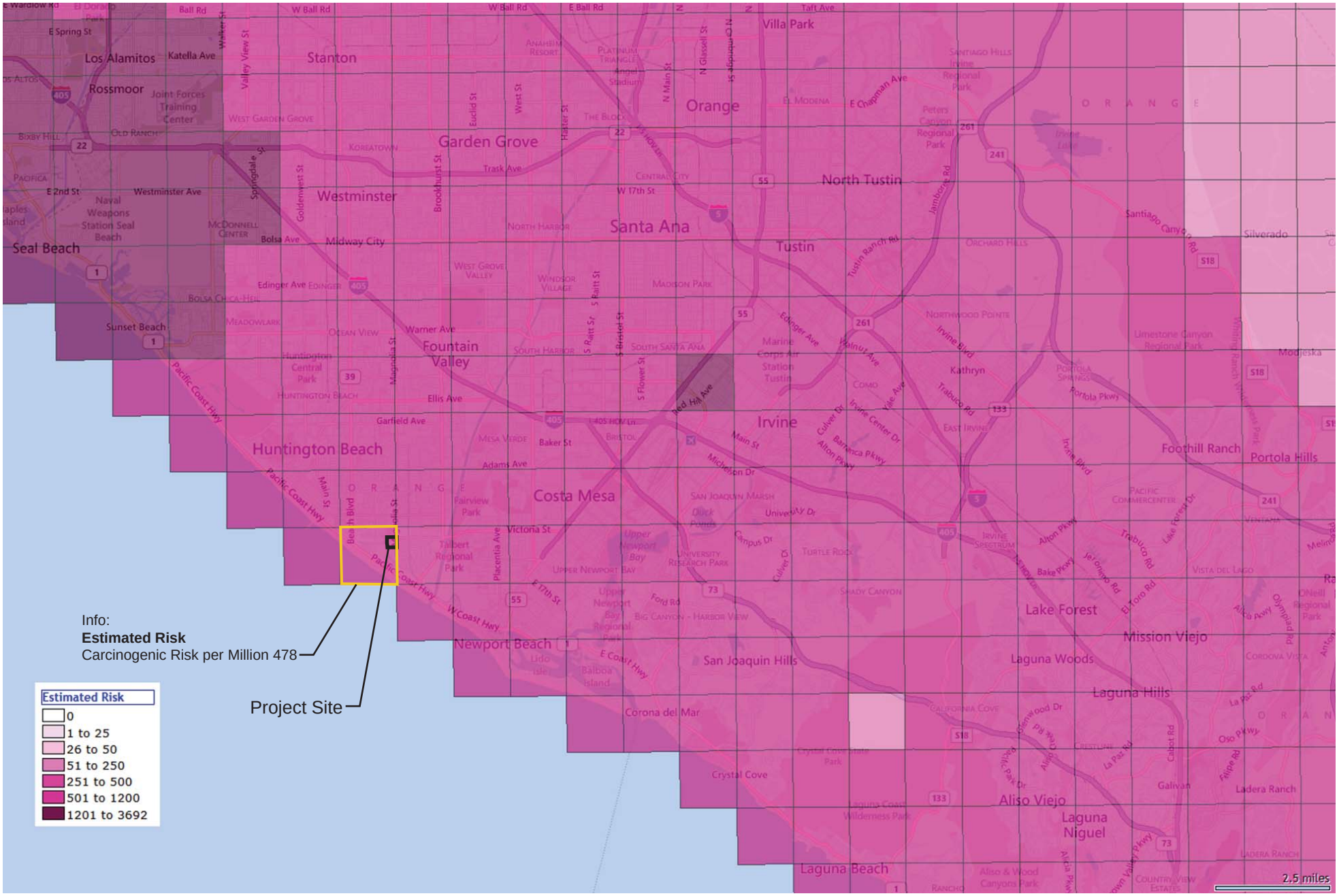
Sources: Refer to list of data sources provided in the Health Risk Assessment in Appendix E.

Table 4.6-2

List of Chemicals of Potential Concern Detected in Soil Gas Samples

No.	CAS No.	Chemical Name	No.	CAS No.	Chemical Name
1	100-41-4	Ethylbenzene	49	66-25-1	Hexanal
2	100-42-5	Styrene	50	67-64-1	2-Propanone
5	106-46-7	1,4-Dichlorobenzene	51	67-66-3	Chloroform
7	106-97-8	N-Butane	52	71-43-2	Benzene
8	106-99-0	1,3-Butadiene	58	75-07-0	Acetaldehyde
12	107-83-5	2-Methylpentane	60	75-09-2	Methylene Chloride
13	108-05-4	Vinyl Acetate	61	75-15-0	Carbon Disulfide
14	108-10-1	4-Methyl-2-Pentanone	66	75-34-3	1,1-Dichloroethane
15	108-67-8	1,3,5-Trimethylbenzene	67	75-35-4	1,1-Dichloroethene
16	108-88-3	Toluene	69	75-69-4	Trichlorofluoromethane
17	108-90-7	Chlorobenzene	70	76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane
18	109-66-0	n-Pentane	71	7783-06-4	Hydrogen Sulfide
22	110-54-3	n-Hexane	73	78-93-3	2-Butanone
24	111-71-7	Heptanal	74	79-00-5	1,1,2-Trichloroethane
25	111-84-2	N-Nonane	75	79-01-6	Trichloroethene
27	124-13-0	Octanal	76	79-29-8	2,3-Dimethylbutane
29	127-18-4	Tetrachloroethene	80	91-20-3	Naphthalene
30	156-59-2	c-1,2-Dichloroethene	81	95-47-6	o-Xylene
33	179601-23-1	m,p-Xylenes	83	95-63-6	1,2,4-Trimethylbenzene
37	540-84-1	2,2,4-Trimethylpentane	84	96-14-0	3-Methylpentane
40	565-59-3	2,3-Dimethylpentane	85	96-37-7	Methylcyclopentane
41	591-78-6	2-Hexanone	86	98-82-8	1-Methylethylbenzene
44	622-96-8	4-Ethyltoluene			

Sources: Refer to data source list provided in the Health Risk Assessment in Appendix E.



Total Cancer Risk from Regional Toxic Emissions in the Area around the Ascon Landfill Site

RAP EIR - Ascon Landfill Site

Source: SCAQMD MATES III Carcinogenic Risk Interactive Map. http://www3.aqmd.gov/webappl/matesiii/ Accessed July 2013.

FIGURE

4.6-1

PCR

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- Incidental ingestion of COPCs in soil; and
- Direct dermal contact with COPCs in soil.

All off-site receptors were considered to have potential contact with COPCs only when they were transported off-site through air dispersion. Exposure pathways considered complete in the soils BHRA for off-site receptors were:

- Inhalation of volatile COPCs in air from sub-surface volatilization
- Inhalation of non-volatile COPCs in fugitive dust.

Direct exposure to chemicals in groundwater was considered an incomplete exposure pathway and was therefore not evaluated in the groundwater RI/RA. This pathway was considered incomplete because groundwater in the area is not being used as a potable or municipal water source and has limited beneficial use due to the presence of high dissolved solids resulting from seawater intrusion. Drinking water in the area is obtained from municipal distribution lines originating in other areas. Thus, the drinking water potential exposure pathway is incomplete because there is no current or anticipated future exposure to groundwater through ingestion. However, indirect exposure to volatile chemicals in groundwater is possible through volatilization and inhalation. Therefore, the vapor pathway was considered complete in the groundwater BHRA. Hence, the COPCs for groundwater (see above) include only volatile chemicals.

The results of the 1997 soils BHRA indicated that potential exposures and estimated risks posed by the unremediated Site, in its then-present condition, exceeded the non-cancer regulatory target (i.e., hazard index (HI) = 1) for all receptor exposure scenarios,[10] except for the on-site worker and trespasser in the average exposure scenario. The hypothetical upper-bound incremental lifetime cancer risks (ILCRs) were 1×10^{-4} or higher for all receptors, except off-site adult residents and workers in the average exposure scenario, for which the ILCRs exceeded 1×10^{-5}. The BHRA is a theoretical and conservative (worst-case) evaluation of potential health impacts that assumes exposure occurs on a regular basis over an extended period of time. Therefore, actual risks are likely to be much lower than reported in the BHRA.

The soils BHRA conducted in 1997 utilized screening modeling approaches in evaluating potential off-site exposures to chemicals detected at the Site. Toxicity values for some COPCs changed over the years from what was used in the 1997 assessment. Therefore, a re-evaluation of the risk assessment was conducted in 2002 to provide a more refined estimate of potential off-site risks using more detailed modeling and more recent toxicity values.[11] The reevaluation focused on refinement in three areas: (1) appropriate values and source areas of chemical concentrations in soil/waste based on the RI data, (2) calculation of emission fluxes from the lagoons, and (3) air dispersion modeling using the Industrial Source Complex Short Term (ISCST) model. For all off-site receptors, the results of the assessment indicated that estimated incremental cancer risks and non-cancer hazards were within the risk management range of 1×10^{-4} to 1×10^{-6} and below the HI regulatory target of 1, respectively. In addition to the reevaluation, perimeter air monitoring was conducted

[10] *Exposure scenarios considered in the BHRA include both average exposures and reasonable maximum exposures for the following receptors: off-site adult residents, off-site child residents, off-site workers, on-site workers and trespassers, hypothetical on-site adult residents, and hypothetical on-site child residents.*

[11] *Geosyntec, 2002, Re-evaluation of Air Pathway Analysis, revised Air Pathway Risk Assessment, Ascon Site, Huntington Beach, California, July 2002.*

to evaluate the potential for offsite air impacts from the Site and to establish a baseline for comparison purposes for future remedial activities (Geosyntec, 2004). The results of the air monitoring indicated that measured concentrations would not pose a significant health risk or were generally within background levels for those chemicals commonly detected in air within the Los Angeles Area. Because the residential risks are estimated more conservatively than others, the Site also does not pose a health risk to off-site business workers, school workers or students, or recreators in the park.

The IRM also reduced the long-term baseline risk associated with the Site in that the IRM removed most of the waste contained in Lagoons 1 and 2, which presented elevated concentrations of some COPCs. The removal of this waste therefore decreased the potential for long-term exposure to the surrounding community. The groundwater investigation and BHRA showed that the only potentially complete exposure pathway from groundwater was inhalation of volatilized groundwater VOCs. . The estimated groundwater VOC inhalation risk to a hypothetical resident living on the unremediated Site was unacceptable, principally due to potential inhalation of benzene vapors associated with one well. However, because there are no off-site groundwater impacts, groundwater does not pose a health risk to individuals residing off-site or other off-site receptors, such as off-site workers, tourists in the city, or individuals driving, walking or biking on adjacent roads or sidewalks.

The groundwater investigation also showed that groundwater does not contribute to surface water (i.e., groundwater does not seep into the flood control channel). Rather, a tidal study conducted in 2003 as part of the Groundwater RI, Revision 1.0, confirmed that the flood control channel contributes to the groundwater beneath the Site.

Other Site Risks Noted in BHRA

Ecological Risk Characterization

An ecological risk assessment, included as part of the soils BHRA report, concluded that potential risks to wildlife populations do not appear to be significant. Potentially at risk wildlife included birds attracted to the ponded surface water and tars in Lagoons 1 and 2. To address this potential, netting was installed by the RPs in 2002 to keep birds out of these lagoons. The netting was removed prior to the fieldwork to remove tarry materials from these lagoons during the 2010-2011 IRM.

The ecological risk assessment determined that the Site provides little support of natural habitats that would serve as significant areas for the establishment of important species populations. Biological assessments at the Site in 2004, conducted as part of the Revised Feasibility Study (RFS),[12] and in 2009 and 2010, conducted as part of the IRM Mitigated Negative Declaration, confirmed that no rare, threatened, or endangered wildlife species inhabit the Site. Observations subsequent to the BHRA revealed that the Site supports limited sensitive plant resources that include a significant population of southern tarplants and a small area of disturbed salt marsh vegetation.

[12] *Project Navigator, Ltd., 2007, Revised Feasibility Study, September 21, 2007.*

Horizontal Movement of Wastes

There is no evidence of horizontal movement of waste from the Site. One factor limiting the horizontal subsurface migration of waste from the Site is the high viscosity of the waste materials, which is unlikely to change and thereby unlikely to allow such horizontal migration. Above ground containment is complete, and currently accomplished by the perimeter berm, discussed below. Prior to implementation of the RAP, a geotechnical report will be prepared for the site to analyze liquefaction potential and earthquake-induced lateral spreading. This is described in further detail in the Project Design Feature section below.

Risk of Berm Failure

In 2005, the old berms at the Site were found to have degraded over time due to rodent burrows, soil slumping, and extreme rainfall that year. Failure of the berms could have potentially resulted in the release of waste materials off-site. A geotechnical assessment was performed by the RPs during the extreme rainfall received at the Site during the 2004-2005 winter/wet season, and determined that the northern berm was potentially weakened by the record heavy rainfall, and that if the Site experienced a similar level of rainfall in the next rainy season, the northern berm might be unstable to below accepted safety standards. The geotechnical assessment concluded that there was a need for prompt, interim action to avoid a potential emergency condition to protect the public and the environment and to minimize the risk to public and private property prior to the next (2005-2006) rainy season. Thus, the RPs conducted the Emergency Action in 2005 through early 2006 to strengthen the north berm and mitigate potential seepage from/through the north berm.

Soil Bearing Capacity

The 1997 soils BHRA indicated that the Site might not have adequate load bearing capacity to support the construction of buildings and that future uses of the Site might be restricted. Geotechnical assessment was conducted in accessible Site areas during the Pilot Study No. 3 in 2004 to ensure that the Site could support a protective cap (Project Navigator, Ltd., 2007). Additional geotechnical assessment was conducted in 2011 during the IRM in the Lagoon 1-2 and 3 areas, which had been inaccessible prior to the IRM. Because future uses of the Site may be restricted due to the geotechnical nature of the waste and clays and due to the cap itself, it is anticipated that a restrictive covenant will be required following implementation of the Project.

Physical Hazards

In order to address the potential for a trespasser to fall into one of the on-site lagoons/depressions, all lagoons and Pit F are presently behind fences and locked gates. However, potential trip and fall hazards relating to the construction debris dumped throughout the Site remain, as well as rough gravel access roads.

Pit F Odors

In the past, odors from Pit F have been detected by the adjacent community. Due to the proximity to Pit F, residents living immediately east of the Site, across Magnolia Street, have occasionally noticed odors and have previously lodged complaints with the SCAQMD.

Existing Emissions

The natural topography of the Site has been disturbed extensively over the years by the operation of the landfill and waste disposal activities. The majority of the Site's interior is vacant with intermittent vegetation located throughout the Site (see Figure 2-4). There are also interior dirt and gravel roadways and/or pathways located throughout the Site. Data from the perimeter air monitoring program demonstrates that the existing Site generates a small amount of emissions of VOCs, carbon dioxide, and methane from landfill gas released from the surface. In addition, the Site generates periodic exhaust emissions from mobile sources visiting the Site for routine maintenance and housekeeping. Current fugitive dust emissions are mainly due to wind erosion and vehicles on unpaved roads, although most onsite access roads have had gravel placed on them to minimize potential dust generation and erosion. Wind erosion is minimized due to existing vegetation and gravel cover. Emissions from vehicles on unpaved roads are low due to the gravel cover and the relatively low number of vehicle trips to the Site. As the Site is mostly inactive and fugitive dust is controlled, existing emissions are minimal and do not significantly impact the current ambient air quality.

Sensitive Receptors and Locations

Some population groups, including children, elderly, and acutely and chronically ill persons (especially those with cardio-respiratory diseases), are considered more sensitive to pollution than others. As shown in **Figure 4.6-2**, *Closest Sensitive Receptor Locations*, sensitive land uses close to the Site include the following (see Figure 4.2-2):

- Residential east of the Site. Single-family residential uses are located east of Magnolia Street, approximately 30 meters (100 feet) east of the Site;
- Residential northwest of the Site. Single-family residential uses are located along Hatteras Drive north of the Southern California Edison (SCE) right-of-way, approximately 90 meters (300 feet) northwest of the Site;
- Edison High School. Edison High School is located near the northeast corner of Hamilton Avenue and Magnolia Street north of the SCE right-of-way, approximately 120 meters (400 feet) northeast of the Site; potential exposures include both student and employee (worker) receptors;
- Workers. Industrial land uses west of and adjacent to the Site involve potential exposures to workers. A fire station (Magnolia Fire Station #4) is located approximately 105 meters (350 feet) north of the Site; and
- Park Visitor. Visitors to Edison Park, located directly north from the Site across Hamilton Avenue.

2. ENVIRONMENTAL IMPACTS

Significance Criteria

For purposes of this EIR, DTSC has utilized the checklist questions in Appendix G of the *CEQA Guidelines* as significance criteria to determine whether a project would have a significant environmental impact due to hazards and hazardous materials. Based on the size and scope of the Project and the potential for hazards and hazardous material impacts, the criteria identified below are included for evaluation in this EIR. Please refer to Section 6.0, *Mandatory Findings of Significance*, for a discussion of other issues associated with the evaluation of hazards and hazardous materials resources where the characteristics of the Project made it clear that effects would not be significant and further evaluation in this section was not warranted.

N

0 750 1,500 Feet

Closest Sensitive Receptor Locations

RAP EIR - Ascon Landfill Site

Source: Google (Aerial), 2011; PCR Services Corporation, 2013.

FIGURE

4.6-2

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Would the Project:

- **4.6-1** Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (refer to Impact Statement 4.6-1);
- **4.6-2** Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (refer to Impact Statement 4.6-2);
- **4.6-3** Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (refer to Impact Statement 4.6-3); and
- **4.6-4** Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment (refer to Impact Statement 4.6-4).

With respect to the first and third criteria (Impact 4.6-1 and 4.6-3), the DTSC has established thresholds of significance applicable to the Project for COPC emissions during implementation of the RAP conditions. The threshold for carcinogenic impacts is based on the estimated number of additional cancers in a population of one million individuals that are exposed over a 70-year lifetime (incremental cancer risk)For the purpose of CEQA DTSC identified a target incremental cancer risk value of 1.0 in one million (1.0×10^{-6}) at the maximally exposed individual as a significance threshold. Thus, a significant impact would occur if implementation of the RAP would result in greater than a 1.0 in one million (1.0×10^{-6}) incremental cancer risk estimate at the maximally exposed individual. The thresholds for acute and chronic non-carcinogenic impacts are based on TAC concentrations in excess of the reference exposure level (REL). The REL is the concentration at or below which no adverse health effects are anticipated. The Hazard Index is the ratio of the TAC concentration and the REL. Thus, a significant impact, as defined by CEQA, would occur if implementation of the RAP would result in an acute or chronic HI estimate greater than or equal to 1.0. Values at or above these thresholds, while being identified in the regulatory framework as having a significant impact, do not correlate to actual potential health risks due to the conservative nature of the risk evaluations conducted for the Project. Actual health risks are expected to be much lower than predicted.

In addition, sampling of on-site soil has identified lead at locations throughout the Site. Lead is a concern based on criteria that identify the sensitivity of child-specific exposure and related health impacts. In 2007, CalEPA's Office of Environmental Health Hazard Assessment (OEHHA) has developed a threshold concentration of 1 microgram per deciliter (µg/dL) of blood as the incremental increase in children's blood lead that would reduce IQ by up to 1 point. Thus, a significant impact would occur if emissions from the RAP result in an increase in blood lead concentrations exceeding 1 µg/dL at the maximum impacted residential receptor.

With respect to the second criterion (Impact 4.6-2), the DTSC has established thresholds of significance applicable to the Project based on the Center for Chemical Process Safety Guidelines for Hazard Evaluation Procedures[13] risk assessment matrix. This risk assessment matrix takes into account both the likelihood of

[13] *California Accidental Release Prevention Program Regulation (CCR Title 19, Division 2, Chapter 4.5), http://www.lafd.org/prevention/pdfforms/calarp_appen_a1.pdf. Accessed July 2013.*

accidental release and severity of consequence and rates the accidental release risk ranging from "acceptable" to "unacceptable." A significant impact with regard to accidental upset or release would occur if the accidental release risk exceeds the "acceptable with controls" level. Additional details regarding accidental release risk methodology are described later in the document.

Project Design Features

The remediated capped site would include a vegetated cap over the Site (excluding the SCOC oil site, a perimeter maintenance road, storm water detention basins, and City parcel). The following Project Design Features (PDFs) would result in a reduction in hazards and are proposed as part of the Project. The below listed PDFs are incorporated in other sections of this EIR, such as Section 4.2, *Air Quality*. PDFs listed in other sections that would reduce potential hazards impacts from the Project are reproduced below.

PDF 2-2 All on-road waste haul trucks exporting soil to the appropriate receiver facility shall be model year 2007 or newer or retrofitted to comply with USEPA Year 2007 on-road emissions standards. Documentation of all on-road trucks exporting soil shall be maintained and made available to DTSC for inspection upon request. (See Section 4.2, *Air Quality*, of this EIR.)

PDF 2-3 The Project would prohibit the idling of on- and off-road heavy duty diesel vehicles for more than five minutes at a time. This project design feature is consistent with California regulations and laws as well as CARB Air Toxics Control Measure (ATCM) requirements. (See Section 4.2, *Air Quality*, of this EIR.)

PDF 2-4 The Project, during the remediation activities, would implement a perimeter air monitoring plan (AMP). The AMP include real-time perimeter air monitoring for odors, dust, and volatile chemicals, as well as more limited time-integrated sampling for volatile chemicals and dust at the locations and frequencies outlined in the AMP, which will be approved by the DTSC. During the excavation activities, water and/or Rusmar® foam, or similar suppressant (e.g. Soil Seal), would be applied to the waste materials as necessary to suppress potential dust, odors, and emissions, including volatiles. The AMP would include action levels with corresponding actions if/when action levels are exceeded. Air monitoring logs will be maintained on-site at all times per the AMP. A log containing dates on which action levels are triggered and response will be maintained on-site. These logs will be made available to DTSC and SCAQMD for inspection upon request. (See Section 4.2, *Air Quality*, of this EIR.)

PDF 2-5 A protective cap, inclusive of a gas collection and treatment system, would be installed to collect and treat landfill gas and other emissions generated by the Site. A vegetated cover would be planted and maintained on the completed protective cap. (See Section 4.2, *Air Quality*, of this EIR.)

PDF 2-6 The Project would comply with applicable SCAQMD rules that govern the control of air pollutant emissions from the Site, including: SCAQMD Rule 1150 – Excavation of Landfill Site, and SCAQMD Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil. (See Section 4.2, *Air Quality*, of this EIR.)

- Submit a Mitigation Plan in accordance with Attachment A of SCAQMD Rule 1166, and obtain approval from the SCAQMD. A copy of the approved plan must be on-site during the entire excavation period.
- Monitor for the presence of VOC, and implement the approved mitigation plan when VOC-contaminated soil, as defined in Rule 1166, is detected.
- If required, obtain a SCAQMD Permit for Project activities, and provide a copy of said Permit to the DTSC.

PDF 2-7 During excavation of Pit F, a temporary structure (e.g., Sprung or similar) would be installed to capture potential odors and volatile emissions resulting from soil handling. Exhaust from Pit F will be treated using granular activated carbon (GAC) units which will be maintained according to manufacturer specifications. Off-road equipment operating under the Pit F temporary structure will be snorkeled (exhausted) directly outside of the structure for worker safety reasons. The temporary structure and GAC would capture and control at least 95 percent of VOC emissions. Materials excavated from Pit F would be placed in sealed or covered bins that would be loaded onto trucks for transport off-site, resulting in lower volatile emissions. Maintenance logs for the GAC system, including dates activated carbon is changed, will be maintained on-site. (See Section 4.2, *Air Quality*, of this EIR.)

PDF 2-8 The Project would implement fugitive dust control measures consistent with SCAQMD rules and regulations. The dust control measures would consist of various elements including: proper maintenance and watering of internal haul roads; water spraying of soil excavated and placed for cover or soil reconsolidation; applying water on intermediate soil cover areas; and seeding/planting vegetation on the completed protective cap. This project design feature is consistent with SCAQMD Rule 403 requirements. (See Section 4.2, *Air Quality*, of this EIR.)

PDF 2-9 Traffic speeds of no more than 5 miles per hour (mph) would be maintained for haul trucks when on-site, and no more than 15 mph for non-haul truck vehicles on all on-site, unpaved road surfaces. Signs will be posted throughout the Site to remind equipment operators and truck drivers of the speed limits. (See Section 4.2, *Air Quality*, of this EIR.)

PDF 2-10 Exposed surfaces and active excavation sites would be controlled with water and/or suppressants certified by CARB, the SCAQMD, or other air pollution control agency, to control fugitive dust. Such suppressants include foams, nontoxic binders, or other suppressants to reduce fugitive dust emissions. Logs of water purchase or usage and suppressant application (including brand/manufacturer, date of application, area treated and amount applied) will be maintained on-site and made available to DTSC and SCAQMD for inspection upon request. (See Section 4.2, *Air Quality*, of this EIR.)

PDF 2-11 Prior to leaving the Site, each haul truck, and other delivery trucks that come in contact with Site waste, would be inspected and put through procedures as necessary to remove loose debris from tire wells and on the truck exterior. Haul truck operators (drivers) would be required to have the proper training and registration by the State and as applicable to the material they would be hauling. Trucks transporting hazardous waste are required to maintain a hazardous waste manifest that describes the content of the materials. These manifests would be supplied by the waste receiver facility and prepared

by the contractor or trucking company and the Ascon Landfill Site RP representative(s) prior to export off-site. The contracted trucking company would be a certified hazardous waste transportation contractor, if the material is profiled as hazardous. A log of manifest data will be maintained on-site and made available to DTSC for inspection upon request. (See Section 4.2, *Air Quality*, of this EIR.)

The following PDF would include provisions for seismic design measures set forth in a design-level geotechnical evaluation prepared by a registered geotechnical engineer. The geotechnical report would be subject to review and approval by the City of Huntington Beach or DTSC as the lead oversight agency over the Project.

PDF 4-1 Prior to the start of construction, a geotechnical evaluation prepared by a registered geotechnical engineer would be prepared and submitted to DTSC for review and approval. The evaluation would comply with all applicable state and local code requirements and would include, but not be limited to (See Section 4.4, *Geology and Soils*, of this EIR.):

- Analysis of the expected seismic ground shaking at the Site from known active faults using applicable methods;
- Analysis of the liquefaction potential using applicable methods;
- Analysis of the potential for earthquake-induced settlements using applicable methods;
- Analysis of the earthquake-induced lateral spreading using applicable methods;
- Analysis of the fault rupture potential and its impacts. The analysis should be performed using applicable methods;
- Slope stability analysis to ensure the slopes for the cap will be stable from the expected ground shaking and potential liquefaction hazards;
- Analysis of geotechnical recommendations for grading, including suitability of imported soil, excavation characteristics, and placement and compaction of fill material;
- Development of site-specific design measures to address seismic, liquefaction, settlement, slope-stability, grading and other geologic hazards in accordance with the geotechnical analyses; and
- Deterministic analysis of potential seismic ground shaking and recommended structural features needed to minimize seismic damage to the landfill cap.

The following PDFs would include provisions to prevent the occurrence and/or minimize the significance of potential water quality impacts. The measures listed below would prevent the exposure of groundwater or runoff to waste during long-term operations.

PDF 7-1 Prior to the start of RAP implementation, an application for a Coastal Development Permit would be submitted by the RPs to the City of Huntington Beach and a Notice of Intent would be submitted to the SWRCB to comply with the General Construction NPDES Permit. To comply with NPDES Permit conditions, a Water Quality Management Plan (WQMP) and Construction Storm Water Pollution Prevention Plan (SWPPP) would

include descriptions of best management practices (BMPs) that would reduce the potential for discharge of pollutants in runoff into the storm drain system during grading and construction. Typical BMPs include silt fences, fiber rolls, stockpile management, spill prevention and control, and the use of protective sheeting or tarps prior to any rain event on steep slopes. BMPs would minimize erosion from, and stabilization of, disturbed surfaces. Site specific BMPs would be available to the City of Huntington Beach for review. The SWPPP would require that all structural and non-structural BMPs described in the WQMP be installed and implemented in accordance with approved plans and specifications prior to the beginning of construction activities. (See Section 4.7, *Water Quality*, of this EIR.)

PDF 7-9 The proposed cap system would include a geomembrane layer on the top deck to minimize surface water infiltration into the underlying waste materials to a degree equivalent to cover systems installed at transfer, storage and disposal facilities, the design requirements for which are set forth in California's Title 22, section 66265.310(a). The side slopes would include a four-foot thick vegetated evapotranspirative soil layer, geonet biotic layer, and two-foot thick foundation layer to minimize precipitation infiltrating the waste materials and, thus, potentially entering the groundwater supply. The cap would also prevent the exposure of the waste materials to collected or sheet-flow precipitation. The design of the cap will be reviewed and approved by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to construction of the cap. (See Section 4.7, *Water Quality*, of this EIR.)

Methodology

The evaluation of potential hazards from hazardous material handling that may result from the short- and long-term implementation of the RAP is conducted as follows:

Short-Term Hazards

A thorough risk assessment includes a quantitative evaluation of all COPCs detected at the Site. COPCs for a site, in the most comprehensive form, include all chemicals detected at a site at levels significantly elevated from background or naturally occurring levels, chemicals only tentatively identified at a site but associated by historical information and transformation products of chemicals demonstrated to be present at a site. For this assessment of hazards and hazardous materials, all electronically available data from samples collected from the Site were considered as part of the risk analysis. These data were collected from 1979 to 2011. . A summary of the data, calculations, and risk assessment methodology is provided below. Detailed information is provided in the HRA in Appendix E.

Chemical of Potential Concern (COPC) Selection

The analytical data from the 1997 BHRA were compiled into a database that consisted of approximately 20,000 individual entries including soil data, soil gas, flux and groundwater data. Data from subsequent studies were also incorporated into the database. The two largest contributors to the database are Technical Memorandum No. 1 Report of Findings (TM1ROF) and Pilot Study No. 3, Waste Characterization, Emissions, and Excavation Testing Program (reported in the RFS) prepared by Project Navigator, Ltd., in 2003 and

2007, respectively. Data from the 2007 RI Addendum, which was conducted to assess soils in select areas of the Site where oil leases are or had been active,[14] was incorporated resulting in an additional approximately 18,000 database entries. In 2011, an additional study was conducted to assess soils at the toe of the Site perimeter berms along Hamilton Avenue and Magnolia Street, resulting in an additional approximately 5,000 database entries. Collectively, these additional studies resulted in a database with over 62,000 entries for soil alone.

Soil gas investigations were performed in 1988, 1997, 2004, and 2006. Soil gas data from 1988 and 1997 were not used in this analysis because the gases (e.g., VOCs) are susceptible to chemical and biological degradation, as well as depletion by diffusion and are not considered to be appropriately representative of existing Site conditions.[15] The 2004 soil gas sampling was performed under the western portion of Magnolia Street outside of the Site's eastern perimeter, while the 2006 soil gas sampling was performed in the northwestern corner of the Site, approximately five feet inside the Site perimeter. As a result, the soil gas sampling locations do not represent impacted materials in the interior of the Site. Therefore, soil gas data were used to supplement the analysis based on the soil data.

As part of the risk assessment stage of the analysis reflected in this EIR, the list of COPCs in the database has been refined to determine appropriate chemical concentrations for those chemicals with the potential for release during implementation of the RAP. Preliminary data cleanup required removal of duplicate sample results and composite sample results; removal of sample results derived from soils that have since been excavated and removed from the Site during the Emergency Action or IRM; removal of non-volatile COPC sample results for those soils that will remain in place after completion of the RAP; exclusion of chemicals never detected at the Site, exclusion of chemicals from COPC soils and soil gas data sets where all analytical results were non-detect; and exclusion of chemicals for which there were no toxicity values or values were unavailable and no reasonable surrogate toxicity values could be assigned.

Implementation of the RAP would require the use of diesel powered construction equipment and trucks that would result in diesel particulate (DPM) emissions. The State of California has designated DPM a TAC and regulates it as a carcinogen.[16] DPM was not applicable in the prior BHRAs but will be included in the list of COPCs.

In addition concrete may be crushed or broken on the Site which would have the potential to release crystalline silica during crushing activities. The USEPA has identified potential health issues related to the inhalation of crystalline silica through several studies.[17] Therefore, DPM and crystalline silica were included in the list of COPCs.

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[14] *These oil lease areas of the Site include the SCOC and the Ascon Properties areas along the western Site perimeter of the Site, and the Well No. 80 area at the eastern Site perimeter.*

[15] *Department of Toxic Substances Control, Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air, October 2011.*

[16] *California Air Resources Board, "Diesel Programs and Activities," http://www.arb.ca.gov/diesel/diesel.htm (accessed Nov. 2012).*

[17] *U.S. Environmental Protection Agency, Ambient Levels and Non-Cancer Health Effects of Inhaled Crystalline and Amorphous Silica, November 1996.*

Chemical Concentrations

Detections of specific chemicals in soil and soil gas samples are variable throughout the Site because of varying waste disposal practices in several pits and lagoons. Due to this variability, statistical analyses were performed to develop appropriate average concentrations for each COPC to be used for the risk analysis, consistent with DTSC and USEPA guidelines for human health risk assessments.[18] The ProUCL (version 4.1) software program developed by USEPA was used for this statistical evaluation. As recommended by the USEPA, the 95 percent Upper Confidence Limits (UCLs) of the arithmetic means were generally selected for the concentrations.[19] The 95 percent UCL is defined as "a value that, when repeatedly calculated for randomly drawn (data) subsets of size *n*, equals or exceeds the true population mean 95% of the time."[20] Thus, the 95 percent UCL represents an upper bound on the mean concentration for each COPC, and is frequently used as the exposure point concentration (EPC) for COPCs. For chemicals that were detected in more than five samples, the 95 percent UCL was calculated to represent source concentrations on-site.[21] For chemicals with a low frequency of detection, reliable 95 percent UCLs could not be calculated. Thus, for chemicals which were detected in less than five samples, the maximum concentration was used as a representative concentration, which is a highly conservative approach and could exaggerate the risk presented by those chemicals.

Conceptual Exposure Model

The Conceptual Exposure Model (CEM) provides the basis for a comprehensive evaluation of the risks to human health by identifying the mechanisms through which receptors may be exposed to COPCs. The CEM traces the COPCs from their sources through release mechanisms and exposure routes to the potentially affected receptors. Pathways of human exposure are termed "complete" exposure pathways. An exposure pathway consists of three related components: (1) a source of COPCs (often with a release mechanism specified); (2) a receptor; and (3) a route of exposure of the receptor to released COPCs. **Figure 4.6-3**, *Conceptual Exposure Model*, shows the CEM that was developed for the Project.

Sources of COPCs associated with implementation of the RAP would include excavation of tarry materials, excavation of chemically impacted soils, concrete breaking and/or crushing, and soil stockpiling that may potentially release volatile COPCs into the environment. Fugitive dust containing metals and SVOCs may be generated from mechanical disturbance (excavation, road dust) and wind erosion. Additional sources of chemical emissions include diesel-powered on- and off-road mobile sources such as haul trucks, bulldozers, loaders, backhoes, excavators, water sprayer trucks, and pavement sweeper trucks that emit DPM.

As discussed previously, the nearest sensitive receptors are located to the north, northwest, and east of the Site. Residential receptors are located to the east and northwest of the Site. Edison High School is located near the northeast corner of Hamilton Avenue and Magnolia Street north of the SCE right-of-way. The

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[18] *Supplemental Guidance to RAGS: Calculating the Concentration Term. USEPA. May 1992.*

[19] *U.S. Environmental Protection Agency, ProUCL Version 4.1. Statistical Software for Environmental Applications for Data Sets With and Without Non-Detect Observations, May 2010. Available at: http://www.epa.gov/osp/hstl/tsc/software.htm.*

[20] *U.S. Environmental Protection Agency, RAGS (Risk Assessment Guidance for Superfund), Vol 3, Part A, Appendix E. "Definition of Terms Relevant to PRA (Probabilistic Risk Assessment) and References for Further Reading," December 31, 2001.*

[21] *California Department of Toxic Substances Control, Human Health Risk Assessment Note Number 4, Screening Level Human Health Risk Assessments, June 9, 2011.*

Community Center is located north of Hamilton Avenue to the north of the SCE right-of-way. The CEM was developed primarily to assess the potential for impacts at these sensitive receptor locations.

Chemicals potentially released from the Site during remediation could potentially ultimately contact and affect humans through distinct "routes of exposure," including inhalation, direct skin (dermal) contact and ingestion (oral exposure). During short-term activities associated with implementation of the RAP, the inhalation represents the main exposure pathway of concern for volatile chemical vapors, while non-volatile chemicals bound to dust particles or diesel particulates can enter the body through inhalation, inadvertent ingestion and dermal exposure pathways.

The SCAQMD has developed guidance for Rule 1401 – New Source Review of Air Toxic Contaminants, which provides methodology for preparing health risk assessments within the basin. Under this guidance, the SCAQMD recommends that the inhalation, soil ingestion, dermal absorption, home-grown vegetables and mother's milk pathways be enabled in the Hotspots Analysis and Reporting Program (HARP)(discussed in more detail later in this Section). Therefore, these pathways were evaluated in the Project HRA for residential receptors. The home-grown vegetables and mother's milk pathways are not included for non-residential receptors since no exposure would occur through these pathways for workers, students, and park visitors. It should be noted that the inclusion of these exposure pathways in the HRA does not indicate that substantial risks are anticipated or expected for the pathways. It is expected that the primary risk driver would be associated with the inhalation pathway and that the other pathways (i.e., soil ingestion, dermal absorption, home-grown vegetables and mother's milk) would not result in substantial risks.

Emissions Calculations

Short-term construction activities associated with implementation of the RAP would result in emissions of fugitive dust, equipment exhaust, and VOCs. Although fugitive dust itself is not considered toxic, metals and other chemicals bound to the soil particulates could expose sensitive receptors to health hazards. The methodology used to calculate emissions of hazardous chemicals was to first identify all of the emission characterization techniques, equations, and models that were used for the CEM release mechanisms. The second step was to assign the applicable techniques, equations, and models for estimating emissions to the short-term activities. The process involved defining activities both spatially across the Site and also temporally during implementation of the RAP and cross-referencing the physical remediation activities to the release mechanisms and emissions equations.

The sources considered in the HRA include the following:

- **Equipment and Truck Exhaust:** Equipment and trucks operating on-site would emit DPM during operation and idling.
- **Excavation and Grading Activities:** Soil would be graded and excavated from different portions of the Site and either reconsolidated underneath the cap or transported off-site for disposal. Fugitive dust and volatile compounds may be emitted when soil is handled (picked up/dropped); however implementation of PDFs and mitigation strategies from the AMP would reduce potential emissions. A diagram illustrating the expected depths of cut and fill activities is provided in **Figure 4.6-4**, *Ascon Excavation/Infill Depths*.

Source	Release Mechanism(s)		Pathway	Exposure Route	On-site		Off-site			
					Employee	Resident	Resident	Student	Worker	Recreator
Waste Pit/Tarry Material	Volatile Emissions		Ambient Outdoor Air	Inhalation	X	X	X	X	X	X
Soil	Volatile Emissions	Surface Soil	Ambient Outdoor Air	Inhalation	X	X	X	X	X	X
		Subsurface Soils								
		Excavation								
	Fugitive Dust Emissions	Unpaved Road Traffic	Ambient Air	Inhalation	X	X	X	X	X	X
		Construction Activities*	Soil Deposition	Dermal	X	X	X			
		Wind Erosion	Home-Grown Produce	Ingestion	X	X	X			
	Direct Contact			Dermal	X	X				
				Ingestion	X	X				
Storm Water	(Incomplete pathway, treated on-site and released to storm drain)**									
Ground Water				Ingestion	No Exposure **					
	Volatilization		Indoor Air/ Vapor Intrusion	Inhalation	X	X				
			Ambient Outdoor Air	Inhalation	X	X	X	X	X	X
Construction Equipment	Diesel Exhaust		Ambient Outdoor Air	Inhalation	X	X	X	X	X	X
Concrete Removal	Fugitive Dust/Silica		Ambient Outdoor Air	Inhalation	X	X	X	X	X	X

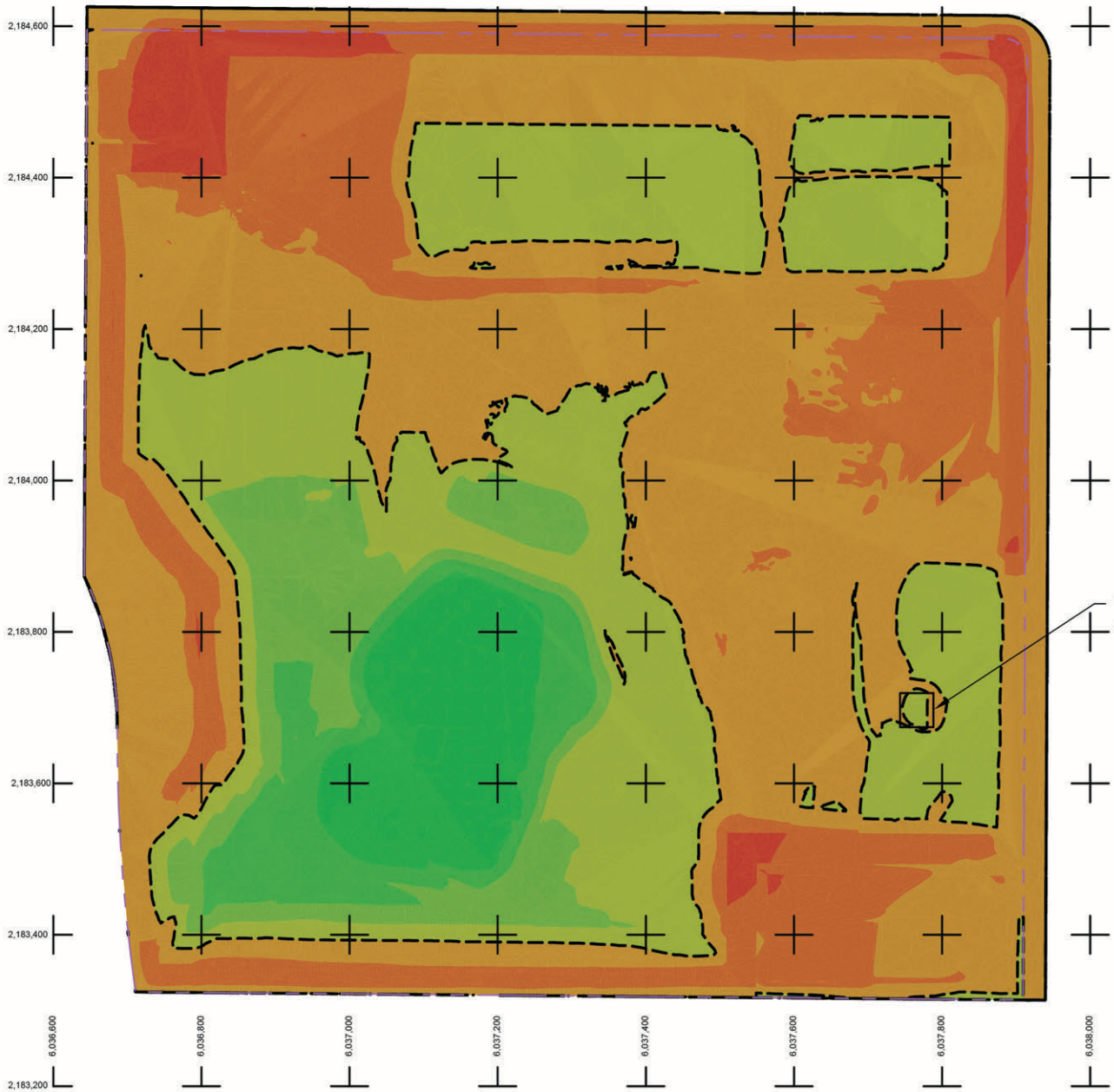
* Other construction activities include dumping of excavated soil, dozing, and grading.
** No exposure due to incomplete pathway (Aquifer under site is not used for drinking water supply)

PCR

Conceptual Exposure Model

RAP EIR - Ascon Landfill Site
Source: PCR Services Corporation, 2011.

FIGURE
4.6-3



CUT FILL THICKNESS (FEET)				
Number	Minimum Cut/Fill	Maximum Cut/Fill	Color	
1	-24	-16		CUT
2	-16	-8		
3	-8	0		
4	0	7		FILL
5	7	15		
6	15	23		
7	23	31		

LEGEND

CUT / FILL CONTOUR (DAYLIGHT LINE)

PROPERTY LINE

N

0 300 Feet

PCR

ASCON Excavation/Infill Depths

RAP EIR - Ascon Landfill Site

Source: Geosynec, 2012.

FIGURE

4.6-4

- **Reentrained Road Dust:** Heavy equipment and trucks travelling on unpaved roads on-site would emit fugitive dust from tires/tracks. Although most on-site roads would be covered with gravel which minimizes fugitive dust emissions and other dust control measures implemented, for conservative purposes, it was assumed in the calculations that all roads were unpaved.
- **Wind Erosion:** Excavated soil may be stockpiled on-site prior to reconsolidation or transport off-site. Although stockpiles would be covered with tarps or covered with dust suppressants and other dust control measures may be implemented, small amounts of wind-blown dust could result in fugitive dust emissions.
- **Concrete Crushing:** Concrete pieces found on-site during excavation and reconsolidation activities may be broken using a backhoe with a breaker attachment or crushed using a concrete crushing machine. Fugitive dust that could be generated from concrete crushing typically contains a higher crystalline silica content compared to excavated soils.

Emissions from these sources were calculated for each phase of the RAP based on a one–year construction schedule. In addition to emissions being calculated on a temporal (time) basis, where a source of potential emissions could be identified (i.e. Pit F, City parcel, on-site haul roads) emissions were also calculated specifically for such sources to allow for more representative dispersion modeling. Additional details regarding how pollutant emissions are provided below and in Appendix E to the EIR.

Fugitive Dust

Emissions of fugitive dust from remediation related activities were calculated using USEPA methodologies for construction and hazardous waste/superfund site evaluations and include emissions from unpaved road traffic, construction activities, wind erosion, and concrete breaking. The USEPA methodologies are outlined in the USEPA's *AP-42, Compilation of Air Pollutant Emission Factors*.[22] Fugitive dust emissions are comprised of particulate matter of varying sizes. Respirable particulate matter consists of particles less than 10 microns in aerodynamic diameter (PM_{10}). Fine particulate matter are particles less than 2.5 microns ($PM_{2.5}$) and are known to penetrate deeper into the lungs and thus have increased adverse health effects compared to PM_{10}. It should be noted that $PM_{2.5}$ is a subset of PM_{10}, and that emissions of $PM_{2.5}$ are calculated using emission factors first developed for PM_{10} and conservative assumptions regarding percentages of PM_{10} that is $PM_{2.5}$ applied broadly by source type, such as dust and exhaust.

As required by the SCAQMD and by PDFs that would be incorporated during implementation of the RAP (listed above), fugitive dust would be minimized through a number of control measures. The Project would implement fugitive dust control measures consistent with SCAQMD rules and regulations. At least 60 to 80 percent of potential fugitive dust emissions from exposed surfaces and active excavation sites would be controlled with water or other dust suppressants. Other measures, such as limiting speeds to no more than 10 miles per hour (mph) for haul trucks when on-site, and no more than 15 mph for non-haul truck vehicles on all on-site, unpaved road surfaces would be implemented to reduce fugitive dust. Not all soil handling activities at the Site would result in fugitive dust emissions as the Site contains areas of waste with "flowable materials" (i.e., mixture of a pulverized solid and a liquid). These flowable materials have been identified at various locations throughout the Site and include Lagoons 4 and 5. Emissions calculations for handling of

[22] *U.S. Environmental Protection Agency, AP-42, Compilation of Air Pollutant Emission Factors, http://www.epa.gov/ttnchie1/ap42/. Accessed 2012-2013. This risk assessment largely utilized data from Volume I, Chapters 4, 11, and 13.*

these flowable materials do not include fugitive dust, but do include VOC emissions as described later in this section.

Vehicle and Equipment Exhaust

Short-term activities associated with implementation of the RAP would require use of heavy-duty diesel-powered on-road vehicles and heavy-duty diesel-powered off-road equipment that generate emissions of DPM. Emission factors for both off-road (heavy construction equipment) and on-road (haul trucks) were generated through two different emissions models. Emissions from heavy-duty diesel-powered on-road vehicles were calculated using the EMFAC2011 emissions model developed by CARB.[23] On-road diesel vehicles include, but are not limited to, water trucks, dump trucks, fuel delivery trucks, and hauler trucks. In accordance with PDFs that would be incorporated during implementation of the RAP, on-road diesel trucks would be limited to those that meet or exceed the emission standards for model year 2007 or newer, which would minimize emissions compared to the statewide fleet average. In addition, on-road diesel vehicle would comply with idling limit of five minutes at a time per location in accordance with the Air Toxics Control Measure (ATCM) adopted by CARB to limit toxic emissions from idling diesel trucks.[24] Idling emissions from on-road diesel vehicles were calculated based on compliance with the ATCM. Travel emissions were calculated based on the number of truck trips, speed, and distance travelled. Although the on-site speed limit would be set at 15 miles per hour (mph), as a conservative estimate, it was assumed that on-road diesel vehicles would be travelling on-site at an average of five miles per hour, which results in a higher exhaust emission rate compared to 15 miles per hour. The SCAQMD recommends that health risk assessments include other sources of toxics within a one-quarter mile of a facility. Thus, on-road diesel vehicle emissions resulting from travel on off-site local roadways (i.e., Magnolia Street and Hamilton Avenue) were considered. Off-site speeds were conservatively set at 25 mph, which is below the posted speed limits on Magnolia and Hamilton (see Section 4.10, *Traffic and Circulation*, of this EIR).

Emissions from heavy-duty diesel-powered off-road equipment are based on USEPA non-road emissions standards. USEPA emissions standards are classified as Tiers 1-4, with a higher tier engine resulting in lower emissions (i.e., cleaner). In accordance with PDFs that would be incorporated during implementation of the RAP, off-road diesel equipment would be limited to those that meet or exceed the emission standards for Tier 3 equipment. Therefore, emissions for off-road equipment were based on Tier 3 emissions standards. Other parameters used in the calculation include load factors, hours of operation, and horsepower ratings. The load factor is the percent of engine output during average operations. Equipment engines do not run at maximum load (100 percent) throughout the day. Average load factors were based on data from the California Emissions Estimator Model (CalEEMod) developed by the SCAQMD, which contains off-road engine load factors.[25] Off-road equipment emissions were then calculated based on the Tier 3 emissions standards, load factor, hours of operation and horsepower ratings supplied for the proposed equipment.

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[23] *California Air Sources Board Mobile Source Emission Inventory – Current Methods and Data: http://www.arb.ca.gov/msei/modeling.htm (accessed June 2012).*

[24] *Cal. Code Regs. Tit. 13, §2485. (http://www.arb.ca.gov/msprog/truck-idling/2485.pdf)*

[25] *California Emissions Estimator Model, http://caleemod.com/.*

Volatile Emissions

Volatile emissions from remedial activities would occur via the release of the VOCs in the soil pore space during the handling/excavation of material. Volatile emissions also occur via diffusion of VOCs from undisturbed subsurface material through the soil media and emission at the surface. Emissions of VOCs from depend on the amount of VOCs in the soil, soil physical properties, moisture content of the soil, vapor pressure and volatility of the compound, the partitioning between the contaminant and the soil moisture, and the diffusivity of the VOC through the air-filled pore space.

Since calculating VOC emissions requires a significant amount of chemical-specific information, computer models developed by USEPA are used in determining the volatilization factors and the emission rates. The Exposure Model for Soil Organic Fate and Transport (EMSOFT) (version 2.01) developed by the USEPA was used to calculate the volatile emissions for this EIR and risk assessment included within this report. The EMSOFT model is based on the theory and studies of Jury, et.al., and addresses situations in which contaminated materials are located at the surface and buried beneath a clean soil cover.[26,27] The model takes into account the specific properties of each chemical including Henry's law constant, diffusivity in air and water, and soil properties such as moisture and porosity. Chemical- and site-specific data were entered into the EMSOFT model. The 95 percent UCL concentrations for each chemical were used in the EMSOFT model for chemicals that were detected in five samples or more. The maximum concentrations for each chemical were used in the EMSOFT model for chemicals that were detected in less than five samples. USEPA default values were used where chemical- and site-specific data were not available based on recommendations in the *EMSOFT User's Guide*.[28] For modeling purposes, it was assumed that the incremental increase in volatile emissions from existing conditions would begin at the onset of the Project and would continue for an averaging period (i.e., the length of time off-gassing would occur) consistent with the duration of the specific volatile emissions-generating phase or sub-phase of the Project.

To convert the EMSOFT modeled volatilization factors (in units of mass per area-time) into estimated VOC emissions (in units of mass per time) into the atmosphere, the volatilization factors were multiplied by the area exposed to the atmosphere, which is the area actively volatilizing due to short-term activities associated with implementation of the RAP. The values were then converted to the appropriate time period to obtain emissions in units of mass per time period (e.g., pounds per hour, pounds per year, etc.). As with fugitive dust emission, VOC emissions would be controlled using a number of measures. VOC emissions would be actively monitored during excavation/handling of contaminated materials. VOCs emissions would also be controlled using suppressants. Soils with over 50 ppm VOC would be reconsolidated to a treatment cell as required by SCAQMD regulations. For modeling purposes, the emission estimates take into account the application of suppressants, which USEPA has indicated has a control efficiency range between 91 and 100 percent for long-term control (the lower value of 91 percent was used as a conservative approach).[29]

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[26] *Jury, W. A., W. F. Spencer, and W. J. Farmer. 1983. Behavior Assessment Model for Trace Organics in Soil: I. Model Description. J. Environ. Qual., Vol. 12, no. 4, pp. 558-564.*

[27] *Jury, W. A., D. Russo, G. Streile, and H. El Abd. 1990. Evaluation of Volatilization by Organic Chemicals Residing Below the Soil Surface. Water Resources Res. Vol 26, No. 1, pp 13-20*

[28] *U.S. Environmental Protection Agency, EMSOFT User's Guide: Update to EMSOFT User's Guide, (2002).*

[29] *U.S. Environmental Protection Agency, Control of Air Emissions from Superfund Sites, (1992).*

Health Risk Assessment - TACs

Potential health impacts are evaluated through an HRA which includes dispersion modeling and health risk calculations. Concentrations of COPCs at receptors were determined based on dispersion modeling. A dispersion model is a "computerized set of mathematical equations that uses emissions and meteorological information to simulate the behavior and movement of air pollutants in the atmosphere. The results of a dispersion model are estimated outdoor concentrations of individual air pollutants at specified location."[30] Dispersion modeling was performed using the AMS/EPA Regulatory Model (AERMOD) (version 12060) which is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain. AERMOD is listed as a preferred model in USEPA's *Guideline on Air Quality Models*.[31] AERMOD is utilized by the USEPA and Cal EPA for estimating ground-level impacts from point and fugitive sources in simple and complex terrain. AERMOD is capable of modeling a variety of source types. Sources of on-site equipment movement and excavation activities were characterized as area sources based on the USEPA guidance for haul roads.[32] Area sources simulate uniform emission density across a defined area, which is more representative of haul roads than other modeling source types. DPM area sources and fugitive sources were modeled separately to take into account the differences in release height. Vehicle height was assumed to be 10 feet (~3 meters) which results in a plume height of approximately 5 meters based on equations in the USEPA guidance for haul roads. The release height for fugitive sources was assumed to be 2.5 meters (0.5 x top of plume height). Excavation of Pit F would be performed under a negative pressure structure which would be maintained using a blower and activated carbon filtration. As such, emissions from the Pit F structure were modeled as a point source. The blower would achieve approximately 20,000 cubic feet per minute (CFM).[33] Exhaust temperature from the blower was estimated to be ambient temperature (25°C; 77°F) with a release height of 15 feet.

A discrete Cartesian receptor grid was used to determine impacts in the vicinity of the Site. Field receptors were placed at 25-meter intervals outside the boundary of the Site to cover nearby sensitive receptors including the nearest residences, offices, Fire Station No. 4, Edison Park, and Edison High School. Due to the size of the Site and the number of model runs required, this receptor grid provided a balanced approach with respect to receptor coverage and model run times. This receptor grid was also consistent with SCAQMD recommended guidance for AERMOD.[34]

The SCAQMD provides model-ready, preprocessed meteorological data for use in dispersion modeling using AERMOD. The use of SCAQMD meteorological data ensures consistency among dispersion modeling analyses in the South Coast Air Basin and eliminates the need for a project applicant to apply its own correction measures for missing data. Meteorological data from the SCAQMD Costa Mesa monitoring station, located at 2850 Mesa Verde Drive, Costa Mesa 92626, approximately three miles to the north-west of the Site, was

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30 *U.S. Environmental Protection Agency, Glossary of Key Terms, http://www.epa.gov/ttn/atw/natamain/gloss1.html. Accessed June 2013.*

31 *40 CFR Part 51, Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions; Final Rule.*

32 *U.S. Environmental Protection Agency, "Haul Road Workgroup Final Report Submission to EPA-OAQPS," March 2012.*

33 *Project Navigator to verify.*

34 *South Coast Air Quality Management District, "AQMD Modeling Guidance for AERMOD," http://www.aqmd.gov/smog/metdata/AERMOD_ModelingGuidance.html. Accessed April 2013.*

used. To account for annual variations in wind patterns, three years of meteorological data were used (years 2005, 2006, and 2007). Terrain heights were obtained from digital terrain elevation data developed by the U.S. Geological Survey (USGS) by using its Shuttle Radar Topography Mission (SRTM) data.

Health risk impacts are assessed using the Hotspots Analysis and Reporting Program (HARP) (version 1.4) developed by CARB.[35] The health risk calculation methodology contained in HARP is consistent with the OEHHA *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*.[36] For this risk assessment, the HARP model was used to analyze the results of the AERMOD dispersion model and determine the chemical-specific incremental increases in cancer risks and non-cancer chronic and acute health impacts. The results of the HRA are calculated based on identifying the maximum exposed individual (MEI) for each receptor type (i.e., residential, worker, school). The location of the MEI for acute, chronic and cancer risk may vary depending on the type of chemical and the source. Certain chemicals may have a cancer risk factor, while others may only have a chronic and/or acute risk factor which will result in the MEI for cancer, chronic, and acute cases being located at different receptor locations.

Cancer risk calculations require other parameter inputs, such as breathing rate, body weight and exposure duration. Residential and school receptor breathing rates were assumed to be OEHHA "high end" of 393 liters per kilogram of body weight per day (L/kg body weight/day) which represents the 95th percentile breathing rate as a conservative assumption. Although use of a high end breathing rate may overestimate cancer risk, this breathing rate takes into account children's breathing rates, which tend to be higher than those of adults.[37] Worker breathing rates were assumed to be 149 L/kg body weight/day. Body weight was assumed to be an average 63 kg (139 pounds) for residential or school receptors and 70 kg (154 pounds) for worker receptors, consistent with OEHHA recommendations.[38] Exposure durations were also assumed to be 350 days per year for residential uses. Worker and school receptors are assumed to be 245 days per year. These OEHHA values for these parameters are generally more conservative than DTSC typically uses for risk assessments and, thus, likely result in overestimated impacts.

As discussed in the CEM above, pollutants emitted from the Site may impact a sensitive receptor through multiple environmental pathways such as inhalation, ingestion, dermal absorption, and home-grown vegetables and are also included in the analysis. Although inhalation is the dominant pathway (contributes most to health risk impacts), particulate based COPCs emitted from the Site have the potential to deposit in the soil near the Site. These particulates may be deposited on skin (dermal), ingested during inhalation, or ingested through home grown vegetables or mother's milk. Other pathways such as livestock, fishing, or water ingestion are not applicable to the Project because these pathways of potential exposure (e.g. commercial farms, commercial fishing, and potable water storage open to the atmosphere) are not present in the area surrounding the Site. The SCAQMD has developed guidance for Rule 1401 – New Source Review of Air Toxic Contaminants, which provides methodology for preparing health risk assessments within the basin. Under this guidance, the SCAQMD recommends that the inhalation, soil ingestion, dermal absorption,

[35] *California Air Resources Board, "Hotspots Analysis Reporting Program," http://www.arb.ca.gov/toxics/harp/harpdownload.htm. Accessed April 2013.*

[36] *Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, August 2003.*

[37] *Ibid.*

[38] *Ibid.*

home-grown vegetables and mother's milk pathways be enabled in HARP. As a result, even though some of these are not expected to contribute substantially to the overall risk, these pathways were nevertheless enabled in the HARP software for analysis of Project impacts.

OEHHA and CalEPA are responsible for identifying compounds the State believes are TACs and for developing and updating toxicity factors. Several COPCs identified on-site do not have OEHHA toxicity factors and, therefore, are not included in the HARP software. However, these COPCs have toxicity factors developed by other agencies and are listed in sources such as the USEPA Integrated Risk Information System (IRIS) database, Provisional Peer Reviewed Toxicity Values (PPRTV), Agency for Toxic Substances and Disease Registry (ASTDR), or the Health Effects Assessment Summary Tables (HEAST). DTSC determined on a case-by-case basis the toxicity data for each of these COPCs. As the toxicity factor database contained within HARP cannot be edited by the user, health risk calculations for these chemicals must be performed outside of HARP. These calculations include dispersion modeling output values, dose calculation (breathing rate, body weight), health risk calculations (cancer, chronic, acute). These calculations were performed using methodology identical to that used in HARP, and are included in Appendix E.

It should be noted that not all chemicals have a cancer, chronic and acute toxicity factor. A chemical may have an adverse effect on human health with respect to cancer risk (70-year lifetime risk), long-term chronic impacts, or short-term acute impacts, or a combination thereof. Thus, each COPC was evaluated in the HRA based on chemical-specific toxicity values with respect to cancer risk, chronic impacts, and/or acute impacts, as appropriate. Detailed information regarding modeling input values, modeling results, and health risk impact calculations, including those performed outside of the HARP model, are provided in the HRA in Appendix E.

Impact Assessment - Blood Lead Analysis

Lead, which is a naturally occurring element, has potential adverse human health impacts. Additional analysis was performed to address concerns regarding lead exposure to children living near the Site. Potential blood lead concentrations were analyzed using the DTSC LeadSpread 8 tool which is based on lead concentration found in soil and airborne fugitive dust concentrations. Concentrations of lead contained in soil on the Site were calculated based on the 95th percentile Upper Confidence Limit described above. Annual airborne concentrations of lead due to Project activities were calculated using AERMOD dispersion modeling and HARP. AERMOD dispersion modeling was performed sources located onsite and sensitive receptors placed at residential uses. Results of dispersion modeling were then input into the HARP software to calculate dilution factors. Dilution factors were then multiplied by lead emissions to determine off-site lead airborne concentrations. Soil concentrations at the maximum impacted residential receptor were calculated using a default deposition rate of 0.02 meters per second (m/s) based on OEHHA guidance.[39] Impacts at all other receptors (e.g., worker, student) would be less than the maximum impacted residential receptor; therefore, it is appropriate to evaluate potential impacts at the maximum impacted residential receptor.

Accidental Upset or Release

The analysis of impacts from accidental upset or release of hazardous materials is comprised of two components, likelihood of occurrence and severity of the consequence. In order to better present the risk

[39] *Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, August 2003.*

and consequence relationship of an accidental release, the Center for Chemical Process Safety Guidelines for Hazard Evaluation Procedures[40] created a risk assessment matrix, reproduced as **Table 4.6-3**, *Release Risk Assessment Matrix*, below.

Table 4.6-3

Release Risk Assessment Matrix

Frequency Category (Increasing Likelihood)					
	4				
	3				
	2				
	1				
		1	2	3	4
		Consequence Category (Increasing Severity)			

Risk Guide

	Unacceptable
	Undesirable
	Acceptable (with controls)
	Acceptable (as is)

Source: Guidelines for Hazard Evaluation Procedure. Center for Chemical Process Safety (CCPS). 1992

The frequency of occurrence for an upset condition or accidental release is defined as follows, based on CCPS Guidelines, for increasing likelihood.

1. Very unlikely to unlikely, but possible.
2. Likely to occur during lifetime.
3. Will occur several times over life of process.

[40] *California Accidental Release Prevention Program Regulation (CCR Title 19, Division 2, Chapter 4.5), http://www.lafd.org/prevention/pdfforms/calarp_appen_a1.pdf. Accessed July 2013.*

4. Likely to occur frequently.

CCPS defines the consequence of an accident as follows, for increasing severity.

1. Negligible – Less than minor injury, occupational illness, or system damage.
2. Marginal - Minor injury, minor occupational illness, or minor system damage.
3. Critical – severe injury, severe occupational illness, or major system damage.
4. Catastrophic – death or system loss.

The acceptability of the risk posed by a specific future hypothetical scenario is assessed by qualitatively identifying the appropriate consequence category along the horizontal axis of the matrix and the appropriate frequency category along the vertical axis. The intersection of those two categories defines the acceptability of the risk, color coded in the table above.

Implementation of the RAP would involve several processes which may be subject to accidental release or upset conditions. In the short-term, trucks involved in the transport of contaminated materials off-site (long distance hauling) may experience an accident resulting in a spill. Equipment involved in the excavation and consolidation of on-site materials are not expected to operate on public streets; therefore, it is not expected that these activities would result in an acute, accidental release to the environment. A failure of on-site containment measures, such as a ruptured earthen berm or breach in the integrity of the cap, is hypothetically possible during either the short- and long-term implementation of the RAP, and the potential consequences are analyzed below.

Uncertainties in Health Risk Assessments

The process of assessing health risks and impacts includes a degree of uncertainty. The level of uncertainty is dependent on the availability of data and the extent to which assumptions are relied upon in cases where the data are incomplete or unknown. All HRAs, including the HRA appended to this EIR, rely upon scientific studies in order to reduce the level of uncertainty; however, it not possible to completely eliminate uncertainty from the analysis. Where assumptions are used to substitute for incomplete or unknown data, it is standard practice to err on the side of health protection in order to avoid underestimating or underreporting the risk to the public. Therefore, as discussed earlier, this HRA used for purposes of this EIR followed the standard practice of erring on the side of health protection in cases where assumptions were relied upon. In general, sources of uncertainty that may lead to an overestimation or an underestimation of the risk include: (1) extrapolation of toxicity data in animals to humans; (2) uncertainty in the estimation of the emissions; (3) uncertainty in the air dispersion models; and (4) uncertainty in the exposure estimates. These sources of uncertainty, as they relate to the Project, are described in greater detail below. In addition to uncertainty, there exists "a natural range or variability in the human population in such properties as height, weight, and susceptibility to chemical toxicants."[41] As mentioned previously, it is typical to err on the side of health protection by assessing risk on the most sensitive populations, such as children and the elderly. Some examples of uncertainty or overestimation may include:

[41] *Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, August 2003.*

- Receptor exposure duration: The HRA assumes residents would be exposed to Project-related average annual concentrations 24-hours per day, 350 days per year. The exposure duration does not take into account residents who leave the house for work or school or work stoppages or breaks (such as meal and rest periods and idle non-work hours). The student exposure duration (245 days) does not account for summer break. In addition, the exposure duration does not take into account time spent indoors vs. outdoors.
- Emissions estimation: Emissions from diesel powered equipment are assumed to be running continuously during a 9-hour workday. While most equipment may run continuously during each work day throughout the remediation process, some equipment may sit idle or be used for only a few hours per day. The HRA assumes a worst-case scenario where all equipment would be running during the workday, generating diesel particulate emissions.
- Soil concentration: Concentrations of COPCs in soil were assumed to be uniform throughout the Site, even if that concentration is from a single detection amongst many samples.
- Dispersion modeling parameters: The AERMOD dispersion model is able to account for dust deposition while in transport through the air which would deplete the plume (lower concentration). As a dust plume travels from the source to the receptor, heavier dust particles may drop out of the plume resulting in lower concentrations for receptors located farther away from the source. As a worst-case scenario, the dispersion modeling did not account for plume depletion due to deposition as sensitive receptors are located relatively close to the dust generating activities.

Long-Term Hazards

Upon completion of the RAP, the end state would be a closed capped site with a landfill gas collection and treatment system. Long-term implementation of the RAP would entail periodic maintenance and housekeeping, including groundwater monitoring and landscaping as needed. Thus, long-term hazards would be caused by emissions from stationary (landfill gas generation), mobile (on-road and off-road), and area (landscape equipment) sources.

Analysis of Project Impacts

Routine Transport, Use, or Disposal of Hazardous Materials

Impact 4.6-1	Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Short-Term

The Project would require excavation and export of up to 32,250 bank cubic yards (BCY) of material for disposal. During excavation activities, COPCs contained in the soil would be released to the atmosphere in the form of fugitive dust and volatile gases. In addition, heavy equipment and trucks operating on-site would release DPM. The COPCs and DPM released as a result of the RAP may pose a hazard to the public, wildlife occupying the site or environment. Such emissions would vary somewhat from day to day, depending on the level of disposal and other activities, but the analysis here assumes disposal of the maximum daily amount of excavated materials determined from the maximum total volume.

As specified in the PDF's mentioned above, emissions of toxins would be controlled through various methods including spraying water onto the soil and work area and using chemical dust or emissions suppressants as

appropriate (PDF 2-8 and 2-9). VOC monitoring would be conducted to ensure no applicable state or SCAQMD standards would be exceeded (PDF 2-4). In particular, the Project would comply with SCAQMD Rule 1166 regarding VOC-contaminated material (PDF 2-6). All non-disposable equipment used during Project implementation activities would be put through procedures to remove of soil and other material from construction-related equipment prior to leaving the Site and prevent the inadvertent transport of soil or material off-site. The possibility of hazards from ignitable waste or soil gas accumulation would be maintained at a negligible level through proper grading and transport loading procedures. Transport trucks would undergo procedures to avoid the inadvertent transport of materials off-site (decontamination) and would be inspected for compliance prior to exiting the Site, and wastes transported off-site would be properly manifested and handled by a fully licensed and permitted waste transporter (PDF 2-11).

Excavation of Pit F would take place under a temporary structure as specified in PDF 2-7. This temporary structure would serve to capture VOC emissions through a GAC system. Due to the closed environment of the temporary structure, equipment would be snorkeled (exhausted) directly outside of the structure to prevent buildup of emissions. Excavated Pit F materials would be placed in sealed air-tight bins or covered trucks for transport off-site. Workers in Pit F would be equipped with proper personal protective equipment (PPE) and breathing apparatus as required.

As discussed in the PDF section above, the RPs would document Project implementation activities by personnel on the Site (PDF 2-4, 2-6, and 2-11). Documentation would be provided to DTSC and include the following at a minimum:

- Health and safety activities;
- Weather information;
- Field observations;
- Monitoring of trucks and/or equipment arriving and leaving the Site;
- Monitoring personnel arriving or leaving the Site;
- Air monitoring details and dates per the approved Air Monitoring Plan; and,
- Copies of waste manifests.

Implementation of the PDFs and compliance with the applicable regulatory requirements cited above would minimize the potential for hazards to the environment and the surrounding community. Nonetheless, a HRA was performed to address potential impacts to off-site residential receptors and the public or environment from transport, use, or disposal of contaminated materials and determine the extent of potential risks to nearby sensitive receptors. The HRA includes calculations of cancer, chronic and acute health impacts for each appropriate sensitive receptor. Cancer and chronic health impacts are based on exposure to pollutants on an annual basis, while acute health impacts are based on a maximum hourly exposure. The receptors analyzed in the HRA include residential receptors to the east and northwest of the Site; students, staff and visitors to Edison High School to the northeast of the Site; worker receptors to the west of the Site; and receptors to the north of the Site at locations including the park and fire station. As cancer and chronic health risk impacts are based on long-duration exposure times, receptors at which individuals may reside at for long periods of time (>8-hours per day) were analyzed for cancer and chronic health risk impacts. These receptors include residential, school, workers and fire station uses. Because acute risk impacts are based on short-duration exposure times (<1-hour), all receptors (residential, school, worker, park) were analyzed for

acute health risk impacts. **Table 4.6-4**, *Off-Site Sensitive Receptor Incremental Cancer Risk Impacts - Unmitigated*, presents a summary of the HRA results (Appendix E of this EIR). As discussed earlier, the results of the HRA are not an indication of actual health risks. Due to the conservative nature of the risk evaluations conducted for the project, actual health risks are expected to be much lower than predicted.

Table 4.6-4

Off-Site Sensitive Receptor Incremental Cancer Risk Impacts – Unmitigated [a,b]

Sensitive Receptor Type [c]	Cancer Risk (per million)	Chronic Risk Hazard Index	Acute Risk Hazard Index
Residential	3.2	0.18	0.30
Student	0.90	0.047	0.11
Worker (School)	0.24	0.046	0.11
Worker (Fire Station)	0.32	0.061	0.14
Worker (west of Site)	0.46	0.087	0.39
Visitor (Park)	N/A	N/A	0.26

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately. Cancer risk values based on a 12-month exposure duration of maximum levels of all chemicals, which is a hypothetical and very conservative set of assumptions. Analysis includes inhalation, soil ingestion, dermal, mother's milk, and home grown produce for residential receptors and inhalation, soil ingestion, and dermal for non-residential receptors.*

[b] *Shaded values indicate an exceedance of the significance threshold.*

[c] *Sensitive receptors include residential uses northwest of Hamilton Avenue and East of Magnolia Street. School receptors include Edison High School north-east of the Site. Park receptors include the park north of the Site.*

Additional details and modeling files may be found in Appendix E.

Source: PCR Services Corporation 2013.

Residential Receptors. Based on upper bound toxicity values and exposure assumptions, an incremental cancer risk of 3.2 in one million is estimated for the maximally exposed individual residential receptor (MEIR) if the activity level from the Project were to be sustained over twelve months without mitigation. The maximum chronic HI estimate at the MEIR is 0.18, and the maximum estimated acute HI is 0.30.

It should be noted that health risk impact values presented in Table 4.6-4 represent the combined impact from the various chemicals that would be emitted from implementation of the RAP. In order to identify the health risk impact contribution by each source and chemical, receptors with the maximum impact have been further analyzed to identify source and chemical contribution. The details of these maxima are listed on **Table 4.6-5**, *Maximum Impacted Residential Receptor - Unmitigated*. The maximum impact for each exposure evaluation point (cancer, chronic and acute risk) may not occur at the same receptor due to varying toxicity factors, source location and wind direction. As discussed above, certain chemicals may not have a toxicity factor for long-duration exposure or short-duration exposure. In addition, chemicals would be emitted from different areas of the Site depending on the activity (Pit F, City parcel, haul roads) with varying emission rates. Therefore, maximum impacted receptors for each evaluation point may be found in different locations. Locations of the corresponding maximally impacted receptors are shown on **Figure 4.6-5**, *Maximally Impacted Receptor Locations*. The predicted maximum impacted residential receptor for cancer and chronic non-cancer health effects is located to the east of the Site at Receptor No. 223 (see Figure 4.6-5).

Table 4.6-5

Maximum Impacted Residential Receptor – Unmitigated [a,b]

Cancer Risk – Receptor 223

Chemical	Cancer Risk Contribution [c] (per million)	Percent of Total
Total	**3.2**	
Diesel Particulate Matter	3.18	99%
Arsenic	0.0054	0.17%
Chromium (VI)	0.0043	0.14%
Source		
Phase 3.2 – Cut/Fill to top of waste	1.73	54%
Phase 2.1 – Pit F Preparation	0.74	23%
Phase 1 - Maintain Haul Roads	0.23	7.1%

Chronic Risk – Receptor 223

Chemical	Chronic Risk Contribution [c]	Percent of Total
Total	**0.18**	
Diesel engine exhaust, particulate matter (Diesel PM)	0.11	60%
Arsenic	0.057	32%
Silica, crystalline (respirable)	0.0068	3.8%
Source		
Phase 3.2 – Cut/Fill to top of waste	0.090	50%
Phase 2.1 – Pit F Preparation	0.025	14%
Phase 2.1 – Pit F Preparation	0.013	7.0%

Acute Risk – Receptor 221

Chemical	Acute Risk Contribution [c]	Percent of Total
Total	**0.30**	
Nickel	0.30	100%
Source		
On-site Haul Road (North)	0.097	33%
Phase 2.1 – Pit F Preparation	0.037	12%
Phase 8 – Cut/fill City parcel	0.055	19%

[a] *Cancer risk values based on a 12-month exposure duration. Analysis includes inhalation, soil ingestion, dermal, mother's milk, and home grown produce for residential receptors.*

[b] *Sensitive receptors include residential uses northwest of Hamilton Avenue and East of Magnolia Street. School receptors include Edison High School north-east of the Site. Park receptors include the park north of the Site and the fire station.*

[c] *Shaded values indicate an exceedance of the significance threshold.*

Additional details and modeling files may be found in Appendix E.

Source: PCR Services Corporation 2013.

PCR

Maximally Impacted Receptor Locations

RAP EIR - Ascon Landfill Site
Source: PCR Services Corporation, 2013.

FIGURE
4.6-5

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As shown in Table 4.6-5, DPM contributes to 99 percent of the total cancer risk and approximately 54 percent of the cancer risk due to Phase 3.2 (Cut and Fill to Top of Waste). DPM and arsenic contributes to 60 and 32 percent of the total chronic risk, respectively. The source with the largest contribution to chronic risk is Phase 3.2 (Cut and Fill to Top of Waste). The maximum residential acute health risk impact occurs at Receptor 221 located to the east of the Site (see Figure 4.6-5). Nickel emissions contribute 99.9 percent (~100 percent) of the acute health risk. The main contributor to the maximum acute risk is the northern on-site haul road. Risks at all other receptor locations would be less than these maximum values.

Although health risk impacts calculated above analyze exposure to heavy metals, lead exposure was further analyzed to determine impacts on child and fetal (pregnant adult) development. Blood lead concentrations in children and pregnant adults were analyzed using the DTSC LeadSpread 8 model. Maximum concentrations of airborne lead were calculated using the HARP software. Results of this model show that the incremental increase in child and pregnant adult blood lead concentrations would be 0.000035 µg/dL and 0.00019 µg/dL, respectively, which are below the threshold of 1.0 µg/dL. Impacts on blood lead concentrations would be less than significant. Details and blood lead concentrations are provided in the HRA as Appendix E of this EIR.

Health risk impact values calculated for this EIR take into account the PDFs listed above. Nonetheless, the maximum cancer risk at the residential receptor would exceed the threshold of one in one million even with incorporation of PDFs. Chronic and acute HIs are less than 1. Therefore, implementation of the RAP would result in a potentially significant impact with regard to cancer risk, and mitigation measures would be required. Even without mitigation, implementation of the RAP would result in less than significant non-cancer health risks.

Mitigation Measure HAZ-1 was developed to reduce DPM emissions from on-site heavy equipment, which constitute 99 percent of the cancer risk for the maximum impacted residential receptor. The use of diesel particulate filters would reduce DPM emissions by at least 85 percent for heavy duty equipment. As shown in **Table 4.6-6**, *Mitigated Off-Site Sensitive Receptor Cancer Risk Impacts*, implementation of the prescribed mitigation measures would reduce potentially significant hazards and hazardous materials impacts to less than the applicable threshold value of 1 in one million. Therefore, carcinogenic health risk impacts would be less than significant with mitigation.

Student Receptor. Based on upper bound toxicity values and exposure assumptions, the maximally exposed individual student receptor (MEIS) unmitigated incremental cancer risk estimate is 0.90 in a million. The maximum estimated unmitigated chronic and acute HIs are 0.047 and 0.11, respectively.

The maximally impacted student receptor is located at the southwest corner of Edison High School as Receptor No. 1 (see Figure 4.6-5). As shown in **Table 4.6-7,** *Maximum Impacted School Receptor - Unmitigated*, DPM contributes 99 percent of the total cancer risk with approximately 62 percent of the risk due to Phase 3.2 (Cut and Fill to Top of Waste). The maximum chronic non-cancer risk impact also occurs at Receptor 1 in which DPM and arsenic contribute to 64 and 27 percent of the total chronic risk, respectively. The phase with the largest contribution is also Phase 3.2 (Cut and Fill to Top of Waste). Since the airborne, inhalation pathway dominates the exposure assessment, health risk decreases with distance from the Site. The cancer risk and chronic non-cancer risk assessments represent a highly conservative assumption of continuous exposure for one year at that same location, in accordance with OEHHA guidance, even though that is not expected to occur.

Table 4.6-6

Mitigated Off-Site Sensitive Receptor Cancer Risk Impact [a,b]

Receptor 223 – Maximum Impacted Residential Receptor

Chemical	Cancer Risk Contribution (per million)	Percent of Total
Total	**0.84**	
Diesel Particulate Matter	0.83	99%
Arsenic	0.0028	0.34%
Benzidine	0.0016	0.20%
Source		
Cut and Fill to Waste	0.40	47%
Maintain Haul Roads	0.13	15%
Pit F Excavation	0.12	14%

[a] *Cancer risk values based on a 12-month exposure duration. Analysis includes inhalation, soil ingestion, dermal, mother's milk and home grown produce for residential receptors. Mitigation assumes use of diesel particulate filters.*

[b] *Sensitive receptors include residential uses northwest of Hamilton Avenue and East of Magnolia Street. School receptors include Edison High School north-east of the Site. Park receptors include the park north of the Site.*

Additional details and modeling files may be found in Appendix E.

Source: PCR Services Corporation 2013.

Acute impacts are assessed on an hourly basis. The maximum acute health risk impact to a student also occurs at Receptor 1. Nickel emissions contribute to 99.9 percent (~100 percent) of the acute health risk. The phase contributing most to the maximum acute risk is activity within City parcel. However, health risk impact values calculated for this EIR take into account the PDFs listed above and with incorporation of those PDFs he maximum incremental increase in cancer risk for students would be under the threshold of one in one million. Implementation of the mitigation measure discussed above would further lower exposure and the resultant risk for students. Chronic and acute HIs are less than 1. Therefore, with the PDFs and mitigation measures, implementation of the RAP would result in a less than significant impact with regard to cancer risk and non-cancer health risks.

Worker Receptors. Several worker receptors have been analyzed surrounding the Site. These receptors include school workers, the fire station, and commercial/industrial uses to the west of the Site. Detailed results for individual worker receptors are provided in the HRA in Appendix E. Based on upper bound toxicity values and exposure assumptions, the maximally exposed individual worker receptor (MEIW) incremental cancer risk estimate is 0.46 in a million. The maximum estimated chronic and acute HIs are 0.087 and 0.39, respectively.

Table 4.6-7

Maximum Impacted School Receptor – Unmitigated [a,b]

Cancer Risk – Receptor 1

Chemical	Cancer Risk Contribution (per million)	Percent of Total
Total	**0.90**	
Diesel Particulate Matter	0.89	99%
Benzidine	0.0055	0.62%
Arsenic	0.0012	0.14%
Source		
Phase 3.1 – Install slurry wall at Lagoon 4 and 5	0.096	11%
Phase 3.2 – Cut/Fill to top of waste	0.55	62%
Phase 1 - Maintain Haul Roads	0.081	9.1%

Chronic Risk – Receptor 1

Chemical	Chronic Risk Contribution	Percent of Total
Total	**0.047**	
Diesel Engine Exhaust	0.030	64%
Arsenic	0.013	27%
Crystalline Silica	0.0022	4.7%
Source		
Phase 3.2 – Cut/Fill to top of waste	0.028	61%
Phase 3.1 – Install slurry wall at Lagoon 4 and 5	0.0044	9.3%
Phase 1 - Maintain Haul Roads	0.0028	5.9%

Acute Risk – Receptor 1

Chemical	Acute Risk Contribution	Percent of Total
Total	**0.11**	
Benzene	0.00018	0.17%
Nickel	0.11	100.0%
Source		
Phase 9 - Cut/Fill to top of waste (SCOC site)	0.022	20%
Phase 3.2 – Cut/Fill to top of waste	0.019	18%
Phase 8 – Cut/fill City parcel	0.032	29%

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately. Cancer risk values based on a 12-month exposure duration. Analysis includes inhalation, soil ingestion, and derma for non-residential receptors.*

[b] *Sensitive receptors include residential uses northwest of Hamilton Avenue and East of Magnolia Street. School receptors include Edison High School north-east of the Site. Park receptors include the park north of the Site and the fire station.*

Additional details and modeling files may be found in Appendix E.
Source: PCR Services Corporation 2013.

The maximum estimated incremental cancer risk for the MEIW is located to the north of the Site at Receptor 19 (see Figure 4.6-5), which represents the fire station. As shown in **Table 4.6-8,** *Maximum Impacted Worker Receptors - Unmitigated*, DPM contributes to 97 percent of the total cancer risk of 0.46 per million

Table 4.6-8

Maximum Impacted Worker Receptors – Unmitigated [a,b]

Cancer Risk – Receptor 223

Chemical	Cancer Risk Contribution (per million)	Percent of Total
Total	**0.46**	
Diesel Particulate Matter	0.44	97%
Benzidine	0.013	2.8%
Arsenic	0.0013	0.3%
Source		
Phase 3.2 – Cut/Fill to top of waste	0.25	54%
Phase 7 – Surface water controls	0.096	21%
Phase 1 – Maintain Haul Roads	0.034	7.4%

Chronic Risk – Receptor 222

Chemical	Chronic Risk Contribution	Percent of Total
Total	**0.087**	
Diesel engine exhaust, particulate matter (DPM)	0.0057	65%
Arsenic	0.024	27%
Silica, crystalline (respirable)	0.0030	3.5%
Source		
Phase 3.2 – Cut/Fill to top of waste	0.038	45%
Phase 9 - Cut/Fill to top of waste (SCOC site) – Diesel	0.016	19%
Phase 9 - Cut/Fill to top of waste (SCOC site)	0.010	11%

Acute Risk – Receptor 196

Chemical	Acute Risk Contribution	Percent of Total
Total	**0.39**	
Benzene	0.00054	0.14%
Nickel	0.39	100%
Source		
Phase 9 - Cut/Fill to top of waste (SCOC site)	0.29	74%
Phase 3.2 – Cut/Fill to top of waste	0.026	6.8%
On-site Haul Road (North)	0.019	5.0%

[a] *Cancer risk values based on a 12-month exposure duration. Analysis includes inhalation, soil ingestion, and dermal for non-residential receptors.*

[b] *Sensitive receptors include residential uses northwest of Hamilton Avenue and East of Magnolia Street. School receptors include Edison High School north-east of the Site. Park receptors include the park north of the Site and the fire station.*

Additional details and modeling files may be found in Appendix E.

Source: PCR Services Corporation 2013.

with approximately 54 percent of the risk due to Phase 3.2 (Cut and Fill to Top of Waste). The maximum chronic risk impact also occurs at Receptor 222, in which DPM and arsenic contribute to 65 and 27 percent of the total chronic risk, estimated at HIs of 0.057 and 0.024, respectively. The source with the largest contribution is also Phase 3.2 (Cut and Fill to Top of Waste). The maximum worker acute health risk impact occurs at Receptor 196 with an HI of 0.39. Nickel emissions contribute to 99.9 percent (~100 percent) of the acute health risk. The main contributor to the maximum acute risk is Phase 9 (Excavation of SCOC Parcel).

The maximum incremental cancer risk estimate at the worker receptor would remain below the threshold of one in one million. Chronic and acute HIs are also less than 1. Therefore, implementation of the RAP with the mitigation measure would result in a less than significant impact with regard to cancer, chronic and acute health risk.

Park Receptor. The maximum impacted park receptor is located directly north of the Site as Receptor 5 (see Figure 4.6-5). As people are expected to be at the park for a limited time, acute exposure is the only pathway analyzed. Results are summarized in **Table 4.6-9**. *Maximum Impacted Park Receptor - Unmitigated*. Nickel emissions contribute to 99.9 percent (~100 percent) of the acute health risk, with an HI of 0.26. The phase which contributes most to the maximum acute risk is Phase 9 (Excavation of SCOC Parcel). Therefore, implementation of the RAP would result in a less than significant impact with regard to acute non-cancer health risks.

Table 4.6-9

Maximum Impacted Park Receptor – Unmitigated [a,b]

Acute Risk – Receptor 5 (Park)

Chemical	Acute Risk Contribution	Percent of Total
Total	**0.26**	
Benzene	0.00043	0.17%
Nickel	0.26	100%
Source		
Haul Road North	0.043	17%
Phase 9 - Cut/Fill to top of waste (SCOC site)	0.057	22%
Phase 8 – Cut/fill City parcel	0.053	20%

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately. Cancer risk values based on a 12-month exposure duration. Analysis includes inhalation, soil ingestion, and dermal for non-residential receptors.*

[b] *Sensitive receptors include residential uses northwest of Hamilton Avenue and East of Magnolia Street. School receptors include Edison High School north-east of the Site. Park receptors include the park north of the Site and the fire station.*

Additional details and modeling files may be found in Appendix E.

Source: PCR Services Corporation 2013.

Wildlife Receptor. Excavation and capping activities will result in the direct mortality (particularly reptiles and small to medium-sized mammals) of wildlife or their involuntary evacuation (particularly birds,

medium-sized mammals) from the site However, the ecological risk assessment determined that the Site provides little support of natural habitats that would serve as significant areas for the establishment of important species populations. Biological assessments at the Site in 2004, conducted as part of the Revised Feasibility Study (RFS),[42] and in 2009 and 2010, conducted as part of the IRM Mitigated Negative Declaration, confirmed that no rare, threatened, or endangered wildlife species inhabit the Site. Additionally, it is likely that some of these species may recolonize the site after the RAP is completed.

Mitigation Measures

HAZ-1 CARB certified Level 3 diesel particulate filter (DPF) shall be installed on some of the on-site off-road equipment as needed so that a minimum of 85 percent of the annual horsepower-hours assumed in the performance of the HRA are controlled. Horsepower-hours are calculated based on equipment engine horsepower, average load factor under typical conditions and anticipated hours of operation on an annual basis. Diesel particulate filters shall reduce off-road diesel particulate matter (DPM) emissions from each piece of off-road equipment by at least 85 percent. Equipment which needs servicing (breaks down) may be replaced with Tier 3 on a temporary basis if equipment with a DPF is not commercially available. If replacement equipment is not equipped with a DPF, documentation must be provided to demonstrate that no commercially available equipment with a DPF is available.

Long-Term

Once implementation of the RAP has been completed, the remaining on-site materials would be contained under the cap. The design objective of the cap is to minimize exposure of hazardous compounds to protect human health and the environment. The cap is anticipated to include, from top to bottom, a 2-foot vegetated cover soil layer, a geonet biotic layer to prevent wildlife intrusion (burrowing) at the mid depth of the vegetated cover soil layer, a geosynthetic drainage layer, a geomembrane barrier layer, a vapor collection layer that provides vapor conveyance to a treatment system, and a 2-foot thick foundation layer comprised of in-place or reconsolidated waste materials and/or import fill. Windblown dust would be minimal, due to planting of vegetation, and would not be a source of COPCs because of the imported surface soils. The top deck of the cap would include a geosynthetic drainage layer and a 60 mil[43] (0.060 inch) thick linear low-density polyethylene (LLDPE) geomembrane liner under the imported clean fill to stop infiltration of water into the on-site contaminated material and escape of landfill gases through the cap. The side slopes would include a four-foot thick vegetated ET soil layer, geonet biotic layer, and two-foot thick foundation layer to minimize precipitation from infiltrating the waste materials. This also minimizes the long-term potential for COPCs to be leached out of waste and carried to groundwater. Surface water would be collected and diverted to a v-ditch at the toe of the cap and transported via gravity to the on-site storm water detention basins. Both the top deck and side slopes would employ a geonet biotic layer to prevent burrowing animals from compromising the cap. The cap would also implement a landfill gas collection and treatment system under the geomembrane. As part of the collection system, activated carbon would be used to remove volatile COPCs from the landfill gases, and the exhaust stack is expected to be at least 500 feet from the nearest sensitive land uses (residences).

[42] *Project Navigator, Ltd., 2007, Revised Feasibility Study, September 21, 2007.*

[43] *mil = a thousandth of an inch*

The protective cap would cover most of the Site with the exception of a perimeter road and two storm water detention basins. The uncapped portions of the Site, could be comprised of up to 4 feet of clean imported soil, as needed. This soil cover is intended to minimize on-site workers' direct contact with the remaining on-site wastes, removing the potential for non-volatile COPC exposure. Volatile COPCs may migrate through the clean fill and pose an exposure concern to on-site workers. For this reason, RBCs, as presented in Table 4-1 of the RAP, were developed to identify the maximum concentration of specific COPCs in soil predicted to result in a risk or hazard above the design thresholds of 10 in one million (1E-05) incremental cancer or 1.0 HI, appropriate significance threshold for these workers. Confirmation samples would be collected once the initial target depth is reached in the uncapped portions of the Site, and results would be compared to RBCs to confirm that any remaining COPCs do not pose an unacceptable health risk.

The Project would also include removal of contaminated materials in the City parcel along Hamilton Avenue and Magnolia Street, if needed. Contaminated materials on the City parcel would be excavated to a depth that would achieve the applicable RBCs, which could be down to groundwater but is likely to be a maximum of four feet below grade. Imported cover soil would fill the excavation to the approximate adjacent street elevation, so that the public would have no direct (dermal) or indirect (wind-blown inhalation) contact with contaminated materials. Any future excavation of the City parcel, such as for utilities, would need to consider the potential hazards present before proceeding and mitigate exposure of construction workers and the public as necessary. The construction worker RBCs were prepared with the assumption that any workers digging utility trenches in the City parcel after completion of the Project would be protected.

The long-term operation of the closed, capped landfill is expected to result in periodic emissions from vehicles transporting visitors, maintenance staff, and replacement GAC. These trips are expected to be a source of negligible TAC emissions.

Regarding long-term effects on wildlife on-site and in surrounding habitat areas, the various PDFs and mitigation measure HAZ-1 discussed above to address human health risks will also address risks to wildlife and nearby water bodies and coastal wetlands.

Mitigation Measures

No long-term mitigation measures are necessary.

Conclusion. As shown in Table 4.6-6, incremental cancer risk at the maximum impacted residential receptor would exceed significance thresholds even with the incorporation of PDFs which would result in a potentially significant impact and required mitigation measures. As shown in Table 4.6-7, most (99%) of the cancer risk is attributed to DPM. A portion of DPM emissions are controlled by PDF 2-2, which requires use of Model Year 2007 or newer export haul trucks that will emit less DPM than the fleet average, but impacts would remain significant prior to mitigation. However, with the implementation of Mitigation Measure HAZ-1, incremental cancer risk impacts would be reduced to less than significant. Acute and chronic health risk HIs remain below the significance thresholds without Mitigation Measure HAZ-1 but would be reduced even further below the significance thresholds with mitigation. Similarly, implementation of mitigation measure HAZ-1 will reduce impacts to wildlife to less than significant.

Long-term operation of the Site would generate minimal TACs through occasional worker trips for maintenance and landscaping. The cap, landfill gas collection and clean fill would minimize COPC exposure. Therefore, the Project would result in a less than significant impact with regard to long-term operational COPC and TAC emissions.

Upset and Accidental Release Conditions

Impact 4.6-2	Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Short-Term

Short-term implementation of the RAP would not involve the use or storage of acutely hazardous materials on-site, above minimal amounts such as consumer packages of solvents for cleaning and other miscellaneous materials (e.g., engine oil, paints, pesticides, etc.) needed for maintenance. Those would be stored in appropriate marked storage areas and cabinets, as required. An accidental release (spill) would be easily contained to a small area and would not be expected to reach the off-site environment. Thus, this scenario does not warrant further evaluation.

Heavy-duty equipment, such as excavators and dump trucks, do contain hazardous materials such as diesel fuel. Diesel fuel may be delivered in bulk, stored on-site in a 1,000-gallon above ground storage tank (AST) or brought on-site by a mobile re-fueler, and dispensed as needed into individual pieces of equipment. A mobile maintenance vendor may be called on-site for routine maintenance, but equipment would be taken off-site if significant maintenance or repair were required. The drivers/operators of the bulk delivery trucks or mobile re-fuelers are trained and equipped to respond to a fuel spill, should one occur. Operators of heavy-duty equipment are trained to remain alert and nearby during fueling of equipment, and spills, should they occur, should not reach the off-site environment. Failure of the AST is possible. However, with controls, such as secondary containment, even a complete de-inventory of the diesel fuel from the AST is not expected to reach the off-site environment. Any spill of diesel fuel upon the Site would be remediated and treated in accordance with applicable regulations. Therefore, an accidental release scenario involving the spill of fuel from a mobile re-fueler or from the AST does not warrant further evaluation. Although unlikely, it is possible over the life of the Project (approximately one year) that a device, such as a hose, valve, clamp, tank, or reservoir, on the heavy duty construction equipment could rupture or leak. However, this equipment would operate exclusively on-site, and as such, even if a leak or spill occurred, it is highly unlikely that the material would reach the off-site environment. The Site-specific HASP would include measures to appropriately handle an on-site accidental release of fuel or other material from the equipment, and as such, this scenario does not warrant further evaluation.

With regard to the contaminated material and other material on-site, most of the COPCs do not pose an immediate risk to health or safety, especially at the relatively low concentrations found in soil on-site. Some of the COPCs, such as pyrene, 1,1-dichloroethane, and carbon disulfide, are classified as acutely hazardous materials (AHM) by the Office of Emergency Services (OES) because they can pose an immediate threat in an upset or accidental release scenario if found in their pure form or at high concentrations. It is important to note however, that the analytical data show that these AHMs are present at the Site only in low concentrations. Further, AHMs are subject to CalARP requirements, if present in volumes above thresholds quantities (TQs). CalARP requirements apply to stationary sources and not trucks; however, for the

purposes of CEQA, this analysis relied on the CalARP methodology to assess impacts relative to this impact criterion. The analytical data show that any AHMs present at the Site are at concentrations below TQs.

Due to the inconsistent nature of wastes deposited on-site, not all of the 32,250 BCY to be transported and disposed off-site is likely to contain AHMs. For the purposes of this analysis, as a conservative basis, it was assumed trucks would haul material that could contain AHMs. For haul trucks, the probability of an accident involving a collision is estimated to be 2 per 1,000,000 miles travelled.[44] However, not all collisions would result in a breach of the container and release to the environment. The probability of a release of a solid hazardous cargo is approximately 9.1 percent for solid materials.[45] The transport of 32,250 BCY of material would require approximately 2,000 trips. The longest on-road trip is estimated to be approximately 214 miles, which equates to approximately 428,000 total vehicle miles traveled (VMT) to transport the 32,250 BCY. Based on the rate of 2 collisions per 1,000,000 miles travelled, this poses a mathematical collision chance of 0.86, where 1 means it is likely to occur once during the lifetime of the Project. With a release rate of 9.1 percent of accidents, the probability of a release of AHM in transport to off-site receiver landfills is 0.08, using very conservative assumptions in that all of the 32,250 BCY contains AHMs. Therefore a collision involving a truck transporting this material resulting in a release is very unlikely to occur, which is defined as a frequency category 1 on Table 4.6-3. Thus, regardless of the severity ranges if exposure were to occur (across all four categories), the risk of a spill resulting in a release of this material to the environment is so low that it falls within the "acceptable (as is)" or "acceptable (with controls)" risk ranges. Drivers of waste hauling trucks are required to be trained to respond to and contain releases, and appropriate controls are in place.

The condition of the Site berms were a concern with regards to potential releases from the Site. In 2005, the berms at the Ascon Site were found to have degraded over time due to rodent burrows, soil slumping, and rainfall. Failure of the berms could have potentially resulted in the release of waste materials off-site. As a result, an Emergency Action was commenced to treat, pump, and discharge 3.8 million gallons of storm water, removal of drilling muds from Lagoons 4 and 5, reshaping of the north berm, reducing its height by about 8 feet in the central portion, installation of an under drain (toe drain), and construction of a buttress to reinforce the berm to minimize the chance of future upset scenarios resulting in releases of contaminated material, waste, or water to the environment. A 2011 fence-line soils investigation demonstrated that the berms were effectively containing wastes on-site.

Although unlikely, an accidental release due to berm failure or other similar upset condition during implementation of the RAP is hypothetically possible even with the improvements made to the berm since 2005. Similar to the discussion regarding transport of the materials off-site, regardless of the severity ranges, if exposure were to occur (across all four categories), the risk of a spill resulting in a release to the environment due to berm failure or other upset condition is so low that it falls within the "acceptable (as is)" or "acceptable (with controls)" risk ranges. Controls have been instituted Site-wide, including Best Management Practices (BMPs) to control stormwater, and monitoring of the perimeter berm walls is routinely performed.

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[44] *Argonne National Laboratory, Environmental Assessment Division, Risk Assessment for the Transportation of Hazardous Waste and Hazardous Waste Components of Low-Level Mixed Waste and Transuranic Waste for the U.S. Department of Energy Waste Management Programmatic Environmental Impact Statement, December 1996.*

[45] *Ibid.*

Mitigation Measures

No mitigation measures are necessary.

Long-Term

Implementation of the RAP would result in the consolidation of approximately 1,000,000 BCY of on-site materials under an engineered cap. The final top layer of the cap would be comprised of 2 feet of clean imported soil. The Site generates small quantities of landfill gas as a result of anaerobic decomposition. The landfill gas may contain methane, which is flammable over a narrow range of concentrations (5-15 percent) in air.[46] Although the GAC system would not remove methane (it is exhausted directly through the stack) it would be low in concentration and not pose a fire hazard. The average site-wide methane concentration measured in 2004 in subsurface soils was below the flammable range of methane, at 3.2 percent, which reflects a low level of methane generation that will further decrease with time.[47] The cap would implement a landfill gas collection and treatment system, under slight negative pressure, such that any landfill gas, which is anticipated to be minimal, would be drawn out from the landfill and not be allowed to collect within the waste prism or cover soils, thereby reducing the potential for an on-site upset condition (explosion/fire) to an improbable likelihood.

The top deck of the cap would include a geomembrane layer to stop infiltration of water into the on-site material, and the side slopes would include a four-foot thick vegetated evapotranspirative soil layer, geonet biotic layer, and two-foot thick foundation layer to minimize precipitation from infiltrating the waste materials. Surface water would be collected and diverted to a v-ditch at the toe of the cap and transported via gravity to the stormwater on-site detention basins. The cap would be designed in a manner to withstand major rain events without a loss in cover integrity. Both the top deck and side slopes would employ a geonet biotic layer to prevent burrowing animals from compromising the cap. Therefore, with installation of the cap and gas collection system, an accidental release of hazardous materials in the long-term is unlikely. Further, the geonet biotic layer will prevent burrowing animals from reaching contaminated materials that they might otherwise transport to the caps surface; and, the surface water collection system will prevent contaminated water from collecting on site to the potential detriment of wildlife. This will prevent wildlife from incidental ingestion and dermal contact of contaminated materials.

Mitigation Measures

No mitigation measures are necessary.

Conclusion. Using the CCPS risk assessment matrix, the two hypothetical scenarios considered possible: (1) the transport of 32,250 BCY of materials potentially impacted by AHM and (2) the potential for upset conditions to cause a berm or other barrier to fail on-site, are so improbable that they result in risk characterization within the "Acceptable (as is)" or "Acceptable (with controls)" ranges. Appropriate controls have been identified and would be implemented. Therefore, the risks posed by the potential hypothetical

[46] *U.S. Environmental Protection Agency, Guidance for Evaluating Landfill Gas Emissions from Closed or Abandoned Facilities, EPA-600/R-05/123a, September 2005.*

[47] *Geosyntec Consultants, Revised Landfill Gas Emissions Evaluation for the Ascon Landfill Site, April 2013.*

release of contaminated materials or other materials to the environment through upset conditions or accidental release during the transport of materials off-site and on-site implementation of the RAP are acceptable, and the Project results in less than significant impacts.

Once implementation of the RAP is complete, the engineered cap would serve to prevent accidental release of contaminated material remaining on-site to the environment through an upset condition (such as a breach of the cap during a major rain or seismic event). The gas collection system would serve to remove landfill gases produced from the Site. Therefore, the Project would result in a less than significant impact with regard to accidental release of hazardous materials in the long term.

Hazardous Emissions or Handling of Hazardous Materials Near a School

Impact 4.3-3	Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Short-Term

Edison High School is located approximately 400 feet northeast of the Site (i.e., the distance from the northeast corner of the Site to the edge of the high school parking lot). Excavation and soil handling would occur throughout the entire Site including portions closest to the school. Haul trucks would enter the Site near the northwest corner along Hamilton Avenue, and exit near the southeast corner along Magnolia Street which would bypass the school. The Site itself is, and all Project waste handling activities would be, situated within in a controlled access zone protected by fencing, gates and signage. As discussed above, trucks exiting the Site would be decontaminated and inspected before being allowed to leave. Implementation of the PDFs described above and the safety measures included in the RAP would ensure that impacts on school staff, attendees and visitors from emissions related to handling Site materials would remain at, or be reduced to, a less than significant level.

As described above, the HRA prepared for implementation of the RAP addressed impacts on off-site receptors and supports this conclusion. The HRA estimated, based on upper confidence limit potency values, that the maximally exposed receptor at the school would experience an unmitigated cancer incidence risk of 0.89 in one million based on 12-month exposure duration. The estimated risk for school receptors is below the significance threshold of one in one million. The HRA shows hazard indices of 0.05 for non-cancer effects of chronic exposure and 0.11 for non-cancer effects of acute exposure at the maximally exposed school receptor. Both hazard indices are well below the significance threshold of 1.00.

<u>Mitigation Measures</u>

No mitigation measures are necessary.

Long-Term

As discussed above, once the RAP has been completed, the cap would prevent the release of contaminated materials remaining on-site. Landfill gas generated underneath the cap would be collected and treated with an activated carbon treatment system. The spent activated carbon from the gas collection system would be transported off-site for treatment/regeneration or disposal. The likelihood of accidental release of spent

activated carbon would be very low due to periodic maintenance trips to the Site that ensure proper functioning of the treatment system. In addition, any release of spent activated carbon would not result in emissions since the VOCs would be bound to the GAC. Therefore, long-term operation of the Project would not emit hazardous emissions within one-quarter mile of a school.

Conclusion. As shown in Table 4.6-7 above, short-term cancer risks at the school receptor would not exceed significance thresholds. In addition, the acute and chronic HI for the school receptor would remain below the significance threshold of 1. Once implementation of the RAP is complete, the engineered cap and gas collection system would serve to prevent accidental release of contaminated materials remaining on-site. Therefore, the Project would result in a less than significant impact with regard to release or handling of hazardous materials within one-quarter mile of a school.

Mitigation Measures

No mitigation measures are necessary.

Located on a Hazardous Materials Site Pursuant to Government Code Section 65962.5

Impact 4.6-4	Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?

Short-Term and Long-Term

The Site is included on the "Cortese" list pursuant to Government Code Section 65962.5, (accessed via http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm). The Project is designed to provide remediation and protect the public and the environment from hazards and hazardous materials. The Project would result in short-term transport and disposal of contaminated materials, short-term potential for upset or accidental release, and short-term emissions; however, the Project would implement PDFs and mitigation measures (HAZ-1) to minimize these potential hazards to a less than significant level. Long-term operation of the Site would include a geomembrane/ET cap and gas collection system and would result in less than significant long-term impacts. Future development of the Site, if any, is not considered at this time; thus, it would be highly speculative to assess potential hazards from any future uses that are not known or contemplated and such assessment is beyond the appropriate scope of this EIR. Since the Project would implement PDFs and mitigation measures as discussed previously to minimize hazards or hazardous materials impacts on the public or environment to a less than significant level, impacts would be less than significant.

Mitigation Measures

Refer to Mitigation Measure 4.6-1. No additional mitigation measures are necessary.

Conclusion. The Project would implement PDFs and mitigation measures to reduce potentially significant short-term hazardous impacts to a less than significant level. Long-term operation of the Site would include a geomembrane/ET cap and gas collection system and would result in less than significant long-term impacts.

Consistency With City of Huntington Beach General Plan Goals and Policies

The City's General Plan contains policies that are relevant to hazards and hazardous materials and are presented in the General Plan Hazardous Materials Element as well as in other elements, such as the Hazards and Air Quality Element. The relevant policies are included in **Table 4.6-10**, *Comparison of the Project to the Applicable Policies of the Project Consistency with Huntington Beach General Plan Hazards Element*. As discussed in Table 4.6-10, implementation of the RAP would be consistent with the applicable goals and policies of the City of Huntington Beach General Plan pertaining to hazards and hazardous materials. Refer to Section 4.2, *Air Quality*, of this EIR for a discussion of the consistency with applicable policies in the Air Quality Element.

Table 4.6-10

Comparison of the Project to the Applicable Policies of the Huntington Beach General Plan Hazards Element

Policy	Project Consistency Analysis
HM 1.1: Promote the proper handling of hazardous waste by providing means for safe disposal.	**Consistent.** The handling of waste and materials on- and off-site would be conducted in compliance with applicable regulations. In addition, the Project would implement a number of project design features to minimize the emissions resulting from excavation and soil handling during the RAP. Such PDFs include use of a temporary structure and air tight sealed bins for Pit F excavation (PDF 2-2), use of emissions suppressants and tarps for covering stockpiles (PDF 2-10) and limiting truck speeds on-site to reduce re-entrained road dust (PDF 2-9).
HM 1.2: Avoid, to the extent feasible, risks from hazardous materials to sensitive uses such as hospitals, schools, residences, and environmentally sensitive areas.	**Consistent.** The Project is located near residential and school uses. The cap is designed to minimize risk from the COPCs remaining on-site through the use of a gas collection and treatment system (PDF 2-5). Compliance with SCAQMD Rules 1150 and 1166 will provide for minimization of emissions of volatile TACs (PDF 2-6). Removal of material from Pit F, on the edge nearest to residences, would be performed with enhanced controls under a Sprung (or similar) negative-pressure structure, and exhaust air would be routed to a GAC system to remove volatile COPCs (PDF 2-7). Trucks exporting material from the Site would be routed away from the school to the extent possible, and soil removed from tires and undercarriages before exiting the Site (PDF 2-11). Fugitive dust and volatile compounds emitted from excavation activities would be controlled using soil stabilizers or foam (PDFs 2-8 and 2-10).

Table 4.6-10 (Continued)

Comparison of the Project to the Applicable Policies of the General Plan Air Quality Element

Policy	Project Consistency Analysis
HM 1.3: Reduce the amount of hazardous waste generated in the city.	**Consistent.** The Project would not plan to generate hazardous waste in the City. The Project is designed to reduce long-term generation of emissions through the removal of contaminated material and installation of an engineered cap and gas collection system. Implementation of the RAP would remove waste on-site for disposal in a proper landfill or receiving site and would reduce the risk of upsets or accidental releases of hazardous materials.
HM 1.4: Promote the identification and remediation of existing hazardous waste sites.	**Consistent:** The main objective of the Project is to remediate the Site through removal of contaminated material and installation of an engineered cap and gas collection system. Contaminated materials would be removed to an appropriate receiving site for proper disposal, and a cap would be installed to contain materials remaining in place. A landfill gas collection would be installed and maintained to capture and treat landfill gases generated under the cap.
HM 1.6: Ensure effective emergency response and emergency preparedness to minimize the risk to public health and safety and damage to property and the environment from hazardous materials incidents such as spills or contamination.	**Consistent.** The City would be provided with details of the RAP to prepare emergency response teams in the event of accidental release from the Site. Once implementation of the RAP is completed, groundwater monitoring wells would be monitored to ensure that contaminated materials do not migrate off-site.

Source: PCR Services, Inc., 2013.

3. CUMULATIVE IMPACTS

Short-Term Impacts

As described above, the Project is located in an area with relatively low cancer risk due to regional airborne toxins. Ambient cancer risk due to regional airborne pollutants is approximately 500 in a million in the area surrounding the Site. The incremental increase in cancer risk estimated in the HRA resulting from short-term implementation of the RAP would be less than one in a million with mitigation. Based on a conservatively estimated incremental increase of less than one-half of 1 percent (~1/500) over the area-wide risk of 500 in a million, the cumulative impact with regard to cancer risk, the project would have a less than significant impact with regard to short-term impacts.

Accidental release incidents are typically based on individual incidents and would not be affected by cumulative conditions. The chance of accidental release due to transport of hazardous waste is based on vehicle miles travelled by the individual operator. Accidental release of on-site materials would also be

dependent upon site conditions and would not be influenced by cumulative conditions. Therefore, the Project would have no short-term cumulative impacts with regard to accidental release or upset conditions.

Long-Term Impacts

Health risk impacts from long-term implementation of the Project would be minimal. Landfill gases would be collected and treated with a gas collection system, and a geomembrane cap with a geotextile gas collection layer would prevent additional release of gases. Occasionally, maintenance vehicles would drive to the Site for landscaping or servicing the gas collection system. However, the number of trips would be minimal and would not result in vehicle emissions that exceed SCAQMD thresholds. Therefore, the project would have a less than significant impact with regard to long-term cumulative impacts. Accidental release incidents would also be based on Site conditions and not cumulative conditions, as is the case with short-term impacts. Therefore, the Project would have no long-term cumulative impacts with regard to accidental release or upset conditions.

Conclusion. The Project cumulatively combined with other reasonably foreseeable projects would not result in substantial cumulative adverse effects related to hazards and hazardous materials. The Project with mitigation would result in impacts that are less than significant. Thus, cumulative hazards and hazardous materials impacts would be less than significant.

4. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Short-Term Impacts

Implementation of the RAP would result in short-term impacts to hazards and hazardous materials that would be less than significant after implementation of mitigation measure HAZ-1.

Long-Term Impacts

Implementation of the RAP would result in long-term impacts to hazards and hazardous materials that would be less than significant.

4.7 WATER QUALITY

INTRODUCTION

This section of the EIR describes existing surface and groundwater conditions and applicable regulations related to surface and groundwater quality. Even though groundwater beneath the Site is not used for drinking water or other domestic or agricultural purposes, this section evaluates the potential impacts resulting from implementation of the RAP on surface and groundwater quality and on groundwater supply, along with potential impacts from long-term operation of a closed, capped Site.

Since 1966, over 20 investigations/studies of groundwater have been conducted at the Site. These studies include five groundwater monitoring events for the Groundwater Remedial Investigation[1] and semi-annual monitoring since 2007 as part of the DTSC-approved Interim Groundwater monitoring Program. These analyses, reports and other references characterize the Site's existing condition, including existing vertical and lateral groundwater conditions. All reference materials are listed in Section 8.0, *References*, of this EIR.

1. ENVIRONMENTAL SETTING

Regulatory Framework

Federal

Clean Water Act

The Clean Water Act (CWA) was designed to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. The CWA was created in 1972, and then amended in 1977, and again in 1987. The U.S. Environmental Protection Agency (EPA) has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs, such as the National Pollutant Discharge Elimination System (NPDES), to the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCBs). While the NPDES system is administered by federal and state programs, the local authority provides the specific requirements with which projects must comply. Thus, the NPDES program, as implemented in the City of Huntington Beach, is described in detail under the Local Regulations subsection of this EIR.

State

Responsibility for the protection of water quality in California resides with the SWRCB and nine RWQCBs. The SWRCB establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and state water quality statutes and regulations. The RWQCBs develop and implement Water Quality Control Plans (Basin Plans) that consider regional beneficial uses, water quality characteristics, and water quality problems. The Santa Ana Regional Water Quality Control Board (SARWQCB), which has jurisdiction over the Site, implements a number of federal and state laws, the most important of which are the California Porter-Cologne Water Quality Control Act and the Federal Clean Water Act.

[1] *Geosyntec, 2007,* Groundwater Remedial Investigation, Revision 1.0*, Ascon Landfill Site, Huntington Beach, California, June 14, 2007.*

Projects resulting in discharges to land or water are required to obtain approval of Waste Discharge Requirements (WDRs) from the RWQCB with jurisdiction over the discharge. WDRs for discharges to surface waters also serve as NPDES permits, which are further described below.

The RWQCBs have primary responsibility for issuing WDRs. The RWQCBs may issue individual WDRs to cover individual discharges or general WDRs to cover a category of discharges. WDRs may include effluent limitations or other requirements that are designed to implement applicable water quality control plans, including designated beneficial uses and the water quality objectives established to protect those uses and prevent the creation of nuisance conditions.

Porter-Cologne Water Quality Act

California's Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act, California Water Code Sections 13000 *et seq*.) grants the SWRCB and the RWQCBs power to protect surface water and groundwater quality. The Porter-Cologne Act is also the primary vehicle for implementing California's responsibilities under the federal Clean Water Act. This Act is the basic water quality control law for California and works in concert with the Federal CWA. The Porter-Cologne Act is implemented by the SWRCB and its nine regional boards which implement the permit provisions of Section 402 and certain planning provisions of Sections 205, 208, and 303 of the Federal CWA. This means that California issues one discharge permit for purposes of federal and state law. Permits for the discharge of pollutants are officially called NPDES permits. Surface water is water, such a stream or lake, occurring on a land surface or water introduced to a land surface by precipitation, whereas groundwater is water occurring in an aquifer below the ground surface. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges of waste to surface and groundwater, to regulate waste disposal sites, and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for certain unintended discharges of any hazardous substance, sewage, oil, or petroleum product.

Each RWQCB must formulate and adopt a Water Quality Control Plan (Basin Plan) for its region. The Basin Plan must conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State Water Policy. The Basin Plan establishes beneficial uses for surface and groundwater in the region, and sets forth narrative and numeric water quality standards to protect those beneficial uses. The Porter-Cologne Act also states that a RWQCB may include water discharge prohibitions applicable to particular conditions, areas, or types of waste within its regional plan. Section 13170 of the California Water Code also authorizes the SWRCB to adopt water quality control plans on its own initiative.

DTSC Enforcement and Oversight

The California Department of Toxic Substances Control (DTSC) is an agency of the government of the State of California and is part of the California Environmental Protection Agency (Cal EPA). DTSC's authority primarily comes from the Hazardous Waste Control Laws in the California Health and Safety Code, the California Environmental Quality Act (CEQA), the Federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA – Superfund), Title 22 of the California Code of Regulations, and the Federal Resource Conservation and Recovery Act of 1976 (RCRA). Other hazardous waste laws are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. DTSC develops regulations and consistent program policies and procedures that spell out how to comply with the laws and regulates the generation, handling, treatment and disposal of hazardous waste in

California. DTSC also implements cleanup programs on hazardous waste sites in California including disposal sites and industrial sites that have resulted in contamination of soil and groundwater, such as the Ascon Site.

In close cooperation with the United States Environmental Protection Agency, DTSC supports both state and federal hazardous waste programs including the Resource, Conservation and Recovery Act (RCRA), CERCLA, the Toxic Substances Control Act (TSCA) and a number of other state and federal bodies of law dealing with hazardous materials and the environment.

National Pollutant Discharge Elimination System

The NPDES permit program is administered in the State of California by the RWQCBs, and was first established under the authority of the Clean Water Act to control water pollution by regulating point sources that discharge pollutants into "Waters of the United States." If discharges from industrial, municipal, and other facilities go directly to surface waters, those project applicants must obtain NPDES permits. An individual NPDES permit is specifically tailored to a facility. A general NPDES permit covers multiple facilities within a specific activity category such as construction activities. In general, state regulations require all communities with populations over 50,000 to develop programs for reducing pollutants carried by stormwater runoff into waters of the United States. The SWRCB and RWQCBs also develop and implement state or regional general permits regulating short-term runoff from construction sites and long-term runoff from permanent development sites. These permits serve as the mechanism for enforcement of the program.

NPDES General Construction Permit

The SWRCB permits all regulated construction activities under the NPDES General Permit for Stormwater Discharges Associated with Construction Activity (Order No. 2009-009-DWQ, NPDES No. CAS000002), also known as General Construction Permit. Under the General Construction Permit, discharges of stormwater from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for stormwater discharges or be covered by the General Construction Permit. Each applicant under the General Construction Permit must file a Notice of Intent (NOI) with the RWQCB certifying that they have met the permit's eligibility conditions and ensure that a Stormwater Pollution Prevention Plan (SWPPP) is prepared prior to any constructions activities (such as cleaning, grading, excavating, and stockpiling). The primary objective of the SWPPP is to identify best management practices (BMPs) to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the site during construction, and those found applicable must be implemented during construction.

In 1999, the SWRCB issued, and subsequently amended, the General Construction Stormwater Permit (Water Quality Order 99-08-DWQ), which governs discharges from construction sites that disturb one acre or more of surface area. On September 2, 2009, the SWRCB adopted a new General Construction Permit that substantially alters the approach taken to regulate construction discharges through (1) requiring the determination of risk levels posed by a project's construction discharges to water quality and (2) establishing numerical water quality thresholds that trigger permit violations. These new permit regulations took effect on July 1, 2010.

Municipal Stormwater Permit

California's Municipal Stormwater Permitting Program regulates stormwater discharges from Municipal Storm Water Permits (MS4s). MS4 Permits were issued in two phases. Phase I was initiated in 1990, under which the RWQCBs adopted NPDES stormwater permits for medium (serving between 100,000 and 250,000 people) and large (serving more than 250,000 people) municipalities. As part of Phase II, the SWRCB adopted a General Permit for small MS4s (serving less than 100,000 people) and non-traditional small MS4s including governmental facilities such as military bases, public campuses, and prison and hospital complexes (WQ Order No. 2003-0005-DWQ).

California Environmental Protection Agency Monitoring Well Design and Construction Guidelines

The California Environmental Protection Agency (Cal EPA) guidance, *Monitoring Well Design and Construction Guidelines for Hydrogeologic Characterization* (1995), for hazardous waste sites provides recommended quality assurance and quality control (QA/QC) procedures and establishes a standardized approach to the presentation of groundwater monitoring well construction records. The recommendations of the Cal EPA Guidelines include minimal criteria necessary to obtain quality data and assure reasonable and independently verifiable interpretations. Cal EPA Guidelines also incorporate the American Society for Testing and Materials (ASTM) guidelines for well construction and decommissioning, where technically and legally relevant, into the Cal EPA's guidance framework.[2]

Cal EPA acknowledges that groundwater monitoring wells provide a means to assess groundwater quality, estimate groundwater flow direction and velocity, and calculate aquifer hydraulic properties. According to Cal EPA, monitoring information enables the characterization of hydrogeologic conditions, identification of contamination, and development of appropriate remedies to mitigate groundwater contamination.[3] Cal EPA's well design Guidelines provide standards for borehole construction; stratigraphic control; installation procedures; well casing and screen materials; well casing diameters; casing cleaning requirements; well intake design; documentation of well design, construction, and development; and processes for the decommissioning of groundwater monitoring wells and boreholes. All design features are intended to protect and limit impacts to monitored aquifers. The Guidelines, however, do not supersede California Code of Regulations (CCR) Title 22 or other specific regulatory controls.

Regional

Basin Plan

The Santa Ana RWQCB (SARWQCB) (Region 8) has jurisdiction over the Santa Ana River Basin, in which the Ascon Site is located. The SARWQCB is required by law to develop, adopt, and implement a Water Quality Control Plan for the entire region. The principal elements of the Water Quality Control Plan are a statement of beneficial water uses that the SARWQCB will protect, water quality objectives needed to protect the designated beneficial water uses, and strategies and time schedules for achieving the water quality objectives. The water quality objectives are achieved primarily through the establishment and enforcement of WDRs. Both beneficial uses and water quality objectives comprise the relevant water quality standards.

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[2] *State of California, Environmental Protection Agency, Monitoring Well Design and Construction for Hydrologic Characterization, July 1995.*

[3] *State of California, Environmental Protection Agency, Op. Cit.*

The Santa Ana Water Quality Control Plan (Basin Plan) specifically: (1) designates beneficial uses for surface and groundwaters; (2) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy; and (3) describes implementation programs to protect all waters in the region. In cases where the Basin Plan does not contain a criteria for a particular pollutant, other criteria are used to establish a water quality objective. These may be applied from SWRCB documents (e.g., the Inland Surface Waters Plan and the Pollutant Policy Document) or from water quality criteria developed under Section 304(a) of the Clean Water Act (e.g., California Toxics Rule).

The SARWQCB has set water quality objectives for all surface waters in the region. Chemical constituents are regulated depending upon the beneficial use of the water body. Water quality objectives are also set for groundwater and enclosed bays and estuaries. The RAP would be subject to the requirements of the Basin Plan.

General Waste Discharge Requirements for Discharges to Surface Waters Which Pose an Insignificant (de minimus) Threat to Water Quality (Dewatering Permit)

The SARWQCB issued Order No. R8-2003-0061 and Amendments to NPDES Permit No. CAG998001 (Dewatering Permit) to regulate the discharge of dewatering wastes from construction, subterranean seepage, and other similar types of discharges considered to have "de minimus" impacts on water quality within the jurisdictions covered by the County permit. This permit was updated in March 2009 (by Order No. R8-2009-0003, NPDES NP CAG998001) and applies to projects located within the City of Huntington Beach (City). To obtain coverage under this permit, an applicant must submit a NOI and data establishing the chemical characteristics of the dewatering discharge. A standard monitoring and reporting program is included as part of the permit. For dewatering activities that are not covered by the General Permit, an individual NPDES permit must be obtained from the applicable RWQCB.

Orange County Municipal Stormwater NPDES Permit

Stormwater discharges from the City of Huntington Beach are also currently regulated under the Fourth-Term regional individual permit—Santa Ana Region Waste Discharge Requirements for the County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County within the Santa Ana Region Areawide Urban Stormwater Runoff Municipal NPDES Permit (Order No. R8-2009-0030, NPDES No. CAS618030).

Under the Orange County Municipal Stormwater NPDES Permit, each permittee, including the City of Huntington Beach, shall ensure that an appropriate Water Quality Management Plan (WQMP), which is discussed in more detail below, is prepared for new development/significant redevelopment projects classified as a Priority Project.[4] The proposed RAP qualifies as a Priority Project as it would result in greater than 5,000 square feet of impervious surface on the Site. The WQMP shall be developed in accordance with the approved Model WQMP and shall incorporate Low-Impact Development (LID) principles in the WQMP. At a minimum, structural BMPs shall be designed and built in accordance with the approved Model WQMP

[4] *Among other definitions, the SARWQCB defines "Priority Project" as one that creates a minimum of 5,000 square feet of new impervious surface area. BMPs are required for all projects defined as "Priority Projects.:*

and must be sized to comply with one of the numeric sizing criteria listed in the Municipal Stormwater NDPES Permit.

Low Impact Development (LID)

The design goal of LID is to maintain or replicate the pre-development hydrologic regime that creates a functionally equivalent post-development hydrologic regime. Each Priority Project shall infiltrate, harvest and re-use, evapotranspire, or bio-treat the 85th percentile storm event (design capture volume). Any portion of the design capture volume that is not infiltrated, harvested and re-used, evapotranspired or bio-treated on site by LID BMPs shall be treated and discharged in accordance with the city's current NPDES permit. The LID combines hydrologically functional site design with pollution prevention methods to compensate for land development impact on hydrology and water quality.

LID site design principles are intended to reduce runoff to a level consistent with the maximum extent practicable standard during each phase of a Priority Project. Each Priority Project shall include site design BMPs during development of the preliminary and final WQMPs. During the early planning stages of a Priority Project, the LID principles shall be considered to address pollutants of concern identified in the applicable Watershed Action Plans and Total Maximum Daily Load (TMDL) Implementation Plans, and the LID BMPs shall be incorporated into the sites conceptual WQMP. Site design considerations that must be included in the WQMP are listed in the Municipal Stormwater NPDES Permit.

The purpose of the Orange County Stormwater Program 2003 Drainage Area Management Plan (DAMP) is to satisfy Municipal Stormwater NPDES Permit conditions for creating and implementing an Urban Runoff Management Plan (URMP) to reduce pollutant discharges to the maximum extent practicable (MEP) for protection of receiving waterbody water quality and support of designated beneficial uses. The main objectives of the DAMP are to fulfill the permittees' commitment to present a plan that satisfies NPDES permit requirements and to evaluate the impacts of urban stormwater discharges on receiving waters. The DAMP elements include: (1) the establishment of public outreach and educational programs, management strategies, and inter-agency coordination; (2) continuing participation in the Regional Research/Monitoring program that is being conducted with the neighboring counties, the Southern California Coastal Waters Research Project, and three Southern California Regional Boards; (3) the establishment of BMPs aimed at managing project-induced hydrologic effects; and (4) the improvement of water quality throughout the region. The DAMP contains guidance on both structural and nonstructural BMPs for meeting these goals.

Local

City of Huntington Beach Local Implementation Plan

The current water pollution control program elements are documented in the DAMP and corresponding City of Huntington Beach Stormwater NPDES Permit Local Implementation Plan (City of Huntington Beach LIP). The City has developed its LIP using the DAMP as its basis. As with the DAMP, the LIP proposes a wide range of continuing and enhanced BMPs and control techniques that will be implemented and reported on as part of the fourth-term permit reports.

The City of Huntington Beach LIP has also incorporated the model construction program described in the DAMP. The construction program includes requirements, guidelines, and methods that construction site owners, developers, contractors and other responsible parties must use for pollution prevention to protect

water quality from construction discharges. Regardless of size or priority, all construction projects are required to implement BMPs to prevent unmanaged runoff and discharges into the storm drain system or water bodies. At a minimum, all construction projects must include erosion and sediment controls, as well as waste and materials management controls. The City of Huntington Beach LIP designates the construction-specific BMPs that the City has determined acceptable for use within the City's jurisdiction.

Water Quality Management Plan

During the permitting process associated with a project, the City of Huntington Beach requires all new development and significant redevelopment qualifying as a Priority Project to address the quantity and quality of stormwater runoff from the completed development in a project-specific WQMP. The WQMP describes how a project would meet the following requirements:

- Incorporate and implement all applicable Source Control BMPs (examples of Source Control BMPs include the use of fiber rolls to control sediment and erosion, stabilization of non-active areas as soon as feasible, and daily removal of sediment on access roads);
- Consider the implementation of Site Design BMPs (e.g., pervious pavement, bioretention), and document those BMPs included and those not included; and
- Either implement Treatment Control BMPs or participate in or contribute to an acceptable regional or watershed management program.

The City has general/standard conditions of approval to protect receiving water quality from short- and long-term impacts of new development and significant redevelopment. Prior to issuance of any grading or building permit for projects that disturb soil of one or more acres, the Applicant shall demonstrate, by providing a copy of the Notice of Intent submitted to the SWRCB and a copy of the subsequent issuance of a Waste Discharge Identification number, that coverage has been obtained under the Construction General Permit. Projects subject to this requirement shall also prepare, submit, and implement a SWPPP, including erosion control measures. This also includes the requirement that all structural and non-structural BMPs described in the WQMP have been installed and implemented in accordance with approved plans and specifications prior to close-out of a grading permit.

City of Huntington Beach General Plan Utilities Element

Certain goals and objectives of the Huntington Beach General Plan Utilities Element are applicable to surface water drainage and water quality. The General Plan's primary water-related goal is to provide for a drainage or flood control system that is able to support the City's permitted land uses while preserving the public safety and to upgrade existing deficient systems (Goal U3). Hydrological objectives of the General Plan also include (1) Objective U3.1 to ensure that adequate storm drain and flood control facilities are provided and properly maintained in order to protect life and property from flood hazards, and (2) Objective U3.2 to ensure the costs of infrastructure improvements to the storm drain and control system are borne by those who benefit. The objective of the Utilities Element applicable to water quality is Objective U3.3, which is to ensure that storm drain facilities (channels and outlets) do not adversely affect the environment traversed by the facilities or into which the facilities drain.

City of Huntington Beach Urban Runoff Management Plan

The 2010 City of Huntington Beach Urban Runoff Management Plan (URMP) (June 2011) provides a broad framework for managing water resources and water quality. The following sections of the URMP identify potential common solutions that can address both water quality and supply concerns.

Section 2: Water Resources and Supplies

Groundwater issues described in the URMP include the use of groundwater drawn from the Orange County Groundwater Basin and the condition that the Basin is not specifically identified as a basin in an overdraft condition.[5] The URMP also describes the target accumulated overdraft based on the 2009 Orange County Water District's (OCWD) Groundwater Management Plan. The OCWD's Groundwater Management Plan continually monitors groundwater level trends and summarizes the accumulated overdraft and water level elevations within the basin. The URMP further states that an overdraft condition would reduce localized high groundwater levels and increase the ability to recharge storm events from the Santa Ana River. With an accumulated overdraft of 200,000 acre feet, the basin is considered 99.7 percent full. In an effort to eliminate long-term overdraft conditions, OCWD developed a comprehensive computer-based groundwater flow model to study and better understand the basin's reaction to pumping and recharge. OCWD has also implemented a monitoring program to track dynamic conditions including groundwater production, storage elevations, seawater intrusion, and quality. Components of this monitoring program include the request for the City and other groundwater producers to provide their groundwater production to OCWD on a monthly basis and provide yearly measurement of groundwater levels, water quality monitoring, and measures to reduce sea water intrusion.[6]

Section 3: Water Quality

The Water Quality section describes the quality of imported and groundwater supplies and provides a basis for implementing a comprehensive program for improving water quality through a combination of methods. As described in the URMP, the City monitors a number of regulated and unregulated compounds in its water supply according to the requirements of the Safe Drinking Water Act. The results from this testing are included in the City's 2010 Annual Water Quality Report described in the URMP. Water quality contaminants and constituents of concern (COC) include salinity, nitrates, volatile organic compounds (VOCs), and emerging contaminants such as pharmaceuticals. The groundwater protection policy described in the URWP is to maintain groundwater quality suitable for all existing and potential beneficial uses; prevention of groundwater quality degradation, and maintenance of, or increase in, the basin's usable storage capacity. Programs established to achieve these objectives are described in the analysis of Project's consistency with the URMP, below.

City of Huntington Beach Municipal Code

In order to comply with NPDES permit requirements, the City of Huntington Beach has codified requirements in the City of Huntington Beach Municipal Code. The following sections of the municipal code would be applicable to the Project:

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[5] *State of California Groundwater Bulletin 118, updated 2003, and Bulletin 160, 2009.*

[6] *City of Huntington Beach Urban Water Management Plan, pages 2-8 and 2-9, 2010.*

- Chapter 14.25 (Stormwater and Urban Runoff Management)
- Chapter 14.48 (Drainage)
- Chapter 14.52 (Water Efficient Landscape Requirement)
- Chapter 17.05 (Grading and Excavation Code)

Existing Conditions

Groundwater

Waste material, soil, and construction debris at the Site is underlain by unconsolidated sediments of the upper Holocene Unit. The upper Holocene Unit is approximately 70 feet thick beneath the Site and is comprised of sand with interbedded clay, silt, and peat beds.[7] Previous investigators have described the upper Holocene Unit as being composed of an upper silty-clay layer ranging from 2 to 10 feet thick and a lower water-bearing sand unit.[8] The silty-clay layer has been shown to act as a confining bed and impede infiltration of contaminants into deeper zones.[9]

In the vicinity of the Site, groundwater occurs in two hydrologic units: (1) a shallow sandy unit designated as the Semiperched Aquifer (SPA), and (2) a deeper underlying sandy unit known as the Talbert Aquifer. Groundwater in the SPA is degraded regionally by high concentrations of Total Dissolved Solids(TDS)[10] from seawater intrusion and, as a result, is not considered a useable water resource. The Talbert Aquifer occurs at a depth of about 70 feet below ground surface (bgs) and also has limited beneficial use due to seawater intrusion. Although the Site is located approximately one-half mile north of Huntington State Beach and the Pacific Ocean, tidal influences on groundwater levels at the Site are not significant. The groundwater flow direction in the area of the Site adjacent to the flood control channel is generally toward the north or northeast (parallel or away from the channel) while groundwater flow across the Site is generally northward. In the southeastern portion of the Site, the groundwater flow direction, at times, has a slight component to the east.

Typically, near-surface, fine-grained sediments impede water from percolating downward to aquifers. In the vicinity of the landfill, shallow groundwater is found in the clays, silts, and sands designated as the SPA, located within the upper unit of Holocene alluvium, and sands and gravels of the lower Holocene alluvium, identified as the Talbert Aquifer.[11] Groundwater elevations generally range from near 0 feet mean sea level (MSL) in the southern reaches of the Site to -5 feet MSL in the northwest site corner of the Site.

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[7] *Peat is a dark, fibrous accumulation of partially decomposed and disintegrated organic matter found in wet areas, and usually comprising residues of plants such as mosses but also including sedges, trees, and other plant, and even animal, matter. It is generally light and spongy in consistency and dark brown or black in color.*

[8] *Radian Corporation (Radian), 1988, Final Site Characterization Report, Ascon Site, Volume 1 Text and Plates, prepared for Ascon Properties, Inc., December 1988.*

[9] *Geosyntec, 2007a, Groundwater Remedial Investigation, Revision 1.0, Ascon Landfill Site, Huntington Beach, California, June 14, 2007.*

[10] *Primarily dissolved salts.*

[11] *Project Navigator, Ltd., 2007, Revised Feasibility Study, September 21, 2007; Geosyntec, 2007a, Groundwater Remedial Investigation, Revision 1.0, Ascon Landfill Site, Huntington Beach, California, June 14, 2007.*

The Site and its underlying aquifers are on the seaward side of the Talbert Water Injection Barrier, a line of wells along Ellis Avenue, an east-west street located approximately three miles north of the Site. Along the barrier recycled potable water is injected into the underlying aquifers to minimize seawater intrusion into the usable aquifers located further inland. Due to the Site's location on the seaward side of the injection barrier, the underlying aquifers are generally not considered a useable water resource. Saltwater intrusion from the Pacific Ocean occurs beneath the Site and extends three miles inland from the Site. As a result, none of the groundwater under or within three miles of the Site is used for drinking water, agricultural use, or for industrial purposes.[12] Groundwater in both the SPA and Talbert Aquifers beneath the Site is not considered useable per criteria in the SWRCB Resolution 88-63 because of the elevated TDS. However, the RWQCB has designated beneficial uses for the groundwater other than municipal supply.[13][14] Therefore, the protection of groundwater in the area is an objective of the RWQCB.

Groundwater beneath and adjacent to the Site has been monitored through sampling and analyses of groundwater monitoring wells since 1982. There are forty-four monitoring wells and piezometers currently located throughout the Site, thirty-one of which are currently gauged for groundwater levels, twelve of which are sampled for water quality as part of the semi-annual interim groundwater monitoring program.[15]

Below is a summary of groundwater conditions beneath the Site as presented in a 2007 Groundwater Remedial Investigation (RI).[16] The series of Interim Groundwater Monitoring Reports documenting semi-annual groundwater sampling events since the 2007 Groundwater RI, Revision 1.0 demonstrate no significant changes to the known, limited waste impacts to groundwater as presented in the 2007 RI. A summary of salient information pertaining to groundwater sampling events is as follows

- Likely as a result of impacts from seawater, groundwater in the SPA contains very high TDS concentrations, and the State Maximum Contaminant Levels for drinking water (MCLs) were exceeded for chloride, sulfate, and TDS (typical contaminants associated with seawater) in groundwater samples obtained at different locations across the Site.
- Other than benzene and 1,4-dichlorobenzene (DCB) during the RI, volatile organic compounds (VOCs) were not detected at concentrations which exceeded their respective MCLs in the groundwater samples obtained from the SPA. Benzene was detected in samples obtained from two groundwater monitoring wells at concentrations which exceeded its MCL while DCB was detected in a sample obtained from one groundwater well at concentrations which exceeded the MCL for DCB. Subsequent to the RI, benzene, DCB, and ethylbenzene were detected above their respective MCLs in one additional well. However, these new detections were found to be inconsistent (i.e., they did not repeat in subsequent sampling events). Of the VOCs, only benzene is found consistently above its MCL and in only one well located in the Site interior.

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[12] *Project Navigator, Ltd., 2007, Revised Feasibility Study, September 21, 2007.*

[13] *Geosyntec, 2007a, Groundwater Remedial Investigation, Revision 1.0, Ascon Landfill Site, Huntington Beach, California, June 14, 2007.*

[14] *According to the Basin Plan, beneficial uses of the groundwater include Agricultural Supply, Industrial Service Supply, and Industrial Process Supply.*

[15] *Project Navigator, Ltd., 2013,* Draft Remedial Action Plan*, April 3, 2013.*

[16] *Geosyntec, 2007a, Groundwater Remedial Investigation, Revision 1.0, Ascon Landfill Site, Huntington Beach, California, June 14, 2007.*

- Semi-volatile organic compounds (SVOCs) were consistently detected in groundwater samples obtained from two groundwater wells located in the Site interior. The SVOCs detected do not have MCLs. Subsequent to the RI, other SVOCs have been detected inconsistently in several other wells, and DCB, as a SVOC, was detected above the MCL during one sampling event in one well. DCB is also considered a VOC, and this detection has been discussed above. In addition, it is noted that the emergent SVOC chemical N-nitrosodimethlyamine (NDMA) was detected at a very low concentration [0.0021 micrograms/litre (µg/l)] in one off-site sample collected from Well MW-17 in the first quarter of 2004 but was neither detected at any other location nor detected in MW-17 in the second quarter of 2004. [17,18,19]
- Selenium concentrations in groundwater samples obtained from the SPA were detected above the selenium MCL. The probable source of the selenium is seawater recharge from the Huntington Beach Flood Control Channel located adjacent to a portion of the west boundary of the landfill. Antimony and arsenic have also been detected above their respective MCLs but at concentrations that are inconsistent (i.e., not repeated in subsequent sampling events).

Based on field measurements and analytical results for groundwater sampling events, the groundwater impacts associated with the Site are limited. Given the length of time waste has been present at the Site and the minimal contaminants detected in groundwater, it appears that very little, if any, migration of on-site materials into the underlying shallow groundwater (SPA) occurs.[20]

Surface Water

Stormwater discharges from the urbanized areas in Orange County consist mainly of surface runoff from residential, commercial, and industrial developments. In addition, there are stormwater discharges from agricultural land uses in the non-urbanized area of Orange County, including farming and animal operations.

Discharges from various areas within the City drain directly or indirectly into urban streams, city lakes, bays, wetlands, estuaries, and the Pacific Ocean. The City owns, operates, and maintains a storm drainage system for the purpose of conveying storm runoff to reduce or eliminate flooding under peak storm flow conditions. The storm drainage system begins with the streets and roads, and includes inlets, storm drains, open channels, pump stations, detention basins, and other appurtenances. While the primary purpose of the storm drain system is to reduce or eliminate flood hazards, the system carries both dry- and wet-weather urban runoff and the pollutants associated with runoff from urban land use and activities. The quality of urban runoff in the City is typical of most urban areas and includes a variety of common contaminants.[21] These pollutants consist primarily of suspended sediments, fertilizers and pesticides, animal waste, and contaminants that are commonly associated with automobiles (e.g., petroleum compounds such as oil, grease, and hydrocarbons). In addition, urban stormwater often contains high levels of soluble and particulate heavy metals generated from traffic, industrial facilities, and occasionally, residential sources.

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[17] Project Navigator, Ltd*., 2007, Revised Feasibility Study,* September 21, 2007.

[18] *Well MW-17 is located north of the entry gate along Hamilton Avenue near the northwest corner of the Site.*

[19] *"Emergent Chemicals" are compounds of more recent concern due to their emerging incidence of detection in groundwater and surface water throughout the industry. These compounds are associated with military and industrial facilities and have acute and chronic health effects in humans.*

[20] Ibid.

[21] *City of Huntington Beach, Citywide Urban Runoff Management Plan, 2005.*

Several major channels owned and maintained by Orange County are also within the City of Huntington Beach. These channels receive runoff from areas within the City as well as substantial drainage areas in other upstream jurisdictions. It is estimated that runoff from the City makes up about 35-40 percent of the total dry- and wet-weather flows in these channels.

The nearest river to the Site is the Santa Ana River. Surface water from the Site does not flow into the Santa Ana River.

Surface Water Management Plan

A Surface Water Management Plan, prepared and submitted by the RPs to DTSC in January 2004, was implemented on the Site[22] until a SWPPP was prepared in accordance with the NPDES General Industrial Permit. The SWPPP is in place to identify activities and materials that may affect stormwater discharge quality and to identify and implement minimum and site-specific BMPs. An earthen berm surrounds much of the Site and prevents some surface water from flowing off-site. A toe drain is located at the foot of the berm along Hamilton Avenue to collect potential stormwater runoff from the berm and any potential seepage from the berm. Conversely, the height of the Site in comparison to surrounding streets and land uses prevents any urban runoff associated with the surrounding uses from draining onto the Site, except during heavy precipitation events when storm water accumulates on Magnolia Street at the southeastern corner of the Site and floods that corner. On-site surface water flow is also managed and controlled through stormwater collection improvements, including collection swales and stormwater detention basins. The swales and detention basins collect stormwater that falls onto the Site that is not collected in the lagoons and reduces potential sediments in stormwater runoff. Stormwater that comes in contact with lagoon materials (Lagoons 1 – 5), called "contact water," remains on-site and is allowed to evaporate from the lagoons or infiltrate into the lagoons. Currently, there is one drainage outlet from the Site, which is within a detention basin located in the southeastern corner of the Site. This drainage outlet conveys stormwater (excluding contact water) from the Site during heavy rain events to Magnolia Street where runoff is ultimately conveyed to the storm drain system. Given that much of the Site's stormwater is contained within the Site during even heavy rainfall periods, runoff is rarely observed. Nonetheless, observed stormwater runoff is sampled and tested per the existing General Industrial NPDES permit, and results are reported to the Santa Ana RWQCB. Site inspections are conducted during rain events and once per month during the wet season to verify that stormwater handling improvements (BMPs) are operating correctly and that any needed repairs are made.

2. PROJECT IMPACTS

Significance Criteria

For purposes of this EIR, DTSC has utilized the checklist questions in Appendix G of the *CEQA Guidelines* as thresholds of significance to determine whether a project would have a significant environmental impact regarding water quality and depletion of groundwater supplies. Based on the size and scope of the Project and the potential for water quality impacts, the thresholds identified below are included for evaluation in this EIR. Please refer to Section 6.0, *Other Mandatory CEQA Considerations*, for a discussion of other issues associated with the evaluation of hydrology and other water-related issues where the characteristics of the

[22] *Project Navigator, Ltd., Surface Water Management Plan, January 27, 2004.*

Project made it clear that effects would not be significant and further evaluation in this section was not warranted.

Would the Project:

4.7-1: Violate any water quality standards or waste discharge requirements (refer to Impact Statement 4.7-1);

4.7-2: Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff (refer to Impact Statement 4.7-2);

4.7-3: Otherwise substantially degrade water quality (refer to Impact Statement 4.7-3); and

4.7-4: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted) (refer to Impact Statement 4.7-4).

Methodology

The short-term construction and long-term operation stages of RAP implementation are evaluated for the potential of the Project to degrade the quality of surface water and groundwater. The evaluation also describes the applicability of state and local regulations in preventing or reducing potential contaminants in surface and groundwater resources. The effects of short-term remediation and construction activities and long-term maintenance of the closed, capped landfill on groundwater supplies or the recharge of the underlying aquifer are also evaluated. Evaluations also take into consideration the role of project design features in reducing or preventing adverse conditions.

Project Design Features

The following Project Design Features (PDFs) are strategies that the RPs have voluntarily agreed to implement to prevent the occurrence, and/or minimize the significance, of potential water quality impacts. These features would be included in the Mitigation Monitoring and Reporting Program (MMRP) for the Project.

PDF 7-1 Prior to the start of RAP implementation, an application for a Coastal Development Permit would be submitted by the RPs to the City of Huntington Beach and a Notice of Intent would be submitted to the SWRCB to comply with the General Construction NPDES Permit. To comply with NPDES Permit conditions, a Water Quality Management Plan (WQMP) and Construction Storm Water Pollution Prevention Plan (SWPPP) would include descriptions of best management practices (BMPs) that would reduce the potential for discharge of pollutants in runoff into the storm drain system during grading and construction. Typical BMPs include silt fences, fiber rolls, stockpile management, spill prevention and control, and the use of protective sheeting or tarps prior to any rain

event on steep slopes. BMPs would minimize erosion from, and stabilization of, disturbed surfaces. Site specific BMPs would be available to the City of Huntington Beach for review. The SWPPP would require that all structural and non-structural BMPs described in the WQMP be installed and implemented in accordance with approved plans and specifications prior to the beginning of construction activities.

PDF 7-2 Plans for the remedy stormwater collection system would be submitted for approval to the City of Huntington Beach Department of Public Works. The stormwater collection system would be designed to divert rainfall from the Site surface to two unlined detention basins. The conceptual cap design includes two detention basins to be located on-site in uncapped areas of native or imported soils. The uncapped detention basins, perimeter access road and City parcel would be unlined to allow percolation. A diversion system consisting of V-ditches and/or swales would be installed along the perimeter of the final cover to collect and redirect runoff from the cap to the detention basins prior to runoff entering the perimeter road and City parcel. The system would be in compliance with the General Industrial NPDES Permit with the California SWRCB and the Site's Industrial SWPPP. The stormwater collection plan would be reviewed and approved by the City of Huntington Beach Department of Public Works prior to construction of the stormwater detention basins.

PDF 7-3 Silty-clay layers which underlie the site and provide protection for the existing groundwater table would be kept in an undisturbed condition to the maximum extent feasible. Visual soil inspections would occur as necessary by a qualified geologist during excavation activities that are anticipated to occur close to the silty clay layer to ensure silty clay layers are preserved.

PDF 7-4 If groundwater of the SPA were encountered during excavation activities (besides Pit F), the removal of materials at that location would be terminated, with the exception of at Pit F. The excavation site (except at Pit F) would be backfilled with soils to prevent waste materials from entering groundwater. This PDF to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration in monthly compliance certification reports submitted by the project contractor.

PDF 7-5: For contingency planning, construction dewatering may be required during removal of Pit F materials. If dewatering is necessary, contact water would be disposed off-site or treated prior to discharge in accordance with applicable NPDES and dewatering permit requirements implemented by the SARWQCB. This PDF to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration in monthly compliance certification reports submitted by the project contractor.

PDF 7-6 After completion of the cap, a 30-year Operations and Maintenance (O&M) Plan would outline long-term groundwater monitoring requirements under a Groundwater Contingency Program. The long-term groundwater-monitoring program would be similar to the interim groundwater monitoring program now in place. Groundwater monitoring and sampling would be performed at regular intervals from wells located generally near the Site perimeter. During the proposed long-term program, if any chemical concentrations in a perimeter, downgradient well are detected above threshold limits (i.e., Maximum Contaminant Levels or vapor-risk values), and are not within

background levels (i.e., above levels already present due to natural occurrence), steps would be taken to further assess and remedy the condition as appropriate. This PDF to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration in semi-annual groundwater monitoring reports submitted by the RPs.

PDF 7-7 Installation of new monitoring wells would be performed in accordance with the Cal EPA guidelines, *Monitoring Well Design and Construction for Hydrogeologic Characterization (1995)* and *California Well Standards (1991)*. Well replacement activities would comply with the Cal EPA's and State of California guideline standards for borehole construction; stratigraphic control; installation procedures; well casing and screen materials; well casing diameters; casing cleaning requirements; well intake design; documentation of well design, construction, and development; and processes for the decommissioning of groundwater monitoring wells and boreholes. All work would be conducted by qualified contractors. This PDF to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration in monthly compliance certification reports submitted by the project contractor.

PDF 7-8 During implementation of the RAP, site inspections would be conducted prior to and during rain events and once per month during the wet season per the Site-specific Construction SWPPP to verify that on-site stormwater handling improvements (BMPs) are operating correctly and so that repairs can be made, as needed. During construction and operation, stormwater runoff from the Site would be sampled and tested per applicable SARWCQB requirements, and results would be reported to the SARWQCB. This PDF to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration in Annual Report(s) for Stormwater Discharges Associated with Construction Activities for the Site submitted by the Responsible Parties.

PDF 7-9 The proposed cap system would include a geomembrane layer on the top deck to minimize surface water infiltration into the underlying waste materials to a degree equivalent to cover systems installed at transfer, storage and disposal facilities, the design requirements for which are set forth in California's Title 22, section 66265.310(a). The side slopes would include a four-foot thick vegetated evapotranspirative soil layer, geonet biotic layer, and two-foot thick foundation layer to minimize precipitation infiltrating the waste materials and, thus, potentially entering the groundwater supply. The cap would also prevent the exposure of the waste materials to collected or sheet-flow precipitation. The design of the cap will be reviewed and approved by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to construction of the cap.

PDF 7-10 A cover of grass and/or other shallow-rooted vegetation would be provided on the top deck and side slopes of the cap to control erosion and minimize potential movement of materials from under the cap into surface runoff. In addition, the perimeter road would be surfaced with gravel to minimize soil erosion during rain events. The design of the cap and side slopes will be reviewed and approved by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to construction of the cap.

Analysis of Project Impacts

Water Quality

Impact 4.7-1:	Would the Project violate any water quality standards or waste discharge requirements?
Impact 4.7-2:	Would the Project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
Impact 4.7-3:	Would the project otherwise substantially degrade water quality?

Short-Term Impacts

Groundwater and surface water quality could be adversely affected by the implementation of the RAP if the activities allow direct contact between contaminated materials and surface waters or the groundwater table. Exposure of the groundwater table could occur during excavation if groundwater were encountered or during general grading and other cap construction during a heavy rainfall and contaminants were carried to the groundwater through infiltration. PDFs 7-1 to 7-5 are intended to prevent the infiltration of rainfall into the groundwater table to the extent feasible during construction through stormwater control measures (BMPs) set forth in the approved SWPPP; the use of dewatering, if needed; and constraining depths of excavations to protect silty/clay materials underlying the Site. The silty/clay layers currently impede groundwater recharge and, if left intact, would limit contaminant migration to groundwater during RAP implementation. Under PDF 7-3, silty-clay layers which underlie the site and provide protection for the existing groundwater table would be kept in an undisturbed condition to the maximum extent feasible. Per PDF 7-4, if groundwater were to be encountered during excavation activities (besides in Pit F), the removal of materials at that location would be terminated. Per PDF 7-5, dewatering could be used during Pit F excavation activities, if needed. If dewatering is necessary, contact water would be disposed off-site or treated prior to discharge in accordance with applicable NPDES, WDR and dewatering permit requirements implemented by the SARWQCB.

The status of certain existing monitoring wells would change during construction and operation. Some existing wells would continue to be used, some existing wells could be decommissioned and removed, and some new wells could be installed. Because wells are located in the underlying aquifer, the installation of new wells and decommissioning and removal of old wells has the potential to disturb and contaminate the aquifer. Under PDF 7-7, well construction and removal would comply with Cal EPA guidelines set forth in the Cal EPA documents, *Monitoring Well Design and Construction for Hydrogeologic Characterization* (1995) and *State of California Well Standards* (1991). These guidelines establish standards for borehole construction; stratigraphic control; installation procedures; well casing and screen materials; well casing diameters; casing cleaning requirements; well intake design; documentation of well design, construction, and development; and processes for the decommissioning or proper destruction of groundwater monitoring wells and boreholes. With the implementation of this design feature, migration of on-site contaminants into the underlying aquifer is not anticipated.

The exposure of fill soils and bare ground surface to precipitation and dust also has the potential to impact surface water during construction activities. BMPs that would be incorporated into the SWPPP under the Construction General Permit and Municipal NPDES Permit, as discussed in PDF 7-1 and stormwater collection systems under PDF 7-2, would prevent the transport of eroded materials into off-site water bodies or into the City's drainage system. Removal of excess water (dewatering) as needed and off-site disposal or

treatment of contact water prior to discharge under PDF 7-4 would minimize the potential for additional sources of polluted runoff during construction activities. Under PDF 7-8, site inspections would be conducted during rain events and once per month during the wet season per the Site-specific Construction SWPPP to verify that stormwater handling improvements (BMPs) are operating correctly and that repairs can be made, as needed. Site-specific BMP design would be determined at the time of the preparation of the Construction SWPPP. Example BMPs may include the use of fabric rolls to prevent pollutants in runoff from excavations near the Site perimeter. Observed stormwater runoff from the Site would be sampled and tested per applicable regulatory requirements, and results would be reported to the SARWQCB. With compliance to applicable regulatory requirements and the Project's design features described in PDFs 7-1 through 7-8, on-site erosion and siltation would be minimized, and migration of contaminants from the on-site waste to surface and groundwater would be minimized to the extent feasible.

Overall, the Project's design features and compliance with existing regulations would prevent substantial migration of contaminants into groundwater and surface water. As such, construction activities would not result in the violation of water quality standards, substantial additional sources of polluted runoff, or a substantial degradation of water quality. Therefore, short-term construction-related impacts with respect to groundwater and surface water would be less than significant.

Long-Term Impacts

As described under PDF 7-2, rainfall would be collected via an on-site stormwater collection system, including v-ditches and/or swales between the toe of the cap and the perimeter road, and directed to two unlined (not capped) detention basins in the northwest and southeast corners of the Site (see Figure 2-7 in Section 2.0, *Project Description*, of this EIR for an illustration of the basin locations). A primary purpose of the RAP is to develop a cap that would prevent precipitation from infiltrating into underlying materials and groundwater, as well as preventing the exposure of surface water runoff to waste materials. The geomembrane layer of the main cap (top deck) and a four-foot thick vegetated evapotranspirative cover soil layer on the cap's side slopes, geonet biotic layer, and foundation layer would minimize surface water infiltration. As indicated above, runoff from these areas would be collected in the system of v-ditches and/or swales and directed to detention basins, in which impacted materials would be excavated to at least street level and, if necessary, to a depth achieving below Risk Based Concentrations (RBCs) or normal background levels. During storm events, excess runoff would be allowed to flow into the City's drainage system per the Site's Industrial SWPPP. The function of the cap in preventing exposure of groundwater or runoff to contaminated waste is described in PDF 7-9. Upon completion of the remediation activities, the Site's perimeter access road and City parcel would consist of permeable surfaces over remediated soils, as appropriate, similar to the detention basins. As such, water permeating through these areas would not adversely impact groundwater quality.

The protection of groundwater would be further ensured by the implementation of PDF 7-6, which calls for long-term groundwater monitoring and sampling at regular intervals from wells located generally near the Site perimeter. During the proposed long-term program, if any chemical concentrations in a perimeter, downgradient well are detected above threshold limits (i.e., Maximum Contaminant Levels or vapor-risk values), and are not within background levels (i.e., above levels already present due to natural occurrence), steps would be taken to further assess and remedy the condition as needed.

PDF 7-10 would provide for a permanent cover of grass and/or other shallow-rooted vegetation within a two-foot soil layer on the cap and gravel on the perimeter roads. During rainfall, PDF 7-10 would control surface runoff and reduce erosion along the face of the cap slopes.

Therefore, with implementation of PDFs 7-2, 7-6, 7-9 and 7-10, including implementation of SWPPP operational controls under PDF 7-1, the long-term operation of the capped Site would not result in the violation of water quality standards, substantial additional sources of polluted runoff, or a substantial degradation of water quality. Therefore, long-term impacts with respect to groundwater and surface water would be less than significant.

Conclusion. Short-term construction and long-term operation of the Project would comply with all applicable regulatory requirements, including those described in the PDFs and other regulations, regarding water quality. Compliance with applicable regulatory requirements and implementation of the PDFs would ensure that construction and operational impacts to the quality of both surface water and groundwater would be less than significant.

Groundwater Supplies

Impact 4.7-4:	Would the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level?

Short-Term Impacts

Under PDF 7-3, excavation would be conducted to specifically avoid contact with groundwater. Any groundwater exposed in the bottom of excavations may be reused on-site or pumped into a water treatment system. However, because groundwater would not be intentionally used, the Project would not substantially deplete groundwater supplies. If dewatering were required during the excavation of materials from Pit F or otherwise, the volume of groundwater removed by construction dewatering is expected to be minimal. During construction, stormwater runoff would continue to be collected in the existing on-site detention basins (or the new detention basins after they are constructed) and allowed to evaporate, infiltrate into the ground, or discharge to Magnolia Street under the Construction SWPPP. Although some water would not re-enter the aquifer, conditions during construction would not be substantially different from existing conditions or substantially deplete groundwater supplies or interfere with groundwater recharge. Therefore, impacts with respect to groundwater recharge would be less than significant.

Long-Term Impacts

Similar to current testing procedures, the Site's long-term Operations and Maintenance Plan would involve collection of small volumes of groundwater as samples for testing. Such collection would have minimal impact on groundwater supplies. Thus, the long-term effects on groundwater supply would be primarily associated with the creation of a large cap over the majority of the Site. Among other purposes, the cap design is intended to assure that surface water would not penetrate the top deck of the cap and minimal, if any, surface water would penetrate the side slopes through the evapotranspirative design (i.e., designed so that the vegetation transpires the moisture that the slope soils absorb during rain events). The purpose is to avoid surface water from reaching materials below the capped area and potentially carrying contaminants into the groundwater through groundwater recharge. Although the cap covering the majority of the Site would be substantially impermeable, all precipitation that would have otherwise entered the ground in the

area of the cap would be transpired or diverted and collected in two detention basins on the site (see PDF 7-2). The detention basins would be located over native or imported soils, and because they would be uncapped collected runoff would infiltrate into the groundwater basin. Any overflow during storm events would enter the City's off-site drainage system. The perimeter access road and City parcel would also be comprised of permeable soil surfaces that would allow infiltration of incident precipitation to the groundwater basin. The permeable detention basins, perimeter access road surface, and City parcel surfaces would allow recharge of the groundwater basin and would not interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Therefore, with the implementation of PDF 7-2, the Project would have a less than significant impact with respect to groundwater supplies and groundwater recharge.

Conclusion: With the implementation of PDFs, the Project would not adversely affect groundwater supplies or interfere substantially with groundwater recharge, and impacts would be less than significant.

Consistency With the City of Huntington Beach General Plan and URMP

City of Huntington Beach General Plan Utilities Element

The City's General Plan contains goals, objectives, and policies relevant to water quality are presented in the General Plan Utilities Element. The applicable policies require projects to mitigate potential water quality impacts. As discussed below in **Table 4.7-1**, *Comparison of the Project to Applicable Policies and Programs of the City of Huntington Beach General Plan and Urban Runoff Management Plan*, implementation of the RAP would be consistent with the objective of the City of Huntington Beach General Plan pertaining to water quality.

City of Huntington Beach Urban Runoff Management Plan

The City's URMP also contains implementation programs that are relevant to water quality. The Project's consistency with the applicable programs in the URMP is presented in Table 4.7-1. As shown in Table 4.7-1, implementation of the RAP would be consistent with the applicable programs of the URMP pertaining to water quality.

Conclusion: As summarized in Table 4.7-1, the Project would be consistent with applicable General Plan and URMP goals and programs. Therefore, impacts with respect to these policy documents would be less than significant.

3. CUMULATIVE IMPACTS

The study area considered for the cumulative impact includes (1) the area that could be affected by Project activities and (2) the area affected by other projects whose activities could result in degraded water quality during construction or in the high use of groundwater or cumulative increase in impermeability that would reduce recharge of the groundwater system. Water quality and groundwater resources are protected by existing state and local regulations in compliance with the CWA. Greater demand for water use, which can impact groundwater supplies, is related to intensification of existing or new urban development (see Section 3.0, *Basis for Cumulative Analysis*, in this EIR). Reduction in groundwater recharge can be caused by increased impermeability of the land from the development of parking lots, buildings, and roads in areas currently characterized by permeable materials (such as natural soils). These are regional issues that are

Table 4.7-1

Comparison of the Project to Applicable Policies and Programs of the City of Huntington Beach General Plan and Urban Runoff Management Plan

Objective, Policy or Program	Project Consistency Analysis
General Plan Utilities Element	
Objective U3.3: Ensure that storm drain facilities (channels and outputs) do not generate significant adverse impacts on the environment in which the facilities traverse or empty.	**Consistent**. With the implementation of PDFs 7-1, 7-8, and 7-9, which include the development of a WQMP and SWPPP, site-specific BMPs required as part of the SWPPP (PDF 7-1), effects on off-site storm drain facilities would not be significant. PDF 7-8 requires Site inspections during rain events and once per month during the wet season per the Construction SWPPP to verify that on-site stormwater handling improvements (BMPs) are operating correctly and that repairs be made, as needed. During construction and operation, observed stormwater discharged from the Site would be sampled and tested per applicable regulations and the Site-specific Construction SWPPP. Testing results would be reported to the SARWQCB. Under PDF 7-9, the Project would include development of a cap system that would substantially prevent precipitation from infiltrating the landfill areas and, thus, enter the groundwater supply. The cap would also prevent the exposure of the waste to collected or sheet-flow precipitation. Therefore, it is not anticipated that contaminated overflow would enter the City's drainage system. The Project would, therefore, not generate adverse impacts on the environment in which the City's drainage facilities traverse or outlet.
Urban Runoff Management Plan Programs	
Water quality monitoring of surface and groundwater	**Consistent.** Project design features include water quality monitoring of groundwater and surface water runoff (PDF 7-6 and 7-8).
Identification, interim containment, and cleanup of contamination	**Consistent.** A purpose of the RAP (the Project) is to contain and prevent exposure to on-site contaminants.
Coordinated operations with regulatory agencies	**Consistent.** The RAP would be implemented through coordination between several regulatory agencies, including the SCAQMD, the City of Huntington Beach, the SARWQCB, and DTSC (the Lead Agency).
Control of toxic residuals	**Consistent.** The RAP represents the efforts of DTSC to meet a primary objective of DTSC for the Site - to control toxic residuals.
Hazardous waste management planning	**Consistent.** The RAP represents the efforts of DTSC to manage waste at the Site consistently with applicable laws, regulations, and policies of the Coastal Plan and General Plan.
Public disclosure	**Consistent.** The RAP and other DTSC documents, including this CEQA document, regarding the Site are public record. In addition, the preparation of the RAP requires public input.
Groundwater protection evaluation	**Consistent.** Groundwater monitoring and sampling from existing monitoring wells and future monitoring under PDF 7-7 would be consistent with the policy to encourage groundwater protection monitoring.

Source PCR Services Corporation, 2013.

addressed by the City of Huntington Beach URMP. Compliance with the policies of the URMP, as with the Project, would reduce potential impacts to groundwater resources to a less than significant level. Cumulative effects on water quality would be greatest during the construction of the Project and related projects because of exposure of soils to rainfall. However, as with the Project, large related projects would be required to implement BMPs through mandated, site-specific SWPPPs. All large development projects are subject to existing SARWQCB and City of Huntington Beach policies and regulations related to the protection of water quality for surface water and groundwater. In addition, projects having hazardous materials components, as with the Project, are subject to DTSC regulations for the protection of the water quality. The enforcement of existing regulations would ensure that cumulative impacts on water quality would be less than significant.

4. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Compliance with applicable regulatory requirements and implementation of the Project's design features would ensure water quality and groundwater supply impacts are less than significant.

4.8 LAND USE

This section provides an analysis of the consistency of the RAP with policies and regulations set forth in local and regional plans, as well as local zoning regulations, for purposes of assessing the potential impacts implementation of the RAP would have on land use. Applicable adopted plans include, but are not limited to, the City of Huntington Beach General Plan, the Huntington Beach Municipal Code, and DTSC 2011-2016 Strategic Plan. The provisions set forth in these plans have been adopted for the purpose of regulating land use within the jurisdictional boundaries of the agencies. This section provides an analysis of the potential physical impacts of implementing the RAP with regard to consistency with applicable plans and regulations. Potential physical effects that typically have an influence on land use compatibility include air emissions, noise, impacts to biological resources, visual impacts, and traffic. The assessment of such impacts is presented in the respective sections of this EIR. In addition, the Project's consistency with applicable goals, policies, etc. to such issues in applicable relevant plans or policy documents, including the City's General Plan, is presented in the respective sections of this EIR.

1. ENVIRONMENTAL SETTING

Regulatory Framework

State of California

California Code of Regulations

The State of California Code of Regulations (CCR) establishes standards related to toxins and waste disposal. Although these regulations do not specify land uses with respect to various levels of remediation, the interpretation of these regulations by Lead Agencies, can influence the range of allowable land uses.

Title 22 Code of Regulations, Divisions 4.0 and 4.5

Divisions 4.0 and 4.5 of Title 22 of the California Code of Regulations relate to the cleanup and prevention of toxins in soils and water and sets the maximum contaminant levels (MCLs) for toxic materials and substances. A comparison of state and federal MCLs indicates that the state is either the same or has a much lower maximum (stricter) safety level than the U.S. EPA. Chemical contamination exceeding established state standards is considered a health hazard. DTSC oversees the cleanup of soils and groundwater, and evaluates soil, water, and air samples taken at contaminated sites. DTSC enforces cleanup of contaminated sites through the implementation of Remedial Action Plans (RAPs), which must comply with requirements specified in Chapter 6.8, Division 20 (commencing with Section 25300) of the California Health and Safety Code, as discussed below. Sections 66261.1 through 66261.126 of Title 22 provide for the identification and listing of hazardous waste and criteria for identifying the characteristics of hazardous waste, sampling methods, hazardous constituents, and basis for listing hazardous waste.

Under its enforcement capability, DTSC may also limit the types of land use allowed within a particular site, depending on the level of clean-up provided under a RAP. Section 67391.1 describes land use controls and recorded instruments restricting the present and future use of a site. "Land use restricted sites" are properties on which DTSC has placed limits or requirements on future use of the property due to varying

levels of cleanup possible, practical, or necessary at the site.[1] Land use restricted sites are posted to the DTSC website, as required by Assembly Bills (ABs) 871 and 2436.

California Health and Safety Code

California Health and Safety Code (H&SC) sections 25300, et seq. establish criteria for the protection of public health, safety, and the environment associated with responding to releases of certain substances. H&SC Section 25356.1(d) requires that the selection and approval of a RAP be based on Section 25350 and Subpart E of the National Oil and Hazardous Substances Pollution Contingency Plan [National Contingency Plan "NCP"; 40 CFR §300.400). Per the NCP, a RAP must consider the following nine evaluation criteria: (1) overall protection of human health and the environment; (2) compliance with state and federal requirements; (3) long-term effectiveness and permanence (whether a remedy would maintain reliable protection, once cleanup goals have been met; (4) reduction of toxicity, mobility, and volume of hazardous constituents; (5) costs for operation and maintenance; (6) short-term effectiveness; (7) implementability; (8) regulatory agency acceptance; and (9) community acceptance. Community acceptance indicates whether community concerns are addressed by the remedy, and whether or not the community has a preference for a remedy. The approved RAP must meet criteria 1 and 2, called "threshold criteria." Criteria 3 through 7 are the "primary balancing criteria," and criteria 8 and 9 are "modifying criteria." The relative consistency of the preferred clean-up alternative (the "Project") and other considered alternatives as evaluated in the 2007 Revised Feasibility Study (RFS) with these criteria is described in Section 2.0, *Project Description*, and Section 5, *Alternatives*, of this EIR.

Department of Toxic Substances Control - 2011-2016 Strategic Plan

DTSC is the organization within Cal EPA that is responsible for protecting California against threats to public health and the environment through hazardous waste regulation, contamination cleanup, and pollution prevention. DTSC is also a leader in identifying potential new pollutants, and works with businesses to reduce their hazardous waste and toxic materials use through process changes, product changes or handling changes.

DTSC's Strategic Plan identifies goals, objectives and strategies that are intended to focus DTSC's attention on a few key factors that affect the Department. These include the need to reduce hazardous chemicals in products, partner with green industry to foster safer technologies, the desire to improve DTSC's process to become more simplified and efficient, and a focus on communities disproportionately affected by toxic harms. Relevant to the issue of land use, the Strategic Plan includes the following goal:

- 11-2: Restore land and water to protect human health and the environment, and to facilitate efficient reuse and redevelopment.

City of Huntington Beach

General Plan of the City of Huntington Beach

California State law (Government Code Section 65300) requires that each city prepare and adopt a comprehensive, long-term General Plan for its future development. The General Plan (1996) acts to clarify

[1] *http://www.dtsc.ca.gov/sitecleanup/ accessed April 27, 2013.*

and articulate the city's intentions with respect to the rights and expectations of the public, property owners, and prospective investors and business interests. In addition to goals, objectives, and policies, the General Plan contains a Land Use Plan that is the prevailing determinant of the land use in the city. Zoning maps and development standards are secondary to the General Plan. The City of Huntington Beach's General Plan (General Plan) consists of 16 elements, seven of which are mandated by State law. General Plan elements that contain policies that would be applicable to the Project or Project impacts include the Coastal, Land Use, Housing, Hazardous Materials, Air Quality, Noise, Urban Design, and Circulation Elements. Objectives of the General Plan's Urban Design, Air Quality, Hazardous Materials and Circulation Elements are described in Sections 4.1, *Aesthetics*; 4.2, *Air Quality*; 4.6, *Hazards and Hazardous Materials*, and 4.10, *Traffic and Circulation*, of this EIR. Other General Plan Elements do not contain objectives and policies that would be applicable to the Ascon Site.

Coastal Element

The purpose of the Coastal Element (2001 – amended 2011) is to meet the requirements of the Coastal Act for the portion of the City located within the Coastal Zone and to guide the growth, development, enhancement, and preservation of resources within the Coastal Zone. The Coastal Act provides for the locating of coastal dependant facilities within the Coastal Zone, subject to criteria and limitations. Huntington Beach's Coastal zone is a center for important energy-related and industrial activities that are coastal dependant, including oil wells, extraction, and transport facilities and a regionally serving electrical generating plant. The Coastal Element recognizes that these facilities have greater than local significance and, as such, policies allow for the continuation and, in some cases, expansion, of these facilities, while ensuring the community's public health and safety, environmental protection and minimization of aesthetic impacts to the maximum extent feasible. The Site is located within the Coastal Zone, Zone 5. Zone 5 extends to Hamilton Avenue in the area of the Site. The Coastal Element identifies issues that are addressed through the Element's goals, objectives, and policies. Of direct relevance to the Site, Issue 59 of the Coastal Element states: "encourage clean-up efforts of the Ascon Site which is listed on the California State Superfund list. Do not permit development of the Site until cleanup and decontamination efforts have been completed."[2]

The following policies of the Coastal Element are applicable to the Site:

- C 4.7.10: Encourage the remediation and clean up of the Ascon site. Work with other responsible agencies and property owners to facilitate site clean-up.
- C 8.4.5: Encourage the conversion of the Ascon site at the southwest corner of Hamilton and Magnolia to new uses if the contents of the site are not found to be dangerous to public health, safety, and welfare, or if all harmful deposits are removed, capped, or decontaminated pursuant to federal and state Environmental Protection Agency, as well as, City safety standards.

Land Use Element

The General Plan Land Use Element governs how land in the City is to be utilized. As shown on the General Plan Designations map, the Site is designated as RM-15-SP, which corresponds to medium density residential uses up to 15 units per acre. The designator "SP" represents the Magnolia Pacific Specific Plan overlay.

[2] *City of Huntington Beach General Plan, Coastal Element, page IV-C-105.*

Under this designation, any future development of the Site must correspond to this land use designation. Land use objectives and policies that may be applicable to the Project include the following:

- LU 7.1: Accommodate the development of a balance of land uses that (a) provides for the housing, commercial, employment, educational, cultural, entertainment, and recreation needs of existing and future residents; (b) provides employment opportunities for residents of the City and surrounding subregion; (c) captures visitor and tourist activity; and, (d) provides open space and aesthetic relief from urban development.
- LU 7.1.2: Require the development be designed to account for the unique characteristics of project sites and objectives for community character and in accordance with the Development "Overlay" Schedule, as appropriate.
- LU 8.1: Maintain the pattern of existing land uses while providing opportunities for the evolution, including intensification and re-use, of selected subareas in order to improve their character and identity.
- LU.9.1: Provide for the development of single- and multi-family residential neighborhoods in areas designated by the Land Use Plan Map, as stipulated in the Land Use and Density Schedule.

Housing Element

The adopted General Plan Housing Element identifies strategies and programs that focus on the preservation and improvement of housing and neighborhoods, providing adequate housing sites, assisting in the provision of affordable housing, removing government constraints to housing investment, and promoting fair and equal housing opportunities for the period 2008-2014. California's Housing Element law requires that each city and county develop local housing programs to meet its "fair share" of existing and future housing needs for all income groups. The City plans to fulfill its share of regional housing needs using a combination of vacant sites currently zoned for residential development, development on surplus school sites, and other means.[3] The Housing Element describes vacant lands that contribute to "realistic development capacity"[4] and provides an explanation of several vacant parcels that are zoned for residential uses, but not realistically developable because of location, hazardous conditions and other constraints. The 2013 Housing Element provides a housing needs assessment based on local and regional growth trends for the 2014-2021 planning period. The Housing Element update also evaluates the city's accomplishments in meeting the goals of the adopted Housing Element (2008-2014) and provides an outline of potential housing units during the 2014-2021 planning period. According to the Housing Element Update, processes including the adoption of Beach and Edinger Corridors Specific plan, which would allow up to 4,500 additional housing units; increasing densities in the Downtown Specific Plan; implementing inclusionary housing requirements; and other measures enabled by the city to meet the objectives of the 2008-2014 planning period.

Southeast Coastal Redevelopment Project Redevelopment Plan

The Site is located within the boundaries of the Southeast Coastal Redevelopment Project Redevelopment Plan, adopted in June 2002. Initial leadership for development of this plan was provided by the Southeast

[3] *Huntington Beach General Plan, Housing Element, page IV-1.*

[4] *Huntington Beach General Plan, Housing Element, page IV-4.*

Area Committee. This three-member committee of the City Council was created in December 2000 to study land use issues in the southeast area of the city and the Committee's current minutes of record indicate an ongoing interest in the status of the Site. The Southeast Coastal Redevelopment Project incorporates an area bounded by Hamilton Avenue on the north, Magnolia Street on the east, Pacific Coast Highway on the south, and Newland Street on the west. The Site is designated as "Area 3" of the Redevelopment Project. The Southeast Coastal Redevelopment Plan does not present a specific plan with specific standards for redevelopment of the area, but instead establishes a process and framework for future redevelopment of the area. The plan is intended to achieve goals to (1) reconstruct, redesign, or reuse streets, utilities, curbs, gutters, sidewalks, flood control facilities, traffic devices, structures, parks, playgrounds, and other public improvements; (2) rehabilitate or remove buildings or structures to provide opportunity for businesses to remain in or relocate to the Redevelopment Project area; (3) construct affordable housing; (4) improve open space; and other goals related to the upgrading of the area.

Huntington Beach Zoning and Subdivision Ordinance

Zoning categories set forth under the Huntington Beach Zoning and Subdivision Ordinance (HBZBO) provide a regulatory framework for implementing the City's General Plan land use designations for the Site. Zoning categories delineate the uses that are allowed within each zone and provide development regulations regarding requirements, development standards, and special requirements for certain uses. The Site is designated as a SP-10, which corresponds to the Magnolia Pacific Specific Plan. Under this zoning designation, any future development must correspond to the requirements of the Magnolia Pacific Specific Plan.

Magnolia Pacific Specific Plan

The Magnolia Pacific Specific Plan, adopted in November 1992, establishes a set of development guidelines and specific standards for the Site. The Specific Plan constitutes the current zoning of the Site, which envisions the Site as a residential community equivalent to the RM (Residential Medium Density) zone. The overall development concept for the Magnolia Pacific Specific Plan establishes the general type, location and character of development within the boundaries of the Site, while allowing for creative design concepts according to the framework of the plan. The objective of the development plan is to implement the goals and policies of the Huntington Beach General Plan by defining the physical development of the Site. Included in the development plan are five components: (1) Development Objectives; (2) Land Use Plan; (3) Circulation Plan; (4) Open Space/Recreation; and (5) Public Facilities.

The Magnolia Pacific Specific Plan designates two residential districts within the Site, including Single-Family Residential (SFR) and Multi-Family Residential (MFR). The Specific Plan would have an overall density of 12.75 dwelling units per acre. According to the Specific Plan, up to 502 units in a mixture of single-family detached homes and multi-family units would be permitted within the Site.

Existing Conditions

Site Conditions

The Site is an approximately 38-acre closed landfill and is comprised of two parcels, the Cannery Hamilton Properties, LLC (CHP) parcel and the City parcel. The CHP parcel comprises the entire Site except for an approximately 30-foot-wide strip along the north edge of the Site fronting Hamilton Avenue and a 20-foot-wide strip along the east edge of the Site fronting Magnolia Street. The peripheral edges are referred to as

the "City" parcel and consist of land within the road right-of-way owned by the City of Huntington Beach. The locations of the CHP and City parcels are illustrated in Figure 2-2, *Site Ownership*, in Section 2.0, *Project Description*, of this EIR.

At the present time there are four lagoons on the Site (Lagoons 1 and 2 are now referred to as one lagoon, Lagoon 1-2, after the completion of the Interim Removal Measure in 2011) (refer to Figure 2-4, *Site Features*, in Section 2.0). In addition to the lagoons, the Site includes various former pits that have been subsequently backfilled with construction debris and/or fill material, each of which are of relatively limited areal extent at less than 100 feet on a side. In addition, there is one covered pit (referred to as Pit F) and seven former pits (Pits A-E, and G-H) and lagoons that are no longer visible. The approximate locations of the visible impoundments, the former pits, and other significant features such as buildings, gates, and oil production facilities are shown in Figure 2-4.

An operating oil production facility consisting of two oil wells on leased property is located on-site along the Site's western perimeter. This facility is operated by a third party, South Coast Oil Corporation (SCOC), or its successor, and is not owned or operated by the owner of the Ascon Site. The operating oil wells are SCOC #40 and SCOC #41.

For a detailed description os the Site's history and historic and current physical descriptions, please see Section 2.0 of this EIR.

Surrounding Area Land Uses and Zoning

The Site is bordered by Hamilton Avenue to the north, Magnolia Street to the east, the Plains All American Pipeline Storage Tank facility to the south, and light industrial park uses to the west. An illustration of the surrounding land uses is provided in Figure 2-2, *Surrounding Land Uses*, of this EIR.

Land Uses to the North

Edison Community Park, a City of Huntington Beach public park, is located directly to the north of the Site, north of Hamilton Avenue and west of Magnolia Street. The approximately 40.5-acre park provides a range of amenities including baseball diamonds, soccer fields, basketball courts, tennis courts, playgrounds and other athletic facilities, the Edison Community Center, and covered picnicking and barbequing areas. Edison Community Park is located within an OSPR (Open Space, Parks and Recreation Sub-district) zone, which corresponds to the General Plan's color-coded, green "park" designation for the park. A broad public right-of-way, partially developed with landscaped trails, is located along the north side of Hamilton Avenue, between Hatteras Drive on the west and the Talbert Channel on the East.

Edison High School is located to the northeast of the Site, north of Hamilton Avenue and to the east of Magnolia Street. The high school campus extends north to Santiago Drive and south to the public right-of-way referenced above, between Magnolia Street and the Talbert Channel. Edison High School is located in a PS (Public/Semi-public) zone. The PS zone corresponds to the General Plan's current P (RL) land use designation. The "P" with an underlying designation in parenthesis in the General Plan Land Use Map indicates a school, hospital, or church within an underlying designated land use. The underlying land use designation ("RL") indicates the original designation of the site prior to the construction of the school. "RL" indicates "Low Density Residential."

Single-family residential neighborhoods are located northwest of the Site, to the west of Edison Park and to the north of Hamilton Avenue, between Edison Park and Newland Street. These neighborhoods, which access Hamilton Avenue via Hatteras Drive and Newland Street via Saint Augustine Drive, are located within an RL (Residential Low Density) zone. This zoning corresponds to the respective RL-7 (seven units per acre) General Plan land use designation.

Single-family neighborhoods are also located to the north of Edison Community Park and Edison High School, extending north to Atlanta Avenue. These neighborhoods are located within an RL zone, which corresponds to the General Plan's current RL-7 land use designation for this area.

Land Uses to the East

Single-family residential neighborhoods are the primary land use directly to the east of the Site, east of Magnolia Street and extending between Atlanta and Banning Avenues, to the north and south respectively. Single family residential neighborhoods are also located to the south of Banning Avenue and to the north of Atlanta Avenue, in areas that are farther than 0.5 miles from the Site. The residential neighborhood directly to the east of the Site is accessed from Magnolia Street via a unsignalized intersection at Bermuda Drive. Other than Bermuda Drive, local streets within the subdivision do not have direct access to Magnolia Street. No residential uses within this neighborhood directly face Magnolia Street, and homes are generally shielded from Magnolia Street by a masonry wall and landscaping. This residential area also has direct street access to Hamilton Avenue via Polynesian Lane and to Banning Avenue via Teakwood Lane. Talbert Channel forms the east edge of this residential neighborhood, approximately 0.25 miles to the east of the Site.

East of Talbert Channel, additional single-family residential neighborhoods extend east to Bushard Lane, approximately 0.5 miles to the east of the Site. All of the single-family residential neighborhoods to the east of the Site are located in the RL zone, which corresponds to the General Plan's current RL-7 land use designation.

John H. Eader Elementary School, the Banning Branch Public Library, and a 2.7-acre public park, Eader Park, are located just to the east of the Talbert Channel at the north side of Banning Street. Eader Park contains playgrounds, a soccer field, and a bridge over the flood control channel. Eader Elementary School and the Banning Library are located within the PS (Public, Semi-Public) zone, which corresponds to the General Plan's current P (RL) land use designation, indicating a school or church. Eader Park is located within an OSPR (Open Space, Parks and Recreation Sub-district) zone, which corresponds to the General Plan's color-coded, green "park" designation for the site. The Santa Ana River and Huntington Beach City boundary are located approximately one mile to the east of the Site.

Land Uses to the South

Storage facilities (tanks) for the Plains All American Pipeline petroleum transport system are located directly to the south of the Site. The Plains All American site is accessed via a driveway just to the north of the Magnolia Street/Bermuda Drive intersection. The Plains All American Pipeline site is zoned PS (public, semi-public), which corresponds to the General Plan's current P (public) land use designation. The Huntington Beach Flood Control Channel borders the Plains All American Pipeline tank site to the southwest. The Magnolia Marsh Wetlands preserve extending south to Pacific Coast Highway, approximately 0.5 miles south of the Site, is located to the south and southeast of the Site, between the flood control channel and Pacific Coast Highway. A boardwalk providing public access and views into the wetlands is located at the southwest

corner of the wetlands, adjacent to Pacific Coast Highway. The wetlands preserve is zoned CC (Coastal Conservation). This zone corresponds to the General Plan's current OS-C (Open Space-Conservation) land use designation. Huntington State Beach and the Pacific Ocean are located approximately 0.5 miles to the south of the Site, south of Pacific Coast Highway.

Single family residential neighborhoods are located to the southeast of the Site, to the east of Magnolia Street, between Banning Street on their north and the Huntington Beach Flood Control Channel on their south. This area is zoned RL, which corresponds to the General Plan's current RL-7 land use designation for these neighborhoods.

The AES Power Plant, the largest power generating facility in Orange County, is located to the southwest of the Site, west of the Huntington Beach Flood Control Channel. The AES Power Plant extends west to Newland Street, which provides access to the plant. The AES Power Plant site is zoned PS (Public, Semi-public), which corresponds to the General Plan's current P (Public Uses) land use designation. A small industrial strip is located along the south edge of the AES Power Plant site, between the power plant site and Pacific Coast Highway, that is presently occupied by the Wetlands and Wildlife Care Center. As with the power plant, access to this site is via Newland Street. This property is zoned IG (Industrial General); however, the General Plan's current land use designation for the site is CV-F2 (Visitor-serving Commercial, with a 0.50 FAR). The current CV land use designation anticipates a change from "industrial" to "commercial" at some future time.

Land Uses to the West

The Huntington Beach Flood Control Channel adjoins the south portion of the Site's west boundary. The AES Power Plant is located to the west of the channel, directly west of the south portion of the Site. To the north of the flood control channel, a single-story light industrial park, extending west to Newland Street adjoins the Site along the north portion of the Site's west boundary. The industrial park is located in the IL (Industrial Limited) zone, which corresponds to I-F2 (Industrial, 0.50 FAR) land use designation in the General Plan.

An open space parcel is located to the west of Newland Street north of the flood control channel. The open space continues to the west of the flood control channel, extending to Beach Boulevard, more than 0.5 miles to the west of the Site. The open space area is zoned CC (Coastal Conservation), which corresponds to the General Plan's current OS-C (Open Space – Conservation) land use designation. A mobile home park is located to the west of Newland Avenue, south of the flood control channel. The mobile home park, which is accessed via Newland Avenue, extends west to an open space (CC zone) along the east side of Beach Boulevard. The mobile home park is zoned RMP (Manufactured Home Park). This use is consistent with allowable uses within the General Plan's current RM-15 land use designation for the site.

2. ENVIRONMENTAL IMPACTS

Methodology

The CEQA analysis of potential land use impacts considers consistency of the project with adopted plans and policies that regulate land use on the project site. The determination of consistency with applicable land use plans and policies is based upon a review of the previously identified planning documents that regulate land use or guide land use decisions pertaining to the Site. CEQA Guidelines Section 15125(d) requires that an

EIR discuss inconsistencies with applicable plans that the decision-makers should address. Evaluations are made as to whether a project is inconsistent with such plans. Projects are considered consistent with regulatory plans if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals. The intention of the evaluation of consistency with regulatory plans is to determine if non-compliance would result in a significant physical impact.

It is also noted that the Land Use analysis below is not intended to determine consistency of the Project with the nine NCP criteria considered for selection and approval of the per California Health and Safety Code, sections 25300, et seq. Rather, the analysis describes the relationship of the applicable plans and policies to the Project in terms of implementability (Criterion 7) and regulatory agency acceptance (Criterion 8) reflected in the intent of the local land use plans. Again, the relative consistency of the preferred clean-up alternative (the "Project") and other considered alternatives as evaluated in the 2007 Revised Feasibility Study (RFS) with these criteria is described in Section 2.0, *Project Description*, and Section 5, *Alternatives*, of this EIR.

Significance Criteria

For purposes of this EIR, DTSC has utilized the checklist questions in Appendix G of the *CEQA Guidelines* as significance criteria to determine whether a project would have a significant environmental impact regarding Land Use. Based on the character of the Project, the criterion identified below is included for evaluation in this EIR. Please refer to Section 6.0, *Other Mandatory CEQA Considerations*, for a discussion of other issues associated with the evaluation of land use where the characteristics of the Project made it clear that effects would not be significant and further evaluation in this section was not warranted.

Would the Project:

- **4.8-1** Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Project Design Features

The Project requires the approval of the RAP described in Chapter 2, *Project Description*, of this EIR. As described therein, the RAP does not include any subsequent future development of the Site after the cap system is in place and operational. Any subsequent development of the Site would be subject to DTSC authority and other state regulations for the protection of the proposed low-permeability cap. A restrictive covenant would require DTSC approval for any future development on the Site, and any subsequent entitlement process would include environmental review as appropriate pursuant to CEQA prior to any future development. No Project Design Features (PDFs) are applicable to Land Use.

Permits and approvals required prior to the implementation of the RAP include, but may not be limited to, the following:

<u>California Department of Toxic Substances Control</u>

- Approval of the proposed RAP pursuant to California Health and Safety Code Section 25356.1.

- Approval of the Final Design of the Cap.

State Water Resources Control Board

- General Construction NPDES Permit and Construction Storm Water Pollution Prevention Plan (SWPPP) for construction activities. (The existing General Industrial NPDES Permit would be kept in place as necessary.)

South Coast Air Quality Management District

- Rule 1166/Rule 1150 permit for any necessary handling of VOC-impacted materials.
- Permit-to-Construct/Permit-to-Operate for the planned emissions control cell in Lagoon 1-2.
- Permit-to-Construct/Permit-to-Operate for the landfill gas collection and treatment system.

City of Huntington Beach

- Coastal Development Permit pursuant to the California Coastal Act.
- Approval of Construction Traffic Management/Haul Route Plan.
- Construction and Grading Permits.
- Permit(s) for encroachment into street and sidewalk rights of way.

Orange County Health Care Agency, Environmental Health Division

- Well Construction/Destruction Permit to install/abandon/destruct groundwater monitoring wells.

Analysis of Project Impacts

Impact 4.8-1	Would the Project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

City of Huntington Beach General Plan

A comparison of the Project with applicable policies of the Huntington Beach General Plan is provided in **Table 4.8-1**, *Comparison of the Project to the Applicable Policies of the Huntington Beach General Plan.* As described in Table 4.8-1, the Project would be consistent with policies of the Coastal Element for the remediation of the Ascon Site. The Project would be only partially consistent, or not consistent, with the General Plan Land Use Map (2010), which designates the Site for future medium density residential use; and other policies of the General Plan and Municipal Code (zoning) that encourage the development of housing. The primary reason for these inconsistencies is that, without additional remediation, it is likely that the proposed cap system would preclude the potential for residential development (per the applicable City General Plan land use and zoning designations) on the Site upon completion of the remediation activities. Any future re-use of the Site may be subject to a restrictive covenant and would likely require DTSC approval and a subsequent environmental review process. Should development of future residential uses occur on the

Table 4.8-1

Comparison of the Project to the Applicable Policies of the Huntington Beach General Plan

Policy		Project Consistency Analysis
Coastal Element		
C 4.7.10:	Encourage the remediation and clean up of the Ascon site. Work with other responsible agencies and property owners to facilitate site clean-up.	**Consistent.** The RAP would provide for the remediation of existing hazardous conditions at the Site. Remediation includes partial removal of contaminated materials and capping (sealing) of the remaining contaminated materials across the Site. The preparation and approval of the RAP involve the participation of DTSC and the RPs, as well as approvals from the SWRCB, SCAQMD, and City of Huntington Beach. Once the RAP is available for public review, the city would provide input on the RAP. The City of Huntington Beach is also a responsible agency for the Project and would review and approve a Coastal Development Permit application. The Site would be subject to a restrictive covenant to prevent uses that are incompatible with the cap. However, commercial or recreational uses that maintain/protect the cap and drainage gradients of the Site could be permitted.
C 8.4.5:	Encourage the conversion of the Ascon site at the southwest corner of Hamilton and Magnolia to new uses if the contents of the site are not found to be dangerous to public health, safety, and welfare, or if all harmful deposits are removed, capped, or decontaminated pursuant to federal and state Environmental Protection Agency, as well as, City safety standards.	**Consistent.** Under the RAP, materials harmful to human health would be capped (sealed) to protect the health and safety of people and the environment. Although, future development of the Site would be regulated according to applicable laws and regulations, implementation of the RAP would enable new, currently impermissible uses of the Site, such as some commercial or recreational uses that protect the cap and gradients of the Site. Any future re-use of the Site would require DTSC approval.
Land Use Element		
LU 7.1 and LU 7.1.2:	Accommodate the development of a balance of land uses that (a) provide for the housing, commercial, employment, educational, cultural, entertainment, and recreation needs of existing and future residents, (b) provides employment opportunities for residents of the City and surrounding subregion, (c) captures visitor and tourist activity, and (d) provides open space and aesthetic relief from urban development. Require the development be designed to account for the unique characteristics of project sites and objectives for community character and in accordance with the Development "Overlay" Schedule, as appropriate.	**Not Consistent.** The Site is designated as RM-15-SP. The designation corresponds to medium density residential use in the Magnolia Pacific Specific Plan Overlay. The land use designation and specific plan would allow up to 502 residential units on the Site. The RAP would incorporate land use controls over the Site that would prohibit the use of the site for residential uses over the cap structure. Because the cap system proposed by the RAP would restrict future residential development of the Site, it would not be consistent with the intent of the Specific Plan to allow for residential future use of the Site according to the General Plan's "overlay" schedule or intended balance of land uses. However, while not consistent, implementation of the RAP would allow for commercial or recreational uses that would protect the cap and that would be impermissible in the absence of RAP implementation.

Table 4.8-1 (Continued)

Comparison of the Project to the Applicable Policies of the Huntington Beach General Plan

	Policy	Project Consistency Analysis
LU 8.1:	Maintain the pattern of existing land uses while providing opportunities for the evolution, including intensification and re-use, of selected subareas in order to improve their character and identity.	**Consistent.** The RAP would not change existing land use patterns in the city and surrounding community. Also, although implementation of the RAP would not immediately allow for all possible future uses of the Site, it would allow for re-use of the Site in ways that are and would be impermissible in the absence of RAP implementation.
LU.9.1:	Provide for the development of single- and multi-family residential neighborhoods in areas designated by the Land Use Plan Map, as stipulated in the Land Use and Density Schedule.	**Not Consistent**. The Land Use Map (General Plan Land Use Map, 2010) designates that Site as RM15-SP, which indicates medium density residential uses within a specific plan overlay. The RAP would restrict development of the Site and would not allow residential uses over the cap system. DTSC's land use control on the Site to disallow residential uses could be changed at a future point if all contaminated wastes were removed from the Site or other changes in the cap system were effected.
Housing Element		
Policy 2.1:	To meet the City's regional housing needs the Housing Element will "maintain an up-to-date inventory of potential sites available for future development, and provide to the development community. Within Redevelopment Project Areas, provide assistance in land assembly in support of affordable housing."	**Partially Consistent.** The RAP would not provide for a condition under which future housing could be developed on the Site according to the City's current land use maps (allowing approximately 502 residential units) and Housing Element objectives. However, the Housing Element Update (February 2013) indicates that the city is fulfilling its share of regional housing needs through the adoption of the Beach/Edinger Corridor Specific Plan (allowing up to 4,500 units), increasing densities in the Downtown Specific Plan, and other measures. The Housing Element describes vacant lands that contribute to "realistic development capacity" (Housing Element, page IV-4) and provides an explanation of several vacant parcels that are zoned for residential uses, but not realistically developable because of constraints such as location, hazardous conditions and other environmental conditions. The Site is not listed as a "reasonably developable" residential site in the Housing Element's inventory or as a potential residential property needed to meet the city's regional housing share. Because the intent of the Housing Element can be met without the development of the Site, the Project would have no effect with respect to the Housing Element.

Source: PCR Services Corporation, April 2013

Site (not contemplated by the Project), such uses may require additional cleanup of the Site or use of an alternative capping system.

The purpose of the Housing Element is to meet the City's regional housing need and to provide the City's "fair share" of existing and future housing for all income groups. Although the Site is designated for residential use on the General Plan Land Use Map (2010), implementation of the RAP would not bring the Site to a condition that would allow for residential uses. Therefore, the Project would not be consistent with the objectives of the Housing Element to provide for a range of housing types in the City. If the City were not able to meet its regional fair share without development of the Site, this could result in an adverse environmental effect with respect to housing. However, the Housing Element does not include the Site in the inventory of properties that are considered to contribute to "realistic development capacity" (Housing Element, page IV-4). The Housing Element found that the city would meet its regional housing share with other development projects planned throughout the city. Therefore, because the intent of the Housing Element would be met without the development of the Site for residential purposes, the inconsistency of the Project with the Housing Element would result in a less than significant impact.

The designated land use of the Site is RM 15-SP, which would allow the development of 502 residential units in a mixture of single-family detached homes and multi-family units. The remediated condition of the Site under the RAP, as well as land use restrictions under Title 22 and the state Health and Safety Code would not permit development of the Site in accordance with the RM 15-SP land use designation. In this manner, the RAP would be inconsistent with the land use objectives of the General Plan. However, even if the Site were not developed under the existing residential land use designation, it would not obstruct the City's housing objectives with respect to the City's regional housing share. Therefore, although the land use objectives of the General Plan would not be implemented, the inconsistency of the RAP with the General Plan would result in a less than significant impact.

Southeast Coastal Redevelopment Project Redevelopment Plan

The Site is designated as "Area 3" of the Southeast Coastal Redevelopment Project. The adopted Redevelopment Plan for the area provides guidance for future development and upgrades of the area, including buildings and facilities, affordable housing, and improved open space. The RAP would result in the remediation of the Site and, thus, would reduce existing hazards with respect to the surrounding Redevelopment Project area. Although implementation of the RAP, would restrict the future use of the Site for affordable housing, it would allow for the re-use of the Site with commercial or recreational uses that would be consistent with the cap. Although the RAP would not meet the full objectives of the Redevelopment Plan, it would not result in any adverse environmental impacts with respect to the Plan. Therefore, the impact of the RAP would be less than significant with respect to the objectives of the Redevelopment Plan.

Magnolia Pacific Specific Plan

The Magnolia Pacific Specific Plan envisions the development of the Site as a residential community containing up to 502 residential units in a mixture of single-family detached homes and multi-family units, with landscaping, recreational areas, roadways, and on-site utilities infrastructure. The proposed RAP incorporates land use controls (restrictions) that would prohibit the development of the Site with residential uses in accordance with the objectives of the Magnolia Pacific Specific Plan. In order to implement the Specific Plan, future developers would be required to petition DTSC for a change in the restrictions and meet

additional requirements, which could include additional remedial action at the Site or changing the character of the cap. Because of the complexity of future additional remediation or potentially complex engineering changes before the Site could be developed in accordance with the Specific Plan, the RAP would not be consistent with intent of the Specific Plan. Although the RAP would not allow the residential uses identified in the Specific Plan, this prohibition would not cause a significant land use or other environmental impact. Therefore, the effect of the RAP with respect to the Specific Plan would be a less than significant impact.

Huntington Beach Zoning and Subdivision Ordinance

The HBZBO designates the Site as SP-10, which corresponds to the Magnolia Pacific Specific Plan. Under this zoning designation, any future development of the Site must correspond to the requirements of the Magnolia Pacific Specific Plan, which would allow 502 mixed single-family and multi-family residences within a design community. As previously described, the RAP would prohibit development of the Site with residential uses and would leave the site in a condition that would not be developable under the existing zoning designation. Therefore, the RAP would impede the intent of the HBZBO regarding the land use of the Site. However, the non-implementation of the designated zoning and land use would not result in an adverse environmental impact. Therefore, the inconsistency of the RAP with the HBZBO would be a less than significant impact.

Department of Toxic Substances Control - 2011-2016 Strategic Plan

The Strategic Plan's goal 11-2 states that DTSC shall "Restore land and water to protect human health and the environment, and to facilitate efficient reuse and redevelopment." Under the RAP, materials harmful to human health and the environment would be capped (sealed) but not entirely removed from the Site. The cap over the Site would provide for the remediation of the Site and would, therefore, reduce existing hazards with respect to the surrounding community and the environment. However, under the RAP, DTSC would restrict the future use of the Site based on the capped condition. Any future re-use of the Site would require DTSC approval and, depending upon the specific use contemplated, may require additional remedial action or use of an alternative capping system. Commercial or recreational uses that could demonstrate that the cap or drainage gradients of the Site would not be adversely compromised could be developed. However, because of the potential engineering complexity required for the development of a broader range of uses or the type of residential uses contemplated by the City, the RAP would not be consistent with the policy to "facilitate efficient reuse and redevelopment." Although the RAP would not facilitate efficient reuse and redevelopment, this limitation would not cause a significant physical impact. Therefore, the effect of the RAP with respect to the Strategic Plan would be less than significant.

Conclusion. Implementation of the proposed cap system as part of the RAP would disallow the use of the Site for residential purposes and, as such, would not be consistent with zoning designation or the intent of the applicable land use plans and policies to encourage re-use of the Site. The RAP would, however, be consistent with the applicable policies, including those within the Coastal Plan, for the remediation of the Site. Although inconsistencies with certain land use policies are anticipated, these inconsistencies would not result in adverse physical effects. Therefore, the impact of the Project with respect to land use would be less than significant.

3. CUMULATIVE IMPACTS

Related projects in the study area, described in Section 3.0, Basis for Cumulative Analysis, in this EIR, consist of a variety of industrial, commercial and residential uses. As described in Section 3.0, some of the related

projects would be completed in the short-term (by 2015, the anticipated start date of the Project) and some are anticipated for completion between 2015 and 2020. Related project sites are illustrated in Figure 3-1, Related Projects Map, in Section 3 of the EIR. As shown in Figure 3-1, the related projects nearest the Site are No. 1, the Poseidon Desalination Facility, and No. 2, the Plains All-American Pipeline Storage Tanks Removal project. As with the Project, these related projects would occur within existing industrial sites. The Desalination Facility would be constructed within the AES Power Plant site and would require the removal of two above-ground tanks in the northerly sector of the AES Power Plant property. The AES Power Plant is located immediately to the southwest of the Site. The removal of the above-ground storage tanks would occur within the Plain's All-American property immediately to the south of the Site. As with the Project, these related projects would be industrial in character. These related projects, in combination with the Project, would not cause a change in the land use character of the local area or region.

Other related projects are located to the west of the Site in the vicinity or west of Beach Boulevard and Pacific Coast Highway. These projects include the Beach Promenade at Beach Boulevard and Atlanta Avenue, the Hilton Waterfront Beach Resort Expansion on Pacific Coast Highway, the Pacific City Project on Pacific Coast Highway, the Pierside Pavilion Expansion on Pacific Coast Highway, and the Beach Walk on Beach Boulevard. These related projects are primarily residential, commercial and hotel uses and would be generally consistent with existing zoning, land use designations, and use patterns in their respective areas.

The majority of related projects are located to the north of Ellis Avenue in the vicinity of Beach Boulevard or in the vicinity of I-405. These projects are primarily commercial and residential in character and generally consistent with the designated land use patterns of the area. However, a non- residential or non-commercial related project in this area is the clean-up and re-use of the gun range in Central Park near Gothard Street and Talbert Avenue. Another exception is the Warner Nichols project located in the vicinity of Water Avenue and Nichols Lane. This project would require a General Plan and zoning amendment from residential use to commercial and industrial uses on an approximately 4.4-acre site. The clean-up and re-use of the gun range is expected to result in a beneficial land use effect. The Warner Nichols General Plan zoning amendment would be subject to CEQA review, which requires the mitigation of adverse impacts or demonstration that the merits of the amendment would meet public objectives (not cause public harm). Thus, it is anticipated that these related projects would not constitute significant adverse land use impacts. Because the Project would not result in a significant land use impact and related projects in themselves would not result in significant cumulative land use impacts, the Project in combination with related projects would not result in significant cumulative impacts with respect to land use.

4. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Land use impacts would be less than significant and no mitigation measures are necessary.

4.9 NOISE

This section analyzes potential impacts resulting from noise and vibration associated with construction and operation of the Project. The analysis describes the existing noise environment within the vicinity of the Site, estimates future noise levels at surrounding land uses resulting from construction and operation of the Project, identifies the potential for significant impacts, and provides mitigation measures to address significant impacts. Noise calculation worksheets are included in Appendix F of this Draft EIR.

1. ENVIRONMENTAL SETTING

Noise is most often defined as unwanted sound. Although sound can be easily measured, the perceptibility of sound is subjective, and the physical response to sound complicates the analysis of sound's impact on people. People judge the relative magnitude of sound sensation in subjective terms such as "noisiness" or "loudness." That is, a change in sound level of 3 dB is considered "just perceptible," a change in sound level of 5 dB is considered "clearly noticeable", and a change in 10 dB is recognized as "twice as loud."[1]

Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB). The human hearing system is not equally sensitive to sound at all frequencies. Therefore, to approximate this human, frequency-dependent response, the A-weighted filter system is used to adjust measured sound levels. The A-weighted sound level is expressed in "dBA." This scale de-emphasizes low frequencies to which human hearing is less sensitive and focuses on mid- to high-range frequencies.

Although the A-weighted scale accounts for the range of people's response, and therefore, is commonly used to quantify individual event or general community sound levels, the degree of annoyance or other response effects also depends on several other perceptibility factors. These factors include:

- Ambient (background) sound level;
- Magnitude of sound event with respect to the background noise level;
- Duration of the sound event;
- Number of event occurrences and their repetitiveness; and
- Time of day that the event occurs.

In an outdoor environment, sound levels attenuate through the air as a function of distance. Such attenuation is called "distance loss" or "geometric spreading" and is based on the source configuration: point source or line source. For a point source, the rate of sound attenuation is 6 dB per doubling of distance from the noise source. For example, a sound level of 50 dBA at a distance of 25 feet from the noise source would attenuate to 44 dBA at a distance of 50 feet. A point source can attenuate at a higher rate of 7.5 dBA at acoustically "soft" sites, which are noise-absorptive sites characteristic of normal earth and most ground

[1] *California Department of Transportation, Technical Noise Supplement, November 2009.*

with vegetation.[2] For a line source, such as a constant flow of traffic on a roadway, the rate of sound attenuation is 3 dB per doubling of distance.[3] Empirical evidence has shown that, where a line source propagates close to "soft" ground, a more suitable drop-off rate to use is 4.5 dBA per doubling of distance.[4]

In addition, structures (e.g., buildings and solid walls) and natural topography (e.g., hills) that obstruct the line-of-sight between a noise source and a receptor further reduce the noise level if the receptor is located within the "shadow" of the obstruction, such as behind a sound wall. This type of sound attenuation is known as "barrier insertion loss." If a receptor is located behind the wall but still has a view of the source (i.e., line-of-sight not fully blocked), some barrier insertion loss would still occur, however to a lesser extent. Additionally, a receptor located on the same side of the wall as a noise source may actually experience an increase in the perceived noise level as the wall reflects noise back to the receptor, thereby compounding the noise. Noise barriers can provide noise level reductions ranging from approximately 5 dBA (where the barrier just breaks the line-of-sight between the source and receiver) to an upper range of 20 dBA with a more substantial barrier.[5]

Community noise levels usually change continuously during the day. The equivalent sound level (L_{eq}) is normally used to describe community noise. The L_{eq} is the equivalent steady-state A-weighted sound level that would contain the same acoustical energy as the time-varying A-weighted sound level during the same time interval. For intermittent noise sources, the maximum noise level (L_{max}) is normally used to represent the maximum noise level measured during the measurement. Maximum and minimum noise levels, as compared to the L_{eq}, are a function of the characteristics of the noise source. As an example, sources such as generators have maximum and minimum noise levels that are similar to L_{eq} since noise levels for steady-state noise sources do not substantially fluctuate. However, as another example, vehicular noise levels along local roadways result in substantially different minimum and maximum noise levels when compared to the L_{eq} since noise levels fluctuate during pass-by events. The City of Huntington Beach Municipal Code uses the L_{eq} to evaluate noise violations.

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. With respect to ground-borne vibration, velocity and acceleration, descriptors are typically used, as most vibration sensors are either a velocity or an acceleration sensor. In addition, the response of humans, buildings, and equipment to vibration is more accurately described using velocity or acceleration.[6] Vibration amplitudes are usually described as peaks, as in peak particle velocity (PPV). The peak level represents the maximum instantaneous peak of the vibration signal. In addition, vibrations can be measured in the vertical, horizontal longitudinal, or horizontal transverse directions. Ground vibrations are most often greatest in the vertical direction.[7] Therefore, the analysis of ground-borne vibration is addressed in the vertical direction.

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[2] *U.S. Department of Transportation, Federal Highway Administration, Highway Noise Fundamentals, 1980, 97. An acoustically "hard" or reflective site does not provide any excess ground-effect attenuation and is characteristic of asphalt, concrete, and very hard packed soils. An acoustically "soft" or absorptive site is characteristic of normal earth and most ground with vegetation.*

[3] *Caltrans, Technical Noise Supplement (TeNS), 2009.*

[4] *U.S. Department of Transportation, Federal Highway Administration, Highway Traffic Noise: Analysis and Abatement Guidance, 2010 (revised 8/11/2010), 10.*

[5] *Ibid.*

[6] *Federal Transit Authority, Transit Noise and Vibration Impact Assessment, Final Report, May 2006.*

[7] *California Department of Transportation (Caltrans), Transportation Related Earthborne Vibrations, page 4, February 2002.*

Regulatory Framework

Many government agencies have established noise standards and guidelines to protect citizens from potential hearing damage and various other adverse physiological and social effects associated with noise and ground-borne vibration. The City of Huntington Beach has adopted a number of policies that are based in part on federal and State regulations and are intended to control, minimize or mitigate environmental noise effects. The regulations and policies that are relevant to Project construction and operation noise are discussed below.

Noise

Applicable City of Huntington Beach Regulations and Policies

Noise Element

- Objective N 1.4- Minimize noise spillover or encroachment from commercial and industrial land uses into adjoining residential neighborhoods or "noise-sensitive" uses.
  - Policy N. 1.4.3- Require that the parking areas of all commercial and industrial land uses, which abut residential areas, to be buffered and shielded by walls, fences, or adequate landscaping.

Huntington Beach Municipal Code

Section 8.40.050, Exterior Noise Standards

(a) The following noise standards, unless otherwise specifically indicated, shall apply at exterior of all residential properties within a designated noise zone:

Exterior Noise Standards

	Noise Zone	Noise Level	Time Period
1	All residential properties	55 db(A)	7 A.M. - 10 P.M.
		50 db(A)	10 P.M. - 7 A.M.
2	All professional office and public institutional properties	55 db(A)	Anytime
3	All commercial properties with the exception of professional office properties	60 db(A)	Anytime
4	All industrial properties	70 db(A)	Anytime

(b) In the event the alleged offensive noise consists entirely of impact noise,[8] simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five (5) db(A).

Section 8.40.060, Exterior Noise Levels Prohibited.

It shall be unlawful for any person at any location within the incorporated area of the City to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level when measured on any residential, public institutional,

[8] *"Impact Noise" shall mean the noise produced by the collision of one mass in motion with a second mass which may be either in motion or at rest,HBMC Section 8.40.020.*

professional, commercial or industrial property, either within or without the City, to exceed the applicable noise standards:

(a) For a cumulative period of more than thirty (30) minutes in any hour;

(b) Plus 5 db(A) for a cumulative period of more than fifteen (15) minutes in any hour;

(c) Plus 10 db(A) for a cumulative period of more than five (5) minutes in any hour;

(d) Plus 15 db(A) for a cumulative period of more than one (1) minute in any hour; or

(e) Plus 20 db(A) for any period of time.

In the event the ambient noise level exceeds any of the first four noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

Huntington Beach Municipal Code Noise Exemption

Section 8.40.090, Special Provisions

The following activities shall be exempt from the provisions of this chapter:

(d) Noise sources associated with construction, repair, remodeling, or grading of any real property; provided a permit has been obtained from the City; and provided said activities do not take place between the hours of 8 P.M. and 7 A.M. on weekdays, including Saturday, or at any time on Sunday or a federal holiday.

Sections (a) through (c) and (e) through (k) of Section 8.40.090 are not described here since they are not relevant to the project implementation.

Neither the City of Huntington Beach nor the County of Orange has quantitative standards for construction noise levels. Therefore, for purposes of this analysis, DTSC has utilized the Federal Transit Administration's (FTA) guidelines suggested limit of 80 dBA for an 8-hour L_{eq} as the noise standard for determining adverse noise impacts during short-term construction activities.

Vibration

The City of Huntington Beach currently does not have any specific policies or guidelines relative to ground-borne vibration. As such, the following is a summary of the California Department of Transportation (Caltrans)'s ground-borne vibration policies and guidelines. With respect to ground-borne vibration from construction activities, Caltrans has adopted guidelines/recommendations to limit ground-borne vibration based on the age and/or condition of the structures that are located in close proximity to construction activity. With respect to residential and commercial structures, Caltrans's technical publication, titled "Transportation- and Construction-Induced Vibration Guidance Manual" (June 2004), provides a vibration damage potential threshold criteria of 0.5 inches per second PPV for older residential structures, 1.0 inch-per-second PPV for newer residential structures, and 2.0 inches per second PPV for modern

industrial/commercial buildings. Human perception ranges from 0.02 to 0.1 inches per second PPV. The Caltrans' Transportation- and Construction-Induced Vibration Guidance Manual also provides human perception threshold of 0.02 inches per second PPV.

Existing Conditions

Noise-Sensitive Receptor Locations

Some land uses, such as residences, schools, motels and hotels, libraries, and hospitals, are considered more sensitive to intrusive noise than others due to the types of activities typically involved at the receptor location. There are residential uses located east, southeast, and northwest of the Site. Existing noise sensitive uses in the project vicinity are described below:

- Single-family residential uses are located approximately 100 feet to the east of the Site.
- Edison High School is located approximately 400 feet to the northeast of the Site.
- A Fire Station (where employees reside while on shift) is located approximately 350 feet to the northeast of the Site.
- Single-family residential uses are located approximately 300 feet to the northwest of the Site.
- Mobile home uses are located approximately 1,600 feet to the west of the Site.

Ambient Noise Levels

The existing noise environment at the Site is dominated primarily by auto traffic on Hamilton Avenue and Magnolia Street. Other community noise sources include incidental noise from industrial-related activities, such as loading dock/delivery truck activities, parking, and refuse services activities, ambulance and police sirens, landscaping maintenance at nearby residential uses, and ocean surf. To quantify existing noise levels in the project area, short-term (15-minute) measurements were conducted at seven locations, identified as R1 though R7 in **Figure 4.9-1**, *Noise Measurement Locations*. The ambient noise measurements were conducted on Tuesday, April 16, 2013, as described below:

- Measurement Location R1: The noise measuring device (sound level meter) was placed east of the Site across Magnolia Street near single-family residential uses. Location R1 represents the existing general noise environment of single-family residential uses east of the Site.
- Measurement Location R2: The sound level meter was placed on the northeast corner of the intersection of Hamilton Avenue and Magnolia Street. The noise level at this location is considered representative of the existing noise environment of Edison High School and the Fire Station.
- Measurement Location R3: The sound level meter was placed north of Hamilton Avenue near single-family residential uses. This measurement location represents the existing noise environment of single-family residential uses along Hamilton Avenue northwest of the Site.
- Measurement Location R4: The sound level meter was placed west of Newland Street. This measurement location represents the existing noise environment of mobile home uses along Newland Street.

- Measurement Location R5: The sound level meter was placed north of Pacific Coast Highway near mobile home uses. This measurement location represents the existing noise environment of mobile home uses along Pacific Coast Highway.
- Measurement Location R6: The sound level meter was placed along Beach Boulevard between Atlanta Avenue and Pacific Coast Highway. This measurement location represents the existing noise environment of residential uses along the truck route at Beach Boulevard, between Atlanta Avenue and Pacific Coast Highway.
- Measurement Location R7: The sound level meter was placed along Beach Boulevard between Atlanta Avenue and Indianapolis Avenue. This measurement location represents the existing noise environment of residential uses along Beach Boulevard between Atlanta Avenue and Indianapolis Avenue.

Noise measurements were conducted using Larson-Davis 820 Precision Integrated Sound Level Meters (SLM). The Larson-Davis 820 SLM is a Type 1 standard instrument as defined in the American National Standard Institute (ANSI) S1.4. All instruments were calibrated and operated according to the applicable manufacturer specification. The recording microphones were placed at a height of five feet above the local grade elevation. The sound level meters were set up to collect the 15-minute average noise level, L_{eq}.

Table 4.9-1, *Summary of Ambient Noise Measurements,* presents the existing noise levels in the vicinity of the Site. Based on field observation and measured sound data, the existing noise environment in the vicinity of the Site is dominated mainly by auto traffic noise. As indicated on Table 4.9-1, the noise sensitive receptors near the Site are currently exposed to an exterior noise level of 65 dBA east of the Site (Location R1) with noise levels ranging from 63 to 68 dBA near the Site's northern boundaries (Locations R2 and R3) during daytime hours. Mobile home uses (R4 and R5) along Newland Street and Pacific Coast Highway are exposed to exterior noise levels ranging from 64 to 71 dBA. Residential uses (R6 and R7) along Beach Boulevard are exposed to exterior noise levels ranging from 62 to 65 dBA.

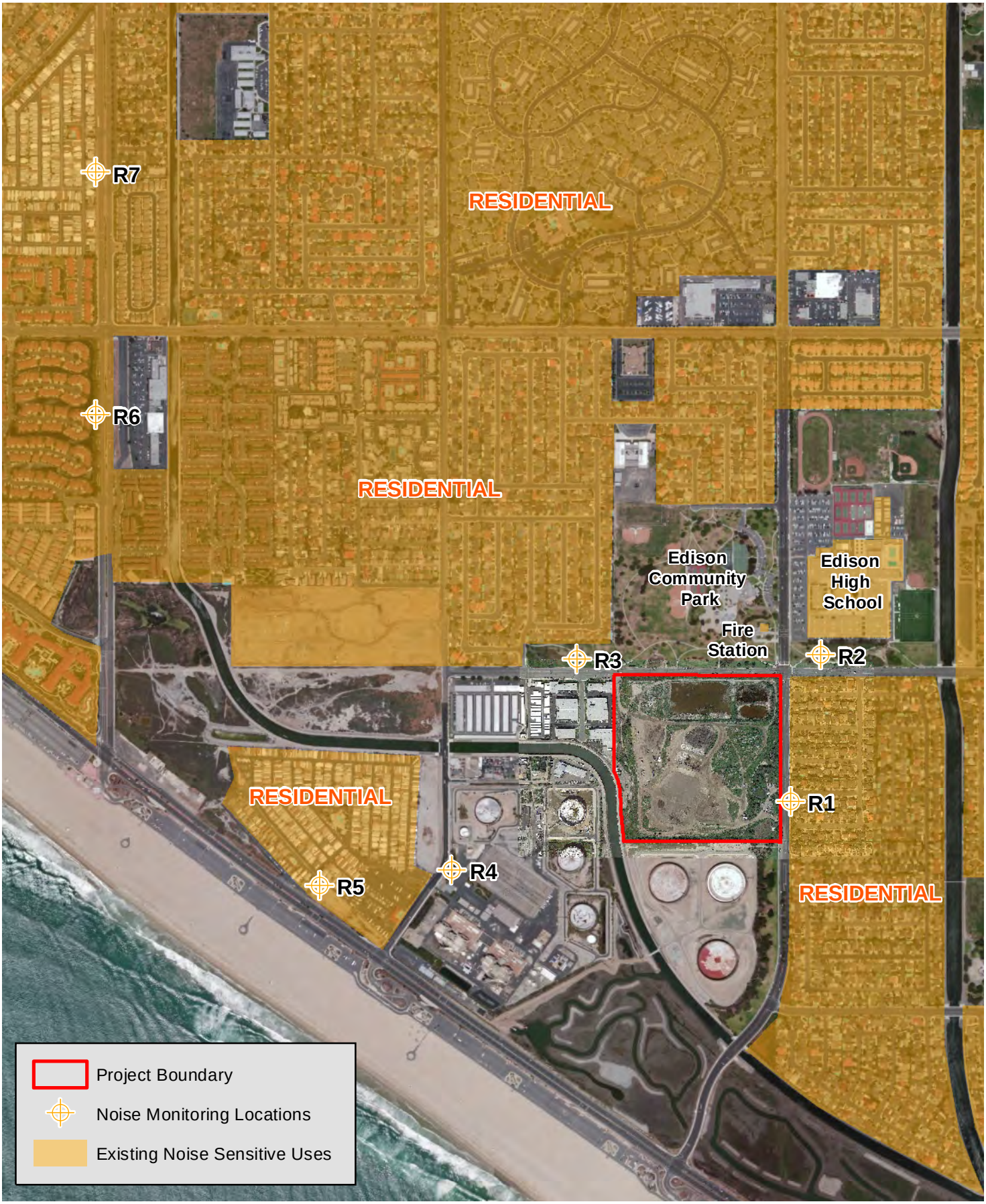
2. ENVIRONMENTAL IMPACTS

Significance Criteria

For purposes of this EIR, DTSC has utilized the checklist questions in Appendix G of the *CEQA Guidelines* as significance criteria to determine whether a project would have a significant environmental impact regarding noise. Based on the potential for noise impacts, the criteria identified below are included for evaluation in this EIR. Please refer to Section 6.0, *Other Mandatory CEQA Considerations*, for a discussion of other issues associated with the evaluation of noise where the characteristics of the Project made it clear that effects would not be significant and further evaluation in this section was not warranted.

Would the Project:

4.9-1 Result in exposure of persons to or generation of noise levels in excess of standards presumed in the local general plan or noise ordinance, or applicable standards of other agencies (refer to Impact 4.9-1);



PCR

N

0 1,000 2,000 Feet

Noise Measurement Locations and Existing Noise Sensitive Uses

RAP EIR - Ascon Landfill Site

Source: Google (Aerial), 2011; PCR Services Corporation, 2013.

FIGURE

4.9-1

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Table 4.9-1

Summary of Ambient Noise Measurements

Measurement Location Date (Start Time) / Day of Week	Measured Ambient Noise Levels dBA (L_{eq} 15 minutes) Daytime
R1; 4/16/13 (11:41 A.M.)/ Tuesday	65
R2; 4/16/13 (11:23 A.M.)/ Tuesday	63
R3; 4/16/13 (11:04 A.M.)/ Tuesday	68
R4; 4/16/13 (10:28 A.M.)/ Tuesday	64
R5; 4/16/13 (10:44 A.M.)/ Tuesday	71
R6; 4/16/13 (10:06 A.M.)/ Tuesday	62
R7; 4/16/13 (09:46 A.M.)/ Tuesday	65

Source: PCR Services, 2013.

4.9-2 Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (refer to Impact Statement 4.9-2); and

4.9-3 Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels (refer to Impact Statement 4.9-3)?

Based on the City's regulations and DTSC's noise impact criteria described above the Project would result in a significant noise impact if:

- Criterion 1– Construction activities during implementation of the RAP would occur outside the hours of 7:00 A.M. to 8:00 P.M. on weekdays, including Saturday, or at any time on Sunday or a federal holiday, unless a permit was obtained from the City allowing for a temporary exemption from the specified hours of construction;
- Criterion 2– Activities during implementation of the RAP would result in noise levels above the applicable standard of 80 dBA at a noise-sensitive property boundary for an 8-hour L_{eq} between the hours of 7:00 A.M. to 8:00 P.M. on weekdays, including Saturday; or
- Criterion 3 – Project-related stationary noise sources (e.g., mechanical fans) generate noise levels that would exceed measured ambient noise levels at the designated sensitive receptor locations.

As previously described, the City of Huntington Beach does not have a significance criterion to assess vibration impacts during implementation of the RAP. Thus, the Caltrans standards described above are used to evaluate potential vibration impacts related to Project construction. Thus, the Project would result in a significant vibration impact if:

- Criterion 4 – Activities during implementation of the RAP would cause PPV ground-borne vibration levels to exceed 0.5 inches per second PPV at any off-site residential structures;
- Criterion 5 – Activities during implementation of the RAP would cause PPV ground-borne vibration levels to exceed 2.0 inches per second PPV at any modern industrial/commercial buildings; or

- Criterion 6 – Potential Human Annoyance - Implementation of the RAP activities would cause ground-borne vibration levels to exceed 0.02 inches per second PPV at off-site vibration sensitive receptors .

Project Design Features

The following Project Design Features (PDFs) are intended to reduce Project-related noise and are proposed as part of the Project subject to review and approval by the City of Huntington Beach. Therefore, they have been taken into account in the analysis of potential Project impacts.

PDF 9-1 The Project contractor(s) shall equip all construction machinery and equipment, fixed or mobile, with properly operating and maintained noise mufflers, consistent with manufacturers' standards.

PDF 9-2 Engine idling from construction equipment such as bulldozers and haul trucks shall be limited, to the extent feasible.

PDF 9-3 To the extent feasible, construction activities shall be scheduled so as to avoid operating several pieces of heavy equipment simultaneously, which causes high noise and vibration levels.

Methodology

Short-Term Noise

On-Site Noise Sources

On-site equipment and haul truck staging and haul route noise impacts are evaluated by determining the noise levels generated by the different types of construction activity, calculating the RAP-related noise level at nearby sensitive receptor locations, and comparing these construction-related noise levels to existing ambient noise levels (i.e., noise levels without construction noise). More specifically, the following steps were undertaken to calculate construction-period noise impacts:

1. Ambient noise levels at surrounding sensitive receptor locations were estimated based on field measurement data (refer to Table 4.9-1) or presumed noise level as stated in the Huntington Beach Municipal Code (HBMC), Section 8.40.050;
2. Typical noise levels for each type of on-site construction equipment were obtained from the Federal Highway Administration's (FHWA) Roadway Construction Noise Model;
3. Distances between construction site locations (noise source) and surrounding sensitive receptors were measured using project architectural drawings, Google Earth™, and site plans; and
4. The Project-generated noise level was then calculated for sensitive receptor locations based on the conventional standard point source noise-distance attenuation factor of 6.0 dBA for each doubling of distance.

Off-Site Roadway Noise Sources

Roadway noise impacts were evaluated using the Caltrans Technical Noise Supplement (TeNS) methodology. This methodology allows for the definition of roadway configurations, barrier information (if any), and receiver locations.

Short-Term Ground-Borne Vibration

Ground-borne vibration impacts were evaluated by identifying potential vibration sources, measuring the distance between vibration sources and surrounding structure locations, and making a significance determination based on the thresholds discussed below. Potential vibration sources during implementation of the RAP include heavy duty equipment needed for excavation and hauling of materials. Typical vibration levels expected from each type of equipment were obtained from the published standard vibration data by the FTA.

Long-Term Noise

After implementation of the RAP, the Site would be a capped closed landfill. Sources of long-term noise include mechanical equipment related to the gas collection system and occasional vehicular access for periodic service of the equipment and routine maintenance. The current plan is to locate the gas collection system on the western portion of the Site along the perimeter access road. Landfill gas, if generated under the cap, would be collected via mechanical fans (e.g., blowers) and filtered through a granulated activated carbon (GAC) system to remove volatile contaminants before being released to the atmosphere. The GAC must be periodically replaced and regenerated off-site, necessitating a vendor vehicle trip. In addition, periodic inspections of the cap and landfill would be performed, and may include weed abatement and other maintenance activities.

On-Site Noise Sources

Stationary point-source noise impacts were evaluated by identifying the noise levels generated by stationary noise sources such as mechanical fans, estimating the noise level from each noise source at surrounding residential property locations, and comparing such noise levels to ambient noise levels to determine significance.

Off-Site Roadway Noise Sources

The closed, capped landfill would not generate off-site vehicular traffic, with the exception of the occasional vehicle trip mentioned above. Even several vehicles accessing the Site simultaneously would produce only negligible noise to off-site receptors, and no quantitative analyses are warranted.

Long-Term Vibration

No sources of ground-borne vibration are expected to remain at the Site long-term upon completion of the cap. Therefore, analysis of long-term vibration impacts is not warranted.

Analysis of Project Impacts

On-Site Noise during Implementation of the RAP

Impact 4.9-1	Would the project expose persons to or generate noise levels in excess of standards presumed in the local general plan or noise ordinance, or applicable standards of other agencies?
Impact 4.9-2	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Short-Term Noise

On-Site Noise Sources

Noise from short-term construction activities during implementation of the RAP would be generated by vehicles and equipment involved during various Project phases: Phase 1--Mobilization, Phase 2 --Pit F, Phase 3--Cut and Fill activities, Phase 4--Treatment cell, Phase 5--Concrete Debris, Phase 6--Cap Construction, Phase 7--Surface water controls, Phase 8--City Parcel, Phase 9--SCOC site, Phase 10--Site Restoration. Each stage would involve the use of different kinds of construction equipment, and, therefore, each has its own distinct noise characteristics. The list of construction equipment that would be used during implementation of the RAP assumed for purposes of this noise analysis is shown in Appendix F. During Phase 2--Pit F, excavation would be performed under a structure to capture the emissions. Therefore, the structure would require air handling units with blower(s) and filtration. During Phase 3 and Phase 5, a concrete breaking or crushing machine may be used on-site to break and/or crush concrete debris into usable material. Therefore, as a worst case scenario, concrete crushing equipment was considered in the noise calculations for Phase 3 and Phase 5 during implementation of the RAP.

The noise levels created by construction equipment would vary depending on factors such as the type of equipment, the specific model, the operation being performed and the condition of the equipment. Construction noise associated with implementation of the RAP was analyzed using a mix of typical construction equipment, estimated durations and activity phasing. The Project equipment noise model is based on heavy-duty equipment noise levels as published by the Federal Highway Administration (FHWA)[9].

In an outdoor environment, sound levels attenuate through the air as a function of distance. Such attenuation is called "distance loss" or "geometric spreading" and is based on the source configuration, point source or line source. For a point source such as heavy-duty equipment, the rate of sound attenuation is 6 dB per doubling of distance from the noise source. For example, a noise level of 85 dBA at a reference distance of 50 feet from the equipment would attenuate to 79 dBA at 100 feet, and 73 dBA at 200 feet**. Table 4.9-2**, *Estimate of Implementation of the RAP Noise Levels (L_{eq}) at Off-Site Sensitive Receiver Locations,* provides the estimated noise levels during implementation of the RAP at nearby noise sensitive receptors where current ambient noise levels were recorded. The estimated noise levels are representative of worst-case conditions when noise generators are located closest to noise sensitive receptors and when haul trucks are passing by on roadways adjacent to the same noise sensitive receptors.

[9] *Roadway Construction Noise Model, Federal Highway Administration, 2006.*

Table 4.9-2

Estimate of Implementation of the RAP Noise Levels (L_{eq}) at Off-Site Sensitive Receiver Locations

Receptor	Implementation of the RAP Phases	Nearest Distance between Receptor and the Site, feet	Estimated Implementation of the RAP Noise Levels at the Noise Sensitive Receptor by Equipment and Haul Trucks Hourly L_{eq} (dBA)	Significance Impacts Threshold L_{eq} (dBA)	Exceeds Significance Threshold?
R1 Single-family Residential Uses	Phase 1	350	65	80	No
	Phase 2	190	68		
	Phase 3	160	67		
	Phase 4	600	64		
	Phase 5	100	67		
	Phase 6	100	68		
	Phase 7	100	68		
	Phase 8	100	71		
	Phase 9	1,200	64		
	Phase10	100	65		
R2 Edison High School	Phase 1	1,200	62	80	No
	Phase 2	1,200	63		
	Phase 3	460	66		
	Phase 4	1,300	62		
	Phase 5	400	63		
	Phase 6	400	63		
	Phase 7	1,200	62		
	Phase 8	400	66		
	Phase 9	1,800	62		
	Phase10	400	63		
R2 Fire Station	Phase 1	850	63	80	No
	Phase 2	1,150	63		
	Phase 3	330	67		
	Phase 4	1,150	62		
	Phase 5	350	64		
	Phase 6	350	64		
	Phase 7	850	62		
	Phase 8	350	66		
	Phase 9	1,500	63		
	Phase10	350	63		
R3 Single-family Residential Uses	Phase 1	500	63	80	No
	Phase 2	1,500	62		
	Phase 3	500	65		
	Phase 4	1,000	62		
	Phase 5	300	64		
	Phase 6	300	65		
	Phase 7	300	64		
	Phase 8	300	67		
	Phase 9	900	63		
	Phase10	300	63		

[a] *Detailed construction noise data and calculations are included in Appendix F.*

Source: PCR Services Corporation, 2013.

These noise calculations account for the installation and use of standard noise mufflers on fixed or mobile equipment, consistent with manufacturers' specifications. The estimated noise levels are conservative because activities during implementation of the RAP are analyzed as if they were occurring along the perimeter of the Site, whereas in actuality these activities would typically occur throughout the Site, further away from noise-sensitive receptors. A summary of the noise impacts associated with implementation of the RAP at the nearby sensitive receptors is provided in Table 4.9-2. Detailed noise calculations for construction activities are provided in Appendix F. As shown therein, implementation of the RAP would result in noise levels that would exceed ambient noise levels at the nearest single-family residential uses, R1, during Phase 2, Phase 3, and Phases 5 through 8. Ambient noise levels would be exceeded at Edison High School, R2, during Phase 3 and Phase 8. Ambient noise levels would be exceeded at the Fire Station, R2, during Phases 3, 5, 6, and 8. The maximum noise level associated with implementation of the RAP would be 71 dBA during Phase 8 at the noise sensitive receptor location R1. Noise levels usually diminish at a rate of approximately 6 dBA per doubling of distance. Thus, as heavy equipment passes near the boundary of the Site, the peak construction noise level at a given moment in time could reach 71 dBA. However, as the equipment operates near the center of the Site, which is approximately 600 feet from the closest single-family residential uses to the east, lower noise level of approximately 55 dBA would be generated at the nearest noise sensitive receptor. Thus, activities associated with implementation of the RAP would increase the existing ambient noise in close proximity of the Site only during peak, limited moments. Also, this momentary increase in ambient noise would be dampened by the block wall along the east side of Magnolia Street, a feature not accounted for in the noise estimation.

In addition, it is acknowledged that during Pit F excavation activities, a blower may need to be temporarily utilized during daytime and nighttime hours. The blower is not expected to be perceptible at the residences during daytime hours due to existing noise levels of approximately 65 dBA and on-site sources of noise being louder than a typical blower. However, during nighttime hours, when ambient noise levels in residential neighborhoods decrease, noise from a blower has the potential to exceed the City's 50 dBA standard, depending on the noise level of the blower that is ultimately selected, the location of the blower (distance), and the presence of intervening structures or topography that may dampen sound transmission to the offsite residences. If existing ambient levels are greater than the 50 dBA standard, the noise from the blower may not be perceptible at the residences even if it exceeded 50 dBA. If the blower generates noise less than the existing ambient environment, the contribution would increase the total noise level by less than 3 dBA, which would not be a perceptible change (a change in sound level of 3 dBA is considered barely perceptible by the human ear). In accordance with Mitigation Measure Noise-1, the RPs would locate the blower so as to not generate noise in excess of 50 dBA at the residences and/or provide a temporary noise barrier to reduce noise levels to ambient levels or acceptable nighttime levels (below 50 dBA), as warranted. The RPs may alternatively seek to obtain an exemption to the City's Noise Ordnance for such temporary noise per Municipal Code Section 8.40.90 (j and/or k, or as otherwise applicable).

During implementation of the RAP, activities would be temporary in nature and would be required to comply with the City's noise limitations during corresponding hours as described above. Noise resulting from implementation of the RAP during daytime hours would not exceed the significance threshold of 80 dBA at noise-sensitive receptor locations. To address the potential for nighttime noise impacts associated with the Pit F blower, Mitigation Measure NOISE-1 has been prescribed. With implementation of the prescribed mitigation measure, potentially significant nighttime construction-related noise impacts from the Pit F blower would be reduced to a less than significant level. In addition, requirements set forth in the Project Design Features would further reduce construction noise impacts.

Off-Site Roadway Noise

The haul route to the Site would result in haul trucks exiting the I-405 Freeway at Beach Boulevard. Trucks would then travel south on Beach Boulevard to PCH, turn left on PCH to Newland Street, go north on Newland Street to Hamilton Avenue, and turn right on Hamilton Avenue to the current Site entrance. The current Site entrance for haul trucks is located on Hamilton Avenue west of Magnolia Street. Future entrance(s) along Hamilton Avenue may be needed to accommodate activities associated with implementation of the RAP. Trucks leaving the Site would exit on Magnolia Street and travel south to PCH. The trucks would then travel northwest on PCH and north on Beach Boulevard to the freeway entrance for the I-405. **Table 4.9-3**, *Estimate of Haul Truck Noise Levels (L_{eq}) at Off-Site Sensitive Receiver Locations,* provides the estimated haul truck noise levels at noise sensitive receptors along the haul truck route where current sound ambient noise levels were recorded and provides a comparison with the noise impact criteria. The table also provides the ambient noise levels and the change in noise levels with the addition of the haul truck noise.

Table 4.9-3

Estimate of Haul Truck Noise Levels (L_{eq}) at Off-Site Sensitive Receiver Locations

Receptor	Estimated Haul Truck Noise Levels at the Noise Sensitive Receptor Hourly L_{eq} (dBA)	Existing Ambient Noise Levels L_{eq} (dBA)	Noise Level with Haul Truck Noise L_{eq} (dBA)	Change in Ambient Levels with Haul Truck Noise
R4 (Newland Street)	64	64	67	+3 dBA
R5 (PCH)	64	71	71.8	+0.8 dBA
R6 (Beach Blvd.)	62	62	65	+3 dBA
R7 (Beach Blvd.)	62	65	66.8	+1.8 dBA

[a] *Detailed haul truck noise calculations are included in Appendix F.*

Source: PCR Services Corporation, 2013.

It is estimated that during implementation of the RAP, there would be a maximum of 300 haul truck trips per day. As shown in Table 4.9-3, noise from the Project's truck trips range from 62 dBA along Beach Boulevard to 64 dBA along Newland Street and Pacific Coast Highway. Based on the measured existing traffic noise level of 62 dBA along Pacific Coast Highway and 64 dBA along Newland Street, noise levels generated by haul truck trips would result in a temporary increase in traffic noise levels along Pacific Coast Highway and Newland Street of up to 3 dBA. In general a change in sound level of 3 dBA is considered barely perceptible by the human ear.[10] Activities associated with the RAP would be required to comply with the City's allowable

[10] *U.S. Department of Transportation, Federal Highway Administration, Highway Traffic Noise: Analysis and Abatement Guidance, (2011).*

hours as described above and would be temporary in nature. Because the temporary noise levels associated with implementation of the RAP would not be barely perceptible and are also exempt from the City's noise ordinance requirements, haul truck-related noise would result in a less than significant noise impact.

Long-Term Noise

Mechanical equipment (e.g., mechanical fans) for long-term use would be designed to comply with the City's Noise Ordinance requirement, Sections 8.40.050 and 8.40.060. The Project mechanical design documentation would be required to demonstrate that mechanical fan and/or other related mechanical components to the cap system noise levels would not exceed the measured ambient noise levels shown in Table 4.9-1 during daytime hours at each corresponding measurement location and 50 dBA during nighttime hours at each measurement location. Mitigation Measure NOISE-2 is prescribed to ensure that the noise impacts associated with the operation of mechanical fans would be less than significant.

If necessary, the long-term parking area of the Site would be along the western Site perimeter, remote from nearby single-family residential uses (R1). Therefore, parking related noise impacts would be less than significant and no mitigation measures would be required.

Conclusion. On-site, short-term construction activities associated with implementation of the RAP, aside from the use of the Pit F blower during nighttime, would be conducted during daytime hours specified in the City's Noise Ordinance. Given the temporary nature of the daytime construction activities associated with implementation of the RAP and the fact that daytime construction noise would not exceed the significance threshold of 80 dBA at nearby noise sensitive receptor locations, daytime short-term construction noise impacts would be less than significant. With implementation of the Mitigation Measure NOISE-1, potentially significant nighttime construction-related noise impacts related to the Pit F blower would be reduced to a less than significant level. Long-term noise from mechanical equipment and parking areas would not exceed the City's Noise Ordinance requirement. Implementation of Mitigation Measure NOISE-2 would ensure that noise impacts associated with the long-term operations of mechanical fans would be less than significant.

Mitigation Measures

NOISE-1 Should a blower with the potential to increase ambient noise levels to greater than 50 dBA at the exterior of nearby residences be utilized during nighttime hours during Pit F excavation activities, the RPs shall take reasonable care to locate and orient the blower in a manner that minimizes sound transmission towards the nearby residences. If, based on the noise generation level of the blower selected and the distance to the residences, the potential remains that the blower noise would exceed 50 dBA, the RPs shall provide a temporary noise barrier to reduce noise levels to ambient levels or acceptable nighttime levels pursuant to the City of Huntington Beach's Noise Ordinance and/or obtain an exemption to the Noise Ordnance for such temporary noise per Municipal Code Section 8.40.90 (j and/or k, or as otherwise applicable). If an exemption is not granted by the City, the RPs shall retain the services of a qualified acoustical engineer with expertise in design of sound isolations to ensure the Pit F blower is screened so as to meet the City's exterior noise limits (50 dBA) during nighttime hours at the property line of the nearest noise sensitive receptor locations (R1 [residential], R2 [fire station], and R3 [residential]).

NOISE-2 The RPs shall retain the services of a qualified acoustical engineer with expertise in design of sound isolations to ensure the mechanical fans and/or other related mechanical components to the cap system installed for long-term use is designed (i.e., installation of building enclosure) so as to meet the City's exterior noise limits (50 dBA) at the property line of the nearest noise sensitive receptor locations (R1 [residential], R2 [school and fire station], and R3 [residential]).

Short-Term Ground-Borne Vibration

Impact 4.9-3 Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

The Project would be constructed using typical heavy-duty construction equipment such as excavators, dozers, and trucks. Most equipment operated during RAP implementation would be stationary vibration sources such as an excavator, foam applicator, ODEX applicator, compactor, etc. In addition, vibration from moving equipment within limited areas of the Site would also be considered a point source. The effect on buildings located in the vicinity of the Site often varies depending on soil type, ground strata, and project characteristics of the receptor buildings. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. The FTA has published standard vibration velocities for construction equipment operations. The PPV for construction equipment pieces anticipated to be used during implementation of RAP are listed in **Table 4.9-4**, *Typical Vibration Velocities for Potential Project Equipment*. As such, it is anticipated that the equipment to be used during implementation of the RAP would not cause excessive groundborne noise or vibration.

Table 4.9-4

Typical Vibration Velocities for Potential Project Construction Equipment

Equipment	Reference Vibration Velocity Levels at 25 ft, inch/second PPV[a,b]
Large bulldozer	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

[a] *PPV=Peak particle velocity.*
[b] *FTA's "Transit Noise and Vibration Impact Assessment", Table 12-2.*

Source: USDOT Federal Transit Administration, 2006.

The City of Huntington Beach does not address vibration in the HBMC. According to the FTA, ground vibrations from general construction activities very rarely reach the level that can damage structures.[11] A possible exception is the case of old, fragile buildings of historical significance where special care must be taken to avoid damage. Activities that typically generate the most severe vibrations are blasting and impact

[11] *U.S. Department of Transportation, Federal Transit Administration, Transit Noise and Vibration Impact Assessment, 2006.*

pile driving, which would not be utilized for the Project. The Project would utilize typical construction equipment and methods such as the use of bulldozers and excavators, which would generate limited ground-borne vibration during excavation, soil hauling, and cap-construction activities. Based on the vibration data by the FTA, the typical vibration velocity from the operation of a large bulldozer would be approximately 0.089 inches per second PPV at 25 feet from the source of activity. The nearest residential building (single-family residential uses, R1), which is approximately 100 feet from the Site, would be exposed to a vibration velocity of 0.01 inches per second PPV. As this value is well below the 0.5 inches per second PPV significance threshold (potential building damage for older residential building), vibration impacts associated with implementation of the RAP would be less than significant at the nearest residential building.

In addition, the vibration velocity of 0.01 inches per second PPV would not exceed the 0.02 inches per second PPV significance threshold for potential human annoyance. Therefore, vibration impacts associated with implementation of the RAP would be less than significant at the nearest single-family residential uses, R1 and no mitigation measures would be required.

Conclusion. Activities associated with implementation of the RAP that would create vibration would not have any effect on the existing vibration environment near the project area. Thus, implementation of the RAP would result in vibration impacts that are less than significant.

3. CUMULATIVE IMPACTS

As discussed in Section 3.0 of this EIR, there are 25 related projects located in the vicinity of the Site. Of the 25 related projects, the one closest is situated adjacent to the Site (Related Project No. 2, Plains All American Pipeline Tanks removal). All other applicable related projects are located a minimum of 1,500 feet away from the project site. The potential for noise impacts to occur are specific to the location of each related project, as well as the cumulative traffic on the surrounding roadway network.

The geographic context for the analysis of cumulative noise impacts depends on the impact being analyzed. For short-term noise impacts, only the immediate area around the proposed Site would be included in the cumulative context. Noise is by definition a localized phenomenon, and the magnitude of which significantly decreases with increased distance from the source. As such, only projects and growth due to occur in the immediate project area, including development within the City of Huntington Beach, would be likely to contribute to cumulative noise impacts.

Increases in noise at adjacent sensitive uses would occur as a result of the implementation of the RAP, along with other construction in the vicinity. As discussed under Impact 4.9-1, construction activities would be conducted within the daytime hours specified in the City's Noise Ordinance. Additionally, although noise levels associated with implementation of the RAP would be temporary and result in less than significant impacts, mitigation measures would be implemented, as appropriate, to reduce the noise impacts to the maximum extent feasible.

Other construction that may occur in the vicinity of the Site could contribute noise levels similar to those generated for the Project. Where this development adjoins the proposed project, the combined short-term noise levels would have a cumulative effect on nearby sensitive uses. However, decibels are logarithmic values, noise is not additive, and a doubling of noise sources would not cause a doubling of noise levels; as

such, cumulative construction noise levels are expected to be below the City's Municipal Code exterior standards at nearby sensitive receptors, unless the adjoining project alone exceeds the noise standards.

Under Section 8.40.090 (Special Provisions) of the City's Municipal Code, noise sources associated with construction associated with the RAP are exempt from the requirements of the Municipal Code, provided that implementation of RAP activities do not occur between the hours of 8:00 P.M. to 7:00 A.M. on weekdays, including Saturday, or at any time on Sunday or a federal holiday. Because compliance with this construction time limit is required by the Huntington Beach Municipal Code, the proposed project and all other cumulative development would be exempt, and the cumulative impact associated with construction noise in the Huntington Beach area would be considered less than significant.

Conclusion. The Project combined with cumulative projects would not impact noise-sensitive uses in the vicinity of the project area.

4. LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of Mitigation Measures NOISE-1 and NOISE-2, the nearest noise sensitive receptors (single-family residential uses, school, and fire station) would not be exposed to high noise levels from implementation of the RAP. Therefore, long- and short-term noise impacts resulting from implementation of the RAP would be less than significant.

4.10 TRAFFIC AND CIRCULATION

This section of the EIR analyzes the Project's potential effects relative to roadway traffic and traffic safety. Applicable regulations and existing conditions are described, as well as the potential for increased haul truck activity to impact intersection service levels compared to the City of Huntington Beach and Orange County Congestion Management Project's established standards. This section also evaluates the relationship of the Project to adopted General Plan Circulation Element policies supporting traffic safety and reduction of pedestrian, bicycle, and vehicular conflicts. The traffic impact analysis is based on the analysis, conclusions, and recommendations of the *Ascon Landfill Site Partial Removing and Capping Transportation Impact Study Draft Report* ("Traffic Study") (Fehr & Peers, June 2013). The Traffic Study, contained in Appendix G of this EIR, was prepared based on consultation with the City of Huntington Beach Public Works and Planning staff.

1. ENVIRONMENTAL SETTING

Regulatory Framework

Southern California Association of Governments Regional Transportation Plan

The Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) is a long-range plan that provides a vision for transportation investments throughout the region. The RTP envisions a future multi-modal transportation system for the region and provides the basic framework for coordinated, long-term investment in the regional transportation system over the planning horizon of 2035. In compliance with state and federal requirements, SCAG prepares the Regional Transportation Improvement Program (RTIP) to implement projects and programs listed in the RTP. Updated every other year, the RTP contains a listing of transportation projects proposed for the region over a six-year period. Transportation projects proposed in the region are required to be consistent with the RTP and included within the RTIP to be eligible for state or federal funding. The 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) identifies mobility as an important component of a much larger picture with added emphasis on sustainability and integrated planning. In addition, the RTP/SCS includes goals and policies that pertain to mobility, accessibility, safety, productivity of the transportation system, protection of the environment and energy efficiency, and land use and growth patterns that complement the state and region's transportation investments. An integral component of the RTP/SCS is a commitment to reduce emissions from transportation sources, in compliance with Senate Bill 375; to improve public health; and to meet the National Ambient Air Quality Standards as set forth by the Clean Air Act. For further discussion of air quality and greenhouse gas emissions, see Sections 4.2, *Air Quality*, and 4.5, *Greenhouse Gas Emissions*, of this EIR, respectively.

Orange County Congestion Management Program

State regulations require the preparation and implementation of a Congestion Management Program (CMP) in each of California's urbanized counties. One required element of the CMP is a process to evaluate the transportation and traffic impacts of large projects on the regional transportation system. That process is undertaken by local agencies, project applicants, and traffic consultants through a transportation impact report usually conducted as part of the CEQA project review process.

The purpose of the state-mandated CMP is to monitor roadway congestion and assess the overall performance of the region's transportation system. Based upon this assessment, the CMP contains specific strategies and identifies proposed improvements to reduce traffic congestion and improve the performance of a multi-modal transportation system. Examples of strategies include increased emphasis on public transportation and rideshare programs, mitigating the impacts of new development and better coordinating land use and transportation planning decisions.

As Orange County's designated Congestion Management Agency (CMA), the Orange County Transportation Authority (OCTA) is responsible for conformance monitoring and biennial updating of the CMP. OCTA administers a variety of funding programs for cities to widen streets, improve intersections, coordinate signals, build Smart Streets and rehabilitate pavement. OCTA also administers regional streets and roads improvement projects. The Project's potential for impacts to CMP facilities is discussed below.

City of Huntington Beach General Plan Circulation Element

The Circulation Element of Huntington Beach General Plan (adopted in 1996) provides a technical synopsis of the street and highway system that serves the city and a discussion of regional access and the existing circulation system. The purpose of the Circulation Element is to evaluate the transportation needs of the City and to present a comprehensive transportation plan to accommodate those needs. The Circulation Element acknowledges that the effective movement of goods and people within a community is a pervasive local need. Issues include traffic congestion and pedestrian, bicyclist, and motorist safety. Primary goals of the Circulation Element are to provide a balanced transportation system (Goal CE 1) and provision of a circulation system that supports existing, approved, and planned land uses while maintaining a desired level of service.

The Circulation Element describes the level of service (LOS) concept as a tool to describe the operating characteristics of the street system in terms of the level of congestion or delay experienced by traffic. The City's acceptable service levels are mandated by the General Plan's Growth Management Element (Policies GM 3.1.2 and 3.1.3). The Circulation Element also recognizes the needs of bicycle enthusiasts and commuters by providing numerous bicycle facilities throughout the city. These include Class I facilities for bicycle travel completely separated from any street or highway (e.g., the Santa Ana River bike path) and Class II facilities, which are striped lanes for one-way travel on a public street.

Objectives and policies of the Circulation Element that would be applicable to the Project are discussed in the impact analysis below.

Existing Conditions

Existing Roadways

Regional access to the Site is provided by I-405 and State Route (SR) 1 (Pacific Coast Highway or "PCH"). Local access is provided by SR 39 (Beach Boulevard), Brookhurst Street, Newland Street, Magnolia Street, Atlanta Avenue and Hamilton Avenue. Roadways in the study area are classified according to the City of Huntington Beach General Plan and described in detail below.

Regional Roads

- **Interstate 405 (I-405)** – I-405 is generally a north-south freeway that begins at Interstate 5 (I-5) in the north San Fernando Valley and reconnects to the I-5 in Irvine. In the study area, I-405 generally contains ten lanes (four lanes and a high occupancy vehicle lane in each direction). Access to the Site from I-405 is provided via Beach Boulevard or Brookhurst Avenue interchanges.
- **State Route 1 (Pacific Coast Highway) (SR-1)** - Pacific Coast Highway is classified as a Congestion Management Plan (CMP) highway in the 2011 Orange County CMP and as a six-lane major (divided) highway in the City of Huntington Beach General Plan. The roadway extends from SR-101 in Leggett, California, south along the Pacific Coast over 650 miles before terminating at I-5 in Dana Point, California. Within the study area, PCH has an east-west orientation and is divided by a center median. On-street parking is generally not permitted within the study area. The posted speed limit along PCH within the study area is 50 miles per hour (mph).

Local Access Roads

- **State Route 39 (Beach Boulevard)** – Beach Boulevard is classified as a CMP Highway in the 2011 Orange County CMP as an eight-lane principal (divided) highway in the City of Huntington Beach General Plan, and as a Smart Street in the Orange County Master Plan of Arterial Highways (MPAH). Near the Site, Beach Boulevard is a six-lane facility with a center median. North of Ellis Avenue the roadway contains eight lanes and is separated by a center median. On-street parking is not permitted along Beach Boulevard north of Ellis Avenue but is generally permitted south of Ellis Avenue. Beach Boulevard is oriented in the north-south direction, and the posted speed limit ranges from 45 to 50 mph. Beach Boulevard provides direct access to SR-90, I-5, SR-91, SR-22, and I-405.
- **Brookhurst Street** – Brookhurst Street is classified in the City of Huntington Beach General Plan as an eight-lane principal (divided) highway between Garfield Avenue and Indianapolis Avenue and as a six-lane major (divided) highway between Indianapolis Avenue and PCH as well as a major arterial in the MPAH. Brookhurst Street is a north/south roadway and is typically separated by a center median. Some on-street parking is permitted south of Adams Avenue. Brookhurst Street contains bike lanes from Bushard Street to Pacific Coast Highway, and the posted speed limit ranges from 45 to 50 mph. Brookhurst Street provides direct access to I-405, SR-22, I-5 and SR-91.
- **Newland Street** – Newland Street is classified in the City of Huntington Beach General Plan as a four-lane primary (divided) highway and is designated as a secondary arterial in the MPAH. Newland Street is a north/south street that contains four lanes (divided) north of Hamilton Avenue and two lanes (undivided) south of Hamilton Avenue. On-street parking is generally not permitted on Newland Street due to the bike lanes present between Warner Avenue and PCH, though some parking lanes are provided. The posted speed limit on Newland Street varies between 35 and 45 mph.
- **Magnolia Street** – Magnolia Street is a north/south highway classified in the City of Huntington Beach General Plan as a four-lane primary (divided) highway and is designated as a primary arterial in the MPAH. On-street parking is generally not permitted on Magnolia Street due to the bike lanes between Slater Avenue and PCH, although some parking lanes are provided. The posted speed limit on Magnolia Street varies between 35 and 45 mph. Magnolia Street provides direct access to the Site.
- **Main Street** – Main Street is classified in the Huntington Beach General Plan as a six-lane major (divided) highway between Delaware Street and Beach Boulevard, as a four-lane primary (divided) highway between Delaware Street and Pacific Coast Highway, and as a primary arterial in the MPAH.

Main Street begins at Ellis Avenue and Beach Boulevard, traveling in a north/south direction to Pacific Coast Highway. The roadway contains six lanes (divided) between Beach Boulevard and Yorktown Avenue, four lanes (divided) between Yorktown Avenue and 17th Street and two lanes (undivided) south of 17th Street. Parking is generally permitted along Main Street, and Main Street contains bike lanes between Beach Boulevard and Loma Avenue. The speed limit on Main Street ranges between 25 and 45 mph.

- **Center Avenue** – Center Avenue is classified in the City of Huntington Beach General Plan as a four-lane (divided) secondary, east/west highway. On-street parking is generally not permitted along Center Avenue, and the posted speed limit is 35 mph.
- **Edinger Avenue** – Edinger Avenue is an east/west roadway classified in the City of Huntington Beach General Plan as a six-lane major (divided) highway between Springdale Street and Newland Street, a four-lane primary (divided) highway elsewhere in Huntington Beach, and as a primary arterial in the MPAH. On-street parking is generally not permitted on Edinger Avenue. Edinger Avenue contains bike lanes east of Newland Street, and the posted speed limit is 40 mph.
- **Warner Avenue** – Warner Avenue is an east/west roadway classified in the City of Huntington Beach General Plan as a six-lane major (divided) highway between Algonquin Street and Gothard Street, an eight-lane principal (divided) highway elsewhere in Huntington Beach, and as a primary arterial in the MPAH. On-street parking is generally not permitted on Warner Avenue due to the bike lanes present between PCH and Newland Street, though some parking lanes are provided. The posted speed limit on Warner Avenue is 45 mph.
- **Talbert Avenue** – Talbert Avenue is an east/west roadway classified in the City of Huntington Beach General Plan as a six-lane major (divided) highway between Gothard Street and Beach Boulevard, a four-lane primary (divided) highway elsewhere in Huntington Beach, and as a primary arterial in the MPAH. On-street parking is generally not permitted on Talbert Avenue due to the bike lanes present between Gothard Street and Bushard Street. The posted speed limit on Talbert Avenue is 45 mph.
- **Ellis Avenue** – Ellis Avenue is an east/west roadway classified in the City of Huntington Beach General Plan as a four-lane primary (divided) highway and is designated as a secondary arterial in the MPAH. On-street parking is typically not permitted along Ellis Avenue due to the bike lanes present from Newland Street to Ward Street. The posted speed limit on Ellis Avenue ranges from 40 to 45 mph.
- **Garfield Avenue** – Garfield Avenue is an east/west roadway classified in the City of Huntington Beach General Plan as a six-lane major (divided) highway between Seapoint Street and Magnolia Avenue, a four-lane primary (divided) highway east of Magnolia Avenue and is designated as a primary arterial in the MPAH. On-street parking is generally not permitted due to the bike lanes present between Seapoint Street and Ward Street. The posted speed limit on Garfield Avenue is 45 mph.
- **Adams Avenue** – Adams Avenue is an east/west roadway classified in the City of Huntington Beach General Plan as a four-lane primary (divided) highway between 1st Street and Beach Boulevard, as a six-lane major (divided) highway east of Beach Boulevard and is designated as a major arterial in the MPAH. Adams Avenue contains two lanes (undivided) between 17th Street and Lake Street, four lanes (divided) between Lake Street and beach Boulevard, and six lanes (divided) east of Beach Boulevard. On-street parking is generally not permitted along Adams Avenue due to the bike lanes present from Lake Street to Magnolia Avenue. The posted speed limit on Adams Avenue ranges from 25 to 45 mph.

- **Atlanta Avenue** – Atlanta Avenue is an east/west roadway classified in the City of Huntington Beach General Plan as a four-lane primary (divided) and as a primary arterial in the MPAH. On-street parking is generally permitted where bike lanes are not present or where parking lanes are provided adjacent to bike lanes. Bike lanes are present on Atlanta Avenue between Beach Boulevard and the terminus of Atlanta Avenue at Surge Lane. The posted speed limit on Atlanta Avenue ranges between 40 and 45 mph.
- **Hamilton Avenue** – Hamilton Avenue is an east/west roadway classified in the City of Huntington Beach General Plan as a four-lane primary (divided) highway and as a primary arterial in the MPAH. Hamilton Avenue contains two lanes (undivided) between Newland Street and Magnolia Street and four lanes (divided) east of Magnolia Street. On-street parking is generally permitted, and discontinuous bike lanes are present throughout the roadway. Hamilton Avenue provides direct access to the Site.

Existing Traffic Conditions

Study Area Intersections

The Project study area was established in accordance with City of Huntington Beach Public Works staff and covers the area adjacent to the Site which would be utilized by Project traffic. The study area is generally bounded by I-405 to the north, Beach Boulevard to the west, PCH to the south and Brookhurst Street to the east. A vicinity map which illustrates the study area intersections is provided in **Figure 4.10-1**, *Study Area Intersections*. The following intersections were chosen for analysis:

1. Beach Boulevard at Center Avenue
2. Beach Boulevard at Edinger Avenue
3. Beach Boulevard at Warner Avenue
4. Beach Boulevard at Talbert Avenue
5. Beach Boulevard at Main Street/Ellis Avenue
6. Beach Boulevard at Garfield Avenue
7. Beach Boulevard at Adams Avenue
8. Beach Boulevard at Atlanta Avenue
9. Beach Boulevard at Pacific Coast Highway
10. Newland Street at Atlanta Avenue
11. Newland Street at Hamilton Avenue
12. Newland Street at Pacific Coast Highway
13. Magnolia Street at Hamilton Avenue

14. Magnolia Street at Pacific Coast Highway
15. Brookhurst Street at Hamilton Avenue
16. Brookhurst Street at Pacific Coast Highway

Existing Traffic Volumes

Traffic volume counts were collected at study intersections on March 14, 2013, between 7:00 and 9:00 A.M. and between 4:00 and 6:00 P.M. These time periods are representative of peak traffic hours. Existing intersection turning movement volumes for the A.M. and P.M. peak hours, which are summarized in the Traffic Study contained in Appendix G of this EIR, are used to represent Existing (2013) conditions.[1] Existing traffic count data are also provided in the Traffic Study.[2]

Existing Intersection Operations

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS "A", representing completely free-flow conditions, to LOS "F", representing breakdown in flow resulting in stop-and-go conditions. LOS "E" represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

Since the Project would utilize truck routes along state highways as well as City of Huntington Beach facilities, the traffic analysis has been performed using the Highway Capacity Manual (HCM) methodology to satisfy Caltrans requirements for the intersections that include Beach Boulevard and PCH and the Intersection Capacity Utilization (ICU) methodology to satisfy City requirements for other intersections that include City streets alone. The HCM and ICU methodologies are considered the state-of-the-practice methodologies for evaluating intersection operations, and are consistent with Caltrans requirements and the City of Huntington Beach General Plan Circulation Element requirements, respectively.

The HCM 2000 Methodology estimates a quantitative delay at intersections while the ICU methodology measures a quantitative volume-to-capacity (V/C) ratio at intersections. After the quantitative delay or V/C ratio estimates are complete, the methodologies assign a qualitative letter grade that represents the operations of the intersection. These grades range from level of service (LOS) "A" (minimal delay) to LOS "F" (excessive congestion), as described above. LOS "E" represents at-capacity operations. Descriptions of the LOS letter grades for signalized and unsignalized intersections are provided in **Table 4.10-1**, *Level of Service Standards for Signalized and Unsignalized Intersections*.

The HCM 2000 methodology for signalized intersections estimates the average control delay for the vehicle at the intersection. The HCM analysis is conducted with the Synchro 8 Software. The HCM analysis uses a lane capacity of 1,900 vehicles per hour per lane (vphpl) with a peak hour factor.

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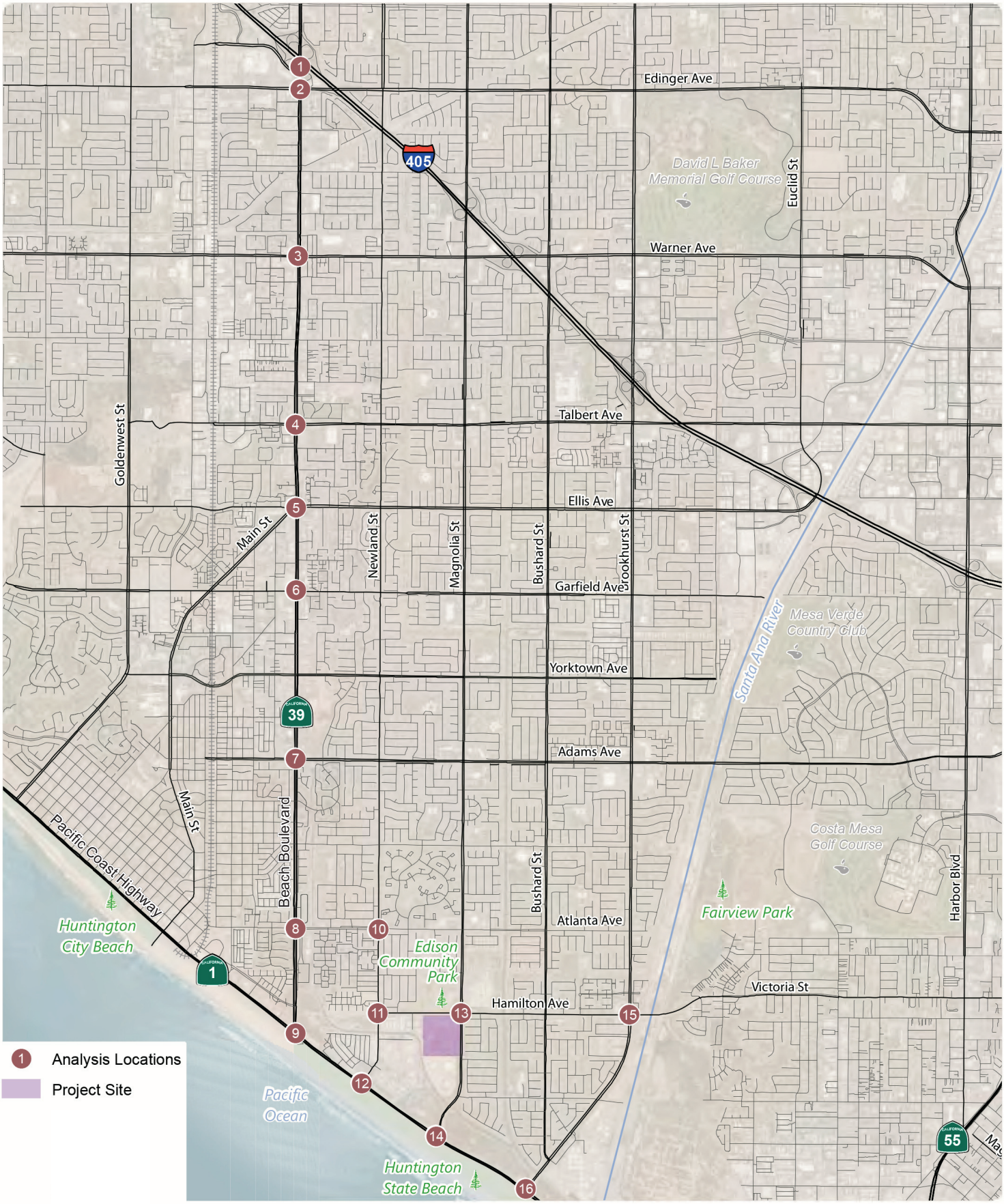
[1] *Fehr & Peers, Ascon Landfill Site Partial Removing and Capping Transportation Impact Study Draft Report , Figure 3-1 (May 2013).*

[2] *Fehr & Peers, Op. Cit., Appendix A.*



N

Not to scale

Study Area Intersections

RAP EIR - Ascon Landfill Site

Source: Fehr & Peers, 2013.

FIGURE

4.10-1

PCR

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Table 4.10-1

Level of Service Standards for Signalized and Unsignalized Intersections

Level of Service	Description	ICU Signalized V/C	HCM Signalized Delay (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	0.00-0.60	≤10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	0.61-0.70	>10.0 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	0.71-0.80	>20.0 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	0.81-0.90	>35.0 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	0.91-1.00	>55.0 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	>1.00	>80.0

Source: Highway Capacity Manual (Transportation Research Board, 2000).

The ICU methodology assigns a qualitative letter grade that represents the operations of the intersection based off a V/C ratio instead of estimated delay. The ICU methodology bases the calculation procedure on critical movements at an intersection. The ICU methodology is conducted with the Traffix 8.0 Software. A capacity of 1,700 vphpl is assumed together with a .05 clearance interval, based upon the guidelines in the Orange County CMP.

The City of Huntington Beach General Plan Circulation Element defines LOS "D" or better at intersections during the peak hour as the accepted standard.

Existing traffic volumes and lane configurations collected in the field, and signal timing information provided by City staff and Caltrans, were used to evaluate operations at the study intersections for existing A.M. and P.M. peak hour conditions. The results are summarized in **Table 4.10-2**, *Intersection Level of Service – Existing Conditions*. As shown in Table 4.10-2, all of the study intersections currently operate acceptably at LOS D or better during the peak hours, with the exception of the P.M. peak hour at the intersection of Beach Boulevard and Garfield Avenue. Lane configurations and peak hour traffic volumes at study intersections for existing (2013) conditions are illustrated in Figure 3-1 in the Traffic Study.

Alternative Transportation Facilities – Bicycle, Pedestrian and Transit Network

The City of Huntington Beach provides an extensive bicycle network that connects the community. A north/south and east/west grid network of dedicated bicycle lanes and trails allows for bicycle travel to any part of the City. Class I, II and III bicycle facilities are provided throughout Huntington Beach, including

Table 4.10-2

Intersection Service Levels – Existing (2013) Conditions

	Intersection	Control	A.M. Peak Delay or V/C	A.M. Peak LOS	P.M. Peak Delay or V/C	P.M. Peak LOS
1.	Beach Boulevard at Center Avenue[a]	Signal	14.4	B	21.2	C
2.	Beach Boulevard at Edinger Avenue[a]	Signal	33.4	C	36.6	D
3.	Beach Boulevard at Warner Avenue[a]	Signal	34.3	C	35.6	D
4.	Beach Boulevard at Talbert Avenue[a]	Signal	29.7	C	40.0	D
5.	Beach Boulevard at Main Street/Ellis Avenue[a]	Signal	35.5	D	46.8	D
6.	Beach Boulevard at Garfield Avenue[a]	Signal	44.5	D	58.3	E
7.	Beach Boulevard at Adams Avenue[a]	Signal	36.3	D	45.7	D
8.	Beach Boulevard at Atlanta Avenue[a]	Signal	29.6	C	49.0	D
9.	Beach Boulevard at Pacific Coast Highway[a]	Signal	30.0	C	28.5	C
10.	Newland Street at Atlanta Avenue[b]	Signal	0.428	A	0.477	A
11.	Newland Street at Hamilton Avenue[b]	Signal	0.471	A	0.589	A
12.	Newland Street at Pacific Coast Highway[a]	Signal	23.1	C	25.4	C
13.	Magnolia Street at Hamilton Avenue[b]	Signal	0.488	A	0.544	A
14.	Magnolia Street at Pacific Coast Highway[a]	Signal	12.1	B	17.6	B
15.	Brookhurst Street at Hamilton Avenue[b]	Signal	0.672	B	0.619	B
16.	Brookhurst Street at Pacific Coast Highway[a]	Signal	12.1	B	27.8	C

[a] *Intersection is within Caltrans jurisdiction and evaluated according to HCM 2000 methodology. Average delay is reported for signalized intersections.*

[b] *Intersection is within Huntington Beach jurisdiction and evaluated according to ICU methodology. V/C ratio is reported for signalized intersections.*

Note

Cells highlighted in gray represent intersections that are operating below acceptable thresholds.

Source: Fehr & Peers, 2013.

adjacent to the Site. Class I bicycle facilities in Huntington Beach are dedicated right-of-way on off-street trails designated specifically for bike and non-automotive uses. Class II bicycle facilities in Huntington Beach are typically painted bicycle lanes that share right-of-way with automobiles. Class III bicycle facilities in Huntington Beach are typically roadways that share right-of-way with bicycles and automobiles and contain "bike route" signs. Adjacent to the Site are Class II bicycle lanes along Hamilton Avenue and Magnolia Street.

Pedestrian facilities throughout Huntington Beach are well developed along most major roadways. Hamilton Avenue adjacent to the Site contains a paved walkway (not standard sidewalk) on the south side of the street adjacent to the Site. A sidewalk is also located within Edison Community Park near the north side of Hamilton Avenue. Sidewalks are also located along Hamilton Avenue and Magnolia Street adjacent to Edison High School. Although a sidewalk is located along the east side of Magnolia Street, the west side of Magnolia Street (the east edge of the Site) has no pedestrian facilities. This edge of the Site is occupied by a landscaped berm and other areas that extend into the city right-of-way along Magnolia Street.

The surrounding area to the Site is served by transit (buses). However, no bus stops are located immediately adjacent to the Site along Hamilton Avenue or Magnolia Street. The following bus routes are within the local project vicinity:

- Route 1 – Route 1 is a local fixed bus route that serves the communities of Long Beach, Huntington Beach, Laguna Beach and San Clemente, among others. It connects the VA Hospital and Cal State Long Beach to the Newport Transportation Center, Laguna Beach Bus Station, several schools and beaches along Pacific Coast Highway, and the San Clemente Metrolink Station, among others. Route 1 operates mostly along PCH, including near the Site. It operates on 30- to 60-minute headways during weekdays and on 60-minute headways on weekends.
- Route 29 – Route 29 is a local fixed bus route that serves the communities of La Habra, Anaheim, Westminster and Huntington Beach, among others. It connects the La Habra Marketplace, the Buena Park Metrolink Station and Civic Center, Knott's Berry Farm, West Anaheim Medical Center, Stanton Civic Center, the West County Courthouse, the Westminster Civic Center, the Goldenwest Transportation Center, Humana Hospital of Huntington Beach, several schools and Huntington City Beach, among others. This route operates mostly along Beach Boulevard, as well as PCH and Whittier Boulevard. Route 29 operates on 15- to 60-minute headways on weekdays and weekends.
- Route 33 – Route 33 is a local fixed bus route that serves the communities of Fullerton, Anaheim, Westminster and Huntington Beach, among others. It connects the Fullerton Park-and-Ride, Little Saigon, several schools and Huntington State Beach, among others. This route operates primarily on Magnolia Street. Route 33 operates on 30- to 45-minute headways on weekdays and 60- to 80-minute headways on weekends.
- Route 35 – Route 35 is a local fixed bus route that serves the communities of Fullerton, Anaheim, Westminster and Huntington Beach, among others. It connects the Fullerton Park-and-Ride, Garden Grove Promenade, Korea Town, the Fountain Valley Civic Center, the Mile Square Park Park-and-Ride, Talbert Medical Center, Huntington State Beach and several schools, among others. This route operates primarily on Brookhurst Street. Route 35 operates on 30- to 60-minute headways on weekdays and on 45- 60-minute headways on weekends.
- Route 173 – Route 173 is a community and shuttle route that serves the communities of Santa Ana, Costa Mesa, and Huntington Beach. It connects the Orange County Fair Grounds, South Coast Plaza, Vanguard University, Triangle Square, Huntington City Beach and several schools, among others. This route operates along Atlanta Avenue, Hamilton Avenue, Orange Avenue, Del Mar Avenue, and Bear Street, among others. Route 173 operates on 45-minute headways on weekdays and does not operate on the weekends.

2. ENVIRONMENTAL IMPACTS

Significance Criteria

For purposes of this EIR, DTSC has utilized the checklist questions in Appendix G of the *CEQA Guidelines* as significance criteria to determine whether a project would have a significant environmental impact regarding traffic and circulation. Based on the size and scope of the Project and the potential for traffic impacts, the criteria identified below are included for evaluation in this EIR. Please refer to Section 6.0, Other *Mandatory CEQA Considerations*, for a discussion of other issues associated with the evaluation of

traffic where the characteristics of the Project made it clear that effects would not be significant and further evaluation in this section was not warranted.

Would the Project:

4.10-1 Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit (refer to Impact Statement 4.10-1);

4.10-2 Conflict with an applicable Congestion Management Program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways (refer to Impact Statement 4.10-2);

4.10-3 Result in inadequate emergency access (refer to Impact Statement 4.10-3); and

4.10-4 Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (refer to Impact Statement 4.10-4).

Methodology

Intersections

Traffic Condition Scenarios

This traffic analysis evaluates "Existing Plus Project (2013) Conditions" and "Project Operating Year (2015) Plus Project Conditions." The "Existing Plus Project (2013) Conditions" scenario is the evaluation of the effects of Project relative to existing traffic conditions. This scenario includes existing traffic volumes plus Project volumes along the proposed haul route. Because the proposed construction activity would not occur during this period, this scenario is presented for informational purposes only.

The "Project Operating Year (2015) Plus Project Conditions" scenario is the evaluation of the effects of the Project relative to traffic conditions during the active implementation of the RAP. This scenario represents the first year of RAP implementation, but does not represent long term operation of the closed capped Site. The traffic volumes for the "Project Operating Year (2015) Plus Project Conditions" scenario incorporates one percent annual ambient traffic growth over the three-year period between the Existing and Operating Years, as well as traffic generated by related projects. The related projects expected to be completed by the Project operating year (2015) are included in this analysis. The list of related projects is provided in **Table 3-1**, *Related Projects List*, in Section 3.0, *Basis for Cumulative Analysis*, of this EIR. Because the "Project Operating Year (2015) Plus Project Conditions" scenario incorporates ambient growth and related projects'

traffic, it represents the Projects' cumulative impact. Detailed operating year assumptions as well as estimated trip generation volumes for the related projects are provided in the Traffic Study.[3]

Intersection Impact Thresholds

As discussed in greater detail below, traffic impacts were evaluated by:

1. Determining the trip generation for the Project and the related projects;
2. Assigning the Project trips to the roadway network;
3. Evaluating the 2013 "Without Project" and "With Project" traffic conditions. The "Existing Plus Project (2013) Conditions" analysis, which does not take into consideration related projects, is for information purposes only;
4. Evaluating the 2015 "Without Project" and "With Project" traffic conditions (future conditions) (existing conditions plus ambient growth and growth from the related projects). Future conditions are the result of the Project and related projects. For the 16 study intersections, these changes were compared to the thresholds of significance set forth by the City of Huntington Beach, Caltrans, and the Orange County CMP to determine whether significant impacts would occur.

Based on the City of Huntington Beach LOS standards, the following impact thresholds are utilized to determine whether the Project would result in a significant intersection impact for intersections within the City's jurisdiction. Table 4.10-2 identifies the intersections within the City's jurisdiction.

- Threshold #1: The Project would cause an intersection operating at LOS D or better during the peak hour to move to LOS E or LOS F.
- Threshold #2: The Project would increase delay at an intersection that is forecasted to operate at LOS E or LOS F.

The following impact threshold is utilized to determine whether the Project would result in a significant impact at intersections within Caltrans jurisdiction. All intersections along Beach Boulevard (SR 39) and Pacific Coast Highway (SR-1) are within Caltrans jurisdiction. Table 4.10-2 identifies the intersections within Caltrans jurisdiction.

- Threshold #3: The Project would cause an intersection at LOS D to degrade to LOS E or F or, if the intersection were forecasted to operate at LOS E or worse without Project traffic, the Project would cause the average delay to increase. (Caltrans requires that any facilities within Caltrans Jurisdiction shall maintain a minimum LOS threshold of LOS D, or less than 55 seconds of average delay)

The following impact threshold is utilized to determine whether a Project would result in a significant impact at intersections listed under the Orange County CMP.

[3] *Appendix D, Pending and Approved Projects, in the Traffic Study includes the trip generation estimates for the related projects.*

- Threshold #4: The Project would worsen the LOS or increase ICU by more than 0.03 at an intersection forecasted to operate at LOS E or F.

Emergency Access

The analysis of emergency access first consists of a review of the City's policies for providing the minimum number of emergency access points to/from the project site. Second, a determination is made whether the future traffic conditions in the immediate project area and at the nearest adjacent intersections would be subject to adverse traffic conditions, as well as potential lane closures. Based on the future traffic conditions, a determination is made whether emergency access to/from the project site would be adversely impacted.

Alternative Transportation Facilities

The analysis of impacts to alternative transportation considers whether the Project would substantially disrupt or alter existing or planned bicycle, pedestrian or transit (bus) facilities or services.

General Plan Circulation Element

The City of Huntington Beach General Plan Circulation Element contains policies that are applicable to traffic safety and the reduction of conflicts between motor vehicles, pedestrian, and cyclists. The Project is compared to each applicable policy to determine if any inconsistencies could result in environmental impacts.

Project Design Features

Project Design Features (PDFs) to be implemented by the Project would include traffic control measures set forth in a Project-specific Construction Traffic Management Plan subject to review and approval by the City of Huntington Beach. The following PDFs have been identified for the Project:

PDF 10-1 Prior to the start of construction, the project contractor, in coordination with DTSC and City of Huntington Beach, would prepare a Construction Traffic Management/Haul Route Plan to be implemented during implementation of the RAP. The Plan would identify all traffic control measures, signs, and delineators to be implemented by the construction contractor through the duration of construction activities associated with the RAP. The Plan shall also consider construction traffic from nearby simultaneous construction activities and pedestrian safety related to school and bike routes. The Plan would be subject to final approval by the City of Huntington Beach Public Works Department.

PDF 10-2 During RAP construction activities that encroach upon Magnolia Street or Hamilton Avenue, temporary barricades (e.g., "K rails") would be placed on the southbound side of Magnolia Street and/or the eastbound side of Hamilton Avenue to provide a buffer between construction activities and the public street. If a temporary lane closure is required along Hamilton Avenue, the Responsible Parties would coordinate with the City of Huntington Beach Public Works Department to identify appropriate traffic measures such as lane restriping or re-painting the directional lane arrows, if determined necessary in consultation with City Staff. This PDF to be verified as part of the Construction Traffic

Management/Haul Route Plan subject to review and approval by the City of Huntington Beach Public Works Department.

PDF 10-3 During RAP construction activities, left turns by trucks entering or exiting the Site shall be limited to four or fewer axle, single-trailer trucks unless assisted by safety flagmen to direct vehicular traffic, pedestrians and bicyclists. This PDF to be verified as part of the Construction Traffic Management Plan subject to review and approval by the City of Huntington Beach Public Works Department.

PDF 10-4 During RAP construction activities, on-going communication would be maintained with school administration at Edison High School, providing sufficient notice to forewarn students and parents/guardians when existing pedestrian, bicycle and vehicle routes to the school may be affected to maintain school traffic, bicycle and pedestrian safety. This PDF to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration in quarterly compliance certification reports submitted by the RPs.

PDF 10-5 During RAP construction activities, to maintain school traffic, bicycle and pedestrian safety, haul trucks or trucks larger than four-axle, single trailer trucks would not be permitted to travel on Magnolia Street or Hamilton Avenue past Edison High School. This PDF to be verified within the haul route plan subject to approval by the City of Huntington Beach Public Works Department.

PDF 10-6 During RAP construction activities, temporary traffic control signage and flagmen would be present during import/export on Magnolia Street and Hamilton Avenue at the ingress/egress driveways to direct vehicular traffic, pedestrians and bicyclists around the construction site in order to maintain school traffic and pedestrian safety. This PDF to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration in quarterly compliance certification reports submitted by the RPs.

PDF 10-7 During RAP construction activities that encroach upon Magnolia Street or Hamilton Avenue, signage would be posted along the Site perimeter to notify pedestrians to use the sidewalks along the north side of Hamilton Avenue and the east side of Magnolia Street in place of the barricaded areas on the south side of Hamilton Avenue and the west side of Magnolia Street. This PDF to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration in quarterly compliance certification reports submitted by the RPs.

PDF 10-8 During RAP construction activities that encroach upon Magnolia Street or Hamilton Avenue, signage would be posted along the Site perimeter to notify cyclists of alternative routes that can be used in lieu of the eastbound Hamilton Avenue and the southbound Magnolia Street bike lanes. An alternative east-west bicycle route near the Site would be Banning Avenue. Alternative north-south bicycle routes include Newland Street, Bushard Street, and Brookhurst Street. These alternative routes provide connection to many of the same destinations as Hamilton Avenue and Magnolia Street, particularly to the Pacific

Ocean. This PDF to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration in quarterly compliance certification reports submitted by the RPs.

Analysis of Project Impacts

Traffic Impacts

Impact 4.10-1:	Would the Project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Short-Term Impacts

Project Trip Generation

Because of the unique aspect of the Project, trip generation is not classified under standard Institute of Transportation Engineers (ITE) rates. As such, the trip generation is based on the anticipated level and timing of truck, employee and visitor activity needed for implementation of the RAP within the estimated time frame. The various categories of vehicles associated with the Project and analyzed in this EIR are described below.

- **Export Trucks** - Export trucks remove material from the site for off-site disposal. Upon arrival, trucks would be filled with material and, then, leave. It is estimated that 20 export trucks per hour would enter and depart the Site between 7:00 A.M. and 1:00 P.M. and four (4) export trucks per hour would enter and depart the Site between 1:00 P.M. and 6:00 P.M. The maximum number of export trips would be 100 per day.
- **Import Trucks** – Import trucks are tasked with delivering clean fill to the Site. These trucks would enter and leave the Site throughout the day, between 7:00 A.M. and 6:00 P.M. The maximum number of trucks per hour would be 25 during the A.M. and P.M. peak hours. The maximum daily number of import trucks would be 200.
- **Supply Trucks** – Up to 10 supply trucks per day would deliver various supplies, including water, equipment, and other related items. A maximum of four (4) trucks per hour are assumed, with a maximum of two (2) trucks per hour the more likely condition. Four is assumed to provide a conservative estimate. These trucks would enter and leave the Site throughout the day between 7:00 A.M. and 4:00 P.M.
- **Private vehicles: Employees –** Approximately 37 employees would work at the Site, typically arriving before 6:00 A.M. and no later than 7:00 A.M. and departing between 4:00 P.M. and 6:00 P.M. Employees would arrive to the Site prior to the A.M. peak hour. However, departures may coincide with P.M. peak hour.
- **Private vehicles: Visitors** - It is anticipated that up to 10 visitors would access the Site during any given day throughout RAP implementation. Visitors include representatives of the City and regulatory agencies. Although visitors could arrive and depart at any time during a work day, a conservative assumption for the purpose of analyses is that visitors would arrive at 7:00 A.M. and depart at 5:00 P.M., coinciding with A.M. and P.M. peak traffic periods.

Estimated traffic for the Project is presented in **Table 4.10-3**, *Short-Term Project Trip Generation Estimates*. For the purpose of the traffic impact analysis, estimated truck trips are based on passenger car equivalent (PCE) use.[4] Under this methodology, as shown in the table, implementation of the RAP would generate approximate 357 total daily one-way trips or 1,954 daily two-way trips (accounting for PCE factors for export, import and supply trucks).

Table 4.10-3

Project Trip Generation Estimates

Trip Type	PCE	Daily One-Way Trips[a]	Daily Two- Way Trips (PCE)[b]	Max Hourly Trips		A.M. Peak Passenger Car Equivalents			P.M. Peak Passenger Car Equivalents		
				A.M.	P.M.	In	Out	Total	In	Out	Total
Export Trucks	3	100	600	20	4	60	60	120	12	12	24
Import Trucks	3	200	1,200	25	25	75	75	150	75	75	150
Supply Trucks	3	10	60	4	0	12	12	24	0	0	0
Employee	1	37	74	0	37	0	0	0	0	37	37
Visitor	1	10	20	10	10	10	0	10	0	10	10
Totals:		**357**	**1,954**	**59**	**76**	**157**	**147**	**304**	**87**	**134**	**221**

[a] *Daily one-way trips do not account for PCE.*
[b] *Daily two-way trips do account for PCE.*

Source: Fehr & Peers, 2013.

Project Trip Distribution and Assignment

Estimated trip generation volumes were applied to study area roadways and intersections. The Project truck trip distribution is based on the haul route for the Project. Trucks would arrive via I-405 to the Beach Boulevard interchange, travel south on Beach Boulevard, and left on Pacific Coast Highway. Trucks would then turn left onto Newland Street, travel north to Hamilton Avenue, and then turn right on Hamilton Avenue to access the Site, making a right-hand turn from Hamilton Avenue into the Site. The egress route would have trucks exit from the Site's southeast gate, turn right onto Magnolia Street, turn right onto Pacific Coast Highway, turn right onto Beach Boulevard and continue north along Beach Boulevard back to I-405. The haul route for the Project is illustrated on **Figure 4.10-2**, *Truck Haul Route*. The assignment of "project only" trips is illustrated in Figure 4-2 of the Traffic Study.

Existing (2013) Plus Project Conditions

As discussed in the methodology section above, the Existing (2013) Plus Project analysis is provided for information purposes only. Lane configurations and peak hour traffic volumes at study intersections for Existing (2013) Plus Project Conditions are shown on Figure 5-1 in the Traffic Study. **Table 4.10-4**, *Intersection Service Levels – Existing (2013) Plus Project Conditions,* compares existing traffic conditions to

[4] *PCE is a metric used in Transportation Engineering, to assess traffic-flow rate on a roadway. A Passenger Car Equivalent is essentially the impact that a mode of transport has on traffic variables (such as headway, speed, density) compared to a single car.*

Table 4.10-4

Intersection Service Levels – Existing (2013) Plus Project Conditions

Intersection	Control	A.M. Peak Delay or V/C	A.M. Peak LOS	P.M. Peak Delay or V/C	P.M. Peak LOS
1. Beach Boulevard at Center Avenue[a]	Signal	18.3	B	22.7	C
2. Beach Boulevard at Edinger Avenue[a]	Signal	34.0	C	36.6	D
3. Beach Boulevard at Warner Avenue[a]	Signal	34.2	C	35.2	D
4. Beach Boulevard at Talbert Avenue[a]	Signal	28.8	C	44.10	D
5. Beach Boulevard at Main Street/Ellis Avenue[a]	Signal	35.0	C	47.4	D
6. Beach Boulevard at Garfield Avenue[a]	Signal	45.4	D	59.0	E
7. Beach Boulevard at Adams Avenue[a]	Signal	36.5	D	46.3	D
8. Beach Boulevard at Atlanta Avenue[a]	Signal	30.7	C	52.1	D
9. Beach Boulevard at Pacific Coast Highway[a]	Signal	53.0	D	33.1	C
10. Newland Street at Atlanta Avenue[b]	Signal	0.431	A	0.506	A
11. Newland Street at Hamilton Avenue[b]	Signal	0.569	A	0.673	B
12. Newland Street at Pacific Coast Highway[a]	Signal	30.1	D	36.4	D
13. Magnolia Street at Hamilton Avenue[b]	Signal	0.488	A	0.544	B
14. Magnolia Street at Pacific Coast Highway[a]	Signal	13.4	B	18.8	B
15. Brookhurst Street at Hamilton Avenue[b]	Signal	0.672	B	0.619	B
16. Brookhurst Street at Pacific Coast Highway[a]	Signal	23.4	C	27.9	C

[a] *Intersection is within Caltrans jurisdiction and evaluated according to HCM 2000 methodology. Average delay is reported for signalized intersections.*

[b] *Intersection is within Huntington Beach jurisdiction and evaluated according to ICU methodology. V/C ratio is reported for signalized intersections.*

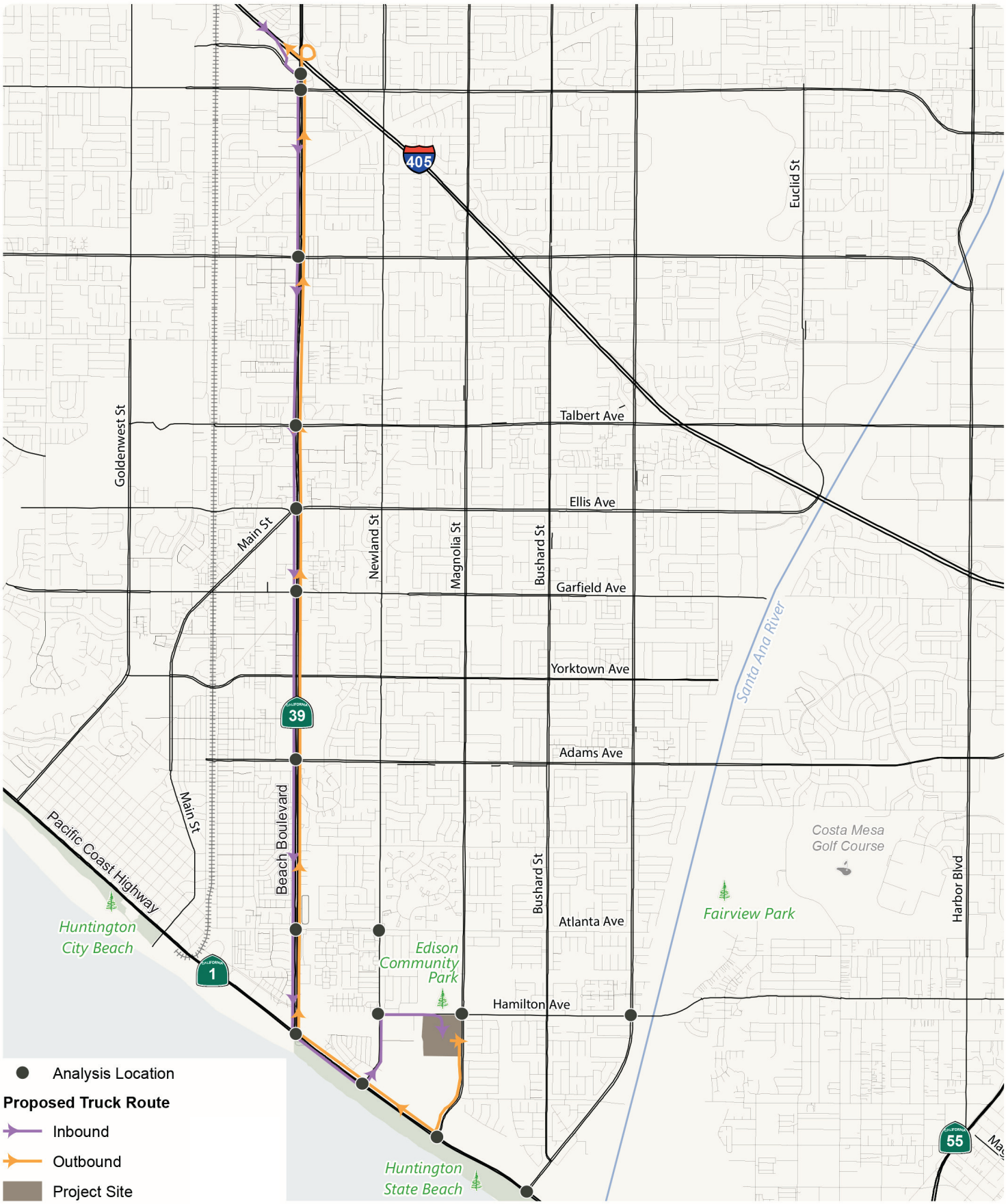
Note

Cells highlighted in gray represent intersections that are operating below acceptable thresholds.

Source: Fehr & Peers, 2013

existing plus Project traffic conditions. As shown in Table 4.10-4, one study intersection, Beach Boulevard at Garfield Avenue (P.M. peak hour only) would operate below acceptable thresholds.

During construction activity on the Site, it may be necessary to close the shared parking/bicycle lane on eastbound Hamilton Avenue along the Site frontage. This lane closure could potentially affect the current Magnolia Street/Hamilton Avenue intersection by closing the existing shared through/right-turn lane. With this temporary closure, one temporary solution to accommodate traffic would be to reconfigure the eastbound approach to include a shared left-turn/through/right-turn lane. **Table 4.10-5**, *Intersection LOS Comparison – Existing Plus Project (2013) Conditions*, documents the ICU and LOS results with the implementation of this lane closure under the Existing (2013) Plus Project Scenario. As shown in the table, the intersection remains at LOS A with the implementation of the lane closure during both the AM and PM peak hours. Implementation of this potential lane reconfiguration would need to be approved by the City of Huntington Beach Public Works Department.



PCR

N

Not to scale

Truck Haul Route

RAP EIR - Ascon Landfill Site

Source: Fehr & Peers, 2013.

FIGURE

4.10-2

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Table 4.10-5

Intersection LOS Comparison – Existing Plus Project (2013) Conditions

	Without Lane Closure				With Lane Closure					
	AM Peak		PM Peak		AM Peak		PM Peak		Change in V/C	
Intersection	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	AM	PM
Magnolia St & Hamilton Ave	0.488	A	0.544	A	0.542	A	0.544	A	0.054	0.0

Source: Fehr & Peers, 2013

Table 4.10-6, *Comparison of Intersection Level of Service: Existing (2013)* compares the changes in delay and LOS at the intersection that operates at LOS E. The comparison shows the difference between the "base" LOS previously shown in Table 4.10-2 and "plus Project" scenarios for Existing Year (2013) shown in Table 4.10-4. As shown in Table 4.10-6, the following intersection would meet the impact threshold criteria under the Existing Year (2013) conditions:

- Beach Boulevard at Garfield Avenue – P.M. Peak Hour (LOS E) (meets Intersection Threshold #3 for a significant impact)

Table 4.10-6

Comparison of Intersection Service Levels for Operating Year (2013)

Intersection	Control	Peak	No Project Delay	No Project LOS	With Project Delay	With Project LOS	Δ Delay
6. Beach Boulevard at Garfield Avenue	Signal	A.M.	44.5	D	45.5	D	-
		P.M.	***58.3***	***E***	***59.0***	***E***	***0.7***

Delay is measured in seconds, calculated using Synchro 8 software.
Bold-italicized and gray highlight type indicates project impact.

Source: Fehr & Peers, 2013

Because traffic at the intersection of Beach Boulevard at Garfield Avenue would exceed the Caltrans impact threshold criteria, a mitigation measure would be necessary to address the impact. The mitigation measure would utilize signal timing optimization to reduce delay time at the impacted intersection.

Beach Boulevard at Garfield Avenue (Caltrans jurisdiction) – P.M. Peak Hour. Under the Caltrans threshold, a project must not result in a net increase at an intersection operating at LOS E. Signal timing shall be optimized which would improve P.M. operations to LOS D and a delay of 54.5 seconds.

Table 4.10-7, *Intersection Level of Service - Existing Conditions (2013) with Project with Signal Optimization*, shows the intersection delays after implementation of the traffic measures. As shown therein, the traffic measures would reduce delay times at the impacted intersections such that the intersection thresholds are not exceeded, and in the case of the P.M. peak hour at Beach Boulevard at Garfield Avenue, traffic would actually be improved over existing conditions for the duration of the Project.

Table 4.10-7

Intersection Level of Service - Existing Conditions (2013) with Project with Signal Optimization

Intersection	Control	Peak	With Project Delay	With Project LOS	After Mitigation Delay	After Mitigation LOS
Beach Boulevard at Atlanta Avenue	Signal	A.M.	45.4	D	N/A	N/A
		P.M.	***59.0***	***E***	54.5	D

Notes
1. *Bold italics and gray highlight indicate deficient location.*
2. *N/A indicates no mitigation required.*

Source: Fehr & Peers, 2013.

While the above listed traffic mitigation measure would reduce delay times to acceptable levels, the Beach Boulevard and Garfield Avenue intersection would also be significantly impacted under the 2015 With Project conditions, as discussed below. As discussed therein, traffic conditions would be incrementally greater (more traffic) under the 2015 With Project scenario compared to the Existing (2013) Plus Project scenario. As such, Mitigation Measure TRAF-3 for this intersection under the 2015 With Project scenario would address traffic impacts under the Existing Plus Project scenario. It is not necessary for the Project to implement the traffic measure for the Existing (2013) Plus Project scenario listed above since this scenario is for informational purposes only and implementation of the RAP would not occur until 2015.

Project Operating Year (2015) Base Conditions

The 2015 operating year accounts for a one percent annual growth in ambient traffic as well as traffic generated by related projects estimated to be operational by 2015. This condition is used to evaluate the net change in traffic conditions and to identify potential impacts associated with the Project. Lane configurations and peak hour traffic volumes at study intersections for Project Operating Year (2015) Base Conditions are shown on Figure 6-2 of the Traffic Study. **Table 4.10-8**, *Intersection Service Levels – Project Operating Year (2015) Base Conditions*, provides a summary of forecasted conditions without the Project.

As shown in Table 4.10-8, all of the study intersections would operate acceptably at LOS D or better during the peak hours under 2015 base conditions, with the exception of the following intersections:

- Beach Boulevard and Talbert Avenue – P.M. peak hour (LOS E)
- Beach Boulevard and Garfield Avenue – P.M. peak hour (LOS E)

Table 4.10-8

Intersection Service Levels – Project Operating Year (2015) Base Conditions

			A.M. Peak		P.M. Peak	
	Intersection	Control	Delay or V/C	LOS	Delay or V/C	LOS
1.	Beach Boulevard at Center Avenue[a]	Signal	16.4	B	21.6	C
2.	Beach Boulevard at Edinger Avenue[a]	Signal	39.2	D	54.0	D
3.	Beach Boulevard at Warner Avenue[a]	Signal	36.3	D	38.9	D
4.	Beach Boulevard at Talbert Avenue[a]	Signal	31.4	C	60.3	E
5.	Beach Boulevard at Main Street/Ellis Avenue[a]	Signal	34.9	C	49.2	D
6.	Beach Boulevard at Garfield Avenue[a]	Signal	45.6	D	65.3	E
7.	Beach Boulevard at Adams Avenue[a]	Signal	36.8	D	48.1	D
8.	Beach Boulevard at Atlanta Avenue[a]	Signal	30.2	C	56.8	E
9.	Beach Boulevard at Pacific Coast Highway[a]	Signal	37.1	D	39.5	D
10.	Newland Street at Atlanta Avenue[b]	Signal	0.441	A	0.494	A
11.	Newland Street at Hamilton Avenue[b]	Signal	0.485	A	0.614	B
12.	Newland Street at Pacific Coast Highway[a]	Signal	23.9	C	31.3	C
13.	Magnolia Street at Hamilton Avenue[b]	Signal	0.501	A	0.569	A
14.	Magnolia Street at Pacific Coast Highway[a]	Signal	12.3	B	18.1	B
15.	Brookhurst Street at Hamilton Avenue[b]	Signal	0.687	B	0.632	B
16.	Brookhurst Street at Pacific Coast Highway[a]	Signal	24.5	C	30.8	C

[a] *Intersection is within Caltrans jurisdiction and evaluated according to HCM 2000 methodology. Average delay is reported for signalized intersections.*

[b] *Intersection is within Huntington Beach jurisdiction and evaluated according to ICU methodology. V/C ratio is reported for signalized intersections.*

Notes

1. *Cells highlighted in gray represent intersections that are operating below acceptable thresholds.*
2. *2015 base traffic conditions include a one percent annual ambient traffic growth over the three-year period between the Existing and 2015 Operating Year, as well as traffic generated by related projects.*

Source: Fehr & Peers, 2013.

- Beach Boulevard and Atlanta Avenue - P.M. peak hour (LOS E)

Project Operating Year (2015) With Project Conditions

The Operating Year Plus Project (2015) analysis is the evaluation of the effects of the Project relative to traffic conditions during the active implementation of the RAP. This scenario represents the first year of RAP implementation, not long term operation of the closed capped Site. The 2015 operating year accounts for a one percent annual growth in ambient traffic. In order to determine the level of change caused by the Project, traffic volumes for Project Operating Year (2015) Plus Project Conditions were added to the Project Operating Year (2015) base conditions. The result of adding Project traffic to 2015 base conditions is presented in **Table 4.10-9**, *Intersection Service Levels – Project Operating Year (2015) Plus Project Conditions*. Figure 7-1 in the Traffic Study also illustrates the intersection volumes during this traffic scenario. As shown in Table 4.10-9, for the P.M. peak hour, the intersections of Beach Boulevard at Edinger Avenue, Beach

Table 4.10-9

Intersection Service Levels – Project Operating Year (2015) Plus Project Conditions

Intersection	Control	A.M. Peak Delay or V/C	A.M. Peak LOS	P.M. Peak Delay or V/C	P.M. Peak LOS
1. Beach Boulevard at Center Avenue[a]	Signal	20.8	C	27.6	C
2. Beach Boulevard at Edinger Avenue[a]	Signal	40.1	D	55.1	E
3. Beach Boulevard at Warner Avenue[a]	Signal	37	D	38.8	D
4. Beach Boulevard at Talbert Avenue[a]	Signal	30.2	C	69.8	E
5. Beach Boulevard at Main Street/Ellis Avenue[a]	Signal	34.8	C	50.0	D
6. Beach Boulevard at Garfield Avenue[a]	Signal	47.4	D	74.4	E
7. Beach Boulevard at Adams Avenue[a]	Signal	36.7	D	49.1	D
8. Beach Boulevard at Atlanta Avenue[a]	Signal	31.4	C	59.7	E
9. Beach Boulevard at Pacific Coast Highway[a]	Signal	63.1	E	46.8	D
10. Newland Street at Atlanta Avenue[b]	Signal	0.441	A	0.494	A
11. Newland Street at Hamilton Avenue[b]	Signal	0.485	A	0.614	B
12. Newland Street at Pacific Coast Highway[a]	Signal	31.3	D	47.9	D
13. Magnolia Street at Hamilton Avenue[b]	Signal	0.501	A	0.569	A
14. Magnolia Street at Pacific Coast Highway[a]	Signal	13.5	B	19.3	B
15. Brookhurst Street at Hamilton Avenue[b]	Signal	0.687	B	0.632	B
16. Brookhurst Street at Pacific Coast Highway[a]	Signal	24.6	C	30.9	C

[a] *Intersection is within Caltrans jurisdiction and evaluated according to HCM 2000 methodology. Average delay is reported for signalized intersections.*

[b] *Intersection is within Huntington Beach jurisdiction and evaluated according to ICU methodology. V/C ratio is reported for signalized intersections.*

Notes

1. *Cells highlighted in gray represent intersections that are operating below acceptable thresholds.*
2. *2015 traffic conditions in this table include a one percent annual ambient traffic growth over the three-year period between the Existing and 2015 Operating Year, as well as traffic generated by related projects.*

Source: Fehr & Peers, 2013.

Boulevard at Talbert Avenue, Beach Boulevard at Garfield Avenue, Beach Boulevard at Atlanta Avenue would operate at LOS E, as would the intersection of Beach Boulevard and PCH during the A.M. peak hour.

During construction activities on the Site, it may be necessary to close the shared parking/bicycle lane on eastbound Hamilton Avenue along the Site frontage. This lane closure could potentially affect the current Magnolia Street/Hamilton Avenue intersection by closing the existing shared through/right-turn lane. With this temporary closure, one temporary solution to accommodate traffic would be to reconfigure the eastbound approach to include a shared left-turn/through/right-turn lane. **Table 4.10-10**, *Intersection LOS Comparison – Existing Plus Project (2015) Conditions*, documents the ICU and LOS results with the implementation of this lane closure under Operating Year (2015) Plus Project Conditions. As shown in the table, the intersection remains at LOS A with the implementation of the lane closure during both the AM and

Table 4.10-10

Intersection LOS Comparison – Existing Plus Project (2015) Conditions

	Without Lane Closure				With Lane Closure					
	AM Peak		PM Peak		AM Peak		PM Peak		Change in V/C	
Intersection	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	AM	PM
Magnolia St & Hamilton Ave	0.501	A	0.569	A	0.557	A	0.569	A	0.056	0.0

Source: Fehr & Peers, 2013.

PM peak hours. Implementation of this potential lane reconfiguration would need to be approved by the City of Huntington Beach Public Works Department.

The changes in delay and LOS at intersections that operate at LOS E between the 2015 base conditions and the Plus Project conditions are presented in **Table 4.10-11**, *Comparison of Intersection Service Levels for Operating Year 2015*. The information provided in Table 4.10-11 illustrates the net change in traffic conditions and identifies the potential traffic impacts associated with the Project.

Table 4.10-11

Comparison of Intersection Service Levels for Operating Year (2015)

Intersection	Control	Peak	No Project Delay	No Project LOS	With Project Delay	With Project LOS	Δ Delay
2. Beach Boulevard at Edinger Avenue	Signal	A.M.	39.2	D	40.1	D	-
		P.M.	54.0	D	***55.2***	***E***	***1.1***
4. Beach Boulevard at Talbert Avenue	Signal	A.M.	31.4	C	30.2	C	-
		P.M.	***60.3***	***E***	***69.8***	***E***	***9.5***
6. Beach Boulevard at Garfield Avenue	Signal	A.M.	45.6	D	47.4	D	-
		P.M.	***65.3***	***E***	***74.4***	***E***	***9.1***
8. Beach Boulevard at Atlanta Avenue	Signal	A.M.	30.2	C	31.4	D	-
		P.M.	***56.8***	***E***	***59.7***	***E***	***2.9***
9. Beach Boulevard at Pacific Coast Highway	Signal	AM	37.1	D	***63.1***	***E***	***26.0***
		PM	39.5	D	46.8	D	-

Notes

1. *Delay is measured in seconds and calculated with the use of Synchro 8 software.*
2. *Bold-italicized type and gray highlight indicates project impact.*

Source: Fehr & Peers, 2013.

Based on Table 4.10-11, the following five intersections would be significantly impacted under the Operating Year (2015) conditions:

- Beach Boulevard at Edinger Avenue - P.M. peak hour (LOS E) (meets Intersection Threshold #3 for a significant impact)
- Beach Boulevard at Talbert Avenue - P.M. peak hour (LOS E) (meets Intersection Threshold #3 for a significant impact)
- Beach Boulevard at Garfield Avenue - P.M. peak hour (LOS E) (meets Intersection Threshold #3 for a significant impact)
- Beach Boulevard at Atlanta Avenue - P.M. peak hour (LOS E) (meets Intersection Threshold #3 for a significant impact)
- Beach Boulevard at Pacific Coast Highway - A.M. Peak Hour (LOS E) (meets Intersection Threshold #3 for a significant impact)

Because impacts to the five intersections would be significant, Mitigation Measures TRAF-1 to TRAF-5 are prescribed. These mitigation measures are listed below and consist of signal timing optimization to reduce delay times at the impacted intersections. **Table 4.10-12**, *Intersection Level of Service – Operating Year (2015) with Project Mitigation*, shows the intersection delays after implementation of the prescribed mitigation measures. As shown therein, the prescribed mitigation measures would reduce delay times at the impacted intersections such that the intersection thresholds are not exceeded under planned conditions. The reduction in delay times could change, pending on changes in traffic planning and approval of DTSC and Caltrans. The affected intersections are within Caltrans jurisdiction, and the mitigation measures would require Caltrans approval. Caltrans would be responsible for updating the traffic signal timings to provide additional capacity. With the implementation of the mitigation measures to optimize signal timing, the Project would result is a less than significant impact to these intersections under Operating Year (2015) Plus Project Conditions.

Mitigation Measures

TRAF-1 Beach Boulevard at Edinger Avenue – P.M. Peak Hour. The Responsible Parties shall coordinate with Caltrans and the City of Huntington Beach Public Works Department to update the traffic signal timings to provide additional capacity at this intersection to be consistent with the detailed Synchro reports provided in Appendix G of the Traffic Study. Signal timing at this intersection shall be optimized to improve P.M. operations to LOS D and delay of 45.8 seconds, or as determined appropriate by Caltrans. The Responsible Parties shall reimburse the City and/or Caltrans, as required by their appropriate fee programs, for updating traffic signal timings per this mitigation measure. This mitigation measure is to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities.

TRAF-2 Beach Boulevard at Talbert Avenue – P.M. Peak Hour. The Responsible Parties shall coordinate with Caltrans and the City of Huntington Beach Public Works Department to update the traffic signal timings to provide additional capacity at this intersection consistent with the detailed Synchro reports provided in Appendix G of the Traffic Study. Signal timing at this intersection shall be optimized to improve P.M. operations

Table 4.10-12

Intersection Level of Service Operating Year (2015) with Project Mitigation

Intersection	Control	Peak	With Project Delay	With Project LOS	After Mitigation Delay	After Mitigation LOS
Beach Boulevard at Edinger Avenue	Signal	A.M.	40.1	D	N/A	N/A
		P.M.	***55.1***	***E***	45.8	D
Beach Boulevard at Talbert Avenue	Signal	A.M.	30.2	C	N/A	N/A
		P.M.	***69.8***	***E***	51.8	E
Beach Boulevard at Garfield Avenue	Signal	A.M.	47.4	D	N/A	N/A
		P.M.	***74.4***	***E***	53.0	E
Beach Boulevard at Atlanta Avenue	Signal	A.M.	31.4	D	N/A	N/A
		P.M.	***59.7***	***E***	43.2	D
Beach Boulevard at Pacific Coast Highway	Signal	A.M.	***63.1***	***E***	34.2	C
		P.M.	46.8	D	N/A	N/A

Notes
1. Bold italics and gray highlight indicate deficient location.
2, N/A indicates no mitigation required.

Source: Fehr & Peers, 2013.

to LOS D and delay of 51.8 seconds, or as determined appropriate by Caltrans. The Responsible Parties shall reimburse the City and/or Caltrans, as required by their appropriate fee programs, for updating traffic signal timings per this mitigation measure. This mitigation measure is to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities.

TRAF-3 Beach Boulevard at Garfield Avenue – P.M. Peak Hour. The Responsible Parties shall coordinate with Caltrans and the City of Huntington Beach Public Works Department to update the traffic signal timings to provide additional capacity at this intersection consistent with the detailed Synchro reports provided in Appendix G of the Traffic Study. Signal timing at this intersection shall be optimized to improve P.M. operations to LOD D and delay of 53.0 seconds, or as determined appropriate by Caltrans. The Responsible Parties shall reimburse the City and/or Caltrans, as required by their appropriate fee programs, for updating traffic signal timings per this mitigation measure. This mitigation measure is to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities.

TRAF-4 Beach Boulevard at Atlanta Avenue – P.M. Peak Hour. The Responsible Parties shall coordinate with Caltrans and the City of Huntington Beach Public Works Department to update the traffic signal timings to provide additional capacity at this intersection consistent with the detailed Synchro reports provided in Appendix G of the Traffic Study. Signal timing at this intersection shall be optimized to improve P.M. operations to LOS D and a delay of 43.2 seconds or as determined appropriate by Caltrans. The Responsible Parties shall reimburse the City and/or Caltrans, as required by their appropriate fee programs, for updating traffic signal timings per this mitigation

measure. This mitigation measure is to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities.

TRAF-5 Beach Boulevard at Pacific Coast Highway – A.M. Peak Hour. The Responsible Parties shall coordinate with Caltrans and the City of Huntington Beach Public Works Department to update the traffic signal timings to provide additional capacity at this intersection consistent with the detailed Synchro reports provided in Appendix G of the Traffic Study. Signal timing at this intersection shall be optimized to improve A.M. operations to LOS C and delay of 34.2 seconds, or as determined appropriate by Caltrans. The Responsible Parties shall reimburse the City and/or Caltrans, as required by their appropriate fee programs, for updating traffic signal timings per this mitigation measure. This mitigation measure is to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities.

Long-Term Impacts

Upon completion of the RAP construction activities at the Site, long-term periodic maintenance and monitoring activities would occur on the Site. These activities could generate between one and approximately 10 daily trips to the Site. These trips would not occur on a daily basis, would be commensurate with as needed maintenance and monitoring activities, and would likely not be performed during peak hours alone. As such, these trips would result in a negligible increase on long-term traffic conditions, and impacts would be less than significant.

Conclusion. Short-term construction activities associated with implementation of the RAP would impact four study intersections on Beach Boulevard during the P.M. peak hour and one study intersection on Beach Boulevard during the A.M. peak hour under Project Operating Year (2015) Plus Project Conditions. Implementation of the prescribed mitigation measures would reduce traffic impacts to a less than significant level under this scenario.

Long-term operation of the Site would result in a nominal effect on traffic conditions and impacts would be less than significant.

CMP Intersections

Impact 4.10-2:	Would the Project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Short-Term Impacts

As indicated in the Methodology section above, per the Orange County Congestion Management Plan (CMP), an intersection is considered to be significantly impacted when a project reduces the LOS or increases the ICU by more than 0.03 at a location that is forecasted to operate at LOS E or F (refer to "Intersection Threshold #4). The Orange County CMP identifies four intersections along Beach Boulevard between I-405 and Pacific Coast Highway as CMP intersections, which include: Beach Boulevard at Edinger Avenue; Beach Boulevard at Warner Avenue; Beach Boulevard at Adams Avenue; and Beach Boulevard at Pacific Coast

Highway. **Table 4.10-13**, *CMP Analysis: No Project and With Project Comparison*, provides a summary of impacts at the CMP intersections according to the ICU method during short-term construction activities associated with implementation of the RAP. As shown in the table, Project traffic would not increase ICU by more than 0.03 at any of the study intersections operating at LOS E or F and, as such, would not exceed the significance criterion. Therefore, the Project would have a less than significant impact on the CMP intersections during short-term construction activities associated with implementation of the RAP.

Table 4.10-13

CMP Analysis: No Project and With Project Comparison[a]

Intersection	Peak	Existing ICU	E + P ICU	Change	2015 ICU	2015 + P ICU	Change
2. Beach Boulevard at Edinger Avenue	AM	0.864	0.886	0.022	**0.908**	**0.930**	**0.022**
	PM	**0.901**	**0.926**	**0.025**	**0.976**	**1.002**	**0.026**
3. Beach Boulevard at Warner Avenue	AM	0.847	0.870	0.023	0.886	**0.908**	**0.022**
	PM	**0.923**	**0.943**	**0.02**	**0.984**	**1.004**	**0.02**
7. Beach Boulevard at Adams Avenue	AM	0.708	0.736	0.028	0.733	0.761	0.028
	PM	0.798	0.824	0.026	0.851	0.877	0.026
9. Beach Boulevard at Pacific Coast Highway	AM	0.676	0.718	0.042	0.734	0.776	0.042
	PM	0.773	0.798	0.025	0.825	0.849	0.024

Note
The LOS E or F intersections are shown in bold and gray highlight.

Source: Fehr & Peers, 2013.

Long-Term Impacts

Upon completion of the RAP construction activities at the Site, long-term maintenance and monitoring activities would occur. These activities could generate between one and up to approximately 10 weekly trips to the Site. These trips would not occur on a daily basis, would be commensurate with as needed maintenance and monitoring activities, and would likely not be performed during peak hours alone. As such, these trips would result in a nominal increase CMP intersections and impacts would be less than significant.

Conclusion. The implementation of the RAP would not conflict with the applicable Orange County CMP level of service standards or travel demand measures for designated roads or highways along the proposed haul routes. Impacts to CMP intersections would be less than significant.

Emergency Access

Impact 4.10-3: Would the Project result in inadequate emergency access?

Short-Term Impacts

The Site's ingress and egress driveways would be designed to meet the City of Huntington Beach standards. The Site ingress/egress driveways may be adjusted or shift during the construction process to allow for construction of the cap. All site access and circulation would be reviewed by the City of Huntington Beach

Department of Public Works and Fire Department to ensure that the Site provides adequate emergency access.

As discussed above, the Project would also result in less than significant traffic impacts with implementation of the prescribed mitigation measures. Accordingly, the function of the street system would remain, and there would be available capacity to accommodate the projected traffic volumes, in addition to emergency vehicles.

In addition, during construction activities on the Site, it may be necessary to close the shared parking/bicycle lane on eastbound Hamilton Avenue along the Site frontage. This lane closure could potentially affect the current Magnolia Street/Hamilton Avenue intersection by closing the existing shared through/right-turn lane. With this temporary closure, the eastbound approach would be reconfigured to include a shared left-turn/through/right-turn lane. This lane closure could potentially affect emergency access should the intersection operate a deficient level of service. As discussed in the traffic impact analysis above, the intersection would remains at LOS A with the implementation of the lane closure during both the AM and PM peak hours. As such, the temporary lane closure would not result in substantial adverse emergency access impacts.

Overall, based on the above, impacts related to emergency access would be less than significant.

Long-Term Impacts

Upon completion of the RAP construction activities at the Site, long-term periodic maintenance and monitoring activities would occur. These activities could generate an average of approximately 10 weekly trips to the Site. These trips would not occur on a daily basis and would be commensurate with as needed maintenance and monitoring activities. As such, these trips would result in a negligible increase in traffic, and the function of the street system would remain with available capacity to accommodate the nominal increase in traffic, including emergency vehicles. Also, the Site's ingress and egress driveways would be designed to meet the City of Huntington Beach standards. All site access and circulation would be reviewed by the City of Huntington Beach Department of Public Works Road Division and Fire Department to ensure adequate emergency access to and within the Site. Further, similar to existing conditions, the Site would include two points of ingress/egress for emergency vehicles consistent with the City's emergency access standards. Overall, long-term emergency access impacts would be less than significant.

Alternative Transportation Facilities

Impact 4.10-4:	Would the Project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Short-Term Impacts

The construction activity on the Site would involve the travel of heavy duty trucks throughout the day, which has the potential to create conflicts as these vehicles enter the roadway travel lanes and travel along the designated routes to reach I-405. During the short-term construction phase of the RAP, the bicycle lanes on the southbound side of Magnolia Street and the eastbound side of Hamilton Avenue would be barricaded and unusable. Although bicyclists would not be prohibited from traveling along this street, the loss of the

shoulder would not be conducive to comfortable riding. As such, most cyclists may choose to divert trips to other roadway facilities. This is considered to be a potentially significant short-term impact. However, PDF 10-8 would require signage to direct eastbound bicyclists on Hamilton Avenue and southbound cyclists on Magnolia Street to alternative routes (detours), such as eastbound Banning Avenues and southbound Newland, Bushard, and Brookhurst Streets. PDF 10-3 would limit left turns by trucks entering or exiting the Site to four of fewer axel, single-trailer trucks unless assisted by safety flagmen to direct vehicular traffic, pedestrians and bicyclists, and PDF 10-6 would require temporary traffic control signage and flagmen at both the ingress and egress points to the Site on Magnolia Street and Hamilton Avenue during import/export, which serve as safety measures for bicyclists. In accordance with PDF 10-1, a Construction Traffic Management/Haul Route Plan would be developed and implemented during the construction phase of RAP implementation. The Plan would identify all traffic control measures, signs, and delineators to be implemented by the construction contractor through the duration of construction activities associated with the RAP. Further, given the proximity of the Site to Edison High School, PDF 10-4 would be implemented to provide on-going communication with school administration at Edison High School, providing sufficient notice to forewarn students and parents/guardians when existing, bicycle routes to the school may be impacted in order to maintain school traffic and pedestrian safety. In addition, PDF 10-5 would prohibit haul trucks from hauling past Edison High School. The implementation of the above described PDFs would ensure that impacts regarding bicycle facility performance and safety are less than significant.

With regards to pedestrian safety, the use of barricades to create a buffer between construction activities and the public street would impact the paved walkway along Hamilton Avenue adjacent to the Site. This would prevent pedestrians from walking along the south side of Hamilton Avenue. This is considered to be a potentially significant short-term impact. However, PDF 10-7 would be implemented to direct pedestrians to travel exclusively along the north side of Hamilton Avenue and the east side of Magnolia Street. The north side of Hamilton Avenue has an off-street pedestrian path that is slightly set back from Hamilton Avenue and connects to Edison Community Park. The east side of Magnolia Street has a paved sidewalk. In addition, PDFs 10-1, 10-4, 10-5, and 10-6, all of which are described above, would also serve to provide safety for pedestrians in the area, in a similar manner as for bicyclists. The implementation of the above described PDFs would ensure that impacts regarding pedestrian facility performance and safety are less than significant.

Finally, as indicated in the Existing Conditions section above, the area surrounding the Site is served by transit (buses). However, no bus stops are located immediately adjacent to the Site along Hamilton Avenue or Magnolia Street. Thus, no bus stops or transit facilities would be directly impacted by implementation of the RAP. In addition, as discussed in the analysis above, short-term traffic impacts would be reduced to a less than significant level with implementation of the prescribed mitigation measures. As such, transit services would not be adversely impacted by traffic delays resulting from the Project. Thus, impacts on transit services and facilities would be less than significant.

The Project's consistency with policies regarding alternative transportation services and facilities in the City's Circulation Element are included in Table 4.10-14, below. As discussed therein, the Project would be consistent with the applicable goals and policies of the City of Huntington Beach General Plan pertaining to alternative transportation services and facilities.

Long-Term Impacts

At the termination of short-term construction remediation activities, the use of existing bicycle paths along south side of Hamilton Avenue and west side of Magnolia Street would be restored. Also, access to the paved walkway along the south side of Hamilton Avenue would be restored. Thus, no long-term impacts to alternative transportation facilities would result from implementation of the RAP.

Conclusion. The implementation of the PDFs would ensure that impacts to alternative transportation facilities and services are less than significant.

Consistency With City of Huntington Beach General Plan Goals and Policies

The City's General Plan contains goals, objectives, and policies that are relevant to traffic and are presented in the General Plan Circulation Element. The applicable policies require projects to mitigate off-site traffic impacts and reduce potential conflicts with pedestrians, bicycles, and vehicular traffic. As discussed below in **Table 4.10-14**, *Comparison of the Project to the Applicable Policies of the General Plan Circulation Element*, implementation of the RAP would be consistent with the applicable goals and policies of the City of Huntington Beach General Plan pertaining to traffic.

Table 4.10-14

Comparison of the Project to the Applicable Policies of the General Plan Circulation Element

Policy	Project Consistency Analysis
CE 1.2: Ensure adequate capacity for the City's circulation needs while minimizing significant negative environmental impacts.	**Consistent.** Because traffic impacts, including adequate capacity on local roadways, would be less than significant with implementation of the prescribed mitigation measures, the Project ensures adequate capacity for the City's circulation needs. Application of specific mitigation measures relating to traffic, as well as the other mitigation measures set forth in this EIR will ensure the minimization of significant negative environmental impacts.
CE 2.1: Comply with the city's performance standards for acceptable levels of service.	**Consistent.** With the implementation of the prescribed mitigation measures, the Project would be consistent with the City's performance standards for acceptable levels of service.
CE 2.3.1: Require development projects to mitigate off-site traffic impacts and pedestrian, bicycle, and vehicular conflicts to the maximum extent feasible.	**Consistent:** The Project would mitigate off-site traffic impacts at study intersections to a less than significant level. The Project would implement numerous PDFs to minimize the potential for pedestrian, bicycle, and vehicular conflicts as discussed under Impact 4.3-4. The PDFs include preparation of a Construction Traffic Management/Haul Route Plan (PDF 10-1); placement of barricades around the site (PDF 10-2); prohibiting some left turns from the Site (PDF 10-3); providing on-going communication with Edison HS (PDF 10-4); prohibiting large trucks from passing Edison HS (PDF 10-5); and providing signage and flag persons around the Site (PDFs 10-6 to 10-8). Implementation of these measures would mitigate off-site traffic impacts and pedestrian, bicycle, and vehicular conflicts to the maximum extent feasible.

Table 4.10-14 (Continued)

Comparison of the Project to the Applicable Policies of the General Plan Circulation Element

Policy	Project Consistency Analysis
CE 2.3.2: Limit driveway access points and requires adequate driveway widths onto arterial roadways and requires driveways is located to ensure the smooth and efficient flow of vehicles, bicycles, and pedestrians.	**Consistent:** The Project would provide only one haul truck ingress driveway and one egress driveway which would be substantially set back from the nearest intersections. The Project would also use flagmen at each driveway during import/export activities to ensure the smooth and efficient flow of vehicles. Signage would be placed along the Site perimeter to direct pedestrians to sidewalks on the north side of Hamilton Avenue and the east side of Magnolia Avenue and to direct cyclists along eastbound Hamilton Avenue and southbound Magnolia Street to alternative routes such as east-west bound Atlanta and Banning Avenues and north-south bound Newland and Brookhurst Streets. These measures would limit driveway access points and require adequate driveway widths onto arterial roadways and require driveways be located to ensure the smooth and efficient flow of vehicles, bicycles, and pedestrians.
CE 2.3.4: Require that any new development mitigate its impact on city streets, including but not limited to pedestrian, bicycle, and vehicular conflicts, to maintain adequate level of service.	**Consistent:** The Project would incorporate design features to reduce pedestrian, bicycle, and vehicular conflicts (see comparison to Policy CE 2.3.1, above) and mitigation measures to mitigate its impact on City streets.
CE 6.1.7: Maintain existing bicycle facilities and require new development to provide pedestrian walkways and bicycle routes between developments, schools, and public facilities.	**Consistent.** The Project would provide signage along the Site perimeter to direct cyclists and pedestrians to alternative routes during construction (see PDFs 10-8 and 10-8). At the termination of construction activities, the use of existing bicycle paths along south side of Hamilton Avenue and west side of Magnolia Street would be restored. Alternative bike routes would allow access to public parks and schools. During short-term construction activities, pedestrian access to parks and schools would be available along the north side of Hamilton Avenue and the east side of Magnolia Street. Upon completion of short-term construction activities, the use of the paved walkway along the south side of Hamilton Avenue would be restored and the relocation of the berm along Magnolia Street (and out of the city's right-of-way) would be completed, which could enable future pedestrian access along this frontage.
CE 6.1.10: Implement appropriate traffic devices and operational programs throughout the community to ensure that conflicts between pedestrian, bicycles, and vehicles are minimized and safety enhanced.	**Consistent.** The Project would incorporate design features to minimize pedestrian, bicycle, and vehicular conflicts (see comparison to Policy CE 2.3.1, above) and improve safety.

Source: PCR Services, Inc., 2013.

3. CUMULATIVE IMPACTS

The traffic analysis under Impact Statement 4.10-1 considers ambient traffic growth and traffic growth attributable to the identified related projects anticipated to occur under the operating Year (2015) scenario. Therefore, the cumulative impact analysis is incorporated into the analysis presented under Impact Statement 4.10-1. As discussed therein, short-term traffic impacts during implementation of the RAP would be less than significant with implementation of the prescribed mitigation measures (refer to Mitigation Measure TRAF-1 to TRAF-5). With regards to construction-related traffic and pedestrian and bicycle safety, the Project would implement numerous PDFs to be implemented during short-term construction activities at the Site (see PDFs 10-1 to 10-8). The Construction Traffic Management/Haul Plan (PDF 10-1) would be required to consider related project construction traffic, particularly those near the Site including the Poseidon Desalination Project (Related Project No. 1) and the Plaines All American Pipeline Tanks (Removal) Project (Related Project No. 2). Cumulative short-term construction-related traffic impacts would be less than significant with implementation of PDF 10-1.

With regards to emergency access, the Project would result in a less than significant impact as described above, particularly as it would meet the City's minimum number of required emergency access roads. All related projects would be responsible for providing the minimum number of required emergency access roads built to appropriate roadway standards, as required by the City of Huntington Beach. As such, a less than significant cumulative impact regarding emergency access would occur with Project implementation.

With regard to conflicts with alternative transportation facilities and programs, future related projects would be subject to appropriate City review on a project-by-project basis to ensure that no conflicts occur with alternative transportation facilities and programs. Therefore, cumulative impacts related to these issues would be less than significant.

Conclusion. The Project combined with the related projects would result in less than significant cumulative traffic-related impacts with implementation of the prescribed mitigation measures for the Project.

4. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the prescribed mitigation measures would reduce potentially significant traffic impacts to less than significant levels.

5.0 Alternatives

5.0 ALTERNATIVES

INTRODUCTION

Under CEQA, the identification and analysis of alternatives to a project is a fundamental part of the environmental review process. Public Resources Code Section 21002.1(a) establishes the need to address alternatives in an EIR by stating that in addition to determining a project's significant environmental impacts and indicating potential means of mitigating or avoiding those impacts, "the purpose of an environmental impact report is to identify the significant effects of a project on the environment, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided."

Direction regarding the definition of project alternatives is provided in the *CEQA Guidelines* as follows:

> *An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.*[1]

The *CEQA Guidelines* emphasize that the selection of project alternatives should be based primarily on the ability to reduce impacts relative to the proposed project, "even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly."[2] The *Guidelines* further direct that the range of alternatives be guided by a "rule of reason," such that only those alternatives necessary to permit a reasonable choice need be addressed.[3]

In selecting project alternatives for analysis, potential alternatives must pass a test of feasibility. *CEQA Guidelines* Section 15126.6(f)(1) states that:

> *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 . . .*

Beyond these factors, *CEQA Guidelines* require the analysis of a "no project" alternative and an evaluation of alternative location(s) for the project, if feasible. Based on the alternatives analysis, an Environmentally Superior Alternative is to be designated. If the Environmentally Superior Alternative is the No Project Alternative, then the EIR shall identify an Environmentally Superior Alternative among the other alternatives.[4] In addition, *CEQA Guidelines* Section 15126.6(c) requires that an EIR identify any alternatives that were considered for analysis but rejected as infeasible and discuss the reasons for their rejection.

As discussed in detail in Section 2.0, *Project Description*, of this EIR, a Feasibility Study (FS) was performed in 2000 to identify and evaluate remedial alternatives for the Site. A Revised Feasibility Study (RFS) was later

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[1] *CEQA Guidelines Section 15126.6(a).*

[2] *CEQA Guidelines Section 15126.6(b).*

[3] *CEQA Guidelines Section 15126.6(f).*

[4] *CEQA Guidelines Section 15126.6(e)(2).*

conducted in 2007 to further screen remediation alternatives for the Site. The RFS first identified remedial action objectives and requirements for the Site. Next, various treatment technologies and remediation processes were reviewed for their applicability to the Ascon wastes. To evaluate the effectiveness of candidate technologies, focused, low volume treatability studies were conducted on specific wastes. Based on the technology reviews, the treatability results, the conclusions of the 2000 FS report, and additional groundwater and soils investigations conducted from 2004 through 2007, six specific remedial alternatives were selected for detailed evaluation.

Since the RFS, the Interim Removal Measure (IRM) performed from July 2010 through March 2011 resulted in removal of approximately 70,000 cubic yards of tarry waste materials from Lagoons 1 and 2, and, to a lesser extent, from Lagoon 3. Also, the additional studies, knowledge, and experience gained since DTSC approval of the RFS have led to modifications and updates to the RFS-selected preferred alternative in addition to taking into account the changes to Site conditions. Furthermore, to enable a more accurate comparative study between alternatives, the other five remedial alternatives considered in the RFS have also been updated in the current Remedial Action Plan (RAP). The alternatives evaluated in the RAP are as follows:

- RAP Alternative 1 - No Action
- RAP Alternative 2 - Limited Waste Removal
- RAP Alternative 3 - Protective Cap
- RAP Alternative 4 - Partial Source Removal with Protective Cap
- RAP Alternative 5 - Source Removal with Off-site Disposal and SIT (Slurry Injection Technology)
- RAP Alternative 6 - Source Removal with Off-site Disposal

However, not all six of these RAP Alternatives warrant detailed analyses under CEQA, as discussed below in subsection 2.0, *Alternatives Considered and Rejected*. As discussed therein, Alternatives 2, 3 and 5 in the RAP have not been further evaluated in this EIR. Alternative 1, the No Action Alternative, is required to be evaluated by CEQA. In addition, as explained below, the EIR may evaluate additional Alternatives not proposed by the Applicant (the RPs).

The significant elements of the alternatives are summarized in Table 2-1. Table 2-2 summarizes the present worth capital and Operations and Maintenance (O&M) costs, volumes of waste to be removed, volumes of import soils to be trucked in, estimated number of truck trips needed, and estimated duration of the construction for each alternative. Each of the updated alternatives was evaluated in the RAP based on the first seven criteria of the nine National Contingency Plan (NCP) criteria (the remaining two criteria, State Acceptance and Community Acceptance, are to be evaluated as part of the final RAP/Environmental Impact Report [EIR] process). Section 2.0 of this EIR provides a detailed discussion of alternatives evaluation with the NCP criteria. As discussed therein, based on the final evaluation and comparison of the alternatives, Alternative 4 was recommended as the preferred remedial alternative for the Site. Thus, the draft RAP presents an update of the RFS Alternative 4, which takes into account work performed since DTSC approved the RFS, current remedial practices, and updated volumes and costs. The updated Alternative 4 is the "Project" that is being evaluated in this EIR.

The analysis included in Section 4.0 of this EIR concluded that the Project would result in significant and unavoidable environmental impacts with regards to Air Quality during remedial construction. All other environmental issues were determined to be less than significant based on compliance with applicable regulatory requirements, implementation of the Project's Design Features (PDFs), and/or implementation of the prescribed mitigation measures. In consideration of the Project's significant and unavoidable short-term Air Quality impacts, a new Lower Intensity - Extended Schedule Alternative, as described below, was put forth by DTSC and is being evaluated in this EIR.

Based on the factors referenced above, the alternatives that were selected for further analysis in this EIR include the No Project Alternative, RAP Alternative 6 - Source Removal with Off-site Disposal (renumbered Alternative 2 in this EIR), and a new Lower Intensity - Extended Schedule Alternative. These alternatives are summarized as follows:

- **No Project Alternative:** The No Project Alternative is the baseline alternative presented in the 2007 RFS (RAP Alternative 1) because it represents a continuation of existing conditions and no removal of soil, material or debris. Under this Alternative, no further action would be taken to contain, treat, or remove the impacted on-site soils and waste beyond current monitoring, including groundwater monitoring, and maintenance activities. All existing Site features, such as the perimeter berms, fencing, vegetation, lagoons, pits, and other physical features would remain as under existing conditions.

- **Alternative 2: Source Removal with Off-Site Disposal:** Alternative 2 calls for bringing the Site to an unrestricted use condition. Alternative 2, as discussed in this section of this EIR, is evaluated as "Alternative 6, Source Removal with Off-site Disposal" in the RAP. Under this Alternative, nearly all waste materials would be removed, and the Site would be excavated as needed and backfilled with suitable import materials to street grade. The specific depth of excavation needed would be determined during excavation, based on the applicable remedial goals for unrestricted land uses (i.e, residential uses). If this alternative is implemented, risk-based concentrations (RBCs) for use as Soil Cleanup Levels (SCLs) for each of the Chemicals of Potential Concern (COPCs) consistent with residential land use would be developed. Waste materials, if any, found within the Site with concentrations of COPCs that exceed the RBCs for unrestricted uses would be removed and replaced with clean fill. The excavated materials would be disposed off-site at a regulated disposal/landfill facility, as appropriate. To ensure the RBCs have been met during fieldwork, COPC concentrations in soils would be measured at the excavation bottoms during implementation of this Alternative, provided the excavation does not proceed down to groundwater. One confirmation sample would be collected at 100-ft centers within the Site from the bottom of the excavation. Analytical results would be compared to the RBCs (or to background concentrations for those higher than the RBC) for each COPC to determine if additional action is warranted.

  Based on the above, while this Alternative would remove nearly all the waste from the Site, potentially small amounts of contaminated material[5] could remain so long as the materials in the soils and groundwater are not above naturally occurring levels and do not pose a threat to people or the environment. According to Table 5-2 of the RAP, this Alternative would remove approximately 1,000,000 bank cubic yards (BCY) of material from the Site. Construction activities under this Alternative would occur for approximately 41 months, which is approximately 2.5 years longer than

[5] *In this EIR the term "contaminated material" is meant solely to denote material which may be or have had contact with a contaminant (i.e. non-native substance or chemical); it is not meant to indicate or imply that the material was found to meet any specific definition of hazardous waste, hazardous material, or similar characterization.*

the Project. This Alternative would generally involve a similar daily intensity of activities using a similar profile of construction equipment and same number of daily construction-related vehicle trips when compared to the Project. However, no cap would be installed under this Alternative. Similar to the Project, the City Parcel would be rendered usable by the City of Huntington Beach for future landscaping and streetscape improvements. This Alternative would result in a near flat, vacant Site suitable for unrestricted use. This Alternative anticipates that no restrictive covenant would be imposed on the Site for future land uses, but as Table 5-1 of the RAP indicates, pending field or post-remedy conditions, a long-term restrictive covenant may be necessary. Likewise, long-term groundwater monitoring is not expected to be required with implementation of this Alternative, but field conditions may dictate that a monitoring plan be developed and maintained for a 30-year period following completion of the clean-up, as determined appropriate based on consultation with the Santa Ana Regional Water Quality Control Board (SARWQCB).

- **Alternative 3: Lower Intensity - Extended Schedule Alternative**: This Alternative would remove the same amount of waste from the Site and provide the same cap system and long-term design as the Project, except that construction activities would be less intense compared to the Project, which would result in an extended construction schedule. This Alternative is not contemplated in the Draft RAP. The primary purpose of this Alternative is to address the Project's significant and unavoidable air quality impacts, while also reducing the extent of daily traffic impacts (although traffic impacts would be less than significant for the Project after implementation of the prescribed mitigation measures). Regional air quality impacts would be determined based on daily emission threshold levels established by the South Coast Air Quality Management District (SCAQMD). By decreasing the intensity of daily construction activities such that daily emission levels from construction activities would fall below applicable SCAQMD thresholds (after mitigation), the length of construction activities would be extended by approximately 25 months compared to the Project. Thus, rather than approximately 11 months of construction activities that would occur under the Project, this Alternative would result in approximately 36 months of construction activities.

  Under this Alternative, the daily one-way construction traffic would be approximately one-third (35%) of the Project's construction traffic. The Project would generate approximately 357 one-way daily truck trips, while this Alternative would generate approximately 127 daily truck trips. The maximum daily amount of haul trucks (import and export) would be approximately one-quarter (25%) of the Project or approximately 75 haul trips per day compared to 300 per day under the Project. For purposes of this analysis, although overall construction activities under this Alternative would be less intense than the Project, there could potentially be some construction days where peak hour traffic would be similar to that of the Project. Under these circumstances, construction activities would be at a similar intensity during the peak hours, while construction activities in the afternoon would be less than intense compared to the Project. Haul routes would be the same as for this Alternative and the Project.

Each of these alternatives are analyzed in subsection 4, below.

1. OBJECTIVES OF THE PROPOSED PROJECT

Section 15124(b) of the CEQA *Guidelines* states that the project Description shall contain "a statement of the objectives sought by the proposed project." As set forth by the CEQA *Guidelines*, the list of objectives that DTSC seeks to achieve for the Project is provided below.

1. To reduce the potential for long-term risks to life, property and the environment (inclusive of nearby residences, schools, parks, and businesses) from contaminated materials and waste.

2. To reduce the potential for short-term risks (during implementation activities) to life, property and the environment (inclusive of nearby residences, schools, parks, businesses, and on-site workers) from contaminated materials and waste through proper handling, treatment and disposal.

3. To ensure that contaminated materials and waste are transported in a safe, efficient and coordinated manner to minimize risks to sensitive uses (such as nearby residences and schools).

4. To reduce the potential for on-site contaminated materials to impact groundwater or migrate off-site.

5. To remediate the Site to enhance public health, safety and welfare and ultimately allow potential new uses of the site that will not endanger human health and the environment.

6. To remediate the Site in a timely, expedient, and cost effective manner.

2. ALTERNATIVES CONSIDERED AND REJECTED

In accordance with *CEQA Guidelines* Section 15126.6(c), an EIR should identify any alternatives that were considered for analysis but rejected as infeasible and briefly explain the reasons for their rejection. The following three Alternatives from the RAP were considered, but ultimately rejected, as detailed below.

<u>RAP Alternative 2: Limited Waste Removal</u> – RAP Alternative 2 would consist mainly of removal and off-site disposal of Pit F waste, covering the remaining lagoon materials with imported soils, and performance of long-term groundwater monitoring. No engineered cap would be constructed and the City parcel would not be remediated.

<u>RAP Alternative 3: Protective Cap</u> – RAP Alternative 3 would mainly consist of the removal and off-site disposal of Pit F waste. In addition, waste materials found near the streets in the City parcel would be moved to within the Site property boundaries, the remainder of the material in the lagoons would remain on-site, Lagoon 4 and 5 materials would be held in place with sheet piling, and a protective cap would be constructed over the Site to protect human health and the environment. Long-term groundwater monitoring and cap maintenance would be performed.

<u>RAP Alternative 5: Source Removal with Off-site Disposal and Slurry Injection Technology (SIT)</u> – RAP Alternative 5 consists of removal and off-site disposal and/or deep well injection of all waste materials, including the wastes from Pit F and the impacted soils and drilling muds from the current lagoons, former lagoons, pits, and the perimeter berm. Soils and drilling muds would be excavated until chemical

concentrations reached levels either protective of human health and the environment or to within background levels. After the removal of wastes, the property would be re-graded by using on-site, usable excavated material and/or imported soil. Long-term groundwater monitoring would be performed, if groundwater impacts remained.

As discussed in greater detail in Section 2.0, RAP Alternative 2 does not provide adequate elimination of direct contact with the bulk of the waste because percolation to groundwater is neither minimized nor prevented. This Alternative therefore fails to meet the first NCP criterion, which to consider the "*overall protection of human health and the environment*." Also, RAP Alternative 2 fails the second NCP criterion regarding "*compliance with applicable or relevant and appropriate requirements (ARARs)*" because it does not provide protection of air and groundwater as mandated by regulation. Thus, this Alternative is not included in analysis below.

Section 2.0 also discusses and compares the two capping alternatives, RAP Alternatives 3 and 4. The primary advantage of RAP Alternative 4 over the other cap alternative, RAP Alternative 3, is the greater feasibility of constructing the buttress in Lagoons 4 and 5, using cement mixed with the lagoon materials called for in RAP Alternative 4 (the Project), to hold the material that would remain in place in Lagoons 4 and 5, over the installation of sheet piling called for in RAP Alternative 3. Because sheet piling in Lagoons 4 and 5, versus mixing material in Lagoons 4 and 5 with cement as would be done under the Project, is the only significant difference between RAP Alternatives 3 and 4, and the Project is preferable between them, Alternative 3 is not considered further in this EIR.

Finally, Section 2.0 discusses and compares the two complete removal alternatives, RAP Alternatives 5 and 6. RAP Alternative 6 was determined to be preferable due to the difficulty of implementing SIT as would be done under RAP Alternative 5. Aside from the greater waste removal to off-site facilities under Alternative 6, SIT is the sole distinguishing element between RAP Alternatives 5 and 6. Because RAP Alternative 6 is preferable as between RAP Alternatives 5 and 6, RAP Alternative 5 is not considered further in this EIR. Even though RAP Alternative 6 was not selected as the preferred alternative by DTSC, it is nonetheless being evaluated as an alternative to the Project in this EIR because it would reduce some long-term environmental impacts when compared to the Project.

Development of the Site with any projection as to the type of future land use is not discussed in this Section 5.0, *Alternatives*, nor anywhere else in this EIR. Remediation is a requirement under the Department of Toxic Substances Control (DTSC) Imminent and Substantial Endangerment Determination Consent Order (I&SE CO), Docket No. I&SE CO 02/03-007, and an Imminent and Substantial Endangerment Determination and Order and Remedial Action Order (I&SE-RAO), Docket No. I&SE-RAO 02/03-018, between DTSC and ten Responsible Parties (RPs). As a result of these agreements, the RPs are required to finance implementation of remediation activities (clean-up plan) at the Site. Any future land use of the Site following completion of the RAP would be done under municipal jurisdiction and is not contemplated as part of this EIR or any of the alternatives, including the Project. However, any development of the Site after completion of remediation may be subject to a restrictive land use covenant implemented as part of the remediation. Thus, such development may require DTSC approval and a subsequent entitlement process, including environmental review as appropriate pursuant to CEQA. Accordingly, potential future land uses on the Site would require DTSC, as well as City of Huntington Beach, discretionary approval actions, as necessary.

3. ANALYSIS FORMAT

In accordance with *CEQA Guidelines* Section 15126.6(d), each alternative is evaluated in sufficient detail to determine whether the overall environmental impacts would be fewer, similar or greater than the corresponding impacts resulting from implementation of the Project. Furthermore, each alternative is evaluated to determine whether the project objectives, as stated above, will be substantially attained by the alternative. The evaluation of each of the alternatives follows the process described below:

a. The net environmental impacts of the alternative after implementation of reasonable mitigation measures are determined for each environmental issue area analyzed in the EIR.

b. Post-mitigation significant and non-significant environmental impacts of the alternative and the Project are compared for each environmental issue area. Where the net impact of the alternative will be clearly less adverse or more beneficial than the impact resulting from the Project, the comparative impact is said to be "less." Where the alternative's net impact will be clearly more adverse or less beneficial than that of the Project, the comparative impact is said to be "greater." Where the impacts of the alternative and the project will be roughly equivalent, the comparative impact is said to be "similar."

c. Consistency with the City of Huntington Beach General Plan, or other appropriate plan, is assessed for each alternative, where applicable, and compared to the Project's consistency with the General Plan.

d. The comparative analysis of the impacts is followed by a general discussion of whether the underlying purpose and basic project objectives are substantially attained by the alternative.

4. ALTERNATIVE ANALYSIS

Alternative 1 – No Project Alternative

Environmental Impact Categories

Aesthetics

Scenic Vista/Visual Character and Visual Quality

Short-Term Impacts

Scenic Vista

Existing berms on the periphery of the Site currently block broad views across the Site. This condition would not change under the No Project Alternative. Therefore, the No Project Alternative would have no impact with respect to scenic vistas. Because the No Project Alternative would avoid the Project's less than significant impacts on scenic vistas, it would have less impact with respect to scenic vistas compared to the Project.

Visual Character and Visual Quality

The No Project Alternative would not require any grading or other construction activity or removal of existing on-site vegetation or perimeter berms along Magnolia Street and Hamilton Avenue. Therefore, the No Project Alternative would avoid the Project's less than significant visual character impacts during the

remediation of the Site. Because no construction activities would occur under the No Project Alternative, it would have less impact with respect to short-term visual character and visual quality compared to the Project.

Long-Term Impacts

Scenic Vista

The No Project Alternative would not change the views across the Site. While the Project would alter views across the Site, no scenic vistas are currently available or would be available with the removal of the berms under the Project. As such, Project impacts would be less than significant. Since the No Project Alternative would not alter the Site, it would avoid the Project's less than significant impact to scenic vistas.

Visual Character and Visual Quality

The visual character of the Site from Magnolia Street is defined in part by trees along the eastern perimeter of the Site; however, the existing on-site vegetation is partially obstructed by the existing chain-link fence with green privacy fabric and is not maintained for visual purposes, and as such only marginally contributes to the visual character of views from Magnolia Street. No other features of the Site contribute to the visual character or visual quality of the Site vicinity from available surrounding view locations. The No Project Alternative would not change the visual character or aesthetic quality of the Site. Under this Alternative, trees and other vegetation along Magnolia Street would remain. The No Project Alternative would not remove berm sections from the City parcel or make possible the development of the public rights of way along Hamilton Avenue and Magnolia Street. Under this Alternative, the City would not have the opportunity to landscape the Magnolia Street front in accordance with the City's designated "Landscape Corridor" design goals along Magnolia Street. The No Project Alternative would have no impact with respect to visual character. However, because the No Project Alternative would not provide the opportunity for future landscaping of the Magnolia Street Landscape Corridor, it would not have the beneficial impact on visual character as would the Project.

Scenic Resources Within a State Scenic Highway

Short-Term Impacts

No construction activity would occur, and the existing character of the Magnolia Street corridor, a designated Landscape Corridor and Major Urban Scenic Corridor under the General Plan Circulation Element, would not change. Trees and other vegetation growing along the Magnolia Street berm would remain in their current condition. Under existing conditions, these vegetation features are not maintained and are partially obscured by the screened perimeter fence. As such, the vegetation only marginally contributes to the aesthetic quality of the Magnolia Street corridor. Although considered a less than significant effect under the Project, any construction activity along Magnolia Street would affect the visual quality of the corridor. The avoidance of construction activity under the No Project Alternative would, therefore, have marginally less impact than the Project with respect to scenic resources on a designated Major Urban Scenic Corridor than under the Project.

Long-Term Impacts

Under the No Project Alternative, the berm section along Magnolia Street would remain in place. This would prevent any future landscaping along the Magnolia Street corridor and, thus, not allow for the development of scenic resources along the designated Magnolia Street Major Urban Scenic Corridor. Although the City of

Huntington Beach has not developed typical roadway sections for designated corridors, because the No Project Alternative would impede any future landscaping, no long-term beneficial impacts with respect to the Scenic Corridor designation would occur under this Alternative. Thus, the No Project Alternative has slightly more long-term impacts in this regard than the Project.

Consistency with City of Huntington Beach General Plan

Because the Site under the No Project Alternative would remain in its existing condition, the No Project Alternative would obstruct the intention of the City to implement the design components of Magnolia Street as a Landscape Corridor, Major Urban Scenic Corridor, and Secondary Path/Image Corridor. Therefore, the No Project Alternative would not be consistent with the General Plan to the extent that the Project would be.

Air Quality

Air Quality Plan Conflicts

Short-and Long-Term Impacts

Under the No Project Alternative, the Site would remain in its existing condition and would not result in any additional criteria air pollutant emissions. Therefore, the No Project Alternative would not conflict with the growth projections and control strategies used in the development of the applicable Air Quality Management Plan (AQMP). The Project would result in less than significant impacts regarding consistency with the AQMP. As the No Project Alternative would avoid the Project's less than significant impact, impacts would be less under this Alternative than under the Project.

Violation of Air Quality Standards

Short-Term Impacts

Remedial activities needed to implement the Project would generate and emit regulated air pollutants. The Project would result in a significant and unavoidable impact with regards to regional NO_X emissions. However, under the No Project Alternative, short-term construction activities would not occur, and as such no increase in air pollutant emissions would result. Therefore, the No Project Alternative would not result in a violation of any applicable air quality standard or contribute to an existing or projected air quality violation related to short-term emissions, and impacts would be less under this Alternative than under the Project.

Long-Term Impacts

The long-term operation and maintenance (O&M) of the Site after implementation of the Project is expected to result in minimal emissions related to vehicle exhaust and landscaping, similar to current practices. Under the No Project Alternative, long-term emissions from those source types would be similar to the Project. Also, under the Project, a landfill gas (LFG) collection system would be installed under the protective cap, routed to a granulated activated carbon (GAC) treatment system which is designed to capture and enable the safe off-site transport of the majority of volatile organic compounds (VOCs) which, although minute in quantity, are currently released uncontrolled to the atmosphere. Under the No Project Alternative, the cap and LFG collection and treatment system would not be constructed, and higher emissions would result than under the Project, although impacts would still be less than significant. In sum, even though emissions under the No Project Alternative would not violate an applicable air quality standard or contribute

to an existing or projected air quality violation related to long-term emissions, long-term emissions and impacts would nevertheless be greater under the No Project Alternative than under the Project.

Cumulative Pollutant Increases

Short-Term Impacts

Under the No Project Alternative, the short-term activities needed to implement the Project would not occur, and, as such, no short-term increase in air pollutant emissions would result. The No Project Alternative would therefore avoid the Project's significant and unavoidable impact with regards to ozone (due to regional NO_X emissions). Nor would the No Project Alternative result in a cumulatively considerable net increase in any criteria pollutant for which the region is in non-attainment, and impacts would be less under this Alternative than under the Project.

Long-Term Impacts

Under the No Project Alternative, long-term O&M activities would result in emissions similar to current practices and similar to those under the Project. The No Project Alternative would forgo the opportunity to install a cap and to collect VOCs from LFG emissions, resulting in a higher level of emissions from the Site as compared to the Project. Thus, even though the No Project Alternative would not result in a cumulatively considerable net increase in any criteria pollutant for which the region is in non-attainment, impacts would still be greater under the No Project Alternative than under the Project.

Sensitive Receptor Exposure to Substantial Pollutant Concentrations

Short-Term Impacts

Under the No Project Alternative, the short-term activities needed to implement the Project would not occur, and, as such, no short-term increase in air pollutant concentrations at nearby sensitive receptors would result. The implementation of the Project would result in significant and unavoidable impacts with regards to localized 1-hour NO_2, 24-hour PM_{10}, and annual PM_{10} levels. Because the No Project Alternative would not result in exposure of sensitive receptors to substantial pollutant concentrations, impacts under the No Project Alternative would be less than under the Project.

Long-Term Impacts

Under the No Project Alternative, long-term O&M activities would result in emissions similar to those under the Project. The No Project Alternative would forgo the opportunity to install a cap and to collect VOCs from LFG emissions, resulting in a higher level of emissions from the Site as compared to the Project. Given the relatively low level of LFGs created and emitted over the surface of the Site in its current condition the No Project Alternative would not result in long-term substantial air pollutant concentrations at nearby sensitive receptors, but emissions would still be greater than under the Project.

Odors

Short-Term Impacts

Compounds found on-site are known or suspected to result in the occasional release of odors, and the potential increases during periods of active ground disturbance. Under the No Project Alternative, the short-term activities needed to implement the Project would not occur, and therefore no change in the potential for

release of odorous compounds would result. Therefore, this Alternative would not create additional objectionable odors affecting a substantial number of people, and impacts would be less under this Alternative than under the Project.

Long-Term Impacts

The No Project Alternative would not install a cap and treatment system capable of capturing odorous emissions, resulting in a higher potential for odors from the Site to reach perceptible levels off-site as compared to the Project. Thus, although the No Project Alternative is not expected to create long-term objectionable odors affecting a substantial number of people, potential impacts would still be greater under this Alternative than under the Project.

Consistency with City of Huntington Beach General Plan

The majority of the air quality policies applicable to the Project pertain to reducing emissions associated with vehicular trips/mobile sources (AQ1.1, AQ 1.4, AQ 1.5, AQ 1.7, and AQ 1.8). Because the No Project Alternative would leave the Site in its existing condition, these policies would not be applicable to the No Project Alternative. However, the No Project Alternative would be inconsistent with the intention of the City to minimize the possible exposure of sensitive receptors to potentially unhealthful emissions (Policy AQ 1.9) as it would not result in remediation of the Site. Therefore, under the No Project Alternative, the potential for long-term air quality impacts would be greater under this Alternative compared to the Project. For this reason, the No Project Alternative would be consistent with the applicable policies to a lesser degree than the Project.

Biological Resources

Candidate, Sensitive, and Special Status Species

Sensitive Plant Species

The Site currently contains the Southern tarplant. Although the southern tarplant does not carry a federal or state listing as threatened or endangered, it is a California Rare Plant Rank (CRPR) List 1B.1 species which is considered "seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)." The No Project Alternative would not remove or change existing biological resources on the Site and, thus, would have no impact with respect to this plant species. Comparatively, the Project would remove all Southern tarplant from the Site. Under the Project, this impact would be reduced to a less than significant level through implementation of a mitigation measure (BIO 4.3-1). Although the potentially significant impact would be reduced to a less than significant level through mitigation, because the No Project Alternative would have no impact, it would have less impact to sensitive plant species than the Project would.

Sensitive Wildlife Species

No sensitive wildlife species were observed or reported during various biological surveys conducted between 1996 and 2013. Because the Site is extensively disturbed, there is low potential for the Site to support foraging habitat for the white-tailed kite, a California Fully Protected Species. The No Project Alternative would not remove or change existing biological resources on the Site and, thus, would have no impact with respect to this sensitive wildlife species. The Project would remove this foraging habitat and, as such, could result in adverse impact. However, because foraging habitat exists in surrounding area, the

impact of the Project would be considered less than significant. Although the impact to this wildlife species would be less than significant under the Project, because the No Project Alternative would have no effect on white-tailed kite foraging habitat, it is considered to have less impact than the Project with respect to sensitive wildlife species.

Riparian Habitat and Sensitive Natural Communities

Approximately 0.2 acre of disturbed coastal salt marsh is located within the southwestern corner of the Site. Albeit disturbed, localized and isolated with limited habitat functions and values, this vegetation meets the "environmentally sensitive habitat areas" (ESHA) criteria, as defined in the California Coastal Act and City's Coastal Element. The No Project Alternative would not require the removal of the disturbed coastal salt marsh and, thus, would have no impact with respect to sensitive natural communities. The Project, however, would remove the disturbed coastal salt marsh on the Site. This potentially significant impact would be reduced to a less than significant level through implementation of a mitigation measure (MM BIO-2). Although the potentially significant impact would be reduced to a less than significant level through mitigation, because the No Project Alternative would not affect the disturbed coastal salt marsh or require mitigation, it would have less impact to this sensitive natural community than the Project.

Wetlands

The Site does not support "waters of the U.S./State" or wetlands as regulated under the jurisdiction of the United States Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and/or Regional Water Quality Control Board (RWQCB). Therefore, both the Project and the No Project Alternative would have no impact with respect to wetlands.

Wildlife Movement

There are no fish or wildlife corridors extending through the Site. The nearest surface water body, the Orange County/Huntington Beach Flood Control Channel, is located adjacent to the Site along the southwestern perimeter. Although the Channel could be utilized by migratory birds, it serves as marginal wildlife habitat as it is channelized and does not support native riparian plant communities in the area adjacent to the Site. Higher quality habitat for foraging occurs within the wetlands approximately 0.20 miles to the south and undeveloped land 0.25 miles to the west; therefore, there are other habitat areas within the immediate vicinity which would be far more attractive to support any wildlife passing near the Site. Under the Project, indirect impacts (e.g., lighting, noise, dust) to wildlife utilizing the Channel would occur but are considered to be less than significant. Because no construction would occur under the No Project Alternative, no direct or indirect impacts to wildlife movement would occur.

The Site has the potential to support both raptor and songbird nests due to the presence of localized areas of trees, shrubs, and ground cover. The No Project Alternative would not change the existing condition of the Site and would not disturb or destroy active nests. Under the Project, the removal of vegetation during the breeding season is considered a potentially significant impact. This potentially significant impact to migratory raptor or songbird species would be reduced to a less than significant level through implementation of a mitigation measure (MM BIO-3). Although the potentially significant impact would be reduced to a less than significant level through mitigation, because the No Project Alternative would not affect migratory raptor or songbird nesting, or require mitigation, it would have less impact to wildlife movement than the Project.

Conservation Plans

The Site is not located in an area that is included in any federal, state, local, or regional Habitat or Natural Community Conservation Plan. However, portions of the Site meet the California Coastal Act's definition of an ESHA. Under the California Coastal Act policy, no development or human disturbances (unless resource dependent) is allowed within an ESHA (Coastal Act §30240). Therefore, any impacts to an ESHA would be considered potentially significant. The No Project Alternative would not change the existing condition of the Site and would not directly or indirectly disturb an ESHA. Under the Project, impacts to the ESHA would be reduced to a less than significant level through implementation of mitigation measures MM 4.3-1 and 4.3-2. Although the Project's potentially significant impact would be reduced to a less than significant level through mitigation, because the No Project Alternative would not affect conditions that qualify portions of the Site as an ESHA, or require mitigation, it would have less impact to the ESHA than under the Project.

Consistency with City of Huntington Beach General Plan Goals and Policies

Although impacts to southern tarplant and the disturbed coastal salt marsh would be mitigated at a 1:1 ratio per the prescribed mitigated measures (see BIO-1 and BIO-2) under the Project, the No Project Alternative would not result in any impacts to these biological resources. Accordingly, the No Project Alternative would be more consistent with the City's policies to protect and preserve biological resources within the City (ERC 2, ERC 2.1, ERC 2.1.2, and ERC 2.1.5). As no remediation activities would occur under the No Project Alternative, Policies ERC 2.1.10, ERC 2.1.14 and ERC 2.1.21(c) would not be applicable to the No Project Alternative, as these policies pertain to implementing controls and mitigation measures during construction/remediation activities to minimize potential impacts to biological resources. Overall, the No Project Alternative would be consistent with the applicable policies to a greater degree than the Project because the Site's biological resources would be preserved under this Alternative.

Geology and Soils

Seismic and Geologic Stability Hazards

Short-Term Impacts

No construction or excavation would be conducted and no environmental impacts related to fault rupture, seismic ground shaking, liquefaction and lateral spreading, earthquake-induced settlement, unstable soils and slopes, or landslides during construction would occur under the No Project Alternative. Although such geologic-related impacts would be less than significant under the Project, because the No Project Alternative would have no impacts in these regards, it is considered to have less impact than the Project with respect to seismic and geologic stability hazards.

Long-Term Impacts

Under the No Project Alternative, no changes would occur on the Site compared to existing conditions. The berm sections within the perimeters of the Site would remain in their current locations and conditions. Potential instabilities related to seismic ground shaking, liquefaction and lateral spreading, earthquake-induced settlement, unstable soils and slopes, or landslides would not be addressed through the type of engineered design that would occur under the Project. As such, seismic events could result in settlement, landslides, liquefaction and lateral spreading of existing slopes. Although the Site would not be occupied under the No Project Alternative (similar to the Project), the proximity of existing slopes on the perimeter berms to the adjacent bike paths and public streets presents a geologic hazard by exposing humans to

geologic instabilities within the Site. Although seismic and geologic instability would likely have a less than significant effect in terms of human exposure under the No Project Alternative, because existing fill slopes would not be removed, the No Project Alternative would nevertheless have a greater seismic and geologic hazards impact than under the Project.

Soil Erosion

Short-Term Impacts

The No Project Alternative would not involve construction or excavation, and therefore groundcover and vegetation would remain as under existing conditions. Thus, the potential for erosion would remain unchanged, unlike during the Project when exposed soils would have a greater potential for soil erosion. Impacts with respect to short-term soil erosion would be less than significant and less than under the Project.

Long-Term Impacts

No capped system or vegetated cover over the Site would be implemented under the No Project Alternative. Rather, the Site would remain in its existing, disturbed condition with spotty vegetation throughout. While periodic vegetation management does occur on the Site under existing conditions, on-site soils are exposed to rain or wind storms, which could result in soil erosion. Comparatively, under the Project, the cap over the Site would consist of a vegetated cover that would be maintained along with stormwater best management practices in the long-term, so as to preclude on-site soils from being exposed to rain and wind storms that could result in substantial soil erosion. Therefore, with respect to soil erosion, the No Project Alternative would have a potentially greater long-term impact than the Project.

Consistency with City of Huntington Beach General Plan Goals and Policies

Because existing slopes within the Site adjacent to the public sidewalk along Hamilton Avenue and bike paths along Magnolia Street and Hamilton Avenue would not be removed, the No Project Alternative would not be consistent with the City of Huntington Beach General Plan Environmental Hazards Element policies to ensure that geologic hazards are within acceptable levels of risk (EH 1.1) or to mitigate potential risks (EH 1.1.2). Overall, the No Project Alternative would be consistent with the applicable plans and policies to a lesser degree than the Project because the Project ensures that geologic hazard are within acceptable levels though engineered slopes.

Greenhouse Gas Emissions

No remediation or construction would occur under the No Project Alternative, and as such no additional short-term greenhouse gas (GHG) emissions would result from implementation of this Alternative. Long-term GHG operational emissions from the No Project Alternative are estimated to be negligible and the same as under the Project. GHG emissions for the No Project Alternative would be less than the Project, and below the applicable mass emissions significance threshold. Also, the No Project Alternative would not result in any impacts related to GHG emissions or inconsistency with any applicable plan, policy, or regulation to reduce GHG emissions. As such, the No Project Alternative would avoid the Project's less than significant long- and short-term impacts regarding consistency with an applicable plan, policy, or regulation to reduce GHG emissions, and therefore impacts are less under the No Project Alternative than under the Project.

Hazards and Hazardous Materials

Routine Transport, Use, or Disposal of Hazardous Materials

Short-Term Impacts

Under the No Project Alternative, no changes would occur on the Site compared to existing conditions. Therefore, under the No Project Alternative, no routine transport, use or disposal of hazardous materials would occur and there would not be any impacts under the No Project Alternative. In contrast, the Project would result in short-term transport and disposal of hazardous materials, though impacts would be less than significant with the implementation of mitigation measures. Thus, even though the Project presents less than significant impacts, short-term impacts under the No Project Alternative would still be less than under the Project.

Long-Term Impacts

Because the No Project Alternative would leave the Site in its existing condition without an engineered cap or gas collection system, waste materials would remain on the Site and would result in uncontrolled releases to the atmosphere. Periodic maintenance and housekeeping trips would also continue to occur. Comparatively, the Project would also include occasional worker trips for maintenance and landscaping, but an engineered cap and gas collection system would be installed to reduce or prevent emissions from the Site itself. Thus, although long-term impacts under the No Project Alternative would be less than significant since there would be no change compared to existing conditions, impacts would still be greater than the Project.

Upset and Accidental Release Conditions

Short-Term Impacts

No changes would occur on the Site compared to existing conditions under the No Project Alternative. Therefore, under the No Project Alternative, no short-term impacts related to hazards resulting from upset or accidental release conditions would occur. In contrast, the Project would result in short-term excavation of contaminated materials which may contain hazardous materials. While the Project would implement PDFs to minimize the potential for short-term upset and accidental release conditions, such as ensuring that contractors implement proper hazardous material handling techniques, dust control, emissions control, and storm water runoff control measures to minimize the runoff of substances to off-site, the Project would have a greater potential for impacts than the No Project Alternative. Thus, short-term impacts under the No Project Alternative would be less than the Project.

Long-Term Impacts

Because the No Project Alternative would leave the Site in its existing condition, waste materials would remain elevated on the Site and could be subject to accidental release conditions. For example, as discussed in Section 2.0, *Project Description*, in July 2005, following record amounts of rainfall, approximately 3.8 million gallons of storm water collected on-site, which presented a risk of potential failure of the north berm. Therefore, under the No Project Alternative, the potential for upset or accidental release of waste from the Site would be considered significant and unavoidable. The Project, once complete, would result an engineered geomembrane (cap) and gas collection system that would serve to prevent the accidental release of any hazardous materials remaining on-site. Thus, impacts under the Project would be less than significant. In light of the above, the No Project Alternative would result in greater impacts than the Project.

Potential Emissions or Handling of Hazardous Materials Near a School

Short-Term Impacts

Under the No Project Alternative, no changes would occur on the Site compared to existing conditions, and no impacts would result. Comparatively, under the Project, short-term emissions of COPCs and handling of hazardous materials within one-quarter mile of Edison High School would occur. The Project would implement PDFs to minimize potential impacts to the school, such as dust control and emissions control and routing of trucks away from Edison High School, and impacts would be less than significant. Nonetheless, under the No Project Alternative, no increase in short-term emissions or handling of hazardous materials would occur near a school. Thus, short-term impacts under the No Project Alternative would be less than the Project.

Long-Term Impacts

The No Project Alternative would leave the Site in its existing condition, and waste materials would remain located on the Site in its current location. The long-term operation and maintenance of the Site after implementation of the Project is expected to result in minimal emissions related to vehicle exhaust and landscaping, similar to current practices. Under the No Project Alternative, long-term emissions from those source types would be similar to the Project. However, the Project would implement a gas collection system under an engineered cap, routed to a GAC treatment system which is designed to capture the majority of VOCs, which are currently released uncontrolled to the atmosphere. The Project would result in less than significant impacts. Under the No Project Alternative, the cap and gas collection and treatment system would not be constructed and the Site would result in higher long-term emissions than under the Project. Since the Site is located within one-quarter mile of Edison High School, long-term impacts under the No Project Alternative would be greater than under the Project.

Located on a Hazardous Materials Site Pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment

Short-Term Impacts

The Site is included on the "Cortese" list pursuant to Government Code Section 65962.5. Under the No Project Alternative, no short-term changes would occur on the Site. In contrast, the Project would result in short-term transport and disposal of contaminated materials, short-term potential for upset or accidental release, and short-term emissions. While the Project would implement PDFs to minimize these potential hazards to a less-than-significant level, the No Project Alternative would have no short-term impact with respect to this threshold, and short-term impacts would be less than the Project.

Long-Term Impacts

The Site is included on the "Cortese" list pursuant to Government Code Section 65962.5, and DTSC previously entered into an Imminent and Substantial Endangerment Determination Consent Order with the RPs. The Project is designed to provide remediation and protect the public and the environment from potential long-term hazards. Project implementation would reduce the possibility of off-site migration of contaminated materials to a less-than-significant level. Because the No Project Alternative would leave the Site in its existing condition, the No Project Alternative would have a greater long-term potential for hazards to the public or environment due to the hazardous materials that would remain on Site and long-term emissions of

COPCs that would be greater than the Project. Therefore, long-term impacts under the No Project Alternative would be greater than under the Project.

Consistency with City of Huntington Beach General Plan

The majority of the applicable Hazards Element policies to the Project pertain to reducing risks from hazards and hazardous materials. Because the No Project Alternative would leave the Site in its existing condition, these policies would not be met under the No Project Alternative. Also, the No Project Alternative would obstruct the intention of the City to promote the identification and remediation of existing hazardous waste sites (Policy HM 1.4), because it would not result in remediation of the Site. Other policies under the Hazards Element would not apply to the No Project Alternative. These policies include promoting proper handling of hazardous waste (Policy HM 1.1) and reduce the amount of hazardous waste generated in the city (Policy HM 1.3). Since the No Project Alternative would not generate or handle hazardous waste, these policies would not apply. Therefore, under the No Project Alternative, the potential for long-term hazard impacts would be greater than the Project. For this reason, the No Project Alternative would be less consistent with the applicable policies than the Project.

Water Quality

Water Quality

Short-Term Impacts

Under the No Project Alternative, no removal 11 existing conditions and during the remediation activities as part of the Project materials would be exposed to precipitation that could result in impacts to surface and groundwater if uncontrolled. Excavation or construction activities under the Project would include implementation of best management practices (BMPs) to minimize potential water quality impacts. However, Site-disturbing construction activities under the Project would have a greater potential for water quality impacts which potential would not be present under the No Project Alternative because no construction activities will occur. Therefore, the No Project Alternative would result in less short-term water quality impacts than the Project.

Long-Term Impacts

Under the No Project Alternative, effects on groundwater and surface water quality would be the same as under existing conditions. Under existing conditions, rainwater can infiltrate into the Site's waste materials and potentially transport contaminants into the underlying groundwater.[6] Detention and sedimentation of surface water is also utilized to prevent the release of impurities and foreign materials and compounds into the City's storm drain system. Under the No Project Alternative, the existing detention, sedimentation, and release of surface runoff would continue. Because contaminated materials would remain on-site and would continue to be exposed to rainwater, the potential exists for impacts to groundwater, or surface water runoff to a lesser extent, and this potential would continue under the No Project Alternative. In comparison, the Project would develop a cap over the Site which would prevent exposure of the materials under the cap. Thus, infiltration to groundwater through waste materials would be essentially eliminated, and the associated potential for waste materials to impact the underlying groundwater would be reduced as compared to existing conditions. Also, runoff from the Site (over the cap system) would not be exposed to

[6] *As discussed elsewhere in this EIR, groundwater beneath the Site is not used or considered usable for drinking water or municipal purposes.*

waste materials, further reducing potential impacts to groundwater and surface water. Therefore, the No Project Alternative would result in greater long-term water quality impacts than the Project.

Groundwater Supplies

Short-Term Impacts

Under the No Project Alternative, no construction or excavation would occur, and, as such, no groundwater would be encountered. Thus, no dewatering would be required. Therefore, the No Project Alternative would not impact groundwater supplies or interfere with groundwater recharge. A small amount of dewatering of encountered groundwater may be required during the Project's construction phase. However, such groundwater volume would represent a negligible contribution from the underlying groundwater basin, which is not utilized as a source for drinking or municipal water. Nonetheless, as the No Project Alternative would avoid the Project's less than significant impact on groundwater supplies, impacts would be less under the No Project Alternative than under the Project.

Long-Term Impacts

The No Project Alternative would involve periodic groundwater sampling and monitoring, as under the Project. However, the collection of groundwater samples would have minimal impact on groundwater supplies under both the No Project Alternative and the Project. Under the No Project Alternative, the Site would remain in a largely impermeable condition due to the substantial deposits of impermeable drilling muds at the Site and the native fine-grained layer, impeding recharge of the groundwater basin from percolation (continuous recharge occurs by way of the flood control channel). Because recharge of the groundwater occurs by way of the flood control channel, the No Project Alternative would not interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table. The Project would direct runoff from the cap system to two earthen basins located over clean native or imported soils where water could freely percolate into the ground if it weren't for the low-permeability fine-grained layer, causing significant off-site discharge during heavy rain events. The perimeter access road and City Parcel would also be underlain by less-permeable soils that would impede infiltration of incident precipitation to groundwater. Thus, under both the Project and the No Project Alternative, recharge of the groundwater basin by way of percolation is similarly impeded such that there would be no net deficit in aquifer volume or a lowering of the local groundwater table. Therefore, impacts to groundwater supplies would be similar under the No Project Alternative and under the Project.

Consistency with the City of Huntington Beach General Plan and Urban Runoff Management Plan (URMP)

The No Project Alternative would be inconsistent with the City's General Plan water quality policies to protect water quality along, and at outlets of, the City's storm drain system. Although detention and sedimentation of surface water would be practiced under the No Project Alternative, the potential for long-term release of contaminated water is greater than under the Project. As such, this Alternative would be less consistent with the applicable plans and policies than the Project.

Land Use and Planning

The No Project Alternative would not change existing conditions on the Site, which in its current state would not allow for the future re-use of the Site. Therefore, the No Project Alternative would be inconsistent with Policies C 4.7.10 and the C 8.4.5 City of Huntington Beach General Plan Coastal Element, which state: "Encourage the remediation and clean up of the Ascon site" and "Encourage the conversion of the Ascon site

to new uses." Therefore, the No Project Alternative would not be consistent with the policies of the Coastal Element that encourage the clean-up of the Site and the conversion of the Site to new uses.

Because the Site would not be available for future residential development under the No Project Alternative, the No Project Alternative would obstruct the intent of the current General Plan Land Use Map land use designation (RM-15-SP), which designates the Site for future medium density residential use under the Magnolia Pacific Specific Plan, approved by the California Coastal Commission in 1994. The "RM-15" land use designation corresponds to medium density residential uses up to 15 units per acre. The designator "SP" represents the Magnolia Pacific Specific Plan overlay. The Magnolia Pacific Specific Plan proposes the future development of two residential districts within the Site that include Single-Family Residential (SFR) and Multi-Family Residential (MFR) uses. The Specific Plan would have an overall density of 12.75 dwelling units per acre and allow up to 502 units in a mixture of single-family detached homes and multi-family units. The No Project Alternative would also be inconsistent with General Plan Land Use Policies LU 7.1 and LU 7.1.2 to accommodate a balance of land uses that provide for housing and other uses or with Policy LU 9.1 to "provide for development of single-and multi-family residential neighborhoods in areas designated by the Land Use Plan Map."

The No Project Alternative would obstruct the purpose of the General Plan Housing Element to provide future housing for all income groups and a range of housing types in the City and, therefore, it would not be consistent with policies of the Housing Element that encourage the development of housing. However, it is acknowledged that the Housing Element does not include the Site in the inventory of properties that are considered to contribute to "realistic development capacity" (Housing Element, page IV-4). The Housing Element found that the City would meet its regional housing share with other development projects planned throughout the city. Therefore, because the intent of the Housing Element would be met without the development of the Site for residential purposes, the inconsistency of the Project with the Housing Element would result in a less than significant impact.

The No Project Alternative would not be consistent with Goal 11-2 of DTSC's Strategic Plan, which states that DTSC shall "Restore land and water to protect human health and the environment, and to facilitate efficient reuse and redevelopment." Under the No Project Alternative, materials harmful to human health and the environment would remain uncontrolled on the Site, causing the Site to be unavailable for future reuse.

Overall, the No Project Alternative would be inconsistent with many of the applicable goals and policies cited above. While the No Project Alternative would not result in significant physical impacts due to the lack of housing, it would nonetheless result in a site that includes uncontrolled materials and waste that could be harmful to human health and the environment. This is considered to be a potentially significant impact as adverse physical impacts to the environment could occur in the Site's current uncontrolled state.

While the Project would also not facilitate the development of new residential uses as envisioned by the City, it would provide long-term protection to human health and the environment and preclude the potential for adverse physical impacts.

In light of the above, land use impacts would be less than significant under the Project and less than the No Project Alternative.

Noise

Implementation of the No Project Alternative would not result in any physical changes to the environment, and therefore would not have any potential to generate short-term noise or vibration beyond what currently exists. Under existing conditions, no perceptible long-term sources of noise exist on the Site, with the exception of minimal vehicular noise and weed abatement activities associated with O&M activities. These sources of noise would continue under the No Project Alternative. In comparison, the Project would include similar minimal vehicular noise sources associated with O&M activities. The Project would also include the use of mechanical fans/equipment for the LFG collection system, which would result in less than significant noise impacts with implementation of the prescribed mitigation measures. Since the No Project Alternative would not include the LFG collection system, it would avoid this less than significant Project impact. In light of this consideration, the No Project Alternative is considered to have less long-term operational noise impacts than the Project. As neither the Project nor the No Project Alternative would generate long-term sources of vibration, the No Project Alternative and the Project are similar in this regard.

Consistency with City of Huntington Beach General Plan Goals and Policies

The City's General Plan contains goals, objectives, and policies that are relevant to noise and are presented in the General Plan Noise Element. The No Project Alternative would be consistent with the applicable goals and policies of the City of Huntington Beach General Plan pertaining to Noise because implementation of the No Project Alternative would not result in any physical changes to the environment, and therefore would not have the potential to generate noise or vibration beyond what currently exists. Thus, because the No Project Alternative would not include any construction or other activities that would generate much, if any, noise, it would not conflict with the applicable policies in the General Plan Noise Element. Comparatively, implementation of the Project would generate construction noise in the short term. Thus, the No Project Alternative would be consistent with the applicable policies to a greater degree than the Project.

Transportation/Traffic

The No Project Alternative would not result in generation of additional vehicle trips relative to existing conditions. I On-going O&M activities at the Site generate a minimal amount of traffic, typically less than 10 trips per week. This pattern would continue under the No Project Alternative. As such, the No Project Alternative would have no potential to affect the function of the local and regional traffic network, result in inadequate emergency access, or conflict with plans, policies, or regulations related to alternative transportation. Comparatively, the Project would result in a considerable, short term increase in traffic resulting from haul trucks coming into and out of the Site during implementation. Thus, traffic and emergency impacts under the No Project Alternative would be less than under the Project.

With regards to alternative transportation facilities, the No Project Alternative would maintain the existing pedestrian and bike facilities adjacent to the Site. In the short-term, no bike or pedestrian facilities adjacent to the Site would be closed, which they would be under the Project. Although no pedestrian facilities currently exist along Magnolia Street adjacent to the Site, under the Project the City Parcel along Magnolia Street would be remediated and the right-of-way would be made available to the City to accommodate a future sidewalk facility and implement the design goals envisioned by the City's designation for this roadway segment as a Landscape Corridor. Therefore, even though short-term impacts would be greater under the Project, the inability to develop alternative transportation facilities under the No Project Alternative in the long-term results in this Alternative presenting greater impacts than the Project.

Consistency with City of Huntington Beach General Plan Goals and Policies

The City's General Plan contains goals, objectives, and policies that are relevant to traffic and are presented in the General Plan Circulation Element. The applicable policies require projects to mitigate off-site traffic impacts and reduce potential conflicts with pedestrians, bicycles, and vehicular traffic. As the No Project Alternative would not generate any new short-term traffic, it would avoid the Project's short-term construction-related impacts regarding traffic, (less than significant after mitigation), emergency access and alternative transportation facilities. Long-term traffic would be similar under the No Project Alternative and the Project, which would include negligible traffic impacts on the local circulation network. While the Project would enable new pedestrian facilities to occur adjacent to the Site, the avoidance of construction-related impacts under the No Project Alternative results in this Alternative being more consistent with the applicable policies than the Project.

Impact Summary

A comparative summary of the environmental impacts associated with the No Project Alternative with the environmental impacts anticipated under the Project is provided in Table 5-20 at the end of this EIR section.

Relationship of the No Project Alternative to the Project Objectives

The following provides a description of the No Project Alternative's ability to meet the Project's objectives. As discussed below, the No Project Alternative would substantially fail to meet the objectives of the Project.

- Objective #1 - *To reduce the potential for long-term risks to life, property and the environment (inclusive of nearby residences, schools, parks, and businesses) from contaminated materials and waste:* The No Project Alternative would not result in Site remediation and, thus, would not reduce the potential for long-term risks to property and the environment. Thus, the No Project Alternative would not meet this objective.

- Objective #2 - *To reduce the potential for short-term risks (during implementation activities) to life, property and the environment (inclusive of nearby residences, schools, parks, businesses, and on-site workers) from contaminated materials and waste through proper handling, treatment and disposal*: Because no remediation action would take place, the No Project Alternative would not involve short-term risks associated with the excavation, handling and disposal of materials and waste. Thus, the No Project Alternative would not meet this objective.

- Objective #3 - *To ensure that contaminated materials and waste are transported in a safe, efficient and coordinated manner to minimize risks to sensitive uses (such as nearby residences and schools):* Because no remediation would take place under the No Project Alternative, this Alternative would not involve transport of hazardous materials or waste. However, because this Alternative would not involve any remediation, it does not meet the objective related to minimizing risks to sensitive uses. Thus, the No Project Alternative would not meet this objective

- Objective #4 - *To reduce the potential for on-site contaminated materials to impact groundwater or migrate off-site*: The No Project Alternative would not result in Site remediation and, thus, would not reduce the potential for contamination of groundwater or migration off-site. Therefore, the No Project Alternative would not meet this objective.

- Objective #5 - *To remediate the site to enhance public health, safety and welfare and ultimately allow potential new uses of the site that will not endanger human health and the environment*: The No Project Alternative would not result in Site remediation and, thus, would not provide for potential new uses of the Site. Thus, the No Project Alternative would not meet this objective.

- Objective #6 - *To remediate the site in a timely, expedient, and cost effective manner:* The No Project Alternative would not remediate the Site and, therefore, would not meet this objective.

Alternative 2 – Source Removal with Off-Site Disposal

Environmental Impact Categories

Aesthetics

Scenic Vista/Visual Character and Visual Quality

Short-Term Impacts

Scenic Vista

Existing berms on the periphery of the Site currently block broad views across the Site. The short-term implementation (construction activities) of Alternative 2 would occur over approximately three-years. The current chain-link fence with green privacy fabric would remain throughout most of the construction process. During this period, as the berms around the Site's perimeter are reduced in mass and height, some views across the Site would become available. In particular, while south-westerly views towards the Pacific Ocean, Magnolia Marsh wetlands, and horizon would become more open and available, such views would include the AES Power Plant located to the southwest of the Site and the existing above-ground storage tanks located at the north and northeast sides of the power plant. In addition, the above-ground Plains All American tanks, which are located to the south of the Site, would become part of the new views should they remain on that site. Thus, the construction activities and inclusion of existing industrial facilities described above in scenic views across the Site under Alternative 2 would offset the increase in the availability of south-westerly views towards the Pacific Ocean. Therefore, construction activities under this Alternative would have a less than significant effect with respect to creating or impacting scenic vistas. The Project's mass grading of on-site materials would also not create scenic views of visual resources across the Site. Overall, short-term impacts regarding scenic vistas under Alternative 2 would be similar to that of the Project.

As discussed in the Existing Conditions section above, due to the Site's existing topography and intervening development, there are no views of valued visual resources (e.g., Pacific Ocean, beach, Magnolia Marsh) that extend across the Site. Mass grading of on-site materials during the RAP implementation process would not create views of visual resources across the Site. In addition, a chain-link fence, or similar, would remain throughout most of the implementation process (e.g., partial removal of existing on-site material, grading, installation of a protective cap). As a result, short-term impacts with respect to views of identified visual resources would be less than significant.

Visual Character and Visual Quality

Construction activities under Alternative 2 would occur for over three years. During this period, removal of existing on-site vegetation, perimeter berms along Magnolia Street and Hamilton Avenue, and perimeter fencing during construction would expose construction equipment and activities as viewed from

surrounding areas and street corridors that currently view of the edges (berms) of the Site. The relative disturbance of construction activities could adversely affect the views of the Site during the construction period. Construction activities would also contrast with the stable visual character of the adjacent land uses (residential neighborhoods, Edison Park and Edison High School). Construction activities would include removal of on-site vegetation and, when combined with grading, would expose underlying soil resulting in a potentially barren appearance of the land surface. Perimeter trees along Magnolia Street currently contribute to the area's visual character. However, because the trees and other perimeter vegetation are not maintained for visual purposes and partially obscured by the existing fence, the visual value of the perimeter vegetation only marginally contributes to the visual character of views from Magnolia Street. There are no significant features along the Site's northern perimeter that contribute to a high visual quality of the Site for motorists and pedestrians along Hamilton Avenue, or for visitors of Edison Community Park. Construction activities would be inconsistent with the visual character of the adjacent land uses (residential neighborhoods, Edison Park and Edison High School); however, because the Site does not currently have a high aesthetic value, and construction activities would be largely screened by the perimeter fencing, the disturbed condition of the Site would be less than significant. Although all of the above impacts also result under the Project, the impacts under Alternative 2 would last much longer than under the Project (approximately 11 months of construction under the Project compared to approximately 41 months under Alternative 2). Thus, the short-term impacts under Alternative 2, albeit less than significant, are nevertheless greater than they would be under the Project.

Long-Term Impacts

Scenic Vista

At the completion of Alternative 2 the Site would be broad, near-flat, and vacant. The Site would be surrounded by a chain-link fence. Periodic weed abatement would be conducted, as necessary, which would maintain this visual condition over time. This condition would open south-westerly views across the Site from adjacent streets and surrounding areas, including Edison Park to the north. However, the AES Power Plant located to the southwest of the Site and existing above-ground storage tanks located at the north and northeast sides of the power plant would be visible in south-westerly views towards the Pacific Ocean, Magnolia Marsh wetlands, and horizon. In addition, the above-ground Plains All American tanks, which are located to the south of the Site, would become part of the new views, should they remain on that site. Therefore, the open aspect of the field would have no impact with respect to creating or impacting vistas of the area's scenic resources. The inclusion of the existing industrial facilities described above in scenic views across the Site under this Alternative would offset the increase in the availability of south-westerly views towards the Pacific Ocean. As discussed in Section 4.1, despite the height of the Project's cap, the cap would not impact long-range views of visual resources across the Site since no such views currently exist. Accordingly, impacts regarding long-term scenic views under this Alternative would be less than significant and similar to those of the Project.

Visual Character and Visual Quality

The visual character of the Site at the completion of the remediation construction activities under Alternative 2 would be broad, near-flat and vacant. The Site would be surrounded by a chain-link fence. Periodic weed abatement would occur, as necessary, resulting in an unchanged visual condition over time. However, because the perimeter berm and waste materials that previously encroached into the City's right-of-way along Hamilton Avenue and Magnolia Street would be removed, and the City would have the opportunity to install street landscaping, including along Magnolia Street, a City-designated Landscape Corridor. This

opportunity would also occur under the Project. Because of the extent that materials would be removed from the Site under Alternative 2, the Site could be re-used in accordance with the current zoning and land use designations. The Site is zoned and designated for development under the Magnolia Pacific Specific Plan, which calls for a balance of open space to development and provides a conceptual design for residential development clustered within deep landscaped setbacks, street trees and landscaping, and recreational amenities. Because Alternative 2 would facilitate the future implementation of the Magnolia Pacific Specific Plan, which incorporates aesthetic design components, whereas the Project would not, Alternative 2 has the potential for greater visual character than the Project. Therefore, with respect to long-term visual character, Alternative 2 would have less impact than the Project.

Scenic Resources Within a Scenic Highway

Short-Term Impacts

Under Alternative 2, which the Project is similar to in this regard, short-term construction activities along Magnolia Street, a designated Landscape Corridor and Major Urban Scenic Corridor under the General Plan Circulation Element, would remove trees and other vegetation growing along the Magnolia Street berm. However, because these features are not maintained for visual purposes and are partially obscured by the screened perimeter fence under existing conditions, the Site's perimeter trees only marginally contribute to the existing aesthetic quality of the Magnolia Street corridor. Therefore, the removal of these features, which would occur under both Alternative 2 and the Project, would not be considered to cause substantial damage to scenic resources. During construction, screened perimeter construction fencing would continue to obscure the lower edges of the Site, as is the case under existing conditions. However, because the actual construction activities would have an effect on the aesthetic quality of the street corridor, and construction would occur over a longer period of time (approximately three years) under Alternative 2 than under the Project (approximately one year), even though Alternative 2 presents less than significant impacts to the Magnolia Street corridor, these impacts would be greater under this Alternative than under the Project.

Pacific Coast Highway (PCH), to the south of the Site is a State-identified eligible, but not formally designated, State Scenic Highway. The Site is minimally, if at all, visible from PCH and, therefore, none of the construction activities, regardless of the Alternative, would significantly affect views along the PCH corridor.

Long-Term Impacts

Under the Project, the vegetated cap would be a subordinate feature of the viewshed from PCH, largely obstructed from view by existing industrial uses. Because the minor changes to the visual character would be largely unnoticeable to the casual observer, they would not substantially degrade the visual character of the Site vicinity from PCH. Therefore, the implementation of the Project would result in a less than significant impact with respect to scenic resources along PCH. Comparatively, under Alternative 2, no features of the Site would be visible from PCH. Given the largely unnoticeable difference in views under this Alternative and the Project, impacts regarding scenic resources visible from PCH would be less than significant under both Alternatives, and thus the impacts under both Alternatives are similar.

The removal of the berm section from within the City's right-of-way along Magnolia Street would provide flexibility to the City for the development of a streetscape/landscape plan along the street corridor. Streetscape/landscape of this corridor is not currently possible because of the placement of the berm. Although Alternative 2 has no landscape component, the long-term effects of Alternative 2 would be to allow

for the development of scenic resources along the designated Magnolia Street Major Urban Scenic Corridor. Although the City of Huntington Beach has not developed typical roadway sections for designated Landscape Corridors, because Alternative 2 would not impede any future landscaping, the long-term impacts with respect to the Scenic Corridor designation would be less than significant. Landscaping would similarly be possible under the Project, and, as such, the long-term effects on the Magnolia Scenic Corridor would be similar under both the Project and Alternative 2.

Consistency with City of Huntington Beach General Plan

The General Plan identifies the Pacific Ocean and beach as significant recreational and visual resources that attract many visitors to Huntington Beach. The City also identifies Magnolia Street as a City-designated Landscape Corridor and Secondary Path/Image Corridor. Alternative 2 would not significantly impact these resources or roadway corridor and, therefore, would not obstruct the objectives of the General Plan to maintain the character and visual quality of these resources. By removing the berm section along Magnolia Street and by providing screened perimeter fencing during construction, Alternative 2 would also be consistent with urban design objectives of the General Plan which are to minimize visual impacts where facilities encroach upon view corridors. Because all of this is also the case under the Project, Alternative 2 and the Project would be similarly consistent with the applicable policies of the General Plan's Urban Design Element.

Air Quality

Air Quality Plan Conflicts

Short-Term Impacts

SCAQMD recommends that a Lead Agency demonstrate that a project would not directly obstruct implementation of an applicable air quality plan and would be consistent with the assumptions (typically land-use related, such as resultant employment or residential units) upon which the air quality plan is based. Under Alternative 2, construction activities would result in an increase in short-term employee trips as compared to existing conditions, similar to levels required to implement the Project, but for longer duration than would occur under the Project. Being relatively small in number and temporary in nature, the construction jobs that would result both under Alternative 2 and the Project are generally not considered inconsistent with the assumptions upon which the AQMP is based, and therefore impacts would be less than significant in this regard for both alternatives, and the impacts under each would be similar to the other.

Control strategies in the AQMP with potential applicability to short-term emissions from construction activities include ONRD-04 and OFFRD-01, intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment by accelerating replacement of older, dirtier engines with newer engines meeting more stringent emission standards.

Similar to the Project, Alternative 2 would incorporate a number of PDFs designed to reduce short-term emissions from construction equipment. Alternative 2 and the Project would use construction equipment that meets or exceeds stringent Tier 3 emission standards for off-road equipment (PDF 2-1) and 2007 or better standards for on-road waste haul trucks (PDF 2-2), and would comply with anti-idling restrictions pursuant to CARB's ATCM (PDF 2-3). Both Alternative 2 and the Project would use a temporary structure to capture potential fugitive volatile emissions resulting from soil handling during the excavation of Pit F (PDF 2-7). In addition, both Alternative 2 and the Project would comply with SCAQMD regulations and permitting

requirements for controlling fugitive dust and volatile emissions from the Site (see SCAQMD Rules 403, 1150 and 1166) (PDF 2-6 and PDF 2-8). The PDFs listed above, in addition to the other PDFs discussed previously, are generally consistent with the 2012 AQMP control strategies intended to reduce emissions from construction equipment and operations. Thus, in this regard, impacts under both Alternative 2 and the Project would be similar and less than significant.

Similar to the Project, the only sources of increased air pollutant emissions subject to CEQA review resulting from Alternative 2 in air basins other than SoCAB, such as the San Joaquin Valley Air Basin, Salton Sea Air Basin, and Mojave Desert Air Basin are waste haul trucks. Emission standards for haul trucks are regulated at the federal level, by the United States Environmental Protection Agency (USEPA), and are therefore not subject to control measures adopted by local air agencies. Thus, hauling of soil, debris, and other materials into other basins is consistent with local air quality plans and the impacts under both the Project and Alternative 2 would be less than significant and similar.

Long-Term Impacts

Under Alternative 2, the remedial activities would result in a nearly flat, fenced, vacant lot. Future development of the Site is not part of the Project or any Alternative considered in this EIR, and would be subject to separate environmental clearance. Only periodic maintenance is anticipated upon implementation of the RAP under this Alternative. Therefore, this Alternative 2 would not result in a change in long-term employment as compared to existing conditions, slightly lower than the levels expected upon implementation of the Project. Being relatively small in number, the continuation of maintenance jobs under this Alternative is generally not considered inconsistent with the assumptions upon which the AQMP was based. When originally adopted, the Magnolia Pacific Specific Plan contemplated housing upon the Site after completion of the clean-up, and current zoning is supportive of future residential development. However, the City of Huntington Beach, as demonstrated in its latest update to the Housing Element of the General Plan, is not dependent on the Site to meet its future housing demand, and, as stated earlier, no future development plans are contemplated as part of this Project or Alternative. Thus, Alternative 2 is considered not inconsistent with the population growth assumptions upon which the AQMP was based.

Alternative 2 and the Project would likely create a similar, minimal number of short-term jobs. Neither would create or remove housing. Thus, both would not be inconsistent with the growth projections (jobs and housing) used in the development of the AQMP and emissions would be negligible (see detailed discussion below). Thus, impacts under both Alternative 2 and the Project would be less than significant. Compared to the Project, Alternative 2 would result in impacts that would be similar to those of the Project.

Violation of Air Quality Standards

Short-Term Impacts

Alternative 2 has the potential to create short-term air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated from construction workers, visitors, export haul trucks, and delivery vehicles traveling to and from the Site. Construction activities under Alternative 2 would be expected to be initiated as early as 2015 and completed 41 months later in 2018. For the purposes of the air quality analysis, the activities were conservatively assumed to occur in only 36 months, ending in December 2017. Assumptions for each construction phase and the equipment that would be used during Alternative 2 are discussed below and provided in Appendix H of this Draft EIR.

Construction activities under Alternative 2 would consist of several phases. A detailed description of activities, which would result in fugitive or exhaust emissions during each month of remediation, is described below. The overall excavation for Alternative 2 would occur in four general phases consisting of the northern, eastern, south-west, and central areas.

Month 1: Implementation of Alternative 2 begins with General Mobilization, which consists of establishing a staging area, bringing in earthwork and supporting equipment, bringing in and setting up perimeter air monitoring equipment, clearing activities, and establishing haul roads, which would be maintained throughout the duration of Project activities. Pit F activities would also commence at this time. A temporary structure (e.g., Sprung®) would be constructed over Pit F. Pit F materials would be excavated for transport and off-site disposal. The excavation of Pit F would occur under the negative-pressure enclosure and would utilize slurry trench technology. Excavated materials would be loaded into sealed roll-off bins or covered haul trucks and transported to the disposal facility using bin trucks.

Months 2-7: Excavation of Pit F would occur with excavated materials transported off-site.

Month 7-12: Removal of Lagoon Materials would commence at this time. Activities during this phase would consist of the excavation of Lagoons 3, 4, and 5. Excavated materials would be directly loaded into on-road haul trucks. Materials would be monitored for VOCs and handled in compliance with the Site's SCAQMD Rule 1150/1166 permit. Any stockpile with VOC-contaminated materials would be covered with plastic sheeting or approved suppressant until loaded for off-site disposal.

Month 12-16: Excavation of the northern portion of the Site would occur. Activities would initially consist of clearing and grubbing and consolidation, reduction, and stockpiling of existing concrete debris. Then the northern area in the location of the lagoons would be excavated to near groundwater level and backfilled with crushed rock, or similar, to create a foundation upon which trucks can safely continue backfilling.

Month 16-23: Excavation of eastern portion of Site would occur. Again, activities would begin with clearing and grubbing and consolidation, reduction, and stockpiling of existing concrete debris. Then the eastern area, excluding Pit F, would be excavated and then backfilled. Backfilling to final grade would begin in Month 21 in the northern area and parts of the eastern area that are ready for final grade.

Month 23-29: Excavation of central portions of the Site containing Lagoons 1-3 would occur. Also, final grade activities would continue in excavated areas (North, East). Achieving final grade would consist of importing, placing, compacting, and grading fill material to final grade in the North, East, Central, South, and West areas. Detention basins would be roughly graded during fill operations. An additional gate would be installed on Hamilton Avenue, and a new haul road, loading area, and truck decontamination area would be constructed concurrently with Central Parcel activities, described below. Transportation and disposal trucking and loading operations would use the new gates, haul road, and loading and decontamination areas as the original gate and haul road become restricted due to grading for the northwest storm water detention basin.

Month 29-36: Excavation of the south-west portion of the Site would begin. Activities would initially consist of clearing and grubbing and consolidation, reduction, and stockpiling of existing concrete debris and asphalt. The area would then be excavated and backfilled with crushed rock, or similar, and imported soil.

Surface Water Control activities would continue and consist of the final grading of two detention basins and the installation of storm water swales along the Site perimeter. After the completion of Surface Water Controls activities, storm water would be managed per the General Industrial National Pollution Discharge Elimination System (NPDES) permit. Excavation of the South Coast Oil Corporation (SCOC) area would also commence at this time, contingent on access to the SCOC property and status of the oil lease. The area would be excavated and backfilled with rock, soil, and imported fill to final grade.

Month 36: Excavation of the SCOC site would be completed, contingent on access to the SCOC property and status of the oil lease. Site Restoration activities would begin, including vegetation and the demobilization of equipment.

The 2007 RFS originally estimated the implementation of this Alternative to take approximately 62 to 72 months. The IRM removed some material from the Site, thereby shortening the duration for implementation of all alternatives considered in this EIR. (Further refinement of the schedule now shows the duration of Alternative 2 at approximately 41 months. However, the analysis of air quality impacts relies on the maximum daily emissions, and the worst-case day identified in a 36 month schedule is likely the same, or slightly more intense, than the maximum day in a 41 month schedule. For these reasons, the 36 month schedule presented above results in a realistic, but likely conservative, maximum day for the determination of potential impacts.)

Criteria pollutant emissions were calculated for each individual phase of remediation under Alternative 2 separately. However, as each phase has the potential to overlap with one another, maximum daily emissions in the South Coast Air Basin (SoCAB) were estimated and are presented in **Table 5-1**, *Unmitigated Regional Maximum Short-Term Emissions for Alternative 2*.

These emission forecasts reflect a specific set of conservative assumptions in which the major remediation activities under Alternative 2 would be completed within 36 months. If remediation activities under Alternative 2 are delayed or occur over a longer time period, maximum daily emissions could be reduced because, for example, of (1) the availability of a more modern, cleaner burning, construction equipment fleet mix, or (2) a less intensive construction schedule (lower daily emissions by spreading work out over a longer period of time).

The emissions levels in Table 5-1 represent the highest daily emissions projected to occur on any one day during each month in the SoCAB under Alternative 2. As presented in Table 5-1, short-term daily maximum regional emissions would not exceed the SCAQMD daily significance thresholds for carbon monoxide (CO), fine particulate matter ($PM_{2.5}$), VOCs, or sulfur oxides (SO_X) at any time under the anticipated construction period and schedule. However, maximum regional emissions are estimated to exceed the SCAQMD daily significance thresholds for nitrogen oxides (NO_X) and PM_{10} during periods of heavy use of heavy-duty construction equipment, with a maximum daily level of 605 pounds per day in Month 25 for NOx and 235 pounds per day in Month 30 for PM_{10}.

In comparison, the Project would result in significant short-term regional impacts for NO_X and PM_{10}. The Project would implement PDFs to minimize NO_X and PM_{10} emissions, such as the use of off-road engines meeting stringent Tier 3 emissions standards for off-road equipment (PDF 2-1) and on-road engines meeting stringent Year 2007 or later emission standards for on-road waste hauling equipment (PDF 2-2). The Project

Table 5-1

Unmitigated Regional Maximum Short-Term Emissions for Alternative 2 [a, b]
(pounds per day)
South Coast Air Basin

Individual Months	VOC	NO_X	CO	SO_X	PM_{10} [c]	$PM_{2.5}$ [c]
Month 1	4	69	61	<1	18	10
Month 2	9	159	115	<1	50	19
Month 3	7	118	81	<1	39	13
Month 4	7	118	81	<1	39	13
Month 5	7	118	81	<1	39	13
Month 6	7	118	81	<1	39	13
Month 7	24	362	225	<1	114	34
Month 8	17	256	156	<1	78	23
Month 9	17	256	156	<1	78	23
Month 10	17	256	156	<1	78	23
Month 11	17	256	156	<1	78	23
Month 12	22	371	202	<1	117	34
Months 1-12 Max	**24**	**371**	**225**	**<1**	**117**	**34**
Month 13	21	352	189	<1	109	30
Month 14	20	328	173	<1	101	27
Month 15	17	250	149	<1	77	22
Month 16	21	347	182	<1	110	30
Month 17	20	323	166	<1	100	26
Month 18	17	250	149	<1	77	22
Month 19	17	250	149	<1	77	22
Month 20	17	250	149	<1	77	22
Month 21	26	502	201	<1	176	37
Month 22	26	502	201	<1	176	37
Month 23	29	598	233	<1	207	45
Month 24	28	574	217	<1	199	41
Months 12-24 Max	**29**	**598**	**233**	**<1**	**207**	**45**
Month 25	30	605	233	<1	210	44
Month 26	27	532	216	<1	187	40
Month 27	26	502	201	<1	176	37
Month 28	26	502	201	<1	176	37
Month 29	26	502	201	<1	176	37
Month 30	30	599	233	<1	235	48
Month 31	28	575	217	<1	226	44
Month 32	28	575	217	<1	226	44
Month 33	20	323	166	<1	127	29

Table 5-1 (Continued)

Unmitigated Regional Maximum Short-Term Emissions for Alternative 2 [a, b]
(pounds per day)
South Coast Air Basin

Individual Months	VOC	NO_X	CO	SO_X	PM_{10} [c]	$PM_{2.5}$ [c]
Month 34	17	250	149	<1	95	23
Month 35	35	507	314	<1	191	49
Month 36	34	486	304	<1	187	47
Months 24-36 Max	**35**	**605**	**314**	**<1**	**235**	**49**
Maximum Regional Emissions	**35**	**605**	**314**	**<1**	**235**	**49**
SCAQMD Daily Significance Thresholds	75	100	550	150	150	55
Maximum Over/(Minimum Under) [d]	(40)	505	(236)	(150)	85	(6)
Exceed Threshold?	**No**	**Yes**	**No**	**No**	**Yes**	**No**

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately. Emission quantities are rounded to "whole number" values. As such, the "total" values presented herein may be one unit more or less than actual values. Exact values (i.e., non-rounded) are provided in the model printout sheets and/or calculation worksheets that are presented in Appendix H.*

[b] *Shaded values indicate an exceedance of the significance threshold.*

[c] *PM_{10} and $PM_{2.5}$ emissions estimates are based on compliance with SCAQMD Rule 403 requirements for fugitive dust suppression.*

[d] *"Maximum Over" values represent the greatest difference that the daily regional emissions are above the significance thresholds. "Minimum Under" values represent the smallest difference that the daily emissions are below the significance thresholds.*

Source: PCR Services Corporation, 2013.

would also implement several PDFs to reduce fugitive dust PM_{10} emissions, such as application of soil suppressants and enhanced trackout prevention devices (PDF 2-7 through 2-11). There are no feasible mitigation measures that would further reduce the Project's NO_X and PM_{10} impacts to less than significant levels.

The Project and Alternative 2 would implement the same PDFs to reduce NO_X and fugitive dust PM_{10} emissions. The emissions reductions associated with these PDFs are included in the calculations provided in Table 5-1. However, there are no feasible mitigation measures that would reduce NO_X and PM_{10} impacts under Alternative 2 to less than significant, nor are there any feasible mitigation measures that would reduce the NO_X and PM_{10} impacts to less than significant under the Project. Therefore, regional emissions in the SoCAB resulting from Alternative 2 would result in significant and unavoidable short-term impacts. Alternative 2 would result in greater peak daily NO_X and PM_{10} emissions than the Project. In addition, Alternative 2 would result in regional criteria pollutant emission over a greater number of days than the Project. Therefore, Alternative 2 would result in impacts that would be greater than those of the Project.

As would be the case under the Project, potential receiver facilities for materials excavated from the Site are located in the SJVAB. However, other receiver facilities are possible, which would result in transport through

other air basins, including the Salton Sea, Mojave Desert and Great Basin Valleys. Alternative 2 would involve hauling approximately 1,000,000 BCY to appropriate landfills. Regional emissions were also calculated for soil export trucks travelling within the SJVAB and compared to the regional thresholds of significance from the SJVAPCD. As shown in **Table 5-2**, *Unmitigated Regional Maximum Short-term Emissions from Waste Hauling for Alternative 2*, emissions from soil export trucks would exceed the SJVAPCD CEQA significance thresholds which are based on an annual emission rate (tons/year). In comparison, the Project would result in less than significant short-term impacts in the SJVAB due to the reduced number of haul truck trips occurring in the SJVAB. If an optional receiver facility is selected that would require travel through the Mojave Desert Air Basin and Great Basin Valleys Air Basin (and ultimately out of state to Nevada or Utah) or the Salton Sea Air Basin (and ultimately out of state to Arizona), maximum daily emissions from haul trucks travelling through these air basins, with the exception of Great Basin Valley, would exceed the daily thresholds of significance with respect to regional NO_X emissions.

Both the Project and Alternative 2 would implement PDFs to minimize NO_X emissions both regionally and in air basins outside of the SoCAB. These PDFs include the use of on-road engines meeting stringent Year 2007 or later emission standards for on-road waste haul trucks (PDF 2-2). However, there are no feasible mitigation measures that would further reduce Alternative 2's NO_X impacts to less than significant in the SJVAB, Mojave Desert Air Basin and Salton Sea Air Basin. Therefore, implementation of Alternative 2 would result in a significant and unavoidable short-term impact with regard to regional emissions within the SJVAB, Mojave Desert Air Basin and Salton Sea Air Basin and impacts would be greater than those of the Project.

In conclusion, Alternative 2 would result in maximum short-term emissions in the SoCAB that would exceed the significance thresholds for NO_X and PM_{10}. The Project would also exceed the significant thresholds for NO_X and PM_{10}. However, the emissions and exceedences would be greater under Alternative 2 than under the Project. Further, Alternative 2 would result in maximum annual short-term emissions in the SJVAB, Mojave Desert Air Basin and Great Basin Valleys Air Basin, or Salton Sea Air Basin that would be greater than emissions under the Project. Therefore, Alternative 2 would result in significant and unavoidable impacts related to short-term emissions, and the impacts would be greater under Alternative 2 than under the Project.

Long-Term Impacts

Under Alternative 2, regional air pollutant emissions associated with long-term operations of the Site would be generated by activities such as maintenance and worker commute trips necessary conduct these activities. Mobile-source emissions relating to these activities were calculated using the California Emissions Estimator Model (CalEEMod), which multiplies an estimate of the increase in daily vehicle miles traveled (VMT) by applicable EMFAC2007 emissions factors. The CalEEMod model output and worksheets for calculating regional operational daily emissions are provided in Appendix H of this Draft EIR. Under Alternative 2, most, if not all, contaminated materials would be removed from the Site. As a result, the Site would not generate long-term emissions of VOCs and would not require a gas collection and treatment system. As shown in **Table 5-3**, *Unmitigated Regional Maximum Long-Term Emissions for Alternative 2*, regional operational emissions would remain below SCAQMD CEQA significance thresholds. As a result, impacts related to regional emissions from long-term operations under Alternative 2 would be less than significant. Compared to the Project, Alternative 2 would result in fewer long-term emissions, and impacts would be less under this Alternative than under the Project.

Table 5-2

Unmitigated Regional Maximum Short-Term Emissions from Waste Hauling for Alternative 2 [a]
By Air Basin

	Regional Emissions [b]					
	VOC	NO_X	CO	SO_X	PM_{10} [c]	$PM_{2.5}$ [c]
San Joaquin Valley Air Basin (most likely receiving facility)						
Maximum Alternative 2	**2**	**18**	**8**	**<1**	**2**	**1**
SJVAPCD Annual Significance Thresholds [d]	10	10	–	–	15	–
Maximum Over/(Minimum Under)	(8)	8	N/A	N/A	(13)	N/A
Exceed Threshold?	**No**	**Yes**	**No**	**No**	**No**	**No**
Mojave Desert Air Basin (optional receiving facility)						
Maximum Daily Alternative 2	16	188	83	1	16	8
MDAQMD Daily Significance Thresholds [e]	137	137	548	137	82	82
Maximum Over/(Minimum Under)	(121)	51	(465)	(136)	(66)	(74)
Exceeds Daily Threshold?	**No**	**Yes**	**No**	**No**	**No**	**No**
Maximum Annual Alternative 2	**2**	**29**	**13**	**<1**	**2**	**1**
MDAQMD Annual Significance Thresholds [e]	25	25	100	25	15	15
Maximum Over/(Minimum Under)	(23)	4	(87)	(25)	(13)	(14)
Exceed Annual Threshold?	**No**	**Yes**	**No**	**No**	**No**	**No**
Great Basin Valleys Air Basin (optional receiving facility)						
Maximum Daily Alternative 2	**5**	**54**	**24**	**<1**	**5**	**2**
MDAQMD Daily Significance Thresholds [f]	137	137	548	137	82	82
Maximum Over/(Minimum Under)	(132)	(83)	(524)	(137)	(77)	(80)
Exceeds Daily Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Maximum Annual Alternative 2	**1**	**8**	**4**	**<1**	**1**	**<1**
MDAQMD Annual Significance Thresholds [f]	25	25	100	25	15	15
Maximum Over/(Minimum Under)	(24)	(17)	(96)	(25)	(14)	(15)
Exceeds Annual Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Table 5-2 (Continued)

Unmitigated Regional Maximum Short-Term Emissions from Waste Hauling for Alternative 2 [a]
By Air Basin

	Regional Emissions [b]					
	VOC	NO_X	CO	SO_X	PM_{10} [c]	$PM_{2.5}$ [c]
Salton Sea Air Basin (optional receiving facility)						
Maximum Alternative 2	**11**	**131**	**58**	**1**	**11**	**5**
SCAQMD Daily Significance Thresholds [g]	75	100	550	150	150	55
Maximum Over/(Minimum Under)	(64)	31	(492)	(149)	(139)	(50)
Exceeds Daily Threshold?	**No**	**Yes**	**No**	**No**	**No**	**No**

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately. Emission quantities are rounded to "whole number" values. As such, the "total" values presented herein may be one unit more or less than actual values. Exact values (i.e., non-rounded) are provided in the model printout sheets and/or calculation worksheets that are presented in Appendix H.*
[b] *Shaded values indicate an exceedance of the significance threshold.*
[c] *Emissions include soil export truck exhaust and road dust.*
[d] *San Joaquin Valley Unified Air Pollution Control District, Guide for Assessing and Mitigating Air Quality Impacts, (2002).*
[e] *Mojave Desert Air Quality Management District CEQA and Federal Conformity Guidelines, (2011).*
[f] *The Great Basin Unified Air Pollution Control District has not adopted regional thresholds of significance for use in CEQA analyses for short-term construction-related emissions and generally does not require calculation of construction-related emissions. For the purposes of this analysis, the thresholds from the neighboring Mojave Desert Air Quality Management District have been used to assess the potential for impacts in the Great Basin Valleys Air Basin.*
[g] *SCAQMD Air Quality Significance Thresholds, (2011).*

Source: PCR Services Corporation, 2013

Table 5-3

Unmitigated Regional Maximum Long-Term Emissions for Alternative 2 [a]
(pounds per day)
South Coast Air Basin

Regional Emissions	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Individual Phases						
Long-term Operational Emissions [b]	<1	<1	<1	<1	<1	<1
SCAQMD Daily Significance Thresholds	55	55	550	150	150	55
Over/(Under)	(55)	(55)	(550)	(150)	(150)	(55)
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately. Emission quantities are rounded to "whole number" values. As such, the "total" values presented herein may be one unit more or less than actual values. Exact values (i.e., non-rounded) are provided in the CalEEMOD model printout sheets and/or calculation worksheets that are presented in Appendix H.*
[b] *Emissions include occasional maintenance truck travel.*

Source: PCR Services Corporation, 2013

Cumulative Pollutant Increases

Short-Term Impacts

Alternative 2 would result in short-term emissions of criteria pollutants for which the region is in nonattainment. The Orange County portion of the SoCAB is designated nonattainment for ozone, respirable PM_{10}, and $PM_{2.5}$, and the SJVAB is designated non-attainment for ozone and $PM_{2.5}$. Under Alternative 2, emissions of $PM_{2.5}$ would not exceed the applicable SCAQMD mass emissions thresholds of significance. However, the worst-case emissions from the short-term implementation of Alternative 2 would exceed applicable mass emission thresholds for regional NO_X (a precursor to ozone formation) and PM_{10}. As discussed above, PDFs would be implemented to reduce regional NO_X and PM_{10} emissions during the short-term but would not reduce emissions below regional significance thresholds. However, there are no feasible mitigation measures that would further reduce Alternative 2's NO_X and PM_{10} impacts to less than significant. Therefore, Alternative 2 would result in a cumulatively considerable net increase of a criteria pollutant for which the SoCAB and SJVAB, Mojave Desert Air Basin and Great Basin Valleys Air Basin, or Salton Sea Air Basin are non-attainment, and, therefore, impacts would be significant and unavoidable.

In comparison, the Project would result in maximum daily short-term emissions in the SoCAB that would exceed the regional thresholds for NO_X, but the Project would not exceed the regional daily thresholds in the SoCAB for PM_{10}, nor would the Project exceed regional annual thresholds in the SJVAB for any pollutant. Therefore, Alternative 2 would result in significant and unavoidable short-term regional NO_X and PM_{10} emissions impacts that would be greater than under the Project.

Long-Term Impacts

Implementation of Alternative 2 would result in long-term emissions of criteria pollutants for which the region is in nonattainment, i.e., ozone, PM_{10}, and $PM_{2.5}$ for the Orange County portion of the SoCAB. Under Alternative 2, long-term emissions would not exceed the thresholds of significance. Therefore, this Alternative would result in a less than significant long-term cumulative impact. As discussed in Section 4.2, *Air Quality*, regional air pollutant emissions associated with long-term operations of the capped site would be generated by the long-term activities, including maintenance of a landfill gas collection and treatment system, groundwater monitoring, maintenance of a groundwater monitoring system, landscaping as needed, and worker commute trips to support these activities. Alternative 2 would not require worker commute trips for maintenance of a landfill gas collection and treatment system. Compared to the Project, Alternative 2 would result in fewer long-term emissions, and impacts would be less under Alternative 2 than under the Project.

Sensitive Receptor Exposure to Substantial Pollutant Concentrations

Short-Term Impacts

Because the Site is larger than five acres, the impact of on-site daily emissions of NO_X, PM_{10}, and $PM_{2.5}$ under Alternative 2 were analyzed using dispersion modeling, in accordance with SCAQMD Localized Significance Threshold (LST) and AERMOD modeling methodology. Localized emissions of CO anticipated to result from implementation of Alternative 2 are well below the most stringent LST look-up threshold for a 1-acre site with a 25-meter receptor distance. Therefore, off-site CO concentrations would likely remain below ambient air quality standards, and dispersion modeling was neither required nor performed for CO.

The modeling conducted for NO_X, PM_{10}, and $PM_{2.5}$ emissions under Alternative 2 included the placement of modeled receptors so as to represent residential receptors directly east of the Site, school receptors to the north-east, and worker receptors directly to the west of the Site. Residential and school receptors were analyzed for 1-hour, 24-hour, and annual averaging periods. Worker receptors were analyzed for the 1-hour averaging period as workers will not likely remain at their worksites for long periods of time (>24-hours). Ambient nitrogen dioxide (NO_2) concentrations and meteorological data were obtained from the SCAQMD Costa Mesa monitoring station.

The model indicates that, under Alternative 2, localized emissions resulting from excavation of the eastern area along the eastern boundary of the Site would result in the greatest off-site pollutant concentrations for residential and school receptors. Emissions generated during excavation of the SCOC parcel to the west of the Site would result in the greatest off-site pollutant concentrations for off-site worker receptors.

The results of the dispersion modeling for Alternative 2 are presented in **Table 5-4**, *Unmitigated Localized Construction Dispersion Analysis for Alternative 2*. It should be noted that the results listed in the table are maximum values and do not represent relative average concentrations. Similar to the Project, Alternative 2 would result in 1-hour NO_2, 24-hour PM_{10} and $PM_{2.5}$, and annual PM_{10} concentrations in excess of applicable thresholds. Impacts would therefore be significant under both alternatives. While the Project would mitigate the localized 24-hour $PM_{2.5}$ impact to less than significant (Mitigation Measure HAZ-1), neither this mitigation measure, nor any other feasible mitigation measure, would further reduce the 24-hour $PM_{2.5}$ impact under Alternative 2 to less than significant levels. Alternative 2 would also result in higher localized concentrations of all pollutants compared to the Project. Both the Project and Alternative 2 would result in significant and unavoidable impacts with respect to the localized 1-hour NO_2, 24-hour PM_{10}, and annual PM_{10} concentrations. Based on the above, localized short-term emissions under Alternative 2 would be significant and unavoidable and greater than under the Project.

Long-Term Impacts

As discussed previously, after implementation of Alternative 2, the Site would not be expected to generate large number of vehicle trips aside from potential maintenance trips. In addition, under Alternative 2, most, if not all, hazardous materials would be removed from the Site, and long-term emissions of VOCs would not be generated. Therefore, impacts would be less than significant. Compared to the Project, Alternative 2 would result in fewer long-term emissions, and impacts would be less than the Project.

Traffic congestion has the potential to expose sensitive receptors to high levels of CO. Traffic-congested roadways and intersections have the potential to generate localized high levels of CO within approximately 1,000 feet of a roadway.[7] The SCAQMD recommends an evaluation of potential localized CO impacts when vehicle to capacity (V/C) ratios are increased by two percent or more at intersections with a level of service (LOS) of C or worse. However, Alternative 2 would not result in a large number of vehicle trips, and long-term operation of Alternative 2 would not likely result in a CO hotspot. As a result, Alternative 2 would result in a less than significant impact with regard to CO hotspots, and impacts would be similar to the Project.

[7] *California Department of Transportation,* Transportation Project-Level Carbon Monoxide Protocol*, (1997) 4-7.*

Table 5-4

Unmitigated Localized Construction Dispersion Analysis for Alternative 2 [a, b]

Pollutant and Averaging Period [c]	Residential Receptor	School Receptor [d]	Worker Receptor [d]
PM_{10} (24-hr) – (µg/m³)			
Project Incremental Concentration	53.8		
LST Threshold	10.4		
Over/(Under)	43.4		
Exceed Threshold?	**Yes**		
PM_{10} (Annual) – (µg/m³)			
Project Incremental Concentration	9.2		
LST Threshold	1		
Over/(Under)	8.2		
Exceed Threshold?	**Yes**		
$PM_{2.5}$ (24-hr) – (µg/m³)			
Project Incremental Concentration	27.7		
LST Threshold	10.4		
Over/(Under)	17.3		
Exceed Threshold?	**Yes**		
NO_2 (1-hr) – (µg/m³) – 98th Percentile			
Project Incremental Concentration	136	50	188
Background Concentration [e]	132	132	132
Project + Background Concentration	268	182	320
LST Threshold [f]	188	188	188
Over/(Under)	80	(6)	132
Exceed Threshold?	**Yes**	**No**	**Yes**
NO_2 (Annual) – (µg/m³)			
Project Incremental Concentration	13		
Background Concentration	24		
Project + Background Concentration	37		
LST Threshold [g]	57		
Over/(Under)	(20)		
Exceed Threshold?	**No**		

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately.*

[b] *Shaded values indicate an exceedance of the significance threshold.*

[c] *Modeling runs assume maximum days of emissions resulting from overlapping phases in accordance with the Project-specific schedule .*

[d] *Only AAQS with averaging times of less than 24-hours apply to school and worker receptors.*

[e] *3-year average of the 98th percentile of the yearly distribution of 1-hour daily maximum concentrations.*

[f] *Threshold is calculated based on the federal 1-hr NO_2 threshold of 0.1 ppm (98th percentile)*

[g] *Threshold is calculated based on the state annual NO_2 threshold of 0.03 ppm and the previous 3-years of ambient NO_2 concentration data from the Costa Mesa monitoring station*

Source: PCR Services Corporation, 2013.

Odors

Short-Term Impacts

Under Alternative 2, odor-generating compounds may be released during excavation. Prior work at the Site demonstrated that odors resulting from excavation can at times be objectionable, though the detection of odors does not necessarily equate to a health risk (refer to the Hazards discussion below for an analysis of the health risks associated with Alternative 2).

The following activities would be performed under Alternative 2: excavation and removal of the contaminated materials from the Site, including Pit F; importing of clean fill to the Site, and final grading of the Site, the excavation and removal of contaminated materials would have the most potential for creating odors. However, under both the Project and Alternative 2, PDFs would be implemented to minimize odors.

These PDFs include the installation of a temporary structure (e.g., Sprung®) over Pit F that would capture volatile emissions resulting from soil handling in Pit F. Materials excavated from Pit F would be placed in sealed bins that would be loaded onto trucks or into covered trucks for transport off-site. During the remediation activities, water, Rusmar® foam, or other similar odor suppressants, would be applied to the waste materials during excavation to suppress potential emissions and odors.

Similar to the Project, Alternative 2 would include the preparation of an Air Monitoring Plan, which would be approved by DTSC and overseen by DTSC and the SCAQMD. The Air Monitoring Plan under Alternative 2 would incorporate the same odor prevention, control, and monitoring requirements as under the Project. Implementation of the measures identified in the Air Monitoring Plan is anticipated to effectively minimize odor impacts. Therefore, emissions and odors would be controlled to the maximum extent possible. Alternative 2 also would implement the same program as the Project to address odor complaints, if they arise (see Mitigation Measure AIR-1). Mitigation Measure AIR-1 is prescribed to ensure that the measures in the Air Monitoring Plan effectively reduce potentially significant impacts pertaining to odors to a less than significant level. With the implementation of these mitigation measures, odor-related impacts under both Alternative 2 and the Project would be less than significant.

While Alternative 2 would implement the same odor prevention, control, and monitoring requirements as the Project, Alternative 2 would potentially result in greater short-term odor emissions given the greater volume of materials that would be excavated under this Alternative. Therefore, Alternative 2 would result in greater potential short-term odor impacts than the Project.

Long-Term Impacts

According to the SCAQMD CEQA Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, municipal landfills, dairies, and fiberglass molding. Neither the Project nor Alternative 2 would include any of these uses identified by the SCAQMD as being associated with odors. Under Alternative 2, the hazardous materials would be removed from the Site and result in a closed, fenced, vacant lot. Thus, no long-term odorous emissions would be generated under Alternative 2. Because future development of the Site, if any, is not considered at this time, it would be highly speculative to assess odors from any future uses that are not known or contemplated. Therefore, odor impacts under Alternative 2 would be considered less than significant. Compared to the Project, Alternative 2 would potentially result in fewer odorous emissions

because odorous materials would be removed from the Site, and long-term impacts would be less than the long-term impacts of the Project.

Consistency with City of Huntington Beach General Plan Goals and Policies

Short-Term Impacts

In terms of short-term impacts, Alternative 2 would result in greater impacts than the Project and would exceed the thresholds of significant for health risks (refer to the Hazards discussion below for an analysis of the health risks associated with Alternative 2). Thus, short-term air-quality impacts under Alternative 2 would be greater than the Project and would be inconsistent with the City's General Plan contains goals, objectives, and policies relevant to air quality and, as such, significant and unavoidable.

Long-Term Impacts

The City's General Plan contains goals, objectives, and policies that are relevant to air quality and are presented in the General Plan Air Quality Element. Under Alternative 2, long-term impacts would be consistent with the applicable goals and policies of the City of Huntington Beach General Plan pertaining to air quality because Alternative 2 includes short-term emission controls and fugitive dust controls to minimize off-site exposure to construction-related emissions. Also, under Alternative 2, most if not all contaminated materials would be removed from the Site, which would minimize emissions from the Site. Also, long-term trips to the Site associated with periodic maintenance and monitoring activities would be negligible and would result in a negligible increase in trips and related mobile source air emissions. In addition, Alternative 2 would not result in long-term increase in jobs or population. Therefore, over the long-term Alternative 2 would be more consistent with the City's General Plan contains goals, objectives, and policies that are relevant to air quality, and impacts would be would be less than those of the Project and less than significant.

Biological Resources

Candidate, Sensitive, and Special Status Species

Sensitive Plant Species

The Site currently contains the Southern tarplant, which is a sensitive plant species and is listed as a California Rare Plant Rank (CRPR) 1B.1 ("seriously endangered in California [over 80 percent of occurrences threatened/high degree and immediacy of threat"]) species. As with the Project, Alternative 2 would remove and adversely impact all on-site Southern tarplant. Also as with the Project, this impact would be reduced to a less than significant level through implementation of mitigation (see Mitigation Measure BIO-1 in Section 4.3, *Biological Resources*, of this EIR). Therefore, impacts to sensitive plant species under both Alternative 2 and the Project would be similar.

Sensitive Wildlife Species

No sensitive wildlife species were observed or reported during various biological surveys conducted between 1996 and 2013. Although the Site is disturbed, there remains low potential for the Site to support foraging habitat for the white-tailed kite, a California Fully Protected Species. As with the Project, Alternative 2 would remove foraging habitat and, as such, would result in an adverse impact. However, because foraging exists in the surrounding area, the impact under Alternative 2 and the Project would be

considered less than significant. Impacts to sensitive wildlife species under Alternative 2 would be similar to those of the Project.

Riparian Habitat and Sensitive Natural Communities

Approximately 0.2 acre of disturbed coastal salt marsh is located within the southwestern corner of the Site. Albeit disturbed, localized and isolated with limited habitat functions and values, this vegetation meets the ESHA criteria, as defined in the California Coastal Act and City's Coastal Element. Alternative 2, as with the Project, would remove all the disturbed coastal salt marsh on the Site. As with the Project, this potentially significant impact would be reduced to a less than significant level through the implementation of mitigation (see Mitigation Measure BIO-2 in Section 4.3, *Biological Resources*, of this EIR). Therefore, impacts to sensitive natural communities under Alternative 2 would be similar to those of the Project.

Wetlands

The Site does not support "waters of the U.S./State" or wetlands as regulated under the jurisdiction of the USACE, CDFW, and/or RWQCB. Therefore, as with the Project, Alternative 2 would have no impact with respect to wetlands.

Wildlife Movement

There are no fish or wildlife corridors extending through the Site. The nearest surface water body, the Orange County/Huntington Beach Flood Control Channel, is located adjacent to the Site at its southwestern perimeter. Although the Channel supports open water and could be utilized by migratory birds, it serves as marginal wildlife habitat as it is channelized and does not support native riparian plant communities in the area adjacent to the Site. Higher quality foraging habitat occurs within the wetlands approximately 0.20 miles to the south of the Site and within undeveloped land 0.25 miles to the west of the Site; therefore, there are other habitat areas within the immediate vicinity which would be far more attractive to support any wildlife passing near the Site. Under Alternative 2, as with the Project, indirect impacts (e.g., lighting, noise, dust) to wildlife utilizing the Channel would occur but are considered to be less than significant.

The Site has the potential to support both raptor and songbird nests due to the presence of localized areas of trees, shrubs, and ground cover. Alternative 2, as with the Project, could potentially remove vegetation during the breeding season. This potentially significant impact to migratory raptor or songbird species would be reduced to a less than significant level through implementation of mitigation (see Mitigation Measure BIO-3 in Section 4.3, *Biological Resources*, of this EIR) under both Alternative 2 and the Project. Therefore, impacts to migratory raptor or songbird nesting under Alternative 2 would be similar to those of the Project.

Conservation Plans

The Site is not located in an area that is included in any federal, state, local, or regional Habitat or Natural Community Conservation Plan. However, portions of the Site meet the California Coastal Act's definition of an ESHA. Under the California Coastal Act policy, no development or human disturbances (unless resource dependent) are allowed within an ESHA (Coastal Act §30240). Therefore, any impacts to an ESHA would be considered potentially significant. Under Alternative 2, as with the Project, impacts to the ESHA would be reduced to a less than significant level through implementation of mitigation measures (see Mitigation

Measures BIO-1 and BIO-2 in Section 4.3, *Biological Resources*, of this EIR). Therefore, impacts with respect to Coastal Act Policy under Alternative 2 would be similar to those of the Project.

Consistency with City of Huntington Beach General Plan Goals and Policies

Under both the Project and Alternative 2, impacts to southern tarplant and the disturbed coastal salt marsh would be mitigated at a 1:1 ratio per the prescribed mitigated measures (see BIO-1 and BIO-2). Accordingly, Alternative 2 and the Project would be similarly consistent with the City's policies to protect and preserve biological resources within the City (ERC 2, ERC 2.1, ERC 2.1.2, and ERC 2.1.5). Also, both the Project and Alternative 2 would implement the same controls and mitigation measures during construction/remediation activities to minimize potential impacts to biological resources. Thus, both would be similarly consistent with Policies ERC 2.1.10, ERC 2.1.14 and ERC 2.1.21(c). Overall, impacts with respect to the General Plan's biological resources policies would therefore be less than significant under both Alternative 2 and the Project; and consistency with the Natural Resources Element under Alternative 2 would be similar to that under the Project.

Geology and Soils

Seismic and Geologic Stability Hazards

Short-Term Impacts

Under Alternative 2, the Site would have a similar potential for exposure to seismic and geologic stability hazards in the short term as it would under the Project. Geologic hazards include seismic ground shaking, liquefaction and lateral spreading, earthquake-induced settlement, unstable soils and slopes, or landslides. As under the Project, these could occur during removal of fill soils and impacted materials. Also as with the Project, the intensity of ground shaking could cause damage at the Site and increase the vulnerability of workers. In addition, under both the Project and Alternative 2, a grading plan with site-specific analysis would be performed by the geotechnical engineer to evaluate the potential for liquefaction and related seismic-induced lateral spreading, unstable soil and slopes, and landslides. In addition, under both alternatives excavation and fill removal activities would be subject to regulations of the Huntington Beach Municipal Code (Section 17.05 – Grading and Excavation), which govern grading, fill, and excavation, as well as safety requirements included in Building Code (Section 17.04 – Building Code). Thus, under both Alternative 2 and the Project, short-term impacts to geology and soils would be less than significant. However, because excavation and removal activities under Alternative 2 would remove steep slopes and berms from the Site, the risk of slope failure and other geologic hazards during a seismic event would be continually reduced until the completion of the remediation activities, at least to a greater degree than would occur under the Project. Also, because sloped berms along the perimeter of the Site would be removed rather than constructed, the overall level of hazard during excavation and removal of waste materials would be less under Alternative 2 than under the Project. Thus, Alternative 2 presents fewer impacts in the area of geology and soils than the Project.

Long-Term Impacts

Alternative 2 would remove all existing slopes and berms and result in a near-flat, street-level Site. Because Alternative 2 would not result in any constructed structures onsite, Alternative 2 presents no appreciable level of risk related to seismic hazards, including exposure to ground shaking, liquefaction and lateral spreading, earthquake-induced settlement, unstable soils and slopes, and landslides. Comparatively, whereas he Project would result in a final consolidated waste and fill slope with an engineered cap. Under

both alternatives impacts would be less than significant; however, because Alternative 2 would result in the elimination of steep slopes and return the Site to a near-flat, street-level grade, impacts would be less under Alternative 2 than under the Project.

Soil Erosion

Short-Term Impacts

During remediation activities under Alternative 2, the Site could be exposed to rain and wind, thus allowing for possible erosion. Potential soil erosion would be minimized by implementation of standard erosion control measures, including BMPs incorporated into a Storm Water Pollution and Prevention Plan (SWPPP), imposed throughout the construction activities. BMPs could include, but are not limited to, water diversion strips, silt fences and staked straw bales. Section 17.05.310 of the City of Huntington Beach Municipal Code and the City of Huntington Beach Grading Manual also address erosion control during grading and other construction activities. Implementation of erosion and sediment control BMPs and requirements of the Municipal Code and Grading Manual would ensure that impacts pertaining to soil erosion from excavation and fill removal activities would be less than significant, as they would under the Project for the same reasons. However, because the construction period (approximately 3.5 years) would be relatively longer than under the Project (approximately one year), the potential for exposure of soils to rain and wind would be relatively greater under this Alternative than under the Project. Thus, short-term impacts to soil erosion would be greater under Alternative 2 than under the Project.

Long-Term Impacts

Alternative 2 would result in a near-flat, vacant site with clean fill soils at street grade along the perimeter. This Alternative does not anticipate revegetation or other soil protection measures. However, the City would require BMPs to protect exposed soils during the end state of Alternative 2 as a water quality measure in accordance with the Grading Manual. As under the Project, this would be implemented per the RWQCB's General Construction NPDES permit and Site specific Construction SWPPP. Therefore, with compliance with applicable regulations, long-term impacts with respect to erosion of soils under both Alternative 2 and the Project would be less than significant and similar.

Consistency with City of Huntington Beach General Plan Goals and Policies

Both Alternative 2 and the Project would be consistent with the policies of the General Plan Environmental Hazards Element in that they would both would ensure that geologic hazards would be within acceptable levels of risk (EH 1.1). Impacts with respect to the General Plan's geologic hazards policies would therefore be less than significant under both Alternative 2 and the Project; and consistency with the Hazards Element under Alternative 2 would be similar to that under the Project.

Greenhouse Gas Emissions

Greenhouse Gas Emissions

Short-Term Impacts

Alternative 2 has the potential to generate short-term GHG emissions through the use of heavy-duty construction equipment and through vehicle trips generated from export and import of materials, visitors and workers traveling to and from the Site. (A comprehensive listing of the equipment by phase, phase

durations, emission factors, and calculation parameters used in this analysis is included within the emissions calculation worksheets that are provided in Appendix H of this EIR. The emission calculations in Appendix H are not limited to a single air basin since GHG emissions and their associated impacts have the potential to affect global climate. Therefore, these emissions are inclusive of GHG emissions occurring in both the SoCAB and other air basins in California.) As described above, Alternative 2 would involve removal and off-site disposal of nearly all Site waste.

Alternative 2 would implement the same PDFs as the Project during construction activities. These PDFs would limit, minimize, and reduce short-term GHG emissions and include: utilizing construction equipment meeting the USEPA Tier 3 off-road emission standards (PDF 5-1); utilizing on-road waste haul trucks that at a minimum comply with the USEPA 2007 on-road emissions standards (PDF 5-2); utilizing low carbon fuels as required by State law (PDF 5-3); and, to the maximum practical extent, recyclable materials, including non-hazardous construction and demolition waste, would be reused or recycled. Under Alternative 2, the GHG emissions would occur over an approximately a three-year duration. As with the Project, the majority of the emissions resulting from implementation of Alternative 2 would come from haul trucks exporting on-site materials and importing clean soil.

Results of emissions analysis for Alternative 2 are presented in **Table 5-5**, *Short-Term Greenhouse Gas Emissions Resulting From Alternative 2*. Alternative 2 is estimated to result in annual GHG emissions of approximately 12,000 to 31,000 $MTCO_2e$, resulting in a total of 62,462 $MTCO_2e$to fully implement this Alternative. As shown in Table 5-5 the short-term GHG emissions, would exceed the 10,000 $MTCO_2e$ per year threshold. There are no mitigation measures which would further reduce GHG emissions under Alternative 2. Also, because of the considerably greater number of import and export truck trips under Alternative 2, this alternative would result in greater short-term GHG emissions than the Project, and the impacts from these emissions would be significant and unavoidable.

Table 5-5

Short-Term Greenhouse Gas Emissions Resulting From Alternative 2

Emission Source	CO_2e (Metric Tons/yr) [a]
Year 2015	11,868
Year 2016	19,815
Year 2017	30,781
Total	62,464
Applicable threshold	**10,000**
Exceeds Significance Threshold?	**Yes – each year**

[a] *Emissions calculations are included in Appendix H of this EIR.*

Source: PCR Services Corporation, 2013.

Long-Term Impacts

Under Alternative 2, GHG emissions associated with long-term operations of the Site would be generated by long-term activities including maintenance and potential groundwater monitoring and periodic worker

commute trips to support these activities. This Alternative would not result in long-term emissions of landfill gas from the Site since the contaminated materials would be removed from the Site.

Long-term emissions of GHGs associated with the Site were calculated for this Alternative for the year 2018. As shown in **Table 5-6**, *Annual Greenhouse Gas Emissions from Alternative 2*, the annual GHG emissions from the Site would be reduced compared to existing conditions and Alternative 2 results in a net improvement in long-term GHG emissions from the Site. However, on a global basis, the material would continue to generate GHG emissions at whatever receiver facility it was moved to under this Alternative, at rates similar to those calculated for the Project. Therefore, although this Alternative, by removing the contaminated material, is predicated to better reduce emissions on-Site as compared to the Project, total long-term GHG emissions are predicted to be the same as the project. Therefore, Alternative 2 would result in a GHG impact similar to the Project.

Table 5-6

Long-Term (2017) Greenhouse Gas Emissions From Alternative 2

Emission Source	CO_2e (Metric Tons/Year)[a]
Alternative 2	
On-Road Mobile Sources	1
Existing Site	**80**
Net Total	**(79)**
Applicable Threshold	**10,000**
Exceeds Significance Threshold	**No**

[a] *Emissions calculations are included in Appendix H of this EIR.*

Source: PCR Services Corporation, 2013.

Conflicts with Greenhouse Gas Reduction Plans

Short-Term Impacts

Although remediation activities under Alternative 2 would result in an incremental increase in GHG emissions in the short-term, this Alternative would not conflict with the general goals of AB 32 in that it aims to reduce overall emissions generated by the Site. In support of AB 32, the State has promulgated laws and strategies aimed at reducing GHG emissions, some of which are applicable to this Alternative. In accordance with AB 32 strategies, Alternative 2 would minimize short-term GHG emissions by using equipment that meets stringent USEPA emissions standards, using low carbon vehicle fuels as required under state law, and prohibiting diesel-fueled commercial motor vehicle idling consistent with CARB requirements.

Since AB 32 sets statewide targets for future GHG emissions, the CARB's *Climate Change Scoping Plan*[8] and other implementing tools of the law are clear that the reductions are not expected to occur uniformly from all sources or sectors. **Table 5-7,** *GHG Reduction Strategies*, contains a list of GHG-reduction strategies

[8] *California Air Resources Board, Climate Change Scoping Plan: A Framework for Change, (2008).*

Table 5-7

GHG Reduction Strategies

Source	Description	Demonstration of Project Consistency
AB 1493 (Pavley Regulations)	Reduces GHG emissions in new passenger vehicles from 2012 through 2016. Also reduces gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020	Applies to all new vehicles.
Low Carbon Fuel Standard	Establishes protocols for measuring life-cycle carbon intensity of transportation fuels and helps to establish use of alternative fuels.	Applies to fuels utilized by the Project.
Climate Action Team	Reduce diesel-fueled commercial motor vehicle idling.	Alternative 2 and the Project are committed to implementing.

Source: PCR Services, 2013; Climate Action Team, Attorney General's Office, 2011.

applicable to the implementation of Alternative 2. Included are the regulations or guidelines from which the strategies were developed. Because this Alternative would not conflict with strategies to reduce GHG emissions, it would be consistent with the overarching regulation to reduce GHG emissions. Thus, Alternative 2 would not conflict with plans for reducing GHG emissions, and impacts relative to this threshold would be less than significant. However, given that this Alternative would generate greater GHG emissions compared to the Project due to greater number of hauling trips, Alternative 2 would have greater impacts compared to those of the Project.

Long-Term Impacts

Alternative 2 would not result in long-term GHG emissions in the vicinity of the Site with the exception of periodic worker commute trips to support maintenance activities and potential groundwater monitoring. Because the level of these sorts of activities and the associated number of vehicle trips would be similar under the Project and Alternative 2, as noted in Table 5-7, both the Project and Alternative 2 would be consistent with GHG reduction strategies for passenger vehicles that may be used during these potential commute trips. Under Alternative 2, the Site would not generate GHGs from landfill gas emissions, but the materials disposed of during Alternative 2 would generate the same amount of GHGs from the materials at the off-site location. Globally, this Alternative would not change long-term GHG emissions over the Project; therefore, long-term impacts under Alternative 2 would be similar to those of the Project.

Hazards and Hazardous Materials

Routine Transport, Use, or Disposal of Hazardous Materials

Short-Term Impacts

Alternative 2 would remove approximately 1,000,000 BCY of waste from the Site. During excavation activities, COPCs contained in the soil will be released to the atmosphere in the form of fugitive dust and volatile gases. In addition, heavy equipment and trucks operating on-site would release diesel particulate matter (DPM), which the State of California has designated as a toxic air contaminant (TAC) and regulates as

a carcinogen.[9] The COPCs and DPM released as a result of remediation activities under Alternative 2 may pose a hazard to the public or environment. Such emissions would vary somewhat from day to day, depending on the level of activity, but the analysis here assumes disposal of the maximum daily amount of excavated materials.

Emissions of toxics during implementation of Alternative 2 would be controlled through PDFs similar to the Project including spraying water onto the soil and work area and using chemical dust or emissions suppressants as appropriate (PDF 2-8 and 2-9). VOC monitoring would be conducted to ensure no applicable State or SCAQMD standards would be exceeded (PDF 2-4). In particular, the remediation activities would comply with SCAQMD Rule 1166 regarding VOC-contaminated soil (PDF 2-6). All non-disposable equipment used during remediation activities would be decontaminated through the removal of soil and waste from construction-related vehicles and equipment prior to leaving the Site. The possibility of hazards from ignitable waste or soil gas accumulation would be maintained at a negligible level through proper grading and transport loading procedures. Transport trucks would undergo decontamination and would be inspected for compliance prior to exiting the Site, and any hazardous materials transported off site would be properly manifested and handled by a fully licensed and permitted hazardous waste transporter (PDF 2-11).

Excavation of Pit F would take place under a temporary structure as specified in PDF 2-7. This temporary structure would serve to capture VOC emissions through a GAC system. Due to the closed environment of the temporary structure, equipment would be snorkeled (exhausted) directly outside of the structure to prevent buildup of emissions from equipment exhaust. Excavated Pit F materials would be placed in sealed air-tight bins or covered trucks for transport off-site. Workers in Pit F would be equipped with proper personal protective equipment (PPE) and breathing apparatuses as required.

While the PDFs and compliance with the applicable regulatory requirements would minimize the potential for hazards to the environment, releases of toxics that may result from implementation of Alternative 2 could nonetheless pose a potential risk to the nearby sensitive receptors. Similar to the Project, a health risk assessment (HRA) was performed for Alternative 2 to address potential impacts to off-site residential receptors and the public or environment from the transport, use, or disposal of contaminated materials. The HRA includes calculations of cancer, chronic and acute health impacts for each appropriate sensitive receptor. Cancer and chronic health impacts are based on exposure to pollutants on an annual basis while acute health impacts are based on a maximum hourly exposure. The receptors analyzed in the HRA include residential receptors to the east and northwest of the Site, Edison High School to the northeast of the Site, worker receptors to the west of the Site; and the park receptors north of the Site, including the fire station. As cancer and chronic health risk impacts are based on long-duration exposure times, receptors at which individuals may reside at for long periods of time (>8-hours per day) were analyzed for cancer and chronic health risk impacts. These receptors include residential, school, workers, and fire station uses. Acute risk impacts are based on short-duration exposure times (<1-hour) so all receptors (residential, school, worker, park) were analyzed for acute health risk impacts. **Table 5-8**, *Off-Site Sensitive Receptor Incremental Cancer Risk Impacts Under Alternative 2 -- Unmitigated*, presents a summary of the HRA results (Appendix E of this EIR).

[9] *California Air Resources Board, "Diesel Programs and Activities," http://www.arb.ca.gov/diesel/diesel.htm (accessed Nov. 2012).*

Table 5-8

Off-Site Sensitive Receptor Incremental Cancer Risk Impacts Under Alternative 2 – Unmitigated [a,b]

Sensitive Receptor Type [c]	Cancer Risk (per million)	Chronic Risk Hazard Index	Acute Risk Hazard Index
Residential	8.8	0.67	2.9
Student	2.7	0.17	0.85
Worker (School)	0.71	0.16	0.85
Worker (Fire Station)	0.91	0.20	1.0
Worker (west of Site)	1.4	0.42	2.9
Visitor (Park)	N/A	N/A	2.1

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately. Cancer risk values based on a 36-month exposure duration of maximum levels of all chemicals, which is a hypothetical and very conservative set of assumptions. Analysis includes inhalation, soil ingestion, dermal, and, for residential receptors, home grown produce and mother's milk.*

[b] *Shaded values indicate an exceedance of the significance threshold.*

[c] *Sensitive receptors include residential uses northwest of Hamilton Avenue and East of Magnolia Street. School receptors include Edison High School north-east of the Site. Park receptors include the park north of the Site.*

Additional details and modeling files may be found in Appendix E.

Source: PCR Services Corporation, 2013.

The maximum impact for each exposure evaluation point (cancer, chronic and acute risk) may not occur at the same receptor due to varying toxicity factors, source location and wind direction. Some chemicals may not have a toxicity factor for long-duration exposure or short-duration exposure. In addition, chemicals are emitted from different areas of the site depending on the activity (Pit F, city parcel, haul roads) with varying emission rates. Therefore, maximum impacted receptors for each evaluation point may be found in different locations, as shown in **Figure 5-1**, *Receptor Locations*.

Residential Receptors

Based on upper confidence limit potency values, the maximally exposed individual residential receptor (MEIR) under Alternative 2 would experience an incremental increase in life-time cancer incidence risk of 8.8 in one million. The maximum chronic HI at the MEIR is 0.67 and the maximum acute HI is 2.9.

The health risk impact values presented in Table 5-8 represent the combined impact from the various chemicals that would be emitted from implementation of the RAP under Alternative 2. In order to identify the health risk impact contribution by each source and chemical, receptors with the maximum impact have been further analyzed to identify source and chemical contribution. The details of these maxima are listed on **Table 5-9**. *Maximum Impacted Residential Receptor Under Alternative 2 – Unmitigated*. As shown, DPM contributes 95 percent of the total cancer risk, and approximately 40 percent of the cancer risk is due to Phase 4B (Excavate East Parcel). DPM and arsenic contributes 53 and 41 percent of the total chronic risk, respectively. The source with the largest contribution to the total chronic risk is the northern on-site haul road. Chloroform and arsenic contributes 92 and 7 percent of the total acute risk, respectively. The source with the largest contribution to the total acute risk is the northern on-site haul road.

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Alternative 2 – Maximum Health Risk Impact Receptors

RAP EIR - Ascon Landfill Site
Source: PCR Services Corporation, 2013.

FIGURE
5-1

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Table 5-9

Maximum Impacted Residential Receptor Under Alternative 2- Unmitigated [a,b,c]

Cancer Risk – Receptor 223

Chemical	Cancer Risk Contribution (per million)	Percent of Total
Total	**8.8**	
Diesel engine exhaust, particulate matter (DPM)	8.4	95%
Chloroform	0.14	1.6%
Ethylene dichloride (EDC)	0.13	1.5%
Source		
Phase 4B - Excavate East Parcel	3.5	40%
Phase 4D - Excavate South and West Parcel	1.4	15%
Phase 1 - Maintain Haul Roads	0.93	12%

Chronic Risk – Receptor 222

Chemical	Chronic Risk Contribution	Percent of Total
Total	**0.67**	
Arsenic	0.35	53%
Diesel Particulate Matter	0.27	41%
Nickel	0.029	4.4%
Source		
On-site Haul Road (North)	0.12	18%
Phase 4B - Excavate East Parcel	0.10	15%
Phase 4B - Excavate East Parcel (DPM)	0.10	15%

Acute Risk – Receptor 221

Chemical	Acute Risk Contribution	Percent of Total
Total	**2.9**	
Chloroform	2.7	92%
Arsenic	0.20	7.0%
Source		
On-site Haul Road (North)	1.6	55%
Stockpile Loading Area (North)	0.39	14%
Phase 4B - Excavate East Parcel	0.27	9.4%

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately. Cancer risk values based on a 36-month exposure duration. Analysis includes inhalation, soil ingestion, dermal, and home grown produce.*

[b] *Residential receptors include residential uses northwest of Hamilton Avenue and East of Magnolia Street. Worker receptors include Edison High School, the fire station, and the industrial park to the west of the Site.*

[c] *Shaded values indicate an exceedance of the significance threshold.*

Additional details and modeling files may be found in Appendix E.

Source: PCR Services Corporation 2013.

Health risk impact values calculated for Alternative 2 take into account the PDFs listed above. Nonetheless, the maximum cancer risk at the residential receptor would exceed the threshold of one in one million even with incorporation of PDFs. The acute HI is greater than 1. Therefore, implementation of Alternative 2 would result in a potentially significant impact with regard to cancer risk and acute HI, and mitigation measures would be required for these health risk impacts.

Lead, which is a naturally occurring element, has potential adverse human health impacts. Since lead is included in the list of COPCs, potential blood lead concentrations in children and pregnant adults were estimated using the DTSC LeadSpread 8 model. Maximum concentrations of airborne lead were calculated using the HARP software. The results of this modeling analysis shows that the incremental increase in child and pregnant adult blood lead concentrations would be 0.6 micrograms per deciliter (µg/dL) of blood, which is well below the threshold of 1.0 µg/dL. Impacts at all other receptors (e.g., worker, student) would be less than the maximum impacted residential receptor reported above; therefore, it is appropriate to evaluate potential impacts at the maximum impacted residential receptor. Details and blood lead concentrations are provided in the HRA as Appendix E of the EIR.

Implementation of Alternative 2 would result in a significant impact with regard to cancer risk and acute impacts at nearby residential uses. Diesel particulate matter would be the main contributor to the maximum cancer risk. Even if all diesel-fueled equipment were outfitted with diesel particulate filters (similar to Mitigation Measure HAZ-1 but applicable to all equipment, which may not be feasible), reducing DPM emissions by at least 85 percent, the cancer risk would be approximately 2 in one million, which would still exceed the threshold of significance. There are no feasible mitigation measures that would reduce the cancer risk to nearby residential receptors resulting from DMP emissions under Alternative 2 to a less than significant level. The acute impact of chloroform on nearby residential receptors under Alternative 2 (HI of 2.9) would also exceed the acute threshold of significance. There are no feasible mitigation measures that would reduce the health impact of chloroform on residential receptors under Alternative 2 to a less than significant level. Therefore, on account of both the impacts on nearby residential receptors from DPM and chloroform, health risk impacts would be significant and unavoidable for Alternative 2.

Student Receptor

The increase in health risks to students at the nearest school, Edison High School, resulting from Alternative 2 was also evaluated. The incremental increase in the incidence of cancer for the maximally impacted student receptor was calculated to be 2.7 in a million for a student. The maximum chronic and acute HIs are 0.16 and 0.85, respectively.

As shown in **Table 5-10**, *Maximum Impacted School Receptor Under Alternative 2 – Unmitigated*, DPM contributes 95 percent of the total cancer risk and approximately 20 percent of the cancer risk is due to Phase 4A (Excavate North Parcel). DPM and arsenic contribute the majority of the chronic non-cancer risk, at 52 and 42 percent, respectively. The source with the largest contribution to the total chronic risk is Phase 4A (Excavate North Parcel).

Chloroform was responsible for 92 percent of the acute health risk. The source with the largest contribution is the northern stockpile loading area. Since the airborne, inhalation pathway dominates the exposure assessment, health risk decreases with distance from the Site. The cancer risk and chronic non-cancer risk assessments represent a highly conservative assumption of continuous exposure for one to three years at that same location, in accordance with OEHHA guidance, even though that is not expected to occur.

Table 5-10

Maximum Impacted School (Student) Receptor Under Alternative 2 – Unmitigated [a,b,c]

Cancer Risk – Receptor 1

Chemical	Cancer Risk Contribution (per million)	Percent of Total
Total	**2.7**	
Diesel engine exhaust, particulate matter (DPM)	2.5	95%
Chloroform	0.037	1.4%
Ethylene dichloride (EDC)	0.035	1.3%
Source		
Phase 4A - Excavate North Parcel	0.54	20%
Phase 3 - Excavate Lagoons 3, 4 and 5	0.47	18%
Phase 4B - Excavate East Parcel	0.38	14%

Chronic Risk – Receptor 1

Chemical	Chronic Risk Contribution	Percent of Total
Total	**0.16**	
Diesel engine exhaust, particulate matter (DPM)	0.086	52%
Arsenic	0.069	42%
Nickel	0.0061	3.6%
Source		
Phase 4A - Excavate North Parcel	0.018	11%
Phase 3 - Excavate Lagoons 3, 4 and 5	0.016	9.5%
Phase 4A - Excavate North Parcel	0.015	9.2%

Acute Risk – Receptor 1

Chemical	Acute Risk Contribution	Percent of Total
Total	**0.85**	
Chloroform	0.79	92%
Arsenic	0.063	7.3%
Source		
Stockpile Loading Area (North)	0.17	20%
On-site Haul Road (North)	0.16	18%
Phase 4B - Excavate East Parcel	0.12	14%

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately. Cancer risk values based on a 36-month exposure duration. Analysis includes inhalation, soil ingestion, dermal, and home grown produce.*

[b] *Residential receptors include residential uses northwest of Hamilton Avenue and East of Magnolia Street. Worker receptors include Edison High School, the fire station, and the industrial park to the west of the Site.*

[c] *Shaded values indicate an exceedance of the significance threshold.*

Additional details and modeling files may be found in Appendix E.

Source: PCR Services Corporation 2013.

Even with the health risk impact values being calculated for this Alternative taking into account the PDFs listed above (see also discussion of PDFs in Section 4.6, *Hazards and Hazardous Materials*, in this EIR), the maximum incremental increase in cancer risk for students would exceed the threshold of one in one million. If diesel-fueled equipment were outfitted with diesel particulate filters (in accordance with Mitigation Measure HAZ-1), the reduced exposure and resultant risk for students and school workers would be less than one in one million. Chronic and acute HIs were predicted to be less than 1. Therefore, Alternative 2 would result in a less than significant impact to school receptors with regard to cancer risk and non-cancer health risks after implementation of the mitigation measure.

Worker Receptors.

The increase in health risks to worker receptors resulting from Alternative 2 was evaluated. The incremental increase in the incidence of cancer for the maximally exposed individual worker (MEIW) was calculated to be 1.4 in one million at the general worker receptor (see Figure 5-1).

As shown on Table 5-8, the HRA predicted that the maximally impacted worker receptor at the nearby industrial park to the west of the Site would experience an incremental increase in cancer risk of 1.4 in one million. The maximum chronic and acute HIs for the industrial park worker to the west of the Site are 0.42 and 2.9, respectively.

As shown in **Table 5-11**, *Maximum Impacted Worker Receptor Under Alternative 2 – Unmitigated*, DPM contributes 93 percent of the total cancer risk at the MEIW. Phase 4D (Excavate South and West Parcel) was found to contribute substantially to the total health risk. Arsenic and DPM contribute the majority of the chronic non-cancer risk, at 56 and 38 percent, respectively. Emissions associated with the southern on-site haul roads throughout implementation of Alternative 2 contributed 34 percent to the maximum chronic non-cancer risk. Chloroform emissions result in 93 percent of the maximum acute non-cancer risk. Emissions from Phase 7 (SCOC excavation), the southern stockpile loading area, and the northern on-site haul roads are responsible for 47, 17, and 11 percent of the maximum acute non-cancer risk, respectively.

Health risk impact values calculated for Alternative 2 take into account the PDFs listed above, but the maximum incremental increase in cancer risk for workers would exceed the threshold of one in one million, even with incorporation of PDFs. If diesel-fueled equipment were outfitted with diesel particulate filters (per Mitigation Measure HAZ-1), the reduced exposure and resultant risk for the worker would be less than one in one million. Chronic HIs on worker receptors with this mitigation measure would be less than 1. However, acute HIs would remain greater than 1. The acute impacts for Alternative 2 at the MEIW receptor result from short-term exposures to chloroform. While Alternative 2 would implement PDFs to control VOCs (PDFs 2-4, 2-6, 2-7, 2-8, and 2-10), Alternative 2 would still have the potential for short-term (one-hour) releases of volatile COPCs (mainly chloroform) that could result in concentrations that exceed the thresholds. There are no additional feasible mitigation measures that would reduce the potential for acute impacts. Therefore, Alternative 2 would result in a less than significant impact to worker receptors with regard to cancer risk and non-cancer chronic risk with mitigation. However, Alternative 2 would result in a significant and unavoidable non-cancer acute health risks to worker receptors even after implementation of Mitigation Measure HAZ-1.

Table 5-11

Maximum Impacted Worker Receptor Under Alternative 2 – Unmitigated [a,b,c]

Cancer Risk – Receptor 205 (Worker)

Chemical	Cancer Risk Contribution (per million)	Percent of Total
Total	**1.4**	
Diesel engine exhaust, particulate matter (DPM)	1.3	93%
Chloroform	0.027	2.0%
Ethylene dichloride (EDC)	0.025	1.8%
Source		
Phase 4D - Excavate South and West Parcel	0.63	46%
Phase 1 - Maintain Haul Roads	0.19	14%
Phase 4C - Excavate Central Parcel	0.11	7.9%

Chronic Risk – Receptor 214 (Worker)

Chemical	Chronic Risk Contribution	Percent of Total
Total	**0.42**	
Arsenic	0.23	56%
Diesel engine exhaust, particulate matter (DPM)	0.16	38%
Nickel	0.022	5.4%
Source		
On-site Haul Road (South)	0.14	34%
Phase 4D - Excavate South and West Parcel (DPM)	0.075	18%
Phase 4D - Excavate South and West Parcel	0.067	16%

Acute Risk – Receptor 196 (Worker)

Chemical	Acute Risk Contribution	Percent of Total
Chemical		
Total	**2.9**	
Chloroform	2.7	93%
Arsenic	0.17	5.9%
Source		
Phase 7 - Cut/Fill to top of waste (SCOC site)	1.4	47%
Stockpile Loading Area (South)	0.50	17%
On-site Haul Road (North)	0.32	11%

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately. Cancer risk values based on a 36-month exposure duration. Analysis includes inhalation, soil ingestion, dermal, and home grown produce.*

[b] *Residential receptors include residential uses northwest of Hamilton Avenue and East of Magnolia Street. Worker receptors include Edison High School, the fire station, and the industrial park to the west of the Site.*

[c] *Shaded values indicate an exceedance of the significance threshold.*

Additional details and modeling files may be found in Appendix E.

Source: PCR Services Corporation 2013.

Park Visitor Receptor.

The increases in health risks to visitor receptors resulting from Alternative 2 were evaluated. Cancer and chronic risks were not calculated for park visitors because individuals do not reside or work at parks. The maximum acute HI would be 2.1 at the park receptor.

As shown in **Table 5-12**, *Maximum Impacted Park Receptor Under Alternative 2 – Unmitigated*, chloroform contributes 93 percent of the maximum acute non-cancer risk for the park visitor receptor. Emissions from the northern on-site haul roads, stockpile loading, and Phase 7 (SCOC excavation) contribute 44, 11, and 11 percent to the maximum acute non-cancer risk, respectively.

Table 5-12

Maximum Impacted Park Receptor Under Alternative 2 – Unmitigated [a,b]

Acute Risk – Receptor 9 (Park)

Chemical	Acute Risk Contribution	Percent of Total
Total	**2.1**	
Chloroform	2.0	93%
Arsenic	0.14	6.7%
Benzene	0.0056	0.3%
Source		
On-site Haul Road (North)	0.91	43%
Stockpile Loading Area (North)	0.24	11%
Phase 7 - Cut/Fill to top of waste (SCOC site)	0.23	11%

[a] *The "unmitigated" scenario includes emissions reductions from implementation of the voluntary project design features (PDFs) described throughout this EIR. PDFs will be enforceable by DTSC. Mitigation measures are discussed separately. Additional details and modeling files may be found in Appendix E.*

[b] *Shaded values indicate an exceedance of the significance threshold.*

Source: PCR Services Corporation 2013.

An acute HI of 2 exceeds the applicable threshold of 1. While Alternative 2 would implement PDFs to control VOCs (PDFs 2-4, 2-6, 2-7, 2-8, and 2-10), Alternative 2 would still have the potential for short-term (one-hour) releases of volatile COPCs (mainly chloroform) that are predicted to result in concentrations that exceed the thresholds. There are no additional feasible mitigation measures that would reduce the potential for acute impacts on visitor receptors under Alternative 2. Therefore, Alternative 2 would result in a significant and unavoidable non-cancer acute health risk even after implementation of Mitigation Measure HAZ-1.

Based on the above analysis, Alternative 2 would result in significant and unavoidable health impacts to sensitive receptors after mitigation. In comparison, the Project would result in less than significant health impacts after mitigation. Therefore, short-term impacts for Alternative 2 would be greater than those of the Project.

Long-Term Impacts

Under Alternative 2, as part of implementation of the RAP, the impacted materials would be removed from the Site. As a result, the Site would not generate long-term emissions of COPCs and would not require a gas collection and treatment system with GAC. Under Alternative 2, emissions associated with long-term operations of the Site would be generated by long-term activities including maintenance and worker commute trips to support these activities. However, the number of trips would be minimal, and no transport or disposal of hazardous materials would occur as a result of these trips. Thus, impacts related to long-term routine transport, use, or disposal of hazardous materials under Alternative 2 would be less than significant. Compared to the Project, Alternative 2 would results in less long-term potential for hazards, and impacts would be less than those of the Project.

Upset and Accidental Release Conditions

Short-Term Impacts

Under Alternative 2, short-term implementation of the RAP would not involve the use or storage of acutely hazardous materials on-site, above minimal amounts such as consumer packages of solvents for cleaning and other miscellaneous materials (i.e., engine oil, paints, pesticides, etc.) needed for maintenance. These materials would be stored in appropriate marked storage areas and cabinets, as required. An accidental release (spill) would be easily contained to a small area and would not be expected to reach the off-site environment. Thus, this scenario does not warrant further evaluation.

Alternative 2 involves heavy-duty equipment, such as excavators and dump trucks, that contain hazardous materials such as diesel fuel. Diesel fuel may be delivered in bulk, stored on-site in a 1,000 gallon above ground storage tank (AST) or brought on-site by a mobile re-fueler, and dispensed as needed into individual pieces of equipment. The drivers/operators of the bulk delivery trucks or mobile re-fuelers are trained and equipped to respond to a fuel spill, should one occur, and the spill would not reach the off-site environment. A mobile maintenance vendor may be called on-site for routine maintenance but equipment would be taken off-site if intense maintenance or repairs if required. Operators of heavy-duty equipment are trained to remain alert and nearby during fueling of equipment, and quick response during a spill, should one occur, would ensure that it not reach the off-site environment. Failure of the AST is possible. However, with controls, such as secondary containment, even a complete de-inventory of the diesel fuel from the AST is not expected to reach the off-site environment. Any spill of diesel fuel upon the Site would be remediated and treated in accordance with applicable regulations. Therefore, an accidental release scenario involving the spill of fuel from a mobile re-fueler or from the AST does not warrant further evaluation. Although unlikely, it is possible over the implementation of Alternative 2 (approximately three years) that a device, such as a hose, valve, clamp, tank, or reservoir, on the heavy duty construction equipment could rupture or leak. However, this equipment would operate exclusively on-site, and as such, even if a leak or spill occurred, it is highly unlikely that the hazardous material would reach the off-site environment. The Site-specific Health and Safety Plan (HASP) would include measures to appropriately handle an on-site accidental release of fuel or other material from the equipment, and as such, this scenario does not warrant further evaluation. Refer to Section 2.0, *Project Description*, for additional information regarding the HASP.

With regard to the impacted soil and other material on-site, most of the COPCs are not considered to pose an immediate risk to health and safety, especially at the relatively low concentrations found in soil on-site. Some of the COPCs, such as pyrene, 1,1-dichloroethane, and carbon disulfide, are classified as acutely hazardous materials (AHM) by the Office of Emergency Services (OES) because they can pose an immediate

threat in an upset or accidental release scenario if found in their pure form or at high concentrations. It is important to note that AHMs are subject to California Accidental Release Prevention (CalARP) requirements if present in volumes above thresholds quantities (TQs). CalARP requirements apply to stationary sources and not trucks; however, for the purposes of CEQA, this analysis relied on the CalARP methodology to assess impacts relative to this impact criterion. The analytical data show that these AHMs are present in low concentrations, and the Site therefore does not contain AHMs above TQs.

Not all of the approximately 1,000,000 BCY to be transported and disposed off-site is likely to contain AHMs. For the purposes of this analysis, as a conservative basis, it was assumed all export trucks would haul material containing AHMs. For haul trucks, the probability of an accident involving a collision is estimated to be 2 per million miles travelled.[10] However, not all collisions would result in a breach of the container and release to the environment. The probability of a release of a solid hazardous cargo is approximately 9.1 percent for solid materials.[11] The transport of 1,000,000 BCY of material would occur under Alternative 2, would require approximately 65,000 export trips. The longest on-road trip is estimated to be approximately 214 miles, which equates to approximately 13,900,000 total vehicle miles traveled (VMT) when applied to the entire 1,000,000 BCY of material to be exported under Alternative 2. Based on the rate of 2 collisions per million miles travelled, this poses a mathematical chance of approximately 28, where 1 means it is likely to occur once during the lifetime of the Project. With a release rate of 9.1 percent of accidents the probability of a release of AHM in transport to off-site receiver landfills is 2.53 using very conservative assumptions in that all of the 1,000,000 BCY contains AHMs. Therefore a collision involving a truck transporting this material resulting in a release is mathematically likely to occur two to three times, which is defined as a frequency category 3 (i.e., will occur several times over life of process) in Table 4.6-5 (see Section 4.6, *Hazards and Hazardous Materials*, in this EIR). Thus, if exposure were to occur, a spill resulting in a release of this material to the environment would fall within the "acceptable (as is)" or "acceptable (with controls)" risk ranges for consequence categories 1 or 2.[12] Given that the AHM are present in low concentrations, are well below the TQs and not all haul trucks would contain AHMs, the consequence of an accident would be considered negligible (i.e., less than minor injury, occupational illness, or system damage) or marginal (i.e., minor injury, minor occupational illness, or minor system damage), consistent with consequence categories 1 or 2 in Table 4.6-5 (see Section 4.6, *Hazards and Hazardous Materials*, in this EIR). Drivers of waste hauling trucks are required to be trained to respond to and contain releases, and appropriate controls are in place. Thus, exposures would be considered "acceptable (as is)" or "acceptable (with controls)."

The condition of the Site berms was a concern with regards to potential releases from the Site. In 2005, the berms at the Ascon Site were found to have degraded over time due to rodent burrows, soil slumping, and rainfall. Failure of the berms could have potentially resulted in the release of waste materials off-site. As a result, an Emergency Action was commenced to treat, pump, and discharge 3.8 million gallons of storm water; remove drilling muds from Lagoons 4 and 5; reshape the north berm, reducing its height by about 8 feet in the central portion; install an under drain (toe drain); and, construct a buttress to reinforce the berm to minimize the chance of future upset scenarios resulting in releases of impacted soil, material, or water to the environment. A 2011 fence-line soils investigation confirmed that the berms were effectively containing wastes on-site.

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[10] *Argonne National Laboratory, Environmental Assessment Division, Risk Assessment for the Transportation of Hazardous Waste and Hazardous Waste Components of Low-Level Mixed Waste and Transuranic Waste for the U.S. Department of Energy Waste Management Programmatic Environmental Impact Statement, December 1996.*

[11] *Ibid.*

[12] *Guidelines for Hazard Evaluation Procedure. Center for Chemical Process Safety (CCPS). (1992).*

Although unlikely, an accidental release due to berm failure or other similar upset condition during implementation of the RAP, regardless of the Alternative selected, is hypothetically possible even with the improvements made to the berm since 2005. Similar to the discussion regarding transport of the materials off-site, regardless of the severity ranges if exposure were to occur (across all four categories), a spill resulting in a release to the environment due to berm failure or other upset condition falls within the "acceptable (as is)" or "acceptable (with controls)" risk ranges. Controls have been instituted Site-wide, including BMPs to control stormwater, and monitoring of the perimeter berm walls is routinely performed.

Like the Project, short-term accidental release conditions impacts under Alternative 2 would be considered less than significant. Nonetheless, since the probability of a collision involving a truck transporting this material resulting in a release is mathematically higher under Alternative 2 than the Project. Thus, impacts are greater under Alternative 2 than under the Project.

Long-Term Impacts

Under Alternative 2, as part of implementation of the RAP nearly all of the contaminated materials would be removed from the Site. As a result, the Site would not generate long-term emissions of COPCs and would not require a gas collection and treatment system with GAC. Under Alternative 2, there would be no long-term risk of upset or accidental release conditions. While the Project would result in a less than significant impact, Alternative 2 would have no impacts related to upset and accidental releases. Thus, under Alternative 2, long-term impacts would be less than those of the Project.

Hazardous Emissions or Handling of Hazardous Materials Near a School

Short-Term Impacts

Under Alternative 2, excavation and soil handling would occur throughout the entire Site, including the portions closest to Edison High School. Haul trucks would enter the Site near the northwest corner along Hamilton Avenue, and exit near the southeast corner along Magnolia Street which would bypass the school. The Site itself is, and all waste handling activities would be, situated within in a controlled access zone protected by fencing, gates and signage. Similar to the Project, Alternative 2 would implement PDFs to require that trucks exiting the Site be put through procedures to minimize the inadvertent transport of materials offsite and inspected before being allowed to leave (PDF 2-11). Implementation of the PDFs described above, combined with safety measures included in the RAP, would ensure that impacts on school staff, students and visitors from emissions related to handling hazardous or acutely hazardous materials would remain at, or be reduced to, a less than significant level.

As described above, the HRA prepared for implementation of Alternative 2 addressed impacts on off-site receptors and supports the above conclusion regarding the level of significance of the potential impacts related to hazardous emissions or handling of hazardous materials near a school. Under Alternative 2, the HRA estimated, based on upper confidence limit potency values, that the maximally exposed receptor at the school would experience a cancer incidence risk of 2.7 in one million. The estimated cancer incidence risk for school receptors is therefore greater than the significance threshold of one in one million resulting in a significant and unavoidable impact.

The HRA shows hazard indices of 0.2 for non-cancer effects of chronic exposure, and 0.9 for non-cancer effects of acute exposure at the maximally exposed student receptor. Both hazard indices are below the

significance threshold of one. Thus, Alternative 2 would result in less than significant acute and chronic health impacts after mitigation (refer to Mitigation Measure HAZ-1). Implementation of the project would result in a cancer risk at the school receptor to be less than 1 in one million with mitigation. Implementation of Alternative 2 with mitigation would result in a risk of 2.7 in one million at the school receptor. As a result, short-term impacts under Alternative 2 would be greater than those of the Project since risk values would be greater.

Long-Term Impacts

As discussed above, under Alternative 2, as part of implementation of the RAP, most if not all of the impacted materials would be removed from the Site. As a result, the Site would not generate long-term emissions of COPCs and would not require a gas collection and treatment system with GAC. Under Alternative 2, emissions associated with long-term operations of the Site would be generated by long-term activities including maintenance and worker commute trips to support these activities. However, the emissions would be minimal and would not present a hazard to school staff, students or visitors. Impacts under both Alternative 2 and the Project would be less than significant. Compared to the Project, Alternative 2 would result in a lower long-term potential for hazards because of the removal of all or nearly all waste materials, and impacts would therefore be less than those of the Project.

Located on a Hazardous Materials Site Pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment

Short-Term Impacts

The Site is included on the "Cortese" list pursuant to Government Code Section 65962.5. Both the Project and Alternative 2 would result in short-term transport and disposal of hazardous materials, short-term potential for upset or accidental release, and short-term emissions. Both the Project and Alternative 2 would implement the same PDFs and mitigation measures to minimize potential hazards. However, while cancer risk and acute hazards impacts under the Project would be mitigated to a less than significant level, cancer risk and acute hazards impacts under Alternative 2 would exceed the thresholds of significance. Thus, cancer risk and acute hazards impacts under Alternative 2 would be significant and unavoidable, even with implementation of feasible mitigation measures. As such, impacts under Alternative 2 would be greater than those of the Project.

Long-Term Impacts

The Site is included on the "Cortese" list pursuant to Government Code Section 65962.5and DTSC previously entered into an Imminent and Substantial Endangerment Determination Consent Order with the RPs. Under Alternative 2, as part of implementation of the RAP, most if not all of impacted materials would be removed from the Site. As a result, the Site would not generate long-term emissions of COPCs and would not require a gas collection and treatment system, whereas under the Project the gas collection and treatment system would reduce or eliminate the potential for emissions from the Site itself. Under both Alternative 2 and the Project, long-term operation of the Site would not include on-site sensitive uses. (Because future development of the Site, if any, is not considered at this time, it would be highly speculative to assess potential hazards from any future uses that are not known or contemplated.) Given the above, long-term cancer risk and acute hazards impacts under both the Project and Alternative 2 would less than significant. However, since Alternative 2 would remove the impacted materials from the Site, this Alternative would have impacts that are less than those of the Project.

Consistency with City of Huntington Beach General Plan

The City's General Plan Hazards Element contains goals, objectives, and policies that are relevant to hazards and hazardous materials. Under Alternative 2, long-term impacts would be consistent with the applicable goals and policies of the City of Huntington Beach General Plan pertaining to hazards. Specifically, Alternative 2 would implement short-term emission and fugitive dust controls to minimize off-site exposure to construction-related COPCs. While, as discussed above, Alternative 2 would result in short-term impacts that would be greater than the Project and would exceed the thresholds of significant for health risks, long-term impacts would be consistent with the City's General Plan pertaining to hazards. Under Alternative 2, most if not all impacted materials would be removed from the Site, which would minimize the potential long-term exposure of COPCs to sensitive uses and would be consistent with the City's policy to promote the remediation of existing hazardous waste sites. No long-term periodic maintenance and monitoring activities would be required upon completion of Alternative 2, whereas the Project would require some such activities, albeit minimal. Any trips to the Site after completion of Alternative 2 would be negligible and would result in a negligible increase in related mobile source emissions of COPCs. Therefore, Alternative 2 would be consistent with the City's General Plan goals, objectives, and policies that are relevant to hazards, and impacts would be less than significant. Given that Alternative 2 would remove the hazardous materials from the Site, this Alternative would be consistent with the applicable policies to a greater degree than the Project.

Water Quality

Surface and Groundwater Quality

Short-Term Impacts

Alternative 2 would involve the removal of nearly all of the contaminated materials from the Site. During the construction remediation activities, groundwater and surface water quality could be adversely affected if the excavation of waste materials caused direct contact between contaminated materials and surface waters or the groundwater table.

Exposure of the groundwater table could occur during excavation if groundwater were encountered, or during general grading if a heavy rainfall occurred and carried contaminants to groundwater through infiltration. As under the Project, BMPs in place during Alternative 2 such as silt fences, fiber rolls, stockpile management, spill prevention and control, and the use of protective sheeting or tarps prior to any rain event on slopes created incidental to construction would minimize erosion from disturbed surfaces. Silty-clay layers that underlie the Site also provide protection for the existing groundwater table would be kept in an undisturbed condition to the maximum extent feasible under both Alternative 2 and the Project. If dewatering is necessary under either alternative, contact water would be disposed off-site or treated prior to discharge in accordance with applicable National Pollutant Discharge Elimination System (NPDES) permit(s) and dewatering permit requirements implemented by the SARWQCB. The implementation of these controls would prevent the infiltration of rainfall into the groundwater table to the extent feasible during remediation activities. However, because impacts are more likely to occur in the deeper areas near center of the Site, such as within the lagoon areas, the potential to impact groundwater during excavation is more widespread and therefore greater under Alternative 2 than it would be under the Project. Also, because construction would persist for markedly longer under Alternative 2 that under the Project, the risk would exist for a longer period of time under Alternative 2 than under the Project. As such, groundwater quality could potentially be adversely impacted in the short-term to a greater degree under Alternative 2 than under the

Project. Under both alternatives short-term excavation-related impacts with respect to groundwater would be less than significant.

Under both Alternative 2 and the Project, potential impacts to surface water caused by exposure of bare surface materials to precipitation would be addressed through BMPs incorporated into the SWPPP under the General Construction NPDES Permit. Removal of excess water (i.e., dewatering) as needed during excavation and off-site disposal or treatment of contact water prior to discharge would minimize the potential for additional sources of impacted runoff during excavation activities. Site inspections would be conducted during rain events and once per month during the wet season to verify that storm water BMPs are operating correctly. Observed stormwater runoff from the Site would be sampled and tested per applicable regulatory requirements, and results would be reported to the SARWQCB. By complying with applicable regulatory requirements and BMPs, on-site erosion and siltation would be minimized.

Under both Alternative 2 and the Project, the status of certain existing monitoring wells would change during excavation, and it is expected that some monitoring wells would be decommissioned and removed. All removals would be conducted in compliance with Cal EPA guidelines to ensure protection of the aquifer.

With the implementation of BMPs and regulations for the protection of surface water quality, migration of contaminants from the Site to surface waters would be minimized to the extent feasible. Therefore, short-term excavation-related impacts with respect to surface water under Alternative 2, as with the Project, would be less than significant. However, because construction activities would occur over a longer period of time under Alternative 2 (approximately 3.5 years) than under the Project (approximately one year), the less than significant impact would be relatively greater under Alternative 2.

Long-Term Impacts

The Site upon completion of the remediation activities under Alternative 2 would consist of a permeable, near-flat clean site. This Alternative would remove nearly all the waste from the Site, though potentially small amounts of contaminated materials could remain as long as the materials in the soils and groundwater are not above naturally occurring levels and do not pose significant hazards to people or the environment. Groundwater monitoring would be continued for a period of time under an approved O&M Plan to ensure that sufficient contaminated materials had been removed from the Site and were not entering surface and groundwater resources. Such monitoring would also occur under the Project. As with the Project, impacts to groundwater would be less than significant under Alternative 2. However, because contaminated materials would be nearly entirely removed from the Site, there would be little to no potential for future exposures of contaminated materials to groundwater. Therefore, under Alternative 2, impacts to groundwater quality would be relatively less than under the Project.

Both Alternative 2 and the Project would preclude the potential for contaminated soils to contact surface water. Thus, impacts regarding surface water quality would be similar and less than significant under both alternatives.

Impacts to Groundwater Supplies

Short-Term Impacts

Under Alternative 2 and the Project, a small amount of dewatering of encountered groundwater may be required during the construction phase. However, such groundwater would represent a negligible contribution from the underlying groundwater basin, which is not utilized as a source for drinking or municipal water. In light of these considerations, short-term impacts to groundwater supplies under this Alternative would be similar to the Project and both would be less than significant.

Long-Term Impacts

Under Alternative 2, long-term testing of groundwater would be minimal and not required to the same degree as under the Project. The Site would remain in a low-permeability condition, although more permeable with the drilling muds removed, and precipitation would be more able to infiltrate into the underlying aquifer. Under the Project, because surface runoff would be detained in detention basins, groundwater supplies would not be adversely affected. As with the Project, Alternative 2 would not interfere substantially with groundwater recharge and there would be no expectation of a net deficit in aquifer volume or a lowering of the local groundwater table level. Therefore, as with the Project, impacts to groundwater volumes would be less than significant and similar to those of the Project.

Consistency with the City of Huntington Beach General Plan and URMP

Alternative 2 would be consistent with the objectives of the City of Huntington Beach General Plan pertaining to protection of water quality in the area of the City's drainage facilities. Alternative 2 would also be consistent with policies of the City's URMP's general objectives of URMP regarding groundwater protection, monitoring of surface and groundwater, cleanup of contamination, control of toxic residuals, and hazardous waste management planning. Because Alternative 2 would remove nearly all contaminated materials from the Site, it would be more consistent with the URMP's goal for the "clean-up of contamination" than under the Project. As with the Project, impacts with respect to these plans would be less than significant. However, because Alternative 2 entails a more complete clean-up on the Site, it would be consistent with the applicable plans and policies to a greater degree than the Project.

Land Use and Planning

Alternative 2, which would involve the removal of nearly all contaminated materials from the Site, would allow for the future re-use of the Site consistent with the City's land use and zoning designations, which envision residential uses on the Site. Because the post-Alternative 2 condition of the Site would allow future re-use, Alternative 2 would be consistent with City of Huntington Beach General Plan Coastal Element Policy C 4.7.10 to "Encourage the remediation and clean up of the Ascon site" and Policy C 8.4.5 City to "Encourage the conversion of the Ascon site to new uses." While the Project would clean-up up the Site, although in a different manner, Alternative 2 would allow for unrestricted new uses on the Site as compared to limited potential new uses (i.e., restricted commercial, light industrial, and/or recreational uses) under the Project. As such, Alternative 2 would be consistent with the policies of the Coastal Element to a greater extent than the Project.

In addition, because the post-Alternative 2 condition of the Site would be suitable for residential development, this Alternative would facilitate the intent of the current General Plan Land Use Map land use designation (RM-15-SP), which designates the Site for future medium density residential use under the

Magnolia Pacific Specific Plan. The Magnolia Pacific Specific Plan proposes the future development of two residential districts within the Site that include SFR and MFR uses. The Specific Plan would have an overall density of 12.75 dwelling units per acre and allow up to 502 units in a mixture of single-family detached homes and multi-family units. Although Alternative 2 does not include development of any kind, it would leave the Site in a condition to allow future residential development. Therefore, unlike the Project, Alternative 2 would be consistent with General Plan Land Use Policies LU 7.1 and LU 7.1.2 to accommodate a balance of land uses that provide for housing and other uses and with Policy LU 9.1 to "provide for development of single-and multi-family residential neighborhoods in areas designated by the Land Use Plan Map."

Alternative 2 would also be consistent with Goal 11-2 of DTSC's Strategic Plan. Goal 11-2 states that DTSC shall "Restore land and water to protect human health and the environment, and to facilitate efficient reuse and redevelopment." Under Alternative 2, materials potentially harmful to human health and the environment would be removed from the Site. Comparatively, the Project would result in a greater volume of contaminated materials remaining on-site under a protective cap, but not entirely removed. Because of the additional materials removed under Alternative 2, the Site would be available for a wider range of future reuses without further remedial efforts than under the Project. Because Alternative 2 would facilitate the objectives of the General Plan regarding the potential future reuse of the Site or the policies of DTSC's Strategic Plan to facilitate efficient reuse and development to a greater extent than under the Project (under which all future development would need to meet DTSC conditions and requirements), it would result in less impact with respect to land use than under the Project.

Overall, implementation of the proposed cap system as part of the RAP would disallow the use of the Site for residential purposes and, as such, would not be consistent with zoning designation or the intent of the applicable land use plans and policies to encourage re-use of the Site. The RAP would, however, be consistent with the applicable policies, including those within the Coastal Plan, for the remediation of the Site. Although inconsistencies with certain land use policies are anticipated, these inconsistencies would not result in adverse physical effects. Therefore, the impact of the Project with respect to land use would be less than significant. In comparison, Alternative 2 would allow for future uses of the consistent with the zoning designations and allow for a wider range of uses than the Project. Like the Project, Alternative 2 would not result in adverse physical impacts. However, given that Alternative 2 would generally be consistent with the applicable land use plans and policies to a greater extent than the Project, impacts under Alternative 2 would be less than those of the Project.

Noise

Noise Levels in Excess of Standards

Short-Term Impacts

Activities associated with implementation of Alternative 2 would temporarily increase the existing ambient noise levels above perceptible levels in close proximity of the Site. Certain phases of the Project would have construction equipment concentrated at locations closer to sensitive receptors. Excavation of the City Parcel during the Project would concentrate equipment at the Project boundary in the north-east corner, closest to Edison High School, the fire station, and residential receptors (Receptor R1, see Figure 4.9-1, *Noise Measurement Locations and Existing Noise Sensitive Uses*, in Section 4.9, *Noise*, of this EIR). Alternative 2 would also require excavation of the City Parcel (Phase 4), but this would occur during phases where equipment would be spread out over a larger area. Similar to the Project, short-term construction-related

noise levels during Alternative 2 as part of Phase 4, remediation of the City Parcel (the highest noise-generating phase), would result in the highest noise levels at the nearest noise sensitive receptor location, R1.

Construction related noise levels for Alternative 2 would be similar to the Project during various phases of construction. Similar to the Project, the short-term noise level experienced at the off-site sensitive land uses would be below the 80 dBA threshold established by the Federal Transit Administration (FTA) for construction-related noise impacts. Furthermore, during implementation of Alternative 2, activities would be temporary in nature and would be required to comply with the City's allowable hours. Thus, short-term construction equipment noise impacts would be less than significant under this Alternative.

Under Alternative 2, the maximum daily haul truck trips would be the same as the Project. Similar to the Project, noise from truck trips would range from 62 dBA along Beach Boulevard to 64 dBA along Newland Street and Pacific Coast Highway. Based on the measured existing traffic noise level of 62 dBA along Pacific Coast Highway and 64 dBA along Newland Street, noise levels generated by haul truck trips would not result in a noticeable increase in off-site noise levels along the haul routes.[13]

Because temporary construction-related noise is exempt from the City's noise ordinance requirements, the levels projected to be experienced by off-site sensitive land uses due to on-site noise sources are below the FTA's recommended noise levels, and the change in noise levels along the haul routes from haul trucks would be below perceptible thresholds, implementation of Alternative 2 would result in less than significant short-term noise impacts. In addition, requirements set forth in the Project Design Features in Section 4.9, *Noise*, of this EIR would further reduce construction noise impacts. All of these facts and considerations apply equally to the Project. Construction noise analysis would be evaluated based on daily construction activities. Thus, short-term noise impacts under both Alternative 2 and the Project would be less than significant. However, because construction activities would occur over a longer period of time (approximately 3 years) under Alternative 2 than under the Project (approximately one year), the less than significant impact would be relatively greater under Alternative 2.

Long-Term Impacts

Because sufficient on-site wastes would be removed to eliminate the need for installation of a cap and LFG collection and treatment system, unlike under the Project there would be no mechanical equipment installed under this Alternative. Noise from vehicular visitations to the Site would be similar to periodic maintenance trips under the Project.

Therefore, noise levels from long-term activities on the Site under Alternative 2 would be less than significant and would be less than those projected for the Project because of the lack of the cap and vapor treatment system, which includes a blower, though the impacts under both alternatives would be less than significant.

[13] *U.S. Department of Transportation, Federal Highway Administration,* Highway Traffic Noise: Analysis and Abatement Guidance, *(2011).*

Groundborne Vibration and Noise

Short-Term Impacts

Similar to the Project, Alternative 2 would result in ground vibration levels up to 0.01 inches per second PPV at the nearest residential uses (Receptor R1, see Figure 4.9-1, *Noise Measurement Locations and Existing Noise Sensitive Uses*, in Section 4.9, *Noise*, of this EIR). Because this value is well below the 0.5 inches per second PPV significance threshold (potential building damage for older residential building), vibration impacts associated with Alternative 2 would be less than significant at the nearest residential building. As discussed in Section 4.9, Noise, of this EIR, short-term groundborne vibration impacts are also less than significant at the nearest residential building under the Project.

In addition, the vibration velocity of 0.01 inches per second PPV would not exceed the 0.02 inches per second PPV significance threshold for potential human annoyance under either the Project or Alternative 2. Therefore, vibration impacts associated with implementation of both alternatives considered here would be similar and less than significant at the nearest single-family residential uses, R1.

Long-Term Impacts

Alternative 2 would not result in installation of a cap or mechanical equipment (LFG collection and treatment system), and minimal vehicle visitation is expected for periodic inspection or maintenance (e.g., weed abatement). However, the Project's cap system is not expected to result in off-site vibration impacts. Therefore, both Alternative 2 and the Project would result in no long-term vibration impacts similar under both alternatives.

Substantial Permanent Increase Above Existing Noise Levels

The Project would include similar minimal vehicular noise sources associated with O&M activities as Alternative 2. The Project would include the use of mechanical fans/equipment for the LFG collection system, which would result in less than significant noise impacts with implementation of the prescribed mitigation measures. Since Alternative 2 would not include the LFG collection system, it would avoid this less than significant Project impact. In light of this consideration, Alternative 2 is considered to have less long-term operational noise impacts than the Project.

Substantial Temporary or Periodic Increase Above Existing Noise Levels

As stated above, the on-site construction activities proposed under Alternative 2 would result in increases in temporary and periodic noise above existing levels at nearby off-site sensitive land uses. Hauling activities are not expected to produce noise above existing ambient noise levels along the haul routes. The means by which temporary and periodic noise above existing levels would be generated under both Alternative 2 and the Project are the same. As such, the levels of these kinds of noise would also be similar. Thus, impacts under Alternative 2 and the Project are similar; however, because these impacts, even though minor, would persist for a longer period under Alternative 2, the impacts are greater under this alternative than under the Project. Nevertheless, as the temporary and periodic noise increases would not exceed thresholds under either Alternative 2 or the Project, they would be , less than significant under both alternatives.

Consistency with City of Huntington Beach General Plan Goals and Policies

The City's General Plan Noise Element contains goals, objectives, and policies that are relevant to noise . As discussed in this paragraph, Alternative 2 would be consistent with the applicable goals and policies of the City of Huntington Beach General Plan pertaining to noise impacts.

Under Alternative 2, short-term construction activities would take place throughout the Site, and equipment would generally be dispersed at various locations rather than concentrated in a single area. Similar to the Project, the short-term noise levels experienced at the off-site sensitive land uses would be below the 80 dBA threshold established by the FTA for construction-related noise impacts. Alternative 2 would result in generally the same number of haul truck trips per day as the Project, although the number of days with haul truck trips would increase considerably. Nonetheless, noise levels generated by haul truck trips would not result in a noticeable increase in off-site noise levels along the haul routes, and vibration levels would remain less than significant under Alternative 2, as they would under the Project. Completion of Alternative 2 would not include the installation of long-term noise-generating mechanical equipment. Noise associated with long-term maintenance trips and long-term O&M activities on-site would be minimal and similar under both Alternative 2, and the Project. As future development of the Site, if any, is not considered at this time for either Alternative 2 or the Project, it would be speculative and inappropriate to assess potential noise from any future uses that are not known or contemplated. Overall, this Alternative would be consistent with the applicable policies to a greater degree than the Project. Given the above, both Alternative 2 and the Project are consistent with the City of Huntington Beach General Plan Goals and Policies as stated in the Noise Element, and, therefore, impacts under both Alternative 2 and the Project would be less than significant.

Transportation/Traffic

Traffic Impacts

Short-Term Impacts

The Alternative would utilize the same haul routes as the Project, and the maximum daily trip generation for this Alternative would be the same as for the Project. The traffic analysis conducted for the Project evaluated traffic conditions for the "Existing Plus Project" and "Year 2015 Plus Project" traffic conditions to evaluate the traffic impacts from the Project. As discussed in Section 4.10, *Traffic and Circulation*, of this EIR, mitigation measures were prescribed for the Project to reduce the potentially significant intersection impacts (at 5 intersections) to a less than significant level (refer to Mitigation Measures TRAF-1 to TRAF-5). Under Alternative 2, the same maximum daily traffic impacts would occur during 2015 to the same intersections as for the Project. As with the Project, the intersection impacts would be reduced to a less than significant level through implementation of Mitigation Measures TRAF(Alt. 2)-1 to TRAF(Alt.2)-5. Therefore, traffic impacts during 2015 traffic conditions under Alternative 2 and the Project would be similar. It is noted that the traffic analysis for the Project included an evaluation of the Existing plus Project traffic conditions. The "Existing Plus Alternative 2" traffic conditions would be the same as the Project.

As Alternative 2 would include construction activities over a three-year time period, from 2015 to 2017, an additional traffic analysis was prepared for this Alternative to evaluate the worse-case traffic conditions, which would occur in 2017 as a result of ambient growth and development of cumulative projects. A one percent (1%) ambient growth per year, over the four-year period between the Existing Year and Operating Year 2017 was applied to the existing conditions volumes. Cumulative projects within a one-mile radius of the Site, which were anticipated to be complete by 2017 were provided by City of Huntington Beach staff.

(Operating year assumptions as well as estimated trip generation volumes are provided in Appendix D of the Traffic Study/Appendix G of this EIR).) Based on this information, there are several related projects which may be under construction or operating in 2017 that would not be operational in 2015. It is expected therefore, that ambient background traffic would be greater in 2017 than in 2015 (the construction period for the Project). Trips were assigned to the roadway networks in a similar manner as the Project.

Table 5-13, *Intersection Service Levels – Project Operating Year (2017) Base Conditions*, provides a summary of forecasted conditions without Alternative 2.

Table 5-13

Intersection Service Levels – Operating Year (2017) Base Conditions

			A.M. Peak		P.M. Peak	
	Intersection	Control	Delay or V/C	LOS	Delay or V/C	LOS
1.	Beach Boulevard at Center Avenue[a]	Signal	20.3	C	34.9	C
2.	Beach Boulevard at Edinger Avenue[a]	Signal	42.4	D	60.1	E
3.	Beach Boulevard at Warner Avenue[a]	Signal	38.8	D	44.4	D
4.	Beach Boulevard at Talbert Avenue[a]	Signal	31.9	C	86	F
5.	Beach Boulevard at Main Street/Ellis Avenue[a]	Signal	36.6	D	69.8	E
6.	Beach Boulevard at Garfield Avenue[a]	Signal	49.5	D	98.2	F
7.	Beach Boulevard at Adams Avenue[a]	Signal	37.4	D	54.1	D
8.	Beach Boulevard at Atlanta Avenue[a]	Signal	34.2	C	68.3	E
9.	Beach Boulevard at Pacific Coast Highway[a]	Signal	41.4	D	85.4	F
10.	Newland Street at Atlanta Avenue[b]	Signal	0.452	A	0.514	A
11.	Newland Street at Hamilton Avenue[b]	Signal	0.494	A	0.626	B
12.	Newland Street at Pacific Coast Highway[a]	Signal	25.3	C	49.3	D
13.	Magnolia Street at Hamilton Avenue[b]	Signal	0.51	A	0.579	A
14.	Magnolia Street at Pacific Coast Highway[b]	Signal	17	B	20.3	C
15.	Brookhurst Street at Hamilton Avenue[b]	Signal	0.7	C	0.644	B
16.	Brookhurst Street at Pacific Coast Highway[a]	Signal	26.9	C	46.7	D

[a] *Intersection is within Caltrans jurisdiction and evaluated according to HCM 2000 methodology. Average delay is reported for signalized intersections.*

[b] *Intersection is within Huntington Beach jurisdiction and evaluated according to ICU methodology. V/C ratio is reported for signalized intersections.*

Note

Cells highlighted in gray represent intersections that are operating below acceptable thresholds.

Source: Fehr & Peers, 2013

As shown in Table 5-13, all of the study intersections would operate acceptably at LOS D or better during the peak hours under 2017 base conditions, with the exception of the following six intersections:

- Beach Boulevard at Edinger Avenue – P.M. peak hour (LOS E)
- Beach Boulevard at Talbert Avenue – P.M. peak hour (LOS F)

- Beach Boulevard at Main Street/Ellis Avenue – P.M. peak hour (LOS E)
- Beach Boulevard at Garfield Avenue – P.M. peak hour (LOS F)
- Beach Boulevard at Atlanta Avenue - P.M. peak hour (LOS E)
- Beach Boulevard at Pacific Coast Highway - P.M. peak hour (LOS F)

In order to determine the level of change caused by Alternative 2, traffic volumes for Alternative 2 were added to the Operating Year (2017) base conditions. The result of adding Alternative 2 traffic to 2017 base conditions is presented in **Table 5-14**, *Intersection Service Levels –Operating Year (2017) Plus Alternative 2 Conditions*. Figure 9-1 in the Traffic Study also illustrates the intersection volumes during this traffic scenario.

Table 5-14

Intersection Service Levels –Operating Year (2017) Plus Alternative 2 Conditions

		A.M. Peak		P.M. Peak	
Intersection	**Control**	**Delay or V/C**	**LOS**	**Delay or V/C**	**LOS**
1. Beach Boulevard at Center Avenue[a]	Signal	28.3	C	38.5	D
2. Beach Boulevard at Edinger Avenue[a]	Signal	44.0	D	60.3	E
3. Beach Boulevard at Warner Avenue[a]	Signal	39.3	D	50.9	D
4. Beach Boulevard at Talbert Avenue[a]	Signal	31.8	C	96.6	F
5. Beach Boulevard at Main Street/Ellis Avenue[a]	Signal	36.7	D	81.8	F
6. Beach Boulevard at Garfield Avenue[a]	Signal	58.3	E	115.3	F
7. Beach Boulevard at Adams Avenue[a]	Signal	38.0	D	59.5	E
8. Beach Boulevard at Atlanta Avenue[a]	Signal	36.1	D	70.3	E
9. Beach Boulevard at Pacific Coast Highway[a]	Signal	66.9	E	95.0	F
10. Newland Street at Atlanta Avenue[b]	Signal	0.455	A	0.543	A
11. Newland Street at Hamilton Avenue[b]	Signal	0.593	A	0.710	B
12. Newland Street at Pacific Coast Highway[a]	Signal	33.6	C	69.3	E
13. Magnolia Street at Hamilton Avenue[b]	Signal	0.510	A	0.579	A
14. Magnolia Street at Pacific Coast Highway[a]	Signal	18.1	B	20.9	C
15. Brookhurst Street at Hamilton Avenue[b]	Signal	0.700	C	0.644	B
16. Brookhurst Street at Pacific Coast Highway[a]	Signal	27.0	C	46.7	D

[a] *Intersection is within Caltrans jurisdiction and evaluated under HCM 2000 methodology. Average delay is reported for signalized intersections.*
[b] *Intersection is within Huntington Beach jurisdiction and evaluated under ICU methodology. V/C ratio is reported for signalized intersections*

Note
Cells highlighted in gray represent intersections that are operating below acceptable thresholds.

Source: Fehr & Peers, 2013

The changes in delay and LOS at intersections that operate at LOS E between the 2017 Operating Conditions and the Alternative 2 conditions in 2017 are presented in **Table 5-15**, *Comparison of Intersection Service*

Table 5-15

Comparison of Intersection Service Levels
2017 Base Conditions and Alternative 2

Intersection	Control	Peak	Operating Conditions Delay	Operating Conditions LOS	With Alt. 2 Delay	With Alt. 2 LOS	Δ Delay
2. Beach Boulevard at Edinger Avenue	Signal	A.M.	42.4	D	44	D	-
		P.M.	***60.1***	***E***	***60.3***	***E***	***0.2***
4. Beach Boulevard at Talbert Avenue	Signal	A.M.	31.9	C	31.8	C	-
		P.M.	***86***	***F***	***96.6***	***F***	***10.6***
5. Beach Boulevard at Main Street/Ellis Avenue	Signal	A.M.	36.6	D	36.7	D	-
		P.M.	***69.8***	***E***	***81.8***	***F***	***12.0***
6. Beach Boulevard at Garfield Avenue	Signal	A.M.	49.5	D	58.3	D	-
		P.M.	***98.2***	***F***	***115.3***	***F***	***17.1***
7. Beach Boulevard at Adams Avenue	Signal	A.M.	37.4	D	38	D	-
		P.M.	54.1	D	***59.5***	***E***	***5.4***
8. Beach Boulevard at Atlanta Avenue	Signal	A.M.	34.2	C	36.1	D	-
		P.M.	***68.3***	***E***	***70.3***	***E***	***2.0***
9. Beach Boulevard at Pacific Coast Highway	Signal	A.M.	41.4	D	***66.9***	***E***	***25.5***
		P.M.	***85.4***	***F***	***95***	***F***	***9.6***
12. Newland Street at Pacific Coast Highway	Signal	A.M.	25.3	C	33.6	C	-
		P.M.	49.3	D	***69.3***	***E***	***20.0***

Notes
1. *Delay is measured in seconds. Calculated using Synchro 8 software package.*
2. Bold-italicized *and gray highlight type indicates significant impact.*

Source: Fehr & Peers, 2013.

Levels – 2017 Base Conditions and Alternative 2. The information provided in Table 5-15 illustrates the net change in traffic conditions and identifies the potential traffic impacts associated with Alternative 2.

Based on Table 5-14, the following eight intersections would be significantly impacted under the Operating Year (2017) conditions with implementation of Alternative 2. These intersections would all exceed Threshold #3 (intersections within Caltrans jurisdiction), described in Section 4.10, *Traffic and Circulation*, of this EIR. Under Threshold #3, a significant impact would occur if a project would cause an intersection at LOS D to degrade to LOS E or F or, if the intersection were forecasted to operate at LOS E or worse without Project traffic, the Project would cause the average delay to increase.

- Beach Boulevard at Edinger Avenue - P.M. peak hour (LOS F)
- Beach Boulevard at Talbert Avenue - P.M. peak hour (LOS F)
- Beach Boulevard at Main Street/Ellis Avenue - P.M. peak hour (LOS F)
- Beach Boulevard at Garfield Avenue - P.M. peak hours (LOS F)
- Beach Boulevard at Adams Avenue - P.M. peak hour (LOS E)

- Beach Boulevard at Atlanta Avenue - P.M. peak hour (LOS E)
- Beach Boulevard at Pacific Coast Highway - A.M. peak hour (LOS E) and P.M. peak hour (LOS F)
- Newland Street at Pacific Coast Highway - P.M. peak hour (LOS E)

Alternative 2 would be required to mitigate impacts to the eight study intersections. Mitigation measures, described below, consist of signal timing optimization to reduce delay times at the impacted intersections. **Table 5-16**, *Intersection Level of Service: 2017 Operating Year Plus Alternative 2 – After Mitigation*, shows the intersection delays after implementation of the prescribed mitigation measures. As shown therein, the prescribed mitigation measures would reduce delay times at all impacted intersections. The affected intersections are within Caltrans jurisdiction and the mitigation measures would require Caltrans approval. Caltrans would be responsible for updating the traffic signal timings to provide additional capacity as Caltrans sees fit. With the implementation of the mitigation measures to optimize signal timing, Alternative 2 would result in a less than significant impact to all of the affected intersections under 2017 Operating Conditions.

Table 5-16

Intersection Level Of Service: 2017 Operating Year Plus Alternative 2 – After Mitigation

Intersection	Control	Peak	With Alt 2 Delay	With Alt 2 LOS	After Mitigation Delay	After Mitigation LOS
Beach Boulevard at Edinger Avenue	Signal	A.M.	44.0	D	N/A	N/A
		P.M.	***60.3***	***E***	54.8	D
Beach Boulevard at Talbert Avenue	Signal	A.M.	31.8	C	N/A	N/A
		P.M.	***96.6***	***F***	76.6	E
Beach Boulevard at Main Street/Ellis Avenue	Signal	A.M.	36.7	D	N/A	N/A
		P.M.	***81.8***	***F***	62.3	E
Beach Boulevard at Garfield Avenue	Signal	A.M.	***58.3***	***E***	49.3	D
		P.M.	***115.3***	***F***	84.6	F
Beach Boulevard at Adams Avenue	Signal	A.M.	38.0	D	N/A	N/A
		P.M.	***59.5***	***E***	53.7	D
Beach Boulevard at Atlanta Avenue	Signal	A.M.	36.1	D	N/A	N/A
		P.M.	***70.3***	***E***	58.7	E
Beach Boulevard at Pacific Coast Highway	Signal	A.M.	***66.9***	***E***	37.3	C
		P.M.	***95.0***	***F***	78.2	E
Newland Street at Pacific Coast Highway	Signal	A.M.	33.6	C	N/A	N/A
		P.M.	***69.3***	***E***	38.1	D

Notes
1. *Bold and gray highlight indicates deficient location*
2. *N/A indicates no mitigation required*

Source: Fehr & Peers, 2013

Impact Due to Lane Closure on Hamilton Avenue

During construction remediation activities at the Site, it may be necessary to close the shared parking/bicycle lane on eastbound Hamilton Avenue along the Site frontage. This lane closure could potentially affect the current Magnolia Street/Hamilton Avenue intersection by closing the existing shared through/right-turn lane. With this temporary closure, the eastbound approach would be reconfigured to include a shared left-turn/through/right-turn lane. **Table 5-17**, *Intersection LOS Comparison – Existing Plus Alternative 2 (2017) Conditions: Hamilton Lane Closure*, documents the ICU and LOS results with the implementation of this lane closure under 2017 (with Alternative 2) conditions. As shown in the table, the intersection would remain at LOS A with the implementation of the lane closure during both the A.M. and P.M. peak hours.

Table 5-17

Intersection LOS Comparison – Existing Plus Alternative 2 (2017) Conditions: Hamilton Lane Closure

	Without Lane Closure				With Lane Closure					
	AM Peak		PM Peak		AM Peak		PM Peak		Change in V/C	
Intersection	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	AM	PM
Magnolia St & Hamilton Ave	0.510	A	0.579	A	0.566	A	0.579	A	0.056	0.0

Source: Fehr & Peers, 2013.

Conclusion. As under the Project, impacts at all intersections resulting from Alternative 2 traffic or the lane closure on Hamilton Avenue would be less than significant or reduced to less than significant levels with mitigation. However, because the effects of traffic would occur over a longer period of time (approximately 3.5 years under Alternative 2 compared to approximately one year under the Project), the less than significant traffic impacts are considered to be incrementally greater under Alternative 2 than under the Project.

Mitigation Measures

TRAF(Alt. 2)-1 Beach Boulevard at Edinger Avenue – P.M. Peak Hour. The Responsible Parties shall coordinate with the Caltrans and the City of Huntington Beach Public Works to update the traffic signal timings to provide additional capacity at this intersection consistent with the detailed Synchro reports provided in Appendix I of the Traffic Study. Signal timing at this intersection shall be optimized to improve P.M. operations to a delay of 54.8 seconds and LOS D, or as determined appropriate by Caltrans. The Responsible Parties shall reimburse the City and/or Caltrans, as required by their appropriate fee programs, for updating traffic signal timings per this mitigation measure. This mitigation measure is to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities.

TRAF(Alt. 2)-2 Beach Boulevard at Talbert Avenue – P.M. Peak Hour. The Responsible Parties shall coordinate with the Caltrans and the City of Huntington Beach Public Works to update the traffic signal timings to provide additional capacity at this intersection consistent with the detailed Synchro reports provided in Appendix I of the Traffic Study. Signal timing at this intersection shall be optimized to improve P.M. operations to a delay of 76.6 seconds and LOS E, or as determined appropriate by Caltrans. This would be less than the delay of 86.0 seconds the intersection would experience under 2017 base (without Project) operating conditions. The Responsible Parties shall reimburse the City and/or Caltrans, as required by their appropriate fee programs, for updating traffic signal timings per this mitigation measure. This mitigation measure is to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities.

TRAF(Alt. 2)-3 Beach Boulevard at Main Street/Ellis Avenue – P.M. Peak Hour. The Responsible Parties shall coordinate with the Caltrans and the City of Huntington Beach Public Works to update the traffic signal timings to provide additional capacity at this intersection consistent with the detailed Synchro reports provided in Appendix I of the Traffic Study. Signal timing at this intersection shall be optimized to improve P.M. operations to a delay of 62.3 seconds and LOS E, or as determined appropriate by Caltrans. This would be less than the delay of 69.8 seconds the intersection would experience under 2017 base (without Project) operating conditions. The Responsible Parties shall reimburse the City and/or Caltrans, as required by its appropriate fee program, for updating traffic signal timings per this mitigation measure. This mitigation measure is to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities.

TRAF(Alt. 2)-4 Beach Boulevard at Garfield Avenue – A.M. and P.M. Peak Hours. The Responsible Parties shall coordinate with the Caltrans and the City of Huntington Beach Public Works to update the traffic signal timings to provide additional capacity at this intersection consistent with the detailed Synchro reports provided in Appendix I of the Traffic Study. Signal timing at this intersection shall be optimized to improve A.M. operations to LOS D and delay of 49.3 seconds, or as determined appropriate by Caltrans. During the P.M. peak hour, signal timing shall be optimized to improve operations to a delay of 84.6 seconds and LOS F, or as determined appropriate by Caltrans. This would be less than the delay of 98.2 seconds the intersection would experience under 2017 base (without Project) operating conditions. The Responsible Parties shall reimburse the City and/or Caltrans, as required by its appropriate fee program, for updating traffic signal timings per this mitigation measure. This mitigation measure is to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of construction activities.

TRAF(Alt. 2)-5 Beach Boulevard at Adams Avenue – P.M. Peak Hour. The Responsible Parties shall coordinate with the City of Huntington Beach Public Works Department and/or Caltrans to update the traffic signal timings to provide additional capacity at this intersection consistent with the detailed Synchro reports provided in Appendix I of the Traffic Study. Signal timing at this intersection shall be optimized to improve P.M. operations to a delay of 53.7 seconds and LOS D, or as determined appropriate by Caltrans. The Responsible Parties shall reimburse the City and/or Caltrans, as required by its appropriate fee program, for updating

traffic signal timings per this mitigation measure. This mitigation measure is to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities.

TRAF(Alt. 2)-6 Beach Boulevard at Atlanta Avenue – P.M. Peak Hour. The Responsible Parties shall coordinate with the Caltrans and the City of Huntington Beach Public Works to update the traffic signal timings to provide additional capacity at this intersection consistent with the detailed Synchro reports provided in Appendix I of the Traffic Study. Signal timing at this intersection shall be optimized to improve P.M. operations to LOS E and delay of 58.7 seconds, or as determined appropriate by Caltrans. This would be less than the delay of 68.3 seconds the intersection would experience under 2017 base (without Project) operating conditions. The Responsible Parties shall reimburse the City and/or Caltrans, as required by its appropriate fee program, for updating traffic signal timings per this mitigation measure. This mitigation measure is to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities.

TRAF(Alt. 2)-7 Beach Boulevard at Pacific Coast Highway – A.M. and P.M. Peak Hours. The Responsible Parties shall coordinate with the Caltrans and the City of Huntington Beach Public Works to update the traffic signal timings to provide additional capacity at this intersection consistent with the detailed Synchro reports provided in Appendix I of the Traffic Study. Signal timing shall be optimized to improve A.M. operations to a delay of 37.3 seconds and LOS C. During the P.M. peak hour, signal timing at this intersection shall be optimized to improve operations to LOS E and delay of 56.3 seconds, or as determined appropriate by Caltrans. This would be less than the delay of 85.4 seconds the intersection would experience under 2017 base (without Project) operating conditions. The Responsible Parties shall reimburse the City and/or Caltrans, as required by its appropriate fee program, for updating traffic signal timings per this mitigation measure. This mitigation measure is to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities.

TRAF(Alt. 2)-8 Newland Street at Pacific Coast Highway – P.M. Peak Hour. The Responsible Parties shall coordinate with the Caltrans and the City of Huntington Beach Public Works to update the traffic signal timings to provide additional capacity at this intersection consistent with the detailed Synchro reports provided in Appendix I of the Traffic Study. Signal timing at this intersection shall be optimized to improve P.M. operations to LOS D and delay of 38.1 seconds, or as determined appropriate by Caltrans. The Responsible Parties shall reimburse the City and/or Caltrans, as required by its appropriate fee program, for updating traffic signal timings per this mitigation measure. This mitigation measure is to be verified by DTSC, Unit Chief, Brownfields & Environmental Restoration prior to initiation of hauling activities.

Long-Term Impacts

Upon completion of the Project's construction activities at the Site, long-term periodic maintenance and monitoring activities would occur. These activities could generate an average of approximately one to ten weekly trips to the Site. These trips would not occur on a daily basis, would be commensurate with as needed maintenance and monitoring activities, and would likely not be performed during peak hours alone.

As such, these trips would result in a negligible increase on long-term traffic conditions, and impacts would be less than significant. Under Alternative 2, maintenance trips for weed abatement and other miscellaneous activities would occur in relation to the Site. Similar to the Project, any trips to the Site would be negligible and would result in no noticeable increase in traffic or intersection congestion similar to the Project. Accordingly, long-term traffic impacts would be similar under Alternative 2 and the Project and less than significant under both alternatives.

CMP Intersections

Short-Term Impacts

Per the Orange County Congestion Management Plan (CMP), an intersection is considered to be significantly impacted when a project reduces the LOS or increases the ICU by more than 0.03 at a location that is forecasted to operate at LOS "E" or "F" (referred to "Intersection Threshold #3" in Section 4.10, *Traffic and Circulation*, of this EIR). The Orange County CMP identifies four intersections along Beach Boulevard between I-405 and Pacific Coast Highway as CMP intersections. These include: Beach Boulevard at Edinger Avenue; Beach Boulevard at Warner Avenue; Beach Boulevard at Adams Avenue; and Beach Boulevard at Pacific Coast Highway. **Table 5-18**, *CMP Analysis: No Project and With Alternative 2 Comparison*, provides a summary of impacts at CMP intersections according to the ICU method during construction activities under Alternative 2. As shown in Table 5-7, Alternative 2 traffic would not increase ICU by more than 0.03 at any of the study intersections and, as such, would not exceed the significance criterion. As with the Project, Alternative 2 would have a less than significant impact on the CMP intersections during short-term construction activities. However, because the effects of traffic would occur over a longer period of time (approximately three years under Alternative 2 compared to approximately one year under the Project), the less than significant traffic impacts under Alternative 2 are considered to be greater than the less than significant impacts that would occur under the Project (see, section 4.10, *Traffic*, of this EIR for a discussion of the impacts under the Project).

Table 5-18

CMP Analysis: No Project and With Alternative 2 Comparison[a]

Intersection	Peak	2017 ICU	2017 + Alt. 2 ICU	Change
2. Beach Boulevard at Edinger Avenue	AM	**0.945**	**0.968**	**0.023**
	PM	**1.020**	**1.046**	**0.026**
3. Beach Boulevard at Warner Avenue	AM	**0.924**	**0.947**	**0.023**
	PM	**1.032**	**1.052**	**0.020**
7. Beach Boulevard at Adams Avenue	AM	0.778	0.807	0.029
	PM	**0.911**	**0.937**	**0.026**
9. Beach Boulevard at Pacific Coast Highway	AM	0.799	0.840	0.041
	PM	**0.906**	**0.931**	**0.025**

[a] *The LOS E or F intersections are shown in bold and gray highlight.*

Source: Fehr & Peers, 2013.

Long-Term Impacts

Upon completion of the Project's construction activities at the Site, long-term periodic maintenance and monitoring activities would occur on the Site. These activities could generate an average of approximately one to ten weekly trips to the Site. These trips would not occur on a daily basis, would be commensurate with as needed maintenance and monitoring activities, and would likely not be performed during peak hours alone. As such, these trips would result in a negligible increase on long-term traffic conditions, and impacts would be less than significant. Although, long-term periodic monitoring activities would not be required upon completion of Alternative 2, maintenance trips for weed abatement and other miscellaneous activities would occur in relation to the Site. Similar to the Project, any trips to the Site would be negligible and would result in no noticeable increase in traffic or intersection congestion similar to the Project. Accordingly, long-term traffic impacts would be similar under Alternative 2 and the Project and would be less than significant under both alternatives.

Emergency Access

Short-Term Impacts

As with the Project, under Alternative 2 the Site's ingress and egress driveways would be designed to meet City of Huntington Beach standards. All site access and circulation would be reviewed by the City of Huntington Beach Department of Public Works Road Division and the City of Huntington Beach Fire Department to ensure that the Site provides adequate emergency access. Signal timing optimization would improve base conditions on affected intersections along the Project's haul route. During construction of both Alternative 2 and the Project it may be necessary to close the shared parking/bicycle lane on eastbound Hamilton Avenue along the Site frontage. This lane closure could potentially affect the current Magnolia Street/Hamilton Avenue intersection by closing the existing shared through/right-turn lane. With this temporary closure, the eastbound approach would be reconfigured to include a shared left-turn/through/right-turn lane. As discussed in the traffic impact analysis above, the intersection would remain at LOS A with the implementation of the lane closure during both the A.M. and P.M. peak hours. As such, the temporary lane closure would not result in a substantial adverse emergency access impact at this intersection and impacts under both Alternative 2 and the Project would be less than significant. As the lane closure would generally occur over a similar amount of time under Alternative 2 as under the Project, the less than significant impact would be similar under Alternative 2 and the Project.

Long-Term Impacts

As discussed above, the number of trips to the Site over the long-term under Alternative 2 would be negligible and would not result noticeable increase in traffic or intersection congestion. As discussed at length in section 4.10, *Traffic*, of this EIR, these long-term impacts would be similar under the Project. Under both alternatives, the function of the street system would remain with available capacity to accommodate the nominal increase in traffic, including emergency vehicles. Thus, trips to the Site would not result in an increase in traffic such that adverse emergency access impacts would occur. Also, the Site's ingress and egress driveways would be designed to meet the City of Huntington Beach's standards. All site access and circulation would be reviewed by the City of Huntington Beach Department of Public Works Road Division and the City of Huntington Beach Fire Department to ensure adequate emergency access to and within the Site. Therefore, long-term impacts on emergency access under Alternative 2 would be less than significant and similar to the Project's long-term impacts on emergency access.

Alternative Transportation Facilities

Short-Term Impacts

Similar to the Project, construction remediation activities on the Site under Alternative 2 would involve the travel of heavy duty trucks throughout the day, which has the potential to create conflicts as these vehicles enter the roadway travel lanes and travel along the designated routes to reach I-405. During the construction phase of the Project and Alternative 2, the bicycle lanes on the southbound side of Magnolia Street and the eastbound side of Hamilton Avenue would be barricaded and unusable. Although bicyclists would not be prohibited from traveling along this street, the loss of the shoulder would not be conducive to comfortable riding. As such, most cyclists would have to divert trips to other roadway facilities. This is considered to be a potentially significant short-term impact under both the Project and Alternative 2. However, as under the Project, signage would be required under Alternative 2 as a design feature to direct eastbound bicyclists on Hamilton Avenue and southbound cyclists on Magnolia Street to alternative routes (detours), such as eastbound Atlanta Avenue and southbound Newland and Brookhurst Streets. As with the Project, design features would also prohibit left turns by haul trucks or trucks larger than four or fewer axle, single-trailer trucks from the Site unless assisted by flagmen and temporary traffic control signage and flagmen at both the ingress and egress points to the Site which serve as safety measures for bicyclists. In addition, a Construction Traffic Management/Haul Plan would be developed and implemented during construction for both alternatives. The Plan would identify all traffic control measures, signs, and delineators to be implemented by the construction contractor through the duration of construction activities. Further, given the proximity of the Site to Edison High School, as with the Project, a design feature would be implemented to provide on-going communication with school administration at Edison High School, providing sufficient notice to forewarn students and parents/guardians when existing, bicycle routes to the school may be impacted in order to ensure school traffic and pedestrian safety. A design feature would also be incorporated into Alternative 2 to prohibit haul trucks from hauling past the High School. The implementation design features would ensure that impacts regarding bicycle facility performance and safety would be less than significant under both the Project and Alternative 2.

With regard to pedestrian safety, Alternative 2 and the Project would utilize barricades to create a buffer between construction activities and the public street that would impact the paved walkway along Hamilton Avenue adjacent to the Site. This feature would prevent pedestrians from walking along the south side of Hamilton Avenue. This is considered to be a potentially significant short-term impact under the Project and Alternative 2. However, a project design feature would be implemented to direct pedestrians to travel exclusively along the north side of Hamilton Avenue and the east side of Magnolia Street. The north side of Hamilton Avenue has an off-street pedestrian path that is slightly set back from Hamilton Avenue and connects to Edison Community Park. The east side of Magnolia Street has a paved sidewalk. In addition, as with the Project, design features of Alternative 2 would provide safety for pedestrians as well as for bicyclists. No bus stops are located immediately adjacent to the Site along Hamilton Avenue or Magnolia Street. Thus, no bus stops or transit facilities would be directly impacted by construction activities and the impacts under Alternative 2 and the Project would be less than significant.

As discussed above, both the Project and Alternative 2 present less than significant impacts to alternative transportation during construction activities. However, because the effects on bike lanes and pedestrian access would occur over a longer period of time (approximately three years under Alternative 2 compared to approximately one year under the Project), Alternative 2 would have a relatively greater impact to bicycles and pedestrians than the Project.

Long-Term Impacts

Upon completion of Alternative 2 and the Project, construction activities would cease, and the use of existing bicycle paths along the south side of Hamilton Avenue and the west side of Magnolia Street would be restored. Also, the use of the paved walkway along the south side of Hamilton Avenue would be restored and the berm along the Magnolia Street (and into the city's right-of-way) would be eliminated. This would improve future pedestrian access along this frontage or enable the future construction of a sidewalk in the City's right-of-way. Thus, long-term impacts to alternative transportation modes under Alternative 2 and the Project would be less than significant and similar under both alternatives.

Consistency with City of Huntington Beach General Plan Goals and Policies

The City's General Plan Circulation Element contains goals, objectives, and policies that are applicable to traffic. Both the Project and Alternative 2 would be consistent with policies to achieve the city's performance standards for acceptable levels of service after implementation of the prescribed mitigation measures (Policy CE 2.1). Both Alternative 2 and the Project would be substantially consistent with policies to mitigate off-site traffic impacts and pedestrian, bicycle, and vehicular conflicts to the maximum extent feasible (Policy CE 2.3.1) and to limit driveway access points and require adequate driveway widths onto arterial roadways and require driveways be located to ensure the smooth and efficient flow of vehicles, bicycles, and pedestrians (CE 2.3.2). Because Alternative 2 would mitigate traffic impacts to the extent feasible, it would be considered substantially consistent with the General Plan Circulation Element. Overall, as Alternative 2 and the Project would mitigate all traffic impacts to below threshold standards during construction, they would both be consistent with the applicable General Policies, and the extent of the impacts is similar under both Alternative 2 and the Project.

Impact Summary

A comparative summary of the environmental impacts associated with Alternative 2 and the environmental impacts anticipated under the Project is provided in Table 5-20 at the end of this EIR section.

Relationship of the Alternative to Project Objectives

The following provides a description of Alternative 2 ability to meet the Project's objectives. As discussed below, Alternative 2 would substantially meet the objectives of the Project. The ability of Alternative 2 to meet the stated objectives of the Project is summarized in Table 5-21 at the end of this EIR section.

- Objective # 1 - *To reduce the potential for long-term risks to life, property and the environment (inclusive of nearby residences, schools, parks, and businesses) from contaminated materials and waste*: As Alternative 2 would remove nearly all the waste materials from the Site, it would fully meet this objective to reduce the potential for long-term risks to life, property and the environment (inclusive of nearby residences, schools, parks, and businesses) from contaminated materials and waste. As the waste materials would be removed and there would be no potential for long-term risk from contaminated materials and waste, this Alternative would better meet this objective than the Project.

- Objective # 2 - *To reduce the potential for short-term risks (during implementation activities) to life, property and the environment (inclusive of nearby residences, schools, parks, businesses, and on-site workers) from contaminated materials and waste through proper handling, treatment and disposal*: Similar to the Project, this Alternative would implement numerous health and safety controls, many

of which are identified as Project Design Features (PDFs), and comply with applicable regulations pertaining to the handling, treatment and disposal of contaminated materials and waste. But, that is not to say that all short-term risks would be eliminated. Rather, such risks would be reduced as technically feasible in accordance with the intent of this objective. Accordingly, both the Project and this Alternative would meet this objective. This Alternative would include higher intensity construction activities and would occur over a longer period of time than the Project. Due to the more intense construction activities, short-term air quality and health risks would be greater under this Alternative than under the Project. Due to the longer duration of construction activities, the potential for adverse impacts resulting from construction (e.g., traffic impacts, possible spills or releases during the export of materials, possible exposure of on-site workers) would be greater under Alternative 2 than under the Project. For these reasons, this Alternative is considered to meet this objective to a lesser extent than the Project.

- Objective #3 - *To ensure that contaminated materials and waste are transported in a safe, efficient and coordinated manner to minimize risks to sensitive uses (such as nearby residences and schools:* Both Alternative 2 and the Project would implement numerous health and safety controls, many of which are identified as PDFs, and comply with applicable regulations pertaining to the transport of hazardous materials and waste. Accordingly, hazardous waste would be transported in a safe, efficient and coordinated manner to minimize risks to sensitive uses under both the Project and this Alternative, despite the difference in durations. Thus, this Alternative would meet this objective to a similar extent as the Project.

- Objective #4 - *To reduce the potential for on-site contaminated materials to impact groundwater or migrate off-site*: Because contaminated soils are likely deeper near center of the Site, within the lagoon areas, the potential to impact groundwater during excavation is more widespread and thereby greater for Alternative 2 than for the Project. As such, groundwater quality could potentially be adversely impacted in the short-term to a greater degree than the Project. Although, it is acknowledged that the Project and this Alternative would implement numerous controls and BMPs to prevent short-term water quality impacts to the extent feasible, such that groundwater quality impacts would be less than significant. The Project would include a cap over most of the Site, with only the City Parcel, detention basins and perimeter access road being uncapped. However, contaminated materials in these areas would be excavated to at least street level and then, if necessary, to a depth achieving the acceptable risk-based concentrations (RBCs), background concentrations, or until groundwater is reached. While the cap would include a geomembrane layer to minimize surface water infiltration into the underlying material and the side slopes would be at such an angle that would also minimize surface water intrusion, some water could permeate through the Site into the waste materials and percolate into the groundwater. The amounts of such water would be minimal, and much less than under existing conditions. Thus, long-term groundwater impacts would be less than significant under the Project. As Alternative 2 would remove nearly all the waste materials from the Site, there would be little to no potential for long-term groundwater impacts from contaminated materials on the Site. Overall, despite the fact that Alternative 2 could result in greater (less than significant) impacts than the Project in the short-term, the fact that this Alternative would essentially preclude the potential for long-term groundwater impacts from contaminated materials on the Site results in this Alternative better meeting this objective than the Project.

- Objective #5 - *To remediate the Site to enhance public health, safety and welfare and ultimately allow potential new uses of the Site that will not endanger human health and the environment*: As Alternative 2 would remove the waste materials from the Site and return the site to a near flat, vacant parcel suitable for unrestricted use, it would fully meet this objective. The cap system proposed under the Project would also provide an acceptable level of protection of public health, safety and welfare when compared to existing conditions. However, because the capped Site could only support a limited type of new uses such as some commercial or recreational uses, whereas Alternative 2 would allow for unrestricted use, Alternative 2 allows for a more varied extent of potential new uses than under the Project. As such, Alternative 2 better meets this objective than the Project.

- Objective #6 - *To remediate the site in a timely, expedient, and cost effective manner*. Under the Project, the construction remediation activities would occur for approximately one year. Under Alternative 2, remediation activities would occur for approximately 41 months (~3.5 years). As Alternative 2 would include highly intensive activities near sensitive uses (i.e., residential and school uses) for a longer duration than the Project, the length and intensity of construction activities under Alternative 2 would be more apparent and perceivable by the surrounding community as compared to the Project. For this reason, Alternative 2 is considered to only partially meet this objective. It is also noted that Alternative 2 would cost over five times as much as the Project (construction and operation costs). Accordingly, Alternative 2 would meet this objective to lesser extent than the Project.

Alternative 3 – Lower Intensity - Extended Schedule Alternative

Environmental Impact Categories

Aesthetics

Scenic Vista/Visual Character and Visual Quality

Short-Term Impacts

Scenic Vista

Existing berms on the periphery of the Site block broad views across the Site. The implementation (construction activities) of Alternative 3 would occur over approximately three-years, as compared to approximately one year under the Project. Under both Alternative 3 and the Project, the current chain-link fence with green privacy fabric would remain throughout most of the construction process. During construction activities under both Alternative 3 and the Project, as the berms around the Site's perimeter are reduced in mass and height, some views across the Site would become available. In particular, while south-westerly views towards the Pacific Ocean, Magnolia Marsh wetlands, and horizon would be become more open and available, such views would include the AES Power Plant located to the southwest of the Site and the existing above-ground storage tanks located at the north and northeast sides of the power plant. In addition, the above-ground Plains All American tanks, which are located to the south of the Site, would become part of the new views should they remain on that site. Thus, the construction activities and inclusion of existing industrial facilities described above in scenic views across the Site under Alternative 3 and the Project would offset the increase in the availability of south-westerly views towards the Pacific Ocean. Therefore, construction activities under Alternative 3 and the Project would have a less than significant

impact with respect to creating or impacting scenic vistas, and impacts would be similar under both Alternative 3 and the Project.

Visual Character and Visual Quality

Construction activities under Alternative 3 would occur for approximately three years. During this period, removal of existing on-site vegetation, perimeter berms along Magnolia Street and Hamilton Avenue, and perimeter fencing during construction would expose construction equipment and activities as viewed from surrounding areas and street corridors currently having views of the edges (berms) of the Site. The relative disturbance of construction activities could adversely affect the views of the Site during the construction period. Construction activities would also contrast with the stable visual character of the adjacent land uses (residential neighborhoods, Edison Park and Edison High School). Construction activities would include removal of on-site vegetation and, when combined with grading, would expose underlying soil resulting in a potentially barren appearance of the land surface. Perimeter trees along Magnolia Street currently contribute to the area's visual character. However, because the trees and other perimeter vegetation are not maintained for visual purposes and partially obscured by the existing fence, the visual value of the perimeter vegetation only marginally contributes to the visual character of views from Magnolia Street. There are no significant features along the Site's northern perimeter that contribute to a high visual quality of the Site for motorists and pedestrians along Hamilton Avenue, or for visitors of Edison Community Park. Construction activities would be inconsistent with the visual character of the adjacent land uses (residential neighborhoods, Edison Park and Edison High School); however, because the Site does not currently have a high aesthetic value, and because construction activities would be largely screened by the perimeter fencing, the disturbed condition of the Site under Alternative 3 would be less than significant. As the activities under Alternative 3 and the Project are the same, except that they would persist for longer under Alternative 3, these impacts are also less than significant under the Project. However, because of the longer duration of construction under Alternative 3 as compared to the Project (approximately 11 months under the Project compared to approximately 36 months under this Alternative), Alternative 3's less than significant short-term impact would be relatively greater than the impact of the Project.

Long-Term Impacts

Scenic Vista

The appearance of the Site at the completion of Alternative 3 would be the same as that under the Project. Therefore, impacts regarding long-term scenic views under both Alternative 3 and the Project would be less than significant and similar.

Visual Character and Visual Quality

The appearance of the Site at the completion of Alternative 3 would be the same to that under the Project. Thus, long-term impacts to visual character and quality would be similar and less than significant under both Alternative 3 and the Project.

Scenic Resources Within a State Scenic Highway

Short-Term Impacts

Under Alternative 3, and similar to the Project, construction activities along Magnolia Street, a designated Landscape Corridor and Major Urban Scenic Corridor under the General Plan Circulation Element, would remove trees and other vegetation growing along the Magnolia Street berm. However, because these

features are not maintained for visual purposes and are partially obscured by the screened perimeter fence under existing conditions, the Site's perimeter trees only marginally contribute to the existing aesthetic quality of the Magnolia Street corridor. Therefore, the removal of these features would not be considered to cause substantial damage to scenic resources. During construction, screened perimeter construction fencing would continue to obscure the lower edges of the Site as under existing conditions. Because construction activity, in itself, would have an effect on the aesthetic quality of the street corridor, and construction would occur over a longer period of time (approximately three years) under Alternative 3 compared to one year under the Project, Alternative 3's less than significant impacts to the Magnolia Street corridor would be considered relatively greater than those of the Project. PCH, to the south of the Site is a State-identified eligible, but not formally designated, State Scenic Highway. The Site is minimally visible from PCH, and, therefore, construction activities would not affect views along the PCH corridor.

Long-Term Impacts

The appearance of the Site at the completion of Alternative 3 would be the same to that under the Project. Thus, long-term impacts with respect to scenic resources under Alternative 3 would be less than significant and similar to those under the Project.

Consistency with City of Huntington Beach General Plan

The General Plan identifies the Pacific Ocean and beach as significant recreational and visual resources that attract many visitors to Huntington Beach. The City also identifies Magnolia Street as a City-designated Landscape Corridor and Secondary Path/Image Corridor. Neither Alternative 3 nor the Project would significantly impact these resources or roadway corridor and, therefore, would not obstruct the objectives of the General Plan to maintain the character and visual quality of these resources. By removing the berm section along Magnolia Street and by providing screened perimeter fencing during construction, both the Project and Alternative 3 would also be consistent with urban design objectives of the General Plan which are to minimize visual impacts where facilities encroach upon view corridors. Overall, Alternative 3 would be similarly consistent with the Urban Design Element of the General Plan as the Project, and both alternatives present less than significant impacts in this regard.

Air Quality

Air Quality Plan Conflicts

Short-Term Impacts

Under Alternative 3 and the Project, construction activities would result in an increase in short-term employee trips as compared to existing conditions, but under Alternative 3 this increase would occur at reduced daily levels as compared to the Project. Being relatively small in number and temporary in nature, construction jobs under both alternatives are generally not considered inconsistent with the assumptions upon which the AQMP are based.

Similar to the Project, Alternative 3 would incorporate the same PDFs as the Project, which are designed to reduce short-term emissions from construction equipment. These measures are generally consistent with the intent of the control strategies set forth in the AQMP, such as ONRD-04 and OFFRD-01. Similar to the Project, the haul trucks use under Alternative 3 for transferring waste, soil, debris, and other materials into the SJVBAB are regulated at the federal level, and are therefore not subject to control measures adopted by

local air agencies. Thus, hauling of waste, soil, debris, and other materials into SJVAB is consistent with the SJVAPCD's air quality plan.

Therefore, because both the Project and Alternative 3 would be consistent with the growth projections (jobs and housing) used in the development of the AQMP and would be consistent with the control strategies intended to reduce emissions from construction equipment, neither alternative would conflict with or obstruct implementation of the AQMP, and impacts under both would be less than significant. Compared to the Project, Alternative 3 would result in similar impacts.

Long-Term Impacts

Alternative 3 would result in the same long-term O&M Plan and an identical cap to the Project. Therefore, Alternative 3 would result in the same less than significant impacts as under the Project.

Violation of Air Quality Standards

Short-Term Impacts

Similar to the Project, Alternative 3 would result in the short-term increase in air emissions through the use of heavy-duty construction equipment, earthmoving, and through vehicle trips generated from construction workers, visitors, and delivery vehicles traveling to and from the Site. However, because the Project as proposed results in regional emissions of NO_X in excess of SCAQMD's daily mass emission rate threshold of 100 lbs/day, Alternative 3 has been designed to lower daily emissions by decreasing the intensity of activities by lengthening the schedule. During the most intense productive phases, the amount of soil exported or consolidated on-site would need to be reduced by approximately 80 percent. The Project as proposed also results in regional emissions of PM_{10} in excess of SCAQMD's daily mass emission rate thresholds of 150 lbs/day. However, during the most intense productive phases, the amount of soil exported or consolidated on-site would need to be reduced by approximately 12 percent of PM_{10}, which is less than the 80 percent for NO_X. Therefore, reducing the NO_X emissions to a less than significant level by decreasing the intensity of activities by lengthening the schedule would also reduce the PM_{10} emissions to less than significant levels.

On a daily basis, the maximum NO_X emissions resulting from Project activities are the result of multiple excavation phases occurring simultaneously (on the same day). Most individual phases of excavation (i.e. Pit F, City Parcel, SCOC site) for the Project result in emissions of NO_X that are below the regional threshold (100 lbs/day). However, when multiple excavation phases occur on the same day, the combined emissions would exceed the regional threshold. Under Alternative 3, the extension of the duration of excavation would not require as much overlap of individual phases as the Project. When accounting for the reduction in overlapping excavation phases, Alternative 3 daily NO_X emissions would be reduced as much as 50 percent compared to the Project's maximum daily NO_X emissions.

In addition to reducing the amount of overlap required, activities required on a daily basis for Alternative 3 would also be reduced in comparison to the Project, which would in turn reduce daily NO_X emissions. The amount of daily truck activity and equipment required would be reduced which would result in a daily reduction of NO_X by approximately 30 percent compared to the Project.

Alternative 3 results in extending the schedule three-fold, to 36 months, as compared to the Project, each day experiencing regional NO_X emissions at or below 99 lbs/day.

Given the design of Alternative 3, short-term daily maximum regional emissions would not exceed the SCAQMD daily significance thresholds for any of the regulated pollutants at any time during the 3-year construction period. Therefore, regional construction emissions resulting from Alternative 3 would result in less than significant short-term impacts, lower than regional impacts expected in the SoCAB under the Project. Because the same amount of soil is expected to be exported from the Site to the receiver landfills in the SJVAB as well as other optional receiver landfills that would require travel through the Mojave Desert Air Basin, Great Basin Valleys Air Basin, and Salton Sea Air Basin, total emissions from hauling within these air basins would remain the same, but annual emissions could be reduced (by spreading it out over 2 or 3 years) under this Alternative. Because the total amount of emissions in other air basins would be identical under both alternatives, regional impacts in the SJVAB would remain less than significant and the same or less than the Project. Regional impacts in the Mojave Desert Air Basin and Salton Sea Air Basin could potentially be reduced to less than significant if the number of daily trips were reduced to 72 (approximately 63 percent reduction from the Project) for travel through the Mojave Desert Air Basin (to receiver landfills in Nevada or Utah) or reduced to 75 (approximately 62 percent reduction from the Project) for travel through the Salton Sea Air Basin (to receiver landfills in Arizona).

Alternative 3 would result in maximum daily short-term emissions in the SoCAB that would not exceed the mass emission significance thresholds applicable to the proposed activities in the SoCAB and SJVAB for any criteria pollutant. In addition, the daily and annual emissions would be the same or less than the Project. Therefore, Alternative 3 would potentially result in less than significant impacts related to short-term regional emissions, whereas the Project would result in significant and unavoidable impacts in this regard. Thus, impacts would be less under Alternative 3 than under the Project.

Long-Term Impacts

Alternative 3 would result in the same long-term O&M Plan and an identical cap to the Project. Therefore, Alternative 3 would result in the same less than significant impacts as the Project.

Cumulative Pollutant Increases

Short-Term Impacts

Alternative 3 would result in the short-term emissions of criteria pollutants for which the SoCAB and SJVAB are in nonattainment. The Orange County portion of the SoCAB is designated nonattainment for ozone, PM_{10}, and $PM_{2.5}$, and the SJVAB is non-attainment for ozone and $PM_{2.5}$. Emissions of criteria and precursor pollutants would not exceed the applicable SCAQMD and SJVAB mass emissions thresholds of significance. Therefore, Alternative 3 would not result in a cumulatively considerable net increase of a criteria pollutant for which the SoCAB and SJVAB are non-attainment. The Project would result in a cumulatively considerable net increase of a criteria pollutant for which the region is non-attainment, and, therefore, project impacts would be significant. Thus, Alternative 3 would result in impacts that would be less than significant and less than the Project.

Long-Term Impacts

Alternative 3 would result in the same long-term O&M Plan and an identical cap to the Project. Therefore, Alternative 3 would result in the same less than significant impacts as the Project.

Sensitive Receptor Exposure to Substantial Pollutant Concentrations

Short-Term Impacts

Alternative 3 would result in short-term emissions of criteria pollutants which have the potential to result in exposure of sensitive receptors to substantial pollutant concentrations. These include significant and unavoidable impacts with regard to 1-hour NO_2, 24-hour PM_{10}, and annual PM_{10} concentrations.

Under both the Project and Alternative 3, equipment exhaust emissions would be the main contributor to off-site NO_2 concentrations, while fugitive dust would be the main contributor to off-site PM_{10} concentrations. Although the duration of excavation would be extended three fold under Alternative 3, the amount of equipment required on an hourly basis could be the same as the Project. Thus, Alternative 3 would result in the same maximum 1-hour NO_2 concentration as the Project, and the localized 1-hour NO_2 impacts would be similar and significant and unavoidable under both Alternative 3 and the Project.

The amount of earthmoving activities would be reduced on a daily and annual basis by two thirds under Alternative 3, which in turn would reduce daily and annual PM_{10} concentrations by approximately two thirds as compared to the Project. Alternative 3 is predicted to result in 24-hour PM_{10} concentrations of approximately 24 $\mu g/m^3$ (threshold is 10.4 $\mu g/m^3$) and annual PM_{10} concentrations of approximately 1.5 $\mu g/m^3$ (threshold is 1.0 $\mu g/m^3$), and no mitigation measures are possible to further reduce emissions beyond the PDFs and Mitigation Measure HAZ-1. Therefore, the reduction in localized PM_{10} emissions from Alternative 3 would still result in off-site concentrations that are above the significance thresholds. Therefore, Alternative 3 would result in the off-site population being exposed to substantial pollutant concentrations. Although impacts would be less than the Project, impacts under both the Project and Alternative 3 would be significant and unavoidable.

Long-Term Impacts

Alternative 3 would result in the same long-term O&M Plan and an identical cap to the Project. Therefore, Alternative 3 would result in the same less than significant impacts as the Project.

Odors

Short-Term Impacts

Under both the Project and Alternative 3, odor-generating compounds may be released during excavation. Prior work at the Site demonstrated that odors resulting from excavation can at times be objectionable. Although Alternative 3 proposes to remediate the Site and construct the cap at a slower pace to lessen daily maximum air-quality impacts the same amount and type of materials is expected to be disturbed under Alternative 3 and the Project, which indicates the same risks of encountering and releasing odorous compounds. As Alternative 3 would implement the same odor prevention, control, and monitoring requirements as under the Project, but for longer periods of time, Alternative 3 would, therefore, result in a less than significant odor impact, but a greater potential odor impact than under the Project.

Long-Term Impacts

Alternative 3 would result in the same long-term O&M Plan and an identical cap to the Project. Therefore, Alternative 3 would result in the same less than significant impacts as the Project.

Consistency with City of Huntington Beach General Plan Goals and Policies

The City's General Plan contains goals, objectives, and policies that are relevant to air quality and are presented in the General Plan Air Quality Element. Alternative 3 would be consistent with the applicable goals and policies of the City of Huntington Beach General Plan pertaining to air quality. Alternative 3 would remove the same amount of waste from the Site and provide the same cap system and long-term design as the Project, except that construction activities would be less intense on a daily basis but over a longer duration as compared to the Project. As a result, and as discussed above, short-term air quality impacts would be reduced under Alternative 3 as compared to those of the Project and impacts would be less than significant.

Alternative 3 would result in the same long-term O&M Plan and an identical cap to the Project. Therefore, long-term impacts under Alternative 3 would result in the same less than significant impacts as under the Project.

Overall, as Alternative 3 would result in reduced short-term air quality impacts as compared to the Project, it would be more consistent with the applicable policies than the Project.

Biological Resources

Candidate, Sensitive, and Special Status Species

Sensitive Plant Species

The Site currently contains the Southern tarplant, a plant species considered "seriously endangered in California." As with the Project, Alternative 3 would remove and adversely impact all on-site Southern tarplant. As with the Project, this impact would be reduced to a less than significant level through implementation of mitigation (see Mitigation Measure BIO-1 in Section 4.3, *Biological Resources*, of this EIR). Therefore, impacts to sensitive plant species under Alternative 3 and the Project would be similar.

Sensitive Wildlife Species

No sensitive wildlife species were observed or reported during various biological surveys conducted between 1996 and 2013. Although the Site is disturbed, there is low potential for the Site to support foraging habitat for the white-tailed kite, a California Fully Protected Species. As with the Project, Alternative 3 would degrade foraging habitat and, as such, would result in an adverse impact. However, because foraging exists in the surrounding area, the impacts of Alternative 3 and the Project to sensitive wildlife species would be considered similar and less than significant.

Riparian Habitat and Sensitive Natural Communities

Approximately 0.2 acre of disturbed coastal salt marsh is located within the southwestern corner of the Site. Albeit disturbed, localized and isolated with limited habitat functions and values, this vegetation meets the ESHA criteria, as defined in the California Coastal Act and City's Coastal Element. Alternative 3, as with the Project, would remove all the disturbed coastal salt marsh on the Site. As with the Project, this potentially significant impact would be reduced to a less than significant level through the implementation of mitigation (see Mitigation Measure BIO-2 in Section 4.3, *Biological Resources*, of this EIR). Therefore, impacts to sensitive natural communities under Alternative 3 would be similar to those of the Project.

Wetlands

The Site does not support "waters of the U.S./State" or wetlands as regulated under the jurisdiction of the USACE, CDFW, and/or RWQCB. Therefore, as with the Project, Alternative 3 would have no impact with respect to wetlands.

Wildlife Movement

There are no fish or wildlife corridors extending through the Site. The nearest surface water body, the Orange County/Huntington Beach Flood Control Channel, is located adjacent to the Site at its southwestern perimeter. Although the Channel supports open water and could be utilized by migratory birds, it serves as marginal wildlife habitat because it is channelized and does not support native riparian plant communities in the area adjacent to the Site. Higher quality habitat for foraging occurs within the wetlands approximately 0.20 miles to the south and undeveloped land 0.25 miles to the west; therefore, there are other habitat areas within the immediate vicinity of the Site which would be far more attractive to support any wildlife passing nearby. Under Alternative 3, as with the Project, indirect impacts (e.g., lighting, noise, dust) to wildlife utilizing the Channel would occur but are considered to be less than significant. Impacts under both alternatives would be similar.

The Site has the potential to support both raptor and songbird nests due to the presence of localized areas of trees, shrubs, and ground cover. Alternative 3, as with the Project, could potentially remove vegetation during the breeding season. This potentially significant impact to migratory raptor or songbird species would be reduced to a less than significant level through implementation of mitigation (see Mitigation Measure BIO-3 in Section 4.3, *Biological Resources*, of this EIR). Therefore, impacts to migratory raptor or songbird nesting under Alternative 3 would be similar to those of the Project.

Conservation Plans

The Site is not located in an area that is included in any federal, state, local, or regional Habitat or Natural Community Conservation Plan. However, portions of the Site meet the California Coastal Act's definition of an ESHA. Under the California Coastal Act policy, no development or human disturbances (unless resource dependent) are allowed within an ESHA (Coastal Act §30240). Therefore, any impacts to an ESHA would be considered potentially significant. Under Alternative 3, as with the Project, impacts to the ESHA would be reduced to a less than significant level through implementation of mitigation (see Mitigation Measures BIO-1 and BIO-2 in Section 4.3, *Biological Resources*, of this EIR). Therefore, Alternative 3 would be consistent with the applicable plans/policies to a similar degree as the Project.

Consistency with City of Huntington Beach General Plan Goals and Policies

Under both the Project and Alternative 3, impacts to southern tarplant and the disturbed coastal salt marsh would be mitigated at a 1:1 ratio per the prescribed mitigated measures (see BIO-1 and BIO-2). Accordingly, Alternative 3 and the Project would be similarly consistent with the City's policies to protect and preserve biological resources within the City (ERC 2, ERC 2.1, ERC 2.1.2, and ERC 2.1.5). Also, both the Project and Alternative 3 would implement the same controls and mitigation measures during construction/remediation activities to minimize potential impacts to biological resources. Thus, both would be similarly consistent with Policies ERC 2.1.10, ERC 2.1.14 and ERC 2.1.21(c). Overall, impacts with respect to the General Plan's biological resources policies would therefore be less than significant under both Alternative 2 and the Project; and consistency with the Natural Resources Element under Alternative 3 would be similar to that under the Project.

Geology and Soils

Seismic and Geologic Stability Hazards

Short-Term Impacts

Under Alternative 3, the Site would have a similar potential for exposure to seismic and geologic stability hazards as under the Project. Geologic hazards include seismic ground shaking, liquefaction and lateral spreading, earthquake-induced settlement, unstable soils and slopes, or landslides. These could occur during removal of fill soils and materials as under the Project. As with the Project, the intensity of ground shaking could cause damage at the Site and increase the vulnerability of workers. However, because excavation would remove fill berms, the risk of slope failure and other geologic hazards during a seismic event would be continually reduced until the completion of removal activities. As with the Project, a grading plan with site-specific analysis would be prepared by the geotechnical engineer to evaluate the potential for liquefaction and related seismic-induced lateral spreading, unstable soil and slopes, and landslides. In addition, excavation and fill removal activities would be subject to regulations of the Huntington Beach Municipal Code (Section 17.05 – Grading and Excavation), which govern grading, fill, and excavation, as well as safety requirements included in Building Code (Section 17.04 – Building Code). Seismic and other geologic stability impacts would be similar to those under the Project and, as with the Project, would be less than significant.

Long-Term Impacts

As with the Project, Alternative 3 would consolidate existing materials into an engineered fill slope with impermeable cap in accordance with existing codes and regulations. The Site would not be occupied or expose persons to significant seismic hazards, including exposure to ground shaking, liquefaction and lateral spreading, earthquake-induced settlement, unstable soils and slopes, and landslides. Long-term impacts related to geologic hazards would be less than significant and similar to those under the Project.

Soil Erosion

Short-Term Impacts

During remediation activities under both the Project and Alternative 3, the Site could be exposed to rain and wind, thus allowing for possible erosion. Potential soil erosion would be minimized by implementation of standard erosion control measures, including BMPs incorporated into a SWPPP, imposed throughout the construction remediation activities. BMPs could include, but are not limited to, silt fences and staked straw bales. Section 17.05.310 of the Municipal Code and the City of Huntington Beach Grading Manual also

address erosion control during grading and other construction activities. Implementation of erosion and sediment control BMPs and requirements of the Municipal Code and Grading Manual, would ensure that impacts pertaining to soil erosion from excavation and fill removal activities would be less than significant. However, because the construction period (approximately three years) would be relatively longer under Alternative 3 than under the Project (approximately one year), the potential for exposure of soils to rain and wind would be relatively greater under Alternative 3.

Long-Term Impacts

As under the Project, Alternative 3's engineered cap would include a 2-foot-deep soil layer on the cap surface that would be vegetated with grasses or other vegetation. During long-term operation of the Project, the vegetated cover would minimize exposure of fill soils to precipitation and wind and substantially reduce erosion potential on the Site. Permanent erosion control and drainage systems are also required under Section 17.05 (Grading and Excavation) of the Municipal Code and City's Grading Manual. With the use of the vegetated cover and compliance with applicable regulations, impacts with respect to erosion of soils would be less than significant and be similar to those under the Project.

Consistency with City of Huntington Beach General Plan Goals and Policies

As with the Project, Alternative 3 would be consistent with the policies of the General Plan Environmental Hazards Element in that it would ensure that geologic hazards would be within acceptable levels of risk (EH 1.1). Therefore, this Alternative would be consistent with the applicable policies to a similar degree as the Project.

Greenhouse Gas Emissions

Greenhouse Gas Emissions

Short-Term Impacts

Alternative 3 would generate short-term GHG emissions through the use of heavy-duty construction equipment and vehicle trips to export and import materials, visitors and workers traveling to and from the Site. Alternative 3 would remove the same amount of waste from the Site and import the same amount of material as the Project, but the construction schedule would be extended relative to the Project. Alternative 3 would also implement the same PDFs as the Project during construction activities that would limit, minimize, and reduce short-term GHG emissions including: utilizing construction equipment meeting the USEPA Tier 3 off-road emission standards (PDF 5-1); utilizing on-road waste haul trucks that at a minimum comply with the USEPA 2007 on-road emissions standards (PDF 5-2); utilizing low carbon fuels as required by State law (PDF 5-3); and, to the maximum practical extent, recyclable materials, including non-hazardous construction and demolition waste, would be reused or recycled. While daily and annual GHG emissions under Alternative 3 would be lower compared to the Project, the impact of GHG emissions on the global climate are based on total GHG emissions. Because Alternative 3 would result in the same or similar total short-term GHG emissions for waste hauling as the Project but result in two additional years of worker and support vehicle trips, impacts relative to this threshold would be greater than those of the Project, but would still be less than significant.

Long-Term Impacts

Alternative 3 would provide the same cap design and LFG collection system as the Project. Emissions of GHGs associated with long-term operations of Alternative 3 would be generated by the long-term activities, including continued decomposition of organic matter in the waste and vehicle trips necessary for maintenance of the gas collection and treatment system, groundwater monitoring, maintenance of a groundwater monitoring system, landscaping as needed. Landfill gas emissions would include methane, which is a regulated GHG under state law. Given that Alternative 3 would result in the same long-term GHG emissions as the Project, Alternative 3 would have similar impacts compared to the Project. Impacts under both alternatives would be less than significant.

Conflicts with Greenhouse Gas Reduction Plans

Short-Term Impacts

Similar to the Project, Alternative 3, would result in an incremental increase in GHG emissions in the short-term. In accordance with AB 32 strategies, both the Project and Alternative 3 would minimize short-term GHG emissions by using equipment that meet stringent USEPA emissions standards, using low carbon vehicle fuels as required under state law, and prohibiting diesel-fueled commercial motor vehicle idling consistent with CARB requirements. Additionally, and also similar to the Project, Alternative 3 would meet other applicable GHG reduction goals by incorporating strategies such as recycling non-hazardous on-site waste to the maximum extent possible and using recycled materials (i.e., recycled crushed concrete) as components of clean fill. Given that both the Project and Alternative 3 would be consistent with strategies to reduce GHG emissions, they would have similar less than significant impacts.

Long-Term Impacts

Alternative 3 would result in the same long-term GHG emissions as the Project. Similar to the Project, Alternative 3 would be consistent with GHG reduction strategies for passenger vehicles that may be used during these potential commute trips. As a result, Alternative 3 would have similar impacts compared to the Project and the long-term impacts of both alternatives would be less than significant in this regard.

Hazards and Hazardous Materials

Routine Transport, Use, or Disposal of Hazardous Materials

Short-Term Impacts

Under Alternative 3, the same amount of impacted materials would be excavated as the Project. The type of activity (excavation, heavy duty equipment usage, and soil hauling) would be the same as the Project, only occurring at a slower pace and, therefore, over a longer duration. Although the duration of hauling would be extended, the total amount to be hauled would remain the same as the Project. Compounds contained in soil could be emitted during excavation activities, and diesel particulate matter would be emitted from on- and off-site heavy-duty equipment. Cancer health risk impacts are based on averaging a project's emissions over a long-term exposure (i.e. 70-years). As the duration of excavation activities is extended in comparison to the Project, the use of heavy-duty construction equipment and haul trucks would be reduced on a daily basis under Alternative 3, but total emissions would be similar under Alternative 3 and the Project. Therefore, the cancer risk would be similar under both Alternative 3 and the Project. The Project would include PDFs and mitigation measures to minimize impacts and would result in a less than significant impact. Alternative 3

would implement the same PDFs and mitigation measures as the Project and, thus, would also result in impacts that would be similar to the Project.

Long-Term Impacts

Under Alternative 3, the long-term operational activities would be the same as the Project, except beginning two years later. As with the Project, this Alternative would require a landfill gas collection system to collect volatile compounds, including TACs, in the landfill gas. Therefore, Alternative 3 would result in similar less than significant impacts as the Project.

Upset and Accidental Release Conditions

Short-Term Impacts

Under both the Project and Alternative 3, hazardous materials excavated would be transported by a certified hazardous waste transportation contractor, and truck drivers would be properly licensed and receive certified Hazardous Waste Operations and Emergency Response training, similar to the Project. Therefore, the alternatives would result in similar less than significant impacts.

Long-Term Impacts

Under Alternative 3, and similar to the Project, long-term operational activities including on-site ground water monitoring and landfill gas collection system would minimize the potential for upset or accidental release conditions. Groundwater wells near the Site perimeter would be monitored on a regular basis to ensure that contaminated groundwater does not migrate off-site. As discussed previously, an engineered cap would be installed after excavation activities to limit the uncontrolled release of landfill gases to the environment. In addition, a landfill gas collection system would be installed and maintained to capture volatile compounds in the landfill gas. Surface storm water BMPs would also be installed to properly drain the Site and prevent the release of contaminants in stormwater to the surrounding environment. Maintenance workers would visit the Site on a regular basis to ensure that no upset or accidental release conditions are present. Therefore, Alternative 3 would result in similar less than significant impacts as the Project.

Potential Emissions or Handling of Hazardous Materials Near a School

Short-Term Impacts

Alternative 3 would require the same excavation activities as the Project, but the activities would occur over a longer duration. Edison High School is located within one-quarter mile of the Site, near the northeast corner of the Site. Waste removal trucks would enter the Site near the northwest corner along Hamilton Avenue and exit near the southeast corner onto Magnolia Street. This route minimizes the potential risk to school receptors. As discussed above, cancer health risk impacts are based on averaging a project's emissions over a long-term exposure (i.e. 70 years). Therefore, cancer risk impacts under Alternative 3 would be the same as the Project. Chronic health risk impacts may be reduced in comparison to the Project as annual intensity of remedial activities would be reduced. Therefore, this Alternative would result in a less than significant impact like the Project, but impacts under Alternative 3 would be slightly less than those of the Project.

Long-Term Impacts

Under Alternative 3, the engineered cap and gas collection system would serve to prevent the accidental release of impacted materials remaining on-site, similar to the Project. Groundwater wells near the Site perimeter would be monitored on a regular basis to verify that contaminated groundwater has not migrated off-site. In addition, a landfill gas collection system would be installed and maintained to capture volatile compounds in the landfill gas. Maintenance workers would also visit the Site on a regular basis to ensure that no upset or accidental release conditions are present. Therefore, Alternative 3 would result in similar less than significant impacts as the Project.

Located on a Hazardous Materials Site Pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment

Short-Term Impacts

The Site is included on the "Cortese" list pursuant to Government Code Section 65962.5. Similar to the Project, Alternative 3 would result in construction phase transport and disposal of impacted materials which presents the potential for upset or accidental release, and emissions. The Project and Alternative 3 would implement the same PDFs and mitigation measures to minimize these potential hazards to a less than significant level. Therefore, short-term impacts would be similar under Alternative 3 and the Project.

Long-Term Impacts

The Site is included on the "Cortese" list pursuant to Government Code Section 65962.5, and DTSC previously entered into an Imminent and Substantial Endangerment Determination Consent Order with the RPs. Similar to the Project, Alternative 3 would be designed to provide remediation and protect the public and the environment from long-term hazards. In addition, under both Alternative 3 and the Project, long-term operation of the Site would not include on-site sensitive uses. Because future development of the Site, if any, is not considered at this time, it would be highly speculative to assess potential hazards from any future uses that are not known or contemplated. Alternative 3 would implement the same PDFs and mitigation measures as the Project to minimize hazards or hazardous materials impacts on the public or environment. Therefore, Alternative 3 would result in similar less than significant impacts as the Project.

Consistency with City of Huntington Beach General Plan Goals and Policies

The City's General Plan contains goals, objectives, and policies that are relevant to hazardous material handling and are presented in the General Plan Hazards Element. Alternative 3 would be consistent with the applicable goals and policies of the City of Huntington Beach General Plan pertaining to hazards and hazardous materials. This Alternative would remove the same amount of waste from the Site and provide the same cap system and long-term design as the Project, except that construction activities would be less intense compared to the Project, which would result in an extended construction schedule. As a result, and as discussed above, short-term acute impacts would be slightly reduced compared to the Project and less than significant.

Alternative 3 would result in the same long-term O&M Plan and an identical cap to the Project. Therefore, long-term impacts under Alternative 3 would also result in the same less than significant impacts as under the Project.

Overall, as Alternative 3 would result in slightly reduced short-term hazard impacts compared to the Project, it would be consistent with the applicable policies to a greater degree than the Project.

Hydrology and Water Quality

Surface and Groundwater Quality

Short-Term Impacts

The exposure of fill soils and bare ground surface to precipitation or wind has the potential to impact surface water during construction activities. As under the Project, under Alternative 3 BMPs would be incorporated into the SWPPP under a General Construction NPDES Permit to reduce the possibility of transport of eroded materials into off-site water bodies or into the City's drainage system. Removal of excess water (dewatering) as needed and off-site disposal or treatment of contact water prior to discharge would minimize the potential for additional sources of polluted runoff during construction activities. Observed stormwater runoff from the Site would be sampled and tested per applicable regulatory requirements, and results would be reported to the SARWQCB. As with the Project, compliance with applicable regulatory requirements and design features would minimize migration of impacted materials from the on-site waste materials to surface water and groundwater. The status of certain existing monitoring wells would change during excavation, and it is expected that some monitoring wells would be decommissioned and removed. All removals would be conducted in compliance with Cal EPA guidelines to ensure protection of the aquifer.

Overall, Alternative 3 would implement the same project design features as the Project and would comply with existing regulations which would prevent substantial migration of impacted materials into groundwater and surface water. As such, as with the Project, construction activities would not result in the violation of water quality standards, substantial additional sources of impacted runoff, or a substantial degradation of water quality. As with the Project, short-term construction-related impacts with respect to groundwater and surface water would be less than significant. However, because construction activities would occur over a longer period of time (approximately three years) than under the Project (approximately one year), the less than significant impact would be relatively greater under Alternative 3.

Long-Term Impacts

The end state under Alternative 3 would be the same as under the Project. As with the Project, design features would be incorporated to prevent precipitation from infiltrating into underlying waste materials and groundwater, as well as preventing the exposure of surface water runoff to waste materials. Runoff from the main cap (top deck) and side slopes would be collected in the system of V ditches and/or swales and directed to the detention basins. During large storm events, runoff would flow into the City's storm drain system. During the end state, the Site's perimeter access road and City Parcel would consist of permeable surfaces over clean soils. As such, water permeating through these areas would not adversely impact groundwater quality.

The protection of groundwater would be further ensured under both Alternative 3 and the Project by design features that call for long-term groundwater monitoring and sampling at regular intervals from wells located generally near the Site perimeter. During the proposed long-term groundwater monitoring program, if any chemical concentrations in a perimeter, downgradient well are detected above background levels (i.e., above levels already present due to natural occurrence) or are above threshold limits (i.e., Maximum Contaminant Levels or vapor-risk values), steps would be taken to further assess and remedy the condition as needed. As

with the Project, design features would also provide for a permanently vegetated cover with a two-foot soil layer on the cap. As under the Project, the implementation design features, including implementation of SWPPP operational controls, the long-term operation of the capped Site would not result in the violation of water quality standards, substantial additional sources of polluted runoff, or a substantial degradation of water quality. The long-term impacts of Alternative 3 with respect to groundwater and surface water would be less than significant and similar to those of the Project.

Groundwater Supplies

Short-Term Impacts

Under Alternative 3 and the Project, a small amount of dewatering of encountered groundwater may be required during the Project's construction phase. However, such groundwater would represent a negligible contribution from the underlying groundwater basin, which is not utilized as a source for drinking or municipal water. In light of these considerations, short-term impacts to groundwater supplies under Alternative 3 would be less than significant and similar to those under the Project.

Long-Term Impacts

As with the Project, the Site's long-term O&M Plan, which would involve periodic collection of water samples for testing, would remain active. However, the collection of groundwater samples would have minimal impact on groundwater supplies. Thus, the long-term effects on groundwater supply would be primarily associated with the impermeable cap over the majority of the Site, which would be the same under both Alternative 3 and the Project. Among other purposes, the cap design is intended to minimize the potential for surface water to penetrate the top deck of the cap and minimal, if any, surface water would penetrate the side slopes. As under the Project, although the cap covering the majority of the Site would be substantially impermeable, precipitation that would have otherwise entered the ground in the area of the cap would be diverted and collected in two detention basins on the Site. The detention basins would be located over clean low-permeability native soil or imported soils, which would be grass-lined, and uncapped, thus allowing collected runoff to infiltrate into the groundwater basin, similar to present conditions. Overflow during large storm events would enter the City's off-site drainage system. The perimeter access road and City Parcel would also be comprised of permeable soil surfaces that would slow allow infiltration of surface runoff to the groundwater basin. The permeable detention basins, perimeter access road surface, and City parcel surfaces would allow similar recharge of the groundwater basin as presently seen and would be seen following implementation of the Project and would therefore not change substantially the present groundwater recharge. Thus, no net deficit in aquifer volume or a lowering of the local groundwater table level would result from implementation of either Alternative 3 or the Project. Therefore, Alternative 3 and the Project would have a less than significant impact with respect to groundwater supplies and groundwater recharge and any impacts would be similar under either alternative.

Consistency with the City of Huntington Beach General Plan and URMP

As with the Project, Alternative 3 would be consistent with the objective of the City of Huntington Beach General Plan pertaining to protection of water quality in the area of the City's drain facilities. As with the Project, Alternative 3 would also be consistent with policies of the City's URMP regarding groundwater protection, monitoring of surface and groundwater, control of toxic residuals, and hazardous waste management planning. Overall, Alternative 3 would therefore be consistent with the applicable plans and policies to a similar degree as the Project.

Land Use and Planning

As with the Project, Alternative 3 would be consistent or partially consistent with policies of the General Plan. The Project and Alternative 3 would be only partially consistent, or not consistent, with policies of the Coastal Element that encourage the conversion of the Ascon Site to new uses; with the General Plan Land Use Map (2010), which designates the Site for future medium density residential use; and other policies of the Land Use and Housing Elements that encourage the development of housing. Any future re-use of the Site may be subject to a restrictive covenant and would likely require DTSC approval and a subsequent environmental review process. However, if the Site were not developed under the existing residential land use designation, it would not obstruct the City's housing objectives with respect to the City's regional housing share, which is met by residential development at other sites. Therefore, although the land use objectives of the General Plan would not be implemented, the inconsistency of the Project and this Alternative with the General Plan would be considered similar and less than significant.

Alternative 3 and the Project would also be equally inconsistent with policies of the General Plan to provide for the development of the Magnolia Pacific Specific Plan. The Specific Plan calls for the development of the Site with 502 residential units in a mixture of single-family detached homes and multi-family units. As with the Project, Alternative 3 would not be consistent with the DTSC 2011-2016 Strategic Plan to "restore land and water to protect human health and the environment, and to facilitate efficient reuse and redevelopment." As with the Project, under Alternative 3, materials harmful to human health and the environment would be capped (sealed) but not entirely removed from the Site. DTSC would restrict the future use of the Site based on the capped condition and any future development would need to meet DTSC conditions prior to development. Therefore, Alternative 3, as with the Project, would not facilitate ready reuse and redevelopment. However, because this limitation would not cause a significant physical impact, land use impacts under this Alternative, as with the Project, would be less than significant. Impacts with respect to consistency with the policies of the General Plan and other policy documents would be similar under Alternative 3 to those of the Project.

Noise

Noise Levels in Excess of Standards

Short-Term Impacts

Under this Alternative, short-term activities related to remediation and construction of the cap would proceed, only at a less intense pace. With fewer pieces of equipment operating simultaneously, less noise would be generated. Similar to the Project, activities associated with implementation of Alternative 3 would temporarily increase the existing ambient noise levels above perceptible levels in close proximity of the Site. However, similar to the Project, the short-term noise level experienced at the off-site sensitive land uses under Alternative 3 would be below the 80 dBA threshold established by FTA for construction impacts. Furthermore, during implementation of Alternative 3, construction activities would be temporary in nature and would be required to comply with the City's allowable hours. Impacts would therefore be less than significant and similar under both alternatives. With respect to potential nighttime noise levels at nearby residences due to use of a blower associated with Pit F remediation, mitigation measure Noise-1 would reduce the impact to less than significant levels under Alternative 3, similar to the Project.

Under Alternative 3, the maximum daily haul truck trips would be fewer than with the Project, resulting in less noise impacts. However, similar to the Project, noise levels generated by haul truck trips would not

result in a noticeable increase at noise-sensitive land uses along the haul routes.[14] Since temporary noise associated with construction of the cap is exempt from the City's noise ordinance requirements, the levels projected to be experienced by off-site sensitive land uses due to on-site noise sources are below the FTA's recommended noise levels, and the change in noise levels along the haul routes from haul trucks would be below perceptible thresholds, implementation of Alternative 3 would result in less than significant short-term noise impacts. In addition, requirements set forth in the Project Design Features in Chapter 4.9 of this DEIR would further reduce construction noise impacts.

Overall, the impacts would be less than significant and similar to those projected to occur under the Project because Alternative 3 would have similar pieces of construction equipment operating near receptors and same number of haul truck trips, albeit fewer per day, than the Project.

Long-Term Impacts

Under Alternative 3, the same cap and LFG collection and treatment system would be installed as under the Project. Vehicular visitations and long-term O&M activities on-site would also be the same as the Project. Therefore, noise levels from long-term activities on the Site would be less than significant and would be similar to those projected under the Project.

Groundborne Vibration and Noise

Short-Term Impacts

Because vibration dissipates quickly with distance, the maximum instantaneous vibration impacts expected to occur off-site result from any one piece of equipment operating nearest to the Site boundary. Therefore, fewer numbers of equipment operating concurrently under Alternative 3 would not noticeably lessen off-site vibration impacts. Alternative 3 would therefore result in ground vibration levels and vibration velocities similar to the Project, and well below the applicable significance thresholds. Therefore, vibration impacts associated with this Alternative would be less than significant and similar to those projected to occur under the Project.

Long-Term Impacts

Under Alternative 3, the same cap and LFG collection and treatment system would be installed as under the Project. Vehicular visitations and long-term O&M activities on-site would be the same as the Project. Therefore, no long-term groundborne vibration and noise levels on the Site would occur similar to the Project.

Substantial Permanent Increase Above Existing Noise Levels

Under Alternative 3, the same cap and LFG collection and treatment system would be installed as under the Project. Vehicular visitations and long-term O&M activities on-site would be the same as those proposed under the Project. Therefore, noise levels from long-term activities on the Site would be less than significant and would be similar to those projected under the Project.

[14] *U.S. Department of Transportation, Federal Highway Administration,* Highway Traffic Noise: Analysis and Abatement Guidance, *(2011).*

Substantial Temporary or Periodic Increase Above Existing Noise Levels

As stated above, the on-site construction activities proposed under Alternative 3 and the Project would result in increases in temporary and periodic noise above existing levels at nearby off-site sensitive land uses. Hauling activities are not expected to produce noise above existing ambient noise levels along the haul routes. Also, similar to impacts under the Project, these increases would not exceed thresholds and would, therefore, be considered less than significant. Alternative 3 would result in similar pieces of construction equipment operating simultaneously over short-durations when compared to the Project and, as such, would result in similar short-term construction noise levels. Mitigation measure Noise-1 would reduce potential Pit F blower noise impacts to less than significant levels. For these reasons, impacts would be the same under this Alternative as compared to the Project.

Consistency with City of Huntington Beach General Plan Goals and Policies

The City's General Plan contains goals, objectives, and policies that are relevant to noise and are presented in the General Plan Noise Element. Alternative 3 would be consistent with the applicable goals and policies of the City of Huntington Beach General Plan pertaining to Noise. Under this Alternative, short-term activities related to remediation and construction of the cap would proceed, only at a less intense pace, with fewer pieces of mechanized equipment operating simultaneously. Thus, similar to the Project, Alternative 3 would result in a temporary increase in existing ambient noise levels above perceptible levels in close proximity of the Site. However, similar to the Project, the short-term noise level experienced at the off-site sensitive land uses would be below the 80 dBA threshold established by the FTA for construction-related noise impacts. Alternative 3 would result in fewer maximum daily haul truck trips than compared to the Project. Consistent with the General Plan, short-term construction activities would be limited to established hours (between 7:00 a.m. to 8:00 p.m. on weekdays and Saturdays). Under Alternative 3, the same cap and LFG collection and treatment system would be installed as under the Project. Under Alternative 3, mechanical equipment would be required to implement the same mitigation measures as the Project (see Mitigation Measures NOISE-1 and NOISE-2). Similar to the Project, Alternative 3 would result in negligible maintenance trips during long-term operations and would not contribute to roadway noise increases. Therefore, similar to the Project, mechanical noise under Alternative 3 would be minimized to a less than significant level. Because future development of the Site, if any, is not considered at this time, it would be highly speculative to assess potential noise from any future uses that are not known or contemplated. Overall, this Alternative would be consistent with the applicable policies to a similar degree as the Project.

Transportation/Traffic

Traffic Impacts

Short-Term Impacts

Construction activities under Alternative 3 would occur for approximately three years as compared to approximately one-year under the Project. Under this Alternative, the daily amount of construction traffic would be approximately one-third (35%) of the Project's construction traffic in terms of one-way trips. The Project would generate approximately 357 one-way daily trips, while this Alternative would generate approximately 127 daily trips. The maximum daily amount of haul trucks (import and export) would be approximately one-quarter (25%) of those under the Project or approximately 75 haul trips per day under Alternative 3 compared to 300 under the Project, though the total number of truck trips would be the same at the end of either alternative. For purposes of this analysis, although overall construction activities would be less intense under Alternative 3 than under the Project, there could potentially be some construction days where peak hour traffic would be similar to that of the Project. Under these circumstances, construction

activities would be at a similar intensity during the peak hours, while construction activities in the afternoon would be less than intense compared to the Project. Haul routes would be the same for Alternative 3 and the Project.

Alternative 3 is estimated to be operational during 2015 to 2017, similar to Alternative 2. As Alternative 3 would generate the same peak hour traffic as under the Project and Alternative 2, the same eight (8) intersections that would be significantly impacted under Alternative 2 would be impacted under Alternative 3. As described in Section 4.10, *Traffic and Circulation*, of this EIR and under the discussion of Alternative 2, above, the Project would impact five intersections during 2015. Alternative 3 would be required to implement the same mitigation as Alternative 2 to reduce its potentially significant impacts to the eight intersections to a less than significant level.

During hauling activities, it may also be necessary to close the shared parking/bicycle lane on eastbound Hamilton Avenue along the Site frontage. This lane closure could potentially affect the current Magnolia Street/Hamilton Avenue intersection by closing the existing shared through/right-turn lane. With this temporary closure, the eastbound approach would be reconfigured to include a shared left-turn/through/right-turn lane. However, as under the Project and Alternative 2 (see Table 5-18, above), the intersection would remain at LOS A with the implementation of the lane closure during both the A.M. and P.M. peak hours.

Overall, while this Alternative would have a limited number of worst-case construction days where peak hour traffic would be similar to the Project, on most day's traffic during the peak hour would be less, and the daily overall amount of traffic would be less throughout this Alternative. However, traffic generated by this Alternative would occur for three years, as compared to one year under the Project. Nonetheless, as this Alternative would result in less overall daily traffic, although for a longer duration, the traffic impact under this Alternative is concluded to be less than the Project.

Long-Term Impacts

As with the Project, long-term periodic maintenance and monitoring activities would occur at the Site. Any trips to the Site would be negligible and would result in no significant increase in intersection traffic. Impacts would be less than significant and similar to those under the Project, which is estimated to generate approximately 1 to 10 trips per week associated with long-term maintenance activities at the Site. These trips would not occur on a daily basis and would be commensurate with as needed maintenance and monitoring activities. Therefore, long-term traffic impacts would be less than significant and similar to those under the Project.

CMP Intersections

Short-Term Impacts

The Orange County CMP identifies four intersections along Beach Boulevard between I-405 and Pacific Coast Highway as CMP intersections. Because Alternative 3 would generate peak hour trips similar to the Project , it would not increase ICU by more than 0.03 at any of the CMP intersections (refer to **Table 5-19**, *Alternative 3 Trip Generation Estimates*). As with the Project, Alternative 3 would have a less than significant impact on the CMP intersections during short-term construction activities. While this Alternative would have a limited number of worst-case construction days where peak hour traffic would be similar to the Project, on most days traffic during the peak hour would be less, and the daily overall amount of traffic would be less throughout Alternative 3. However, traffic generated by this Alternative would occur for three years, as

Table 5-19

Alternative 3 Trip Generation Estimates

Trip Type	PCE	Daily One-Way Trips	Daily Two Way Trips PCE	Max Hourly Trips		A.M. Peak Passenger Car Equivalents			P.M. Peak Passenger Car Equivalents		
				A.M.	P.M.	In	Out	Total	In	Out	Total
Export Trucks	3	25	150	20	4	60	60	120	12	12	24
Import Trucks	3	50	300	25	25	75	75	150	75	75	150
Supply Trucks	3	5	30	4	0	12	12	24	0	0	0
Employee	1	37[a]	37	0	37	0	0	0	0	37	37
Visitor	1	10	20	10	10	10	0	10	0	10	10
Totals:		**127**	**537**	**59**	**76**	**157**	**147**	**304**	**87**	**134**	**221**

[a] *The number of employees could be less than 37. However, for purposes of this traffic analysis, 37 has been assumed to provide a worse-case assessment of traffic impacts.*

Source: PCR Services Corporation, 2013

compared to approximately one year under the Project. Nonetheless, as this Alternative would result in less overall daily traffic, although for a longer duration, the traffic impacts under this Alternative are concluded to be less than those of the Project.

Long-Term Impacts

As with the Project, long-term periodic maintenance and monitoring activities would occur at the Site. Any trips to the Site would be negligible and would result in no increase in intersection traffic. Impacts would be less than significant and the same as those under the Project, which is estimated to generate approximately 1 to 10 trips per week associated with long-term maintenance activities. These trips would not occur on a daily basis and would be commensurate with as needed maintenance and monitoring activities. Therefore, long-term impacts to CMP intersections would be less than significant and similar to those under the Project.

Emergency Access

Short-Term Impacts

As with the Project, under Alternative 3 the Site's ingress and egress driveways would be designed to meet the City of Huntington Beach standards. All Site access and circulation would be reviewed by the City of Huntington Beach Department of Public Works Road Division and Fire Department to ensure that the Site provides adequate emergency access. Signal timing optimization would improve base conditions on affected intersections along the Project's haul route. During construction of either Alternative 3 or the Project, however, it may be necessary to close the shared parking/bicycle lane on eastbound Hamilton Avenue along the Site frontage. This lane closure could potentially affect the current Magnolia Street/Hamilton Avenue intersection by closing the existing shared through/right-turn lane. With this temporary closure, the eastbound approach would be reconfigured to include a shared left-turn/through/right-turn lane. As discussed in the traffic impact analysis above, the intersection would remain at LOS A with the implementation of the lane closure during both the A.M. and P.M. peak hours. As such, the temporary lane closure would not result in a substantial adverse emergency access impact at this intersection. Because the volume of daily trips would be less than that experienced under the Project, less overall truck traffic would

arrive at and leave the Site daily. This would result in less potential for conflict between haul trucks and emergency vehicles along the haul route on a daily basis. However, traffic generated by Alternative 3 would occur for three years, as compared to approximately one year under the Project. Nonetheless, as this Alternative would result in less overall daily traffic, although for a longer duration, emergency access impacts under this Alternative are concluded to be less than those of the Project. Both alternatives present less than significant impacts.

Long-Term Impacts

As with the Project, long-term periodic maintenance and monitoring activities would occur at the Site. Any trips to the Site would be negligible and would result in no significant increase in intersection traffic. The function of the street system would remain with available capacity to accommodate the nominal increase in traffic, including emergency vehicles. Thus, trips to the Site would not result in an increase in traffic such that adverse emergency access impacts would occur. Also, the Site's ingress and egress driveways would be designed to meet the City of Huntington Beach standards. All Site access and circulation would be reviewed by the City of Huntington Beach Department of Public Works Road Division and Fire Department to ensure adequate emergency access to and within the Site. Therefore, long-term impacts relative to emergency access under Alternative 3 would be less than significant and similar to those under the Project.

Alternative Transportation Facilities

Short-Term Impacts

Similar to the Project, construction remediation activities on the Site under Alternative 3 would involve the travel of heavy duty trucks throughout the day, which has the potential to create conflicts as these vehicles enter the roadway travel lanes and travel along the designated routes to reach I-405. During part of the short-term construction phase of the Project and this Alternative, the bicycle lanes on the southbound side of Magnolia Street and the eastbound side of Hamilton Avenue would be barricaded and unusable. Although bicyclists would not be prohibited from traveling along this street, the loss of the shoulder would not be conducive to comfortable riding. As such, most cyclists would have to divert trips to other roadway facilities. This is considered to be a potentially significant short-term impact under the Project and Alternative 3. However, as under the Project, signage would be required as a design feature to direct eastbound bicyclists on Hamilton Avenue and southbound cyclists on Magnolia Street to alternative routes (detours), such as eastbound Atlanta Avenue and southbound Newland and Bushard Streets. As with the Project, design features would also prohibit left turns by haul trucks or trucks larger than four or fewer axle, single-trailer trucks from the Site unless assisted by flagmen and call for temporary traffic control signage and flagmen at both the ingress and egress points to the Site, which features serve as safety measures for bicyclists. In addition, a Construction Traffic Management/Haul Plan would be developed and implemented during construction. The Plan would identify all traffic control measures, signs, and delineators to be implemented by the construction contractor through the duration of construction activities associated with Alternative 3. Further, given the proximity of the Site to Edison High School, as with the Project, a design feature would be implemented to provide on-going communication with school administration at Edison High School, providing sufficient notice to forewarn students and parents/guardians when existing bicycle routes to the school may be impacted in order to ensure school traffic and pedestrian safety. A design feature would also be incorporated into Alternative 3 to prohibit haul trucks from hauling past the High School. The implementation of these design features would ensure that impacts regarding bicycle facility performance and safety would be less than significant under both Alternative 3 and the Project. However, because these

impacts would last longer under Alternative 3 than under the Project, the impacts would be greater under Alternative 3.

With regard to pedestrian safety, Alternative 3 and the project would utilize barricades to create a buffer between construction activities and the public street and would impact the paved walkway along Hamilton Avenue adjacent to the Site. This feature would prevent pedestrians from walking along the south side of Hamilton Avenue. This is considered to be a potentially significant short-term impact under the Project and this Alternative. However, a project design feature would be implemented to direct pedestrians to travel exclusively along the north side of Hamilton Avenue and the east side of Magnolia Street. The north side of Hamilton Avenue has an off-street pedestrian path that is slightly set back from Hamilton Avenue and connects to Edison Community Park. The east side of Magnolia Street has a paved sidewalk. In addition, as with the Project, design features would provide safety for pedestrians as well as for bicyclists. No bus stops are located immediately adjacent to the Site along Hamilton Avenue or Magnolia Street. Thus, no bus stops or transit facilities would be directly impacted by construction activities. In light of the above, impacts under both Alternative 3 and the Project would be reduced to less than significant. However, because the effects on bike lanes and pedestrian access would occur over a longer period of time (approximately three years under Alternative 3 compared to approximately one year under the Project), Alternative 3 would have a relatively greater impact to bicycles and pedestrians than the Project.

Long-Term Impacts

Upon completion of Alternative 3 and the Project, construction activities would cease and the use of existing bicycle paths along south side of Hamilton Avenue and west side of Magnolia Street would be restored. Also, the use of the paved walkway along the south side of Hamilton Avenue would be restored, and the berm along the Magnolia Street (and into the City's right-of-way) would be eliminated (a new sloped berm would be constructed as part of the cover, but would be located within the CHP parcel). This would improve future pedestrian access along this frontage or enable the future construction of a sidewalk in the City's right-of-way. Long-term impacts to alternative transportation modes would be similar and less than significant under both alternatives.

Consistency with City of Huntington Beach General Plan Goals and Policies

The City's General Plan Circulation Element contains goals, objectives, and policies that are applicable to traffic. As with the Project, Alternative 3 would be substantially consistent with policies to mitigate off-site traffic impacts and pedestrian, bicycle, and vehicular conflicts to the maximum extent feasible (Policy CE 2.3.1), to limit driveway access points and require adequate driveway widths onto arterial roadways, and require driveways be located to ensure the smooth and efficient flow of vehicles, bicycles, and pedestrians (CE 2.3.2). Because neither the Project nor Alternative 3 would generate adverse traffic conditions, they are both equally consistent with the General Plan Circulation Element and impacts under both alternatives are equally less than significant with respect to the Plan.

Impact Summary

A comparative summary of the environmental impacts associated with Alternative 3 and the environmental impacts anticipated under the Project is provided in Table 5-20 at the end of this EIR section.

Relationship of the Alternative to Project Objectives

The ability of the Lower Intensity - Extended Schedule Alternative (Alternative 3) to meet the stated objectives of the Project is summarized in Table 5-21 at the end of this EIR section. The following provides a description of the Alternative's ability to meet the Project's objectives.

- Objective #1 - *To reduce the potential for long-term risks to life, property and the environment (inclusive of nearby residences, schools, parks, and businesses) from contaminated materials and waste*: Alternative 3 and the Project would ultimately result in the same capped system on the Site and would implement the same Operations and Maintenance (O&M) Plan. The capped site would reduce the potential for long-term risks to life, property and the environment (inclusive of nearby residences, schools, parks, and businesses) from contaminated materials and waste. As such, both the Project and this Alternative would meet this objective and would do so to a similar extent.

  Objective # 2 - *To reduce the potential for short-term risks (during implementation activities) to life, property and the environment (inclusive of nearby residences, schools, parks, businesses, and on-site workers) from contaminated materials and waste through proper handling, treatment and disposal*: Similar to the Project, Alternative 3 would implement numerous health and safety controls, many of which are identified as PDFs, and comply with applicable regulations pertaining to the handling, treatment and disposal of contaminated materials and waste. That is not to say that all short-term risks would be eliminated, but rather, such risks would be reduced as technically feasible in accordance with the intent of this objective. Accordingly, both the Project and this Alternative would meet this objective. However, Alternative 3 would include less intense daily construction activities, but would occur over a longer period of time than the Project, which would eliminate the Project's significant and unavoidable regional NO_X and PM_{10} air quality impact during construction activities. Under Alternative 3, therefore, regional NO_X and PM_{10} air quality impacts would be less than significant (although similar to the Project, localized 1-hour NO_2 impacts would be significant and unavoidable). Nonetheless, even at a lower intensity, Alternative 3 would result in significant and unavoidable localized 24-hour and annual PM_{10} impacts, but at a reduced level compared to the Project. In addition, construction-related traffic impacts would be less under this Alternative than under the Project. Unlike air quality and traffic, COPC-related cancer health-risks are based on a cumulative lifetime exposure to COPCs. Thus, while Alternative 3 would take approximately 36 months, a similar total amount of construction activity (including hours of equipment operation, truck miles traveled, etc.) would occur under Alternative 3 as under the Project. As such, short-term health risks from exposure to TACs would be similar under Alternative 3 and the Project. Nonetheless, because short-term air quality, and to a lesser extent traffic, would be reduced under Alternative 3 as compared to the Project, this Alternative would better meet this objective than the Project.

  Objective #3 - *To ensure that contaminated materials and waste are transported in a safe, efficient and coordinated manner to minimize risks to sensitive uses (such as nearby residences and schools)*. Both Alternative 3 and the Project would implement numerous health and safety controls, many of which are identified as PDFs, and comply with applicable regulations pertaining to the transport of hazardous materials and waste. Accordingly, hazardous waste would be transported in a safe manner to minimize risks to sensitive uses under both the Project and Alternative 3, despite the difference in durations. However, transport efficiency and ability to coordinate would suffer with an artificially extended schedule as would occur under Alternative 3, preventing transport coordinators

from securing the optimal number of transport haulers dedicated to the project and thereby significantly reducing transport efficiency. Thus, Alternative 3 would meet this objective to a lesser extent than the Project.

- Objective #4 - *To reduce the potential for on-site contaminated materials to impact groundwater or migrate off-site*: The Project and this Alternative would include an impermeable cap system covering most of the Site, with only the City Parcel, detention basins and perimeter access road being uncapped. However, impacted materials in these areas would be excavated to at least street level and then, if necessary, to a depth achieving the acceptable RBCs, background concentrations, or until groundwater is reached. As such, groundwater quality would not be adversely impacted. As Alternative 3 and the Project would include the same cap system, both would meet this objective to ensure that on-site waste materials do not contaminate groundwater or migrate off-site in the long term. However, the longer Alternative 3 schedule would expose the Site under construction conditions for an additional two years and rain/wet seasons, increasing the chance of off-site migration of stormwater-related impacts from the Site. Therefore, Alternative 3 would meet this objective to a lesser extent than the Project.

- Objective #5 - *To remediate the site to enhance public health, safety and welfare and ultimately allow potential new uses of the site that will not endanger human health and the environment*: As Alternative 3 and the Project would implement the same cap system over the Site to enhance protection of public health, safety and welfare, both would meet this objective. Under Alternative 3 and the Project, the capped Site could potentially support a limited type of new uses such as some commercial or recreational uses that protect the cap and gradients of the Site. As the extent of potential new uses would be the same under the Project and this Alternative, both would meet this objective to a similar extent.

- Objective #6 - *To remediate the site in a timely, expedient, and cost effective manner*. Under the Project, the construction remediation activities would occur for approximately one year. Under Alternative 3, construction remediation activities would occur for approximately 36 months (~3 years), because Alternative 3 includes less intensive daily construction activities during its implementation. This greater duration of construction activities would be more apparent and perceivable by the surrounding community compared to the Project, even though the end result of the remediation activities (a capped Site) would be the same under Alternative 3 and the Project. However, because Alternative 3 is neither timely, expedient nor cost-effective, this Alternative does not meet this objective.

Environmentally Superior Alternative

Section 15126.6(e)(2) of the *CEQA Guidelines* requires an analysis of alternatives to a proposed project to identify an Environmentally Superior Alternative among the alternatives evaluated in an EIR. The *CEQA Guidelines* also state that, should it be determined that the No Project Alternative is the Environmentally Superior Alternative, the EIR shall identify another Environmentally Superior Alternative among the remaining alternatives. With respect to identifying an Environmentally Superior Alternative among those analyzed in this EIR, the range of feasible alternatives to be considered includes Alternative 1, the No Project Alternative; Alternative 2, Source Removal with Off-Site Disposal; and Alternative 3, Lower Intensity - Extended Schedule Alternative.

Table 5-20, *Comparison of Impacts Associated with the Alternatives and Impacts of the Project*, provides a summary comparison of the impacts associated with each of the proposed alternatives with the impacts of the Project. The ability of the Alternatives to meet the stated objectives of the Project is summarized in **Table 5-21**, *Project Alternatives' Ability to Meet Project Objectives*.

Based on the evaluation of impacts presented in the Alternatives analysis above, and the findings regarding each Alternative's ability to meet the Project's stated objectives, Alternative 3, the Lower Intensity - Extended Schedule Alternative is determined to be the Environmentally Superior Alternative, as discussed below.

Regarding the No Project Alternative, while reducing a number of short-term environmental impacts when compared to the Project because of the absence of construction remediation activities, the No Project Alternative would leave the Site in a non-remediated state in the long-term. Thus, existing hazards and health risk effects occurring under existing conditions would continue. No long-term benefits to the environment or the surrounding community would occur under this Alternative. Further, this Alternative is contrary to the project objectives to remediate the Site. As such, it is not considered as the Environmentally Superior Alternative.

As shown in Table 5-20, Alternative 2 would result in less long-term impacts than the Project for numerous issue areas (i.e., hazardous materials and land use) because more waste materials would be removed from the Site. However, Alternative 2 would also result in greater short-term impacts for many issue areas (i.e., air quality, greenhouse gas emissions, hazardous materials). Thus, there is a trade off when comparing Alternative 2 and the Project. Generally, fewer short-term impacts would occur with the Project, but in the long-term, the Site would be capped with underlying waste materials. In contrast, Alternative 2 would result in greater short-term impacts, but the result would be a vacant Site with essentially no underlying waste materials. A key component in determining the Environmentally Superior Alternative is that the Alternative 2 would not reduce the Project's significant and unavoidable short-term impacts; rather, those impacts would be greater under Alternative 2. Also, Alternative 2 presents significant and unavoidable hazardous materials impacts during the remediation activities, which would not accompany the Project.

In contrast, Alternative 3 results in impacts similar to or better (reduced) than those associated with the Project for the majority of the issue areas, with the notable exception of short-term water quality impacts, wherein a longer construction schedule extending through three wet seasons increases the chance of impacting groundwater. The lower intensity, longer schedule under Alternative 3 would reduce the Project's significant and unavoidable regional NO_x and PM_{10} air quality impact to less than significant levels. However, Alternative 3 does not lessen the significant and unavoidable 1-hour NO_2 impact. In addition, even with the lower daily and annual emissions of PM_{10} under Alternative 3, it is expected to result in localized 24-hour and annual concentrations of PM_{10} that exceed applicable thresholds, and impacts would therefore remain significant and unavoidable. Because Alternative 3 would reduce most short-term impacts, including eliminate the Project's significant and unavoidable short-term regional NO_X air quality impact and have similar long-term impacts, and even though Alternative 3 would exceed applicable thresholds for localized 24-hr and annual concentrations of PM_{10}, Alternative 3 is nevertheless identified as the Environmentally Superior Alternative.

While Alternative 3 is identified as the Environmentally Superior Alternative in this Draft EIR, this does not mean it is selected as the remediation plan for the Site at this time by DTSC. DTSC will consider the analysis included within this EIR along with public input throughout the environmental review process in their decision-making process to select the remediation plan for the Site.

Table 5-20

Comparison of Impacts Associated with the Alternatives

and Impacts of the Project

	Project Impact	Alternative 1 No Project	Alternative 2 Source Removal with Off-Site Disposal	Alternative 3 Lower Intensity - Extended Schedule
A. Aesthetics				
Short Term – Scenic Vista	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
Short-Term - Visual Character and Visual Quality	Less Than Significant	Less (No Impact)	Greater (Less Than Significant)	Greater (Less Than Significant)
Long-Term – Scenic Vista	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
Long-Term Visual Character & Quality	Less Than Significant	Greater (No Beneficial Impact)	Less (Less Than Significant)	Similar (Less Than Significant)
Short-Term - Scenic Resources Within a State Scenic Highway	Less Than Significant	Less (No Impact)	Greater (Less Than Significant)	Greater (Less Than Significant)
Long-Term - Scenic Resources Within a State Scenic Highway	Less Than Significant	Greater (No Beneficial Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
B. Air Quality				
Short-Term - AQMP Consistency	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
Long-Term – AQMP Consistency	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
Short Term – Violation of Air Quality Standards	Significant and Unavoidable	Less (No Impact)	Greater (Significant and Unavoidable)	Less (Less Than Significant)
Long-Term – Violation of Air Quality Standards	Less Than Significant	Greater (Less Than Significant)	Less (Less Than Significant)	Similar (Less Than Significant)
Short-Term – Cumulative Pollutant Increases	Significant and Unavoidable	Less (No Impact)	Greater (Significant and Unavoidable)	Less (Less Than Significant)
Long-Term – Cumulative Pollutant Increases	Less Than Significant	Greater (Less Than Significant)	Less (Less Than Significant)	Similar (Less Than Significant)

Table 5-20 (Continued)

Comparison of Impacts Associated with the Alternatives and Impacts of the Project

	Project Impact	Alternative 1 No Project	Alternative 2 Source Removal with Off-Site Disposal	Alternative 3 Lower Intensity - Extended Schedule
Short-Term - Sensitive Receptor Exposure to Substantial Pollutant Concentrations	Significant and Unavoidable	Less (No Impact)	Greater (Significant and Unavoidable)	Less (Significant and Unavoidable)
Long-Term - Sensitive Receptor Exposure to Substantial Pollutant Concentrations	Less Than Significant	Greater (Less Than Significant)	Less (Less Than Significant)	Similar (Less Than Significant)
Short-Term - Odors	Less Than Significant	Less (No Impact)	Greater (Less Than Significant)	Greater (Less Than Significant)
Long-Term - Odors	Less Than Significant	Greater (Less Than Significant)	Less (Less Than Significant)	Similar (Less Than Significant)
C. Biological Resources				
Sensitive Plant Species	Less Than Significant With Mitigation	Less (No Impact)	Similar (Less Than Significant With Mitigation)	Similar (Less Than Significant With Mitigation)
Sensitive Wildlife Species	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
Riparian Habitat/Natural Communities	Less Than Significant With Mitigation	Less (No Impact)	Similar (Less Than Significant With Mitigation)	Similar (Less Than Significant With Mitigation)
Wetlands	No Impact	Similar (No Impact)	Similar (No Impact)	Similar (No Impact)
Wildlife Movement	Less Than Significant With Mitigation	Less (No Impact)	Similar (Less Than Significant With Mitigation)	Similar (Less Than Significant With Mitigation)
D. Geology and Soils				
Short-Term – Seismic and Geologic Stability Hazards	Less Than Significant	Less (No Impact)	Less (Less Than Significant)	Similar (Less Than Significant)
Long-Term - Seismic and Geologic Stability Hazards	Less Than Significant	Greater (Less than Significant)	Less (Less Than Significant)	Similar (Less Than Significant)
Short-Term – Soil Erosion	Less Than Significant	Less (Less than Significant)	Greater (Less Than Significant)	Greater (Less Than Significant)

Table 5-20 (Continued)

Comparison of Impacts Associated with the Alternatives and Impacts of the Project

	Project Impact	Alternative 1 No Project	Alternative 2 Source Removal with Off-Site Disposal	Alternative 3 Lower Intensity - Extended Schedule
Long-Term – Soil Erosion	Less Than Significant	Greater (Less than Significant)	Similar (Less Than Significant)	Similar (Less Than Significant)
E. Greenhouse Gas Emissions				
Short-Term - GHG Emissions	Less Than Significant	Less (No Impact)	Greater (Significant and Unavoidable)	Greater (Less Than Significant)
Long-Term - GHG Emissions	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
Short-Term - Plan Consistency	Less Than Significant	Less (No Impact)	Greater (Less Than Significant)	Similar (Less Than Significant)
Long-Term - Plan Consistency	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
F. Hazards and Hazardous Materials				
Short-Term - Routine Transport, Use, or Disposal of Hazardous Materials	Less Than Significant With Mitigation	Less (No Impact)	Greater (Significant and Unavoidable)	Similar (Less Than Significant with Mitigation)
Long-Term - Routine Transport, Use, or Disposal of Hazardous Materials	Less Than Significant	Greater (Less Than Significant)	Less (No Impact)	Similar (Less Than Significant)
Short-Term - Upset and Accidental Release Conditions	Less Than Significant	Less (No Impact)	Greater (Less Than Significant)	Similar (Less Than Significant)
Long-Term - Upset and Accidental Release Conditions	Less Than Significant	Greater (Significant and Unavoidable)	Less (No Impact)	Similar (Less Than Significant)
Short-Term - Hazardous Emissions or Handling of Hazardous Materials Near a School	Less Than Significant	Less (No Impact)	Greater (Less Than Significant With Mitigation)	Less (Less Than Significant)

Table 5-20 (Continued)

Comparison of Impacts Associated with the Alternatives and Impacts of the Project

	Project Impact	Alternative 1 No Project	Alternative 2 Source Removal with Off-Site Disposal	Alternative 3 Lower Intensity - Extended Schedule
Long-Term - Hazardous Emissions or Handling of Hazardous Materials Near a School	Less Than Significant	Greater (Less Than Significant)	Less (Less Than Significant)	Similar (Less Than Significant)
Short-Term - Located on a Hazardous Materials Site Pursuant to Government Code Section 65962.5	Less Than Significant with Mitigation	Less (No Impact)	Greater (Significant and Unavoidable)	Similar (Less Than Significant with Mitigation)
Long-Term - Located on a Hazardous Materials Site Pursuant to Government Code Section 65962.5	Less Than Significant	Greater (Less Than Significant)	Less (Less Than Significant)	Similar (Less Than Significant)
G. Water Quality				
Short-Term - Water Quality	Less Than Significant	Less (Less Than Significant Impact)	Greater (Less Than Significant)	Greater (Less Than Significant)
Long-Term - Water Quality	Less Than Significant	Greater (Potentially Significant)	Less (Less Than Significant)	Similar (Less Than Significant)
Short-Term – Groundwater Supplies	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
Long-Term - Groundwater Supplies	Less Than Significant	Similar (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
H. Land Use and Planning				
Impacts relative to Adopted Plans and Policies	Less Than Significant	Greater (Potentially Significant)	Less (Less Than Significant)	Similar (Less Than Significant)

Table 5-20 (Continued)

Comparison of Impacts Associated with the Alternatives and Impacts of the Project

	Project Impact	Alternative 1 No Project	Alternative 2 Source Removal with Off-Site Disposal	Alternative 3 Lower Intensity - Extended Schedule
I. Noise				
Short-Term - Noise Levels in Excess of Standards	Less Than Significant with Mitigation	Less (No Impact)	Greater (Less Than Significant)	Similar (Less Than Significant with Mitigation)
Long-Term - Noise Levels in Excess of Standards	Less Than Significant	Less (No Impact)	Less (Less Than Significant)	Similar (Less Than Significant)
Short-Term - Groundborne Vibration and Noise	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
Long-Term - Groundborne Vibration and Noise	No Impact	Similar (No Impact)	Similar (No Impact)	Similar (No Impact)
Substantial Permanent Increase Above Existing Noise Levels	Less Than Significant with Mitigation	Less (No Impact)	Less (Less Than Significant)	Similar (Less Than Significant)
Substantial Temporary or Periodic Increase Above Existing Noise Levels	Less Than Significant with Mitigation	Less (No Impact)	Greater (Less Than Significant)	Similar (Less Than Significant with Mitigation)
J. Traffic/Transportation				
Short-Term - Traffic	Less Than Significant With Mitigation	Less (No Impact)	Greater (Less Than Significant with Mitigation)	Less (Less Than Significant with Mitigation)
Long-Term - Traffic	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
Short-Term – CMP Intersections	Less Than Significant	Less (No Impact)	Greater (Less Than Significant)	Less (Less Than Significant)
Long-Term – CMP Intersections	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
Short-Term – Emergency Access	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Less (Less Than Significant)
Long-Term – Emergency Access	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)

Table 5-20 (Continued)

Comparison of Impacts Associated with the Alternatives and Impacts of the Project

	Project Impact	Alternative 1 No Project	Alternative 2 Source Removal with Off-Site Disposal	Alternative 3 Lower Intensity - Extended Schedule
Short-Term – Alternative Transportation Facilities	Less Than Significant	Less (No Impact)	Greater (Less Than Significant)	Greater (Less Than Significant)
Long-Term – Alternative Transportation Facilities	Less Than Significant	Greater (No Beneficial Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)

Source: PCR Services Corporation, 2013.

Table 5-21

Alternatives' Ability to Meet Project Objectives

Project Objective	Ability to Meet Project Objective			
	Project	Alternative 1 No Project	Alternative 2 Source Removal with Off-Site Disposal	Alternative 3 Lower Intensity - Extended Schedule
1. To reduce the potential for long-term risks to life, property and the environment (inclusive of nearby residences, schools, parks, and businesses) from contaminated materials and waste.	Meets Objective	Does Not Meet Objective	Meets Objective (Better meets Objective than Project)	Meets Objective (Similar to Project)
2. To reduce the potential for short-term risks (during implementation activities) to life, property and the environment (inclusive of nearby residences, schools, parks, businesses, and on-site workers) from contaminated materials and waste through proper handling, treatment and disposal.	Meets Objective	Does Not Meet Objective	Meets Objective (Meets Objective to lesser extent than Project)	Meets Objective (Better meets Objective than Project)
3. To ensure that contaminated materials and waste are transported in a safe, efficient and coordinated manner to minimize risks to sensitive uses (such as nearby residences and schools).	Meets Objective	Does Not Meet Objective	Meets Objective (Similar to Project)	Meets Objective (Meets Objective to lesser extent than Project)
4. To reduce the potential for on-site contaminated materials to impact groundwater or migrate off-site.	Meets Objective	Does Not Meet Objective	Meets Objective (Better Meets Objective than Project)	Meets Objective (Meets Objective to lesser extent than Project)
5. To remediate the site to enhance public health, safety and welfare and ultimately allow potential new uses of the site that will not endanger human health and the environment.	Meets Objective	Does Not Meet Objective	Meets Objective (Better Meets Objective than Project)	Meets Objective (Similar to Project)
6. To remediate the Site in a timely, expedient, and cost effective manner.	Meets Objective	Does Not Meet Objective	Partially Meets Objective (Meets Objective to lesser extent than Project)	Does not Meet Objective

Source: PCR Services Corporation, 2013

6.0 Other Mandatory CEQA Considerations

6.0 OTHER MANDATORY CEQA CONSIDERATIONS

INTRODUCTION

This section summarizes the findings with respect to growth inducing impacts; significant, unavoidable environmental impacts; irreversible environmental changes; potential secondary effects; and less than significant impacts of the Project.

1. CONSIDERATION AND DISCUSSION OF SIGNIFCIANT ENVIRONMENTAL IMPACTS

Section 15126.2(b) of the CEQA Guidelines requires an EIR to describe significant environmental impacts that cannot be avoided, including those impacts that can be mitigated but not reduced to a less than significant level. The following is a summary of impacts associated with the Project that were concluded to be significant and unavoidable. The following impacts are described in detail in Section 4, *Environmental Impact Analysis*, of this EIR. Several of the significant and unavoidable impacts of the Project are primarily related to short-term construction activities.

As analyzed in Section 4.2, *Air Quality*, even with the incorporation of all project design features and a mitigation measure to implement best available control technology to the extent feasible, during construction the Project would exceed the SCAQMD regional threshold for NO_x as a result of intensive use of diesel powered heavy-duty construction equipment for most days throughout implementation of the RAP construction remediation activities. Emissions of PM_{10} would also exceed the SCAQMD regional threshold as a result of equipment and haul trucks. Worst-case hourly emissions of NO_x are predicted to result in localized concentrations of NO_2 in excess of the applicable local significance criterion (the state ambient air quality standard). In addition, 24-hour and annual emissions of PM_{10}, from dust and diesel exhaust, are predicted to result in localized concentrations in excess of the applicable significance criteria (the SCAQMD's allowable incremental increase concentrations). As such, implementation of the RAP would result in significant and unavoidable impacts with regards to regional NO_x emissions and its contribution to the formation of the non-attainment pollutant ozone, regional PM_{10} emissions, localized maximum 1-hour NO_2 concentrations, 24-hour and annual PM_{10} concentrations.

Please refer to Section 4.2, *Air Quality*, of this EIR for further discussion of this topic.

CEQA Guidelines Section 15126.2(b) also requires a description of the reasons why the Project is being proposed, despite the significant and unavoidable impacts associated with the Project. The reasons why this Project has been proposed are grounded in a comprehensive listing of Project objectives included in Section 2.0, *Project Description*, of this EIR. In 2003, DTSC entered into an Imminent and Substantial Endangerment Determination Consent Order (I&SE CO), Docket No. I&SE CO 02/03-007, and an Imminent and Substantial Endangerment Determination and Order and Remedial Action Order (I&SE-RAO), Docket No. I&SE-RAO 02/03-018, with ten Responsible Parties (RPs).

As discussed in Section 2.0, over the past approximately 30 years, there have been numerous and extensive investigations conducted at the Site, which led up to preparation of the RAP. These investigations included,

but are not limited to, historic records review; several Remedial Investigations (RI) to define the nature and extent of contamination; two Baseline Health Risk Assessments (BHRA) to evaluate potential human health risks associated with the Site; and a Feasibility Study (FS) and Revised Feasibility Study (RFS) to evaluate several remedial action alternatives for the Site (summarized below) and present the rationale for selecting the preferred alternative. The stated objectives of the RFS were to evaluate remedial technologies available to address impacted media at the Site, to evaluate and confirm the appropriateness of process options to implement those technologies, to assemble remedial alternatives and evaluate them against the nine criteria set forth in the National Contingency Plan ("NCP") (summarized below), and to recommend a preferred alternative. The NCP, under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), describes the organizational structure and procedures for preparing for and responding to discharges of oil, hazardous substances, pollutants, and contaminants. The RFS concluded that the Project being proposed as part of the RAP is the preferred Alternative to remediate the Site. Accordingly, the Project is being considered by DTSC, notwithstanding the significant and unavoidable potential for short-term air quality impacts associated with the Project.

It is acknowledged that Section 5.0, *Alternatives*, includes analysis of "Alternative 3" to the Project, which would reduce the Project's potentially significant short-term regional air quality NO_x impact and the annual localized PM_{10} impact to less than significant levels. However, worst-case hourly emissions under Alternative 3 would be similar to those under the Project, and are predicted to result in a significant and unavoidable localized NO_2 impact, even with incorporation of feasible mitigation measures and reduction strategies. Rather than approximately 12 months of construction activities that would occur under the Project, Alternative 3 would result in approximately 36 months of construction activities. It is acknowledged that this Alternative would include less intensive daily construction activities during implementation. However, the length of construction activities would obviously be more apparent and perceivable by the surrounding community compared to the Project and the end result of the remediation activities would be the same capped Site as the Project. For these reasons, this Alternative would not meet a key objective for the Project (Objective No. 5) which is, "*To remediate the site in a timely, expedient, and cost effective manner*." For this reason also, the Project is being considered by DTSC, notwithstanding the significant unavoidable impacts associated with the Project.

2. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

According to Sections 15126(c) and 15126.2(c) of the *CEQA Guidelines*, an EIR is required to address any significant irreversible environmental changes that would occur should the Project be implemented. As stated in CEQA Guidelines Section 15126.2(c) indicates:

> *"[u]ses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter likely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified."*

The Project would necessarily consume limited, slowly renewable and non-renewable resources. This consumption would occur during the construction phase and would continue throughout its operational

lifetime. Project remediation activities 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 Site. Project activities would require the consumption of resources that are not replenishable or which may renew so slowly as to be considered non-renewable. These resources could include the following construction supplies: certain types of lumber and other forest products; aggregate materials used in road and parking surfaces such as sand, gravel and stone; metals such as steel, copper, and lead; petrochemical construction materials such as plastics; and water. Fossil fuels such as gasoline and oil would also be consumed in the use of construction vehicles and equipment, as well as the transportation of goods and people to and from the Site.

The resources that would be used during project operation would be similar to those currently used within the County of Orange. These would include energy resources and fossil fuels such as electricity and natural gas, petroleum-based fuels required for vehicle-trips and water. Fossil fuels would represent the primary energy source associated with both construction and operational activities at the Site, and the existing, finite supplies of these natural resources would be incrementally reduced. Per PDF 2-1, all off-road diesel construction equipment remaining on-site for more than 15 work days would meet USEPA Tier 3 off-road emission standards, if commercially available locally. Use of Tier 3 engines results in a substantial reduction in NO_X emissions compared to similar Tier 2 or lower engines, and has been shown to increase fuel economy over similar Tier 2 engines. Despite the use of such equipment, the energy requirements associated with the Project would, nonetheless, represent a commitment of essentially non-renewable resources.

Limited use of potentially hazardous materials typical of urbanized uses, including household and maintenance materials (i.e., cleaning supplies, oil, and grease) could be used and stored within the Site. The use of these materials would be in small quantities and used, handled, stored, and disposed of in accordance with the manufacturer's instructions and applicable government regulations and standards. As discussed throughout this EIR, the remediation activities on the Site would serve to protect against significant and irreversible environmental change resulting from the accidental release of hazardous materials.

In summary, Project remediation and long-term operational activities would result in the irretrievable commitment of limited, slowly renewable, and nonrenewable resources, which would incrementally limit the availability of these particular resource quantities for future generations or for other uses during the life of the Project. However, continued use of such resources would be on a very small scale and consistent with regional and local growth forecasts in the area. As such, although irreversible environmental changes would result from the Project, such changes would not be considered significant.

3. GROWTH INDUCING IMPACTS

Section 15126.2(d) of the *CEQA Guidelines* requires agencies to address potential growth inducing effects of their actions. Growth-inducing effects are defined as those effects that could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Growth-inducing impacts include the removal of obstacles to population growth (e.g., the expansion of a wastewater treatment plant allowing more development in a service area) and the development and construction of new service facilities that could significantly affect the environment individually or cumulatively. In addition, growth must not be assumed as beneficial, detrimental, or of little significance to the environment.

The proposed RAP for the Site would include the partial removal of existing on-site material and installation of a protective cap that would allow the Site to be developed with a to-be-determined mix of restricted commercial, light industrial, and/or recreational uses, subject to future approval by DTSC and/or other agencies and public entities, such as the City of Huntington Beach. The remediation activities would be concluded when the Site consists of a vegetated cap (e.g., grasses and/or other vegetation) over the majority of the Site, two storm water detention ponds, surrounded by a perimeter road and fencing, and the City parcel cleared and returned to existing street grade. Public access to the Site would be restricted following completion of the Project.

A restrictive covenant would be implemented to protect the integrity of the cap. Any proposals for future alterations to the cap, including but not limited to beneficial uses of the Site (i.e., industrial, recreational, etc.) would need to be reviewed by the DTSC. Subsequent development on the capped Site following completion of the RAP is not contemplated as part of this Project. At this time, it is not possible to determine how long the end state would remain in place. Since the Project does not propose specific development on the Site after the end state, any subsequent development proposals may be subject to the restrictive covenant. Such development would likely require DTSC approval and a subsequent entitlement process, including environmental review as appropriate pursuant to CEQA for which DTSC may or may not be the lead agency.

The Site is currently designated for residential land uses per the Magnolia Pacific Specific Plan ("Specific Plan"). According to the Specific Plan, up to 502 units in a mixture of single-family detached homes and multi-family units could be permitted within the Site. However, the remediated Site would not support residential uses as designated for in the Specific Plan. Therefore, the Project would not enable direct population growth. Should the Site ultimately be developed with a to-be-determined mix of uses such as restricted commercial, light industrial, and/or recreational uses, there could be indirect population growth associated with employment opportunities associated with implementation of the RAP. However, such growth would result in an incremental increase in overall employment within the City, would be temporary and would be well below that anticipated by the Specific Plan. Accordingly, the Project would not result in a significant growth inducing impact.

4. POTENTIAL SECONDARY EFFECTS

Section 15126.4(a)(1)(D) of the *CEQA Guidelines* requires that if mitigation measures would cause one or more significant effects in addition to those that would be caused by the Project as proposed, that the effects of the measures be discussed, but in less detail than the significant effects of the Project. With regard to this section of the *CEQA Guidelines*, the Project's proposed mitigation measures that could cause potential impacts were evaluated. The following provides a discussion of the potential secondary effects that could occur as a result of implementation of the Project mitigation measures, listed by environmental issue area. Only those EIR Sections that contain mitigation measures are addressed.

Air Quality

Mitigation Measure AIR-1 requires the RPs to implement a protocol to address odor complaints. This mitigation measure would directly reduce environmental impacts of the Project and would not result in secondary impacts.

Biological Resources

Mitigation Measure BIO-1 requires a future count of southern tarplant individuals during the peak blooming period within the year prior to Project implementation. Based on that count, the RPs would need to ensure that impacted southern tarplant individuals are mitigated at a 1:1 impact-to-mitigation ratio at an appropriate off-site location(s). Mitigation Measure BIO-2 requires the RPs to ensure that impacted disturbed coastal salt marsh habitat is mitigated at a 1:1 impact-to-mitigation ratio at an appropriate off-site location(s). Mitigation Measure BIO-3 requires the RPs to be responsible for implementing mitigation to reduce potential impacts to migratory raptor and songbird species to below a level of significance. If any active nests are detected, a buffer of at least 300 feet (500 feet for raptors) shall be delineated, flagged, and avoided until the nesting cycle is complete, or otherwise protected, as determined by the qualified biologist to minimize impacts. The above mitigation measures would result in beneficial effects on biological resources, no secondary impacts would occur.

Cultural Resources

Mitigation Measures CULT-1 through CULT-3 relate to archaeological resources. The mitigation measures generally require that an archaeologist monitors excavation activities into native soils. In the event that resources are discovered, the resources would be collected and preserved, as appropriate. Implementation of Mitigation Measures CULT-1 through CULT-3 would not result in adverse secondary impacts.

Mitigation Measures CULT-4 through CULT-6 relate to paleontological resources. The mitigation measures generally require that a paleontologist monitors excavation activities into the older Quaternary Alluvium deposits. In the event that resources are discovered, the resources would be collected and preserved, as appropriate. Implementation of Mitigation Measures CULT-4 through CULT-6 would not result in adverse secondary impacts.

Hazards and Hazardous Materials

Mitigation Measure HAZ-1 requires CARB certified Level 3 diesel particulate filters (DPF) to be installed on a minimum of 85 percent of all on-site off-road equipment, based on annual or total horsepower-hours. Equipment which needs servicing (breaks down) may be replaced with Tier 3 on a temporary basis if equipment with DPFs is not commercially available. If replacement equipment is not equipped with DPFs, documentation must be provided to demonstrate that no commercially available equipment with DPFs are available. The above mitigation measure was developed to reduce emissions from on-site heavy equipment. Implementation of this mitigation measure would not result in secondary impacts.

Noise

Mitigation Measure NOISE-1 requires the RPs to provide a temporary noise barrier to reduce noise levels at the nearby residences to acceptable nighttime levels and/or obtain an exemption to the City Noise Ordinance should a blower be temporarily utilized during nighttime hours during Pit F excavation activities. Mitigation Measure NOISE-2 requires the RPs to retain the services of a qualified acoustical engineer with expertise in design of sound isolations to ensure the mechanical fans and/or other related mechanical components to the cap system installed for long-term use is designed so as to meet the City's exterior noise limits. Implementation of these mitigation measures would not result in secondary environmental impacts.

Traffic/Transportation

Mitigation Measure TRAF-1 through TRAF-5 utilizes signal timing optimization to reduce delay times at the impacts intersections. These mitigation measures would result in beneficial effects on traffic/transportation, no secondary impacts would occur.

5. LESS THAN SIGNIFICANT IMPACTS

Section 15128 of the *CEQA Guidelines* states that an EIR shall contain a brief statement indicating reasons that various possible significant effects of a project were determined not to be significant and not discussed in detail in the Draft EIR. The below list of environmental issues were determined to have less than significant impact or no impact in the Initial Study prepared for the Project. Please refer to the Initial Study included within Appendix A of this EIR for explanations on the reasoning for the impact conclusions for these issues.

Aesthetics

- Impacts regarding light and glare generated by the Project.

Agricultural and Forestry Resources

- Impacts resulting from the Project on farmland, agricultural resources, and forest land.

Air Quality

- Impacts from naturally occurring asbestos.

Biological Resources

- Impacts resulting from the Project conflicting with local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands).

Cultural Resources

- Impacts of the Project on historic, archaeological, and paleontological resources, as well as human remains. The potential for cultural resources impacts associated with implementation of the RAP was fully evaluated in the Initial Study prepared for the Project. The conservative mitigation measures included in the Initial Study will be included in the Mitigation Monitoring and Reporting Program (MMRP) to be prepared for the Project. In addition, a recent cultural records search and Native American Heritage Consultation (NAHC) has been conducted for the RAP Project, as requested by the Native American Heritage Commission in the Notice of Preparation (NOP) comment letter (see Appendix A in this EIR for a copy of the letter). The records search results and NAHC consultation letters are included in Appendix I of this EIR.

Geology and Soils

- Impacts on the Project from expansive soils.
- Impacts regarding the ability of soils capable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.
- Impacts from naturally occurring asbestos.

Hazards and Hazardous Materials

- Impacts resulting from the Project impairing implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan.

Hydrology and Water Quality

- Impacts resulting from the Project altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
- Impacts resulting from the Project altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.
- Impacts resulting from the Project placing within a 100-year flood plain structures which would impede or redirect flood flows.
- Impacts resulting from the Project exposing people or structures to a significant risk or loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Impacts regarding inundation by seiche, tsunami, or mudflow.

Land Use and Planning

- Impacts resulting from the Project physically divide an established community.
- Impacts resulting from the Project conflicting with an applicable habitat conservation plan or natural community conservation plan.

Mineral Resources

- Impacts regarding the potential loss or availability of mineral resources.

Population and Housing

- Impacts from the Project resulting in substantial population growth in an area either directly or indirectly.

- Impacts from the Project displacing substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.

Public Services

- Impacts from the Project resulting in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services including:
    - Fire protection?
    - Police protection?
    - Schools?
    - Parks?
    - Other governmental services (including roads)?

Recreation

- Impacts from the Project increasing the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

- Impacts from the Project including recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Traffic/Circulation

- Impacts from the Project changing air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

- Impacts from the Project substantially increasing hazards due to a design feature (e.g., sharp curves or dangerous intersections or incompatible uses (e.g., farm equipment).

Utilities

- Impacts regarding the Project's ability to meet wastewater treatment requirements of the applicable Regional Water Quality Control Board.

- Impacts resulting from the Project requiring the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Impacts resulting from the Project requiring the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Impacts regarding the availability of water supplies to meet the demands of the project.
- Impacts regarding the availability of wastewater infrastructure and wastewater treatment facilities to meet the demands of the Project.
- Impacts to landfill receiving facilities.
- Impacts regarding the Project's compliance with federal, state, and local statutes and regulations related to solid waste.

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7.0 LIST OF PREPARERS

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