4.5 HAZARDS AND HAZARDOUS MATERIALS

4.5.1 INTRODUCTION

This section analyzes the potential impacts of existing environmental safety hazards that may adversely affect the proposed Project and hazards and hazardous materials that may be introduced by the proposed Project. The analysis includes the remediation activities on the Project site, as addressed in the Newport Banning Ranch Master Development Plan (Master Development Plan) and the draft Remedial Action Plan. Potential cumulative impacts are addressed in Section 5.0 of this EIR.

4.5.2 REGULATORY SETTING

Because hazards and hazardous materials management on the Project site involve diverse topics and overlapping agency jurisdiction, for ease of readability this section is organized to describe the existing and future regulatory oversight of the Project site as a whole, as well as by topic, rather than by jurisdiction.

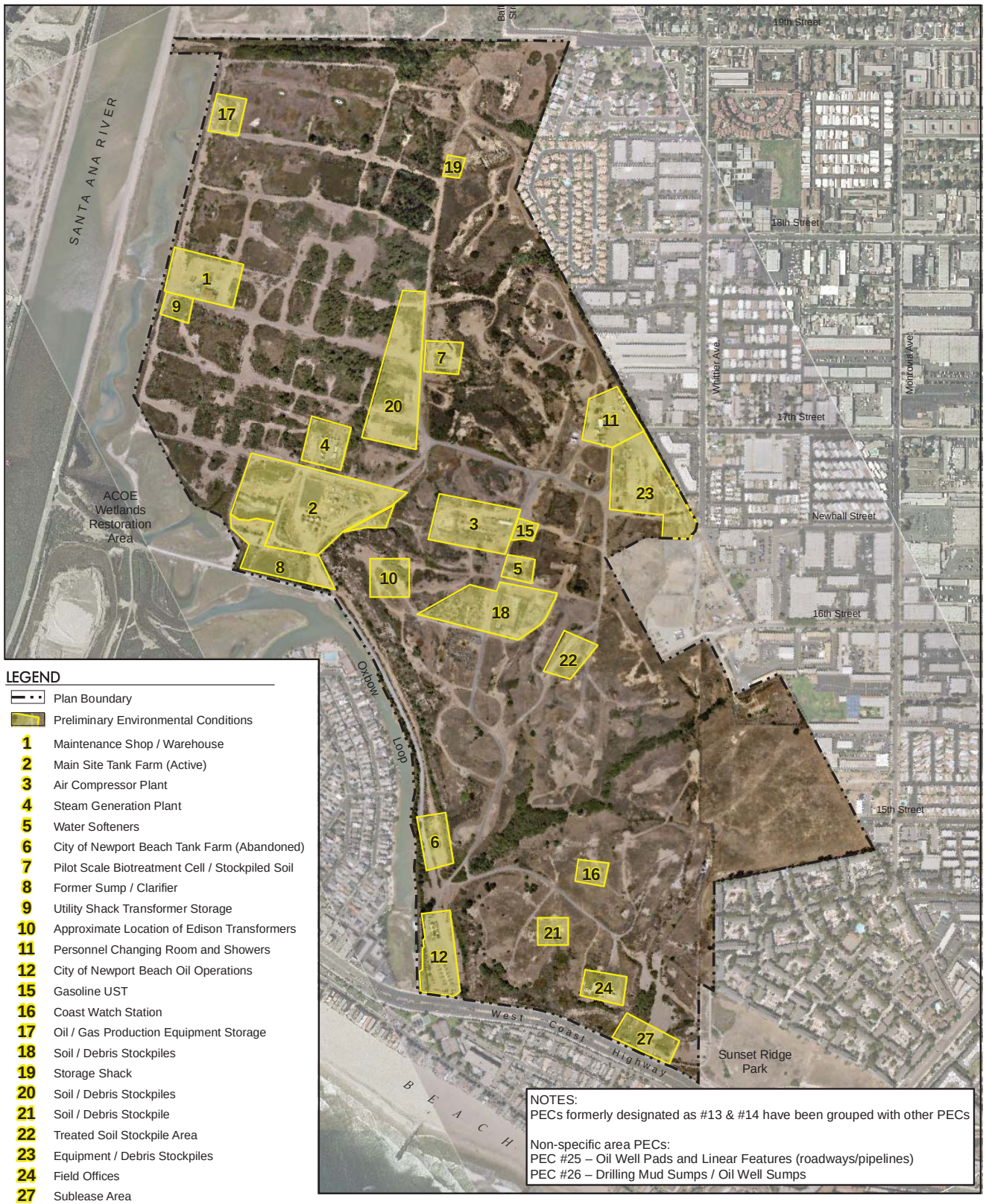
Existing Oilfield Operations

Oilfield operations on the Project site are regulated by the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR). In order to implement Section 3208.1 of the *California Public Resources Code* (PRC), the DOGGR has developed the Construction Site Plan Review Program for abandonment or reabandonment, if necessary, of oil wells. Before issuing building or grading permits are issued, a local permitting agency must review and implement DOGGR's preconstruction well requirements.

The Project site, including the oilfield, is located within the Coastal Zone, and therefore is regulated by the California Coastal Act (Coastal Act) under the jurisdiction of the California Coastal Commission (Coastal Commission). Because oil operations on the Project site predate the enactment of the Coastal Act, the oilfield operations were determined to have obtained a vested right, and the oilfield operator was granted a Coastal Act Exemption (Exemption No. E-7-27-73-144) in 1973 by the California Coastal Zone Conservation Commission, the predecessor agency to the Coastal Commission; this exempts these oil operations from Coastal Act permit requirements; ongoing and future oil production operations, including abandonments and equipment/pipeline removals; and cleanup as they apply to activities in the Coastal Zone (Geosyntec 2009). The consistency of the Project with applicable Coastal Act policies is provided later in this EIR section.[1]

The oil operations have had environmental regulatory oversight by both the California Regional Water Quality Control Board – Santa Ana Region (Santa Ana RWQCB) and the Orange County Health Care Agency (OCHCA). Since about 1992, both agencies have been involved in overseeing certain aspects of cleanup activities and Project site operations. Currently, the lead regulatory agency (Santa Ana RWQCB) for the Project site has approved a Remedial Action Plan (RAP) and is overseeing remediation efforts to recover an isolated pocket of crude oil located on top of the shallow brackish groundwater in the Main Drill Site Tank Farm area (northern portion of the consolidation areas), as depicted in Exhibit 4.5-1, Potential Environmental Concern Location Map.

[1] For ease of reading, the policy tables are located at the end of this EIR section.



LEGEND

- Plan Boundary
- Preliminary Environmental Conditions

1	Maintenance Shop / Warehouse
2	Main Site Tank Farm (Active)
3	Air Compressor Plant
4	Steam Generation Plant
5	Water Softeners
6	City of Newport Beach Tank Farm (Abandoned)
7	Pilot Scale Biotreatment Cell / Stockpiled Soil
8	Former Sump / Clarifier
9	Utility Shack Transformer Storage
10	Approximate Location of Edison Transformers
11	Personnel Changing Room and Showers
12	City of Newport Beach Oil Operations
15	Gasoline UST
16	Coast Watch Station
17	Oil / Gas Production Equipment Storage
18	Soil / Debris Stockpiles
19	Storage Shack
20	Soil / Debris Stockpiles
21	Soil / Debris Stockpile
22	Treated Soil Stockpile Area
23	Equipment / Debris Stockpiles
24	Field Offices
27	Sublease Area

NOTES:
PECs formerly designated as #13 & #14 have been grouped with other PECs

Non-specific area PECs:
PEC #25 – Oil Well Pads and Linear Features (roadways/pipelines)
PEC #26 – Drilling Mud Sumps / Oil Well Sumps

Source: Geosyntec 2009

Potential Environmental Concern Location Map

Exhibit 4.5-1

Newport Banning Ranch EIR

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Future Oilfield Operations and Remediation

The existing oversight structure, described above, is expected to continue through the anticipated oilfield abandonment and remediation activities that would be necessary to implement the proposed Project. The DOGGR would continue to oversee the oilfield operations and eventual abandonment of the oilfield. In addition, both the Santa Ana RWQCB and OCHCA would continue to be involved and have primary oversight of remediation activities.

Because portions of the oilfield include habitat under the jurisdiction of the U.S. Army Corps of Engineers (USACE) (e.g., waters and aquatic habitat area), the United States Fish and Wildlife Service (USFWS) (e.g., listed species and their associated habitat) and the California Department of Fish and Game (CDFG) (jurisdictional stream courses, State-listed species and associated habitat), these agencies would be consulted with respect to oilfield activities (e.g., the removal of oilfield equipment) and remediation activities that may affect resources under their jurisdiction.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act administered by the U.S. Department of Transportation governs the transport of hazardous materials, such as contaminated soil, asbestos, or lead-containing materials. The California Department of Transportation (Caltrans) implements the federal regulations published as Title 49 of the *Code of Federal Regulations* (CFR), which is known as the Hazardous Materials Transportation Act. These laws regulate the handling and transport of hazardous waste materials.

Asbestos

Asbestos, a naturally occurring fibrous material, was used for years in many building materials for its fire-proofing and insulating properties. Loose insulation, ceiling panels, and brittle plaster are potential sources of friable (easily crumbled) asbestos. Nonfriable asbestos is generally bound to other materials such that it does not become airborne under normal conditions. Any activity that involves cutting, grinding, or drilling during demolition can release friable asbestos fibers unless proper precautions are taken. Inhalation of airborne fibers is the primary mode of asbestos entry into the body, which makes friable materials the greatest potential health risk.

Asbestos is a known human carcinogen; there is no known threshold level of exposure at which adverse health effects are not anticipated. Given this, the United States Environmental Protection Agency (USEPA) and California Environmental Protection Agency (CalEPA) have identified asbestos as a hazardous air pollutant pursuant to Section 12 of the Federal Clean Air Act. Further, the California Air Resources Board (CARB) has identified asbestos as a Toxic Air Contaminant (TAC) pursuant to the *California Health and Safety Code* (§§39650 et seq.). Asbestos is also regulated as a potential worker safety hazard under the authority of the California Occupational Safety and Health Administration (CalOSHA). These rules and regulations prohibit emissions of asbestos from asbestos-related demolition or construction activities; require medical examinations and monitoring of employees engaged in activities that could disturb asbestos; specify precautions and safe work practices that must be followed to minimize the potential for release of asbestos fibers; and require notice to federal and local government agencies prior to beginning renovation or demolition that could disturb asbestos. Because of the age of the facilities and structures on the Project site, asbestos may be present and would have to be abated if those facilities and structures are demolished, removed, relocated, or otherwise altered in a manner that may result in a release of asbestos into the atmosphere.

In California, asbestos abatement must be performed and monitored by contractors with appropriate certifications from the California Department of Health Services. In addition, CalOSHA has regulations to protect worker safety during potential exposure to lead and asbestos under Title 8 of the *California Code of Regulations* (§1529, Asbestos). All demolition that could result in the release of asbestos must be conducted according to CalOSHA standards. These standards were developed to protect the general population and construction workers from respiratory and other hazards associated with exposure to these materials. Young children, the elderly, and people in poor health may be more susceptible to adverse health effects from exposure to asbestos released to the environment.

Lead

Lead is a naturally occurring metallic element. Among its numerous uses and sources, lead can be found in paint; water pipes; solder in plumbing systems; soils around buildings; and structures painted with lead-based paint. In 1978, the federal government required the reduction of lead in house paint to less than 0.06 percent (600 parts per million [ppm]). However, some paints manufactured after 1978 for industrial uses or marine uses legally contain more than 0.06 percent lead. Because of its toxic properties, lead is regulated as a hazardous material. Lead is also regulated as a TAC. Because of the age of the facilities and structures on the Project site, lead from paint may be present and would have to be abated if those facilities and structures are demolished, removed, relocated, or otherwise altered in a manner that may result in a release of lead into the atmosphere. As discussed further in the analysis below, laboratory testing on Project site soils indicates that there are no metals present above regulatory limits.

In California, lead abatement must be performed and monitored by contractors with appropriate certifications from the California Department of Health Services. In addition, CalOSHA has safety regulations to protect workers during potential exposure to lead and asbestos under Title 8 of the *California Code of Regulations* (§1532.1, Lead). All demolition that could result in the release of lead must be conducted according to CalOSHA standards. These standards were developed to protect the general population and construction workers from respiratory illness and other hazards associated with exposure to these materials. Young children, the elderly, and people in poor health may be more susceptible to adverse health effects from exposure to lead released to the environment.

California Coastal Act

The California Coastal Act of 1976 (*California Public Resources Code* §§30000 et seq.) establishes policies guiding development and conservation along the California coast. Consistent with Section 30001 and the basic goals of Section 30001.5, and except as may be otherwise specifically noted in the Coastal Act, the policies of Section 30200 et seq. of the Coastal Act constitute the standards by which the adequacy of local coastal programs and the permissibility of proposed developments subject to coastal development permit requirements under the Coastal Act are determined. The consistency of the Project with applicable Coastal Act policies is provided later in this EIR section.

City of Newport Beach

General Plan Safety Element

The primary goal of the Safety Element is to reduce the potential risk of death, injuries, property damage, and economic and social dislocation resulting from natural and human-induced hazards. The Safety Element recognizes and responds to public health and safety risks that

could cause exposure to the residents of Newport Beach. This element specifically addresses coastal hazards, geologic hazards, seismic hazards, flood hazards, wildland and urban fire hazards, hazardous materials, aviation hazards, and disaster planning. The consistency of the Project with applicable General Plan goals and policies is provided in later in this EIR section.

4.5.3 METHODOLOGY

The majority of the conditions that may result in environmental effects concerning hazards and hazardous materials pertain to the existing oilfield operations, the remediation and abandonment of the facilities in the areas proposed for development, the consolidation of oil operations, and the continuation of oil operations on the Project site. As described in Section 3.0, Project Description, the Project site has been operated as an oilfield since the early 1940s with approximately 489 producing/potentially producing and abandoned wells located within the property, together with related facilities such as pipelines, sumps, storage tanks, oil roads and other such facilities. A private oilfield operator, West Newport Oil Company, and the City of Newport Beach operate oil wells on the Project site.[2] The City also operates an oil processing facility at the West Coast Highway entrance area to the Project site.

Relevant information for this analysis was obtained from the following documents, which are included in Appendix D to this EIR. Documents 1 and 2 are herein referred to as the "Phase I Environmental Site Assessment Update" (Phase I ESA Update) and the "draft RAP or dRAP", respectively.

1. *Phase I Environmental Site Assessment Update, Newport Banning Ranch, Orange County, California* prepared by Geosyntec Consultants (April 2008).

2. *Draft Remedial Action Plan, Newport Banning Ranch, Orange County, California* prepared by Geosyntec Consultants (August 2009).

3. *Oil Facility Consolidation, Abandonment, and Remediation Program, Newport Banning Ranch Planned Community* submitted by Newport Banning Ranch, LLC to the City of Newport Beach (August 2008).

The Phase I ESA Update (2008) updates and incorporates by reference information contained in the Phase I ESA reports for the Project site prepared by Geosyntec in 1993, 1999, and 2005. The 2009 dRAP references and incorporates relevant information from the Phase I ESA Update as well as the Phase II Environmental Assessment (Phase II EA) (2001) discussed further below. Whenever appropriate, information presented in this EIR section was derived from the most recent and comprehensive documentation, which is the 2009 dRAP.

The Phase I ESA Update was prepared based on national record review requirements in accordance with (1) the American Society for Testing and Materials (ASTM) E 1527-05 Standard Practice for ESAs: Phase I Environmental Site Assessment Process and (2) the USEPA Standards and Practices for All Appropriate Inquiries (40 *Code of Federal Regulations* [CFR] Part 312). This rule establishes specific regulatory requirements for conducting an inquiry into the previous ownership, uses, and environmental conditions of a property (Geosyntec 2008).

On March 3, 2008, the new ASTM Standard E 2600, Standard Practice for Assessment of Vapor Intrusion into Structures on Property Involved in Real Estate Transactions, was released.

[2] West Newport Oil Company and the mineral resources are wholly owned by Horizontal Drilling, LLC, an entity separate and independent of the surface owners.

The standard defines the practice for conducting a vapor intrusion assessment, the goal of which is to identify whether or not a "vapor intrusion condition" (VIC) exists. A VIC is defined as "the presence or likely presence of any chemical of concern (COC) in the indoor air environment of existing or planned structures caused by the release of vapor from contaminated soil or groundwater either on a property or within close proximity to a property, at a concentration that presents or may present an unacceptable health risk to occupants". ASTM Standard E 2600 similarly defines the existence of a "potential VIC" (pVIC) when the screening process identifies a potential for a VIC but where there is "insufficient data to ascertain the presence or likely presence of COC in the indoor air environment of existing or planned structures on a target property" (Geosyntec 2008).

A limited and preliminary pVIC evaluation was performed for the Project site as part of the Phase I ESA Update, using only the information in the Environmental Data Resources, Inc. (EDR) report, review of site data and documentation, and results of the site reconnaissance and interviews (i.e., the data otherwise collected for the Phase I ESA Update in accordance with the ASTM and USEPA All Appropriate Inquiries [AAI] standards). The pVIC evaluation performed is not intended to meet the substantive requirements of the ASTM Standard E 2600 tiered screening or to identify which pVICs are VICs. The approach taken in the Phase I ESA Update is similar to the first phase of conducting a Tier 1 non-numeric screening for vapor intrusion, whereby pVICs have been identified so that they may subsequently be evaluated (as needed) using a complete Tier 1 screen (Geosyntec 2008).

A Phase II EA was undertaken in 2001, and the results have been incorporated into the dRAP. Phase II EA fieldwork included collecting and evaluating over 550 samples from 222 test pits/borings, 10 groundwater monitoring wells, surface water, and soil gas sampling points. The excavated test pits also allowed for visual observations of hydrocarbon impacts as well as unaffected soils. The Phase II EA incorporates results of the previous sampling events, and provides a more comprehensive Phase II EA characterization in key areas (Geosyntec 2009).

Detailed information regarding the methodologies used in the preparation of the respective technical reports is located in Appendix D.

4.5.4 EXISTING CONDITIONS

Site Background and Existing Land Uses

Prior to and through the early 1940s, the Project site was used for agriculture, as a military coast watch station, for equipment storage and maintenance, and for miscellaneous peripheral operations (including areas leased to welders, pipe storage, and equipment operators). Since the early 1940s, oil operations, including exploration, development and production, have been conducted continuously within the boundaries of the Project site (Geosyntec 2009).

The Project site is within the 1,125-acre West Newport Oilfield, which is located along the Newport-Inglewood Fault System between the Cities of Huntington Beach and Newport Beach, and lies near the southwestern edge of the Los Angeles Basin. Oil was reportedly discovered in the West Newport Oilfield in 1943 with the drilling of the Banning #1 well on the property. Development of the oilfield subsequently occurred in an irregular fashion as various producing reservoirs were discovered and techniques to produce heavy oil were perfected.

The majority of the Project site has been developed for oil operations and is currently in active oil and gas production operations (see Exhibit 3-4, Oil Operations, in Section 3.0, Project Description). Existing oil operations are regulated by the DOGGR and are conducted consistent

with the Coastal Act pursuant to the South Coast Regional Coastal Zone Conservation Commission Claim for Exemption No. E-7-27-73-144. Existing oil operations include 489 oil well sites and related oil facility infrastructure, including but not limited to pipelines, storage tanks, power poles, machinery, improved and unimproved roadways, buildings, and oil processing facilities. Of the approximately 489 oil well sites, the City operates 16 wells and an oil processing facility near the southwestern boundary of the Project site, as accessed from West Coast Highway near the southwest corner of the Project site. Private access to the remaining oil operations held by West Newport Oil Company (the current owner of the subsurface oil rights and the operator of the privately owned oilfield) is at the terminus of 17th Street at the easterly boundary of the Project site and at West Coast Highway. There currently remain over 40 miles of pipelines throughout the Project site for the conveyance of oil, water, and gas produced from the oil wells to various separation and treatment facilities on the Project site. The existing oilfield infrastructure on the Project site includes, or has included, the following:

- an air compression plant and distribution pipe network;
- a steam plant and steam distribution pipe network;
- a maintenance shop/warehouse;
- an office building;
- a changing facility for site personnel;
- an operations shack;
- the Main Drill Site Tank Farm;
- four underground storage tanks, containing waste oil, diesel, and unleaded gasoline (these have been removed);
- a crude oil piping network (both buried and aboveground);
- an out-of-service tank farm;
- a road network;
- a paved parking lot;
- a storage yard for surplus oil and gas production equipment;
- an electrical distribution network;
- a water softening plant;
- a pilot-scale bioremediation cell (which is currently inactive);
- active and idle oil production wells;
- active and idle steam/air/water injection wells; and
- abandoned wells (Geosyntec 2008).

Due to the abandonment of selected oil and gas production facilities at the Project site, some of the infrastructure listed above is no longer used or has been removed. However, the potential environmental effects associated with the former operations of each of these facilities are considered a part of the existing condition (Geosyntec 2008).

Previous and Current Surrounding Land Uses

The previous land uses in the Project vicinity consisted primarily of agriculture, livestock grazing, and undeveloped open space. Agricultural activities have been replaced by commercial, light industrial, institutional, and residential development, and oil production activities. The Project site is generally bound on the north by County of Orange Talbert Nature Preserve/Regional Park in the City of Costa Mesa and residential development in the City of Newport Beach; on the south by West Coast Highway and residential development in the City of Newport Beach; on the east by residential, light industrial, institutional, and office development in the Cities of Costa Mesa and Newport Beach; and on the west by the 92-acre USACE-restored salt marsh basin (a wetlands restoration area) and the Santa Ana River. The City of Huntington Beach is west of the Santa Ana River.

Previous Site Investigations

Environmental sampling and testing events have been performed as part of the on-site oil and gas production activities between 1986 and the present. The comprehensive, site-wide Phase II EA was initiated by the landowner in late 2000, with field sampling conducted between May and August 2001. The Phase II EA represents a comprehensive field investigation of the impacts from the historic oil operations. The final Phase II EA report was submitted to the Santa Ana RWQCB in November 2001. More recently, the Phase I ESA Update, referenced above, was prepared in 2008 (Geosyntec 2008). It should be noted that a Phase I ESA does not involve field sampling and laboratory analysis of soil, soil vapor or groundwater, as appropriate for a given site, like a Phase II EA. The results of these two most recent investigations are summarized below, in chronological order. Please refer to Table 1 of the dRAP (Appendix D) for a more detailed history of environmental sampling activities performed at the Project site.

Phase II Environmental Assessment

The objective of the Phase II EA performed in 2001 was to characterize the nature and extent of potential impacts to soil and groundwater at areas determined to be a potential environmental concern (PECs) and to evaluate location and potential volumes of impacted materials that may require remediation. The results of the 2001 Phase II EA were incorporated by reference into the 2009 dRAP. Field work included collecting and evaluating over 550 samples from 222 test pits/borings, 10 groundwater monitoring wells, surface water, and soil gas sampling points. The excavated test pits also allowed for visual observations of hydrocarbon impacts as well as unaffected soils. The Phase II EA incorporated results of the previous sampling events, and provides a more comprehensive Phase II EA characterization in key areas (Geosyntec 2009).

Twenty-three areas were identified as areas of PECs (Exhibit 4.5-1). The Project site is impacted primarily by petroleum hydrocarbons. Seven of the 23 PECs investigated showed significant hydrocarbon impacts beyond surface areas. During the soil evaluation, soil gas was observed bubbling in a Lowland pond near REC/PEC[3] #02 – Main Drill Site Tank Farm, and samples were collected. Analytical results indicate elevated methane concentrations, measured up to 73.2 percent of the collected vapor with no hydrogen sulfide detected. This indicates a natural origin from the marsh area. There were no indications of soil gas observed in the Upland (e.g., odors indicating a release from soils or abandoned wells) (Geosyntec 2009).

[3] REC/PEC: Recognized Environmental Conditions/Potential Environmental Concerns. RECs are identified as PECs in the dRAP.

Soil Sampling

At each of the areas tested, no contaminant levels were found to exceed the hazardous waste criteria (i.e., concentration levels defined by State and federal guidelines). The State's hazardous waste levels are provided in the Title 22 of the *California Code of Regulations* (CCR). Table 4.5-1 provides a summary of the soil sample's analytical results from the Phase II EA. The hydrocarbon impacts observed were generally confined to the upper soil layers (i.e., within approximately six feet of the surface) (Geosyntec 2009).

TABLE 4.5-1
RANGE OF PHASE II ENVIRONMENTAL ASSESSMENT
SOIL SAMPLE RESULTS

Contaminant	Range	Comments
TPH	0–6,000 ppm	Typically weathered crude oil, limited areas of high saturation.
SVOCs	0–3 ppb	No SVOCs detected above residential or industrial soil RSLs.
VOCs	0–1,700 ppb	No VOCs detected above residential or industrial soil RSLs.
Pesticides	0–11 ppb	No pesticides detected above residential or industrial soil RSLs or residential or industrial soil CHHSLs.
PCBs	0–290 ppb	PCBs were detected in 2 samples at concentrations above the residential, but below the industrial soil RSL and industrial soil CHHSL.
Metals	—	No Metals detected above TTLC.

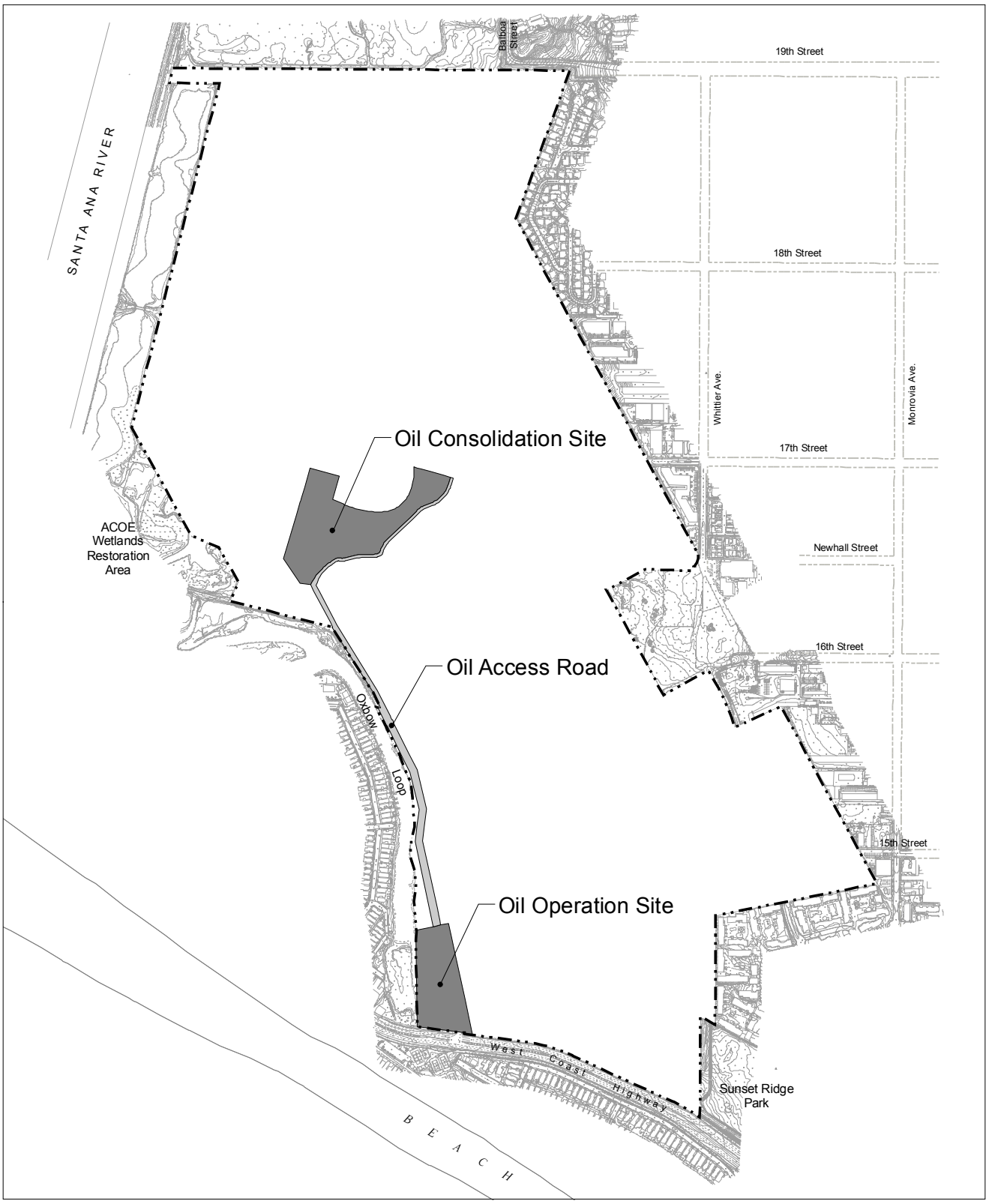
TPH: total petroleum hydrocarbons; ppm: parts per million; SVOCs: semi-volatile organic compounds; ppb: parts per billion; RSLs: residential screening levels; VOCs: volatile organic compounds; CHHSLs: California Human Health Screening Levels; PCBs: Polychlorinated Biphenyls; TTLC: total threshold limit concentration.

Source: Geosyntec 2009 (Appendix D).

Groundwater Sampling

The groundwater beneath the Project site is in a shallow (in the Lowland area), non-potable brackish zone that is tidally influenced. Table 4.5-2 provides a summary of the groundwater sample analytical results from the Phase II EA. As noted on the table, crude oil was encountered as free product[4] on the shallow groundwater in one monitoring well located at the existing oil operations tank farm; this is within the northern extent of the future oil consolidation area, as shown in Exhibit 4.5-2, Oil Consolidation Areas. Free product extraction wells have subsequently been installed and are operating. Since the monitoring wells with free product and free product extraction wells are bordered by other monitoring wells without free product, the extent of this concentration of petroleum hydrocarbons is believed to be contained and isolated.

[4] Free product is a petroleum hydrocarbon liquid that saturates the voids, or spaces, of the soil and would flow in response to gravity. Free product floats on top of the water, in this case the water level within a monitoring well.



Source: FORMA 2009

Oil Consolidation Areas

Exhibit 4.5-2

Newport Banning Ranch EIR

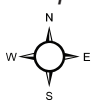


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TABLE 4.5-2
RANGE OF PHASE II ENVIRONMENTAL ASSESSMENT
GROUNDWATER SAMPLE RESULTS

Area (PEC No.)	Contaminant and Range	Comment
Main Drill Site Tank Farm (PEC02)	TPH: N/A – Free Product	Wells within former sump area
Main Drill Site Tank Farm (PEC02)	TPH: 0–26 ppm Methylene Chloride: 0–91 ppb	Perimeter Wells; Methylene Chloride detected above MCL.
Maintenance Shop/Warehouse (PEC01)	Benzene: 0–1.1 ppb Methylene Chloride: 0–100 ppb Vinyl Chloride: 0–15 ppb	Benzene, Methylene Chloride, and Vinyl Chloride detected above MCLs.
Former Sump/Clarifier (PEC08)	Methylene Chloride: 0–25 ppb	Methylene Chloride detected above MCL.
PEC: potential environmental concern; TPH: total petroleum hydrocarbons; N/A: not applicable; ppm: parts per million; ppb: parts of billion; MCL: maximum contaminant level. Source: Geosyntec 2009 (Appendix D).		

The free product-impacted area has since been submitted into the Santa Ana RWQCB voluntary cleanup program and, after approval of a RAP, has been undergoing free-product removal and monitoring since 2001. Additional free product recovery wells and monitoring wells have been installed in the interim and the pumping system has been upgraded to two solar-powered skim pumps. If the proposed Project is implemented, the second phase of the free product RAP would include removal of the deeper, crude oil impacted soils once the adjacent operating facilities are abandoned and demolished (Geosyntec 2009).

Phase I ESA Update

The most recent Phase I ESA (2008) updates the EA with issues, testing, and cleanups that were conducted between 2001 and 2008. The purpose of the Phase I ESA Update was also to identify, to the extent feasible pursuant to the processes described in the ASTM Standard E 1527-05, Standard Practice for Environmental Assessments: Phase I Environmental Site Assessment Process, Recognized Environmental Conditions (RECs), in connection with the Project site and to ensure that the Phase I ESA reporting on the Project site meets the 2006 USEPA AAI standard (Geosyntec 2008).

RECs are defined under ASTM Standard E 1527-05 as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substance or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property" (Geosyntec 2008). For the purposes of the dRAP, they are identified as PECs (Geosyntec 2009).

The Phase I ESA Update identifies 27 on-site RECs (identified as PECs in the dRAP), 3 historical RECs, and 4 off-site facilities as RECs, for a total of 34 RECs. The 27 on-site RECs/PECs (Exhibit 4.5-1) are summarized in Table 4.5-3.

TABLE 4.5-3
SUMMARY OF PROJECT SITE
RECOGNIZED ENVIRONMENTAL CONDITIONS (RECS)/
POTENTIAL ENVIRONMENTAL CONCERN (PECS)

PEC	Designation	Original Rationale For PEC Listing	Estimated Soil to be Managed (Cubic Yards)
01	Maintenance Shop/Warehouse	• waste oil sump • stockpiled transformers • hazardous chemicals and petroleum hydrocarbons in use • abandoned vehicles • 2001 testing program results indicated localized areas of soil impacts and the presence of low concentrations of VOCs in groundwater	5,500
02	Drill Site Tank Farm	• aboveground storage tanks • oil and gas dewatering operations • natural gas treatment • underground sump • 2001 testing program results indicated areas of deep soil impacts (to groundwater) and the presence of free product in groundwater	44,500
03	Air Compression Plant (currently inactive)	• aboveground storage tanks • vehicle fueling area (near) • parts cleaning trough • underground sump • 2001 testing program results indicated localized areas of soil impacts	2,000
04	Steam Generation Plant (currently inactive)	• possible chemical spills and/or leaks from past operations • 2001 testing program results indicated localized areas of soil impacts	1,000
05	Water Softening Plant (currently inactive)	• aboveground storage tanks • possible chemical spills and/or leaks from past operations • 2001 testing program results did not indicate impacts at this location	0
06	Secondary Tank Farm (currently out-of-service)	• aboveground storage tanks • oil and gas dewatering operations • natural gas treatment • underground sump • 2001 testing program results indicated localized areas of soil impacts and no groundwater impacts	1,500
07	Pilot-Scale Bioremediation Cell	• bio-treatment cell area • stockpiled, unlined, impacted soil • treated soil stockpile canyons (near) • 2001 testing program results indicated localized areas of soil impacts	5,000
08	Former Sumps and Clarifiers (south of the Drill site tank farm Tank Farm)	• possible leaching of crude oil from the sumps/clarifiers to the ground • 2001 testing program results indicated areas of soil impacts and no groundwater impacts	19,500

TABLE 4.5-3 (Continued)
SUMMARY OF PROJECT SITE
RECOGNIZED ENVIRONMENTAL CONDITIONS (RECS)/
POTENTIAL ENVIRONMENTAL CONCERN (PECS)

PEC	Designation	Original Rationale For PEC Listing	Estimated Soil to be Managed (Cubic Yards)
09	Electrical and Transformer Storage	• possible PCB leaks from electrical transformers • 2001 testing program results indicated localized areas of hydrocarbon soil impacts; PCBs were not detected	50
10	Transformer Mounts	• possible PCB leaks from electrical transformers • 2001 testing program results indicated localized areas of hydrocarbon soil impacts; PCBs were detected at levels exceeding residential PRGs at this location	<2
11	Offices/Changing Rooms	• septic wastes • possible solid waste disposal areas (near) • 2001 testing program results did not indicate impacts at this location	0
12	Area immediately adjacent to City of Newport Beach Tank Farm (boundary conditions)	• aboveground storage tanks • oil and gas dewatering operations • natural gas treatment • underground sump • 2001 testing program results indicated localized areas of soil impacts	<2
13	Not Applicable	• this PEC was grouped with another PEC	N/A
14	Not Applicable	• this PEC was grouped with another PEC	N/A
15	Underground Storage Tanks and Fuel Pump	• possible gasoline leaks from UST; however UST was closed per regulations • 2001 testing program results indicated a localized area of soil impacts	<2
16	Coast Watch Station	• miscellaneous debris and municipal solid waste, although no evidence of this material currently exists • 2001 testing program results did not indicate impacts at this location	0
17	Oil and Gas Production Equipment Storage	• possible leaching of materials from the equipment to the ground • 2001 testing program results did not indicate impacts at this location	0
18	Concrete Cellar Stockpile and Miscellaneous Debris Stockpiles	• possible leaching of materials from the debris to the ground • 2001 testing program results indicated that additional testing would be needed in this area following concrete debris removal	0 (petroleum impacts) 15,000 (concrete)
19	Abandoned Shack	• possible chemical spills and/or leaks from past operations • 2001 testing program results did not indicate impacts at this location	0

TABLE 4.5-3 (Continued)
SUMMARY OF PROJECT SITE
RECOGNIZED ENVIRONMENTAL CONDITIONS (RECS)/
POTENTIAL ENVIRONMENTAL CONCERN (PECS)

PEC	Designation	Original Rationale For PEC Listing	Estimated Soil to be Managed (Cubic Yards)
20	Miscellaneous Debris and Soil Stockpiles	• possible leaching of materials from the equipment and debris to the ground • 2001 testing program results indicated impacts to stockpiled soils awaiting treatment	2,000
21	Miscellaneous Debris Stockpiles	• possible leaching of materials from the equipment and debris to the ground • 2001 testing program results indicated that additional testing would be needed in this area following debris removal	0
22	Soil Stockpiles	• possible leaching of materials from the soil to the ground • 2001 testing program results did not indicate impacts at this location	0
23	Equipment Storage	• possible leaching of materials from the equipment to the ground • potential oil leaks • 2001 testing program results indicated that additional testing would be needed in this area following equipment removal	0
24	Main Office	• septic wastes • possible solid waste disposal areas (near) • 2001 testing program results did not indicate impacts at this location	0
25	Oil Well Pads and Linear Features (roadways and pipelines)	• tank bottom materials • oil-impacted soil • concrete cellar • debris • Previous testing program results indicated localized soil impacts along these features	52,500 (petroleum soils) 93,000 (asphalt/roads)
26	Drilling Mud Sumps/Oil Well Sumps	• oil-impacted soil • drilling mud • debris • Previous testing program results indicated localized soil impacts	4,500
27	Sublease Areas	• impacted soil • 2001 testing program results did not focus on sublease areas	unknown
Preliminary Estimate of Material Quantities to be Remediated (approximate)			138,000 (petroleum soils) 108,000 (concrete, asphalt/ road material) 246,000 Total

REC: recognized environmental conditions; PEC: potential environmental concern; VOCs: volatile organic compounds; PCB: polychlorinated biphenyl; PRGs: preliminary remediation goals; UST: underground storage tank.

Source: Geosyntec 2009.

The Phase I ESA Update also identifies two de minimus conditions that are not expected to have a significant impact on the environment:

- Old sewer pipes associated with the former sewage treatment facility located off the Project site on the U.S. Army Corps of Engineers restored salt marsh basin (USACE-restored salt marsh basin) and
- Old trucks, drill rigs, and equipment located across the Project site.

Three historical RECs have been remediated and are considered "closed" by the Santa Ana RWQCB.

Regarding the off-site RECs, the Phase I ESA Update includes a database search report obtained from EDR. The findings of the database search are provided in the Phase I ESA Update (Appendix D).[5] The EDR report documents the findings of various governmental database searches regarding properties with known or suspected releases of hazardous materials or petroleum hydrocarbons within a search radius of ¾-mile from the approximate center of the Project site. Each listing in the EDR report was evaluated as part of the Phase I ESA Update to determine its potential to affect the Project site (Geosyntec 2008). Based on this review, four off-site RECs were identified. Each of the four sites identified have either been closed or issued a No Further Action designation.

Preliminary Vapor Intrusion Evaluation

A limited and preliminary pVIC evaluation was performed for the Project site as part of the Phase I ESA Update. The preliminary pVIC evaluation identified on-site and off-site pVICs. On-site pVICs include active, idle, and abandoned oil wells, pipelines, sumps, and former underground storage tank locations throughout the Project site. Off-site pVICs include the four facilities identified above as off-site RECs because of their respective documented sources of soil and/or groundwater contamination and their locations being hydrogeologically upgradient of the Project site (Geosyntec 2008).

Other Findings

Other areas of environmental concern were identified as part of the Phase I ESA Update or previous Phase I ESAs, and were either included in an existing REC, deemed to be of lesser significance than the previously discussed RECs, or considered to be outside the scope of the Phase I ESA Update (Geosyntec 2008). Of these, the following two issues not encompassed by an REC/PEC identified above are considered to be of potential concern.

Asbestos and Lead. Because many of the Project site structures and equipment were built and installed before 1966, there is a potential for the presence of lead-based paint and asbestos-containing materials. Their absence or presence has not been confirmed (Geosyntec 2008).

Sewage Pipelines. Prior to 1970, the Orange County Sanitation District (OCSD) operated a small sewage treatment facility located off the Project site on land which was later restored as part of the USACE-restored salt marsh basin. The Phase I ESA Update reports that the OCSD has stated it is possible that abandoned sewage pipelines cross the site (Geosyntec 2008).

[5] The database search report is on file and the City of Newport Beach and is available for review during regular business hours.

However, Geosyntec does not consider the presence of abandoned OCSD pipelines on the Project site likely.

Previous On-Site Remediation Activity

In the 1990s, the West Newport Oil Company, the oil operator, commenced abandonment of its least productive wells. As part of this effort, and based on results of testing from 1986 to 2000, a basic hydrocarbon cleanup plan (initially referred to as the Environmental Restoration Plan, or ERP) was developed to clean up soils associated with abandoned oil wells. The ERP outlined basic hydrocarbon cleanup levels (provided in Table 5 of the dRAP in Appendix D) and a bioremediation pilot scale treatment area to remediate impacted soils; the ERP was submitted to the OCHCA who approved it in October 1992. The ERP was also submitted to and reviewed by the Santa Ana RWQCB and other agencies, including the CDFG and the USFWS. The plan was updated in 1994 and was used to excavate and manage well abandonment soils from 1994 to about 2001 (Geosyntec 2009). Approximately 160 wells were abandoned during this period.

The Phase I ESA Update also discusses additional focused areas of the Project site that have been remediated and closed. These include the three historical RECs: the Cement Return Area, Wetland Fill Area, and storm water/surface water quality issues. These historical RECs have been addressed by the current Project site owner and operator; based on correspondence with the Santa Ana RWQCB, no further action is required for remediation (Geosyntec 2008, 2009). However, the storm water/surface water quality issues historical REC may become of concern again depending on the nature and quality of on-site and off-site operations in the future (Geosyntec 2008).

A portion of the original oilfield has undergone abandonment and remediation. In the late 1980s, the USACE purchased 92 acres of the original oilfield property located adjacent to the Santa Ana River as part of the USACE Santa Ana River Flood Control Project. The parcel was converted to a tidally influenced coastal wetland habitat by the USACE by the early 1990s as mitigation associated with the flood-control project (Geosyntec 2009).

4.5.5 PROJECT DESIGN FEATURES AND STANDARD CONDITIONS

Project Design Features

PDF 4.5-1 The Master Development Plan requires existing oil operations to be consolidated into two areas within the Open Space Preserve designated as “Interim Oil Facilities”, in accordance with the land use districts established for the Project site in the Newport Banning Ranch Planned Community Development Plan, totaling approximately 17 acres including the service access road. This use will ultimately revert to an Open Space land use at the end of the oilfield’s useful life.

Standard Conditions and Requirements

Asbestos and Lead

SC 4.5-1 Prior to demolition, testing for all structures for presence of lead-based paint (LBP) and/or asbestos-containing materials (ACMs) shall be completed. The Asbestos-Abatement Contractor shall comply with notification and asbestos-removal procedures outlined in the South Coast Air Quality Management District’s (SCAQMD’s) Rule 1403 to reduce asbestos-related air quality health risks. SCAQMD Rule 1403 applies to any demolition or renovation

activity and the associated disturbance of ACMs. This requirement shall be included on the contractors' specifications and verified by the City of Newport Beach Community Development Department.

All demolition activities that may expose construction workers and/or the public to ACMs and/or LBP shall be conducted in accordance with applicable regulations, including, but not limited to Title 40 of the *Code of Federal Regulations* (CFR), Subchapter R (Toxic Substances Control Act); CalOSHA regulations (Title 8 of the *California Code of Regulations* §1529 [Asbestos] and §1532.1 [Lead]); and SCAQMD Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities). The requirement to adhere to all applicable regulations shall be included in the contractor specifications, and such inclusion shall be verified by the City of Newport Beach Community Development Department prior to issuance of the first grading permit.

Hazardous Materials Transportation

SC 4.5-2 Any hazardous contaminated soils or other hazardous materials removed from the Project site shall be transported only by a Licensed Hazardous Waste Hauler to approved hazardous materials disposal site, who shall be in compliance with all applicable State and federal requirements, including the U.S. Department of Transportation regulations under 49 CFR (Hazardous Materials Transportation Act), California Department of Transportation (Caltrans) standards, Occupational Safety and Health Administration (OSHA) standards, and under 40 CFR 263 (Subtitle C of Resource Conservation and Recovery Act). The City of Newport Beach Community Development Department shall verify that only Licensed Haulers who are operating in compliance with regulatory requirements are used to haul hazardous materials.

4.5.6 THRESHOLDS OF SIGNIFICANCE

The following thresholds of significance are derived from the City of Newport Beach Environmental Checklist. The proposed Project was determined to have a potentially significant impact for the following thresholds of significance and further analysis in this EIR was determined to be necessary. The Project would result in a significant impact related to hazards and hazardous materials if it:

Threshold 4.5-1 Would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Threshold 4.5-2 Would 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.

Threshold 4.5-3 Would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Threshold 4.5-4 Would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

Threshold 4.5-5 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.

As previously discussed in Section 1.6.1, Effects Found Not to be Significant, the City has determined that the proposed Project would not have a significant impact for the following thresholds and that no further analysis is required in the EIR:

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

  The Newport Banning Ranch Project site is not located within an adopted Airport Land Use Plan. The nearest airport/airstrip is the John Wayne Airport located approximately four miles northeast of the Project site.

- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

  The nearest heliport is associated with Hoag Memorial Hospital Presbyterian which has a private heliport for hospital use. The heliport is approximately ½ mile east of the Project site.

The following City Environmental Checklist (Hazards and Hazardous Materials) questions are addressed in Section 4.15, Public Services and Facilities:

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

4.5.7 ENVIRONMENTAL IMPACTS

Summary of Findings

The following analysis addresses, among other issues concerning hazards and hazardous materials, the potential impacts of the continuing of existing oil operations by the City of Newport Beach and proposed future oil operations within the consolidation areas by the City and the private oilfield operator and clean up (remediation) of the oilfield operations.

Due to the breadth of analysis provided under Thresholds 4.5-1 through 4.5-4, the following summarizes the findings of the analysis described further below. Please refer to the analyses provided under the significance thresholds listed below for details concerning the determinations summarized herein.

The proposed Project would result in a development of residential, commercial, mixed-use, recreational, and open space uses. None of the residential or recreational and open space uses would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials as those uses would not require the use of hazardous

materials in quantities that would result in significant impacts. The commercial uses proposed under the Project include general commercial retail uses and a resort inn with restaurant, spa and other visitor-serving commercial uses. Although these uses may require the use of certain regulated chemicals, such as pesticides, fertilizers, or routine cleaning supplies, proper handling and storage of these regulated materials pursuant to adopted regulations would ensure that no significant impacts would result from the use of these regulated hazardous materials.

Implementation of the Project would result in the development of residential, retail, resort inn, recreational and open space uses adjacent to two consolidated oil operation areas designated Consolidated Oil Facilities (OF). The potential impacts related to use, transport and/or handling of hazardous materials associated with continued operation of oil facilities proximate to the land uses proposed in the Newport Banning Ranch Planned Community Development Plan have been analyzed and were determined to be less than significant with mitigation. The Project would limit the oil operations to two consolidated sites which are located in the Lowland and not in proximity to the proposed residential and commercial uses, all of which are proposed to be located in the Upland (PDF 4.5-1). Facilities for continued oil production would be permitted within the oil consolidation areas.

The assessment of air emissions during construction activities and long-term remedial activities related to oilfield operations is provided in the Air Toxics Assessment, primarily summarized in Section 4.10, Air Quality, of this EIR.

The analysis of the potential impacts of the continued oil operations and the eventual remediation of the oil facilities on the Project site is set forth below.

Threshold 4.5-1 ***Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?***

Threshold 4.5-2 ***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?***

Summary of Hazardous Materials and Soils on the Project Site and Proposed Remediation

The results of investigations performed to date indicate that the Project site is primarily impacted by petroleum hydrocarbons, specifically degraded and weathered crude oil, and that these impacts are generally confined to specific operating areas, including oil well locations, pipelines, tank farms, sumps, and roadways (Geosyntec 2008, 2009). The Project site also includes road materials made up of varying amounts of gravel, asphalt, crude oil, or crude oil tank sediments, and large amounts of concrete used in oilfield operations and facilities (Geosyntec 2009). The data also indicate that some areas of the Project site contain soils impacted by generally low concentrations of chemicals other than crude oil, such as volatile organic compounds (VOCs) and metals (Geosyntec 2008). None of the petroleum hydrocarbons or any other contaminants identified in soil and groundwater were found on the Project site at levels exceeding the hazardous waste criteria, as defined by federal and State regulations. While no hazardous level wastes or soils are expected during site cleanup operations, Mitigation Measure (MM) 4.5-1 requires a final RAP that outlines a sampling verification and confirmation component of the cleanup to ensure that remediation activities are performed in accordance with regulatory requirements.

There is also potential for low-level emissions of soil gas. In the Upland, all the detected low-level emissions of soil gas are related to oil operations and potential sources of the soil gas are proposed for remediation. These include facility areas and all immediate well sites. Therefore, the dRAP includes the requirement for a hazard gas assessment to be prepared once the identified potential sources (pVICs) are remediated; this would be completed in accordance with the Orange County Fire Authority (OCFA) Guideline C-03, Combustible Soil Gas Hazard Mitigation and would include a screening of VOC components (Geosyntec 2009). It should be noted that the ASTM Standard E 2600 only outlines a method to determine whether a vapor intrusion condition may exist. The OCFA Guideline C-03 is intended to assess site-specific conditions after the completion of grading and remedial activities to ensure that a site can be developed as proposed and outlines how to test for vapors, at what levels mitigation is required, and what kind of mitigation is required for proposed structures. Specific vapor management measures can include vents over abandoned wells and barriers below foundations, among others, and would be determined on a case-by-case basis.

Based on the previous assessments performed at the Project site, there were no historical groundwater impacts detected under or in the immediate vicinity of the proposed development area in the Upland area. Groundwater impacts were noted in the following areas of the Project site: the mechanics shop, the Main Drill Site Tank Farm, and a former sump location to the south of the Main Drill Site Tank Farm. As discussed above, groundwater impacts detected near the Main Drill Site Tank Farm area are currently being remediated through the implementation of an agency-approved RAP for this specific impact area (Geosyntec 2009). As noted in Section 4.5.2, Regulatory Setting, the Santa Ana RWQCB and the OCHCA are the primary oversight agencies for groundwater issues and human health concerns at the Project site.

These types of impacts are consistent with oilfields of this age and are similar to other oilfields that have been feasibly and effectively remediated for residential development (Geosyntec 2009). That said, the presence of these materials on the Project site has the potential to adversely affect the proposed land uses and persons residing on the Project site and, without appropriate remediation, would be considered a significant impact. However, as described in MM 4.5-1, the proposed Project would include implementation of a comprehensive final Remedial Action Plan for oilfield abandonment, clean-up, remediation, and consolidation. As explained in detail below, with implementation of the approved final RAP, there would be less than significant impacts related to historic and ongoing oilfield operations on the Project site. The management of these substances in accordance with the RAP is discussed below.

Also, as discussed above, there is a potential for the presence of LBP and ACMs in some of the structures and equipment on the Project site (Geosyntec 2008). With implementation of SC 4.5-1 (which requires handling and disposal of these substances, if identified, in accordance with applicable State regulations), there would be a less than significant impact related to exposure to ACMs and LBP.

Proposed Oilfield Remediation and Consolidation (Remedial Action Plan)

The purpose of the dRAP is to:

- Describe the scope of the oilfield remediation and the processes and methods that are anticipated to be used at the Project site for remediation so that the potential impacts of final RAP implementation can be considered in this EIR
- Describe the regulatory framework for approval of a final RAP and the monitoring and approval process to be followed during field remediation work (Geosyntec 2009).

The dRAP includes estimated volumes of materials processed including remediation soils and the oilfield facility demolition materials (Geosyntec 2009), all of which would be addressed prior to any development on the Project site. As described in MM 4.5-1, a comprehensive RAP would be implemented as part of Project site development to set forth the actions that would be implemented to remediate the oilfield areas that are proposed for development and to assure that all potential impacts of historical oilfield operations are properly mitigated prior to development.

In order to maintain access to the remaining oil reserves on the Project site while allowing for development of the proposed Project land uses, the proposed Project would include the phased abandonment of oil wells and facilities within the development area and the Upland and Lowland open space areas. It would also include consolidation of both replacement and future oil operations into two locations on the Project site (NBR 2008). The components of the dRAP are described below.

Approximately 252 acres (63 percent) of the Project site are proposed for natural resources protection in the form of open space and habitat restoration. Of the 252 acres, approximately 16.5 acres would be used for two oil consolidation sites that would be linked by a related access road and utility corridor (Exhibit 4.5-2). The Open Space Preserve would be comprised of: (1) the existing 4.8-gross-/net-acre oil operations site accessed from West Coast Highway that is also used by the City for oil production; (2) a partially developed 8.6-gross/net-acre oil site near the middle of the Lowland area; and (3) an oil access road connecting the two oil consolidation sites to be used for drilling rigs, maintenance trucks, and other oil facility-related purposes. An access easement for the oil access road would also provide for the proposed Bluff Toe Trail described in Section 3.0, Project Description, and Section 4.8, Recreation and Trails. Planting buffers would be provided around the perimeter of the two consolidated oil sites to provide habitat and partially to screen the oil facilities from public trails and development areas; the northern consolidation site may also be fenced.

Replacement oil production facilities would be regulated and inspected by the DOGGR and other State and local regulatory agencies. Upon the future cessation of oil operations on the two oil consolidation sites, the sites would be abandoned and remediated, pursuant to the appropriate regulatory review at that time, and used for open space.

The comprehensive oil facilities consolidation, abandonment, and remediation proposed at the Project site would be a multiple-step process and is anticipated to take approximately three years. The process would include oilfield facility demolition, oilfield remediation, and development area grading. Initially, oil facilities would be consolidated into the two areas. Subsequent abandonment of oil wells within development areas would occur followed by remediation activities. The remediation portion of this process is expected to take most of this time. The abandonment and remediation work would be initiated before development of the first site planning area for residential, resort inn, mixed-use, or recreational use, and may continue during construction so long as all oil abandonment and remediation work within a site planning area is completed prior to issuance of the first building permit for that portion of the site planning area proposed to be developed. Therefore, Project site remediation would be completed prior to development of proposed land uses and, as such, there would be no significant impacts to future residents and visitors related to former oilfield operations in the development area.

Remediation activities are contingent on Project approval because consolidation of the oil operations would not be necessary without the development of the Project site for non-oilfield production uses; the dRAP is intended for planning purposes and would be finalized should the Project be approved. However, it is noted that Project site remediation would be required upon

future cessation of oil operations in compliance with State and local requirements with or without development of the property. As described in MM 4.5-1, a final RAP would be finalized and submitted to both the Santa Ana RWQCB and the OCHCA (Geosyntec 2009). The proposed oilfield consolidation and remediation plan, as described in the dRAP, is discussed below.

Oilfield Impact Areas and Remediation Related to Soils, Asphalt, and Concrete

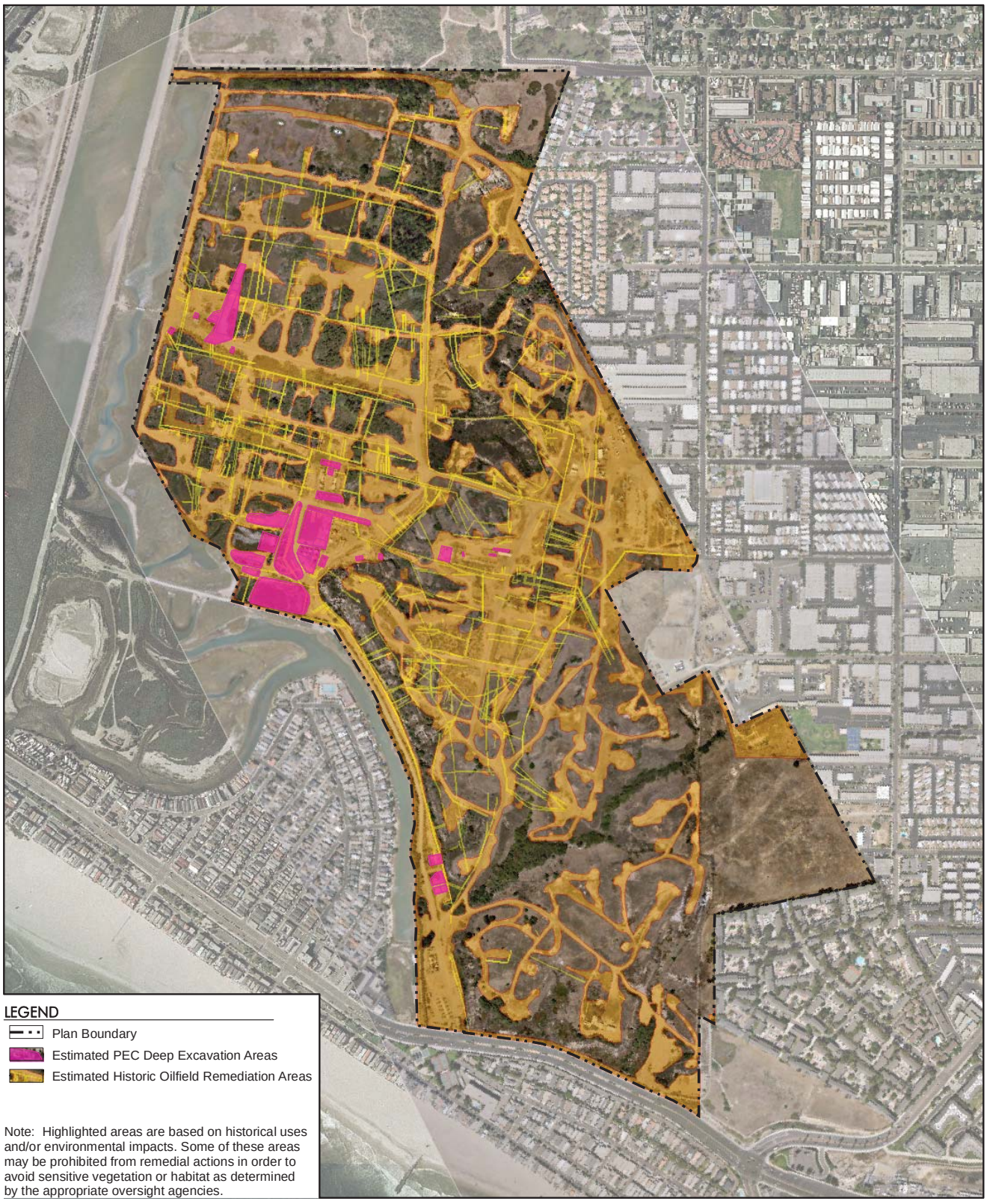
The impacted areas identified in the 2001 Phase II EA report and the estimated depths and volumes of impacted materials provide the basis and scope of the dRAP. Exhibit 4.5-3, Estimated Remedial Action Areas*,* depicts the geographic extent of anticipated oilfield remedial excavation areas on the Project site. As shown in Table 4.5-3, it is estimated that this area includes approximately 246,000 cubic yards (cy) of materials to be remediated. Of the 246,000 cy, approximately 138,000 cy are hydrocarbon-impacted soils and 108,000 cy are surface road materials and concrete. Of these totals, approximately 156,000 cy of this material is located in the Lowland. In addition to the REC/PEC areas, it is expected that additional small volumes of impacted soils may be identified during the oilfield facility demolition phase. The total volumes of all materials to be removed from the Project site (including inert materials such as metals and concrete) and their disposal is addressed as part of the solid waste analysis in Section 4.9, Transportation and Circulation, and Section 4.15, Utilities and Service Systems. An estimate of these small volumes is included in the total volume numbers. As with all remediation projects, the total remediation volumes can vary substantially when actual removals begin; thus, contingency amounts were included in the estimates.

The dRAP provides for monitoring by third-party environmental consultants during the removal of all pipelines, facilities, power poles, and other structures to identify and document any potential environmental conditions requiring remediation and to oversee implementation of the remedial measures during the remediation phase. Also, as grading is the most comprehensive type of visual confirmation, environmental monitoring would also be conducted during this phase (Geosyntec 2009). Removals and excavation sites would be tested and verified to meet the RAP criteria by third-party, State-approved laboratories (Geosyntec 2009). Implementation of these measures provided in the dRAP would ensure that any release of hazardous materials related to soils, asphalt, and concrete would be reduced to a level of less than significant. Please also refer to Section 4.10, Air Quality, which addresses air quality emissions during remediation actions.

Oilfield Impacts and Remediation Related to Methane and VOCs

The crude oil produced in the existing oil operations is a heavy, high gravity oil that has very little associated methane gas. Although no indications of soil gas in the Upland were observed, one site in a Lowland wetlands was observed to have small amounts of soil gas emanating from the water. That site was not near an oil well, and is assumed to be a natural occurrence in the wetlands. The evaluation of the vapors indicated elevated methane concentrations up to 73.2 percent, further indicating a natural origin. This area is adjacent to one of the two proposed oilfield consolidation areas (outside of the proposed development area) (Geosyntec 2009). Therefore, because this site is a natural occurrence that is outside the construction and development area, there would be no impact on the proposed development area.

No VOCs were detected in soil samples above residential Regional Screening Levels (RSLs). Very low levels of VOCs were detected in subsurface water in isolated locations in the Lowland, which is not proposed for habitable development. Although no substantial areas of VOC-impacted soil or groundwater exist at the Project site, all the low-level detections are associated with facility areas that are proposed for remediation and would have full verification sampling



Source: Geosyntec 2009

Estimated Remedial Action Areas

Exhibit 4.5-3

Newport Banning Ranch EIR

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S

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conducted to ensure that health-based levels are attained (Geosyntec 2009). Consequently, the presence of low-level areas of VOCs at the Project site would not have a significant impact on development proposed under the Project as all areas in which low-level VOCs have been detected would be remediated per applicable regulations.

Both subsurface methane and VOC emissions could cause vapor intrusion impacts for overlying development. The two accepted approaches to address vapor intrusion are source remediation and engineering controls. Although no levels of methane or VOCs above residential RSLs have been detected, both source remediation and engineering controls are proposed in the dRAP (Geosyntec 2009).

In the Upland, all the detected low-level emissions and potential sources are proposed for remediation. These include facility areas and all immediate well sites. There are no indications that the groundwater that underlies areas proposed for development in the Project's Upland is impacted by VOCs. In the Lowland, all the detected low-level emissions and potential sources of methane and/or VOCs are also proposed for remediation. This includes facility areas, well sites, and the isolated water impact areas. No levels above residential RSLs have been detected in groundwater and those areas with low-level emissions are isolated, contained, and do not extend under the Upland (Geosyntec 2009).

Engineering controls for methane and VOCs are essentially identical for structures. Although no indications of soil gas or VOC emissions above residential RSLs were observed in the Upland, methane controls, as defined in the OCFA Guideline C-03, would be implemented throughout the development area. This Guideline provides detailed measures for mitigating potential impacts due to methane and vapor intrusion in and around developments and has been implemented in most Orange County developments with former oilfield operations. These measures include subsurface oil well venting systems, structure sub-slab barriers, structure vent guidelines, and surface vent guidelines. As set forth in the proposed Newport Banning Ranch Planned Community Development Plan (NBR-PC), all habitable structures within the Project site must be set back a minimum of 10 feet from any abandoned oil well head and a minimum of 100 feet from any active oil well head. As part of the OCFA Guideline C-03, a hazard gas assessment must be conducted; the assessment would be conducted once the potential sources are remediated and would include a screening of VOC components (Geosyntec 2009). Implementation of the remediation and engineering controls described in the dRAP and OCFA Guideline C-03, which is required with MM 4.5-1, would ensure that the presence of methane and VOCs would not have a significant effect on the proposed Project.

Remediation Process Approach

Upon initiation of the oilfield consolidation process, plugging and abandoning of the remaining active/potentially active wells in the Upland and Lowland outside of the consolidation areas would occur; the process would also include demolishing and removing the pipelines, utility poles, and other related production equipment, buildings, and road surface materials.[6] These activities would clear the Project site for the subsequent remediation phase. It is expected that the remediation program would follow shortly after the well and facility demolition and abandonment process. The following are guiding overview strategies for the proposed oilfield abandonment and remediation efforts in the RAP (MM 4.5-1):

- Recycle or reuse all salvageable materials.

[6] Nineteen of the existing active/potentially active wells are located within the future consolidation areas and, therefore, would not have to be abandoned.

- Remediate soils on the Project site, whenever feasible, using natural bio-remediation processes, discussed further below (see "Soil Remediation Methods" below). This would be expected to require three to five acres of land area, if implemented. Hazards during transport of contaminated materials are addressed below under Threshold 4.5-3.
- Remove heavy hydrocarbons from the Project site and recycle into off-site roadway materials at an off-site crude oil facility.
- Reuse remediated soils and restored materials in development fills whenever feasible, discussed further below.
- Minimize off-site traffic, hauling, and disposal.
- Work in collaboration with appropriate regulatory stakeholders and resource agencies to limit disturbance to native on-site vegetation whenever feasible*.*

Also, the oilfield abandonment activities are managed in accordance with DOGGR regulations, and the potential for combustible gases in the subsurface would be evaluated and mitigated according to OCFA Guideline C-03, Combustible Soil Gas Hazard Mitigation, which is provided in Appendix A of the dRAP (Appendix D of this EIR) (Geosyntec 2009).

Clean-Up Levels and Materials Reuse

Previous cleanups on the Project site (see discussion of previous on-site remediation activity) have established Santa Ana RWQCB and OCHCA regulatory-approved clean-up levels for each constituent of concern on the Project site. These levels are summarized in Table 4.5-4.

The established Total Recoverable Petroleum Hydrocarbon (TRPH) clean-up levels vary based on a multi-depth approach considering depth below final grade and final site use (commercial, residential, or open space). The currently applicable levels are those provided in Table 4.5-4 based on 2001 correspondence between the Santa Ana RWQCB and Geosyntec, which is the most recent correspondence. The final RAP would propose clean-up levels for the full field remediation and development and may include additional levels for other non-TRPH constituents of concern at the Project site. Proposed clean-up levels in the final RAP would consider:

- historic regulatory levels;
- approved clean-up levels from other oilfield development sites;
- risk-based calculations; and
- USEPA Regional Screening Levels.

Agency-approved materials may be re-used as part of Project development. For specific materials that result from the demolition and remediation activities, such as treated soil and concrete, these materials may be used as fill. The materials would have to meet the clean up criteria established for development of the proposed Project based on depth of placement below grade. For example, treated soils may be used 10 feet below final grade, and crushed concrete below 15 feet. These materials would also be subject to appropriate geotechnical criteria needed for development (Geosyntec 2009), as discussed in Section 4.3, Geology and Soils.

TABLE 4.5-4
SUMMARY OF HISTORIC CLEANUP LEVELS FOR THE PROJECT SITE

Land Use	Depth from Final Grade (below ground surface)	Chemical Constituent and EPA Method Used to Verify Concentration[a]	Allowable Concentration (mg/kg)
2001 Santa Ana RWQCB			
Residential (Impacted and Remediated Soil)	0–15 feet	• TRPH (EPA 418.1) • TPH (EPA 8015M w/ carbon chain identification from C13–C23 inclusive) • BTEX (EPA 8021b)[b] • VFH (EPA 8015M)	100 (screening tool only) 100/1,000[c] B=ND, T=0.1, E=0.68, X=1.75 ND
	>15 feet	• TRPH (EPA 418.1) • TPH (EPA 8015M w/ carbon chain identification from C13–C23 inclusive) • BTEX (EPA 8021b)[b] • VFH (EPA 8015M)	5,000 5,000 B=0.10, T=10, E=68, X=175 100
Non-Residential (Impacted and Remediated Soil)	0–15 feet	• TRPH (EPA 418.1) • TPH (EPA 8015M w/carbon chain identification from C13–C23 inclusive) • BTEX (EPA 8021b)[b] • VFH (EPA 8015M)	1,000 (screening tool only) 1,000 B=ND, T=0.1, E=0.68, X=1.75 100
	>15 feet	• TRPH (EPA 418.1) • TPH (EPA 8015M w/ carbon chain identification from C13–C23 inclusive) • BTEX (EPA 8021b)[b] • VFH (EPA 8015M)	15,000 5,000 EPA Residential PRGs B=0.65, T=520, E=230, X=210 500
1996 Agency – Approved			
Residential	0–10 feet	TPH (method not specified)	100
	>10 feet	TPH (method not specified)	10,000 (OCHCA Review Required)
		TPH (method not specified)	10,000–20,000 (Santa Ana RWQCB review required)
		TPH (method not specified)	>20,000[e] (OCHCA and Santa Ana RWQCB review required)
Commercial or Open Space	0–3.5 feet	TPH (method not specified)	1,000
	>3.5 feet	TPH (method not specified)	10,000 (OCHCA review required)
		TPH (method not specified)	10,000–20,000 (Santa Ana RWQCB review required)
		TPH (method not specified)	>20,000[d] (OCHCA and Santa Ana RWQCB review required)

TRPH: Total Recoverable Petroleum Hydrocarbons; TPH: Total Petroleum Hydrocarbons; BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes; VFH: Volatile Fuel Hydrocarbons; mg/kg: milligrams per kilogram; ND: Non-detect; PRG: Preliminary Remediation Goal (EPA Region IX); C13–C23: Carbon Chain length (numbers indicate number of carbon atoms in the hydrocarbon chain); OCHCA: Orange County Health Care Agency; Santa Ana RWQCB: Regional Water Quality Control Board, Santa Ana Region.

[a] Based on the type of hydrocarbon impact encountered, 1 or more of these analyses may be required

[b] Positive results confirmed with EPA (Method 8260)

[c] 1,000 mg/kg allowed if the soil has no apparent hydrocarbon odor or stain; if odor or staining is apparent, 100 mg/kg is used.

[d] Areas having values of soil TPH >20,000 mg/kg would require gas monitoring with methane <5 percent Lower Explosive Limit to remain in place

Note: Asphaltic Fill Materials and Remediated Soil would be placed at least 15 feet below final grade. Greater than 25 feet below final grade – concentrations shall meet USEPA Residential PRGs, TRPH/TPH up to on-site concentrations, VFH not to exceed 500 mg/kg.

Source: Geosyntec 2009.

Soil Remediation Methods

During previously approved remediation programs on the Project site, hydrocarbon-impacted soils have been successfully remediated in a pilot-scale bioremediation cell (i.e., biocell). A continuation of the soil bioremediation method to treat and clean hydrocarbon-impacted soils would be proposed as part of the final RAP. The bioremediation of hydrocarbon-containing materials generally consist of: (1) siting and layout of large treatment areas; (2) construction of containment and handling areas; and (3) operation of the treatment area. The actual bioremediation process involves the control of moisture in the soils as they are periodically mixed and turned. This process aerates the soils and encourages the growth of the indigenous hydrocarbon-reducing bacteria. Periodic sampling of the treated soil monitors the process until the agency-approved clean-up levels are achieved. Upon approval by the oversight agencies, expected to be Santa Ana RWQCB and the OCHCA, the treated soils are removed and re-used. The final RAP shall provide additional details regarding the proposed bioremediation described in the dRAP, including specifying the location of the on-site treatment areas, storm water control and design details, and maintenance and closure specifications (Geosyntec 2009).

In general, the remediation process for the RECs/PECs identified on the Project site would consist of the five processes listed below.

1. Sampling within known areas of impact to evaluate the extent of removal needed in each area (note that this may be conducted simultaneously with the remedial excavation operations described above).
2. Removing impacted materials and stockpiling them in specified areas of the Project site. Materials would be stockpiled with respect to their potential for reuse as fill on site, or potential for haul off site (dependent on concentration and nature of impacts, i.e., ability to be bioremediated on site). Areas would be contained to limit erosion and runoff issues from stockpiling operations and to ensure there is no impact to future resource conservation sites.
3. Segregating materials that are not likely to be effectively treated by on-site bioremediation (e.g., highly weathered crude oil). These materials would be segregated near transportation access points for recycling at a State of California-approved facility.[7] Materials identified that have constituents exceeding hazardous criteria as defined by federal and State regulations would be stockpiled and handled separately (note that no petroleum hydrocarbons or any other contaminants identified in soil and groundwater having concentrations exceeding hazardous criteria have yet been identified).
4. Placing stockpiles adjacent to treatment locations (i.e., biocells). Materials would be spread and handled to enhance natural biodegradation of petroleum hydrocarbons.
5. Confirmation sampling within the biocell areas. Samples of soil would be collected at a specified frequency and with an agency-approved treatment batch volume. These samples would be subjected to laboratory analysis. Based on the results, materials would either continue to be treated or would be moved to reuse areas if sample results indicate that agency-approved criteria have been achieved.

Soils with very heavy hydrocarbon impacts may be (1) isolated for longer term, more intense bioremediation; (2) transported off site to be used or recycled in another crude oil facility; or (3) treated on site by standard remediation thermal methods which destroy contaminants

[7] Facilities include but are not limited to Thermal Remediation Solutions in the City of Azusa, Belridge Producing Complex in Kern County, and Clean Harbors in Kern County.

through elevated temperatures to the appropriate cleanup level. These options recognize the overall goal to remediate and/or recycle impacted materials on site to the greatest extent possible in order to reduce impacts such as traffic on local streets, air emissions that would be experienced with mass soil export, or the use of landfill capacity for otherwise recyclable resources. Material export would be limited to the degree feasible (Geosyntec 2009).

Development of the Project would require the rough grading of approximately 2,400,000 cy of materials, inclusive of site remediation activities. In the event that additional impacted soils are encountered during rough grading, similar remediation procedures would be enacted based on contaminants found. In some of the open space, road, and deep fill areas requiring backfill, remediated soils may be recycled into the substructure. The abandoned oil wells in the development areas would be managed in accordance with DOGGR regulations, and the potential for combustible gases in the subsurface would be mitigated in the development areas according to OCFA Guideline C-03 (Geosyntec 2009).

Verification and Documentation

As remediation and restoration activities are completed in each area, a verification sampling program would be performed. This program would be designed to verify that the area meets the agency-approved criteria for environmental closure as defined in the final RAP to be approved by the oversight agencies, expected to be the Santa Ana RWQCB and the OCHCA. This would involve collection of samples from appropriate environmental media (e.g., soil, groundwater, surface water) in each area, laboratory analysis of specified constituents, and evaluation of the results. This would likely be an iterative process, whereby additional targeted remediation and verification sampling may need to be performed until verification samples meet agency-approved criteria.

In addition, the remediation activities would be monitored to evaluate compliance with appropriate dust-, odor- and emission-control requirements including a Storm Water Pollution Prevention Plan (SWPPP) (PDF 4.4-6 in Section 4.4, Hydrology and Water Quality). The SWPPP would document best management practices (BMPs) that would be in place and monitored during the course of remediation activities. Please refer to Section 4.4, Hydrology and Water Quality, of this EIR which includes a discussion of BMPs.

The results of the verification process would be documented and submitted to the oversight agencies (Santa Ana RWQCB and the OCHCA) in a Cleanup and Closure Report for their review and approval. Each area would be deemed complete when the oversight agencies approve the Cleanup and Closure Report and either grant closure or “No Further Action”.

Asbestos-containing Materials and Lead-based Paint

Given the age of the some of the structures and equipment on the Project site, ACMs and LBP have the potential to be present within interior and exterior materials and surfaces (Geosyntec 2008). Demolition of such structures and equipment could expose construction personnel to ACMs and LBP unless proper precautions are taken to minimize exposure. The potential for release of asbestos and lead during demolition would be considered a significant impact. Because exposure to such materials can result in adverse health effects in uncontrolled situations, several regulations and guidelines pertaining to abatement of and protection from exposure to asbestos have been developed for demolition activities (see Section 4.5.2, Regulatory Setting).

A pre-demolition survey for ACMs and LBP in on-site structures and equipment that could potentially have ACMs and/or LBP shall be conducted, and, if identified, ACMs and LBP shall be removed and disposed of by qualified Contractors in accordance with State regulations prior to or during demolition of the affected structures and/or equipment (SC 4.5-1). With adherence to applicable requirements regarding the handling and disposal of these materials, significant impacts related to the potential presence of ACMs and LBP on the Project site would be mitigated to a less than significant level.

Impact Summary: ***Less Than Significant With Mitigation.*** A comprehensive Remedial Action Plan would be implemented (MM 4.5-1) and ACMs and LBP would be managed in accordance with applicable State regulations (SC 4.5-1). With implementation of MM 4.5-1, SC 4.5-1, and PDF 4.4-6 from Section 4.4, Hydrology and Water Quality, there would be less than significant impacts related to historic and ongoing oilfield operations on the Project site.

Threshold 4.5-3 ***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?***

There are two schools located within approximately ¼ mile of the Project site:

- Whittier Elementary School, 1800 Whittier Avenue, Costa Mesa; located approximately ¼ mile to the east
- Carden Hall, 1541 Monrovia Avenue, Newport Beach; located approximately $^{1}/_{10}$ mile to the east.

The proposed oilfield consolidation and remediation, described in detail in the analysis above, would involve on-site handling and remediation (potentially in biocells) of contaminated soils (primarily petroleum hydrocarbon impacts) as well as off-site transport of contaminated soils and possibly ACMs and LBP. None of the petroleum hydrocarbons or any other contaminants identified in soil and groundwater were found on the Project site at levels exceeding the hazardous waste criteria, as defined by federal and State regulations. Also, these materials, as well as ACMs and LBP, are commonly present in older oilfield areas. More specifically, these types of contaminants have been effectively and feasibly mitigated at sites throughout the State and are the types of contaminants that are also routinely remediated as directed by the applicable oversight agencies without adverse effect to workers or the surrounding population.

On-site oilfield and other remedial activities would result in potentially greater release of contaminants, predominantly hydrocarbons, into the air during soil disturbance due to aeration during handling (i.e., earth moving) of the contaminated soils than occurs in the existing condition. Section 4.10, Air Quality, of this EIR addresses the construction and operational air quality emissions anticipated from the proposed Project. The air quality analysis determines that there would be less than significant impacts related to emissions during remedial activities on the Project site. Also, the majority of the Project site is located further than ¼ mile from existing kindergarten through 12th grade schools. Based on these factors, there would be a less than significant impact to existing schools from temporary handling of contaminated soils on the Project site during oilfield consolidation and remediation.

Off-site transport of impacted materials is planned to be minimized as part of the overall remedial approach. However, when implemented, haul routes may be within ¼ mile of the schools identified above or other schools between the Project site and the disposal location, an

accident or upset condition during handling and transport could result in the release of contaminated soils into the surrounding environment. As described in SC 4.5-2, any contaminated soils or other hazardous materials removed from the Project site shall be transported only by a Licensed Hazardous Waste Hauler in compliance with all applicable State and federal requirements. Hazardous materials are routinely transported through Southern California, in compliance with State and federal requirements, and accidents and/or releases are quite rare. Therefore, with implementation of SC 4.5-1, there would be a less than significant impact related to transport of soils within ¼ mile of existing schools.

With proposed Project implementation, the extent of oilfield operations would be consolidated onto 2 areas totaling 16.5 acres, which would be located along the southwestern margin of the Project site and more than ¼ mile from existing schools, and the proposed residential, commercial, recreational, visitor-serving, and open space land uses would not emit or otherwise handle hazardous materials, substances, or wastes (see PDF 4.5-1). The nature of anticipated future oilfield operations in the consolidated area would not be different than the existing operations. Therefore, operation of the proposed Project would result in a less than significant impact to schools in the Project vicinity.

Impact Summary: ***Less than Significant.*** There would be a less than significant impact to the existing schools within ¼ mile of the Project site and/or from off-site haul routes during on-site remedial activities and proposed Project construction with implementation of SC 4.5-2. There would be no impact to existing schools within ¼ mile of the Project site from proposed Project operations as continued oil operations are proposed pursuant to PDF 4.5-1 to be limited to two consolidated oil facilities located along the southwestern portion of the Project site.

Threshold 4.5-4 ***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 it create a significant hazard to the public or the environment?***

The Project site is not identified on the Cortese List, which is the list of hazardous materials sites that is compiled pursuant to Section 65962.5 of the *California Government Code*. In addition to the Cortese List, the federal, State and local governmental agencies maintain other lists of sites where hazardous materials may be present or used. The Phase I ESA Update includes an EDR database search report, which is provided as an appendix to the Phase I ESA Update (Appendix D). Based on review of the EDR report, the Phase I ESA Update identifies the Project site on the following databases:

- Comprehensive Environmental Response, Compensation, and Liability Information System – No Further Remedial Action Planned (CERCLIS-NFRAP);
- Orange County Industrial Site;
- Resource Conservation and Recovery Act – Large Quantity Generator (RCRA-LQG);
- Underground Storage Tank, California Facility Inventory Database Underground Storage Tank, and the Statewide Environmental Evaluation and Planning System Underground Storage Tank (Underground Storage Tank, CA-FID Underground Storage Tank, and SWEEPS Underground ST databases);
- Facility Index System (FINDS);

- Aerometric Information Retrieval System (AIRS);
- Integrated Compliance Information System (ICIS);
- Spills, Leaks, Investigations, Cleanup (SLIC); and
- Hazardous Waste Information System (HAZNET).

The database listings above are consistent with the known historic and ongoing oilfield operations and previous remedial actions on the Project site which have been discussed and analyzed above with respect to Thresholds 4.5-1 and 4.5-2 as to whether it would create a significant hazard to the public or environment.

Impact Summary: ***No Impact.*** The Project site is not identified on the Cortese List which is compiled pursuant to Section 65962.5 of the *California Government Code.*

Threshold 4.5-5 ***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?***

Tables 4.5-5 and 4.5-6[8] evaluate the consistency of the proposed Project with the applicable goals and policies of the City's General Plan and the Coastal Act, respectively.

Impact Summary: ***No Impact.*** As identified in Tables 4.5-5 and 4.5-6, the proposed Project would not conflict with any goals or policies of the City of Newport Beach General Plan or the Coastal Act related to hazards and hazardous materials.

4.5.8 MITIGATION PROGRAM

Project Design Features

PDF 4.5-1 requires that existing oil operations to be consolidated into two areas and that the areas convert to open space land uses upon the cessation of oil operations. PDF 4.4-6 requires the preparation and implementation of a SWPPP.

Standard Conditions and Requirements

SC 4.5-1 applies to the potential asbestos and lead-based paint removal. SC 4.5-2 applies to the transport of contaminated soils or hazardous materials.

Mitigation Measures

MM 4.5-1 A comprehensive final Remedial Action Plan (final RAP) shall be submitted to and approved by the Orange County Health Care Agency (OCHCA) and the Regional Water Quality Control Board (RWQCB) and initiated for the oilfield clean-up and remediation prior to the issuance of the first City-issued permit that would allow for site disturbance unrelated to oil remediation activities. The Applicant shall follow the protocol for the OCHCA Industrial Cleanup Program to

[8] For ease of reading, the policy tables are located at the end of this section.

develop the site-specific final RAP. The final RAP shall use the draft Remedial Action Plan (dRAP) and the existing clean-up levels that have been in effect since 2001 as the basis of the final RAP consistent with OCHCA requirements. The final RAP shall (1) incorporate the remediation methods to be employed that are described in the dRAP; (2) propose the clean-up criteria for specific areas of the Project site depending upon the land uses for those areas; and (3) provide additional details such as the location of on-site areas for bioremediation. The final RAP shall also require compliance with Orange County Fire Authority Guideline C-03 Combustible Soil Gas Hazard Mitigation.

The clean up criteria shall be approved by the OCHCA as a part of final RAP subject to the review and approval of the RWQCB. The final RAP shall describe the means by which those clean-up standards shall be met per the remediation methods described in the dRAP. Methods described in the dRAP include the use of natural bio-remediation of soils on site; reuse and recycling of treated soils where and when feasible; and removal and recycling of materials such as concrete, gravel, and asphalt-like road materials.

Oil and gas wells to be abandoned or re-abandoned shall be done so in accordance with the current requirements of the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR). Documentation of final abandonment approval from the DOGGR shall be provided to the Orange County Fire Authority and the City of Newport Beach Community Development Department, Building Division, before issuance of the first certificate of occupancy.

4.5.9 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Potentially significant impacts associated with hazardous materials would be mitigated to a level considered less than significant with the implementation of PDF 4.5-1, PDF 4.4-6, SC 4.5-1, SC 4.5-2, and MM 4.5-1.

TABLE 4.5-5
CITY OF NEWPORT BEACH GENERAL PLAN CONSISTENCY ANALYSIS

City of Newport Beach General Plan Relevant Goals, Policies, and Programs	Consistency Analysis
Land Use Element	
LU Policy 2.7: Oil and Gas Facilities Prohibit the construction of new onshore oil processing, refining, or transportation facilities, including facilities designed to transport oil from offshore tracts, with the exceptions of slant drilling from onshore oil fields or for the consolidation and more efficient production of wells should Banning Ranch be annexed to the City.	The Project is consistent with this policy. As a part of the proposed Project, the existing oil operations would be consolidated into two locations comprising approximately 16.5 acres (PDF 4.5-1). The Consolidated Oil Facilities (OF) would be comprised of (1) the existing oil operations site accessed from West Coast Highway; (2) an existing oil site near the middle of the Lowland area; and (3) an oil access road connecting the two oil consolidation sites. Oil operations are subject to existing Coastal Development Permit Exemption E-7-27-73-144.
Policies	
LU Policy 3.7: Natural Resource or Hazardous Areas Require that new development is located and designed to protect areas with high natural resource value and protect residents and visitors from threats to life or property.	The Project site would be remediated as a part of the Project. All the existing oil operations would be consolidated into two locations comprising approximately 16.5 acres (PDF 4.5-1). The oil operations have had regulatory environmental oversight by both the Santa Ana RWQCB and OCHCA since about 1992. Since that time, both agencies have been involved in overseeing and permitting certain aspects of cleanup activities and Project site operations. The existing regulatory oversight structure is expected to continue through the anticipated oilfield abandonment and remediation activities that would be necessary to implement the proposed Project. DOGGR would continue to oversee the oilfield operations and eventual abandonment of the oilfield (MM 4.5-1). The Project site is impacted primarily by petroleum hydrocarbons. At areas tested, no contaminant levels were found to exceed the hazardous waste criteria (i.e., concentration levels defined by State and federal guidelines). A comprehensive final Remedial Action Plan shall be approved by the Santa Ana RWQCB and/or the OCHCA with the clean-up and remediation scheduled to occur prior to development of the Project. An HHRA was also prepared to assess potential health impacts for people exposed to TACs anticipated to be released during operation of the consolidated oilfield as well as from the new sources associated with proposed development (see Section 4.10, Air Quality). Based on available data and the conservative exposure assumptions used in the HHRA, TACs for the proposed Project do not pose a significant risk to human health. Please also refer to Section 4.6, Biological Resources.
LU Policy 6.5.1: Oil Operations Relocate and cluster oil operations.	The Project is consistent with this policy. Please refer to the response to LU Policy 2.7.
Harbor and Bay Element	
HB Policy 8.3: Ground Water Contamination Suspend activities and implement appropriate health and safety procedures in the event that previously unknown groundwater contamination is encountered during construction. Where site contamination is identified, implement an appropriate remediation strategy that is approved by the City and state agency with appropriate	The Project is consistent with this policy. Groundwater levels beneath the Project site are at approximately mean sea level, close to ground surface elevation within the Lowland. Project construction is not anticipated to encounter or impact groundwater levels, supply, or quality in the Upland. Removal of oil facilities within the Lowland would incorporate specific BMPs that would ensure the risk of groundwater contamination during these construction activities is minimized. The BMPs

TABLE 4.5-5 (Continued)
CITY OF NEWPORT BEACH GENERAL PLAN CONSISTENCY ANALYSIS

City of Newport Beach General Plan Relevant Goals, Policies, and Programs	Consistency Analysis
jurisdictions. (Policy NR 3.3)	are identified in Section 4.4, Hydrology and Water Quality. In addition, construction BMPs have been incorporated into the Project including waste management and materials pollution control BMPs. Implementation of these measures would further reduce any risk of encountering or negatively impacting groundwater levels or quality.
Natural Resources Element	
Policies	
NR Policy 3.3: Ground Water Contamination Suspend activities and implement appropriate health and safety procedures in the event that previously unknown groundwater contamination is encountered during construction. Where site contamination is identified, implement an appropriate remediation strategy that is approved by the City and the state agency with appropriate jurisdiction. (Policy HB 8.3)	The Project is consistent with this policy. Please refer to response to HB Policy 8.3.
Natural Resources Element Goal NR 19	
Minimized impacts from oil and gas drilling activities.	The Project is consistent with this goal. As a part of the proposed Project, the existing oil operations would be consolidated into 2 locations comprising approximately 16.5 acres (PDF 4.5-1). The oil operations have had regulatory oversight by both the Santa Ana RWQCB and OCHCA. Since about 1992, both agencies have been involved in overseeing certain aspects of cleanup activities and Project site operations. The existing oversight structure is expected to continue through the anticipated oilfield abandonment and remediation activities that would be necessary to implement the proposed Project. The DOGGR would continue to oversee the oilfield operations and eventual abandonment of the oilfield.
Policies	
NR Policy 19.1: New Extraction Activities Prohibit drilling for exploration work of any kind, production or refining of oil, gas, or other hydrocarbon substances as provided in the City Charter and Municipal Code.	The Project is consistent with this policy. Please refer to the response to LU Policy 2.7. On November 2, 2010, Newport Beach voters approved Measure V, which included an amendment to City Charter Section 1401, Oil Well Drilling. The Charter amendment, in summary, prohibits oil drilling in the City of Newport Beach with the exception of the exploration or drilling for, production or processing refining of oil, gas or other hydrocarbon substances by vertical, slant or other drilling method originating from the surface within approximately 20 acres which is inclusive of the proposed 16.5 acres for the consolidation of oil activities on the Newport Banning Ranch Project site. The Charter amendment also does not prohibit the continuance of production of any well slant drilled under property within the City from a location outside the City and in existence at the time the Charter takes effect. The Charter does not preclude the City Council from permitting the slant drilling of wells under the surface of property within the City from surface locations located either outside the City or within future annexations to the City wherein the drilling for and production of oil, gas and other hydrocarbon substances is permitted.

TABLE 4.5-5 (Continued)
CITY OF NEWPORT BEACH GENERAL PLAN CONSISTENCY ANALYSIS

City of Newport Beach General Plan Relevant Goals, Policies, and Programs	Consistency Analysis
NR Policy 19.2: Existing Extraction Activities Allow existing wells to be used, if needed, for water injection systems that increase oil extraction.	The Project is consistent with this policy. Water injection systems would be permitted.
NR Policy 19.5: Consolidation of Existing Uses Encourage consolidation of existing oil, gas, and other hydrocarbon activities to decrease the number of wells within the City limits and/or their impact on the surrounding area.	The Project is consistent with this policy. Please refer to the response to LU Policy 2.7 and NR Policy 19.1.
NR Policy 19.6: Slant Drilling Permit slant drilling in accordance with the City Charter and Municipal Code.	The Project is consistent with this goal. Please refer to the response to LU Policy 2.7 and NR Policy 19.1**.**
Safety Element	
Safety Element Goal S 7	
Exposure of people and the environment to hazardous materials associated with methane gas extraction, oil operations, leaking underground storage tanks, and hazardous waste generators is minimized.	The Project is consistent with this goal. Please refer to the response to LU Policy 3.7.
Policies	
Policy S 7.1: Known Areas of Contamination Require proponents of Projects in known areas of contamination from oil operations or other uses to perform comprehensive soil and groundwater contamination assessments in accordance with American Society for Testing and Materials standards, and if contamination exceeds regulatory action levels, require the proponent to undertake remediation procedures prior to grading and development under the supervision of the County Environmental Health Division, County Department of Toxic Substances Control, or Regional Water Quality Control Board (depending upon the nature of any identified contamination).	The oil operations have had regulatory oversight by both the Santa Ana RWQCB and the OCHCA. Since about 1992, both agencies have been involved in overseeing certain aspects of cleanup activities and Project site operations. Currently, the lead regulatory agency (Santa Ana RWQCB) for the Project site has approved a RAP and is overseeing remediation efforts to recover an isolated pocket of crude oil located on top of the shallow brackish groundwater in the Main Drill Site Tank Farm area (northern portion of the consolidation areas). The existing oversight structure, described above, is expected to continue through the anticipated oilfield abandonment and remediation activities that would be necessary to implement the proposed Project. The DOGGR would continue to oversee the oilfield operations and eventual abandonment of the oilfield. In addition, both the Santa Ana RWQCB and OCHCA would continue to be involved and have primary oversight of remediation activities providing the lead for environmental resource and human health matters (MM 4.5-1).
S Policy 7.4: Implementation of Remediation Efforts Minimize the potential risk of contamination to surface water and groundwater resources and implement remediation efforts to any resources adversely impacted by urban activities.	The Project is consistent with this policy. Please refer to Section 4.4, Hydrology and Water Quality. The Project incorporates good housekeeping measures, smart site design elements regarding trash and debris handling, and construction BMPs that manage potential contaminants used on site during Project implementation. These measures would minimize the potential risk of surface water contamination from an accidental spill.
S Policy 7.5: Siting of Sensitive Uses Develop and implement strict land use controls, performance standards, and structure design standards including development setbacks from sensitive uses such as schools, hospitals, day care facilities, elder care facilities, residential uses, and other sensitive uses that generate or use hazardous materials.	The Project is consistent with this policy. An HHRA was also prepared to assess potential health impacts for people exposed to TACs anticipated to be released during operation of the consolidated oilfield as well as from the new sources associated with proposed residential and commercial area operations (see Section 4.10, Air Quality). Based on available data and the conservative exposure assumptions used in the HHRA, TACs for the proposed Project do not pose a significant

TABLE 4.5-5 (Continued)
CITY OF NEWPORT BEACH GENERAL PLAN CONSISTENCY ANALYSIS

City of Newport Beach General Plan Relevant Goals, Policies, and Programs	Consistency Analysis
	risk to human health. Also, the location of the consolidated oilfield areas is limited to the Lowland, separated from proposed residential uses.
S Policy 7.6: Regulation of Companies Involved with Hazardous Materials Require all users, producers, and transporters of hazardous materials and wastes to clearly identify the materials that they store, use, or transport, and to notify the appropriate City, County, state, and federal agencies.	SC 4.5-2 requires that any contaminated soils or other hazardous materials removed from the Project site be transported only by a Licensed Hazardous Waste Hauler, who shall be in compliance with all applicable State and federal requirements, including the U.S. Department of Transportation regulations under 49 CFR (Hazardous Materials Transportation Act), Caltrans standards, OSHA standards, and under 40 CFR 263 (Subtitle C of Resource Conservation and Recovery Act). The City is responsible for verifying that only Licensed Haulers who are operating in compliance with regulatory requirements are used to haul hazardous materials.

RWQCB: Regional Water Quality Control Board; OCHCA: Orange County Health Care Agency; HHRA: Human Health Risk Assessment; TAC: toxic air contaminant; BMP: Best Management Practice; DOGGR: California Department of Conservation, Division of Oil, Gas, and Geothermal Resources; CFR: *Code of Federal Regulations;* OSHA: California Occupational Safety and Health Administration.

TABLE 4.5-6
CALIFORNIA COASTAL ACT CONSISTENCY ANALYSIS

Relevant California Coastal Act Policies	Consistency Analysis
Marine Environment	
Section 30232 Oil and hazardous substance spills Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.	The Project is consistent with this section. As a part of the proposed Project, the existing oil operations would be consolidated into 2 locations comprising approximately 16.5 acres (PDF 4.5-1). The Consolidated Oil Facilities area would be comprised of (1) the existing oil operations site accessed from West Coast Highway; (2) an existing oil site near the middle of the Lowland area; and (3) an oil access road connecting the two oil consolidation sites. These consolidation areas will be buffered to ensure that the operations do not adversely affect restored habitat areas or existing habitat areas. Upon the future cessation of oil operations, these oil consolidation sites would be abandoned and remediated and the consolidation area would be converted to an open space use.
Development	
Section 30250 Location; existing developed area (a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal	The Project is consistent with this section. An HHRA was also prepared to assess potential health impacts for people exposed to TACs anticipated to be released during operation of the consolidated oilfield as well as from the new sources associated with proposed residential and commercial area operations (see Section 4.10, Air Quality). Based on available data and the conservative exposure assumptions used in the HHRA, TACs for the proposed Project do not pose a significant risk to human health.

TABLE 4.5-6 (Continued)
CALIFORNIA COASTAL ACT CONSISTENCY ANALYSIS

Relevant California Coastal Act Policies	Consistency Analysis
resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels. (b) Where feasible, new hazardous industrial development shall be located away from existing developed areas. (c) Visitor-serving facilities that cannot feasibly be located in existing developed areas shall be located in existing isolated developments or at selected points of attraction for visitors.	
Industrial Development	
Section 30260 Location or expansion Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.	The Project is consistent with this section. Oil operations are subject to existing Coastal Development Permit Exemption E-7-27-73-144. However, the City does not currently permit new oil operations within its jurisdictional boundaries. The Project site is currently an operating oilfield which has been in continuous operation since the early 1940s. Oilfield facilities are currently located within and immediately adjacent to coastal resources, such as wetlands, riparian vegetation, and coastal waters. As a part of the Project, the existing oil operations would be consolidated into 2 locations comprising approximately 16.5 acres. These consolidation areas would be buffered to ensure that the operations do not adversely affect existing or restored habitat areas. Please refer to the response to LU Policy 2.7.
Section 30262 Oil and Gas development a) Oil and gas development shall be permitted in accordance with Section 30260, if the following conditions are met: (1) The development is performed safely and consistent with the geologic conditions of the well site. (2) New or expanded facilities related to that development are consolidated, to the maximum extent feasible and legally permissible, unless consolidation will have adverse environmental consequences and will not significantly reduce the number of producing wells, support facilities, or sites required to produce the reservoir economically and with minimal environmental impacts. (3) Environmentally safe and feasible subsea completions are used when drilling platforms or islands would substantially degrade coastal visual qualities unless use of those structures will result in substantially less environmental risks.	The Project is consistent with this section. Please refer to the response to Coastal Act Section 30260.

TABLE 4.5-6 (Continued)
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(4) Platforms or islands will not be sited where a substantial hazard to vessel traffic might result from the facility or related operations, as determined in consultation with the United States Coast Guard and the Army Corps of Engineers. (5) The development will not cause or contribute to subsidence hazards unless it is determined that adequate measures will be undertaken to prevent damage from such subsidence. (6) With respect to new facilities, all oilfield brines are reinjected into oil-producing zones unless the Division of Oil and Gas, Geothermal Resources of the Department of Conservation determines to do so would adversely affect production of the reservoirs and unless injection into other subsurface zones will reduce environmental risks. Exceptions to reinjections will be granted consistent with the Ocean Waters Discharge Plan of the State Water Resources Control Board and where adequate provision is made for the elimination of petroleum odors and water quality problems. (7) (A) All oil produced offshore California shall be transported onshore by pipeline only. The pipelines used to transport this oil shall utilize the best achievable technology to ensure maximum protection of public health and safety and of the integrity and productivity of terrestrial and marine ecosystems. (B) Once oil produced offshore California is onshore, it shall be transported to processing and refining facilities by pipeline. (C) The following guidelines shall be used when applying subparagraphs (A) and (B): (i) "Best achievable technology" means the technology that provides the greatest degree of protection taking into consideration both of the following: (I) Processes that are being developed, or could feasibly be developed, anywhere in the world, given overall reasonable expenditures on research and development. (II) Processes that are currently in use anywhere in the world. This clause is not intended to create any conflicting or duplicative	

TABLE 4.5-6 (Continued)
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regulation of pipelines, including those governing the transportation of oil produced from onshore reserves. (ii) "Oil" refers to crude oil before it is refined into products, including gasoline, bunker fuel, lubricants, and asphalt. Crude oil that is upgraded in quality through residue reduction or other means shall be transported as provided in subparagraphs (A) and (B). (iii) Subparagraphs (A) and (B) shall apply only to new or expanded oil extraction operations. "New extraction operations" means production of offshore oil from leases that did not exist or had never produced oil, as of January 1, 2003, or from platforms, drilling island, subsea completions, or onshore drilling sites, that did not exist as of January 1, 2003. "Expanded oil extraction" means an increase in the geographic extent of existing leases or units, including lease boundary adjustments, or an increase in the number of well heads, on or after January 1, 2003. (iv) For new or expanded oil extraction operations subject to clause (iii), if the crude oil is so highly viscous that pipelining is determined to be an infeasible mode of transportation, or where there is no feasible access to a pipeline, shipment of crude oil may be permitted over land by other modes of transportation, including trains or trucks, which meet all applicable rules and regulations, excluding any waterborne mode of transport. (8) If a state of emergency is declared by the Governor for an emergency that disrupts the transportation of oil by pipeline, oil may be transported by a waterborne vessel, if authorized by permit, in the same manner as required by emergency permits that are issued pursuant to Section 30624. (9) In addition to all other measures that will maximize the protection of marine habitat and environmental quality, when an offshore well is abandoned, the best achievable technology shall be used. b) Where appropriate, monitoring programs to record land surface and near-shore ocean floor movements shall be initiated in locations of new large-scale fluid extraction on land or near shore before operations begin and shall	

TABLE 4.5-6 (Continued)
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continue until surface conditions have stabilized. Costs of monitoring and mitigation programs shall be borne by liquid and gas extraction operators. c) Nothing in this section shall affect the activities of any state agency that is responsible for regulating the extraction, production, or transport of oil and gas.	
HHRA: Human Health Risk Assessment; TAC: toxic air contaminant	

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