Chapter 3.8
Groundwater, Soils, and Sediments

3.8.1 Introduction

This chapter identifies the existing conditions of the groundwater, soils, and sediments within the project area, and evaluates their impact on the development of the project. It also discusses the potential impacts to these resources as a result of the proposed project.

3.8.2 Setting

3.8.2.1 Regional Setting

Historical Background

The project site has been leased to various tenants over the span of several decades. Appendix G provides a summary of the previous tenants and the development histories of the subject parcels.

Since the early 1900s, the usage of the subject parcels has been mainly industrial and commercial, with a limited residential presence. Historical records over the last century show the existence of several large crude oil storage tanks, petrochemical pipelines, boatyards, and railroad tracks. The adjacent properties can be described as having similar histories (Tetra Tech, Inc. 1998).

Groundwater

The subject parcels are located in the southeastern portion of the West Coast Basin, west of the Long Beach Plain. The West Coast Basin is approximately 25 miles long and 7.5 miles wide, encompassing an area approximately 160 square miles and including 20 incorporated cities. It is bounded on the north by the Santa Monica Mountains, on the east by the Newport-Inglewood Structural Zone, on the south by the Palos Verdes Hills, and on the west by the Pacific Ocean.

There are numerous water-bearing units beneath the subject properties, including the shallow, semi-perched Gaspur Aquifer of Holocene age; the Gage Aquifer of the Upper Pleistocene Lakewood Formation; and the confined Lynwood Aquifer and the deeper-confined Silverado Aquifer of the Lower Pleistocene San Pedro Formation. Of interest to the subject property is the recent alluvium, which consists (in order of increasing depth) of an unnamed aquiclude and the Gaspur aquifer. Extensive seawater intrusion has been documented in the Gaspur aquifer, suggesting open communication with the Pacific Ocean.

Groundwater depth, gradient, and flow direction beneath the subject properties are subject to tidal variation. According to previous investigations performed on the northern portion of the parcels, depth of the groundwater beneath the site ranges from approximately 6–10 feet below ground surface, with a hydraulic gradient of less than 1%. Groundwater flow direction generally orients from the northeast to the south toward the San Pedro Bay.

The Los Angeles area obtains water from the following three sources: 60% from Owens Valley in the Sierras; 30% from groundwater wells in the Los Angeles Basin; and 10% from the Metropolitan Water District, which imports water from the Colorado and Feather Rivers. No drinking water wells are located within a 2-mile radius of the project site.

Soils

Subsurface soils consist of hydraulically placed dredged fill material, underlain by some alluvial soils that are in turn underlain by the Malaga mudstone. The fill and natural materials are a heterogeneous mixture of predominantly soft-to-hard silts and clays, with sandy soils to depths of 30 feet. The Malaga mudstone is the uppermost member of the Monterey shale found exposed in the San Pedro area. It is classified as a hard-to-very-hard elastic silt by the Unified Soil Classification System, and as a relatively soft material by geologic bedrock descriptions (Diaz-Yourman, Inc. 1998). The site may also contain expansive soils from clay minerals and previously imported fill materials; these soils expand in volume when saturated and shrink when dry. These expansive clay minerals are common in the geologic units in the Palos Verdes Peninsula. Potentially corrosive soils may also be present at the project site.

Sediments

Physical Nature of Sediments

Naturally occurring unconsolidated sediments underlie much of the harbor. These sediments were deposited throughout San Pedro Bay prior to development of the harbor (LAHD 1980b), and consist of predominantly silty sand, with varying proportions of sand, silt, and clays. They range in thickness from zero to hundreds of feet, leaving bedrock exposed in some areas. The maximum

thickness of these sediments approaches 1,000 feet at the breakwater (ACOE 1985). Adjacent to Mormon Island, recent sediments consist of sand and silty sand.

Bedrock is exposed along the Palos Verdes Fault. The main shear of the fault crosses West Basin and exits the harbor near Angels Gate (ACOE 1985)

Movement of the southwest block along the fault has uplifted the Palos Verdes Hills and exposed bedrock in the harbor. Exposed bedrock is composed of dense clay shales of the Upper Miocene Malaga mudstone and the Pliocene Repetto siltstone.

Recent subsea sediments have been deposited in various channels and basins. They are generally a very soft muck consisting of clay and silt, with minor amounts of sand (LAHD 1980b). As a result of currents and ship traffic, recent sediments are generally thicker near waterway borders and thinner in the center. They range in thickness from 0–8 feet.

Sediment grain size varies widely throughout the Port, as well as within individual habitat types. The Cabrillo Basin is considered a deepwater basin with a depth of approximately 11 meters, and contains approximately 99% percent of fines (particle diameter < 62 microns), with median particle diameters at approximately 3.1 microns. Variability among and within habitat types in sediment texture did not appear to be related to effects from recent dredging. Therefore, factors besides dredging/disposal appear to affect the texture of bottom sediments within the Port. These spatial differences may be related to small-scale circulation patterns that can promote either deposition and accumulation, or re-suspension and transport of fine-grained sediments. (MEC Analytical Systems 2002).

Chemical Nature of Sediments

Because of industrial development in the harbor and surrounding areas, harbor waters received heavy amounts of pollutants, resulting in extensive contamination of recent sediments. These contaminants include heavy metals (cadmium, nickel, zinc, chromium, arsenic, copper, mercury, lead, silver, and iron), petroleum derivative (oil and grease), pesticides (dichlorodiphenyltrichloroethane [DDT] and 1,1-Dichloro-2,2-bis[p-chlorophenyl] ethylene [DDE]), and polychlorinated biphenyls (PCBs) (LAHD 1980c). Sources of these pollutants include surface runoff and storm drainages carrying oil, pesticides, fertilizers, and illegally- dumped materials from throughout the Los Angeles Basin. Local sources include products spilled or illegally dumped in the harbor area. Abatement programs have significantly reduced the flow of pollutants in harbor waters. The ACOE's 1982–1984 Harbor Deepening Project also removed much of the contaminated sediments.

Recent sediments with higher percentages of silt and clay generally have higher concentrations of contaminants. Pollutants are absorbed onto the surfaces of these fine-grained particles (LAHD 1980c).

MEC Analytical Systems' biological baseline study (2002) confirmed that the removal of contaminated sediments during the Harbor Deepening Project has led to a significant improvement in harbor environmental quality. The shift of less stress-tolerant benthic faunas into the Inner Harbor indicates that, with the exception of Consolidated Slip, the environmental quality of sediments within Los Angeles Harbor has improved significantly since previous studies conducted in 1973–1974. Benthic faunas previously found only in the Outer Harbor area now characterize West Basin, Turning Basin, and East Basin.

Although the Harbor Deepening Project removed a significant amount of the contaminated sediments from the harbor, dredging did not take place in the West Channel. Therefore, it is possible that recent sediments may contain some contaminated material.

Soil and Groundwater Investigations

A Phase I Site Assessment was prepared for the project area (Tetra Tech, Inc. 1998). The purpose of the Site Assessment was to identify any potential environmental concerns associated with the property and adjacent parcels. The Site Assessment followed the standard method outlined in the American Society for Testing and Materials (ASTM) Standard E1527-97, which included: a search of environmental information databases within a specified radius of the subject property; a review of applicable Sanborn Fire Insurance Maps; a review of existing environmental reports; a review of Building and Safety Department Permits; site reconnaissance; and a review of historical aerial photographs covering the project area.

Tetra Tech, Inc.'s database and file reviews indicate that portions of the project site, including the former Navy Fuel Wharf and the former Unocal Harbor Pump Station, had environmental impairments from past operations. However, both sites have received regulatory closure approval upon successful completion of the remediation for the affected environmental media. There are two other facilities on or adjacent to the project site identified from the database, but neither was under enforcement actions.

During the site reconnaissance, it was also noted that some of the subject property may potentially be affected by the adjacent site activities, including the former Kaiser International Corp. facility (storage and handling of petroleum coke) to the east and the former Deep Draft Marine Oil Terminal (petrochemical handling and storage) to the south. The site may also be affected by historic and current activities at nearby boatyards, including the San Pedro Boat Works.

Based on the findings of the Site Assessment, a Phase II Site Investigation was recommended to: minimize environmental hazards that may affect worker safety

during the development and construction phase of the project; identify appropriate actions which may be required in potentially impaired parcels; and establish a baseline of the environmental conditions.

A Phase II Site Investigation was completed that included a subsurface soil and groundwater assessment program for land parcels on the project site (Tetra Tech, Inc. 1999). These parcels were grouped into three sites known as Sites 1A, 2A, and 2. Figure 3.8-1 shows an aerial view of the development sites and their current features.

The main objectives of the Site Investigation were to:

- establish baseline environmental conditions by determining the presence or absence of chemicals of potential concern (COPC);
- evaluate the potential impacts of COPC on worker and public health, future liability, and environmental quality; and
- recommend appropriate actions to be taken in problematic areas.

The Site Investigation consisted of collecting environmental samples from subsurface soils and groundwater, and chemical analyses. Figures 3.8-2a and 3.8-2b show the boring/groundwater sample locations within the proposed project development areas. Sample locations and analyses were selected to evaluate COPCs revealed by the Phase I Environmental Site Assessment. Overall, 70 soil borings were drilled and sampled using the push-probe technique. Soil samples were collected from predetermined depths and analyzed for total petroleum hydrocarbons (TPHs), Title 22 metals, VOCs, polycyclic aromatic hydrocarbons (PAHs), and PCBs. Selected samples from the Cabrillo Boatshop were also analyzed for tributyltin (TBT). In addition to soil samples, 15 groundwater samples were also collected from selected boring locations, with emphasis on the former Unocal Harbor Pump Station (Site 1A) and the former Navy Fuel Wharf (Site 2). The groundwater samples were tested primarily for TPH, VOCs, and Title 22 metals. Table 3.8-1 shows the distribution of sample locations and chemical analyses in each of the three study sites.

A laboratory accredited by the California State Department of Health and Services performed chemical analyses with appropriate quality assurance/quality control samples to ensure data accuracy and quality. The results of chemical analyses for both soil and groundwater samples are shown in Table 3.8-2 , with all analyses expressed in low-to-high concentration ranges. The analytical data indicates that with the exception of several isolated locations, there do not appear to be widespread or significant contamination issues associated with the development parcels. In particular, elevated concentrations of lead, copper, and zinc were found in shallow soil at Sites 2A and 1A (lead only). These soils have since been removed from the project site, and no longer pose a threat to human or ecological health. Information regarding details of the field sampling activities and discussions of the significance of the analytical data is presented in the subsurface soil and groundwater assessment report (Tetra Tech, Inc. 1999)

If any soil suspected of being contaminated (based on staining, discoloration, odors, or vapor monitoring) is encountered during construction activities, the LAHD will conduct all necessary and required studies and activities to assess and, if necessary, remediate contaminated areas before future development occurs. Additional studies would include the following.

- Collect soil and groundwater samples to evaluate the nature and extent of contamination.
- Evaluate potential health effects on site workers and take appropriate measures to protect worker safety.
- If required (based on the results of the environmental sampling), complete a feasibility study, consisting of a review of remediation alternatives that would be most applicable to the project. This report would be reviewed and approved by the appropriate regulatory agencies.
- Complete remediation at the site, if necessary.

Solid Waste Disposal

The most likely source of potentially hazardous waste would be the timber docks and piles that are to be replaced. The wood has been treated with creosote. Recent criteria for determining levels of extractable or volatile organic compounds and metals are now used to determine if railroad crossties and docks are considered hazardous waste at time of disposal. This can be determined through the Toxicity Characteristic Leaching Procedure Standards (TCLP), as outlined in the 40 Code of Federal Regulations, Section 261.24. If the hazardous material content of the pilings is above regulatory thresholds, the wood would be classified as a hazardous material, requiring disposal in a Class I landfill. Otherwise, the wood from the dock and pilings would be disposed of at a Class III lined landfill.

Demolition activities will generate waste, including building materials such as wood, asphalt, steel, aluminum, and concrete. Due to the potential for past contamination or other environmentally significant occurrences, some of this waste may be classified as hazardous waste. The exact volumes and composition of the wastes to be generated are not known at this time. Adherence to all applicable federal, state, and local regulations will ensure that impacts associated with the disposal of excess materials will be insignificant. Any electrical transformers within the project area that require removal will be sampled to determine whether they contain PCBs. All appropriate regulations will be complied with to ensure the proper handling of any PCB-containing transformers encountered.

Many of the existing structures have been constructed using asbestos-containing building material (ACBMs), and possibly lead-based paint. Prior to the demolition of any structures, all suspect building materials will be sampled to determine whether they contain asbestos and lead. All asbestos abatement work

Table 3.8-1. Sampling and Analyses Matrix at the Phase II Development: West Channel, Port of Los Angeles

Site	Sample ID No.	Analyses						Approximate Location
		TPH (8015M)	Title 22 Metals (6010/7470)	VOCs (8260)	PAHs (8310)	PCBs (8081)	TBT	
Soil Samples								
1A	SB-1 to 10	20	10	10	10	10	—	Former Unocal Harbor Pump Station
2A	SB-11 to 17	14	7	7	7	—	—	Parking area adjacent to Warehouse 9
2	SB-18 to 20	6	3	3	3	—	—	Parking area adjacent to Crescent Warehouse
	pending	NA	NA	NA	NA	—	—	Warehouses at 2309 Adams Drive
	SB-21 to 23	6	3	3	3	—	—	Suspected car repair area adjacent to 2309 Adams Drive
	SB-24 to 32	18	9	9	—	4	—	Former Navy Fuel Wharf
	No sample	—	—	—	—	—	—	Fenced storage yard near 2335 Adams Drive
	No sample	—	—	—	—	—	—	Fenced vacant lot at 2335 Adams Drive
	SB-33 to 40	16	8	8	8	4	—	Shelter Point Boatyard/ Dairs Sails Covers
	SB-41 to 51	22	11	11	—	6	4	Cabrillo Boatshop
	SB-52, 53	4	2	2	2	2	—	Abandoned rail near Miner Street
	SB-54, 55	4	2	2	2	2	—	Area adjacent to former Kaiser coke operations
	SB-56, 57	4	2	2	2	—	—	Parking area adjacent to SPBW
	SB-58 to 63	12	6	6	6	—	—	Parking area adjacent to GATX
	SB-64 to 68	10	5	5	5	5	—	Along future utility trench

Site	Sample ID No.	Analyses: TPH (8015M)	Title 22 Metals (6010/7470)	VOCs (8260)	PAHs (8310)	PCBs (8081)	TBT	Approximate Location
Groundwater Samples								
1A	5 samples	5	5	5	—	—	—	Former Unocal Harbor Pump Station
2	5 samples	5	5	5	—	—	—	Former Navy Fuel Wharf
	2 samples	2	2	2	—	—	—	Cabrillo Boatshop
	2 samples	2	2	2	—	—	—	Shelton Point Boatshop
	1 sample	1	1	1	1	—	—	Parking adjacent to SPBW
Wipe Samples								
2	W1 to W3	—	—	—	—	3	—	Pad-mounted transformers adjacent to Crescent Warehouse
	# of Analyses	151	83	83	49	36	4	
	5% QA/QC	9	6	6	3	2	1	
	equip blanks	5	4	4	3	3	1	
	trip samples	—	—	2	—	—	—	
	Total	**165**	**93**	**95**	**55**	**41**	**6**	

Notes:

Soil samples are generally collected at depths of 1' (surface), 3', 5', 7', and 10', depending upon groundwater level.

Metals were analyzed in the 1' sample.

TPH were analyzed in the soils at the shallow surface (1') and the bottom of each boring.

VOCs were analyzed in the intermediate (e.g., 3' or 5') sample.

PAHs were analyzed in the shallow surface soil sample (1').

PCB/OC Pesticides were analyzed in the shallow surface soil sample (1').

Table 3.8-2. Ranges of Chemical & Metal Concentrations in Soil and Groundwater: West Channel, Port of Los Angeles

	Concentration Ranges	
Analytes	Soil	Groundwater
VOCs (EPA Method 8260, µg/kg or µg/L)	0.8–4	0.3–18
TTLC 17 METALS (EPA Method 6010, mg/kg or mg/L)		
Antimony	0.13–8.3	0.002–0.058
Arsenic	0.99–21.6	0.003–0.26
Barium	49.2–394	0.0311–2.07
Beryllium	0.15–0.19	ND
Cadmium	0.06–5.9	0.00064–0.775
Chromium	7.6–53.9	0.0022–0.961
Cobalt	3.2–14.6	0.0017–0.169
Copper	11.6–561	0.035–1.07
Lead	1.3–588	0.0015–0.177
Mercury	0.032–1.6	0.00058–0.004
Molybdenum	0.12–13.4	0.007–0.193
Nickel	6.2–119	0.0178–1.38
Selenium	0.21–7.1	0.0058–0.111
Silver	0.071–1.6	ND–0.0029
Thallium	0.34–0.44	ND
Vanadium	14.5–315	0.0018–1.15
Zinc	22–6,540	0.02–6.16
TPH (EPA Method M8015E, mg/kg or mg/L)		
Diesel	1–180	0.02–0.5
Motor oil	5–1,800	0.1–1
PCBs (EPA Method 8082, µg/kg or µg/L)	19–130	NA
PAHs (EPA Method 8310, µg/kg or µg/L)	1.9–8,357	ND
TBT (µg/kg or µg/L)	ND–389	NA

Notes:

mg/kg and µg/kg: Soil chemical concentration

mg/L and µg/L: Groundwater chemical concentration

ND: Non-detected

NA: Not analyzed

will be performed in accordance with all California Occupational Safety and Health Administration (Cal-OSHA), SCAQMD, EPA Region IX, and State of California regulations.

3.8.2.2 Regulatory Setting

The proposed project is regulated by several state and local regulations with jurisdiction over the project area. The handling and disposal of asbestos is regulated by the SCAQMD District Rule 1403, "Asbestos Emissions from Demolition/Renovation Activities," which is designed to limit asbestos emissions from building demolition activities. The rule requires buildings to be surveyed for ACM before building demolition, and also mandates ACM removal procedures to limit emissions.

40 Code of Federal Regulations, Section 261.24, "Toxicity Characteristic Leaching Procedure Standards (TCLP)," provides oversight for the disposal of treated wood from timber docks and piles that are to be replaced.

The LARWQCB oversees onsite treatment of "California Designated, Non-Hazardous Waste." The LARWQCB enforces water quality thresholds and standards set forth in the Basin Plan through the project permitting process. The EPA will require project applicants to obtain a stormwater discharge permit under the NPDES program. This program is enforced in California by the Regional Water Quality Control Boards (RWQCBs). The permit will require that the applicant develop and adhere to a Stormwater Pollution Prevention Plan (SWPPP).

The RWQCB also issues water quality certification permits under Section 401 of the Clean Water Act. The ACOE permitting requirement entails securing a 401 water quality certification or waiver from the RWQCB.

3.8.3 Impacts and Mitigation

3.8.3.1 Methodology

The current environmental setting was determined from existing available surveys and reports within the project area, and from baseline studies in Los Angeles Harbor (MEC Analytical Systems 1988, 2002). Impacts to groundwater, soils, and sediments that could occur as a result of project implementation were identified by providing a qualitative analysis of the project description in the existing setting.

3.8.3.2 Thresholds of Significance

Thresholds of significance for groundwater, soils, and sediments involve a compilation of thresholds from various resource disciplines contained within the *Draft Los Angeles CEQA Thresholds Guide (*City of Los Angeles 1998). For purposes of this Recirculated Draft SEIR, significant impacts on groundwater, soils, or sediments in the project area would normally occur if the project results in the following:

SOIL-1: The project would change potable groundwater levels sufficiently to:

- reduce the ability of a water utility to use the groundwater basin for public water supplies, conjunctive use purposes, imported water storage, or summer/winter peaking;
- reduce the ability of a water utility to respond to emergencies and drought;
- reduce yields of adjacent wells or well fields (public or private); or
- adversely change the rate or direction of flow of groundwater.

SOIL-2: The project would result in demonstrable and sustained reduction of groundwater recharge capacity.

SOIL-3: The project would: affect the rate or change the direction of movement of existing contaminants; expand the area affected by contaminants; result in an increased level of groundwater contamination (including that from direct percolation, injection, or saltwater intrusion); or cause regulatory water quality standards at an existing production well to be violated, as defined in the California Code of Regulations (CCR), Title 22, Division 4, Chapter 15, and in the Safe Drinking Water Act.

SOIL-4: The project would increase the frequency or severity of an accidental release of hazardous materials.

SOIL-5: The project would accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled onsite.

3.8.3.3 Project Impacts

Direct and Indirect Impacts

Impact SOIL-1: The Project Would Not Change Potable Groundwater Levels Sufficiently to Reduce the Ability of a Water Utility to Use the Groundwater Basin for Public Water Supplies, Conjunctive Use Purposes, Storage of Imported Water, Summer/Winter Peaking, or to Respond to Emergencies and Drought; Reduce Yields of Adjacent Wells or Well Fields (Public or Private); or Adversely Change the Rate or Direction of Flow of Groundwater

The proposed project would not result in the direct withdrawal of groundwater to accommodate water supply for the proposed project. The groundwater in the harbor area is non-potable due to saltwater intrusion. If deep excavation is required, construction could result in dewatering in the local site vicinity, which could reverse the hydraulic gradient, causing saltwater intrusion or contamination to migrate to previously uncontaminated areas. Groundwater monitoring and containment will reduce potential impacts to non-contaminated soil and groundwater. Compliance with NPDES regulations, as discussed above, will help reduce construction-related impacts to surface and groundwater quality to less-than-significant levels.

Mitigation Measures
No mitigation is required.

Residual Impacts
Impacts would be less than significant.

Impact SOIL-2: The Project Would Not Result in Demonstrable and Sustained Reduction of Groundwater Recharge Capacity

The proposed project would not result in the reduction of groundwater recharge capacity. The site is currently mostly covered with impermeable surfaces and does not currently contribute to groundwater recharge. Development of the project site would not have an effect on the groundwater recharge capacity. Therefore, no significant impacts would occur.

Mitigation Measures
No mitigation is required.

Residual Impacts
Impacts would be less than significant.

Impact SOIL-3: The Project Would Not Affect the Rate or Change the Direction of Movement of Existing Contaminants; Expand the Area Affected by Contaminants; Result in an Increased Level of Groundwater Contamination (Including that from Direct Percolation, Injection, or Saltwater Intrusion); or Cause Regulatory Water Quality Standards at an Existing Production Well to be Violated, as Defined in the CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act

The project site previously contained some areas of soil contamination. The affected soil has since been removed from the site, and does not require any further assessment or remediation. Demolition activities will generate waste, including both excavated soils and building materials such as wood, asphalt, steel, aluminum, and concrete. Some of this waste may be classified as hazardous waste. In addition, relocation and replacement of sewer lines, storm drains, and utilities may include the excavation of contaminated soils, resulting in generation of hazardous wastes. Disposal of these wastes would comply with applicable and appropriate laws and regulations regarding waste disposal.

Mitigation Measures
No mitigation is required.

Residual Impacts
Impacts would be less than significant.

Impact SOIL-4: The Project Would Not Increase the Frequency or Severity of an Accidental Release of Hazardous Materials

It is not anticipated that there will be soil and/or groundwater removal/remediation due to contamination before the construction of the project. The site formerly contained contaminated soils; they have since been removed from the site. However, there is the potential to encounter unknown contamination during construction of the site. Onsite construction activities would be conducted in accordance with Cal-OSHA, DTSC, RWQCB, and SCAQMD regulations to assure that no significant impacts to workers would result. In the event that any unknown contamination is discovered, all work would stop immediately and health and safety procedures would be implemented in accordance with applicable regulations. If necessary, procedures would include, at a minimum, evacuation of the site and/or threatened area, notification actions, and emergency medical treatment, if needed. Notification would include the LAHD and appropriate regulatory agencies. Evaluation and a determination regarding the type of contamination encountered and best course of action would be determined by the ranking official, and required remediation measures would

be implemented. Implementation of these required measures would avoid the potential for significant impacts. Since these are standard regulatory requirements, no additional mitigation is warranted.

Mitigation Measures
No mitigation is required.

Residual Impacts
Impacts would be less than significant.

Impact SOIL-5: The Project Would Not Accelerate Natural Processes of Wind and Water Erosion and Sedimentation, Resulting in Sediment Runoff or Deposition Which Would Not be Contained or Controlled Onsite

As discussed above, potential construction-related erosion impacts could occur, particularly during dredging and fill activities, construction of bulkheads, and demolition of the site. Any project-related erosion and dewatering activities would be required to comply with RWQCB and NPDES permit regulations. Best management practices for erosion controls would be implemented.

Long-term positive impacts are associated with dredging in the Watchorn Basin for the project. As with past dredging projects, potentially contaminated sediments would be removed, resulting in an improved subsea environment. Based on chemical and biological testing of the sediments to be dredged, these sediments are expected to meet requirements for use as in-harbor fill in the landfill areas on the project site or, alternatively, to meet disposal requirements of the LA-2 offshore Dredged Material Disposal Site.

If sediments are unsuitable for the above uses and are not classified as hazardous material, they will be disposed of at the LAHD's Upland Disposal Site at Anchorage Road, in accordance with applicable laws and regulations. Impacts would be less than significant.

Mitigation Measures
No mitigation is required.

Residual Impacts
Impacts would be less than significant.

Cumulative Impacts

The primary hazardous waste/materials impacts to human health involve:

- the project-related disruption of hazardous waste/materials contained within the soil and groundwater or in structures within the project area and
- the potential worker exposure to environmental contamination.

These two factors are relatively site-specific and would not contribute significantly to the contamination impacts of other nearby or concurrent projects. Compliance with applicable federal, state, and local regulations reduces the occurrence of significant impacts.

3.8.3.4 Mitigation Monitoring Plan Summary

No significant impacts associated with groundwater, soils, or sediments have been identified. Therefore, no mitigation-monitoring program is required.