

**MITIGATED NEGATIVE DECLARATION  
HERCULES LLC/PROLOGIS  
PIPELINE REMOVAL PROJECT**

March 2014



**Lead Agency:**

California State Lands Commission  
100 Howe Avenue, Suite 100 South  
Sacramento, California 95825

**Applicant:**

Hercules LLC/Prologis  
Pier 1, Bay 1  
San Francisco, California 94111

THIS PAGE INTENTIONALLY LEFT BLANK

**Table of Contents**

**LIST OF TABLES ..... iv**

**LIST OF FIGURES..... iv**

**LIST OF ABBREVIATIONS AND ACRONYMS ..... v**

**EXECUTIVE SUMMARY ..... ES-1**

**1.0 PROJECT AND AGENCY INFORMATION..... 1-1**

    1.1 PROJECT TITLE..... 1-1

    1.2 LEAD AGENCY AND PROJECT APPLICANT..... 1-1

    1.3 PROJECT LOCATION ..... 1-1

    1.4 ORGANIZATION OF MITIGATED NEGATIVE DECLARATION..... 1-3

    1.5 PROJECT BACKGROUND AND OBJECTIVES ..... 1-3

    1.6 PUBLIC REVIEW AND COMMENT ..... 1-7

    1.7 APPROVALS AND REGULATORY REQUIREMENTS..... 1-7

**2.0 PROJECT DESCRIPTION ..... 2-1**

    2.1 NEED FOR PROJECT ..... 2-1

    2.2 PROJECT LOCATION ..... 2-1

    2.3 SETTING..... 2-1

        2.3.1 Offshore ..... 2-1

        2.3.2 Onshore ..... 2-2

    2.4 PROJECT OVERVIEW ..... 2-4

    2.5 PROJECT CONSTRUCTION SCHEDULE, PERMITS, AND EQUIPMENT.. 2-5

    2.6 WASTEWATER PIPELINE REMOVAL WORK DESCRIPTION ..... 2-7

        2.6.1 Onshore Portion of the Pipeline Removal Work ..... 2-7

        2.6.2 Pipeline Removal in San Pablo Bay (CSLC Jurisdiction) ..... 2-10

**3.0 ENVIRONMENTAL ANALYSIS AND CHECKLIST ..... 3-1**

    3.1 AESTHETICS..... 3-15

        3.1.1 Environmental Setting ..... 3-15

        3.1.2 Regulatory Setting..... 3-16

        3.1.3 Impact Analysis ..... 3-16

        3.1.4 Mitigation Summary..... 3-17

    3.2 AGRICULTURE AND FOREST RESOURCES ..... 3-18

        3.2.1 Environmental Setting ..... 3-18

        3.2.2 Regulatory Setting..... 3-19

        3.2.3 Impact Analysis ..... 3-19

        3.2.4 Mitigation Summary..... 3-20

    3.3 AIR QUALITY AND GREENHOUSE GAS EMISSIONS..... 3-21

        3.3.1 Environmental Setting ..... 3-21

        3.3.2 Regulatory Setting..... 3-24

        3.3.3 Impact Analysis ..... 3-25

        3.3.4 Mitigation Summary..... 3-26

    3.4 BIOLOGICAL RESOURCES..... 3-27

        3.4.1 Environmental Setting ..... 3-27

3.4.2	Regulatory Setting.....	3-29
3.4.3	Impact Analysis.....	3-29
3.4.4	Mitigation Summary.....	3-34
3.5	CULTURAL AND PALEONTOLOGICAL.....	3-35
3.5.1	Environmental Setting.....	3-35
3.5.2	Regulatory Setting.....	3-36
3.5.3	Impact Analysis.....	3-36
3.5.4	Mitigation Summary.....	3-37
3.6	GEOLOGY AND SOILS.....	3-38
3.6.1	Environmental Setting.....	3-38
3.6.2	Regulatory Setting.....	3-43
3.6.3	Impact Analysis.....	3-43
3.6.4	Mitigation Summary.....	3-45
3.7	HAZARDS AND HAZARDOUS MATERIALS.....	3-46
3.7.1	Environmental Setting.....	3-46
3.7.2	Regulatory Setting.....	3-47
3.7.3	Impact Analysis.....	3-47
3.7.4	Mitigation Summary.....	3-51
3.8	HYDROLOGY AND WATER QUALITY.....	3-52
3.8.1	Environmental Setting.....	3-53
3.8.2	Regulatory Setting.....	3-54
3.8.3	Impact Analysis.....	3-54
3.8.4	Mitigation Summary.....	3-57
3.9	LAND USE AND PLANNING.....	3-58
3.9.1	Environmental Setting.....	3-58
3.9.2	Regulatory Setting.....	3-59
3.9.3	Impact Analysis.....	3-59
3.9.4	Mitigation Summary.....	3-60
3.10	MINERAL RESOURCES.....	3-61
3.10.1	Environmental Setting.....	3-61
3.10.2	Regulatory Setting.....	3-61
3.10.3	Impact Analysis.....	3-61
3.10.4	Mitigation Summary.....	3-62
3.11	NOISE.....	3-63
3.11.1	Environmental Setting.....	3-63
3.11.2	Regulatory Setting.....	3-64
3.11.3	Impact Analysis.....	3-65
3.11.4	Mitigation Summary.....	3-67
3.12	POPULATION AND HOUSING.....	3-68
3.12.1	Environmental Setting.....	3-68
3.12.2	Regulatory Setting.....	3-68
3.12.3	Impact Analysis.....	3-68
3.12.4	Mitigation Summary.....	3-69
3.13	PUBLIC SERVICES.....	3-70
3.13.1	Environmental Setting.....	3-70
3.13.2	Regulatory Setting.....	3-71

3.13.3	Impact Analysis .....	3-71
3.13.4	Mitigation Summary.....	3-72
3.14	RECREATION.....	3-73
3.14.1	Environmental Setting .....	3-73
3.14.2	Regulatory Setting.....	3-73
3.14.3	Impact Analysis .....	3-74
3.14.4	Mitigation Summary.....	3-74
3.15	TRANSPORTATION/TRAFFIC .....	3-75
3.15.1	Environmental Setting .....	3-75
3.15.2	Regulatory Setting.....	3-76
3.15.3	Impact Analysis .....	3-77
3.15.4	Mitigation Summary.....	3-79
3.16	UTILITIES AND SERVICE SYSTEMS .....	3-80
3.16.1	Environmental Setting .....	3-80
3.16.2	Regulatory Setting.....	3-81
3.16.3	Impact Analysis .....	3-81
3.16.4	Mitigation Summary.....	3-82
3.17	MANDATORY FINDINGS OF SIGNIFICANCE .....	3-83
3.17.1	Impact Analysis .....	3-83
<b>4.0</b>	<b>OTHER MAJOR AREAS OF CONCERN.....</b>	<b>4-1</b>
4.1	CSLC ENVIRONMENTAL JUSTICE POLICY .....	4-1
4.1.1	Methodology.....	4-2
4.1.2	Project Analysis.....	4-2
<b>5.0</b>	<b>MITIGATION MONITORING PROGRAM.....</b>	<b>5-1</b>
5.1	PURPOSE.....	5-1
5.2	ENFORCEMENT AND COMPLIANCE .....	5-1
5.3	MITIGATION COMPLIANCE RESPONSIBILITY .....	5-1
5.5	MITIGATION MONITORING TABLE.....	5-2
<b>6.0</b>	<b>PREPARATION SOURCES AND REFERENCES .....</b>	<b>6-1</b>
6.1	CSLC STAFF .....	6-1
6.2	SECTION AUTHORS.....	6-1
6.3	REFERENCES CITED .....	6-1

**APPENDICES**

**Appendix A** – Mailing List of MND Recipients

**Appendix B** – Greenhouse Gas Emission Estimates

**Appendix C** – Biological Assessment

**LIST OF TABLES**

<b><u>Table</u></b>	<b><u>Page</u></b>
Table ES-1. Environmental Factors Potentially Affected.....	ES-6
Table ES-2. Summary of Project Mitigation Measures (MMs).....	ES-6
Table 1-1. Other Agencies with Review/Approval over Project Activities .....	1-8
Table 3-1. Federal (U.S.) and State (CA) Laws, Regulations, and Policies Potentially Applicable to the Project.....	3-3
Table 3.6-1. Active Faults in the Project Site Vicinity .....	3-41
Table 3.7-1. Onshore Hazardous Material Sites in the Project Vicinity .....	3-50
Table 3.11-1. Maximum Noise Levels of Proposed Project Equipment.....	3-66

**LIST OF FIGURES**

<b><u>Figure</u></b>	<b><u>Page</u></b>
Figure ES-1. Project Site Location .....	ES-3
Figure ES-2. Site Map.....	ES-4
Figure ES-3. Boundary and Topographic Survey.....	ES-5
Figure 1-1. Project Location .....	1-2
Figure 1-2. Site Map – Offshore Location of Pipeline .....	1-5
Figure 1-3. Boundary and Topographic Survey.....	1-6
Figure 2-1. Zoom-In of Shore Side Area.....	2-3
Figure 3.6-1. Regional Fault Map.....	3-40

## LIST OF ABBREVIATIONS AND ACRONYMS

	µg/kg	micrograms per kilogram
<b>A</b>	ABAG	Association of Bay Area Governments
<b>B</b>	BA	Biological Assessment
	BAAQMD	Bay Area Air Quality Management District
	BCDC	San Francisco Bay Conservation and Development Commission
	BMPs	Best Management Practices
<b>C</b>	CAAQS	California Ambient Air Quality Standards
	CAP	Climate Action Plan
	CARB	California Air Resources Board
	CCAA	California Clean Air Act of 1988
	CDFW	California Department of Fish and Wildlife
	CEQA	California Environmental Quality Act
	CESA	California Endangered Species Act
	CFWC	California Fish and Wildlife Commission
	CFR	Code of Federal Regulations
	CO	Carbon Monoxide
	CO <sub>2</sub>	Carbon Dioxide
	CO <sub>2</sub> e	Carbon Dioxide Equivalent
	CSLC	California State Lands Commission
	CWA	Federal Clean Water Act
	cy	cubic yards
<b>D</b>	dBA	A-weighted Decibels
	DDT	Dichloro-diphenyl-trichloroethane
	DEPM	Division of Environmental Planning and Management
	diesel PM	Particulate Exhaust Emissions from Diesel-fueled Engines
<b>E</b>	EFH	Essential Fish Habitat
	EFL	Effects Range-Low
	EIR	Environmental Impact Report
	ERL	Effects Range-Low
	ESA	Endangered Species Act
<b>F</b>	°F	Degrees Fahrenheit
	ft <sup>2</sup>	Square Feet
	ft <sup>3</sup>	Cubic Feet
<b>G</b>	GHG	Greenhouse Gas
<b>H</b>	hp	horsepower
<b>I</b>	IPCC	Intergovernmental Panel on Climate Change
	IS	Initial Study
<b>L</b>	lb/day	pounds per day
<b>M</b>	MCE	Maximum Credible Earthquake
	mcy	million cubic yards
	mg/kg	milligrams per kilogram
	mg/L	milligrams per liter
	mm	millimeter

	MND	Mitigated Negative Declaration
	MOT	Marine Oil Terminal
	MRZ	Mineral Resource Zones
	MT CO <sub>2</sub> e	Metric Tons of Carbon Dioxide Equivalents
<b>N</b>	NEPA	National Environmental Policy Act
	NMFS	National Marine Fisheries Service
	NO <sub>2</sub>	Nitrogen Dioxide
	N <sub>2</sub> O	Nitrous Oxide
	NO <sub>x</sub>	Nitrogen Oxides
	NMFS	National Marine Fisheries Service
	NOAA	National Oceanic and Atmospheric Administration
	NPDES	National Pollutant Discharge Elimination System
<b>P</b>	PAH	Polynuclear Aromatic Hydrocarbons
	Pb	Lead
	PCBs	Polychlorinated Biphenyls
	PM	Particulate Matter
	PM <sub>10</sub>	Particulate Matter less than 10 micrometers
	PM <sub>2.5</sub>	Particulate Matter less than 2.5 micrometers
	ppm	parts per million
<b>R</b>	RHFD	Rodeo-Hercules Fire District
	ROC	Reactive Organic Compounds
	ROG	Reactive Organic Gases
	ROW	Right-of-Way
	RWQCB	Regional Water Quality Control Board
<b>S</b>	SFBRWQCB	San Francisco Bay Regional Water Quality Control Board
	SIP	State Implementation Plan
	SPCC	Spill Prevention, Control, and Countermeasure Plan
	SO <sub>2</sub>	Sulfur Dioxide
	SWRCB	State Water Resources Control Board
<b>T</b>	TAC	Toxic Air Contaminant
	TMDL	Total Maximum Daily Load
<b>U</b>	ULL	Urban Limit Line
	UPRR	Union Pacific Railroad
	USACE	U.S. Army Corps of Engineers
	USC	United States Code
	USCG	U.S. Coast Guard
	USEPA	U.S. Environmental Protection Agency
	USFWS	U.S. Fish and Wildlife Service

2 This Mitigated Negative Declaration (MND) has been prepared by the California State  
3 Lands Commission (CSLC), as lead agency under the California Environmental Quality  
4 Act (CEQA) (Pub. Resources Code, § 21000 et seq.), to analyze and disclose the  
5 environmental effects associated with the Hercules LLC/Prologis Pipeline Removal  
6 Project (Project). Hercules LLC/Prologis (Applicant) is proposing the Project as part of  
7 its request to terminate CSLC Lease No. PRC 7985.1, which expires on August 31,  
8 2017. The CSLC prepared a MND because it determined that, while the Initial Study  
9 identified potentially significant impacts related to Project activities, revisions and/or  
10 requirements have been incorporated into the Project that avoid or mitigate those  
11 impacts to a point where no significant impacts would occur.

12 The Project involves a combination of removal and abandonment-in-place of an  
13 approximately 2,160-foot-long, 8-inch-diameter, nonoperational wastewater outfall  
14 pipeline that was part of an upland refinery in Hercules. The upland refinery and transfer  
15 wharf were originally built by Sequoia Refining Corporation in 1966 and operated for 31  
16 years. The refinery complex, including offshore wharf facilities and the wastewater  
17 outfall pipeline, was later acquired by Gulf Oil Corporation, then Pacific Refining  
18 Company, which subsequently became Coscol Corporation (Coscol). The pipeline was  
19 used until 1997 for wastewater discharge associated with refinery operations, and from  
20 1997 until 2001 for groundwater extraction and treatment when Coscol decommissioned  
21 the refinery and wharf. The pipeline has been out of service since 2001.

## 22 PROJECT LOCATION/EXISTING CONDITIONS

23 The proposed Project is located offshore in San Pablo Bay and onshore within the city  
24 of Hercules (City), Contra Costa County (Figures ES-1 and ES-2). The Project pipeline  
25 is located on lands under the jurisdiction of the CSLC and City as shown below.

Pipeline section length (ft)	Location	Proposed activity	Jurisdiction
2,000	Offshore	Remove pipeline section and associated offshore diffusers	CSLC (Lease No. PRC 7985.1) <sup>a</sup>
20	Onshore on shoreline	Remove pipeline section	
140	Onshore	Grout, cap and abandon pipeline section in place	City of Hercules <sup>b</sup>

<sup>a</sup> PRC 7985.1 is currently held by Hercules LLC (or its successor), the developer of Victoria by the Bay.

<sup>b</sup> Assessor's Parcel Numbers 404-030-021 and 404-030-045.

26 The shoreline in the immediate Project vicinity is covered with riprap that overlies five  
27 hydrocarbon pipelines that were abandoned in place as part of the 2010 Coscol  
28 Petroleum/El Paso Corporation Marine Terminal Deconstruction and Pipeline

1 Abandonment Project (Coscol Project; CSLC 2009). Removal of the wastewater  
2 pipeline was not included as part of the Coscol Project, as it is under a different lease.

3 **CSLC Jurisdiction.** The CSLC has jurisdiction over a 2,020-foot-long pipeline segment,  
4 of which 2,000 feet are offshore and 20 feet are onshore under riprap (Figure ES-3).  
5 Some of the offshore pipeline is exposed and some is buried in, on average, about 2  
6 feet of sediment. Three diffusers rise about 2 feet above the floor of San Pablo Bay,  
7 with three steel plates securing both the diffusers and pipeline offshore. Onshore, the  
8 pipeline is about 8 feet below ground surface and is secured by the riprap.

9 **City of Hercules Jurisdiction.** The City has jurisdiction over the 140-foot-long onshore  
10 portion of pipeline that passes under riprap and Union Pacific Railroad (UPRR) Right-of-  
11 Way, and terminates in the proposed San Francisco Bay Trail alignment in the  
12 undeveloped Shoreline Park as seen in Figure ES-2.

### 13 **PROPOSED PROJECT**

14 The Applicant proposes to remove approximately 2,020 feet of existing 8-inch-diameter  
15 pipeline segment under the CSLC's jurisdiction, and abandon in-place the remaining  
16 140-foot segment (see Figure ES-3). The proposed work would require about 3 weeks  
17 to complete (1 week for onshore and 2 weeks for offshore). The Applicant proposes to  
18 perform the onshore activities first, which generally consist of the following.

- 19 • Remove riprap between the railroad track ballasts on the western side of the  
20 tracks (Figure ES-3) and the Bay to expose the pipe. Access to the riprap will be  
21 from a barge with a mounted crane; the barge will be stabilized using spuds and  
22 may rest on the sediment at low tide
- 23 • Cut and remove a section of pipe between approximately the western side of the  
24 UPRR property line and the mudline.
- 25 • Grout and seal the remaining pipe between approximately the western side of the  
26 UPRR tracks and the pipeline terminus underground inside Shoreline Park.
- 27 • Return the riprap to its pre-construction location.

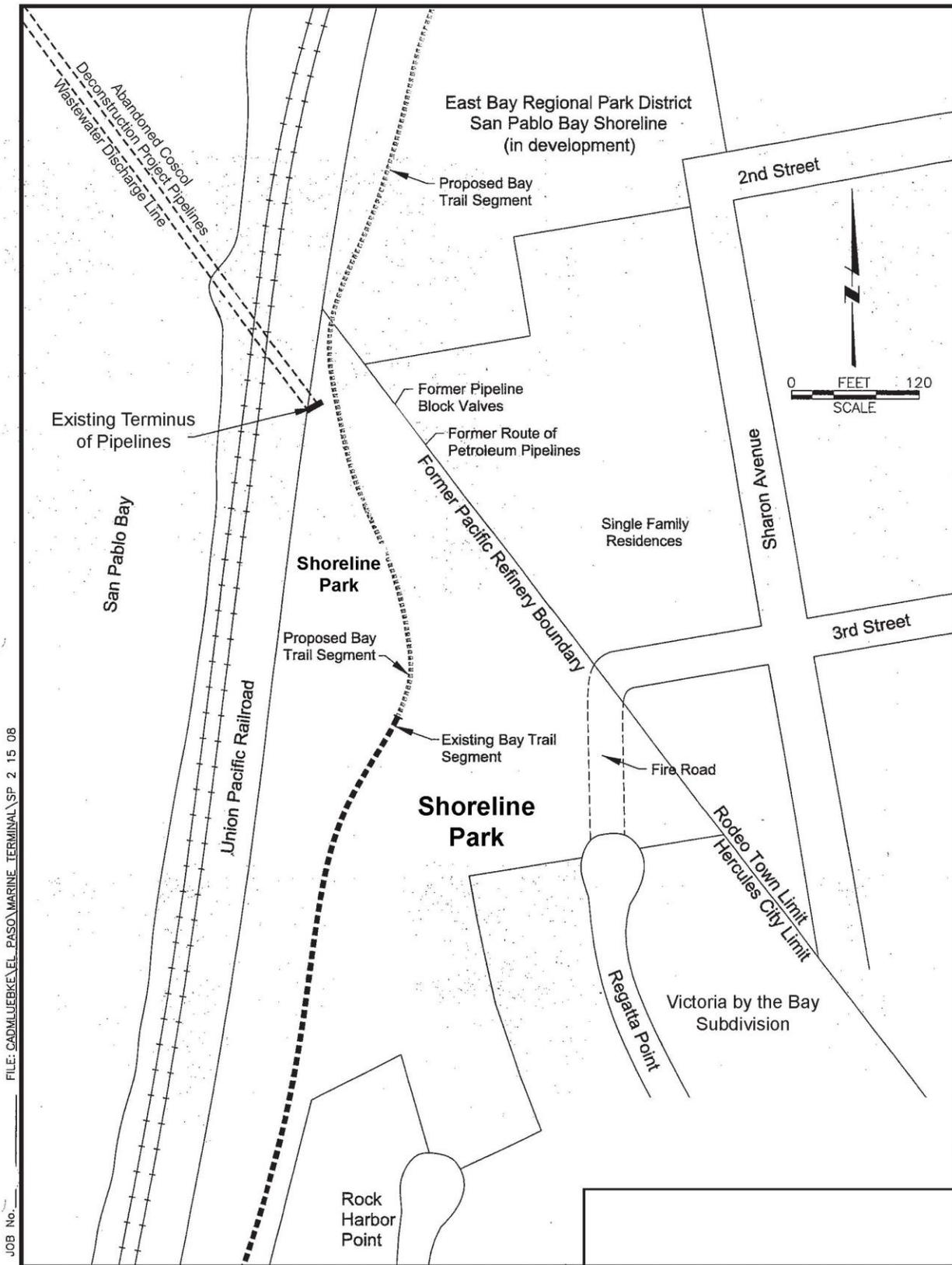
28 Following completion of onshore activities, the Applicant will remove the remainder of  
29 the pipeline starting at the bayward terminus near the diffusers and proceeding toward  
30 shore. Two barges will be used to remove the pipeline; each barge will be equipped with  
31 two spuds and four anchors, which are controlled by deck-mounted winches. Depending  
32 on the need to move or hold position, both spuds and anchors may be used  
33 simultaneously; if needed, the anchors will be deployed and recovered with the use of a  
34 tugboat. The pipeline will be lifted from the sediment by a winch, pulled onto the barge,  
35 and cut into sections of approximately 50 feet. Removed pipeline sections will be  
36 transported to Mare Island or Alameda for eventual disposal.

1

Figure ES-1. Project Site Location



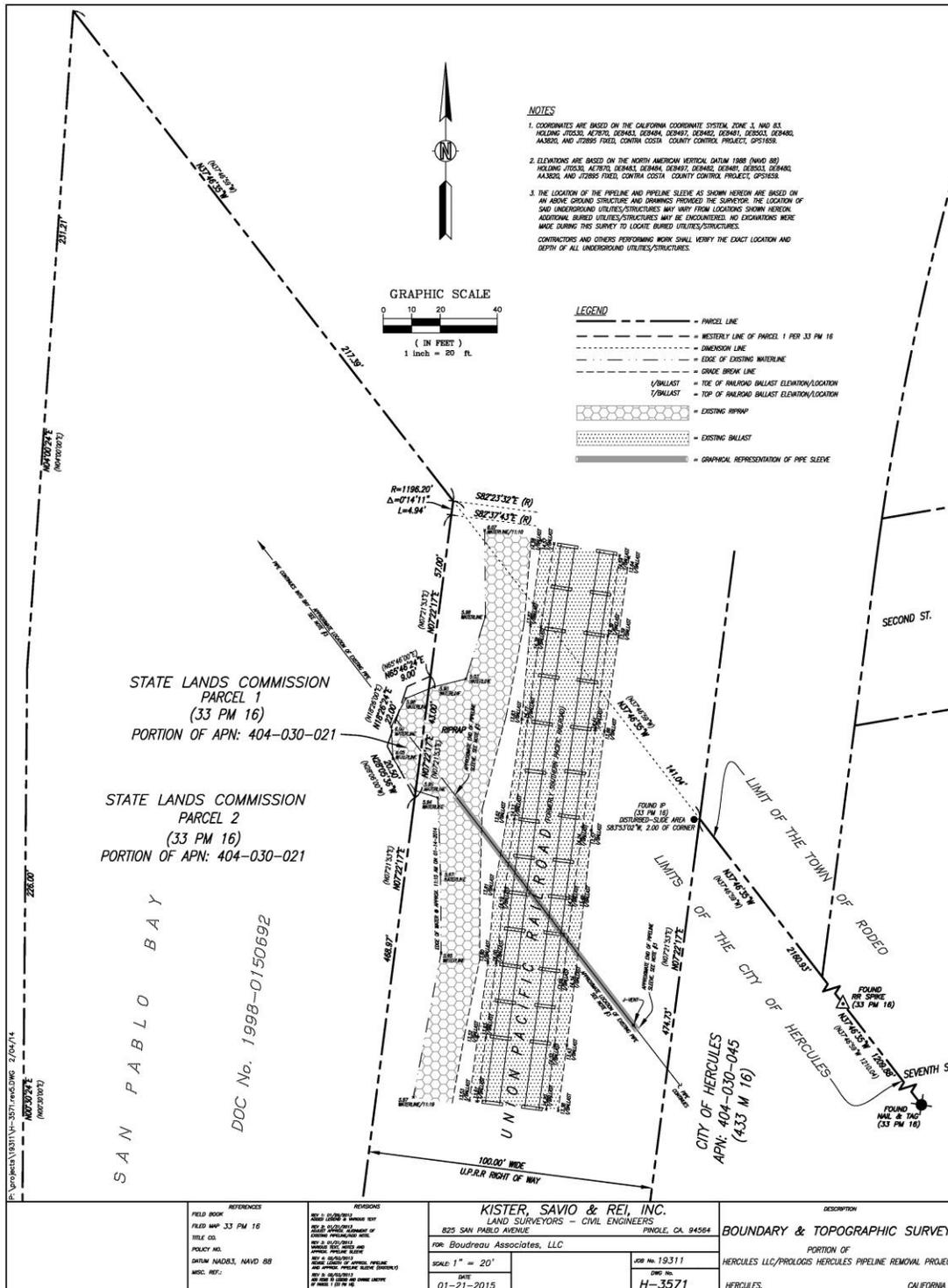
Figure ES-2. Site Map



FILE: CAD\MILBEBE\EL\_PASO\MARINE\_TERMINAL\SP 2 15 08

JOB No. \_\_\_\_\_

Figure ES-3. Boundary and Topographic Survey



## 1 ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES

2 The environmental factors checked below in Table ES-1 would be potentially affected  
 3 by this Project; a checked box indicates that at least one impact would be a “Potentially  
 4 Significant Impact,” except that the CSLC has incorporated Project revisions, including  
 5 the implementation of mitigation measures (MMs), that reduce the impact to “Less than  
 6 Significant with Mitigation,” as detailed in Section 3 of this MND. Table ES-2 lists  
 7 proposed MMs designed to reduce or avoid potentially significant impacts. With  
 8 implementation of the proposed MMs, all Project-related impacts would be reduced to  
 9 less than significant.

10 **Table ES-1. Environmental Factors Potentially Affected**

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture and Forest Resources	<input type="checkbox"/> Air Quality/Greenhouse Gas Emissions
<input checked="" type="checkbox"/> Biological Resources	<input type="checkbox"/> Cultural Resources	<input type="checkbox"/> Geology and Soils
<input checked="" type="checkbox"/> Hazards and Hazardous Materials	<input checked="" type="checkbox"/> Hydrology and Water Quality	<input type="checkbox"/> Land Use and Planning
<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Noise	<input type="checkbox"/> Population and Housing
<input type="checkbox"/> Public Services	<input type="checkbox"/> Recreation	<input checked="" type="checkbox"/> Transportation/Traffic
<input type="checkbox"/> Utilities and Service Systems	<input type="checkbox"/> Mandatory Findings of Significance	

11 **Table ES-2. Summary of Project Mitigation Measures (MMs)**

<b>Biological Resources</b>
<b>MM BIO-1:</b> Minimize Sediment Resuspension During Removal Activities
<b>MM BIO-2:</b> Environmental Work Window
<b>Hazards and Hazardous Materials</b>
<b>MM HAZ-1:</b> Oil Spill Prevention and Response Plan/Grout Management Plan
<b>MM HAZ-2:</b> Vessel Fueling Restrictions
<b>MM HAZ-3:</b> Onboard Spill Response Equipment
<b>Hydrology and Water Quality</b>
<b>MM BIO-1:</b> Minimize Sediment Resuspension During Removal Activities
<b>Transportation/Traffic</b>
<b>MM TRA-1:</b> U.S. Coast Guard (USCG) Notification

1 **1.0 PROJECT AND AGENCY INFORMATION**

---

2 **1.1 PROJECT TITLE**

3 Hercules LLC/Prologis Hercules Pipeline Removal Project (Project)

4 **1.2 LEAD AGENCY AND PROJECT APPLICANT**

5 **Lead Agency**

6 California State Lands Commission (CSLC)  
7 100 Howe Avenue, Suite 100-South  
8 Sacramento, CA 95825

9 Contact person:

10 Jennifer DeLeon, Environmental Program Manager  
11 California State Lands Commission  
12 Division of Environmental Planning and Management  
13 [Jennifer.Deleon@slc.ca.gov](mailto:Jennifer.Deleon@slc.ca.gov)  
14 (916) 574-0748

15 **Project Applicant**

16 Hercules LLC/Prologis (Applicant)  
17 Pier 1, Bay 1  
18 San Francisco, CA 94111

19 Contact person:

20 Steve Campbell, Senior Vice President  
21 Environmental, Engineering & Sustainability Department  
22 [Scampbell@prologis.com](mailto:Scampbell@prologis.com)  
23 (415) 733-9506

24 **1.3 PROJECT LOCATION**

25 The proposed Project is located in and adjacent to San Pablo Bay (Bay) within the city  
26 of Hercules (City), Contra Costa County (Figure 1-1).

1

Figure 1-1. Project Location



1 **1.4 ORGANIZATION OF MITIGATED NEGATIVE DECLARATION**

2 This Mitigated Negative Declaration (MND) is intended to provide the CSLC, as lead  
3 agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code,  
4 § 21000 et seq.), and other responsible agencies with the information required to  
5 exercise their discretionary responsibilities with respect to the proposed Project. The  
6 document is organized as follows.

7 • Section 1 provides the Project background, agency and Applicant information,  
8 Project Objectives and anticipated agency approvals, and a summary of the  
9 public review and comment process.

10 • Section 2 describes the proposed Project including its location, layout,  
11 equipment, and facilities. Section 2 also provides an overview of the Project's  
12 operations and schedule.

13 • Section 3 provides the Initial Study (IS), including the environmental setting,  
14 identification and analysis of potential impacts, and discussion of various Project  
15 changes and other measures that, if incorporated into the Project, would mitigate  
16 or avoid those impacts, such that no significant effect on the environment would  
17 occur. The IS was conducted by the CSLC pursuant to section 15063 of the  
18 State CEQA Guidelines.<sup>1</sup>

19 • Section 4 includes an environmental justice analysis and discussion consistent  
20 with CSLC Policy.

21 • Section 5 presents the Mitigation Monitoring Program (MMP).

22 • Section 6 presents information on report preparation and references.

23 • The Appendices include specifications, technical data, and other information  
24 supporting the analysis presented in this MND.

25 ○ Appendix A: Mailing List of MND Recipients

26 ○ Appendix B: Greenhouse Gas Emission Estimates

27 ○ Appendix C: Biological Assessment

28 **1.5 PROJECT BACKGROUND AND OBJECTIVES**

29 The existing non-operational 2,160-foot-long, 8-inch-diameter wastewater pipeline, likely  
30 composed of asphalt mastic and mortar-coated Schedule 40 steel, was originally  
31 constructed as part of the operations of an upland refinery in Hercules. The upland  
32 refinery and transfer wharf were originally built by Sequoia Refining Corporation in 1966  
33 and operated for 31 years. The refinery complex, including offshore wharf facilities and

---

<sup>1</sup> The State CEQA Guidelines are found in Title 14 of the California Code of Regulations, commencing with section 15000.

1 the wastewater outfall pipeline, was later acquired by Gulf Oil Corporation, then Pacific  
2 Refining Company, which subsequently became Coscol Corporation (Coscol). The  
3 pipeline was used until 1997 for wastewater discharge associated with refinery  
4 operations, and from 1997 until 2001 for groundwater extraction and treatment when  
5 Coscol decommissioned the refinery and wharf. The pipeline has been out of service  
6 since 2001.

7 During decommissioning of the refinery and other onshore infrastructure, an adjacent  
8 free-standing marine oil terminal (MOT) and its associated five hydrocarbon pipelines<sup>2</sup>  
9 remained in place until 2010 when they were decommissioned following approval by the  
10 CSLC (2009) of the Coscol Petroleum/El Paso Corporation Marine Terminal  
11 Deconstruction and Pipeline Abandonment Project (Coscol Project) and termination of  
12 CSLC Lease No. PRC 3414.1. Removal of the wastewater pipeline was not included as  
13 part of the Coscol Project, as it is under a different lease. The Applicant is seeking  
14 authorization from the CSLC to amend Lease No. PRC 7985.1 to allow removal of the  
15 pipeline and to terminate the lease upon successful Project completion.

16 At the end of the lease term, the Applicant is obligated to remove all improvements and  
17 return the premises to conditions existing prior to construction. To meet its lease  
18 obligations, the Applicant has identified the following Project objectives:

- 19 • Remove the existing non-operational 2,000-foot-long offshore wastewater  
20 pipeline, diffusers, and steel plates under CSLC jurisdiction;
- 21 • Remove approximately 20 feet of existing onshore pipeline (covered by riprap)  
22 under CSLC jurisdiction;
- 23 • Grout and cap (leave in place) the remaining 140-foot-long onshore portion of the  
24 wastewater pipeline onshore under the Union Pacific Railroad's (UPRR) and  
25 City's jurisdiction. Place back the removed riprap to (1) cover the cut and capped  
26 end of the wastewater pipeline resulting in a shoreline similar to existing  
27 conditions, and (2) continue covering the remaining abandoned MOT pipelines  
28 associated with the Coscol Project; and
- 29 • Terminate CSLC Lease No. PRC 7985.1 upon successful Project completion.

---

<sup>2</sup> Due to the draft limitations near shore, oil deliveries to the refinery were received through the MOT, which was located about ¾ mile out in the Bay, and transported to and from shore through five hydrocarbon pipelines located in a trench buried under the bottom of the Bay.

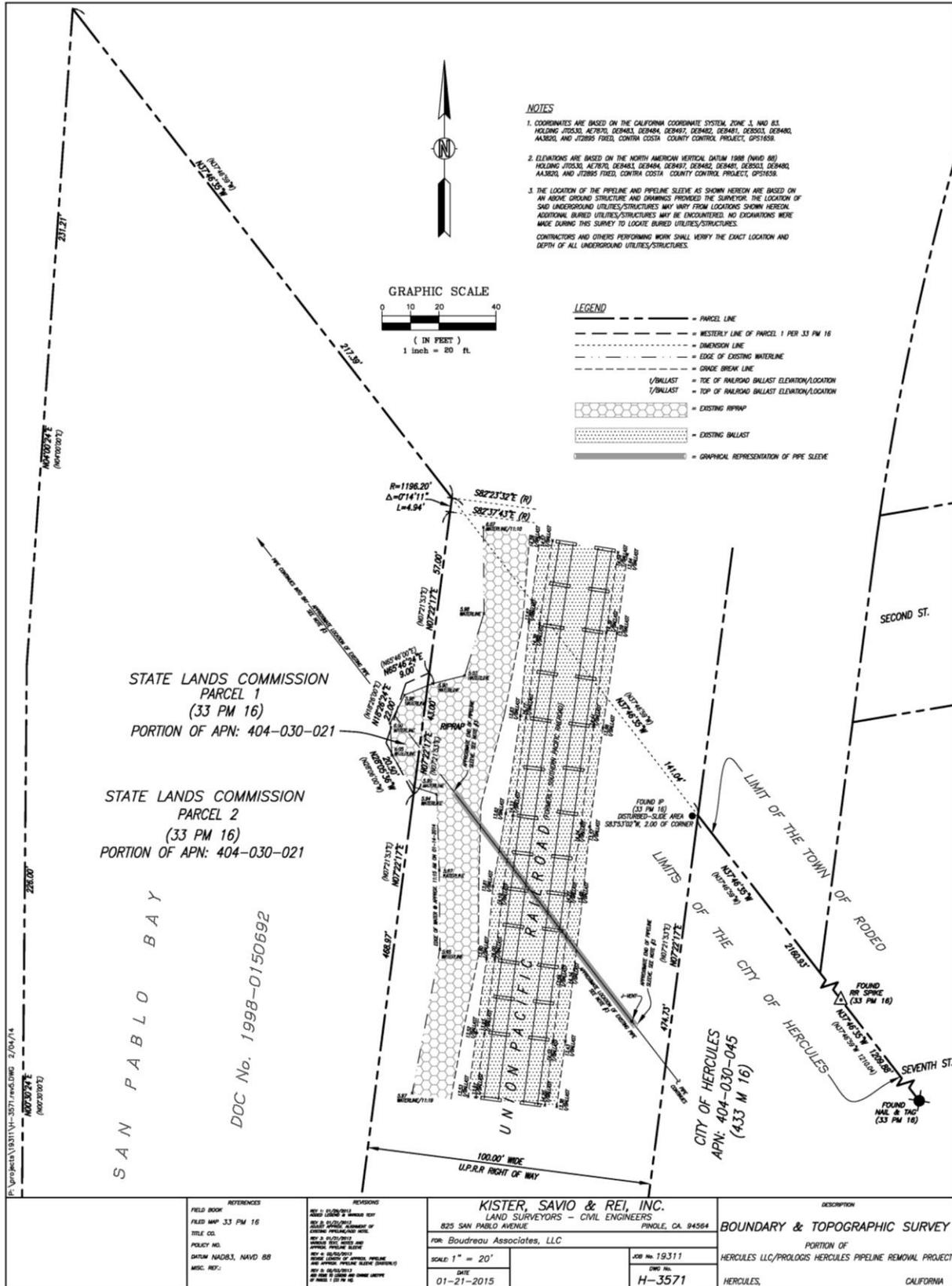
1

Figure 1-2. Site Map – Offshore Location of Pipeline



1

Figure 1-3. Boundary and Topographic Survey



1 **1.6 PUBLIC REVIEW AND COMMENT**

2 Pursuant to State CEQA Guidelines sections 15072 and 15073, a lead agency must  
3 issue an MND in draft form for a minimum 30-day public review period. Local, regional,  
4 State, and federal agencies and the public will have the opportunity to review and  
5 comment on the draft document. Responses to written comments received by the CSLC  
6 during the 30-day public review period will be incorporated as appropriate into the final  
7 MND. In accordance with State CEQA Guidelines section 15074, subdivision (b), the  
8 CSLC will review and consider the proposed final MND, together with any comments  
9 received during the public review process, prior to taking action on the MND and  
10 Project.

11 **1.7 APPROVALS AND REGULATORY REQUIREMENTS**

12 The CSLC’s authority is set forth in Division 6 of the California Public Resources Code  
13 and it is regulated by the California Code of Regulations, Title 2, sections 1900–2970.  
14 The CSLC has authority to issue leases or permits for the use of sovereign lands held in  
15 the public trust, including all ungranted tidelands, submerged lands, and the beds of  
16 navigable lakes and waterways, as well as certain residual and review authority for  
17 tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub.  
18 Resources Code, §§ 6301, 6306). All tidelands and submerged lands, granted or  
19 ungranted, as well as navigable lakes and waterways, are subject to the protections of  
20 the Common Law Public Trust. As general background, the State of California acquired  
21 sovereign ownership of all tidelands and submerged lands and beds of navigable lakes  
22 and waterways upon its admission to the U.S. in 1850. The State holds these lands for  
23 the benefit of all people of the State for statewide Public Trust purposes, which include  
24 but are not limited to waterborne commerce, navigation, fisheries, water-related  
25 recreation, habitat preservation and open space. On tidal waterways, the State’s  
26 sovereign fee ownership extends landward to the mean high tide line, except for areas  
27 of fill or artificial accretion. For the proposed Project, the CSLC has received an  
28 application for the subject pipeline removal.

29 The CSLC must comply with CEQA when it undertakes an activity defined by CEQA as  
30 a “project” that must receive some discretionary approval (i.e., the CSLC has the  
31 authority to deny the requested lease, permit, or other approval) which may cause either  
32 a direct physical change in the environment or a reasonably foreseeable indirect change  
33 in the environment. CEQA requires the CSLC to identify the significant environmental  
34 impacts of its actions and to avoid or mitigate those impacts, if feasible.

35 In addition to the CSLC, the Project is subject to the review and approval of other  
36 agencies with statutory and/or regulatory jurisdiction over various aspects of the Project  
37 (see Table 1-1).

1 **Table 1-1. Other Agencies with Review/Approval over Project Activities**

Permitting Agency		Anticipated Approvals/Regulatory Requirements
U.S.	U.S. Army Corps of Engineers (USACE)	Clean Water Act (CWA) Section 404 (under Nationwide Permit No. 12)
	National Marine Fisheries Service (NMFS)	Section 7 Consultation under Federal Endangered Species Act (if necessary)
	U.S. Fish and Wildlife Service (USFWS)	Essential Fish Habitat Consultation under National Marine Fisheries Act (if necessary)
State	California Department of Fish and Wildlife (CDFW)	California Endangered Species Act permit Streambed Alteration Agreement
	California Department of Transportation (Caltrans)	California Streets and Highways Code sections 660-734 Encroachment Permit Transportation Permit (tentative)
	San Francisco Bay Regional Water Quality Control Board (SFBRWQCB)	Clean Water Act Section 401 Water Quality Certification
	San Francisco Bay Conservation and Development Commission (BCDC)	Coastal Development Permit
Other	Union Pacific Railroad (UPRR)	Right of Entry

2 In addition, the U.S. Coast Guard would be notified of the proposed work and would  
 3 issue a Notice to Mariners alerting other marine traffic to the potential navigation hazard  
 4 posed by the marine equipment. As part of the permitting process, both BCDC and the  
 5 USACE issue public notices before final permitting and before any construction may be  
 6 initiated.

7 Table 3-1 identifies coastal-related U.S. and California laws and programs that are  
 8 relevant to the Project; specific policies are listed in Section 3, Environmental Analysis  
 9 and Checklist, of this MND for each environmental issue area.

1 **2.0 PROJECT DESCRIPTION**

---

2 **2.1 NEED FOR PROJECT**

3 The proposed Hercules LLC/Prologis Hercules Pipeline Removal Project (Project) is  
4 needed to remove approximately 2,020 feet of non-operational 8-inch-diameter  
5 wastewater pipeline (located offshore and onshore), and grout the remaining 140 feet of  
6 this pipeline located on adjacent uplands under the jurisdiction of the city of Hercules  
7 (City). The 2,020 feet of the pipeline is currently under California State Lands  
8 Commission (CSLC) Lease No. PRC 7985.1, which is set to expire on August 31, 2017.  
9 Renewal of the lease is not appropriate because the pipeline is no longer in use, and  
10 will not be used in the future. Pursuant to the lease conditions, at the termination of the  
11 lease, Hercules LLC/Prologis (Applicant) is obligated to remove all improvements and  
12 return the premises to conditions existing prior to construction. Therefore, the proposed  
13 Project is required as part of the Applicant’s lease termination with the CSLC.

14 **2.2 PROJECT LOCATION**

15 As described in Section 1, the Project is located within the city of Hercules, Contra  
16 Costa County, extending from the shore of San Pablo Bay (Bay) approximately 2,000  
17 feet into the Bay (see Figure 1-1). The shoreside (east) terminus of the non-operational  
18 wastewater pipeline is located approximately 160 feet east of the shoreline passing  
19 underneath riprap, Union Pacific Railroad Right-of-Way (UPRR ROW), Shoreline Park  
20 (Park), and a future alignment of the San Francisco Bay Trail (Bay Trail) at a depth of  
21 approximately 8 feet below the ground surface (see Figure 2-1 and Figure 1-3).

22 **2.3 SETTING**

23 **2.3.1 Offshore**

24 The offshore portion of the Project includes a 2,000-foot-long, 8-inch wastewater  
25 pipeline (Figure 1-2) within the State’s tidelands and submerged lands jurisdiction. The  
26 pipeline terminates offshore in three diffusers that rise about 2 feet above the Bay floor.  
27 The pipeline and three diffusers are held in place with three steel plates. As seen in  
28 Figure 1-2, the approximately 800 feet of pipeline furthest from the shore rest on the  
29 surface of the Bay floor (Etrac 2013). The remaining approximately 1,200 feet of  
30 pipeline located offshore is shallowly buried beneath the bottom of the Bay floor as seen  
31 in Figure 1-2. Results from preliminary investigations indicate the wastewater pipeline is  
32 covered on average by approximately 2 feet of sediment (Pacific EcoRisk 2013).

33 Existing land uses near the proposed offshore activities include:

- 1 • Recreation. The Bay is used for recreational purposes such as boating, sailing,  
2 and kayaking. The Bay is also used for fishing, especially for sturgeon and  
3 striped bass. Informal fishing access to the Bay occurs at the Project site.
- 4 • Outfalls. Three outfalls are located within the Project vicinity. Two of these storm  
5 water outfalls belong to the City and are located southwest of the Project site.  
6 The third outfall is a Rodeo Sanitary District treated sewage outfall located  
7 northwest of the Project site that extends approximately 4,700 feet into the Bay.
- 8 • Shipping Channels. A major navigable shipping channel that is extensively used  
9 for commercial and military shipping is located in the Bay. Deep water ship traffic  
10 bound for both the Port of Sacramento and the Port of Stockton traverses  
11 Carquinez Strait. The closest portion of the shipping channel is located  
12 approximately 5,500 feet from the western end of the subject pipeline proposed  
13 to be removed (ESA 2009).
- 14 • Dredged Material Disposal Sites. Three dredged material disposal sites in San  
15 Francisco Bay are located in the Carquinez Strait, Bay, and off of Alcatraz Island.  
16 Of these, the Carquinez Strait disposal site (SF-9) and the Bay disposal site (SF-  
17 10) are located near the Project area. Approximately 2 to 3 million cubic yards  
18 (mcy) of dredged material are disposed of annually at SF-9 and approximately  
19 0.5 mcy of dredged material are disposed of annually at SF-10 (ESA 2009).

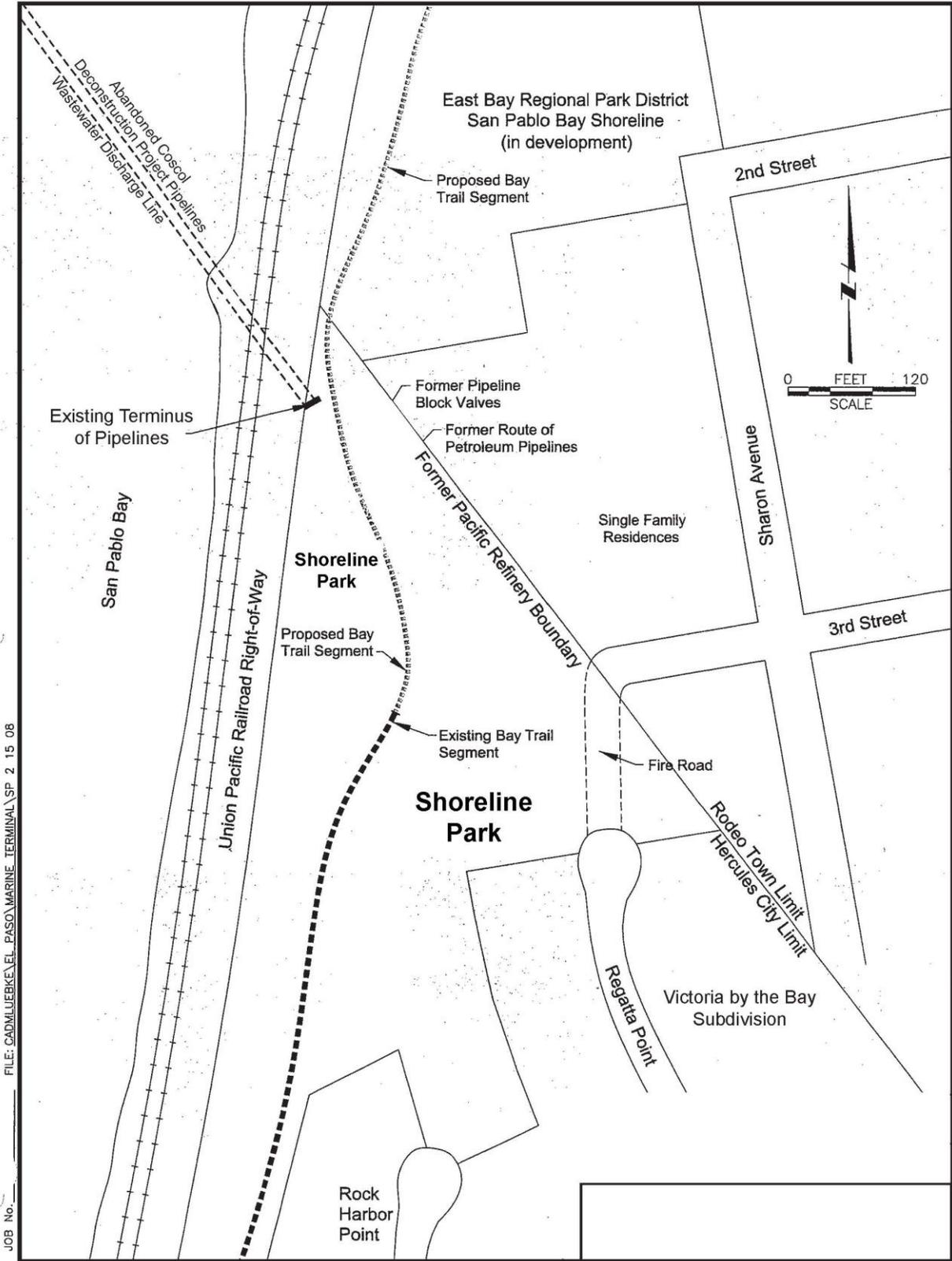
### 20 **2.3.2 Onshore**

21 Approximately 20 feet of the subject pipeline is located under riprap where the offshore  
22 portion of the pipeline meets the upland. This portion, which will be removed, is part of  
23 the CSLC lease area. Within the last 700 feet before the shoreline, the wastewater  
24 pipeline shares a 25-foot-wide common trench with the pipelines abandoned under the  
25 2010 Coscol Petroleum/El Paso Corporation Marine Terminal Deconstruction and  
26 Pipeline Abandonment Project (Coscol Project). The eastern end of the wastewater  
27 pipeline, which is located onshore, has been capped with a welded-in-place blind flange  
28 (Figure 2-1). The onshore portion of the pipeline is at an estimated depth of  
29 approximately 8 feet below the ground surface at its eastern terminus (ESA 2009). The  
30 land slopes down toward the shore, and existing information suggests that the pipeline  
31 is under several feet of cover/riprap west of the railroad tracks.

32 This pipeline passes under the riprap, UPRR ROW, and Shoreline Park, crossing  
33 underneath the proposed Bay Trail alignment within the Park as seen in Figure 2-1. The  
34 onshore portion of the pipeline, though in the City's jurisdiction (Figure 2-1), is part of  
35 the "whole of the action," as described in CEQA, and the CSLC must therefore describe  
36 this part of the Project, and must disclose and analyze potential effects. The onshore  
37 portion of the Project, as seen in Figure 2-1, is included in the New Pacific Properties  
38 Specific Plan (City of Hercules 2000).

1

Figure 2-1. Zoom-In of Shore Side Area



JOB No. FILE: CAD\MUEBKE\EL\_PASO\MARINE\_TERMINAL\SP 2 15 08

1 To the west of the proposed Project is the Bay. To the east and south are the Victoria  
 2 by the Bay Subdivision (Subdivision) and Shoreline Park (Park). To the north are private  
 3 residences in the town of Rodeo and the Bay Trail (Figure 2-1). Existing land uses near  
 4 the proposed onshore activities include:

- 5 • San Francisco Bay Trail. The Bay Trail is a planned recreational trail that, when  
 6 complete, will circle San Francisco and San Pablo Bays with 500 miles of hiking  
 7 and bicycle trails. Presently, approximately 330 miles of the Bay Trail are  
 8 complete (Association of Bay Area Governments [ABAG] 2013). The existing Bay  
 9 Trail near the Project area is operated and maintained by the East Bay Regional  
 10 Park District. The proposed Bay Trail alignment located to the north and in the  
 11 immediate vicinity of the wastewater pipeline consists of an unimproved trail  
 12 along the Bay shore to the northern portion of Park. The wastewater pipeline  
 13 extends landward perpendicular to the unimproved trail. Slightly south of the  
 14 pipeline, the Bay Trail is an improved walkway south along the shoreline of the  
 15 Bay.
- 16 • Union Pacific Railroad. The UPRR owns the parcel within the ROW that contains  
 17 two sets of tracks that are located along the shoreline. A portion of the Project's  
 18 onshore buried wastewater pipeline is within the UPRR ROW. All of the onshore  
 19 Project construction activities would be within the ROW and CSLC onshore  
 20 upland areas. Approximately 50 trains pass along the tracks per day (Lopeman  
 21 pers. comm. 2013). The railroad tracks are located between the Bay and Park.
- 22 • Victoria by the Bay Residential Subdivision. Located immediately adjacent to the  
 23 Project area is this 206-acre Subdivision, which was constructed in 2006, has  
 24 748 single-family homes, 132 multi-family units, more than 30 acres of parks and  
 25 designated open space, a commercial center, and an elementary school.

26 **2.4 PROJECT OVERVIEW**

27 The Applicant proposes to remove and cap and abandon-in-place segments of a non-  
 28 operational 8-inch-diameter wastewater pipeline. The 2,160-foot-long Project pipeline is  
 29 located on lands under the jurisdiction of the CSLC and City as shown below.

Pipeline section length (ft)	Location	Proposed activity	Jurisdiction
2,000	Offshore	Remove pipeline section and associated offshore diffusers	CSLC (Lease No. PRC 7985.1)
20	Onshore on shoreline	Remove pipeline section	
140	Onshore	Cap and abandon pipeline section in place	City of Hercules (within Assessor's Parcel Numbers 404-030-021 and 404-030-045)

1 The Applicant is seeking authorization from the CSLC to amend Lease No. PRC 7985.1  
2 to allow removal of the pipeline and to terminate the lease upon successful Project  
3 completion. The wastewater pipeline is approximately 2,160 feet long with  
4 approximately 2,000 feet extending into the Bay, and about 160 feet extending onto  
5 land (Figure 1-2 and Figure 1-3). The Project would require about 3 weeks of  
6 construction of which approximately 1 week would be for onshore construction and  
7 approximately 2 weeks would be for offshore construction. The Project work is  
8 described in detail in the next sections.

9 **Onshore Work.** The onshore work would consist of removing approximately 20 feet of  
10 onshore pipeline (under riprap) under CSLC jurisdiction, and grout and abandon in-place  
11 the remaining approximately 140 feet of wastewater pipeline under the UPRR ROW.  
12 The riprap would be temporarily relocated immediately adjacent to the pipeline, and the  
13 pipeline would be exposed to provide access for grouting activities. The riprap would  
14 then be replaced to cover the cut and capped end of the wastewater pipeline, resulting  
15 in a shoreline similar to existing conditions to continue protecting five pipelines  
16 abandoned from the Coscol Project (Figure 2-1). Disturbance is not anticipated to the  
17 surface of Park, existing or planned Bay Trail sections, or UPRR railroad tracks.

18 **Offshore Work.** The offshore work in the Bay would remove the entire offshore portion  
19 of pipeline (both the buried and exposed portions as seen in Figure 1-2), three diffusers,  
20 and three steel plates under CSLC jurisdiction. The removed items would be  
21 transported to a permitted and appropriate recycling or disposal facility.

## 22 **2.5 PROJECT CONSTRUCTION SCHEDULE, PERMITS, AND EQUIPMENT**

23 **Construction Schedule.** The Project is expected to be completed over an  
24 approximately 3-week period. Project-related activities would be performed between the  
25 hours of 7 AM to 5 PM on weekdays, unless extended work hours are approved by the  
26 City. No night work would be performed during the 3-week work period.

27 **Permits.** Prior to commencement of the Project, the Applicant must obtain permits and  
28 environmental reviews from applicable agencies as outlined in Section 1.7. All onshore  
29 and in-water construction would be conducted in compliance with regulatory permits,  
30 including scheduling of work during appropriate seasons/construction windows to  
31 minimize or avoid effects on sensitive biological resources. Work would be conducted  
32 within the environmental windows between June 1 and October 31 to avoid impacts to  
33 listed species. All staging, fueling, and maintenance would be conducted on the barge  
34 in compliance with U.S. Coast Guard (USCG) regulations.

35 **Equipment.** Equipment required to implement the Project consists of the following:

- 1 • A derrick barge equipped with two spuds and four anchors (spuds and anchors  
2 are controlled by deck-mounted winches) and electrical generator (only during  
3 the offshore pipeline work);
- 4 • A crane barge equipped with a crane and clamshell bucket, grout plant, grout  
5 pump and grout materials, mechanical pipe plugs, spuds and anchors (which  
6 would be controlled by deck-mounted winches), and electrical generator (only  
7 during the onshore pipeline work);
- 8 • A tug to maneuver the barges;
- 9 • A work skiff for general support;
- 10 • A crew boat to shuttle the crew and material to and from the barge;
- 11 • Diver support equipment; and
- 12 • Air compressor, welding equipment, and tools.

13 Vessels and equipment that rely on internal combustion engines for power and/or  
14 propulsion would be kept in good working condition, and compliant with California  
15 emission regulations. Regular equipment maintenance and installation of mufflers, as  
16 appropriate on construction equipment, would be required of the contractor(s) to  
17 minimize noise levels.

18 **Materials.** All hazardous materials would be staged at the contractor's shore-based  
19 facility and then transported to or from the barges or other vessels. The following  
20 materials may be required to carry out the Project:

- 21 • Diesel fuel;
- 22 • Gasoline to power the work skiff and small portable equipment;
- 23 • Compressed acetylene gas and other gases for metal cutting;
- 24 • Penetrating oil to lubricate corroded fittings;
- 25 • Lubricating oil and hydraulic oil;
- 26 • Grout for the pipeline;
- 27 • Marking paint;
- 28 • Batteries; and
- 29 • Oil spill booms and sorbent material (on-hand as a contingency).

30 Vessel fueling would be conducted at an approved fueling facility. No cross vessel  
31 fueling would be allowed. The marine vessels generally would contain petroleum  
32 products within tankage that is internal to the hulls of the vessels. All equipment would

1 use non-toxic biodegradable hydraulic fluid. All deck equipment would be equipped with  
2 drip pans to contain leaks and spills. All fuels and lubricants in containers or equipment  
3 aboard the work vessels would have a double containment system. Chemicals used on  
4 the marine vessels would be stored using secondary containment. A sufficient supply of  
5 absorbent booms and pads would be available onboard the working vessels and barges  
6 to recover any spilled hydrocarbon containing fluids or other hazardous liquids.

7 **Contractor's Shore-based Marine Facility.** Activities at the contractor's shore-based  
8 facility would include routine transportation and use of hazardous materials. All activities  
9 would occur under current permits; all applicable permits would be required by the  
10 Applicant contract. The Applicant has not currently selected a contractor to perform this  
11 Project. The selected contractor's shore-based marine facility would be used as a base  
12 for the contractor's equipment, barges, materials, and handling and transferring the  
13 pipeline sections from the barge to the trucks for offsite disposal. Based on a list of  
14 companies provided by the Applicant that have expressed interest in bidding on the  
15 Project, the marine facility would likely be located at one of the existing permitted  
16 commercial/industrial facilities listed below:

- 17 • C.S. Marine Constructors, Inc. has an available shore facility at Mare Island at  
18 425 15th Street, Mare Island Berth 19, Vallejo; and
- 19 • Power Engineering Construction has an available shore facility at the former  
20 Naval Air Station in Alameda.

## 21 **2.6 WASTEWATER PIPELINE REMOVAL WORK DESCRIPTION**

22 The following sections present a detailed description of the proposed Project equipment  
23 use and construction work, both onshore (Section 2.6.1) and offshore (Section 2.6.2).

### 24 **2.6.1 Onshore Portion of the Pipeline Removal Work**

25 Onshore work would occur on land owned by the CSLC and in the UPRR ROW. All of  
26 the pipeline on the CSLC property would be removed, with the remaining section of  
27 onshore pipeline abandoned in place. Temporarily removed riprap would be placed to  
28 cover the cut and capped end of the wastewater pipeline to result in a shoreline similar  
29 to existing conditions (Figure 2-1).

30 **Expected Equipment Use.** The onshore work would be done from the water. A tugboat  
31 would position a crane barge (a shallow draft barge with a crane) close to the shore  
32 during high tide, and the barge would remain in place for the duration of the onshore  
33 work. The barge would be mobilized to the work location from the contractor's shore-  
34 based marine facility. When feasible, the barge would use spuds to secure its position.

1 The spuds would minimize anchoring and disturbance to the surrounding sediments.  
2 During low tides the barge may rest on the sediment surface until the rising tide.

3 The barge would have a five- to seven-person crew and the tugboat would have a two-  
4 person crew. A crew boat would ferry key personnel to and from the barge, while a  
5 tugboat, working skiff, or the crew boat would bring materials to the barge as needed.  
6 The barge would be located close to the shore, and other personnel would access the  
7 barge via a gangway from the land. (The personnel gangway would be hauled onto the  
8 barge every night for security purposes (i.e., to prevent unauthorized access)). This  
9 approach would reduce crew boat use and enhance personnel safety by minimizing  
10 crossings of the railroad tracks. Trips would be minimized and vessel speeds in this  
11 area would be limited to no-wake to further minimize disturbance to fish and sediments  
12 in the immediate vicinity.

13 **Construction Work.** Onshore work would occur from the water over an approximately  
14 5-day period, using a four-step process, as follows.

- 15 1. A small area of riprap (30 feet long x 10 feet wide x 5 feet deep) on the west side  
16 of the railroad tracks between the railroad track ballast and the Bay would be  
17 removed to expose the pipeline.
- 18 2. The exposed section of pipeline, and if necessary the pipeline sleeve, would be  
19 cut at or near the mudline and near the top of the embankment where the  
20 pipeline extends onto the UPRR ROW (outside of the CSLC's jurisdiction); the  
21 cut section will be removed.
- 22 3. The wastewater pipeline in the sleeve below the railroad tracks and extending to  
23 the wastewater pipeline's end in the Park would be grouted and left in place; the  
24 sleeve surrounding the pipeline would be grouted as well.
- 25 4. The riprap would be replaced along the shoreline (on both UPRR and CSLC  
26 properties) to continue to protect the previously abandoned pipelines from the  
27 Coscol Project (see Figure 2-1). Best management practices (BMPs) would be  
28 employed to prevent sediment, grout or other construction materials from  
29 entering the Bay (see Section 2.6.1.3 below).

30 The onshore work would occur in 10-hour shifts from approximately 7 AM to 5 PM  
31 during the weekdays to comply with the city of Hercules noise ordinance unless  
32 extended work hours are approved by the City. There would be no work at night or any  
33 lights or noise from the barge once the work has shut down each day, other than safety-  
34 related lighting required to comply with USCG regulations.

35 Although little dust is expected from the onshore work, applicable dust-control measures  
36 described in the Bay Area Air Quality Management District CEQA Guidelines (BAAQMD

1 1999) will be implemented to minimize construction-related dust. These practices could  
2 include watering active construction areas daily if shoreline materials are dry (trails  
3 would not be watered) and ensuring that grout is mixed in a wind-protected environment  
4 and in a manner that minimizes dust generation. BMPs would also be implemented to  
5 avoid potential erosion, including scheduling Project work to avoid storm events,  
6 protection of any stockpiled material, and limiting the exposed area of soils.

#### 7 **2.6.1.1 Riprap Removal**

8 The crane on the crane barge would be used to access the riprap area on the Bay  
9 (west) side of the railroad tracks. The crane would use a clamshell bucket to temporarily  
10 remove the riprap, stockpile it atop other riprap, and, after completion of the grouting,  
11 replace the riprap to cover the cut and capped end of the pipeline. The volume of rock  
12 to be relocated would be approximately 55 cubic yards (30 feet long x 10 feet wide x  
13 5 feet deep). Authorization would be obtained from UPRR before the start of work.

#### 14 **2.6.1.2 Wastewater Pipeline Cut and Removal**

15 Once the pipeline is exposed by removal of the riprap, it would be cut at or near the  
16 mudline and near the top of the embankment where it extends into the UPRR ROW.  
17 The cut section of the pipeline may include a short section of the steel casing sleeve.  
18 The pipe would be cut using an oxy-acetylene torch, using an approximately three- to  
19 four-person crew as needed to safely complete the work. The estimated duration of the  
20 work is 1 day. This work would occur within the UPRR ROW.

21 The cut section(s) would be lifted out and placed on the barge for transport to the  
22 contractor's shore-based facility where it would be loaded onto a truck for transport to  
23 an appropriate recycling and/or disposal facility.

#### 24 **2.6.1.3 Wastewater Pipeline Left in Place**

25 The remaining pipeline between the top of the embankment and the end of the pipe  
26 beneath the Park would be grouted, capped, and left in place. The sleeve surrounding  
27 the pipeline would also be grouted. Operations would be confirmed with UPRR prior to  
28 commencing activities.

29 The grouting operation would be based on the barge. Support activities would also be  
30 primarily located on the barge. The pipeline would be grouted by inserting a tremie pipe  
31 horizontally into the line at its western terminus. Grout would then be pumped into the  
32 pipeline, working from the capped eastern terminus back to the western end of the  
33 pipeline. After completion, the western end of the pipeline would be capped. The only  
34 onshore activities that would be required to conduct this work would consist of having

1 several workers present to insert the tremie pipe into the remnant wastewater pipe.  
2 Grouting of the pipeline is expected to take less than 1 day.

3 A Grout Management Plan and BMPs would be employed so that no grout or other  
4 materials are discharged into the Bay. All grouting equipment would be staged on the  
5 deck of the barge inside spill guards. Watertight portable tanks would be used to contain  
6 and transport washout water. Tremie methods would be used to place all grout so that  
7 placement can be monitored and controlled. Grout hoses and fittings would be in new or  
8 like-new condition, and would be visually inspected prior to use. Grout mix would be  
9 pre-mixed in super sacks and stored on the barge. Any spills of dry mix would be  
10 cleaned up with shovel and broom (i.e., no water would be used). Secondary  
11 containment would be used under Tremie hose connections. Any debris or excess  
12 grouting material would be removed from the site and recycled or disposed of at an  
13 appropriate facility.

#### 14 **2.6.1.4 Riprap Replacement**

15 Upon completion of the onshore pipeline removal and grouting, the stockpiled riprap  
16 rock would be placed back into position with the clamshell bucket. It is anticipated that  
17 the clean stockpiled riprap would be sufficient to cover the area, and no import of new  
18 riprap is proposed. The riprap would be placed to cover the cut and capped end of the  
19 wastewater pipeline and result in a shoreline similar to existing conditions.

#### 20 **2.6.2 Pipeline Removal in San Pablo Bay (CSLC Jurisdiction)**

21 **Expected Equipment Use.** A derrick barge and a tugboat would be used to remove the  
22 portion of the wastewater pipeline located in the Bay. This would include the  
23 approximately 2,000 linear feet of pipeline, three diffusers, and the three steel plates  
24 that secure the pipeline near the diffusers. The barge would have a five-to seven-person  
25 crew plus three divers when necessary, and the tugboat would have a two-person crew.  
26 The barge would be equipped with two spuds and four anchors, which would be  
27 controlled by deck-mounted winches. The spuds and anchors would be deployed to  
28 minimize the disturbance of sediment (e.g., not dragging anchors along the seafloor).  
29 Only spuds would be used, unless currents and/or wind require the use of anchors, in  
30 which case both spuds and anchor(s) could be used simultaneously. The need for  
31 spuds and/or anchor would depend on the need to move or hold position. The anchors  
32 would be deployed and recovered with the use of a tugboat. All these operations are  
33 typical of marine industry standards in the San Francisco Bay Area.

34 **Construction Work.** Pipeline removal in the Bay is expected to require approximately 2  
35 weeks. Approximately 150 to 200 feet of pipeline would be removed each day. The work  
36 would occur in 10 hour shifts from approximately 7 AM to 5 PM during weekdays. Work

1 during the daylight hours without the use of lights would minimize disturbance to fish,  
2 other wildlife, and the public in the Project vicinity. There would be no work at night or  
3 any lights or noise from the vessel once the work has shut down each day, other than  
4 navigational safety lighting required by USCG regulations.

5 Pipeline removal would begin at the western end (diffusers) of the pipeline,  
6 approximately 2,000 feet offshore (Figure 1-2). Divers would attach straps and lines to  
7 the end of the pipeline, and a barge-mounted winch would slowly lift the pipeline up  
8 through the sediment and water onto the barge. The lifting operation would be  
9 conducted at a slow rate so that the small amount of sediment over the submerged  
10 portions of the pipeline would resettle with minimal disruption. Because the pipeline is  
11 approximately 8 inches in diameter and the surrounding sediment is soft and loose (not  
12 significantly consolidated), the pipeline would be expected to move readily through the  
13 sediment to the surface. As the pipeline moves through the mud, the sediment would  
14 fall in on the void below.

15 Localized turbidity would occur temporarily as each segment of the pipeline is raised.  
16 Sediment would only be resuspended at the point where the pipeline is pulled above the  
17 top of the sediment into the water because the pipeline will be slowly lifted from the  
18 sediment and through water column. It is anticipated that only the top foot of the  
19 sediment would be disturbed as the pipeline is lifted and turbidity would be minimal at  
20 the point of extraction. No dredging or water-jetting of the Bay floor is planned in  
21 connection with the removal process. In shallower depths, the barge would sit on the  
22 bottom during low tides, and would remain in place until sufficient water depth is  
23 available to lift the barge off the bottom. The footprint of the area potentially affected by  
24 the removal of the pipeline is the extent of the pipeline and approximately 10 feet on  
25 either side of the pipeline (approximately 40,000 square feet/0.92 acre).

26 The wastewater pipeline would be pulled onto the barge. The recovered pipe length for  
27 each segment that is pulled up would be determined by the final contracted barge  
28 capacity but is anticipated to be no more than approximately 50 feet in length. Once a  
29 section of the pipeline has been extracted and placed on the barge, divers and barge  
30 personnel would secure the pipeline so that it can be cut. The pipeline would be cut with  
31 oxy-acetylene torches or mechanical shears. The cut portions of the pipeline would be  
32 stored on the barge. This procedure would continue shoreward with lifting pipeline,  
33 attaching it to the barge, and cutting sections. Due to the shallow water depth near  
34 shore, the last portion of the pipeline may be pulled from the shore toward the barge.

35 Once sufficient sections of pipeline are lifted and cut, the barge would transport the  
36 sections to the contractor's shore-based marine facility (the contractor's permanent  
37 base of operations). The barge would have the capacity to accumulate and then  
38 transport twenty 50-foot sections. The entire Project would therefore require two barge

1 trips to haul the cut sections to the contractor's shore-based facility. The pipeline  
2 sections and any debris would be offloaded from the barge, the coatings would be  
3 removed as necessary, and the pipe sections would be loaded onto trucks for recycling  
4 and/or proper disposal. Any pre-recycling or pre-disposal testing of the pipeline required  
5 by the recycling/disposal facility would occur once the pipeline is on the barge or  
6 onshore at the contractor's shore-based facility.

7 Assuming the pipe weighs approximately 30 pounds per foot, and the average truckload  
8 can accommodate 15 tons, two trucks could accept the entire weight of the pipeline.  
9 However, the actual number of trips required would be based on the number of pipe  
10 sections (volume) each truck could transport. Assuming conservatively that each truck  
11 could transport twenty 50-foot sections, five truck trips would be required to transport  
12 the 2,000 feet of pipeline, plus the 20-foot section removed from underneath the riprap.

13 A crew boat would ferry personnel to and from the barge. A tugboat would bring in a  
14 secondary barge and materials as needed. Trips would be minimized and vessel  
15 speeds in this area would be limited to slow and "no-wake" speed to minimize the  
16 disturbance to fish in the immediate vicinity.

#### 17 **2.6.2.1 Project Construction Plans**

18 As noted in Section 1.7, the contractor would be required to prepare numerous plans to  
19 ensure the construction work is carried out in a safe and environmentally sound  
20 manner. The plans and other documentation that would be prepared are briefly  
21 described below. For both the onshore and offshore portions of the Project spuds would  
22 be used to affix the barges in place and reduce the need for anchoring. The contractor  
23 would be required to minimize anchoring and disturbance to the surrounding sediments.  
24 If anchoring is deemed necessary due to wind or current conditions, anchoring practices  
25 would follow the Anchoring Plan to minimize near shore and offshore disturbance. The  
26 Anchoring Plan would require that the use of mooring anchors by vessels and barges  
27 be minimized. The anchoring plan would further specify that if mooring anchors must be  
28 used, then a work skiff would be used to deploy and retrieve the anchors and that the  
29 anchors would not be dragged along the seafloor.

#### 30 **Construction Work Plan**

31 The Construction Work Plan would be prepared by the Applicant or its contractor and  
32 approved by CSLC staff prior to pipeline removal. It is standard industry practice to  
33 require specific safety, communication, and environmental control plans to ensure safe  
34 work practices and to limit liability and indemnification under contracting and insurance  
35 requirements for maritime construction. Contracting requirements specify that the  
36 contractor is responsible for furnishing all materials, labor, tools, equipment,

1 supervision, and quality control (QC) procedures necessary to conduct construction  
2 activities. The contractor shall also provide for and conduct all necessary BMPs, as  
3 defined in the contract, during the work in order to comply with permit conditions and to  
4 avoid or minimize potential environmental impacts. Standard plans that are required  
5 would include the following components:

- 6 • Barge and Shore Base Hazardous Materials Inventory,
- 7 • Hazardous Materials Management Plan,
- 8 • Oil Spill Prevention and Response Plan,
- 9 • Grout Management Plan,
- 10 • Marine Safety Plan,
- 11 • Debris Removal Plan,
- 12 • Rigging and Lifting Plan,
- 13 • Marine Communication Plan,
- 14 • Marine Transportation Plan,
- 15 • Navigation Marking and Lighting Plan, and
- 16 • Anchoring Plan.

17  
18 With the exception of the Oil Spill Prevention and Response Plan and the Grout  
19 Management Plan, all plans listed above are routine part of planning a project involving  
20 construction in the Bay. The proposed contents of the Oil Spill Prevention and  
21 Response Plan and the Grout Management Plan are summarized below.

## 22 **Oil Spill Prevention and Response Plan**

23 Prior to the start of project work, the Applicant will develop and submit to the CSLC staff  
24 an Oil Spill Prevention and Response Plan to minimize the potential for accidental  
25 releases of fluids such as hydraulic fluids, solvents, oils, and residual fluids from marine  
26 vessels. Onshore activities are subject to spill prevention, control, and countermeasure  
27 (SPCC) regulations in 40 Code of Federal Regulations (CFR) Part 112; if the  
28 contractor's shore-based facility typically stores petroleum products above threshold  
29 amounts, the facility would be required to have an SPCC plan.

## 30 **Grout Management Plan**

31 Prior to the start of activities, Applicant would provide a Grout Management Plan to the  
32 CSLC staff to prevent the loss of grout, in all forms, to the environment and ensure the  
33 removal of any residual cured grout from the ground surface. It would also address the  
34 handling of dry grout, mixing, pumping, and disposition of excess and residual material.  
35 The Grout Management Plan will include measures to be implemented by the Applicant  
36 to reduce the potential for release of grout, in all forms, to the environment.

THIS PAGE INTENTIONALLY LEFT BLANK

1 **3.0 ENVIRONMENTAL ANALYSIS AND CHECKLIST**

---

2 This section contains the Initial Study (IS) that was completed for the proposed  
3 Hercules LLC/Prologis (Applicant) Hercules Pipeline Removal Project (Project) in  
4 accordance with the requirements of the California Environmental Quality Act (CEQA).  
5 The IS identifies site-specific conditions and impacts, evaluates their potential  
6 significance, and discusses ways to avoid or lessen impacts that may be potentially  
7 significant. The information, analysis, and conclusions included in the IS provide the  
8 basis for determining the appropriate document needed to comply with CEQA. For the  
9 Project, based on the analysis and information contained herein, the California State  
10 Lands Commission (CSLC) has found that the IS shows that there is substantial  
11 evidence that the Project may have a significant effect on the environment but revisions  
12 to the Project would avoid the effects or mitigate the effects to a point where clearly no  
13 significant effect on the environment would occur. As a result, the CSLC has concluded  
14 that a Mitigated Negative Declaration (MND) is the appropriate CEQA document for the  
15 Project.

16 The evaluation of environmental impacts provided in this IS is based in part on the  
17 environmental impact questions contained in the Appendix G of the State CEQA  
18 Guidelines; these questions, which are included in an impact assessment matrix for  
19 each environmental category (Aesthetics, Agriculture and Forest Resources, Air Quality,  
20 Biological Resources, Cultural Resources, etc.), are “intended to encourage thoughtful  
21 assessment of impacts.” Each question is followed by a check-marked box with column  
22 headings that are defined below.

- 23 • **Potentially Significant Impact.** This column is checked if there is substantial  
24 evidence that a Project-related environmental effect may be significant. If there  
25 are one or more “Potentially Significant Impacts,” a Project Environmental Impact  
26 Report (EIR) would be prepared.
- 27 • **Less than Significant with Mitigation.** This column is checked when the  
28 Project may result in a significant environmental impact, but the incorporation of  
29 identified Project revisions or mitigation measures would reduce the identified  
30 effect(s) to a less than significant level.
- 31 • **Less than Significant Impact.** This column is checked when the Project would  
32 not result in any significant effects. The Project’s impact is less than significant  
33 even without the incorporation of Project-specific mitigation measures.
- 34 • **No Impact.** This column is checked when the Project would not result in any  
35 impact in the category or the category does not apply.

36 The environmental factors checked below would be potentially affected by this Project;  
37 a checked box indicates that at least one impact would be a “Potentially Significant

1 Impact” except that the Applicant has agreed to Project revisions, including the  
 2 implementation of mitigation measures, that reduce the impact to “Less than Significant  
 3 with Mitigation.”

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture and Forest Resources	<input type="checkbox"/> Air Quality/Greenhouse Gas Emissions
<input checked="" type="checkbox"/> Biological Resources	<input type="checkbox"/> Cultural Resources	<input type="checkbox"/> Geology and Soils
<input checked="" type="checkbox"/> Hazards and Hazardous Materials	<input checked="" type="checkbox"/> Hydrology and Water Quality	<input type="checkbox"/> Land Use and Planning
<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Noise	<input type="checkbox"/> Population and Housing
<input type="checkbox"/> Public Services	<input type="checkbox"/> Recreation	<input checked="" type="checkbox"/> Transportation/Traffic
<input type="checkbox"/> Utilities and Service Systems	<input type="checkbox"/> Mandatory Findings of Significance	

4 Detailed descriptions and analyses of impacts from Project activities and the basis for  
 5 their significance determinations are provided for each environmental factor on the  
 6 following pages, beginning with Section 3.1, Aesthetics. Relevant laws, regulations, and  
 7 policies potentially applicable to the Project are listed in the Regulatory Setting for each  
 8 environmental factor analyzed in this IS and in Table 3-1.

9 **AGENCY DETERMINATION**

10 Based on the environmental impact analysis provided by this Initial Study:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

11 \_\_\_\_\_  
 12 Signature  
 13 Jennifer DeLeon  
 14 Division of Environmental Planning and Management  
 California State Lands Commission

\_\_\_\_\_  
 Date

1 **Table 3-1. Federal (U.S.) and State (CA) Laws, Regulations, and Policies**  
 2 **Potentially Applicable to the Project**

<b>Multiple Environmental Issue Areas</b>		
CA	The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The CSLC also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6301, 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the Common Law Public Trust. As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the U.S. in 1850. The State holds these lands for the benefit of all people of the State for statewide Public Trust purposes, which include but are not limited to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation and open space. On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line, except for areas of fill or artificial accretion.	
CA	McAteer-Petris Act	The McAteer-Petris Act created the San Francisco Bay Conservation and Development Commission (BCDC), which is responsible for the regulation of development for the San Francisco Bay portion of the Coastal Zone. Any filling, dredging or development within BCDC's jurisdiction which is approximately 100 feet of the Bay requires a BCDC permit.
CA	San Francisco Bay Plan	The Bay Plan provides BCDC policies on Appearance, Design, and Scenic Views around the Bay. Several of these policies are to ensure and maintain the visual quality around the Bay.
<b>3.1 Aesthetics</b>		
U.S.	None applicable.	
CA	California Scenic Highway Program	The California Scenic Highway Program, managed by the California Department of Transportation, was created to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. State highways identified as scenic, or eligible for designation, are listed in California Streets and Highways Code § 260 et seq.
<b>3.2 Agriculture and Forest Resources (NONE APPLICABLE)</b>		
U.S.	None applicable.	
CA	Williamson Act (Gov. Code §§ 51200-51207)	This Act enables local governments to enter into contracts with private landowners to restrict specific parcels of land to agricultural or related open space use, and provides landowners with lower property tax assessments in return. Local government planning departments are responsible for the enrollment of land into Williamson Act contracts. Generally, any commercial agricultural use would be permitted within any agricultural preserve. In addition, local governments may identify compatible uses permitted with a use permit.
<b>3.3 Air Quality and Greenhouse Gas Emissions</b>		
CA	Federal Clean Air Act (FCAA) (42 USC 7401 et seq.)	The FCAA requires the U.S. Environmental Protection Agency (USEPA) to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. National standards are established for ozone (O <sub>3</sub> ), carbon monoxide (CO), nitrogen dioxide (NO <sub>2</sub> ), sulfur dioxide (SO <sub>2</sub> ), particulate matter (PM <sub>10</sub> and PM <sub>2.5</sub> ), and lead (Pb). In 2007, the U.S. Supreme Court ruled that carbon dioxide (CO <sub>2</sub> ) is an air pollutant as defined under the FCAA, and that the USEPA has authority to regulate GHG emissions. Pursuant to the 1990 FCAA Amendments, USEPA classifies air basins (or portions thereof) as in "attainment" or "nonattainment" for each criteria air pollutant, based on whether or not the NAAQS are achieved. The classification is determined by comparing monitoring data with State and Federal standards. <ul style="list-style-type: none"> <li>An area is classified as in "attainment" for a pollutant if the pollutant concentration is lower than the standard. An area is classified as in "nonattainment" for a pollutant if the pollutant concentration exceeds the</li> </ul>

		<p>standard.</p> <ul style="list-style-type: none"> <li>An area is designated “unclassified” for a pollutant if there are not enough data available for comparisons.</li> </ul>
CA	California Clean Air Act of 1988 (CCAA) (Assembly Bill [AB] 2595)	The CCAA requires all air districts in the State to endeavor to achieve and maintain State ambient air quality standards for O <sub>3</sub> , CO, SO <sub>2</sub> , NO <sub>2</sub> , and PM; attainment plans for areas that did not demonstrate attainment of State standards until after 1997 must specify emission reduction strategies and meet milestones to implement emission controls and achieve more healthful air quality. California's ambient air standards are generally stricter than national standards for the same pollutants; the State has also established standards for sulfates, hydrogen sulfide (H <sub>2</sub> S), vinyl chloride, and visibility-reducing particles. The 1992 CCAA Amendments divide O <sub>3</sub> nonattainment areas into four categories of pollutant levels (moderate, serious, severe, and extreme) to which progressively more stringent requirements apply.
CA	California Global Warming Solutions Act of 2006 (AB 32)	Under Assembly Bill [AB] 32, CARB is responsible for monitoring and reducing GHG emissions in the State and for establishing a statewide GHG emissions cap for 2020 that is based on 1990 emissions levels. CARB (2009) has adopted the AB 32 Climate Change Scoping Plan (Scoping Plan), which contains the main strategies for California to implement to reduce CO <sub>2</sub> equivalent (CO <sub>2</sub> e) emissions by 169 million metric tons (MMT) from the State's projected 2020 emissions level of 596 MMT CO <sub>2</sub> e under a business-as-usual scenario. The Scoping Plan breaks down the amount of GHG emissions reductions the CARB recommends for each emissions sector of the State's GHG inventory, but does not directly discuss GHG emissions generated by construction activities.
CA	Senate Bill (SB) 97 and 375	<ul style="list-style-type: none"> <li>Pursuant to SB 97, the State Office of Planning and Research prepared and the Natural Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. Effective as of March 2010, the revisions to the CEQA Environmental Checklist Form (Appendix G) and the Energy Conservation Appendix (Appendix F) provide a framework to address global climate change impacts in the CEQA process; State CEQA Guidelines section 15064.4 was also added to provide an approach to assessing impacts from GHGs.</li> <li>SB 375 (effective January 1, 2009) requires CARB to develop regional reduction targets for GHG emissions, and prompted the creation of regional land use and transportation plans to reduce emissions from passenger vehicle use throughout the State. The targets apply to the regions covered by California's 18 metropolitan planning organizations (MPOs). The 18 MPOs must develop regional land use and transportation plans and demonstrate an ability to attain the proposed reduction targets by 2020 and 2035.</li> </ul>
CA	Executive Orders (EOs)	<ul style="list-style-type: none"> <li>Under EO S-01-07, which set forth a low carbon fuel standard for California, the carbon intensity of California's transportations fuels is to be reduced by at least 10 percent by 2020.</li> <li>EO S-3-05 established statewide GHG emission targets of reducing emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below the 1990 level by 2050.</li> </ul>
CA	Other	<ul style="list-style-type: none"> <li>Under California's Diesel Fuel Regulations, diesel fuel used in motor vehicles, except harbor craft, has been limited to 500 parts per million (ppm) sulfur since 1993. The sulfur limit was reduced to 15 ppm beginning September 1, 2006, and harbor craft were included starting in 2009.</li> <li>CARB's Heavy Duty Diesel Truck Idling Rule (Cal. Code Regs., tit. 13, § 2485) prohibits heavy-duty diesel trucks from idling for longer than 5 minutes at a time. Truck idling for longer than 5 minutes while queuing is allowed, however, provided the queue is located beyond 100 feet (30 meters) from any homes or schools.</li> <li>The Statewide Portable Equipment Registration Program (PERP) establishes</li> </ul>

		a uniform program to regulate portable engines/engine-driven equipment units. Once registered in the PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts.
<b>3.4 Biology</b>		
U.S.	Endangered Species Act (FESA) (7 USC 136, 16 USC 1531 et seq.)	<p>The FESA, which is administered in California by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), provides protection to species listed as threatened or endangered, or proposed for listing as threatened or endangered. Section 9 prohibits the “take” of any member of a listed species.</p> <ul style="list-style-type: none"> <li>• Take is defined as “...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”</li> <li>• Harass is “an intentional or negligent act or omission that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns that include, but are not limited to, breeding, feeding, or sheltering.”</li> <li>• Harm is defined as “...significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering.”</li> </ul> <p>When applicants are proposing projects with a Federal nexus that “may affect” a federally listed or proposed species, the Federal agency is required to consult with the USFWS or NMFS, as appropriate, under Section 7, which provides that each Federal agency must ensure that any actions authorized, funded, or carried out by the agency are not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of areas determined to be critical habitat.</p>
U.S.	Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 USC 1801 et seq.)	<p>The MSA is the primary law governing marine fisheries management in U.S. Federal waters. The MSA was first enacted in 1976 and amended in 1996. Amendments to the 1996 MSA require the identification of Essential Fish Habitat (EFH) for federally managed species and the implementation of measures to conserve and enhance this habitat. Any project requiring Federal authorization, such as a USACE permit, is required to complete and submit an EFH Assessment with the application and either show that no significant impacts to the essential habitat of managed species are expected or identify mitigations to reduce those impacts. Under the MSA, Congress defined EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (16 USC 1802(10)). The EFH provisions of the MSA offer resource managers a means to heighten consideration of fish habitat in resource management. Pursuant to section 305(b)(2), Federal agencies shall consult with the NMFS regarding any action they authorize, fund, or undertake that might adversely affect EFH.</p>
U.S.	Marine Mammal Protection Act (MMPA) (16 USC 1361 et seq.)	<p>The MMPA is designed to protect and conserve marine mammals and their habitats. It prohibits takes of all marine mammals in the U.S. (including territorial seas) with few exceptions. The NMFS may issue a take permit under section 104 if the activities are consistent with the purposes of the MMPA and applicable regulations at 50 CFR, Part 216. The NMFS must also find that the manner of taking is “humane” as defined in the MMPA. If lethal taking of a marine mammal is requested, the applicant must demonstrate that using a non-lethal method is not feasible.</p>
U.S.	Migratory Bird Treaty Act (MBTA) (16 USC 703-712)	<p>The MBTA was enacted to ensure the protection of shared migratory bird resources. The MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase, or barter, of any migratory bird, their eggs, parts, and nests, except as authorized under a valid permit. The responsibilities of Federal agencies to protect migratory birds are set forth in EO 13186. The USFWS is the lead agency for migratory birds. The</p>

		USFWS issues permits for takes of migratory birds for activities such as scientific research, education, and depredation control, but does not issue permits for incidental take of migratory birds.
U.S.	Other	<ul style="list-style-type: none"> <li>• The Bald and Golden Eagle Protection Act makes it illegal to import, export, take (including molest or disturb), sell, purchase or barter any bald eagle or golden eagle or parts thereof.</li> <li>• Clean Water Act (33 USC 1251 et seq.) (See 3.3.8, Hydrology and Water Quality)</li> <li>• Executive Order 13112 requires Federal agencies to use authorities to prevent introduction of invasive species, respond to and control invasions in a cost-effective and environmentally sound manner, and to provide for restoration of native species and habitat conditions in ecosystems that have been invaded.</li> <li>• Executive Order 13158 requires Federal agencies to (1) identify actions that affect natural or cultural resources that are within a Marine Protected Area (MPA); and (2) in taking such actions, to avoid harm to the natural and cultural resources that are protected by a MPA.</li> <li>• Rivers and Harbors Act (33 USC 401) (See 3.3.8, Hydrology and Water Quality)</li> </ul>
CA	California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.)	The CESA provides for the protection of rare, threatened, and endangered plants and animals, as recognized by the California Department of Fish and Wildlife (CDFW), and prohibits the taking of such species without its authorization. Furthermore, the CESA provides protection for those species that are designated as candidates for threatened or endangered listings. Under the CESA, the CDFW has the responsibility for maintaining a list of threatened species and endangered species (Fish & G. Code, § 2070). The CDFW also maintains a list of candidate species, which are species that the CDFW has formally noticed as under review for addition to the threatened or endangered species lists. The CDFW also maintains lists of Species of Special Concern that serve as watch lists. Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present in the project site and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may affect a candidate species. The CESA also requires a permit to take a State-listed species through incidental or otherwise lawful activities (§ 2081, subd. (b)).
CA	California Marine Life Protection Act (MLPA) (Fish & G. Code, §§ 2850–2863)	Passed by the State Legislature in 1999, the MLPA required the CDFW to redesign its system of MPAs to increase its coherence and effectiveness at protecting the state's marine life, habitats, and ecosystems. For the purposes of MPA planning, a public-private partnership commonly referred to as the MLPA Initiative was established, and the State was split into five distinct regions (four coastal and the San Francisco Bay) each of which had its own MPA planning process. All four coastal regions have completed these individual planning processes. As a result the coastal portion of California's MPA network is now in effect statewide. Options for a planning process in the San Francisco Bay have been developed for consideration at a future date.
CA	Other relevant California Fish and Game Code sections	<ul style="list-style-type: none"> <li>• The California Native Plant Protection Act (Fish &amp; G. Code, § 1900 et seq.) is intended to preserve, protect, and enhance endangered or rare native plants in California. This Act includes provisions that prohibit the taking of listed rare or endangered plants from the wild and a salvage requirement for landowners. The Act directs the CDFW to establish criteria for determining what native plants are rare or endangered. Under section 1901, a species is endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more causes. A species is rare when, although not threatened with immediate extinction, it is in such small numbers throughout its range that it may become endangered.</li> </ul>

		<ul style="list-style-type: none"> <li>• The California Species Preservation Act (Fish &amp; G. Code §§ 900-903) provides for the protection and enhancement of the amphibians, birds, fish, mammals, and reptiles of California.</li> <li>• Fish and Game Code sections 3503 &amp; 3503.5 prohibit the taking and possession of native birds' nests and eggs from all forms of needless take. These regulations also provide that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nests or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto.</li> <li>• Fish and Game Code sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), &amp; 5515 (fish) designate certain species as "fully protected." Fully protected species, or parts thereof, may not be taken or possessed at any time without permission by the CDFW.</li> <li>• Fish and Game Code section 3513 does not include statutory or regulatory mechanism for obtaining an incidental take permit for the loss of non-game, migratory birds.</li> </ul>
CA	California Native Plant Protection Act (Fish & G. Code, § 1900 et seq.)	This Act is intended to preserve, protect, and enhance endangered or rare native plants in California. This Act includes provisions that prohibit the taking of listed rare or endangered plants from the wild and a salvage requirement for landowners. The Act directs the CDFW to establish criteria for determining what native plants are rare or endangered. Under section 1901, a species is endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more causes. A species is rare when, although not threatened with immediate extinction, it is in such small numbers throughout its range that it may become endangered.
<b>3.5 Cultural Resources</b>		
U.S.	Archaeological Resources Protection Act (ARPA)	<p>The ARPA states that archaeological resources on public or Indian lands are an accessible and irreplaceable part of the nation's heritage and:</p> <ul style="list-style-type: none"> <li>• Establishes protection for archaeological resources to prevent loss and destruction due to uncontrolled excavations and pillaging;</li> <li>• Encourages increased cooperation and exchange of information between government authorities, the professional archaeological community, and private individuals having collections of archaeological resources prior to the enactment of this Act;</li> <li>• Establishes permit procedures to permit excavation or removal of archaeological resources (and associated activities) located on public or Indian land; and</li> <li>• Defines excavation, removal, damage, or other alteration or defacing of archaeological resources as a "prohibited act" and provides for criminal and monetary rewards to be paid to individuals furnishing information leading to the finding of a civil violation or conviction of a criminal violator.</li> </ul> <p>ARPA has both enforcement and permitting components. The enforcement provision provides for the imposition of both criminal and civil penalties against violators of the Act. The ARPA's permitting component allows for recovery of certain artifacts consistent with the standards and requirements of the National Park Service (NPS) Federal Archeology Program.</p>
U.S.	National Historic Preservation Act (NHPA) (16 USC 470 et seq.)	This applies only to Federal undertakings. Archaeological resources are protected through the NHPA, as amended, and its implementing regulation, Protection of Historic Properties (36 CFR 800), the AHPA, and the ARPA. This Act presents a general policy of supporting and encouraging the preservation of prehistoric and historic resources for present and future generations by directing Federal agencies to assume responsibility for considering the historic resources in their activities. The State implements the NHPA through its statewide comprehensive cultural resource surveys and preservation programs. The California Office of Historic Preservation (OHP), within the California Department

		of Parks and Recreation, implements the policies of the NHPA on a statewide level and advises Federal agencies regarding potential effects on historic properties. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the State's jurisdictions, including commenting on Federal undertakings.
U.S.	Other	<ul style="list-style-type: none"> <li>• Executive Order 13158 requires Federal agencies to (1) identify actions that affect natural or cultural resources that are within a MPA; and (2) in taking such actions, to avoid harm to the natural and cultural resources that are protected by a MPA.</li> <li>• NPS Abandoned Shipwreck Act of 1987 (43 USC 2101–2106). Under this Act, states have the responsibility for management of living and nonliving resources in State waters and submerged lands, including certain abandoned shipwrecks. The NPS has issued guidelines that are intended to: maximize the enhancement of cultural resources; foster a partnership among sport divers, fishermen, archeologists, sailors, and other interests to manage shipwreck resources of the states and the U.S.; facilitate access and utilization by recreational interests; and recognize the interests of individuals and groups engaged in shipwreck discovery and salvage. Specific provisions of the Act's guidelines include procedures for locating and identifying shipwrecks, methods for determining which shipwrecks are historic, and preservation and long-term management of historic shipwrecks.</li> </ul>
CA	California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.)	As the CEQA lead agency, the CSLC is responsible for complying with all provisions of the CEQA and State CEQA Guidelines that relate to "historical resources." A historical resource includes: (1) a resource listed in, or eligible for listing in, the California Register of Historic Resources (CRHR); (2) a resource included in a local register of historical or identified as significant in an historical resource surveys; and (3) any resource that a lead agency determines to be historically significant for the purposes of CEQA, when supported by substantial evidence in light of the whole record. The CRHR was created to identify resources deemed worthy of preservation on a State level and was modeled closely after the National Register. The criteria, which are nearly identical to those of the National Register but focus on resources of statewide significance (see State CEQA Guidelines § 15064.5, subd. (a)(3)), are defined as any resource that meets any of the following criteria: (1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; (2) Is associated with lives of persons important in our past; (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or (4) Has yielded, or may be likely to yield, information important in prehistory or history. Properties listed, or formally designated as eligible for listing, on the National Register are automatically listed on the CRHR, as are certain State Landmarks and Points of Interest. A lead agency is not precluded from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1, subdivision (j), or 5024.1 (State CEQA Guidelines § 15064.5, subd. (a)(4)).
CA	Health and Safety Code § 7050.5	This code states that if human remains are exposed during construction, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code section 5097.998. The Coroner has 24 hours to notify the Native American Heritage Commission (NAHC) if the remains are determined to be of Native American descent. The NAHC will contact most likely descendants, who may recommend how to proceed.

<b>3.6 Geology and Soils</b>		
U.S.	None applicable.	
CA	Alquist-Priolo Earth-quake Fault Zoning Act (Pub. Resources Code, §§ 2621-2630)	This Act requires that "sufficiently active" and "well-defined" earthquake fault zones be delineated by the State Geologist and prohibits locating structures for human occupancy across the trace of an active fault.
	California Building Code (CBC) (Cal. Code Regs., tit. 23)	The CBC contains requirements related to excavation, grading, and construction of pipelines alongside existing structures. A grading permit is required if more than 50 cubic yards of soil are moved. Sections 3301.2 and 3301.3 contain provisions requiring protection of the adjacent property during excavations and require a 10-day written notice and access agreements with the adjacent property owners.
<b>3.7 Hazards and Hazardous Materials</b>		
U.S.	Clean Water Act (CWA) (33 USC 1251 et seq.)	The CWA is comprehensive legislation (it generally includes reference to the Federal Water Pollution Control Act of 1972, its supplementation by the CWA of 1977, and amendments in 1981, 1987, and 1993) that seeks to protect the nation's water from pollution by setting water quality standards for surface water and by limiting the discharge of effluents into waters of the U.S. (see below and in Section 3.8, <i>Hydrology and Water Resources</i> ).
U.S.	California Toxics Rule (40 CFR 131)	In 2000, the USEPA promulgated numeric water quality criteria for priority toxic pollutants and other water quality standards provisions to be applied to waters in the State of California. USEPA promulgated this rule based on the Administrator's determination that the numeric criteria are necessary in the State of California to protect human health and the environment. (Under CWA section 303(c)(2)(B), the USEPA requires states to adopt numeric water quality criteria for priority toxic pollutants for which the USEPA has issued criteria guidance, and the presence or discharge of which could reasonably be expected to interfere with maintaining designated uses.) These Federal criteria are legally applicable in California for inland surface waters, enclosed bays, and estuaries.
U.S.	Hazardous Materials Transportation Act (HMTA) (49 USC 5901)	The HMTA delegates authority to the United States Department of Transportation (DOT) to develop and implement regulations pertaining to the transport of hazardous materials and hazardous wastes by all modes of transportation. Additionally, the USEPA's Hazardous Waste Manifest System is a set of forms, reports, and procedures for tracking hazardous waste from a generator's site to the disposal site. Applicable Federal regulations are contained primarily in CFR Titles 40 and 49.
U.S.	National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR 300)	Authorized under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 USC 9605, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), Pub. L. 99 through 499; and by CWA section 311(d), as amended by the Oil Pollution Act of 1990 (OPA), Pub. L. 101 through 380. The NCP outlines requirements for responding to both oil spills and releases of hazardous substances. It specifies compliance, but does not require the preparation of a written plan. It also provides a comprehensive system for reporting, spill containment, and cleanup. The United States Coast Guard (USCG) and USEPA co-chair the National Response Team. In accordance with 40 CFR 300.175, the USCG has responsibility for oversight of regional response for oil spills in "coastal zones," as described in 40 CFR 300.120.
U.S.	Oil Pollution Act (OPA) (33 USC 2712)	The OPA requires owners and operators of facilities that could cause substantial harm to the environment to prepare and submit plans for responding to worst-case discharges of oil and hazardous substances. The passage of the OPA motivated California to pass a more stringent spill response and recovery

		regulation and the creation of the Office of Spill Prevention and Response (OSPR) to review and regulate oil spill plans and contracts.
U.S.	Resource Conservation and Recovery Act (RCRA) (42 USC 6901 et seq.)	The RCRA authorizes the USEPA to control hazardous waste from “cradle-to-grave,” which encompasses its generation, transportation, treatment, storage, and disposal. RCRA’s Federal Hazardous and Solid Waste Amendments from 1984 include waste minimization and phasing out land disposal of hazardous waste as well as corrective action for releases. The Department of Toxic Substances Control (DTSC) is the lead State agency for corrective action associated with RCRA facility investigations and remediation.
U.S.	Other	<ul style="list-style-type: none"> <li>• Rivers and Harbors Act (33 USC 401) (See 3.3.8, Hydrology and Water Quality)</li> <li>• The Act to Prevent Pollution from Ships (1980) requires ships in U.S. waters, and U.S. ships wherever located, to comply with International Convention for the Prevention of Pollution from Ships (MARPOL).</li> <li>• Convention on the International Regulations for Preventing Collisions at Sea (COLREGS). These regulations establish “rules of the road” such as rights-of-way, safe speed, actions to avoid collision, and procedures to observe in narrow channels and restricted visibility.</li> <li>• Inspection and Regulation of Vessels (46 USC Subtitle II Part B). Federal regulations for marine vessel shipping are codified in 46 CFR parts 1 through 599 and are implemented by the USCG, Maritime Administration, and Federal Maritime Commission. These regulations provide that all vessels operating offshore, including those under foreign registration, are subject to requirements applicable to vessel construction, condition, and operation. All vessels (including motorboats) operating in commercial service (e.g., passengers for hire, transport of cargoes, hazardous materials, and bulk solids) on specified routes (inland, near coastal, and oceans) are subject to requirements applicable to vessel construction, condition, and operation. These regulations also allow for inspections to verify that vessels comply with applicable international conventions and U.S. laws and regulations.</li> <li>• Navigation and Navigable Waters regulations (33 CFR) include requirements pertaining to prevention and control of releases of materials (including oil spills) from vessels, traffic control, and restricted areas, and general ports and waterways safety.</li> </ul>
CA	Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (Gov. Code § 8574.1 et seq.; Pub. Resources Code § 8750 et seq.)	This Act and its implementing regulations seek to protect State waters from oil pollution and to plan for the effective and immediate response, removal, abatement, and cleanup in the event of an oil spill. The Act requires vessel and marine facilities to have marine oil spill contingency plans and to demonstrate financial responsibility, and requires immediate cleanup of spills, following the approved contingency plans, and fully mitigating impacts on wildlife. The Act assigns primary authority to the OSPR division within the CDFW to direct prevention, removal, abatement, response, containment, and cleanup efforts with regard to all aspects of any oil spill in the marine waters of the State. The CSLC assists OSPR with spill investigations and response.
CA	Other	<ul style="list-style-type: none"> <li>• The California Clean Coast Act (SB 771) establishes limitations for shipboard incinerators, and the discharge of hazardous material—including oily bilgewater, graywater, and sewage—into State waters or a marine sanctuary. It also provides direction for submitting information on visiting vessels to the CSLC and reporting of discharges to the State water quality agencies.</li> <li>• The California Harbors and Navigation Code specifies a State policy to “promote safety for persons and property in and connected with the use and equipment of vessels,” and includes laws concerning marine navigation that are implemented by local city and county governments. This Code also</li> </ul>

		<p>regulates discharges from vessels within territorial waters of the State of California to prevent adverse impacts on the marine environment. This Code regulates oil discharges and imposes civil penalties and liability for cleanup costs when oil is intentionally or negligently discharged to the State waters.</p> <ul style="list-style-type: none"> <li>• California Seismic Hazards Mapping Act (Pub. Resources Code, § 2690) and Seismic Hazards Mapping Regulations (Cal. Code Regs., tit. 14, Div. 2, Ch. 8, Art. 10) (See 3.3.6, <i>Geology and Soils</i>)</li> <li>• The Hazardous Waste Control Act (Cal. Code Regs., tit. 26) defines requirements for proper management of hazardous materials.</li> <li>• Porter-Cologne Water Quality Control Act (Cal. Water Code, § 13000 et seq.) (See 3.3.8, <i>Hydrology and Water Quality</i>)</li> </ul>
<b>3.8 Hydrology and Water Quality</b>		
U.S.	Clean Water Act (CWA) (33 USC 1251 et seq.)	<p>The CWA is a comprehensive piece of legislation that generally includes reference to the Federal Water Pollution Control Act of 1972, and its substantial supplementation by the CWA of 1977. Both Acts were subsequently amended in 1981, 1987, and 1993. Overall, the CWA seeks to protect the nation’s water from pollution by setting water quality standards for surface water and by limiting the discharge of effluents into waters of the U.S. These water quality standards are promulgated by the USEPA and enforced in California by the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs). CWA sections include:</p> <ul style="list-style-type: none"> <li>• <u>State Water Quality Certification</u>. Section 401 (33 USC 1341) requires certification from the State or interstate water control agencies that a proposed water resources project is in compliance with established effluent limitations and water quality standards. U. S. Army Corps of Engineers (USACE) projects, as well as applicants for Federal permits or licenses are required to obtain this certification.</li> <li>• <u>National Pollution Discharge Elimination System (NPDES)</u>. Section 402 (33 USC 1342) establishes conditions and permitting for discharges of pollutants under the NPDES.</li> <li>• <u>Ocean Discharges</u>. Section 403 (33 USC 1343) addresses criteria and permits for discharges into the territorial seas, the contiguous zone, and the oceans.</li> <li>• <u>Permits for Dredged or Fill Material</u>. Section 404 (33 USC 1344) authorizes a separate permit program for disposal of dredged or fill material in U.S. waters.</li> </ul>
U.S.	Oil Pollution Act (OPA) (33 USC 2712)	<p>The OPA requires owners and operators of facilities that could cause substantial harm to the environment to prepare and submit plans for responding to worst-case discharges of oil and hazardous substances. The passage of the OPA motivated California to pass a more stringent spill response and recovery regulation and the creation of the Office of Spill Prevention and Response (OSPR) to review and regulate oil spill plans and contracts.</p>
U.S.	Rivers and Harbors Act (33 USC 401)	<p>This Act governs specified activities in “navigable waters” (waters subject to the ebb and flow of the tide or that are presently used, have been used in the past, or may be susceptible for use to transport interstate or foreign commerce). Specifically, it limits the construction of structures and the discharge of fill into navigable waters of the U.S. Under section 10 of the Rivers and Harbors Act, the building of any wharf, pier, jetty, or other structure is prohibited without Congressional approval, and excavation or fill within navigable waters requires approval from the USACE.</p>
CA	Porter-Cologne Water Quality Control Act (Cal. Water Code § 13000 et seq.) (Porter-	<p>Porter-Cologne is the principal law governing water quality in California. The Act established the SWRCB and nine RWQCBs which have primary responsibility for protecting State water quality and the beneficial uses of State waters. Porter-Cologne also implements many provisions of the Federal CWA, such as the National Pollutant Discharge Elimination System (NPDES) permitting program. Pursuant to the CWA § 401, applicants for a Federal license or permit for activities that may result in any discharge to waters of the U. S. must seek a</p>

	Cologne)	<p>Water Quality Certification (Certification) from the State in which the discharge originates. Such Certification is based on a finding that the discharge will meet water quality standards and other appropriate requirements of State law. In California, RWQCBs issue or deny certification for discharges within their jurisdiction. The SWRCB has this responsibility where projects or activities affect waters in more than one RWQCB's jurisdiction. If the SWRCB or a RWQCB imposes a condition on its Certification, those conditions must be included in the Federal permit or license.</p> <p>Statewide Water Quality Control Plans include: individual RWQCB Basin Plans; the California Ocean Plan; the San Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Control Plan (Bay-Delta Plan); the Water Quality Control Plan for Enclosed Bays and Estuaries of California; and the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan). These Plans contain enforceable standards for the various waters they address. For example:</p> <ul style="list-style-type: none"> <li>• Basin Plan. Porter-Cologne (§ 13240) requires each RWQCB to formulate and adopt a Basin Plan for all areas within the Region. Each RWQCB must establish water quality objectives to ensure the reasonable protection of beneficial uses and a program of implementation for achieving water quality objectives within the basin plans. 40 CFR 131 requires each State to adopt water quality standards by designating water uses to be protected and adopting water quality criteria that protect the designated uses. In California, the beneficial uses and water quality objectives are the State's water quality standards.</li> <li>• The California Ocean Plan establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged into the State's ocean and coastal waters. It incorporates the State water quality standards that apply to all NPDES permits for discharges to ocean waters.</li> </ul>
CA	San Francisco Bay Plan	<p>Pursuant to the Bay Plan, BCDC responsibilities include the following: Regulation of all filling and dredging in the Bay:</p> <ul style="list-style-type: none"> <li>• Administration of the Federal Coastal Zone Management Act within the Bay segment of the California coastal zone;</li> <li>• Regulation of new development within the first 100 feet inland from the Bay to ensure public access to the Bay is provided;</li> <li>• Pursuit of an active planning program to implement studies of Bay issues so that BCDC plans and policies are based on the best available current information;</li> <li>• Participation in the region-wide State and Federal program to establish a Long Term Management Strategy for dredging and dredged material disposal to be conducted in an environmentally sound and economically prudent way.</li> </ul>
<b>3.9 Land Use and Planning</b>		
U.S.	CZMA	
CA	San Francisco Bay Plan	<p>BCDC has jurisdiction over the open water, marshes, and mudflats of the greater San Francisco Bay; the first 100 feet from the shoreline; the portion of the Suisun Marsh below the 10 foot contour line; portions of most creeks, rivers, slough, and other tributaries that flow into the San Francisco Bay; and salt ponds, duck hunting preserves, game refuges, and other managed wetlands that have been diked off from San Francisco Bay. Permits from BCDC are required for most projects proposed along the shoreline, particularly if they include the following:</p> <ul style="list-style-type: none"> <li>• Placing solid material, building or repairing docks or pile-supported or cantilevered structures, disposing of material, or mooring a vessel for a long period in San Francisco Bay or in certain tributaries that flow into the Bay;</li> <li>• Dredging or extracting material from the Bay bottom;</li> <li>• Substantially changing the use of any structure or area;</li> </ul>

		<ul style="list-style-type: none"> <li>• Constructing, remodeling, or repairing a structure; or Subdividing property or grading land.</li> </ul>
<b>3.10 Mineral Resources (NONE APPLICABLE)</b>		
<b>3.11 Noise</b>		
U.S.	Noise Control Act (42 USC 4910)	Required the USEPA to establish noise emission criteria, as well as noise testing methods (40 CFR Chapter 1, Subpart Q). These criteria generally apply to interstate rail carriers and to some types of construction and transportation equipment. The USEPA published a guideline (USEPA 1974) containing recommendations for acceptable noise level limits affecting residential land use of 55 dBA $L_{dn}$ for outdoors and 45 dBA $L_{dn}$ for indoors.
U.S.	Department of Housing and Urban Development Environmental Standards (24 CFR Part 51)	<p>Sets forth the following exterior noise standards for new home construction (for interior noise levels, a goal of 45 dBA is set forth and attenuation requirements are geared to achieve that goal):</p> <ul style="list-style-type: none"> <li>○ 65 <math>L_{dn}</math> or less – Acceptable</li> <li>○ 65 <math>L_{dn}</math> and &lt; 75 <math>L_{dn}</math> – Normally unacceptable, appropriate sound attenuation measures must be provided</li> <li>○ &gt; 75 <math>L_{dn}</math> – Unacceptable</li> </ul>
U.S.	NTIS 550\9-74-004, 1974 (“Information on Levels of Environmental Noise Requisite to Protect Health and Welfare with an Adequate Margin of Safety”).	In response to a Federal mandate, the USEPA provided guidance in this document, commonly referenced as the, “Levels Document,” that establishes an $L_{dn}$ of 55 dBA as the requisite level, with an adequate margin of safety, for areas of outdoor uses including residences and recreation areas. The USEPA recommendations contain a factor of safety and do not consider technical or economic feasibility (i.e., the document identifies safe levels of environmental noise exposure without consideration for achieving these levels or other potentially relevant considerations), and therefore should not be construed as standards or regulations.
<b>3.11 Population and Housing (NONE APPLICABLE)</b>		
<b>3.12 Public Services</b>		
U.S.	Code of Federal Regulations	<ul style="list-style-type: none"> <li>• Under <b>29 CFR 1910.38</b>, whenever an Occupational Safety and Health Administration (OSHA) standard requires one, an employer must have an Emergency Action Plan that must be in writing, kept in the workplace, and available to employees for review. An employer with 10 or fewer employees may communicate the plan orally to employees. Minimum elements of an emergency action plan are: <ul style="list-style-type: none"> <li>○ Procedures for reporting a fire or other emergency;</li> <li>○ Procedures for emergency evacuation, including type of evacuation and exit route assignments;</li> <li>○ Procedures to be followed by employees who remain to operate critical plant operations before they evacuate;</li> <li>○ Procedures to account for all employees after evacuation;</li> <li>○ Procedures to be followed by employees performing rescue or medical duties; and</li> <li>○ The name or job title of every employee who may be contacted by employees who need more information about the plan or an explanation of their duties under the plan.</li> </ul> </li> <li>• Under <b>29 CFR 1910.39</b>, an employer must have a Fire Prevention Plan (FPP). A FPP must be in writing, be kept in the workplace, and be made available to employees for review; an employer with 10 or fewer employees may communicate the plan orally to employees. Minimum elements of a FPP are: <ul style="list-style-type: none"> <li>○ A list of all major fire hazards, proper hazardous material handling and</li> </ul> </li> </ul>

		<p>storage procedures, potential ignition sources and their control, and the type of fire protection equipment necessary to control each major hazard;</p> <ul style="list-style-type: none"> <li>○ Procedures to control accumulations of flammable and combustible waste materials;</li> <li>○ Procedures for regular maintenance of safeguards installed on heat-producing equipment to prevent the accidental ignition of combustible materials;</li> <li>○ The name or job title of employees responsible for maintaining equipment to prevent or control sources of ignition or fires; and</li> <li>○ The name or job title of employees responsible for the control of fuel source hazards.</li> <li>○ An employer must inform employees upon initial assignment to a job of the fire hazards to which they are exposed and must also review with each employee those parts of the FPP necessary for self-protection.</li> </ul> <ul style="list-style-type: none"> <li>● Under <b>29 CFR 1910.155, Subpart L, Fire Protection</b>, employers are required to place and keep in proper working order fire safety equipment within facilities.</li> </ul>																		
CA	California Code of Regulations	Under <b>Title 19, Public Safety</b> , the California State Fire Marshal (CSFM) develops regulations relating to fire and life safety. These regulations have been prepared and adopted to establish minimum standards for the prevention of fire and for protection of life and property against fire, explosion, and panic. The CSFM also adopts and administers regulations and standards necessary under the California Health and Safety Code to protect life and property.																		
<b>3.13 Recreation (NONE APPLICABLE)</b>																				
<b>3.14 Transportation and Traffic</b>																				
U.S.	Ports and Waterways Safety Act	This Act provides the authority for the USCG's program to increase vessel safety and protect the marine environment in ports, harbors, waterfront areas, and navigable waters, including by authorizing the Vessel Traffic Service, controlling vessel movement, and establishing requirements for vessel operation.																		
CA	California Vehicle Code	Chapter 2, Article 3 of the Vehicle Code defines the powers and duties of the California Highway Patrol, which has enforcement responsibilities for the vehicle operation and highway use in the State.																		
<b>3.15 Utilities and Service Systems (NONE APPLICABLE)</b>																				
Abbreviations used in this table (see also List of Abbreviations and Acronyms following the Table of Contents) include:																				
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">AB = Assembly Bill</td> <td style="width: 50%;">RWQCB = Regional Water Quality Control Board</td> </tr> <tr> <td>CARB = California Air Resources Board</td> <td>SB = Senate Bill;</td> </tr> <tr> <td>CDFW = California Department of Fish and Wildlife</td> <td>SWRCB = State Water Resources Control Board</td> </tr> <tr> <td>CEQA = California Environmental Quality Act</td> <td>USACE = U.S. Army Corps of Engineers</td> </tr> <tr> <td>CFR = Code of Federal Regulations</td> <td>USC = U.S. Code</td> </tr> <tr> <td>CSLC = California State Lands Commission</td> <td>USCG = U.S. Coast Guard</td> </tr> <tr> <td>CWA = Clean Water Act</td> <td>USEPA = U.S. Environmental Protection Agency</td> </tr> <tr> <td>EO = Executive Order</td> <td>USFWS = U.S. Fish and Wildlife Service</td> </tr> <tr> <td>NMFS = National Marine Fisheries Service</td> <td></td> </tr> </table>			AB = Assembly Bill	RWQCB = Regional Water Quality Control Board	CARB = California Air Resources Board	SB = Senate Bill;	CDFW = California Department of Fish and Wildlife	SWRCB = State Water Resources Control Board	CEQA = California Environmental Quality Act	USACE = U.S. Army Corps of Engineers	CFR = Code of Federal Regulations	USC = U.S. Code	CSLC = California State Lands Commission	USCG = U.S. Coast Guard	CWA = Clean Water Act	USEPA = U.S. Environmental Protection Agency	EO = Executive Order	USFWS = U.S. Fish and Wildlife Service	NMFS = National Marine Fisheries Service	
AB = Assembly Bill	RWQCB = Regional Water Quality Control Board																			
CARB = California Air Resources Board	SB = Senate Bill;																			
CDFW = California Department of Fish and Wildlife	SWRCB = State Water Resources Control Board																			
CEQA = California Environmental Quality Act	USACE = U.S. Army Corps of Engineers																			
CFR = Code of Federal Regulations	USC = U.S. Code																			
CSLC = California State Lands Commission	USCG = U.S. Coast Guard																			
CWA = Clean Water Act	USEPA = U.S. Environmental Protection Agency																			
EO = Executive Order	USFWS = U.S. Fish and Wildlife Service																			
NMFS = National Marine Fisheries Service																				

1 **3.1 AESTHETICS**

<b>AESTHETICS – Would the Project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.1.1 Environmental Setting**

3 The Project is located in San Pablo Bay (Bay), in the northwest portion of Contra Costa  
 4 County (County). Views of the Project area are visible from residences along the  
 5 shoreline in Rodeo, as well as from the city of Hercules (City) including Victoria by the  
 6 Bay Subdivision (Subdivision), commercial facilities in the City, public roads, and  
 7 developed and undeveloped parts of the San Francisco Bay Trail (Bay Trail).

8 From the shore, the views of the offshore Project area consist primarily of open water;  
 9 marine traffic including commercial vessels and recreational boats; and two sets of  
 10 Union Pacific Railroad (UPRR) tracks in the UPRR Right-of-Way (ROW) along the  
 11 shoreline. Project vessels would be visible when working offshore.

12 The shoreline area of the Project is covered with riprap. The riprap extends east and  
 13 west of the pipeline area. Southeast of the pipeline, the upland area is barren to the  
 14 railroad tracks and then slopes upward to the fenced undeveloped Shoreline Park  
 15 (Park). The slope of the shoreline blocks most of the views of the area where pipeline  
 16 cutting and grouting work would occur; however, some residences located higher on the  
 17 slope may have views of the work area, especially from second and third stories of the  
 18 residences. While the proposed Project may not be easily visible from the shoreline  
 19 residences, it would be visible to the individuals in the fenced undeveloped Park) and  
 20 the Bay Trail with the developed and undeveloped parts (see Figure 2-1). The Project  
 21 may also be visible from the town of Rodeo residences to the east.

1 **3.1.2 Regulatory Setting**

2 Federal and State laws and regulations pertaining to this issue area and relevant to the  
3 Project are identified in Table 3-1. Local goals, policies, and/or regulations applicable to  
4 this issue area are described below.

5 The Project area is located within scenic areas designated by both the City and County.  
6 In its General Plan, the City’s Scenic Resources objective is to “Preserve and enhance  
7 scenic views within the community” (City of Hercules 1998). The waterway and the  
8 shoreline in the Project area are part of County’s ‘Scenic Waterways’ system, as  
9 designated in the Open Space Element of its General Plan (Contra Costa County 2005).

10 **3.1.3 Impact Analysis**

11 ***a) Have a substantial effect on a scenic vista?***

12 **Less than Significant Impact.** The Project area is located in a County-designated  
13 scenic waterway. Pipeline removal activities would result in short-term (approximately 3  
14 weeks) impacts during construction periods to views of the scenic waterway. There  
15 would be no permanent impacts to the views of the scenic waterway. During removal of  
16 the pipeline submerged in the Bay, several marine vessels would be located offshore.  
17 However, the presence of these vessels would be consistent with other views in the  
18 Bay, and would be temporary and short-term, occurring only during the construction  
19 period. During preparation of the onshore pipeline for abandonment, one to two barges  
20 and/or supporting vessels would be anchored close to the shore as the base for  
21 removal/abandonment activities. The presence of these vessels would also be short-  
22 term and temporary, lasting approximately 1 week. Consequently, the impact from the  
23 Project would be less than significant.

24 The Project would have a positive impact by helping make the subject waterway and the  
25 shoreline compliant with the County’s ‘Scenic Waterways’ system, as designated in the  
26 Open Space Element of its General Plan (Contra Costa County 2005) as discussed  
27 above in Section 3.1.2.

28 ***b) Substantially damage scenic resources, including, but not limited to tress,***  
29 ***rock outcroppings, and historic buildings within a State scenic highway?***

30 **No Impact.** No Federal, State or locally designated scenic routes are located in, or are  
31 visible from, the Project area. The Project would thus have no impact on scenic  
32 resources including, but not limited to, trees, rock outcroppings, and historic buildings  
33 within a State scenic highway corridor.

34 ***c) Substantially degrade the existing visual character or quality of the site and its***  
35 ***surroundings?***

1 **Less than Significant Impact.** There are no permanent above-ground features  
2 associated with the Project. The Project would remove the submerged pipeline and  
3 would have limited short-term effect (approximately 3 weeks) on views from the scenic  
4 waterway or surrounding land uses. Riprap relocated onsite for the project would be  
5 replaced (resulting in shoreline similar to existing conditions) at the onshore pipeline  
6 area when the work is finished. Because of the short-term work period for pipeline  
7 removal activities, the Project would have a less than significant impact on the existing  
8 visual character or quality of the site and its surroundings.

9 The Project would have a positive impact by contributing to make the subject waterway  
10 and shoreline compliant with the County's 'Scenic Waterways' system, as designated in  
11 the Open Space Element of its General Plan (Contra Costa County 2005) as discussed  
12 above in Section 3.1.2.

13 ***d) Create a new source of substantial light or glare which would adversely affect***  
14 ***day or nighttime views in the area?***

15 **No Impact.** No new source of visual glare or substantial light would occur due to the  
16 proposed Project. Work hours would adhere to City's requirements and would be  
17 conducted between approximately 7 AM and 5 PM during weekdays unless specifically  
18 approved by the City; no sources of substantial night-time lighting would be anticipated.  
19 The Applicant proposes no work at night or any lights or noise from the barge once the  
20 work has shut down each day, other than safety-related lighting required to comply with  
21 USCG regulations. As a result, there would be no impact with respect to visual glare or  
22 lighting in the area.

### 23 **3.1.4 Mitigation Summary**

24 The Project would not result in significant impacts; therefore, no mitigation is required.

1 **3.2 AGRICULTURE AND FOREST RESOURCES**

<b>AGRICULTURE AND FOREST RESOURCES<sup>3</sup> -</b> Would the Project:	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Natural Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Pub. Resources Code, § 12220, subd. (g)), timberland (as defined by Pub. Resources Code, § 4526), or timberland zoned Timberland Production (as defined by Gov. Code, § 51104, subd. (g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.2.1 Environmental Setting**

3 The County’s land area totals 514,023 acres, 262,352 of which are allocated to  
 4 farmlands and harvested cropland. The total acreage classified as agricultural land  
 5 dropped by approximately 42,646 acres from 1984 to 2010 (Division of Land Resource  
 6 Protection [DLRP] 2010). The Project involves a single pipeline located in San Pablo  
 7 Bay (Bay) with 140 feet of buried pipeline located onshore in the city of Hercules (City).  
 8 The onshore portion is located under the UPRR ROW or under the Park, which is zoned  
 9 as public or open space lands. There are no lands designated as Farmland or forested  
 10 or timber lands on or in the immediate Project vicinity.

<sup>3</sup> In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

1 **3.2.2 Regulatory Setting**

2 Federal and State laws and regulations pertaining to this issue area and relevant to the  
3 Project are identified in Table 3-1. Local goals, policies, and/or regulations applicable to  
4 this issue area are described below.

5 The City's General Plan states that no land within the incorporated City limits is used for  
6 agricultural purposes (City of Hercules 1998) except historic grazing at the Franklin  
7 Canyon Muir Land Trust parcel (this area is proposed to resume grazing in the future).

8 The County passed Measure C in 1990 to preserve 65 percent of the County's land as  
9 agricultural land, open space and other non-urban uses. The County developed the  
10 65/35 Land Preservation Plan, which became part of the General Plan and established  
11 Urban Limit Lines (ULL) for urban areas within the County. The City is within the ULL  
12 and therefore it allows for urban land uses to be established (Contra Costa County  
13 2005).

14 **3.2.3 Impact Analysis**

15 ***a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide***  
16 ***Importance (Farmland), as shown on the maps prepared pursuant to the***  
17 ***Farmland Mapping and Monitoring Program of the California Natural Resources***  
18 ***Agency, to non-agricultural use?***

19 **No Impact.** The Project would have no impact on Prime Farmland, Unique Farmland or  
20 Farmland of Statewide Importance because there are no current or planned agricultural  
21 uses at the site. The Project site is not classified as Farmland.

22 ***b) Conflict with existing zoning for agricultural use, or a Williamson Act***  
23 ***contract?***

24 **No Impact.** The Project would not conflict with existing zoning for agriculture because  
25 the site is designated as Waterfront Commercial and *Open Space/Parks*. The site is not  
26 operated under a Williamson Act contract with any local governments for the purpose of  
27 restricting specific parcels of land to agricultural or related open space use.

28 ***c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined***  
29 ***in Pub. Resources Code § 12220, subd. (g)), timberland (as defined by Pub.***  
30 ***Resources Code § 4526), or timberland zoned Timberland Production (as defined***  
31 ***by Gov. Code § 51104, subd. (g))?***

32 **No Impact.** No forest lands or timberlands are located in the vicinity of the Project site;  
33 therefore, there would be no impact.

1 **d) Result in the loss of forest land or conversion of forest land to non-forest**  
2 **use?**

3 **No Impact.** No forest lands or timberlands are located in the vicinity of the Project site;  
4 therefore, there would be no impact.

5 **e) Involve other changes in the existing environment which, due to their location**  
6 **or nature, could result in conversion of Farmland to non-agricultural use or**  
7 **conversion of forest land into non-forest use?**

8 **No Impact.** The Project would not alter the existing environment such that farmland or  
9 forest land would be converted to non-agricultural or non-forest uses.

10 **3.2.4 Mitigation Summary**

11 The Project would not result in significant impacts; therefore, no mitigation is required.

1 **3.3 AIR QUALITY AND GREENHOUSE GAS EMISSIONS**

<b>AIR QUALITY AND GREENHOUSE GAS EMISSIONS</b> – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.3.1 Environmental Setting**

3 Criteria air pollutants are a group of pollutants for which Federal or State regulatory  
 4 agencies have adopted ambient air quality standards. Criteria air pollutants include  
 5 ozone, carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate  
 6 matter (both PM<sub>10</sub> and PM<sub>2.5</sub>), and lead. Most of the criteria pollutants are directly  
 7 emitted; ozone is a secondary pollutant that is formed in the atmosphere by chemical  
 8 reactions between oxides of nitrogen (NO<sub>x</sub>) and reactive organic gases (ROG).

9 Criteria air pollutants concentrations are classified in each air basin, county, or in some  
 10 cases, within a specific urbanized area. The classification is determined by comparing  
 11 actual monitoring data with State and Federal standards. If a pollutant concentration is  
 12 lower than the standard, the area is classified as “attainment” for that pollutant and if an  
 13 area exceeds the standard, the area is classified as “non-attainment” for that pollutant. If

1 there are not enough data available to determine whether the standard is exceeded in  
2 an area, the area is designated “unclassified.”

3 The San Francisco Bay Area Air Basin (Basin) is classified as non-attainment for State  
4 PM<sub>10</sub> standards as well as State 1- and 8-hour ozone (BAAQMD 2013) standards.  
5 Recent findings (CARB 2012) indicate that the San Francisco Bay Area is currently in  
6 attainment for small particulate matter (PM<sub>2.5</sub>). With respect to Federal standards, the  
7 Basin is classified as being in non-attainment for the federal PM<sub>2.5</sub> standard, and  
8 marginal non-attainment for the 8-hour ozone standard. For all other State and Federal  
9 criteria air pollutant standards, the Basin is classified as either unclassified or as  
10 attainment (BAAQMD 2013a).

### 11 **3.3.1.1 Sensitive Receptors**

12 For the purposes of air quality and public health analyses, sensitive receptors are  
13 generally defined as land uses with population concentrations that would be particularly  
14 susceptible to disturbance from dust, air pollutant concentrations, or other disruptions  
15 associated with Project construction and/or operation. These receptors generally  
16 include schools, day care centers, hospitals, residential areas, and parks. Some  
17 receptors are considered more sensitive than others to air pollutants. The reasons for  
18 greater than average sensitivity include pre-existing health problems, proximity to  
19 emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and  
20 convalescent homes are considered to be relatively sensitive to poor air quality because  
21 children, elderly people, and the infirm are more susceptible to respiratory distress and  
22 other air quality-related health problems than the general public. Residential areas are  
23 considered sensitive to poor air quality because people usually stay home for extended  
24 periods of time, with associated greater exposure to ambient air quality. Recreational  
25 uses are also considered sensitive due to the greater exposure to ambient air quality  
26 conditions because vigorous exercise associated with recreation places a high demand  
27 on the human respiratory system.

28 The Project’s onshore work area is approximately 250 feet from the closest residences  
29 in Rodeo, and within 550 feet of residences in the City’s Subdivision. The boundary of  
30 Park is approximately 100 feet east of the onshore work area. Work would therefore  
31 occur within 250 to 2,250 feet of the closest residence, and within 100 to 2,100 feet of  
32 the closest Park area.

### 33 **3.3.1.1 Greenhouse Gas (GHG) Emissions and Climate Change**

34 Some gases in the atmosphere affect the earth’s heat balance by absorbing infrared  
35 radiation. These gases can prevent the escape of heat in much the same way as glass  
36 in a greenhouse. This is often referred to as the “greenhouse effect,” and it is  
37 responsible for maintaining a habitable climate. On earth the gases believed to be have

1 the most greenhouse potential are carbon dioxide (CO<sub>2</sub>), methane, nitrous oxide,  
2 hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

3 Enhancement of the greenhouse effect can occur when concentrations of these gases  
4 exceed the natural concentrations in the atmosphere. Of these gases, CO<sub>2</sub> and  
5 methane are emitted in the greatest quantities from human activities. Emissions of CO<sub>2</sub>  
6 are largely by-products of fossil fuel combustion, whereas methane results primarily  
7 from off-gassing associated with agricultural practices and landfills. Some methane is  
8 emitted during fossil fuel combustion. Nitrous oxide (N<sub>2</sub>O) is the other GHG that is  
9 commonly associated with fossil fuel combustion.

10 CO<sub>2</sub> is the most common reference gas for climate change. To account for the warming  
11 potential of GHGs, GHG emissions are often quantified and reported as CO<sub>2</sub>  
12 equivalents (CO<sub>2</sub>e). With the warming potential of CO<sub>2</sub> set at a reference value of 1,  
13 methane has a warming potential of 21, and N<sub>2</sub>O has a warming potential of 310; i.e., 1  
14 ton of methane has the same warming potential as 21 tons of CO<sub>2</sub> (USEPA 2013a,b).  
15 There is widespread international scientific consensus that human-caused increases in  
16 GHGs have and will continue to contribute to climate change, although there is  
17 uncertainty concerning the magnitude and rate of the warming.

18 Some of the potential resulting effects in California of global warming may include loss  
19 of snow pack, sea level rise, more extreme heat days per year, more high ozone  
20 concentration days, more large forest fires, and more drought years (CARB 2008).  
21 Globally, climate change has the potential to impact numerous environmental resources  
22 through potential, though uncertain, impacts related to future air temperatures and  
23 precipitation patterns. The projected effects of climate change on weather and climate  
24 are likely to vary regionally, but are expected to include the following direct effects  
25 (IPCC 2001): higher maximum temperatures and more hot days over nearly all land  
26 areas; higher minimum temperatures, fewer cold days and frost days over nearly all  
27 land areas; reduced diurnal temperature range over most land areas; increase of heat  
28 index over land areas; and more intense precipitation events.

29 Secondary effects that are projected to result from climate change include global rise in  
30 sea level, impacts to agriculture, increasing intensity of storms, changes in disease  
31 vectors, and changes in habitat and biodiversity. While the possible outcomes and  
32 feedback mechanisms involved are not fully understood, and research continues, the  
33 potential for substantial environmental, social, and economic consequences over the  
34 long term is likely to be great.

35 The San Francisco Bay Area as a whole emitted an estimated 95.8 million metric tons  
36 (MT) of CO<sub>2</sub>e in 2007 (BAAQMD 2010), and the estimated emissions in unincorporated  
37 County were 1,667,070 MT of CO<sub>2</sub>e in 2005 (Contra Costa County 2012). No estimate  
38 is available for the City.

1 **3.3.2 Regulatory Setting**

2 Federal and State laws and regulations pertaining to this issue area and relevant to the  
3 Project are identified in Table 3-1. Local goals, policies, and/or regulations applicable to  
4 this issue area are summarized below.

5 With the exception of very large projects, GHG from individual projects are typically less  
6 than significant at the project scale; however, GHG emissions cumulatively have a  
7 substantial environmental impact. The revisions to the State CEQA Guidelines adopted  
8 December 30, 2009 (§ 15064, subd. (h)(3)) provide the basis for assessing cumulative  
9 impacts of GHG emissions. Section 15064 indicates that a "...lead agency may  
10 determine that a project's incremental contribution to a cumulative effect is not  
11 cumulatively considerable if the project will comply with the requirements in a previously  
12 approved plan or mitigation program (including, but not limited to, water quality control  
13 plan, air quality attainment or maintenance plan, integrated waste management plan,  
14 habitat conservation plan, natural community conservation plan, plans or regulations for  
15 the reduction of greenhouse gas emissions) that provides specific requirements that will  
16 avoid or substantially lessen the cumulative problem within the geographic area in  
17 which the project is located." The guidance also encourages lead agencies to quantify  
18 GHG emissions where possible.

19 The Bay Area Air Quality Management District (BAAQMD) has developed CEQA  
20 Guidelines to assist local jurisdictions and lead agencies in complying with the  
21 requirements of CEQA regarding potentially adverse impacts to air quality, including  
22 GHGs. The BAAQMD CEQA Guidelines were updated in June 2010 to include  
23 reference to thresholds of significance ("Thresholds") adopted by the Air District Board  
24 on June 2, 2010 and were set aside on March 5, 2012, by the Alameda County Superior  
25 Court. BAAQMD has appealed the decision, and an appeal is currently pending.

26 While the appeal is pending, BAAQMD is no longer recommending that the 2010  
27 Thresholds be used as a generally applicable measure of a project's significant air  
28 quality and GHG impacts. BAAQMD indicates that lead agencies may continue to rely  
29 on the BAAQMD's 1999 Thresholds of Significance (BAAQMD 2013c).

30 The San Francisco Bay Area as a whole does not have a Climate Action Plan (CAP).  
31 BAAQMD adopted a resolution in 2005 establishing a Climate Protection Program and  
32 acknowledging the link between climate protection and programs to reduce air pollution  
33 in the Bay Area, and formed a standing committee on climate protection to provide  
34 direction on BAAQMD's climate protection activities. BAAQMD focus is to integrate  
35 climate protection activities into existing BAAQMD programs (BAAQMD 2013b). A Draft  
36 CAP exists for unincorporated County. The City does not have a CAP.

1 **3.3.3 Impact Analysis**

2 **a) Conflict with or obstruct implementation of the applicable air quality plan?**

3 **Less than Significant Impact.** The Project consists of construction activities of about 3  
4 weeks only. There would be no air emissions from the Project following construction.  
5 Consistent with the 1999 BAAQMD CEQA Guidelines, applicable basic measures will  
6 be incorporated into any construction activities that could generate dust. Consequently,  
7 this impact would be less than significant.

8 **b) Violate any air quality standard or contribute substantially to an existing or**  
9 **projected air quality violation?**

10 **Less than Significant Impact.** The Project consists of construction activities only.  
11 There would be no air emissions from the Project following construction. Consistent with  
12 the 1999 BAAQMD CEQA Guidelines, applicable basic measures will be incorporated  
13 into any construction activities that could generate dust. Consequently, this impact  
14 would be less than significant.

15 **c) Result in a cumulatively considerable net increase of any criteria pollutant for**  
16 **which the Project region is non-attainment under an applicable federal or state**  
17 **ambient air quality standard (including releasing emissions which exceed**  
18 **quantitative thresholds for ozone precursors)?**

19 **Less than Significant Impact.** The Project would not create any new permanent  
20 stationary or non-stationary source of air emissions, is not subject to the thresholds of  
21 significance that apply to operational impacts created by new permanent sources, and  
22 is, therefore, evaluated in the context of construction-related impacts only. The  
23 proposed activities would not produce substantial daily amounts of particulate matter,  
24 ozone, or ozone precursors such as ROG or NO<sub>x</sub>. The Project would not violate any air  
25 quality standard or contribute substantially to an existing or projected air quality  
26 violation.

27 Nevertheless, BAAQMD (2012) recommends that a Project implement certain basic  
28 construction control measures to the extent applicable and needed for sites of less than  
29 4 acres (the active onshore work area is expected to be approximately 200 square feet)  
30 and sites that are not expected to be particularly dusty. Most basic measures  
31 recommended by the BAAQMD are unlikely to be needed, such as applying water to  
32 construction areas or sweeping public streets, given the nature of the work, its location  
33 on the shore of the Bay, and the extremely small size of the work area subject to ground  
34 disturbance. The Project would minimize overall emissions by shuttling the crew from a  
35 near-by marina, minimizing the use of tugs and other boats, and ensuring that all  
36 equipment used on the Project is kept in good working order.

1 **d) Expose sensitive receptors to substantial pollutant concentrations?**

2 **Less than Significant Impact.** The Project would only generate small quantities of  
3 emissions during construction, and the duration of any activities in the vicinity of  
4 potential sensitive receptors is small (up to 3 weeks). While the Park is located within  
5 approximately 100 feet of the onshore work area, and the closest residence located in  
6 Rodeo is approximately 250 feet from the onshore work area, the short duration and  
7 small amount of emissions associated with the Project render this impact less than  
8 significant for these sensitive receptors. The closest school is approximately 0.38 mile  
9 from the location of the onshore work, and is therefore unlikely to be affected.  
10 Consequently, this potential impact is less than significant.

11 **e) Create objectionable odors affecting a substantial number of people?**

12 **Less than Significant Impact.** The Project would uncover a small area of  
13 embankment, and possibly excavate a small section of pipe. These activities could  
14 disturb oxygen-deficient, organic-rich soils, and result in odors. The Project is not  
15 expected to generate odors that are significantly different or stronger than existing odors  
16 occurring during low tides and periods of elevated temperature.

17 **f) Generate greenhouse gas emissions, either directly or indirectly, that may**  
18 **have a significant impact on the environment?**

19 **Less than Significant Impact.** The Project consists of construction activities of about 3  
20 weeks only. There would be no air emissions from the Project following construction.  
21 The Project would generate an estimated 54.5 MT of CO<sub>2</sub>e from direct emissions (see  
22 Appendix B, Greenhouse Gas Emissions Estimates). This is a very small value  
23 compared to the 95.8 million MT released within the Bay Area in 2007 (BAAQMD 2010).  
24 The Project would minimize overall emissions by shuttling the crew from a near-by  
25 marina, minimizing the use of tugs and other boats, and ensuring that all equipment  
26 used on the Project is kept in good working order.

27 **g) Conflict with an applicable plan, policy or regulation adopted for the purpose**  
28 **of reducing the emissions of greenhouse gases?**

29 **No Impact.** The Project would be of short duration (3 weeks), require only a small  
30 amount of equipment (see Appendix B), and would include a contractual requirement to  
31 use equipment that meets applicable emissions standards. The Project would not  
32 prevent or conflict with implementation of any applicable plan, policy or regulation  
33 adopted for the purpose of reducing GHG emission.

34 **3.3.4 Mitigation Summary**

35 The Project would not result in significant impacts; therefore, no mitigation is required.

1 **3.4 BIOLOGICAL RESOURCES**

<b>BIOLOGICAL RESOURCES – Would the Project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.4.1 Environmental Setting**

3 The Project pipeline extends approximately 2,000 feet into the aquatic habitat of the  
 4 Bay. The pipeline would be removed in approximately 50-foot sections. An  
 5 approximately 20-foot section would be removed within the shoreline under existing  
 6 riprap where the pipeline would be cut and grouted.

7 The predominant habitat at the Project site is aquatic, including open water (pelagic),  
 8 soft sediment (benthic) and intertidal riprap. The open waters of the Bay vary in  
 9 temperature, salinity, dissolved oxygen, and turbidity within the water column depending  
 10 on water depth, location, and season. The water column can be classified as shallow-

1 water/shoals and deepwater/channels (National Oceanic and Atmospheric  
2 Administration [NOAA] 2007). The water column provides habitat for plants  
3 (phytoplankton), invertebrates (zooplankton), fishes, birds, and marine mammals. The  
4 fish community inhabiting the Bay and the western portions of Suisun Bay, including the  
5 Project site, is dominated by northern anchovy (*Engraulis mordax*), Pacific herring  
6 (*Clupea pallasii*), American shad (*Alosa sapidissima*), jacksmelt (*Atherinopsis*  
7 *californiensis*), longfin smelt (*Spirinchus thaleichthys*), and striped bass (*Morone*  
8 *saxatilis*). Seasonally, Chinook salmon (*Onchorhynchus tshawytscha*) becomes a  
9 dominant species and delta smelt (*Hypomesus transpacificus*) can also be present as  
10 well as adult steelhead trout and smolts (*Onchorhynchus mykiss*) (CDFW 2000-2007).

11 More than 30 fish taxa were observed inhabiting or utilizing the benthic habitat of the  
12 Bay between 2000 and 2007. This fish community is dominated by the Bay goby  
13 (*Lepidogobius lepidus*), English sole (*Parophrys vetulus*), striped bass, plainfin  
14 midshipman (*Porichthys notatus*), Pacific staghorn sculpin (*Leptococottus armatus*),  
15 longfin smelt, yellowfin goby (*Acanthogobius flavimanus*), cheekspot goby (*Ilypnus*  
16 *gilberti*), white croaker (*Genyonomus lineatus*), speckled sanddab (*Citharichthys*  
17 *stigmaeus*), shiner surfperch (*Cymatogaster aggregata*), California halibut (*Paralichthys*  
18 *californicus*), starry flounder (*Platichthys stellatus*), Pacific herring, American shad  
19 (*Alosa sapidissima*), and diamond turbot (*Pleuronichthys guttulatus*) (CDFG Interagency  
20 Ecological Program 2000-2007). Several of the groundfish listed above, such as English  
21 sole and starry flounder, as well as other occasional inhabitants such as sand sole  
22 (*Psettichthys melanostictus*) and big skate (*Raja binoculata*), are covered by the Pacific  
23 Groundfish Management Plan which identifies San Francisco Estuary as Essential Fish  
24 Habitat (EFH) for these species (Olberding 2008). The North American green sturgeon  
25 (*Acipenser medirostris*) is known to inhabit the waters and bottom (benthic) habitat of  
26 the Bay.

### 27 **3.4.1.1 San Pablo Bay Intertidal Habitat**

28 The Project pipeline reaches land and is protected by quarried rock and concrete debris  
29 (Figure 1-3). This shoreline riprap provides some hard bottom intertidal habitat that  
30 supports barnacles, bryozoans, hydrozoans, the bay mussel, occasional sponges, and  
31 green algae. Several species of crabs, isopods, snails, and amphipods may also be  
32 present.

33 Soft bottom substrate ranges between soft mud with high silt and clay content and  
34 areas of sand. These latter tend to occur in locations subjected to high tidal or current  
35 flow. The predominant seafloor habitat in the Project area is soft sediment composed of  
36 combinations of mud/silt/clay particles (Figure 1-2). Exposure to wave and current  
37 action, temperature, salinity, and light penetration determine the composition and  
38 distribution of organisms within these soft sediments. These areas support mollusks,  
39 amphipods, polychaetes and several species of polydora (USFWS 1988).

1 **3.4.1.2 Special Status Species**

2 The Project and its potential effects to threatened and endangered species were  
3 described and evaluated in a biological assessment (BA) submitted to California  
4 Department of Fish and Wildlife (CDFW), National Marine Fisheries Service (NMFS),  
5 and U.S. Fish and Wildlife Service (USFWS) (Boudreau Associates & Jahn 2013). The  
6 species of concern that have the potential to occur within the Project site are individuals  
7 of the green sturgeon southern Distinct Population Segment, Sacramento River winter-  
8 run Chinook, Central Valley spring-run Chinook, Central valley steelhead, or Central  
9 California Coast steelhead evolutionarily significant units, longfin smelt, and delta smelt.

10 The terrestrial habitat within the Project area is considered barren/developed. This  
11 includes the concrete riprap used to stabilize the shore, as well as the railroad, track  
12 ballast, and railroad ties (Figure 1-3). This habitat does not support listed terrestrial  
13 species. Furthermore, the area in the immediate vicinity of the Project does not provide  
14 good habitat for any terrestrial special-status species beyond foraging or for transient  
15 individuals. There is a high probability that this area supports feral cats (*Felis catus*) and  
16 dogs (*Canis familiaris*), as well as common bird species such as rock doves (*Columba*  
17 *livia*), starlings (*Sturnus vulgaris*), and sea gulls (*Larus* sp.). Therefore, terrestrial listed  
18 species were eliminated from further evaluation because: (1) the Project site or the  
19 immediate area does not provide suitable habitat, or (2) the known range for a particular  
20 species is outside of the Project site and/or the immediate area.

21 **3.4.2 Regulatory Setting**

22 Federal and State laws and regulations pertaining to this issue area and relevant to the  
23 Project are identified in Table 3-1. The Project is consistent with San Francisco Bay  
24 Plan (BCDC 2008) policies and objectives regarding biological resources and The San  
25 Francisco Bay Subtidal Habitat Goals Report (2010). No Habitat Conservation Plan or  
26 Natural Community Conservation Plan currently applies to the Project site.

27 **3.4.3 Impact Analysis**

28 ***a) Have a substantial adverse effect, either directly or through habitat modifica-***  
29 ***tions, on any species identified as a candidate, sensitive, or special status species***  
30 ***in local or regional plans, policies, or regulations, or by the CDFW or USFWS?***

31 **Less than Significant with Mitigation.** The Project would require the removal of the  
32 pipeline and riprap on the shoreline with a 3-week construction period. The riprap would  
33 be replaced after the final segment of pipeline is removed, and the pipeline under the  
34 landward will be abandoned in place. The riprap will be temporarily stockpiled atop the  
35 riprap immediately surrounding the pipeline. After removal and capping is complete, the  
36 riprap will be placed back to cover the cut and capped end of the wastewater pipeline  
37 and result in a shoreline similar to existing conditions to continue protecting other

1 abandoned pipelines from the 2010 Coscol Petroleum/El Paso Corporation Marine  
2 Terminal Deconstruction and Pipeline Abandonment Project (Coscol Project) (Figure 2-  
3 1). Removal of the pipeline and riprap would result in short-term disturbance of bottom  
4 sediments and resuspension of sediments. Disturbed or resuspended sediments could  
5 increase the exposure of chemical concentrations to aquatic receptors in the localized  
6 area and could result in adverse effects on aquatic organisms, including sensitive and  
7 special-status species. Other potential direct and indirect effects, including direct  
8 mortality and permanent habitat loss/degradation, are not expected to occur, therefore,  
9 the below discussion is focused on the potential biological impacts related to disturbing  
10 sediment in the Bay. A more detailed description of the water quality related effects of  
11 sediment resuspension and increased turbidity can be found in Section 3.8.

12 Temporary resuspension of sediments in the water column can lower levels of dissolved  
13 oxygen and possibly release chemicals present in the sediments into the water column.  
14 The concentration of suspended sediments would vary based on the production rate of  
15 removal and duration of the construction activity, and would also depend on the  
16 methods used, the quality of equipment, and care of the operator. In all cases,  
17 increased turbidity levels would be relatively short-lived and generally confined to within  
18 a few hundred feet of the activity depending on current velocity, tidal cycle and wind.  
19 After initially high levels of resuspended sediment, sediments would disperse and  
20 background levels would be restored within hours of disturbance.

21 The potential effects of suspended sediment within the water column on fish include gill  
22 lacerations (at very high and prolonged exposures), increased “coughing” behavior,  
23 decreased feeding success, and avoidance behaviors (Wilber and Clarke 2001).  
24 Removal of the pipeline has the potential to resuspend sediment in the immediate  
25 vicinity of extraction of the pipeline. The maximum volume of sediment disturbed by this  
26 operation would consist of the volume of sediment within a 50-foot section of pipeline, a  
27 1-foot radius and a 2-foot depth surrounding the portion of pipeline being pulled above  
28 the mudline surface. This volume equates to approximately 3.7 cubic yards per 50-foot  
29 section if all the sediment above and surrounding the 8-inch pipeline were dispersed  
30 into the water column during extraction. In total, to remove the 2,020 feet of pipeline,  
31 approximately 50-foot sections would be removed which would equate to a maximum of  
32 148 cubic yards of sediment potentially being disturbed (in comparison, even a small  
33 dredging project would disturb upwards of 5,000 cubic yards of sediment per day).

34 Substantially less sediment than 148 cubic yards would likely be disturbed because  
35 approximately 40 percent (800 feet) of the pipeline offshore is on the surface of the mud  
36 and not submerged (Figure 1-2). In addition, the pipeline is only 8 inches in diameter  
37 and the surrounding sediment is not significantly consolidated; therefore, the  
38 submerged portion of the pipeline would move relatively easily through the mud to the  
39 surface with minimal disturbance and it is unlikely that the entire volume of sediment  
40 would be dispersed. As the pipeline traverses through the mud (on average covered

1 with about 2 feet of sediment), the sediment would fall in into the void below. Sediment  
2 would only be resuspended at the point where the pipeline is pulled above the mudline  
3 into the water. As a result, it is anticipated that only a small percentage of the total  
4 sediment volume would be resuspended at the point of extraction.

5 The sediment plumes that may be caused by the 50-foot sections of pipeline that would  
6 be removed are expected to be extremely small in area and short in duration. Based on  
7 studies of recent projects by the U.S. Army Corps of Engineers (USACE 2004), any  
8 potential impact due to resuspended sediments would be limited to a distance up and  
9 down current of approximately 100 feet. Recent studies by the San Francisco Estuary  
10 Institute (SFEI 2008) determined that the short-term effects of dredging on sensitive fish  
11 species due to dredging activities would be minor. Considering that the volume of  
12 sediment being disturbed by this Project would be a significantly smaller fraction (by an  
13 order of magnitude) than that disturbed by even a small scale dredging operation, it is  
14 not anticipated that the impacts to aquatic organisms resulting from pipeline removal  
15 would be significant, particularly with implementation of the measures described below.

16 Resuspended sediment levels caused by natural phenomena such as floods, storms,  
17 large tides, and winds are often higher and of longer duration than those caused by  
18 dredging, especially in lakes and bays. Previous studies have demonstrated that marine  
19 organisms are accustomed to sediment resuspension levels greater than those  
20 generated by dredging (Stern and Stickle 1978, Parr et al. 1998, Pennekamp et al.  
21 1996, Herbich 2000) and consequently to activities such as pipeline removal.  
22 Resuspended sediment concentrations within San Francisco Bay have been reported  
23 between 100-200 milligrams per liter (mg/L) due to tidal influence alone (Buchanan and  
24 Schoellhamer 1996; Schoellhamer 1996). As stated above, normal circulation and  
25 strong currents along the waterfront rapidly circulate and disperse water temporarily  
26 affected by construction activities. Turbidity plumes would disperse within a matter of  
27 hours, and the particulate concentrations would be diluted to levels that would pose no  
28 major threat to water quality or aquatic wildlife.

29 The chemical characterization of the sediments in the Project area indicates that metal  
30 concentrations were similar to or below San Francisco Bay background levels (San  
31 Francisco Bay Regional Water Quality Control Board [SFBRWQCB] 1998). Sediment  
32 concentrations of mercury were 0.169 milligrams per kilogram (mg/kg), which is below  
33 the Total Maximum Daily Load limit for mercury in sediment of 0.469 mg/kg (SFEI  
34 2013). While the cadmium level was slightly above San Francisco Bay background  
35 levels, it was below the cadmium Effects Range-Low (ER-L) of 1.2 mg/kg (Long et al.  
36 1995) and would be unlikely to cause an adverse biological effect. Organotins and  
37 organochlorine pesticides were below their respective MDLs. Total polynuclear aromatic  
38 hydrocarbons (PAHs), total polychlorinated biphenyls (PCBs), and total Dichloro-  
39 diphenyl-trichloroethane (DDT) were reported at 1,207 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ),  
40 19.3  $\mu\text{g}/\text{kg}$  and 0  $\mu\text{g}/\text{kg}$ , respectively; each was below San Francisco Bay background

1 levels (SFBRWQCB 1998). In addition, a suspended sediment bioassay performed on  
2 the Project site sediment did not show any indication of toxicity.

3 Many different laboratory studies have attempted to determine the levels of suspended  
4 sediments that cause impacts on the physiology of marine organisms. Peddicord and  
5 McFarland (1978) found that most of the fish and invertebrates studied could withstand  
6 levels of resuspended sediments of up to 250 to 400 mg/L for a period of about 9 to 10  
7 days without effect. Clarke and Wilber (2000) provide extensive citations of suspended  
8 sediment concentrations related to various effect endpoints.

9 Green sturgeon, salmonids, longfin smelt, and delta smelt in the estuary commonly  
10 encounter areas of increased turbidity due to storm flow runoff events, wind and wave  
11 action, and benthic foraging activities of other aquatic organisms. Fish may be expected  
12 to avoid areas of high turbidity (Berg and Northcote 1985) and return when  
13 concentrations of suspended solids are lower. Moreover, as emphasized by Wilber and  
14 Clarke (2001), the short duration of expected encounters with the Project are an  
15 important aspect that would minimize any expected effects of sediment suspension. The  
16 minor and localized areas of turbidity associated with Project construction would not be  
17 expected to result in harm or injury, or behavioral responses that impair migration,  
18 foraging, or make listed fish more susceptible to predation. If green sturgeon,  
19 salmonids, longfin smelt or delta smelt temporarily relocate from areas of increased  
20 turbidity, areas of similar value are available in the Bay adjacent to the Project site and  
21 offer habitat of equal or better value for displaced individuals. Adjacent habitat areas  
22 also provide adequate carrying capacity to support individuals that are temporarily  
23 displaced during construction activities. Even if they potentially encounter resuspended  
24 sediments it is unlikely that the duration and exposure would be extensive enough to  
25 cause adverse impacts.

26 Because of the small shoreline component of the Project along existing riprap, there is  
27 little potential for impacts on special-status terrestrial species from this component of  
28 the proposed Project.

29 The Applicant has either proposed or agreed to the following mitigation measures  
30 (MMs) to minimize sediment resuspension and otherwise ensure potential impacts to  
31 aquatic organisms are less than significant:

32 **MM BIO-1: Minimize Sediment Resuspension During Removal Activities.** Divers  
33 shall be used to affix straps to the pipeline (no jetting or mechanical disturbance  
34 of the sediments shall be used) to minimize sediment resuspension. Spuds shall  
35 be used on the barge to minimize anchoring and the pipeline shall be raised  
36 slowly to the barge in order to minimize disturbance to the surrounding  
37 sediments. For the onshore work, where feasible, personnel and materials shall

1 be transported to the barge by means of a gangway from the shore to limit use of  
2 support vessels and minimize disturbance to bottom sediments.

3 **MM BIO-2: Environmental Work Window.** All in-water work shall be performed  
4 between June 1 and October 31 to minimize effects on sensitive species.

5 Based on the results of the sediment testing, existing research findings, the short  
6 duration of disturbance due to construction activities, the limited area and quantity of  
7 resuspended sediment, and the implementation of **MMs BIO-1** and **BIO-2**, sediments  
8 that may be displaced or resuspended during the removal of the wastewater pipeline  
9 would result in a less than significant impact to sensitive species in the immediate or  
10 general vicinity of construction activities.

11 ***b) Have a substantial adverse effect on any riparian habitat or other sensitive***  
12 ***natural community identified in local or regional plans, policies, regulations or by***  
13 ***the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

14 **Less than Significant Impact.** Due to the limited nature of the terrestrial component of  
15 the Project, there is little potential for impacts on special-status terrestrial species or  
16 riparian habitat. This is also true for Project-related personnel boarding the barge from  
17 the shore.

18 While not necessarily formally designated as such by the CDFW or the USFWS, for  
19 purposes of this analysis, the Bay and estuary system seafloor habitat was considered  
20 a sensitive natural community because of its biological value and unique ecological  
21 characteristics. The benthic habitat of the area where the pipeline would be removed as  
22 well as where the barge may ground during extreme low tides would be temporarily  
23 disturbed by pipeline removal and riprap removal and placement. These activities could  
24 result in physical displacement, habitat disturbance, and short-term temporary loss of  
25 foraging area for special-status fish such as green sturgeon, salmonids, longfin smelt,  
26 and delta smelt and Fishery Management Plan managed groundfish. Potential total  
27 temporary habitat loss for these activities is approximately 0.92 acre, which includes the  
28 pipeline length, a 20-foot buffer on each side of the pipeline, the barge, and riprap area.

29 Altering benthic habitat and associated infaunal and epifaunal communities can result in  
30 the loss or reduction of suitability as fish foraging habitat, especially for sensitive  
31 species including salmon, steelhead, green sturgeon, and groundfish. Following pipeline  
32 removal and replacement of riprap on the shoreline, deposition of fine sand-mud  
33 sediments, comparable to pre-removal conditions, would begin almost immediately and  
34 the benthic community inhabiting those sediments is expected to recover to pre-Project  
35 composition and abundances within a few months to up to 2 years, depending on when  
36 removal occurs and other ecological factors affecting recolonization (Newell et al. 1998).  
37 Based on the very small area of the Bay affected and the temporary nature of the  
38 activities, the potential impact on seafloor habitat is less than significant.

1 **c) Have a substantial adverse effect on federally protected wetlands as defined**  
2 **by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal**  
3 **pool, coastal, etc.) through direct removal, filling, hydrological interruption, or**  
4 **other means?**

5 **No Impact.** There are no wetlands as defined by Section 404 of the Clean Water Act  
6 (including, but not limited to, marsh, vernal pool, coastal, etc.) within the Project area.

7 **d) Interfere substantially with the movement of any native resident or migratory**  
8 **fish or wildlife species or with established native resident or migratory wildlife**  
9 **corridors, or impede the use of native wildlife nursery sites?**

10 **Less than Significant with Mitigation.** Due to the limited area of onshore work, there  
11 is little potential for interference to native resident or migratory wildlife species from the  
12 onshore component of the Project. Pipeline removal activities (e.g., pipeline removal,  
13 vessel movements and mooring, mooring anchor placement, and barge grounding) of 3  
14 weeks of construction period could result in physical disturbance and migration  
15 movement impacts to special-status fish species and other fish species. However,  
16 implementation of **MM BIO-2** would limit potential effects and ensure that impacts  
17 remain less than significant.

18 **e) Conflict with any local policies or ordinances protecting biological resources,**  
19 **such as a tree preservation policy or ordinance?**

20 **No Impact.** There are no local policies or ordinances protecting biological resources  
21 that currently apply to the Project site.

22 **f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural**  
23 **Community Conservation Plan, or other approved local, regional, or State habitat**  
24 **conservation plan?**

25 **No Impact.** The Project is consistent with the policies and objectives of the San  
26 Francisco Bay Plan (BCDC 2008) regarding biological resources and The San  
27 Francisco Bay Subtidal Habitat Goals Report (2010).

### 28 **3.4.4 Mitigation Summary**

29 Implementation of the following mitigation measures would reduce the Project-related  
30 impacts to less than significant.

- 31 • MM BIO-1: Minimize Sediment Resuspension During Removal Activities.
- 32 • MM BIO-2: Environmental Work Window.

1 **3.5 CULTURAL AND PALEONTOLOGICAL**

CULTURAL AND PALEONTOLOGICAL - Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.5.1 Environmental Setting**

3 **3.5.1.1 Prehistoric Context**

4 Prehistoric sites in the Hercules area are generally found along the edge of historic San  
 5 Francisco Bay margins, on valley and mid-slope terraces, and in hilly areas in terraces  
 6 along seasonal waterways. These margins have been the location of numerous  
 7 aboriginal villages and campsites due to the available food resources, which included a  
 8 combination of shellfish and fish resources and an environment that attracted birds and  
 9 wildlife (City of Hercules 1998). A Cultural Resource Assessment was done for the 2010  
 10 Coscol Project, which was located in the same area as this Project (ESA 2009).

11 **3.5.1.2 Ethnographic Setting**

12 The Project area is within the traditional territory of the Costanoan or Ohlone peoples  
 13 (ESA 2009). The Project area is located in the bordering territory of the Chochenyo and  
 14 Karkin languages. The ethnographic village closest to the Project area was xučyun  
 15 located south of Wildcat Creek southwest of the current Project area. In 1971,  
 16 descendants of Costanoan-speaking peoples formed the Ohlone Indian Tribe. Several  
 17 confirmed prehistoric sites are within the City and the nearest known prehistoric site is  
 18 located near Lone Tree Point. This prehistoric site, CA-CCO-258, a shellmound was  
 19 heavily disturbed by the Western Oil Refinery and substantially removed by the  
 20 construction prior to 1907 (ESA 2009).

21 **3.5.1.3 Historic-period Overview**

22 The Spanish first explored Northern California during the latter part of the 18<sup>th</sup> century.  
 23 Lone Tree Point was within the Pinole Rancho, confirmed to M.A.M. de Richardson in

1 1865. The Union Oil Company refinery at Oleum was constructed in 1895; it was the  
2 first oil refinery in the County, and the largest of its kind on the coast, in 1897. By 1902  
3 the Southern Pacific Railroad (now UPRR) was in place along the Bay shoreline. Office  
4 of Historic Preservation data for Contra Costa County show that several properties in  
5 the City date back to the late 19<sup>th</sup> century but these properties are not located on the  
6 Project site or in the immediately adjacent area (ESA 2009).

7 A search of the CSLC shipwreck database showed four shipwrecks in the vicinity of the  
8 Project site. A submerged cultural resource survey was done of the Pinole shores  
9 channel area and the UNOCAL wharf in 1996 (ESA 2009). The remains tentatively  
10 identified for the closest shipwreck, the Sagamore, are a few thousand feet west of the  
11 former Coscol wharf and appear to be west of the Project site.

### 12 **3.5.2 Regulatory Setting**

13 Federal and State laws and regulations pertaining to this issue area and relevant to the  
14 Project are identified in Table 3-1. Local goals, policies, and/or regulations applicable to  
15 this issue area are summarized below.

16 Both City and County General Plan policy is to protect and preserve important  
17 archeological, historic and prehistoric resources. On the County's Archeological  
18 Sensitivity map, the Project site was excluded from the survey due to the urban nature  
19 of the area.

### 20 **3.5.3 Impact Analysis**

#### 21 ***a) Cause a substantial adverse change in the significance of a historical*** 22 ***resource as defined in § 15064.5?***

23 **No Impact.** A Cultural Resource Sensitivity Assessment was conducted for the Coscol  
24 Project in 2010. The Coscol Project was located in the same onshore and offshore  
25 areas as the proposed Project, including the first 700 feet of the offshore pipeline trench  
26 area (ESA 2009) (see Figure 2-1). The records search conducted by White in 2005  
27 indicated that a prehistoric onshore site (CA-CCO-258/P-07-000138) consisting of a  
28 heavily disturbed shellmound first recorded in 1907 by N.C. Nelson, and later re-located  
29 by Western Anthropological Research in 1998, was present in the Project area (ESA  
30 2009). This prehistoric onshore site is not located within the Project boundaries. No  
31 historic structures occur onsite. The onshore and offshore work for the Coscol Project  
32 did not discover any historic resources. No impact to historic resource is expected from  
33 the Project.

#### 34 ***b) Cause a substantial adverse change in the significance of an archaeological*** 35 ***resource pursuant to § 15064.5?***

1 **Less than Significant Impact.** The onshore work and the first 700 feet of the 2,000  
2 feet of offshore work are located in the same area as the Coscol Project (Figure 2-1).  
3 While an archeological survey of the remaining 1,300 feet of the Project's offshore area  
4 has not been conducted, the recent multi-beam survey work conducted to locate the  
5 pipeline shows no evidence of any other unusual bottom features. An archeological  
6 record search, which included shipwrecks, completed for the Coscol Project identified  
7 that the closest shipwreck, the Sagamore, is expected to be to the west of the Project  
8 site (ESA 2009).

9 ***c) Directly or indirectly destroy a unique paleontological resource or site or***  
10 ***unique geologic feature?***

11 **No Impact.** The Project work onshore would only affect a very limited and highly  
12 disturbed area of the shoreline. This would include temporarily relocating approximately  
13 55 cubic yards of riprap, cutting and removing a short approximately 20-foot section of  
14 pipeline, and grouting the remaining 140 feet of onshore pipeline from the cut end of the  
15 pipeline. The proposed offshore pipeline removal would occur only in the upper layers of  
16 Bay sediment, and where the pipe is covered it has less than 2 feet of sediment cover  
17 (Pacific EcoRisk 2013). The covered portion of the pipeline is located in a previously  
18 disturbed area (the pipe was laid into a trench, and the cover over the pipe therefore  
19 consists of a combination of disturbed material and sediment that has accreted since  
20 the pipeline was installed) (see Figures 1-2 and 1-3). In addition, any other disturbance  
21 of the Bay bottom would be limited to the shallow recent sediment. Therefore impacts to  
22 unique paleontological resources would not be expected.

23 ***d) Disturb any human remains, including those interred outside of formal***  
24 ***cemeteries?***

25 **No Impact.** The discovery of human remains is unlikely within the Project area because  
26 most of the Project work would occur in areas already highly disturbed by the Coscol  
27 Project and during the installation of the original MOT and associated pipelines (see  
28 Figures 1-3 and 2-1). Since no human remains were found in this area during the  
29 Coscol Project in 2010, it is also expected that no human remains would be disturbed.

### 30 **3.5.4 Mitigation Summary**

31 The Project would not result in significant impacts; therefore, no mitigation is required.

1 **3.6 GEOLOGY AND SOILS**

<b>GEOLOGY AND SOILS – Would the Project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.6.1 Environmental Setting**

3 **3.6.1.1 Regional Setting**

4 The Project site lies within the Coast Ranges geomorphic region. The Coast Ranges  
 5 region lies between the Pacific Ocean and the Great Valley (Sacramento and  
 6 San Joaquin Valleys) geomorphic region and stretches from the Oregon border to the  
 7 Santa Ynez Mountains near Santa Barbara (ESA 2009). Much of the Coast Ranges are  
 8 composed of marine sedimentary deposits and volcanic rocks that form northwest

1 trending mountain ridges and valleys, running subparallel to the San Andreas Fault  
2 Zone (Figure 3.6-1). In the San Francisco Bay Area, movement along this plate  
3 boundary is distributed across a complex system of strike-slip, right-lateral, parallel and  
4 sub-parallel faults. These faults include the San Andreas, Hayward, Rodgers Creek-  
5 Healdsburg, Concord-Green Valley, Greenville-Marsh Creek, Calaveras, and West  
6 Napa Faults (ESA 2009) (Figure 3.6-1).

7 The Coast Ranges can be further divided into the northern and southern ranges, which  
8 are separated by the San Francisco Bay. The San Francisco Bay lies within a broad  
9 depression created from an east-west expansion between the San Andreas and the  
10 Hayward Fault systems (ESA 2009) (Figure 3.6-1). The San Francisco and San Pablo  
11 Bays including shoreline areas are generally comprised of soft compressible sediments  
12 known as Bay Mud, which can be very thick in areas (ESA 2009) (see Figure 1-1).

### 13 **3.6.1.2 Project Setting**

#### 14 **Geology**

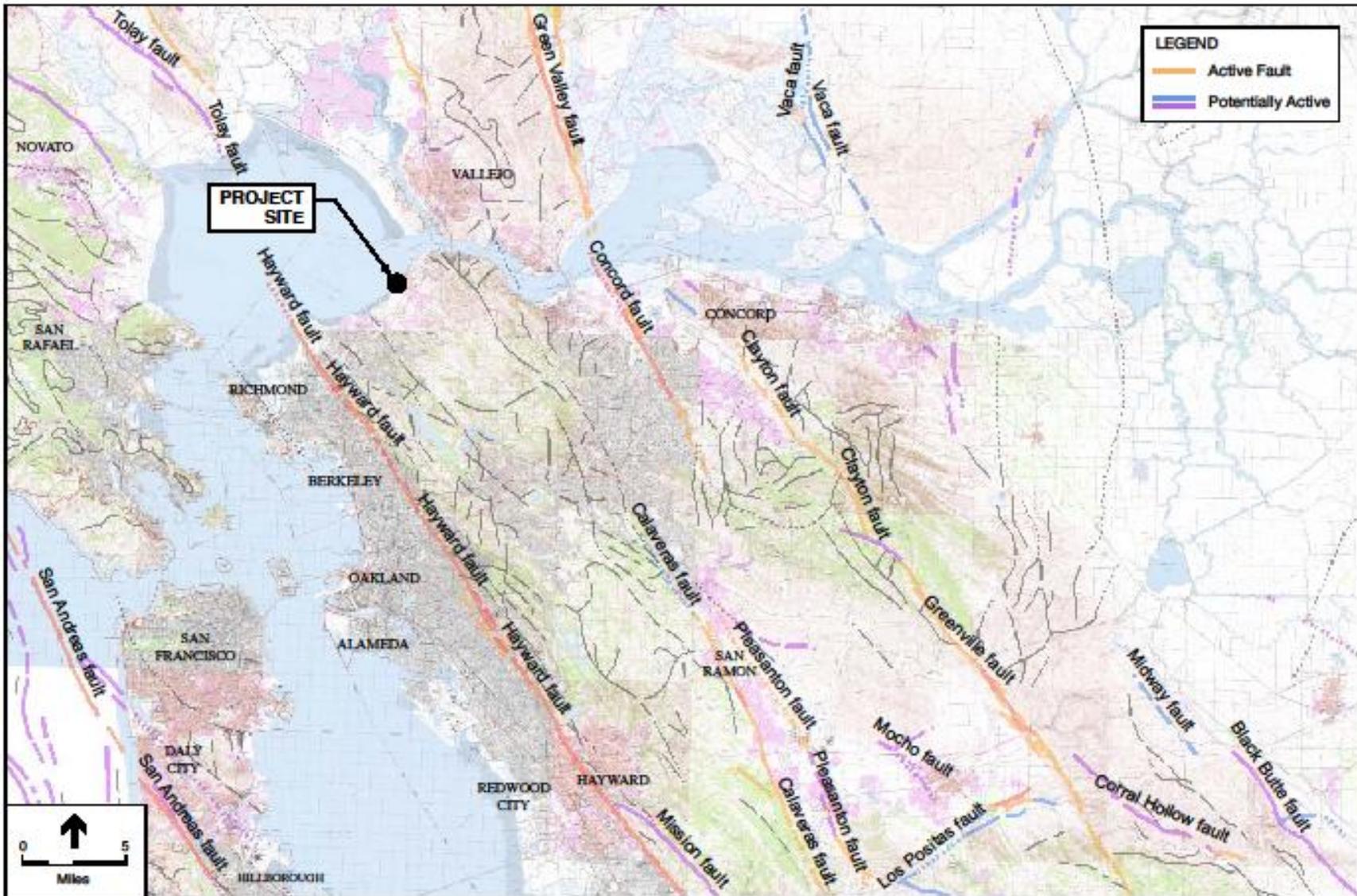
15 The Project site is located in northern Contra Costa County along and within San Pablo  
16 Bay. Geologically, this region is characterized by a series of northwest trending  
17 mountains and valleys. The region has undergone a complex geologic history of folding,  
18 faulting, uplift, sedimentation, volcanism, and erosion (ESA 2009).

19 The region is characterized primarily by sedimentary rocks, occasional volcanic rocks,  
20 and alluvial deposits. Regional basement rocks consist of the highly deformed Great  
21 Valley Sequence, which include massive beds of marine sandstone intermixed with  
22 siltstone and shale, and marine sandstone and shale overlain by soft non-marine units.  
23 Unconsolidated alluvial deposits, artificial fill, and estuarine deposits underlie the  
24 marginal areas along San Pablo Bay and Carquinez Strait (ESA 2009) (see Figure 1-1).

#### 25 **Faults and Seismicity**

26 The Project is located in the seismically active San Francisco Bay region. The San  
27 Francisco Bay region is situated on a plate boundary marked by the San Andreas Fault  
28 System, which consists of several northwest trending active and potentially active faults,  
29 as shown on Figure 3.6-1. The 2007 Working Group on California Earthquake  
30 Probabilities evaluated the probability of one or more earthquakes of magnitude 6.7 or  
31 higher occurring in the State of California over the next 30 years. The result of the  
32 evaluation indicated a 63 percent likelihood that such an earthquake event would occur  
33 in the Bay Area (ESA 2009). The site could be subjected to damage from movement on  
34 any one of the active San Francisco Bay Area earthquake faults. The Project area is  
35 located approximately mid-way between the active Hayward and Concord-Green Valley  
36 faults, as shown on Figure 3.6-1.

Figure 3.6-1. Regional Fault Map



1 Table 3.6-1 lists the nearest active and potentially active faults, Maximum Credible  
 2 Earthquake (MCE), and the probability of occurrence. The closest active fault to the  
 3 Project area is the Hayward fault, located approximately 7 miles to the southwest (ESA  
 4 2009).

5 **Table 3.6-1. Active Faults in the Project Site Vicinity**

Fault	Location and Direction from Project Area	Recency of Movement	Fault Classification <sup>a</sup>	Historical Seismicity <sup>b</sup>	Maximum Moment Magnitude Earthquake (Mw) <sup>c</sup>
Hayward	7 miles southwest	Pre-Historic (possible 1836; 1868 ruptures) Holocene	Active	M6.8, 1868 Many <M4.5	7.1
West Napa	8 miles north	Holocene	Active	Not Applicable	6.5
Concord-Green Valley	9 miles east	Historic (1955) Holocene	Active	Historic active creep	6.9
Rodgers Creek	12 miles northwest	Historic Holocene	Active	M6.7, 1898 M5.6, 5.7, 1969	7.0
Pleasanton	22 miles southeast	Holocene	Active	Not Applicable	5.5
San Andreas	25 miles west	Historic (1906; 1989 ruptures)	Active	M7.1, 1989 M8.25, 1906 M7.0, 1838 Many <M6	7.9
Calaveras (northern)	25 miles southeast	Historic (1861 rupture) Holocene	Active	M5.6-M6.4, 1861 M4 to M4.5 swarms 1970, 1990	6.8
Marsh Creek-Greenville	28 miles southeast	Historic (1980 rupture) Holocene	Active	M5.6 1980	6.9

<sup>a</sup> An “active” fault is defined by the State of California as a fault that has had surface displacement within Holocene time (approximately the last 11,000 years). A “potentially active” fault is defined as a fault that has shown evidence of surface displacement during the Quaternary (last 1.6 million years), unless direct geologic evidence demonstrates inactivity for all of the Holocene or longer. This definition does not, of course, mean that faults lacking evidence of surface displacement are necessarily inactive. “Sufficiently active” is also used to describe a fault if there is some evidence that Holocene displacement occurred on one or more of its segments or branches (Hart, 1997).

<sup>b</sup> Richter magnitude (M) and year for recent and/or large events. The Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave.

<sup>c</sup> Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Moment magnitude provides a physically meaningful measure of the size of a faulting event (CGS 2002). The Maximum Moment Magnitude Earthquake (Mw), derived from the joint CGS/USGS Probabilistic Seismic Hazard Assessment for the State of California, 1996 (Peterson 1996).

Source: ESA 2009

1 **3.6.1.3 Seismic Hazards**

2 Seismic hazards as explained below include groundshaking, liquefaction, and other  
3 geological hazards such as lateral spreading, differential settlement, soil erosion,  
4 landslides, and inundation by encroaching waves (tsunami and seiches).

5 **Groundshaking**

6 Ground movement intensity during an earthquake can vary depending on the overall  
7 magnitude, distance to the fault, focus of earthquake energy, and type of geologic  
8 material. Areas that are underlain by bedrock tend to experience less ground shaking  
9 than those underlain by unconsolidated sediments such as artificial fill. Earthquake  
10 groundshaking may have secondary effects on certain foundation materials, including  
11 liquefaction and seismically induced settlement (ESA 2009).

12 **Liquefaction**

13 Liquefaction is the sudden temporary loss of shear strength in saturated, loose to  
14 medium-density granular sediments subjected to ground shaking. When this occurs, it  
15 can cause foundation failure of buildings and other facilities. The potential for  
16 liquefaction depends on a number of factors including the duration and intensity of  
17 earthquake shaking, particle size distribution of the soil, density of the soil, and  
18 elevation of the groundwater. According to the Association of Bay Area Governments  
19 (ABAG) Liquefaction Susceptibility Map, the land-based portions of the Project have a  
20 very low risk of liquefaction (ESA 2009). The mapping does not include submerged  
21 areas of the bay.

22 **Other Geologic Hazards**

- 23 • Differential Settlement. Soil that settles unevenly particularly after liquefaction  
24 has occurred because the soil layers that liquefy are not of a uniform thickness.  
25 Differential settlement can damage structures, including buildings and utilities.
- 26 • Landslides. Landslides consist of the movement of rock and soil down steep  
27 slopes. The potential risk of landslides is dependent on the slope and geology of  
28 an area as well as the amount of rainfall, excavation, and seismic activity.  
29 Landslides can cause severe damage to structures.
- 30 • Lateral Spreading. Refers to landslides that typically occur on gentle slopes and  
31 have rapid fluid-like flow movement.
- 32 • Soil Erosion. Loss of soil due to running water or wind. Most typically of concern  
33 in areas with steep slopes and exposed soils. Rates of erosion can vary  
34 depending on the soil material and structure, placement and human activity.

- 1       • Tsunamis and seiches. A tsunami is a long high sea wave caused by an  
2 earthquake, submarine landslide, or other disturbance. Due to the narrowness of  
3 the Golden Gate, tsunamis pose relatively little risk inside the Bay. A seiche is a  
4 standing wave oscillation in an enclosed waterbody that continues after the  
5 cessation of the originating force. Seiches may be triggered by atmospheric  
6 conditions or seismic events. Seiches and tsunamis can inundate nearshore  
7 areas.

### 8   **3.6.2 Regulatory Setting**

9   Federal and State laws and regulations pertaining to this issue area and relevant to the  
10 Project are identified in Table 3-1. Local goals, policies, and/or regulations applicable to  
11 this issue area are summarized below.

12   The County has policies in its General Plan to protect the long-term productivity and  
13 economic value of its soil resources. Consistent with the California Building code, the  
14 County also has restriction for building on certain soils and geological areas due to the  
15 geologic and erosions hazard.

### 16   **3.6.3 Impact Analysis**

17   ***a) Expose people or structures to potential substantial adverse effects, including***  
18 ***the risk of loss, injury, or death involving:***

19       ***i) Rupture of a known earthquake fault, as delineated on the most recent***  
20 ***Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for***  
21 ***the area or based on other substantial evidence of a known fault? Refer to***  
22 ***Division of Mines and Geology Special Publication 42.***

23   **No Impact.** There are no known active faults traversing the Project site and therefore,  
24 rupture of a known fault is not considered a potential geologic hazard that could affect  
25 the Project (see Figure 3.6-1). The Project would not construct any structures. The  
26 Project does not lie within or near an Alquist-Priolo Earthquake zone and would have a  
27 very low potential for fault rupture to occur near any of the Project elements. Therefore,  
28 there would be no impact from fault rupture.

29       ***ii) Strong seismic ground shaking?***

30   **Less than Significant Impact.** The San Francisco Bay Area is considered to be  
31 seismically-active region. The Project site is located in an area that has the potential to  
32 be subject to significant groundshaking from an earthquake along any of the active  
33 faults located in the region including the Hayward Fault, the closest fault to the Project  
34 site (see Figure 3.6-1). However, the Project does not include construction of any  
35 habitable structures that could potentially be damaged or cause injury or death. Workers

1 may be subject to groundshaking in the event that a significant earthquake occurred  
2 during the Project, but the likelihood of this occurring during the relatively short (less  
3 than 1 month) work period is relatively remote. Therefore, the potential impact from  
4 groundshaking is less than significant.

5 ***iii) Seismic-related ground failure, including liquefaction?***

6 **No Impact.** Mapping compiled by ABAG shows that the land-based work sites of the  
7 Project are located in an area mapped as having a very low potential for liquefaction.  
8 The Project does not include the construction of any structures that could potentially be  
9 damaged or cause injury or death because of liquefaction. Therefore, there is no  
10 potential impact from liquefaction.

11 ***iv) Landslides?***

12 **No Impact.** The land-based portions of the Project site are relatively level and would not  
13 be subject to any landslides. No impact would be expected.

14 ***b) Result in substantial soil erosion or the loss of topsoil?***

15 **Less than Significant Impact.** Project activities would consist primarily of offshore  
16 work associated with the pipeline removal, which would not disturb surface soils. The  
17 land-based portions of the Project include the cutting and removing of about a 20-foot  
18 section of the pipeline and abandoning in place of the remaining 140 feet of subsurface  
19 wastewater pipeline. There is little potential for erosion throughout the small Project  
20 area due to the minimal soil exposure during the riprap removal and grouting process.  
21 All work would be conducted using Best Management Practices (BMPs) to avoid  
22 potential erosion, such as Project scheduling that avoids storm events, protection of any  
23 stockpiled material, and limiting the exposed soil in the area. The Project would not  
24 cause erosion and the impact would be less than significant.

25 ***c) Be located on a geologic unit or soil that is unstable, or that would become***  
26 ***unstable as a result of the Project, and potentially result in on- or off-site***  
27 ***landslide, lateral spreading, subsidence, liquefaction or collapse?***

28 **No Impact.** The Project does not include the construction of any structures. There  
29 would be no impact from the pipeline removal and abandonment to the Project area  
30 from unstable soils including landslides, lateral spreading, subsidence, liquefaction, and  
31 collapse as discussed earlier in this same section.

32 ***d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform***  
33 ***Building Code (1994), creating substantial risks to life or property?***

1 **No Impact.** The Project does not include any aboveground improvements that would be  
2 susceptible to the effects of expansive soils; therefore, there would be no impact from  
3 the Project.

4 ***e) Have soils incapable of adequately supporting the use of septic tanks or***  
5 ***alternative waste water disposal systems where sewers are not available for the***  
6 ***disposal of waste water?***

7 **No Impact.** No septic tanks or alternative wastewater systems are proposed for the  
8 Project; therefore, there would be no impact from the Project.

9 **3.6.4 Mitigation Summary**

10 The Project would not result in significant impacts; therefore, no mitigation is required.

1 **3.7 HAZARDS AND HAZARDOUS MATERIALS**

<b>HAZARDS AND HAZARDOUS MATERIALS –</b> Would the Project:	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.7.1 Environmental Setting**

3 The Project would use equipment and materials that would be transported and stored  
 4 on vessels for the duration of Project’s 3-week construction period as described in  
 5 Section 2. The presence or transportation of contaminated or hazardous materials in the

1 Project area could affect workers, residents, and the environment. All hazardous  
2 materials used for the Project would be transported from the contractor's shore-based  
3 facilities to the Project site and stored on the barges or tugboats. Materials would be  
4 located on the barge and transported by crew boat and work skiff to the barge as  
5 needed. The above-mentioned materials could include fuel (diesel and gasoline), grout,  
6 compressed acetylene and other welding gases, penetrating oil, non-toxic  
7 biodegradable hydraulic oil, lubricating oils, batteries, and marking paint.

8 Contaminated or hazardous materials within the contractor's shore-based facilities (see  
9 Section 2.5 for more details) could affect residents, workers, and visitors. The  
10 contractor's shore-based facilities are permanent facilities that comply with all regulatory  
11 requirements and would not be located at the Project site.

12 The submerged portion of the pipeline was previously used for wastewater discharge  
13 and could potentially be partially filled with seawater.

### 14 **3.7.2 Regulatory Setting**

15 Federal and State laws and regulations pertaining to this issue area and relevant to the  
16 Project are identified in Table 3-1. Local goals, policies, and/or regulations applicable to  
17 this issue area are summarized below.

18 The City has a Hazardous Waste Management Plan incorporated into its General Plan  
19 with the following goals: safe and effective management of hazardous waste within the  
20 City; and protection of public health and safety and the environment (City of Hercules  
21 1998). The County also has a Hazardous Waste Management Plan that is incorporated  
22 into its General Plan. The goals and policies relevant to waste disposal are to eliminate  
23 the generation and the disposal of hazardous waste to the maximum extent feasible  
24 (Contra Costa County 2005).

### 25 **3.7.3 Impact Analysis**

26 ***a) Create a significant hazard to the public or the environment through the***  
27 ***routine transport, use, or disposal of hazardous materials?***

28 **Less than Significant Impact.** The Project would require the use of following  
29 hazardous materials (containing possible hazardous components) on the barges and  
30 onshore: fuel (diesel and gasoline); grout (for the pipeline); acetylene and other  
31 compressed gases for cutting torches; penetrating oils, lubricating oils and hydraulic oils  
32 for equipment; batteries; and marking paint.

33 The pipeline is expected to consist of schedule 40 asphalt-mastic and mortar-coated  
34 steel pipe, with welded joints surrounded by a steel casing sleeve underneath the  
35 UPRR ROW. The pipeline would be cut on the barge and taken to the contractor's

1 shore-based facility for testing and transport to an appropriate recycling or disposal  
2 facility. Although it is not expected to be contaminated and sediment testing around the  
3 pipeline did not indicate chemical concentrations of concern, the pipeline itself would be  
4 tested prior to recycling or disposal.

5 The majority of the onshore portion of the pipeline would be grouted and capped. If  
6 grout dust is inhaled it can irritate mucous membranes in the sinuses and lungs, and  
7 can be a mild skin irritant for humans. When wet, grout has a high pH that can be a skin  
8 irritant. After curing, grout is essentially inert.

9 The activities at the contractor's shore-based facility would include routine  
10 transportation and use of hazardous materials under current permits. The Applicant  
11 contract would require the contractor to hold all applicable permits and comply with all  
12 applicable laws and regulations. The routine hazardous materials used would include  
13 diesel fuel, gasoline, hydraulic oil, lubricating oils, grease, compressed acetylene,  
14 welding gases, and other industrial materials. All hazardous materials en route to or  
15 from the barges would be staged at the contractor's shore-based facility.

16 There would be no routinely scheduled transport, use, or disposal of hazardous  
17 materials associated with the Project. Activities involving hazardous materials would be  
18 limited to the short construction period. As described in Section 2, all work would be  
19 done according to approved plans to manage hazardous materials. Project plans  
20 include measures to manage and control hazardous materials and to contain any  
21 potential spills. The Project would not include the routine transportation, use and  
22 disposal of hazardous materials, and appropriate plans would be in place to ensure that  
23 short-term transportation, use, and disposal of hazardous materials during the  
24 construction period would occur in a safe manner.

25 ***b) Create a significant hazard to the public or the environment through***  
26 ***reasonably foreseeable upset and accident conditions involving the release of***  
27 ***hazardous materials into the environment?***

28 **Less than Significant with Mitigation.** The sediments were tested in March 2013 and  
29 were determined to be neither hazardous nor toxic. Accidental releases of hazardous  
30 materials from the barges, the onshore grouting operations, or onshore work area could  
31 occur during the construction process. Accidents during the Project could include  
32 equipment leaks, e.g., hydraulic fluid, fuel spills, or other petroleum product releases to  
33 surface waters. Accidents involving fuel or flammable compressed gases could result in  
34 a fire. During the removal of the pipeline, Bay sediments could be disturbed and re-  
35 suspended in the water column as a result of Project activities.

36 While considered unlikely, an accidental diesel fuel or grout material release into the  
37 marine environment could result in potentially significant impacts to marine biota without

1 the incorporation of mitigation. Accidental releases of hazardous materials and/or waste  
2 from barges or onshore work would be minimized through the design of the proposed  
3 Project, construction requirements, and **MMs HAZ-1** through **HAZ-3** below. All work  
4 would be done according to approved plans to manage hazardous materials. The  
5 hazardous materials management processes included in the Project as described in  
6 Section 2, including development of plans, would minimize potential impacts.

7 **MM HAZ-1: Oil Spill Prevention and Response Plan (OSPRP)/Grout**  
8 **Management Plan (GMP).** The Applicant shall develop and submit to California  
9 State Lands Commission staff for review and approval an OSPRP/GMP that  
10 addresses accidental releases of petroleum and/or non-petroleum products  
11 (including grout) during Project operations. The OSPRP/GMP shall include the  
12 following information:

- 13 • Specific steps to be taken in the event of a spill, including notification names,  
14 phone numbers, and locations of: (1) nearby emergency medical facilities,  
15 and (2) wildlife rescue/response organizations (e.g., Oiled Wildlife Care  
16 Network);
- 17 • Description of crew training and equipment testing procedures; and
- 18 • Description, quantities and location of spill response equipment onboard the  
19 vessel.

20 **MM HAZ-2: Approved Vessel Fueling Guidelines.** Vessel fueling shall only occur  
21 at an approved docking facility. No cross vessel fueling shall be allowed.

22 **MM HAZ-3: Onboard Spill Response Equipment.** Onboard spill response  
23 equipment and supplies shall be sufficient to contain and recover the worst-case  
24 scenario spill of petroleum and/or non-petroleum products as outlined in the Oil  
25 Spill Prevention and Response Plan (OSPRP).

26 ***c) Emit hazardous emissions or handle hazardous or acutely hazardous***  
27 ***materials, substances, or waste within one-quarter mile of an existing or***  
28 ***proposed school?***

29 **No Impact.** There are no existing or proposed schools within 0.25 mile of the Project  
30 site even though the Project would involve handling of hazardous materials. The Rodeo  
31 Hills Elementary School, 0.38 mile southeast of the pipeline onshore work location, is  
32 the nearest school to the Project site (Google Earth 2013).

33 ***d) Be located on a site which is included on a list of hazardous materials sites***  
34 ***compiled pursuant to Government Code section 65962.5 and, as a result, would it***  
35 ***create a significant hazard to the public or the environment?***

1 **No Impact.** Listings of onshore hazardous materials sites compiled pursuant to  
 2 Government Code section 65962.5 were searched to identify potential onshore hazards  
 3 that could be exposed by the Project. The Project is located adjacent to the Sequoia  
 4 Pacific Refining site, which is found on the list of hazardous materials sites at the  
 5 California Department of Toxic Substances Control (DTSC) “EnviroStor” database  
 6 (DTSC 2013) compiled pursuant to Government Code section 65962.5. The refinery  
 7 complex was built in 1966 and operated for 31 years, ceasing operations in 1997 (see  
 8 Section 1.5). The land was acquired by Hercules LLC, remediated, and redeveloped  
 9 into the Subdivision (completed in 2006). This site is listed as “Historical” but includes  
 10 no specified contaminants of concern. In addition, Hercules LLC is listed on the  
 11 database as a “Protective Filer” and no permits or activities are listed for the site. The  
 12 results of the “EnviroStor” database search are summarized in Table 3.7-1, below.

13 **Table 3.7-1. Onshore Hazardous Material Sites in the Project Vicinity**

Location	EnviroStor
Sequoia Pacific Refining	Sequoia Pacific Corps. (EnviroStor Id. No. 07290005) Listed as Historical, no specified contaminants
Hercules LLC	Hercules LLC EnviroStor Id. No. CAT000617407). Located at the Subdivision (Victoria By The Bay Subdivision). Listed as “Protective Filer”. No permits or activities at this site.

Source: EnviroStor 2013

14 The Project work would be limited to a small area adjacent to the shoreline for the  
 15 purpose of cutting, grouting and capping the pipeline to be abandoned in place. There  
 16 would be very minimal excavation or removal of surface soil, if any. Excavated soil  
 17 would include sediment on the ground surface that is incidental to the removal of the  
 18 riprap. While the riprap is being removed, small amounts of soil could be scraped up  
 19 from the clamshell bucket as it is moving a piece of riprap. It is anticipated that for any  
 20 individual rock removal near the sediment surface (i.e., those pieces of riprap resting  
 21 directly on the underlying soil or sediment), 6 to 12 inches of sediment surrounding that  
 22 piece of riprap could be excavated along with removing the rock. Any such excavation  
 23 would occur at the same locations that were disturbed by the 2010 Coscol Project (see  
 24 Figure 2-1). The more extensive excavation for that Coscol Project reported no safety  
 25 hazards for workers. All work would be done according to approved plans. Project plans  
 26 include measures to manage and control hazardous materials and to contain any  
 27 potential spills, as identified in **MM HAZ-1** above. In addition, sediments in the Project  
 28 area were tested in March 2013 and were found to be neither hazardous nor toxic.

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

1 **No Impact.** The Buchanan Airport in Concord, greater than 2 miles from the Project  
2 site, is the closest airport. There are no public airports within 2 miles of the Project;  
3 therefore, no impact would be expected.

4 ***f) For a project within the vicinity of a private airstrip, result in a safety hazard***  
5 ***for people residing or working in the project area?***

6 **No Impact.** No private airstrips were found within the vicinity of the Project or the  
7 potential contractor's shore-based facilities (see Section 2.5 for more details).  
8 Therefore, no impact would be expected.

9 ***g) Impair implementation of or physically interfere with an adopted emergency***  
10 ***response plan or emergency evacuation plan?***

11 **No Impact.** Project activities would not physically interfere with an emergency response  
12 plan or affect the implementation of an emergency response plan (see Section 3.3.13,  
13 Public Services, (a), as well as Section 3.3.15, Transportation and Traffic, (e), for a  
14 discussion of potential impacts to emergency response plans during the Project).  
15 Therefore, no impact would occur.

16 ***h) Expose people or structures to a significant risk of loss, injury or death***  
17 ***involving wildland fires, including where wildlands are adjacent to urbanized***  
18 ***areas or where residences are intermixed with wildlands?***

19 **No Impact.** Pipeline removal work of approximately 3 weeks would be performed from a  
20 barge or in a small work area in the narrow strip of land between the UPRR tracks and  
21 San Pablo Bay. Site safety plans would be in place to address fire danger at the Project  
22 site. The Project is not located within wildlands, and does not pose a risk of wildland  
23 fire.

#### 24 **3.7.4 Mitigation Summary**

25 Implementation of the following mitigation measures would reduce the Project-related  
26 impacts to less than significant.

- 27 • MM HAZ-1: Oil Spill Prevention and Response Plan (OSPRP)/Grout  
28 Management Plan (GMP).
- 29 • MM HAZ-2: Approved Vessel Fueling Guidelines.
- 30 • MM HAZ-3: Onboard Spill Response Equipment.

1 3.8 HYDROLOGY AND WATER QUALITY

HYDROLOGY AND WATER QUALITY – Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

1 **3.8.1 Environmental Setting**

2 **3.8.1.1 Regional Hydrologic Setting**

3 The Project area lies within the San Francisco Bay Area Hydrologic Basin. San  
4 Francisco Bay is an estuary receiving its major source of freshwater from the  
5 Sacramento-San Joaquin drainage basin which discharges into the Bay. Freshwater  
6 strongly influences environmental conditions in the San Francisco Bay Estuary. The Bay  
7 is also influenced by incoming salt water from the ocean. Because of its highly dynamic  
8 and complex environmental conditions, San Francisco Bay supports an extraordinarily  
9 diverse and productive ecosystem. San Francisco Bay deepwater channels, tidelands,  
10 and marshlands provide a wide variety of habitats that are important to sensitive and  
11 endangered plant and animal species.

12 **3.8.1.2 Climate**

13 Western County has a moderate climate with an average annual precipitation of  
14 approximately 23 inches per year (ESA 2009). The climate is generally characterized by  
15 relatively cool summers and mild winters. In summer, a steady marine wind blows  
16 through the Golden Gate and up the Carquinez Strait. This moderating influence is  
17 reflected in average July temperatures of 65 degrees Fahrenheit (°F) and average  
18 January temperatures of 50°F.

19 **3.8.1.3 Project Setting**

20 The Project area is primarily located offshore within the Bay, but also extends onto land  
21 south of Lone Tree Point in the City. The land-based portion of the Project area lies  
22 within the Refugio Creek watershed but is not located near any stream or riparian areas.  
23 Refugio Creek has a total length of 4-½ miles and flows largely through urban areas  
24 before emptying into the Bay.

25 **3.8.1.4 Water Quality**

26 In the San Francisco Bay Basin Plan, the SFBRWQCB (2011) identifies a number of  
27 beneficial uses of the Bay that must be protected. The beneficial uses include  
28 commercial and sport fishing, estuarine habitat, industrial service supply, fish migration,  
29 navigation, contact and non-contact recreation, wildlife habitat, estuarine habitat,  
30 preservation of rare and endangered species, fish spawning, shellfish harvesting, and  
31 wildlife habitat (SFBRWQCB 2011).

32 As required by the Clean Water Act (CWA), the SFBRWQCB has identified the Bay as  
33 an impaired water body (due to non-attainment of water quality standards) for the  
34 following contaminants on the CWA Section 303(d) list:

- 1 • Pesticides diazinon, chlordane, DDT, dieldrin;
- 2 • Dioxin compounds;
- 3 • Furan compounds;
- 4 • Exotic species;
- 5 • Polychlorinated biphenyls (PCBs); and
- 6 • Metals mercury, selenium, and nickel (nickel is proposed for delisting).

7 Sources of these pollutants or stressors include: nonpoint sources associated with  
8 urban development; atmospheric deposition; ballast water; industrial and municipal  
9 point sources; agriculture; natural sources; and exotic species (SFBRWQCB 2007,  
10 2010).

### 11 **3.8.2 Regulatory Setting**

12 Federal and State laws and regulations pertaining to this issue area and relevant to the  
13 Project are identified in Table 3-1. Local goals, policies, and/or regulations applicable to  
14 this issue area are summarized below.

15 The City includes water quality and hydrology objectives in the Conservation Element of  
16 its General Plan. The primary relevant water quality objective is to improve surface  
17 water runoff which includes BMPs for new development. The hydrology objective is to  
18 reduce flooding in flood prone areas.

19 The County's overall policy is for projects to comply with the requirements of the  
20 RWQCB. It also has conservation goals related to water quality (Contra Costa County  
21 2005). One of the relevant conservation goals is to preserve and protect the natural  
22 resources. In addition, the County also has the goal to:

- 23 • Encourage the preservation and natural resource characteristics of the San  
24 Francisco Bay/Delta estuary and adjacent lands, and
- 25 • Recognize the role of Bay vegetation and water area in maintain favorable  
26 climates, air, and water quality, and fisheries and migratory waterfowl (Contra  
27 Costa County 2005).

### 28 **3.8.3 Impact Analysis**

#### 29 ***a) Violate any water quality standards or waste discharge requirements?***

30 **Less than Significant Impact.** The Project is not expected to conflict with any water  
31 quality standards or waste discharge requirements. The Project pipeline was used for  
32 wastewater discharge during refinery operations and subsequently for groundwater

1 extraction and treatment as part of the site remediation completed in 2001. It has not  
2 been used since 2001 and could potentially contain seawater.

3 Prior to construction, the Applicant is required to obtain permits from or coordinate with  
4 the following agencies: SFBRWQCB (401 Water Quality Certification Permit), USFWS;  
5 Bay Conservation and Development Commission (BCDC; Permit), NMFS, USACE  
6 (Section 10 Permit), and CDFW, as necessary.

7 As mentioned in Section 3.4.3, sediment was characterized for contaminants including  
8 mercury, and the concentrations for all analytes were below existing TMDLs. The  
9 suspended phase toxicity test results exhibited a lack of toxicity within the elutriate of  
10 site sediment and water. In addition, the Project would disturb only a small area  
11 underneath the existing riprap where the pipeline would be cut and grouted, and  
12 standard erosion control procedures would be implemented.

13 ***b) Substantially deplete groundwater supplies or interfere substantially with***  
14 ***groundwater recharge such that there would be a net deficit in aquifer volume or***  
15 ***a lowering of the local groundwater table level (e.g., the production rate of pre-***  
16 ***existing nearby wells would drop to a level which would not support existing land***  
17 ***uses or planned uses for which permits have been granted)?***

18 **No Impact.** The Project would not affect groundwater because no subsurface  
19 excavation, use of groundwater supplies, or work would affect groundwater recharge.

20 ***c) Substantially alter the existing drainage pattern of the site or area, including***  
21 ***through the alteration of the course of a stream or river, in a manner which would***  
22 ***result in substantial erosion or siltation on- or off-site?***

23 **No Impact.** The Project would not affect any drainage areas because the onshore work  
24 would be located outside of any watercourse and the onshore work would be limited to  
25 the riprap area.

26 ***d) Substantially alter the existing drainage pattern of the site or area, including***  
27 ***through the alteration of the course of a stream or river, or substantially increase***  
28 ***the rate or amount of surface runoff in a manner which would result in flooding***  
29 ***on- or off-site?***

30 **No Impact.** The Project would not affect any drainage patterns. It would not add any  
31 impervious surfaces nor would it alter the course of any stream or river.

32 ***e) Create or contribute runoff water which would exceed the capacity of existing***  
33 ***or planned stormwater drainage systems or provide substantial additional***  
34 ***sources of polluted runoff?***

1 **No Impact.** The Project would not contribute to runoff water to stormwater systems and  
2 would not generate additional sources of polluted runoff. The Project would not include  
3 any elements that would produce substantial runoff directed toward any existing  
4 drainage systems.

5 **f) Otherwise substantially degrade water quality?**

6 **Less than Significant with Mitigation.** Disturbance of the sediment could resuspend  
7 contaminants into the water column, but the effect would be highly localized and of short  
8 duration, as discussed in Section 3.3, Biological Resources. Sampling and chemical  
9 analysis and toxicity testing of sediments along the submerged pipeline corridor was  
10 performed by Pacific EcoRisk (2013), on behalf of the Applicant in March 2013. Total  
11 PCBs, total DDTs, PAHs, pesticides, and metals were analyzed. Physical and chemical  
12 analytical results were compared to San Francisco Bay ambient sediment  
13 concentrations. The study concluded that concentrations of contaminants found in  
14 sediments along the submerged pipeline route were similar to or below background  
15 levels typically found in sediments within San Francisco Bay. Pesticide concentrations  
16 were very low (below the detection limits of the test). Cadmium was the only exception,  
17 and was detected at concentrations above San Francisco Bay background levels but  
18 below the Effects Range-Low (ERL) level for cadmium. The ERL is the concentration of  
19 a contaminant below which biological effects are rarely observed or predicted (Pacific  
20 EcoRisk 2013). It is not expected that the detected concentrations of cadmium would  
21 have a significant negative biological effect. Toxicity testing of the sediments that could  
22 be resuspended and affect water quality was also performed, and showed that  
23 disturbance of the sediment along the pipeline trench is not expected to have an  
24 adverse impact (Pacific EcoRisk 2013).

25 Nonetheless, because increased turbidity and sediment resuspension could result in an  
26 adverse impact to water quality, the Applicant has either proposed or agreed to  
27 implement MMs to minimize sediment resuspension and otherwise ensure potential  
28 impacts to water quality are less than significant. In this case, **MM BIO-1**, which would  
29 be implemented to reduce biological resource impacts, would also reduce water quality  
30 impacts. It reads:

31 **MM BIO-1: Minimize Sediment Resuspension During Removal Activities.** Divers  
32 shall be used to affix straps to the pipeline (no jetting or mechanical disturbance  
33 of the sediments shall be used) to minimize sediment resuspension. Spuds shall  
34 be used on the barge to minimize anchoring and the pipeline shall be raised  
35 slowly to the barge in order to minimize disturbance to the surrounding  
36 sediments. For the onshore work, where feasible, personnel and materials shall  
37 be transported to the barge by means of a gangway from the shore to limit use of  
38 support vessels and minimize disturbance to bottom sediments.

1 Water quality would also be protected from spills by managing fueling operations and  
2 handling and use of other hazardous materials as described in Sections 2 and 3.7.

3 ***g) Place housing within a 100-year flood hazard area as mapped on a federal***  
4 ***Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard***  
5 ***delineation map?***

6 **No Impact.** There is no existing housing, and none is planned from the Project.

7 ***h) Place within a 100-year flood hazard area structures which would impede or***  
8 ***redirect flood flows?***

9 **No Impact.** No structures would be constructed as part of the Project.

10 ***i) Expose people or structures to a significant risk of loss, injury or death***  
11 ***involving flooding, including flooding as a result of the failure of a levee or dam?***

12 **No Impact.** No levees or dams are located on the Project site, and no new structures  
13 are proposed.

14 ***j) Inundation by seiche, tsunami, or mudflow?***

15 **Less than Significant Impact.** The Project site is primarily located within the Carquinez  
16 portion of the Bay. Areas that are susceptible to tsunami inundation tend to be located  
17 in low-lying coastal areas and these waves would be substantially muted as they near  
18 the Carquinez Strait. Due to the large size of Bay, the hazard from seiche waves is low.  
19 The Project site is not located in an area that is susceptible to mudflows. Since the  
20 Project is expected to occur over a 3-week period, an impact from a tsunami or seiche  
21 would be unlikely.

#### 22 **3.8.4 Mitigation Summary**

23 Implementation of the following mitigation measure would reduce the Project-related  
24 impacts to less than significant.

- 25
  - MM BIO-1: Minimize Sediment Resuspension During Removal Activities.

1 **3.9 LAND USE AND PLANNING**

<b>LAND USE AND PLANNING – Would the Project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.9.1 Environmental Setting**

3 The Project is located in the city of Hercules in the northwestern part of Contra Costa  
 4 County, adjacent to the town of Rodeo (Figure 1-1). The predominant land use at the  
 5 Project site is open water in San Pablo Bay, and open space onshore. A description of  
 6 current land uses in and adjacent to the Project area is included below.

7 **3.9.1.1 Existing Land Uses – Onshore**

8 Existing land uses on the onshore portion of the Project area include riprap, UPRR  
 9 ROW railroad tracks, and an undeveloped recreation/open space of Shoreline Park.  
 10 Along the shoreline just east of the riprap are two sets of UPRR tracks. The buried  
 11 pipeline alignment passes under the UPRR ROW to the Park (Figure 2-1). The Bay Trail  
 12 recreational corridor also passes through the Project area. The portion of the Bay Trail  
 13 in the Project area consists of an off-street trail along the shore from southwest of the  
 14 Project area to Lone Tree Point.

15 Land uses immediately adjacent to the Project site include the Park and residential  
 16 areas (Figure 2-1). The Park and the UPRR tracks separate several town of Rodeo  
 17 residences. Immediately east of the Project site is a residential Subdivision in the City—  
 18 a 206-acre community with 748 single-family homes, 132 multi-family units, more than  
 19 30 acres of parks and designated open space, a commercial center, and an elementary  
 20 school. The Project pipeline is separated from the Subdivision by the Park. The eastern  
 21 terminus of the onshore pipeline is buried 8 feet deep within the Park and is located  
 22 approximately 160 feet from the Bay (see Figures 2-1 and 1-3). All onshore work on the

1 pipeline would occur near the edge of the Bay on the CSLC and UPRR properties and  
2 no work would occur in the Park.

### 3 **3.9.1.2 Existing Land Uses – Offshore**

4 Existing uses in the vicinity of the offshore portion of the Project area include a shipping  
5 channel, two municipal outfalls, and recreational boating areas. Project activities would  
6 occur away from the shipping channel. A City’s storm water outfall is located southwest  
7 of Lone Tree Point and extends approximately 0.32 mile (1,700 feet) into the Bay. A  
8 Rodeo Sanitary District treated sewage outfall is located northeast of Lone Tree Point  
9 and extends approximately 0.89 mile (4,700 feet) into the Bay. Recreational boating  
10 occurs throughout the area.

### 11 **3.9.2 Regulatory Setting**

12 Federal and State laws and regulations pertaining to this issue area and relevant to the  
13 Project are identified in Table 3-1. Local goals, policies, and/or regulations applicable to  
14 this issue area are summarized below.

15 The Project pipeline is located in the Bay, entirely within the City. The submerged  
16 pipeline travels from its terminus 2,000 feet offshore to the shoreline. Onshore, the  
17 pipeline is located in an area designated by the General Plan Land Use and Zoning  
18 map as *New Pacific Properties Specific Plan Area* (City of Hercules 2010). The Specific  
19 Plan gives additional land use and zoning designations for land in the *New Pacific*  
20 *Properties Specific Plan Area* (City of Hercules 2013). The pipeline terminates in land  
21 designated by the Plan as *Parks*, specifically *Community Trail and Shoreline Trail*  
22 *Parks*. Zoning for this area is *Open Space/Parks* (City of Hercules 2000).

### 23 **3.9.3 Impact Analysis**

#### 24 **a) *Physically divide an established community?***

25 **No Impact.** The Project would be located primarily in the Bay and the immediate  
26 shoreline area located in the City. The Project would not physically divide the  
27 community because the section of the pipeline to be removed as well as the section of  
28 the pipeline that would be left in place are below ground and would be abandoned in  
29 place onshore.

#### 30 **b) *Conflict with any applicable land use plan, policy, or regulation of an agency*** 31 ***with jurisdiction over the Project (including, but not limited to the general plan,*** 32 ***specific plan, local coastal program, or zoning ordinance) adopted for the*** 33 ***purpose of avoiding or mitigating an environmental effect?***

1 **No Impact.** The Project would not conflict with any land use plan, policy or regulation.  
2 There would be no impacts to the use of the Park or the Bay Trail because the pipeline  
3 abandonment work would be restricted to the UPRR property in an area on the west  
4 side of the railroad ROW (see Figures 2-1 and 1-3). As described in Section 1.3 all  
5 necessary permits would be obtained from the regulatory agencies prior to the  
6 commencement of any work for the Project.

7 ***c) Conflict with any applicable habitat conservation plan or natural community***  
8 ***conservation plan?***

9 **No Impact.** The Project area does not have a habitat conservation plan or a natural  
10 community conservation plan.

11 **3.9.4 Mitigation Summary**

12 The Project would not result in significant impacts; therefore, no mitigation is required.

1 **3.10 MINERAL RESOURCES**

<b>MINERAL RESOURCES - Would the Project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.10.1 Environmental Setting**

3 There are several active quarry mining operations in the County; however, none of  
 4 these mines are located near the Project site. The County, in conjunction with the State,  
 5 has identified significant aggregate resource areas at Mount Zion, Mount Diablo, Port  
 6 Costa and in the area of Byron (Contra Costa County 2005). Potential mining areas are  
 7 not located at or near the Project site.

8 **3.10.2 Regulatory Setting**

9 There are no Federal and State laws and regulations pertaining to this issue area. Local  
 10 goals, policies, and/or regulations applicable to this issue area are summarized below.

11 The City identified no significant mineral resources in its General Plan. There may be  
 12 some potential for Mineral Resource Zones (MRZ-3) mineral resources in the hills to the  
 13 north and south of State Route 4 (SR-4) east of Highway 80 and a high area north of  
 14 John Muir Parkway to the west of Highway 80 (City of Hercules 1998).

15 The Conservation Element of the Contra Costa County General Plan 1995-2020  
 16 includes goals and policies to assist the County in meeting its defined mineral resource  
 17 conservation and utilization needs. No Conservation goals or policies are applicable to  
 18 the Project site. The County has policies that recognize the value of mineral resources  
 19 as a supply for construction-related materials to accommodate local development as  
 20 well as a source of significant employment.

21 **3.10.3 Impact Analysis**

22 **a) Result in the loss of availability of a known mineral resource that would be of**  
 23 **value to the region and the residents of the State?**

1 **No Impact.** The Project site is not located within the Mineral Resource Areas identified  
2 in the City or County General Plans (City of Hercules 1998; Contra Costa County 2005).  
3 No impact related to the loss of availability of a known regionally or locally important  
4 mineral resource would result from the Project.

5 ***b) Result in the loss of availability of a locally important mineral resource***  
6 ***recovery site delineated on a local general plan, specific plan or other land use***  
7 ***plan?***

8 **No Impact.** The Project site is not located within the Mineral Resource Areas identified  
9 in the City or County General Plans (City of Hercules 1998; Contra Costa County 2005).  
10 No impact related to the loss of availability of a known regionally or locally important  
11 mineral resource would result from the Project.

12 **3.10.4 Mitigation Summary**

13 The Project would not result in significant impacts; therefore, no mitigation is required.

1 **3.11 NOISE**

<b>NOISE – Would the Project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) 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 expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.11.1 Environmental Setting**

3 **3.11.1.1 Ambient Noise Environment**

4 Ambient noise levels were not measured at the Project’s onshore pipeline location.  
 5 UPRR’s main line is located between the the onshore and offshore work areas and  
 6 nearby residences (see Figures 2-1 and 1-3). Freight or passenger trains pass by the  
 7 Project site approximately 50 times per day (Lopeman pers. comm. 2013).

8 **3.11.1.2 Sensitive Receptors**

9 In general, residences, schools, hotels, hospitals, and nursing homes are considered to  
 10 be the most sensitive to noise. Places such as churches, libraries, and cemeteries,

1 where people tend to pray, study, and/or contemplate are also sensitive to noise.  
2 Commercial and industrial uses are considered the least noise-sensitive.

3 The entire Project is expected to take no more than 3 weeks with the onshore portion  
4 requiring approximately 1 week. Onshore pipeline work would occur adjacent to the  
5 shoreline in the riprap area, which is approximately 600 feet from the closest residences  
6 in the City at Subdivision (Google Earth 2013). The majority of the activity would be the  
7 offshore pipeline work and would be located between 600 and 2,550 feet from the  
8 nearest residences at that Subdivision (see Figure 2-1). The closest residences in the  
9 town of Rodeo would be located approximately 250 feet from the onshore work (Google  
10 Earth 2013). Rodeo Hills Elementary School (545 Garretson Ave. in Rodeo) is the  
11 closest school receptor at 0.38 mile from the nearest work location (Google Earth 2013).

### 12 **3.11.2 Regulatory Setting**

13 Federal and State laws and regulations pertaining to this issue area and relevant to the  
14 Project are identified in Table 3-1. Local goals, policies, and/or regulations applicable to  
15 this issue area are summarized below. Local regulation of noise involves  
16 implementation of General Plan policies and noise ordinance standards. General Plans  
17 identify general principles intended to guide and influence noise generating activities.

18 Since the Project is located within City boundaries, the City's noise ordinance applies.  
19 The Noise Element of the City's General Plan includes policies that address existing  
20 and foreseeable noise problems within the City (City of Hercules 1998). Policy 6  
21 identified in the General Plan and Chapter 31, section 31.300, No. 11.B of the City's  
22 Municipal Code are applicable to the Project (City of Hercules 2012). These require  
23 performance standards to control the level of noise at noise-sensitive land uses  
24 generated by construction activities and implementation of the following measures:

- 25 • For construction near noise-sensitive areas, as determined by the Community and  
26 Business Development Department, require that noisy construction activities  
27 (including truck traffic) be scheduled for periods, according to construction permit  
28 to limit impact on adjacent residents or other sensitive receptors;
- 29 • Develop a construction schedule that minimizes potential cumulative construction  
30 noise impacts and accommodates particularly noise-sensitive periods for nearby  
31 land uses (e.g., for schools, churches, etc.);
- 32 • Where feasible, construct temporary solid noise barriers between source and  
33 sensitive receptor(s) to reduce offsite propagation of construction noise. This  
34 measure could reduce construction noise by up to 5 decibels; and
- 35 • Require internal combustion engines used for construction purposes to be  
36 equipped with a properly operating muffler of a type recommended by the

1 manufacturer. Also, require impact tools to be shielded per manufacturer's  
2 specifications.

3 The City does not have specific requirements for allowable hours of construction activity  
4 in its Zoning Ordinance (S. Mat pers. comm.). However, the closest residence in the  
5 City is approximately 600 feet from the proposed onshore work area (see Figure 2-1).

6 Within the County, the Project is located adjacent to the unincorporated town of Rodeo  
7 and the following policy from the County General Plan Noise Element may be applicable  
8 to the effects of the Project due to the Project's proximity to the town of Rodeo (Contra  
9 Costa County 2005):

- 10 • Policy 11-8: Construction activities shall be concentrated during the hours of the  
11 day that are not noise-sensitive for adjacent land uses and should be  
12 commissioned to occur during normal work hours of the day to provide relative  
13 quiet during the more sensitive evening and early morning periods.

### 14 3.11.3 Impact Analysis

15 ***a) Result in exposure of persons to or generation of noise levels in excess of***  
16 ***standards established in the local general plan or noise ordinance, or applicable***  
17 ***standards of other agencies?***

18 **Less than Significant Impact.** As described in Section 2, the Project would be of short  
19 duration, approximately 3 weeks. All construction activity would occur between 7 AM  
20 and 5 PM during week days, unless the City authorizes other work hours, and would be  
21 thus concentrated during the hours of the day that are not noise-sensitive for adjacent  
22 land uses to provide relative quiet during the more sensitive evening and early morning  
23 periods. There would be very limited onshore activity because the pipeline would be  
24 capped and abandoned in place. Onshore work would be confined to a small work area  
25 between the UPRR railroad tracks and the riprap, and would occur over a period of  
26 approximately 1 week out of the 3-week construction period. The Project would comply  
27 with all City and County permit requirements.

28 ***b) Result in exposure of persons to or generation of excessive ground-borne***  
29 ***vibration or ground-borne noise levels?***

30 **No Impact.** The Project would not expose persons to ground-borne vibration or noise  
31 levels. No heavy equipment is expected to be used onshore to abandon the pipeline.

32 ***c) Result in a substantial permanent increase in ambient noise levels in the***  
33 ***project vicinity above levels existing without the project?***

1 **No Impact.** The Project consists of removing an 8-inch-diameter wastewater pipeline.  
 2 The western 2,020 feet of this pipeline would be removed, and the eastern 140 feet  
 3 would be capped and abandoned in place. The proposed activities would not affect the  
 4 permanent ambient noise level above levels without the Project.

5 **d) Result in a substantial temporary or periodic increase in ambient noise levels**  
 6 **in the project vicinity above levels existing without the project?**

7 **Less than Significant Impact.** The pipeline abandonment activities would require the  
 8 use of a variety of equipment, including barge-mounted cranes, drills, saws, etc. over a  
 9 3-week period (see Section 2.5 for more details). During this period, noise levels  
 10 generated by operation of equipment would vary depending on the particular type,  
 11 number, and duration of use of the various pieces of equipment. As discussed earlier,  
 12 proposed construction activities would occur between the hours of 7 AM and 5 PM  
 13 Monday through Friday. The Project is not expected to have a significant impact due to  
 14 the short duration of the Project and operation during the daytime, because the majority  
 15 of the Project work would occur offshore. The distance from the nearest work on the  
 16 pipeline to the nearest residential property line in the City is 600 feet and approximately  
 17 250 feet to the nearest residence in Rodeo (Google Earth 2013) (see Figure 2-1).

18 Typical noise levels at 50 feet for some of the loudest pieces of construction equipment  
 19 that would be required for most of the Project are listed in Table 3.11-1. The types of  
 20 equipment that would be used for the offshore work would include a crane, pump,  
 21 tugboat, work skiff and crew boats, a generator, and a compressor (see Section 2.5 for  
 22 more details).

23 **Table 3.11-1. Maximum Noise Levels of Proposed Project Equipment**

Project Equipment	Noise Levels in dBA at 50 feet
Derrick barge	88
Crane barge (clamshell excavator)	77
Generator	81
Air Compressor	81
Crane	88
Pump	76
Tugboat	82--87
Crew Boat/Work Skiff	72-88

Source: ESA 2009; Federal Transit Administration 2006; FHWA 2009.

24 Temporary construction noise impacts vary markedly because the noise strength of  
 25 construction equipment ranges widely as a function of the equipment used and its  
 26 activity level. The equipment would not be used all at one time or throughout the  
 27 duration of the Project, nor would the equipment typically be run at full load. Most  
 28 equipment would be used intermittently. Thus, the higher noise levels would be short-  
 29 term and intermittent. The greatest noise exposures would occur while the onshore

1 work is occurring; the noise levels at the residential receptors would be considerably  
2 lower for the portion of the work conducted farther out into the Bay.

3 Noise levels drop approximately 6 dB with every doubling of distance (shielding from  
4 topography, wind and other factors may affect this estimate). Thus, the closest  
5 receptors in the town of Rodeo may be exposed to noise levels of around 78 dBA during  
6 times when the noisiest equipment is running at high loads at the shoreline. The closest  
7 receptors in the City would be exposed to noise levels of up to 72 dBA. While there are  
8 residences near-by, no other unusually sensitive receptors, such as schools or  
9 churches, are in the immediate Project vicinity.

10 The severity of any potential noise impacts would be reduced by several factors. Noise  
11 may be partially shielded because the ground slopes from the residences down to the  
12 work area. In addition, the large number of trains passing through the area on a daily  
13 basis generates a relatively high level of intermittent background noise for residential  
14 areas. Furthermore, the overall construction period on and near shore would be less  
15 than 3 weeks, and would generally be limited to the hours of 7 AM to 5 PM Monday  
16 through Friday. The proposed approach to completing the construction is consistent  
17 with the policies laid out in the City's zoning ordinance (City of Hercules 2012).  
18 Consequently, the noise impacts would be less than significant.

19 ***e) For a project located within an airport land use plan or, where such a plan has  
20 not been adopted, within two miles of a public airport or public use airport, would  
21 the project expose people residing or working in the project area to excessive  
22 noise levels?***

23 **No Impact.** The Project is not located within 2 miles of a public use airport, and would  
24 not expose people to excessive airport noise. No impact would occur.

25 ***f) For a project within the vicinity of a private airstrip, would the project expose  
26 people residing or working in the project area to excessive noise levels?***

27 **No Impact.** The Project is not located within the vicinity of a private airstrip, and would  
28 not expose people to excessive airport noise. No impact would occur.

### 29 **3.11.4 Mitigation Summary**

30 The Project would not result in significant impacts; therefore, no mitigation is required.

1 **3.12 POPULATION AND HOUSING**

POPULATION AND HOUSING – Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.12.1 Environmental Setting**

3 The Project area is comprised of the Bay and open space. Although there are no  
 4 houses located at the Project site, the area is adjacent to residential and commercial  
 5 development (see Figures 2-1 and 1-3). There are houses located within several  
 6 hundred feet of the riprap. The houses both in the City and town of Rodeo are  
 7 separated from the pipeline work at the Project site by the Park and the UPRR ROW.

8 **3.12.2 Regulatory Setting**

9 No Federal or State laws relevant to this issue area are applicable to the Project. Local  
 10 goals, policies, and/or regulations applicable to this issue area are summarized below.

11 The City has General Plan elements that address population and housing. The City  
 12 published the “City of Hercules, California, General Plan” in September 1998. The  
 13 Housing Element was approved in February 2003, and the New Pacific Properties  
 14 Specific Plan was adopted in 2000.

15 **3.12.3 Impact Analysis**

16 ***a) Induce substantial population growth in an area, either directly (for example,***  
 17 ***by proposing new homes and businesses) or indirectly (for example, through***  
 18 ***extension of roads or other infrastructure)?***

19 **No Impact.** The Project would remove an existing offshore submerged pipeline, and  
 20 grout and abandon in place the onshore portion of the pipeline. No residential  
 21 development or infrastructure construction is proposed as part of the Project. Therefore,  
 22 there would be no direct or indirect population growth from the Project.

1 **b) Displace substantial numbers of existing housing, necessitating the**  
2 **construction of replacement housing elsewhere?**

3 **No Impact.** The Project would not displace any residential housing units or require  
4 replacement housing. All work would be within the Bay, the CSLC onshore property, or  
5 the UPRR ROW, and would not affect any housing (see Figure 2-1).

6 **c) Displace substantial numbers of people, necessitating the construction of**  
7 **replacement housing elsewhere?**

8 **No Impact.** The Project would not displace any people or require replacement housing.  
9 All Project-related work would be completed within the Bay, the CSLC onshore property,  
10 or the UPRR ROW, and would not affect any housing or displace any residents.

11 **3.12.4 Mitigation Summary**

12 The Project would not result in significant impacts; therefore, no mitigation is required.

1 **3.13 PUBLIC SERVICES**

<b>PUBLIC SERVICES</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
(i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.13.1 Environmental Setting**

3 **3.13.1.1 Fire Protection**

4 The Rodeo-Hercules Fire District (RHFD) provides fire protection and emergency  
 5 medical aid to the unincorporated town of Rodeo and the City. RHFD has two fire  
 6 stations: Hercules Station #76 at 1680 Refugio Valley Road in Hercules, CA 94547; and  
 7 Rodeo Station #75 at 326 Third Street in Rodeo, CA 94572.

8 **3.13.1.2 Police Protection**

9 Law enforcement services for the Project area would be provided by the Hercules  
 10 Police Department. The Marine Services Unit of the County’s Office of the Sheriff  
 11 responds to crimes that take place in the County waterways, search and rescue of  
 12 boats, and patrol sensitive areas.

13 **3.13.1.3 Schools**

14 Only Rodeo Hills Elementary School at 545 Garretson Avenue, Rodeo, California 94572  
 15 is within a half-mile of the Project site. It is located approximately 0.38 mile southwest of  
 16 the work on the Project onshore pipeline.

1 **3.13.1.4 Parks**

2 The onshore portion of the Project site includes a small underground section that  
3 crosses underneath the future alignment of the Bay Trail and underneath Park (see  
4 Figure 2-1). The Project is not expected to affect the Park area.

5 **3.13.1.5 Other Public Facilities**

6 There are no other public facilities in the Project site.

7 **3.13.2 Regulatory Setting**

8 Federal and State laws and regulations pertaining to this issue area and relevant to the  
9 Project are identified in Table 3-1. Local goals, policies, and/or regulations applicable to  
10 this issue area are summarized below.

11 The entire Project site is within the City. The City has a variety of policies to promote the  
12 safe and sustaining use of its public services. The City has adopted the Uniform Fire  
13 code and the Uniform Building Code to ensure adequate fire protection throughout the  
14 City. It promotes fire protection measures in open space including irrigated buffers, fire  
15 access trails, and other measures for new development.

16 **3.13.3 Impact Analysis**

17 ***a) Would the Project result in substantial adverse physical impacts associated***  
18 ***with the provision of new or physically altered governmental facilities, need for***  
19 ***new or physically altered governmental facilities, the construction of which could***  
20 ***cause significant environmental impacts, in order to maintain acceptable service***  
21 ***ratios, response times or other performance objectives for any of the public***  
22 ***services:***

23 ***(i) Fire protection?***

24 **Less than Significant Impact.** The Project work would be temporary, and would occur  
25 over an approximately 3-week period. It would not require fire services unless an onsite  
26 emergency situation were to occur. The Project does not include the construction of any  
27 new residential, industrial or other facilities that might require new facilities or  
28 permanently require higher levels of fire services. The Project would not introduce any  
29 new uses to the Project area that would result in changes to fire protection services. As  
30 described in Section 2, the Health and Safety Plan, Oil Spill Prevention and Response  
31 Plan, Marine Safety Plan, and other related plans would be prepared to minimize the  
32 potential for any emergencies or accidents at the site that would require emergency  
33 response.

1            **(ii) Police Protection?**

2    **Less than Significant Impact.** The Project work would be temporary, and would occur  
3 over an approximately 3-week period. It would not require police services unless an  
4 onsite emergency situation was to occur. The Project does not include the construction  
5 of any new residential, industrial, or other facilities that might require new facilities or  
6 permanently require higher levels of police services. The Project would not introduce  
7 any new uses to the Project area that would result in changes to police protection  
8 services. As described in Section 2, the Health and Safety Plan, Oil Spill Prevention and  
9 Response Plan, Marine Safety Plan, and other related plans would be prepared to  
10 minimize the potential for any emergencies or accidents at the site that would require  
11 emergency response.

12            **(iii) Schools?**

13    **No Impact.** The 3-week construction of Project-related activities would not adversely  
14 impact school facilities in the Project area because it is not near existing schools or  
15 demand construction of any new schools (see Figure 2-1). Therefore, there would be no  
16 impact to public school services.

17            **(iv) Parks?**

18    **No Impact.** The temporary and short-term duration of the Project would not change the  
19 population or affect the level of service of parks within the City.

20            **(v) Other public facilities?**

21    **No Impact.** The temporary and 3-week duration of the Project would not change the  
22 population or affect the level of service of other public services within the City.

23    **3.13.4 Mitigation Summary**

24    The Project would not result in significant impacts; therefore, no mitigation is required.

1 **3.14 RECREATION**

<b>RECREATION</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.14.1 Environmental Setting**

3 The Project site is located in and immediately adjacent to the southeast portion of Bay.  
 4 The Bay is used for recreational purposes such as bird watching, boating, sailing,  
 5 kayaking, and fishing. Immediately adjacent to, and within the Project site, is Park with a  
 6 fence parallel to the railroad tracks. The Park is open space with some landscaping,  
 7 benches, and climbing structures located near the south of the Project site. There are  
 8 two formally designated recreational areas near the Project site. They are the Lone Tree  
 9 Point Park and the Bay Trail as discussed below and shown on Figure 2-1.

10 The Lone Tree Point is a 10-acre regional park managed by the East Bay Regional Park  
 11 District in the unincorporated town of Rodeo. Lone Tree Point is located slightly to the  
 12 northeast of the Project area, and provides a water-side picnic area and benches within  
 13 sight of the Bay. The Bay Trail is a planned recreational corridor that will encircle  
 14 San Francisco and San Pablo Bays with a continuous 500-mile network of hiking and  
 15 bicycling trails (ESA 2009). The portion of the Bay Trail in the Project area is currently  
 16 an off-street trail along the shore from south of the onshore Project area to Park in the  
 17 City. The section of Bay Trail from Park to the northeast, along the shore of the Bay  
 18 through the town of Rodeo (an informal path along the shoreline exists in this area), is  
 19 not yet constructed (see Figure 2-1). Furthermore, the onshore Project work in the  
 20 riprap adjacent to the water is not directly located on any existing or planned sections of  
 21 the Bay Trail.

22 **3.14.2 Regulatory Setting**

23 There are no Federal and State laws and regulations pertaining to this issue area and  
 24 relevant to the Project. Local goals, policies, and/or regulations applicable to this issue  
 25 area are summarized below.

1 The City has policies and zoning that establish recreation and open space standards  
2 which allow development of “trail systems, open space, and other amenities that benefit  
3 the quality of life in the community” including the Bay Trail (City of Hercules1998).

4 Rodeo is an unincorporated town within the County. The County General Plan includes  
5 policies that promote a “sufficient amount of conveniently located, properly designed  
6 park and recreational facilities, to serve all needs of the communities.” The County also  
7 promotes development of a “system of interconnected pedestrian, riding and bicycle  
8 trails and paths suitable for both active recreational use and for the purposes of  
9 transportation/circulation.” Other policies recognize the unique nature of the Delta, and  
10 protect and enhance its recreational value.

### 11 **3.14.3 Impact Analysis**

12 ***a) Would the project increase the use of existing neighborhood and regional***  
13 ***parks or other recreational facilities such that substantial physical deterioration***  
14 ***of the facility would occur or be accelerated?***

15 **No Impact.** The Project would not increase the use of neighborhood or regional parks.  
16 The Project does not propose to build new facilities or add any population to the area.  
17 The Project would be short-term (3 weeks) and would have very limited onshore work (1  
18 week) within the riprap area immediately adjacent to the Bay shoreline.

19 ***b) Does the project include recreational facilities or require the construction or***  
20 ***expansion of recreational facilities which might have an adverse physical effect***  
21 ***on the environment?***

22 **No Impact.** The Project would not include or require the construction or expansion of  
23 recreational facilities. Therefore, the Project would result in no impact to recreational  
24 resources.

### 25 **3.14.4 Mitigation Summary**

26 The Project would not result in significant impacts; therefore, no mitigation is required.

1 **3.15 TRANSPORTATION/TRAFFIC**

<b>TRANSPORTATION/TRAFFIC – Would the Project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Create a potential navigation hazard with marine traffic?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2 **3.15.1 Environmental Setting**

3 The Project area is located on the northwestern shore of County) and in the Bay. The  
 4 Project area does not include any roads, mass transit, bicycle trails, or pedestrian  
 5 facilities (see Figures 2-1 and 1-3). The Bay also has an active and varied marine traffic  
 6 since it is part of the larger San Francisco Bay (see Figure 1-1). A major ship channel is  
 7 located approximately 5,500 feet to the northwest of the Project area. Recreational  
 8 boating also occurs throughout the Bay.

1 The County shares the border of the Bay with three other Counties (Marin, Sonoma and  
2 Solano). These Counties plus Alameda and San Francisco Counties are linked via  
3 bridges, freeways, ferries and trains. The connected transportation corridors of the Bay  
4 Area would serve the transport needs of the Project. Interstate 80 (I-80) and SR-4 are  
5 the major regional transportation corridors within vicinity of the Project area. The access  
6 routes for the Project would consist of Interstates, State highways, local county- and  
7 city-maintained roads, and private roads. Almost all Project activities would occur from  
8 barges on the Bay (see Figure 1-2).

9 The UPRR railroad tracks are located to the east of the onshore work area, and an  
10 informal walking (trample) path exists to the east of the railroad tracks (see Figure 2-1).  
11 No ferry terminals, marinas, or other transportation facilities are located within the  
12 immediate vicinity of the Project area. As described in Section 2, a tug would tow the  
13 Project work barges to the Project area; the barges would be attended by a tug and a  
14 work skiff. The work skiff may also be used as a crew boat, or a separate boat may be  
15 used to shuttle the crew onto and off the barge.

16 The storage, processing and hauling of equipment and materials would occur at an  
17 onshore facility, most likely either in at Mare Island in the city of Vallejo, or in the city of  
18 Alameda at Alameda Point. Travel to and from these locations would occur primarily on  
19 Interstate and State highways. Project traffic to the Vallejo shore facilities could travel  
20 on I-80, SR 37, Nimitz and Railroad Avenues and G and 15<sup>th</sup> Streets. Travel to the  
21 Alameda location would be via I-880 to Park Street to Clement Avenue.

22 Project workforce personnel (up to 12 workers may be required for the Project at any  
23 one time) would likely drive to local municipal marinas where they would access water  
24 transport to the Project area. Two potential marina locations include the Vallejo  
25 Municipal Marina and the Crockett Marina. The Vallejo facility could be accessed via SR  
26 37 to Sonoma Boulevard to Tennessee Street or via I-880 to Tennessee Street.  
27 Workers traveling to the Crockett Marina would use I-880 to Parker Avenue to San  
28 Pablo Boulevard.

### 29 **3.15.2 Regulatory Setting**

30 Federal and State laws and regulations pertaining to this issue area and relevant to the  
31 Project are identified in Table 3-1. Local goals, policies, and/or regulations applicable to  
32 this issue area are summarized below.

33 The city of Hercules Circulation Element states that the two circulation objectives are (1)  
34 provide for the movement of people and commodities in the City; and (2) plan for the  
35 preservation and enhancement of visual qualities as viewed from designated scenic  
36 routes. Two scenic routes within the City, SR-4 and San Pablo Ave, have been

1 designated as City Scenic Routes; however, both of these are outside the Project area  
2 as discussed in Section 3.1 Aesthetics. Level of Service D or better is the City-wide  
3 standard for traffic operating conditions during peak hours on residential streets and  
4 intersections.

### 5 **3.15.3 Impact Analysis**

6 ***a) Conflict with an applicable plan, ordinance or policy establishing measures of***  
7 ***effectiveness for the performance of the circulation system, taking into account***  
8 ***all modes of transportation including mass transit and non-motorized travel and***  
9 ***relevant components of the circulation system, including but not limited to***  
10 ***intersections, streets, highways and freeways, pedestrian and bicycle paths, and***  
11 ***mass transit?***

12 **No Impact.** The Project would not conflict with any applicable plans, ordinances or  
13 policies establishing measures of effectiveness for the performance of the circulation  
14 system. Traffic associated with the Project would be limited to a small number of daily  
15 worker commute trips (up to 12 workers may be required for the Project at any one  
16 time), and a total of up to six return truck trips to haul cut sections of pipe to the  
17 appropriate recycling or disposal facility (see Section 2.6.2). No performance standards  
18 have been established for navigation in the Bay. The Project would occur away from  
19 any routinely-traveled ship channels and would require a maximum of two barges and  
20 one tugboat at any time. While the onshore work would occur within the UPRR ROW,  
21 the Project would not affect operations of the UPRR. An authorization would be  
22 obtained from UPRR to conduct the onshore work within the ROW. The overall level of  
23 transportation activity associated with the Project would be very limited, and would not  
24 affect the performance of any mode or route of transportation.

25 ***b) Conflict with an applicable congestion management program, including, but***  
26 ***not limited to level of service standards and travel demand measures, or other***  
27 ***standards established by the county congestion management agency for***  
28 ***designated roads or highways?***

29 **Less than Significant Impact.** The Project would not conflict with any applicable  
30 congestion management programs. Traffic associated with the Project would be limited  
31 to a small number of daily worker commute trips (up to 12 workers may be required for  
32 the Project at any one time), and a total of up to six return truck trips to haul cut sections  
33 of pipe to the appropriate recycling or disposal facility. Truck traffic from the contractor's  
34 shore-based facility is addressed by facility permits. No standards have been  
35 established for congestion management in the Bay. The Project would occur away from  
36 any routinely-traveled ship channels and would require a maximum of two barges and  
37 one tugboat at any time. The level of transportation activity associated with the Project  
38 would be quite small, and would not increase congestion.

1 **c) Result in a change in air traffic patterns, including either an increase in traffic**  
2 **levels or a change in location that results in substantial safety risks?**

3 **No Impact.** The Project would not affect air traffic patterns.

4 **d) Substantially increase hazards due to a design feature (e.g., sharp curves or**  
5 **dangerous intersections) or incompatible uses (e.g., farm equipment)?**

6 **No Impact.** The Project does not include any design features affecting any roads.

7 **e) Result in inadequate emergency access?**

8 **No Impact.** The Project would not affect emergency access. Offshore activities would  
9 not affect emergency access, and all onshore work would be conducted on the shore  
10 side of the railroad tracks (see Figure 2-1); no roads or other emergency access are  
11 located in this area.

12 **f) Conflict with adopted policies, plans or programs regarding public transit,**  
13 **bicycle, or pedestrian facilities, or otherwise decrease the performance or safety**  
14 **of such facilities?**

15 **No Impact.** No public transit, bicycle or pedestrian facilities are located in this area;  
16 therefore, Project activities would not affect these forms of transportation. All onshore  
17 work would be conducted from the shore side of the railroad tracks (see Figure 2-1).

18 **g) Create a potential navigation hazard with marine traffic?**

19 **Less than Significant with Mitigation.** The Project would involve the presence of  
20 barges (both for the removal and cutting activities as well as the hauling away of the  
21 pipeline sections to the contractor's shore-based marine facilities as discussed in  
22 Section 2.5) and ancillary equipment necessary to perform the pipeline removal  
23 activities. While the Project is expected to last no more than 3 weeks, it is possible that  
24 the presence of Project-related equipment and personnel in the Bay could affect other  
25 marine traffic in the Project vicinity if those other vessel operators were not made aware  
26 of the Project. To minimize conflict and potential hazard posed by the presence of  
27 project equipment and personnel, the Applicant has agreed to implement the following  
28 mitigation measure:

29 **MM TRA-1: U.S. Coast Guard (USCG) Notification.** Two (2) weeks prior to  
30 commencing Project activities in the Bay, the Applicant shall notify the USCG of  
31 the start date so that the USCG can issue a notice to mariners alerting other  
32 marine vessel operators to the potential navigation hazard posed by the Project's  
33 marine equipment and personnel.

1 With implementation of **MM TRA-1**, other vessel operators and users of the Bay would  
2 receive notification of the presence of the Project-related equipment, and the navigation  
3 hazard would be reduced to a less than significant level.

4 **3.15.4 Mitigation Summary**

5 Implementation of the following mitigation measure would reduce the Project-related  
6 impacts to less than significant.

- 7
- MM TRA-1: U.S. Coast Guard (USCG) Notification.

1 **3.16 UTILITIES AND SERVICE SYSTEMS**

<b>UTILITIES AND SERVICE SYSTEMS – Would the Project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.16.1 Environmental Setting**

3 The Project would remove and dispose of or recycle approximately 2,020 feet of steel  
4 pipe wastewater pipeline. The pipeline would be transported to the contractor's shore-  
5 based facility (see Section 2.5 for more details) where it would be transferred to trucks  
6 for recycling and/or disposal. The disposal and recycling sites have not yet been  
7 selected, but potential facilities include Alco in Vallejo or Sims Metal Management in  
8 Richmond. In addition, there may be other landfills that may be used by the selected  
9 contractor. East Bay Municipal Utility District (EBMUD) would be providing the water  
10 supplies in the Project area; however, the Project would not tap into any water systems  
11 in the Project area. There are two wastewater treatment plants, the Pinole-Hercules

1 Sewage Treatment Plant and the Hercules Sewage Treatment Plant within 2 miles of  
2 the Project site. The Project would generate only small quantities of wastewater, and all  
3 wastewater would be hauled to the contractor's shore-based facility (see Section 2.5 for  
4 more details). No wastewater disposal would occur in the Project area.

### 5 **3.16.2 Regulatory Setting**

6 There are no Federal and State laws and regulations pertaining to this issue area and  
7 relevant to the Project. Summarized below are the local goals, policies, and/or  
8 regulations applicable to this issue area.

9 Wastewater treatment and potable water treatment within the City is under the  
10 jurisdiction of the SFBRWQCB and other federal and state regulatory agencies. The  
11 regulations include the Clean Water Act and other regulations. The City receives its  
12 water supply through the EBMUD, which is regulated under state and federal laws.

### 13 **3.16.3 Impact Analysis**

#### 14 ***a) Exceed wastewater treatment requirements of the applicable Regional Water*** 15 ***Quality Control Board?***

16 **No Impact.** The Project is not anticipated to generate any wastewater requiring  
17 treatment. Any cleaning of the pipeline would occur at the contractor's shore-based  
18 facility (see Section 2.5 for more details) and would comply with existing permit  
19 requirements. As described in Section 2, the Project would comply with applicable laws  
20 and regulations that would prevent a conflict with wastewater treatment requirements of  
21 the SFBRWQCB.

#### 22 ***b) Require or result in the construction of new water or wastewater treatment*** 23 ***facilities or expansion of existing facilities, the construction of which could cause*** 24 ***significant environmental effects?***

25 **No Impact.** The Project would not produce wastewater-requiring treatment that would  
26 exceed the contractor's shore-based facility (see Section 2.5 for more details) permit  
27 requirements. There is no requirement to construct water or wastewater treatment  
28 facilities.

#### 29 ***c) Require or result in the construction of new storm water drainage facilities or*** 30 ***expansion of existing facilities, the construction of which could cause significant*** 31 ***environmental effects?***

32 **No Impact.** The Project would not produce stormwater requiring construction of new or  
33 expansion of existing stormwater management facilities. The Project would be short-

1 term (about 3 weeks of construction period), with onshore work expected to last only 1  
2 week. In addition, the proposed work would be performed during the dry season  
3 between June and October. Most of the Project site is offshore in the Bay (see Figure 1-  
4 1. The onshore work area would follow BMPs as described in Section 2. The Project  
5 would comply with applicable laws and regulations that would address any storm water  
6 effects. The contractor's shore-based facility would comply with all applicable regulatory  
7 requirements.

8 ***d) Have sufficient water supplies available to serve the Project from existing***  
9 ***entitlements and resources, or are new or expanded entitlements needed?***

10 **No Impact.** The Project is temporary and short-term (about 3 weeks) and would not  
11 affect existing water supplies.

12 ***e) Result in a determination by the wastewater treatment provider which serves***  
13 ***or may serve the Project that it has adequate capacity to serve the Project's***  
14 ***projected demand in addition to the provider's existing commitments?***

15 **No Impact.** The Project would not affect the existing wastewater treatment system.

16 ***f) Be served by a landfill with sufficient permitted capacity to accommodate the***  
17 ***Project's solid waste disposal needs?***

18 **Less than Significant Impact.** The Project's solid waste (cut out pieces of the pipeline,  
19 and its associated units) disposal requirements would be to recycle or dispose of the  
20 wastewater pipeline and dispose of discarded materials at an appropriate disposal or  
21 facility that has adequate capacity (see Section 2.5 for more details). The total quantity  
22 of waste generated by the Project-related personnel would be small, and therefore  
23 sufficient capacity would be available at a number of landfills.

24 ***g) Comply with federal, state, and local statutes and regulations related to solid***  
25 ***waste?***

26 **No Impact.** The Project would comply with all federal, state and local statutes and  
27 regulations related to solid waste. As stated in Section 2, the Project would dispose of  
28 or recycle all the pipeline material.

### 29 **3.16.4 Mitigation Summary**

30 The Project would not result in significant impacts; therefore, no mitigation is required.

1 **3.17 MANDATORY FINDINGS OF SIGNIFICANCE**

2 The lead agency shall find that a project may have a significant effect on the  
 3 environment and thereby require an EIR to be prepared for the project where there is  
 4 substantial evidence, in light of the whole record, that any of the following conditions  
 5 may occur. Where prior to commencement of the environmental analysis a project  
 6 proponent agrees to mitigation measures or project modifications that would avoid any  
 7 significant effect on the environment or would mitigate the significant environmental  
 8 effect, a lead agency need not prepare an EIR solely because without mitigation the  
 9 environmental effects would have been significant (per Section 15065 of the State  
 10 CEQA Guidelines):

MANDATORY FINDINGS OF SIGNIFICANCE –	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

11 **3.17.1 Impact Analysis**

12 ***a) Does the project have the potential to degrade the quality of the environment,***  
 13 ***substantially reduce the habitat of a fish or wildlife species, cause a fish or***  
 14 ***wildlife population to drop below self-sustaining levels, threaten to eliminate a***  
 15 ***plant or animal community, reduce the number or restrict the range of a rare or***

1 **endangered plant or animal, or eliminate important examples of the major periods**  
2 **of California history or prehistory?**

3 The Project could potentially increase suspended sediments and disturb habitat and  
4 thus degrade the quality of the environment within the Project area. However, these  
5 impacts can be avoided or minimized as described in Section 2 – Project Description  
6 and would be inherently limited due to the temporary and short duration (3 weeks) of the  
7 Project. The Project would not be expected to substantially reduce the habitat of a fish  
8 or wildlife species, cause a fish or wildlife population to drop below self-sustaining  
9 levels, threaten to eliminate a plant or animal community, or reduce the number or  
10 restrict the range of a rare or endangered plants or animals. The Project would not be  
11 expected to impact major periods of California history or prehistory.

12 **b) Does the project have impacts that would be individually limited, but**  
13 **cumulatively considerable? (“Cumulatively considerable” means that the**  
14 **incremental effects of a project are considerable when viewed in connection with**  
15 **the effects of past projects, the effects of other current projects, and the effects**  
16 **of probable future projects.)**

17 Potential impacts from the Project would be reduced to less than significant levels  
18 through the Project design as described in the Project Description (see Section 2 for  
19 more details), and through use of a small number of mitigation measures also included  
20 in the Project Description. The Project would occur during a short (about 3 weeks) and  
21 temporary construction period. If minor impacts were to occur, they would be limited to a  
22 very small area. There are no recently-completed, current or reasonable foreseeable  
23 future dredging or riprap removal or placement projects in the immediate vicinity of the  
24 Project area (see Figure 1-1).

25 The Project does not propose any new development, and proposed construction  
26 activities are very limited in extent; therefore the project would not lead to cumulative  
27 environmental effects when combined with other development projects in the area.

28 **c) Does the project have environmental effects that would cause substantial**  
29 **adverse effects on human beings, either directly or indirectly?**

30 The Project would not create substantial adverse effects on human beings due to its  
31 short duration and limited Project area. The Project does not propose any new  
32 permanent structures or operations.

1 **4.0 OTHER MAJOR AREAS OF CONCERN**

---

2 **4.1 CSLC ENVIRONMENTAL JUSTICE POLICY**

3 Environmental justice is defined by California law as “the fair treatment of people of all  
4 races, cultures, and incomes with respect to the development, adoption,  
5 implementation, and enforcement of environmental laws, regulations, and policies.” This  
6 definition is consistent with the Public Trust Doctrine principle that the management of  
7 trust lands is for the benefit of all of the people. The California State Lands Commission  
8 (CSLC) adopted an environmental justice policy in October 2002 to ensure that  
9 environmental justice is an essential consideration in the Agency’s processes,  
10 decisions, and programs. Through its policy, the CSLC reaffirms its commitment to an  
11 informed and open process in which all people are treated equitably and with dignity,  
12 and in which its decisions are tempered by environmental justice considerations.

13 As part of the CSLC environmental justice policy, the CSLC pledges to continue and  
14 enhance its processes, decisions, and programs with environmental justice as an  
15 essential consideration by:

- 16 • Identifying relevant populations that might be adversely affected by CSLC  
17 programs or by projects submitted by outside parties for its consideration.
- 18 • Seeking out community groups and leaders to encourage communication and  
19 collaboration with the CSLC and its staff.
- 20 • Distributing public information as broadly as possible and in multiple languages,  
21 as needed, to encourage participation in the CSLC’s public processes.
- 22 • Incorporating consultations with affected community groups and leaders while  
23 preparing environmental analyses of projects submitted to the CSLC for its  
24 consideration.
- 25 • Ensuring that public documents and notices relating to human health or  
26 environmental issues are concise, understandable, and readily accessible to the  
27 public, in multiple languages, as needed.
- 28 • Holding public meetings, public hearings, and public workshops at times and in  
29 locations that encourage meaningful public involvement by members of the  
30 affected communities.
- 31 • Educating present and future generations in all walks of life about public access  
32 to lands and resources managed by the CSLC.
- 33 • Ensuring that a range of reasonable alternatives is identified when siting facilities  
34 that may adversely affect relevant populations and identifying, for the CSLC’s

1 consideration, those that would minimize or eliminate environmental impacts  
2 affecting such populations.

- 3 • Working in conjunction with federal, State, regional, and local agencies to ensure  
4 consideration of disproportionate impacts on relevant populations, by instant or  
5 cumulative environmental pollution or degradation.
- 6 • Fostering research and data collection to better define cumulative sources of  
7 pollution, exposures, risks, and impacts.
- 8 • Providing appropriate training on environmental justice issues to staff and the  
9 CSLC so that recognition and consideration of such issues are incorporated into  
10 its daily activities.
- 11 • Reporting periodically to the CSLC on how environmental justice is a part of the  
12 programs, processes, and activities conducted by the CSLC and proposing  
13 modifications as necessary.

#### 14 **4.1.1 Methodology**

15 The CSLC environmental justice policy does not specify a methodology for conducting  
16 analyses of environmental justice issues. Due to the limited extent of the proposed  
17 Hercules LLC/Prologis Pipeline Removal Project (Project)'s impacts on the human  
18 environment, as established in Section 3 of this document, this section provides a  
19 qualitative consideration of the Project's potential to disproportionately affect low-  
20 income or minority communities.

21 This analysis focuses primarily on whether the Project's impacts have the potential to  
22 affect areas of high-minority populations and/or low-income communities  
23 disproportionately and thus would create an adverse environmental justice effect. For  
24 the purpose of the environmental analysis, the Project's inconsistency with the CSLC's  
25 Environmental Justice Policy would occur if the Project would:

- 26 • Have the potential to disproportionately affect minority and/or low-income  
27 populations adversely; or
- 28 • Result in a substantial, disproportionate decrease in employment and economic  
29 base of minority and/or low-income populations residing in immediately adjacent  
30 communities.

#### 31 **4.1.2 Project Analysis**

32 The Project's limited impact on the human environment is established in various  
33 sections of this document, including Section 3.1 (Aesthetics), Section 3.2 (Air Quality  
34 and Greenhouse Gas Emissions), 3.8 (Hazards and Hazardous Materials), Section 3.11  
35 (Noise), Section 3.14 (Recreation), and Section 3.15 (Transportation/Traffic). The

1 discussion below considers the Project's potential to disproportionately affect any low-  
2 income or minority communities.

3 The entire Project area (onshore and offshore) is located within the city of Hercules  
4 (City). The unincorporated town of Rodeo is located immediately to the northeast. The  
5 onshore work area is partially within CSLC jurisdiction and partially in the Union Pacific  
6 Railroad Right-of-Way (UPRR ROW). Various residences are located in the vicinity of  
7 the Project, as shown in Figure 2-1; these residential areas appear to include a range of  
8 socioeconomic levels. Potential impacts associated with the Project would be localized  
9 and would not disproportionately affect any specific residential area.

10 An additional environmental justice consideration for the Project is the nearby presence  
11 of the two parks, Shoreline Park (Park) and Lone Tree Point Park, which are public  
12 resources open to and used by people of all socioeconomic backgrounds. The Park  
13 provides water-side picnic areas and open space within sight of San Pablo Bay (Bay).  
14 Lone Tree Point Park is adjacent to the Project area to the northeast and also provides  
15 a water-side picnic area and benches. The socioeconomic makeup of the Park users is  
16 unknown, would be difficult to determine, and is beyond the scope of this analysis due  
17 to the Project's limited potential to affect these users.

18 The Project would have no direct impact on the use of either the Park or Lone Tree  
19 Point Park. Onshore construction during the Project would only occur in the area of the  
20 UPRR ROW that is currently covered with riprap and is not part of either of the parks  
21 (see Figure 2-1). It is not expected that Project impacts would have significant or  
22 disproportionate impacts on any low-income or minority community.

23 The Project has no potential to disproportionately affect any low-income or minority  
24 community that may reside in nearby communities or use the surrounding area for  
25 recreation or commerce. The short duration (approximately 3 weeks total for combined  
26 onshore and offshore activities) and location of the work would not significantly affect  
27 the views or recreational use of the Parks, result in air quality, noise, or traffic impacts,  
28 or pose increased hazardous materials exposure risks to environmental justice  
29 populations. This assessment is based on the scope and duration of the Project,  
30 combined with income information for the general area, and the potential extent of  
31 effects. Furthermore, the CSLC is complying with its environmental justice policy by  
32 subjecting its decision on this Project to public involvement through the California  
33 Environmental Quality Act (CEQA) process, which will give people of all socioeconomic  
34 backgrounds the opportunity to learn about and comment on the Project.

THIS PAGE INTENTIONALLY LEFT BLANK

## 5.0 MITIGATION MONITORING PROGRAM

---

1

2 The California State Lands Commission (CSLC) is the lead agency under the California  
3 Environmental Quality Act (CEQA) for the Hercules LLC/Prologis Pipeline Removal  
4 Project (Project). In conjunction with approval of this Project, the CSLC adopts this  
5 Mitigation Monitoring Program (MMP) for implementation of mitigation measures (MMs)  
6 for the Project to comply with Public Resources Code section 21081.6, subdivision (a)  
7 and State CEQA Guidelines sections 15091, subdivision (d) and 15097.

8 The Project authorizes Hercules LLC/Prologis (Applicant) to remove, grout, and  
9 abandon in place the pipeline in accordance with the terms and conditions of its existing  
10 CSLC Lease No. PRC 7985.1.

### 11 5.1 PURPOSE

12 It is important that significant impacts from the Project are mitigated to the maximum  
13 extent feasible. The purpose of a MMP is to ensure compliance and implementation of  
14 MMs; this MMP shall be used as a working guide for implementation, monitoring, and  
15 reporting for the Project's MMs.

### 16 5.2 ENFORCEMENT AND COMPLIANCE

17 The CSLC is responsible for enforcing this MMP. The Project Applicant is responsible  
18 for the successful implementation of and compliance with the MMs identified in this  
19 MMP. This includes all field personnel and contractors working for the Applicant.

### 20 5.3 MITIGATION COMPLIANCE RESPONSIBILITY

21 Hercules LLC/Prologis (Applicant) is responsible for successfully implementing all the  
22 MMs in the MMP, and is responsible for assuring that these requirements are met by all  
23 of its construction contractors and field personnel. Standards for successful mitigation  
24 also are implicit in many mitigation measures that include such requirements as  
25 obtaining permits or avoiding a specific impact entirely. Additional MMs may be imposed  
26 by applicable agencies with jurisdiction through their respective permit processes.

### 27 5.4 MONITORING

28 The CSLC staff may delegate duties and responsibilities for monitoring to other  
29 environmental monitors or consultants as necessary. Some monitoring responsibilities  
30 may be assumed by other agencies, such as affected jurisdictions, cities, and/or the  
31 California Department of Fish and Wildlife (CDFW). The CSLC and/or its designee shall  
32 ensure that qualified environmental monitors are assigned to the Project.

1 Environmental Monitors. To ensure implementation and success of the MMs, an  
2 environmental monitor must be on site during all Project activities that have the potential  
3 to create significant environmental impacts or impacts for which mitigation is required.  
4 Along with the CSLC staff, the environmental monitor(s) are responsible for:

- 5 • Ensuring that the Applicant has obtained all applicable agency reviews and  
6 approvals;
- 7 • Coordinating with the Applicant to integrate the mitigation monitoring procedures  
8 during Project implementation (for this Project, many of the monitoring  
9 procedures shall be conducted during the deconstruction phase); and
- 10 • Ensuring that the MMP is followed.

11 The environmental monitor shall immediately report any deviation from the procedures  
12 identified in this MMP to the CSLC staff or its designee. The CSLC staff or its designee  
13 shall approve any deviation and its correction.

14 Workforce Personnel. Implementation of the MMP requires the full cooperation of  
15 Project personnel and supervisors. Many of the MMs require action from site  
16 supervisors and their crews. The following actions shall be taken to ensure successful  
17 implementation.

- 18 • Relevant mitigation procedures shall be written into contracts between the  
19 Applicant and any contractors.

20 General Reporting Procedures. A monitoring record form shall be submitted to the  
21 Applicant, and once the Project is complete, a compilation of all the logs shall be  
22 submitted to the CSLC staff. The CSLC staff or its designated environmental monitor  
23 shall develop a checklist to track all procedures required for each MM and shall ensure  
24 that the timing specified for the procedures is followed. The environmental monitor shall  
25 note any issues that may occur and take appropriate action to resolve them.

26 Public Access to Records. Records and reports are open to the public and would be  
27 provided upon request.

## 28 **5.5 MITIGATION MONITORING TABLE**

29 This section presents the Mitigation Monitoring Table (Table 5-1) for the following  
30 environmental disciplines: Biological Resources, Hazards and Hazardous Materials,  
31 Hydrology and Water Quality, and Transportation/Traffic. All other environmental  
32 disciplines were found to have less than significant or no impacts and are therefore not  
33 included below. The table lists the following information, by column:

- 34 • Impact (impact number, title, and impact class);

- 1 • Mitigation measure (full text of the measure);
- 2 • Location (where impact occurs and mitigation measure should be applied);
- 3 • Monitoring/reporting action (action to be taken by monitor or Lead Agency);
- 4 • Timing (before, during, or after construction; during operation, etc.);
- 5 • Responsible agency; and
- 6 • Effectiveness criteria (how the agency can know if the measure is effective).

**Table 5-1. Mitigation Monitoring and Reporting Program**

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
<b>Biological Resources</b>						
<b>BIO-1: Bottom sediment disturbance from removing submerged materials</b>	<b>MM BIO-1. Minimize Sediment Resuspension During Removal Activities.</b> Divers shall be used to affix straps to the pipeline (no jetting or mechanical disturbance of the sediments shall be used) to minimize sediment resuspension. Spuds shall be used on the barge to minimize anchoring and the pipeline shall be raised slowly to the barge in order to minimize disturbance to the surrounding sediments. For the onshore work, where feasible, personnel and materials shall be transported to the barge by means of a gangway from the shore to limit use of support vessels and minimize disturbance to bottom sediments.	Offshore and onshore	Observe activities for compliance	During pipeline removal	Hercules LLC/Prologis (Applicant), and contractors	Sediment resuspension is minimized
<b>BIO-2: Effects on sensitive species</b>	<b>MM BIO-2. Environmental Work Window.</b> All in- water work shall be performed between June 1 and October 31 to minimize effects on sensitive species.	Offshore	Compliance with permit timing conditions	Prior to and during pipeline removal	Applicant, and contractors	In-water work is performed between June 1 and October 31

Table 5-1. Mitigation Monitoring and Reporting Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
<b>Hazards and Hazardous Materials</b>						
<b>HAZ-1: Possible accidental releases of petroleum and/or non-petroleum products</b>	<b>MM HAZ-1. Oil Spill Prevention and Response Plan (OSPRP)/Grout Management Plan (GMP).</b> The Applicant shall develop and submit to California State Lands Commission staff for review and approval an OSPRP/GMP that addresses accidental releases of petroleum and/or non-petroleum products (including grout) during Project operations. The OSPRP/GMP shall include the following information: <ul style="list-style-type: none"> <li>• Specific steps to be taken in the event of a spill, including notification names, phone numbers, and locations of: (1) nearby emergency medical facilities, and (2) wildlife rescue/response organizations (e.g., Oiled Wildlife Care Network);</li> <li>• Description of crew training and equipment testing procedures; and</li> </ul>	Offshore and onshore	Compliance with OSPRP/GMP	Prior to and during pipeline removal	Applicant, and contractors	Prevent oil spill, grout spill
			Review and approve the Plan	Prior to pipeline removal	CSLC	

Table 5-1. Mitigation Monitoring and Reporting Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
	<ul style="list-style-type: none"> <li>Description, quantities and location of spill response equipment onboard the vessel.</li> </ul>					
<b>HAZ-2: Possible risk of spills from vessel fueling</b>	<b>MM HAZ-2. Approved Vessel Fueling Guidelines.</b> Vessel fueling shall only occur at an approved docking facility. No cross vessel fueling shall be allowed.	Offshore and onshore	Implement measure and observe activities for compliance	During pipeline removal	Applicant, and contractors	Reduce risk of spills
<b>HAZ-3: Possible risk of spills into the water</b>	<b>MM HAZ-3. Onboard Spill Response Equipment.</b> Onboard spill response equipment and supplies shall be sufficient to contain and recover the worst-case scenario spill of petroleum and/or non-petroleum products as outlined in the Oil Spill Prevention and Response Plan (OSPRP).	Offshore and onshore	Prepare inventory and observe activities for compliance	Prior to and during pipeline removal	Applicant, and contractors	Reduce release of toxic materials into the water
<b>Hydrology and Water Quality</b>						
<b>HYD-1: Possible water quality impacts from sediment resuspension</b>	<b>MM BIO-1. Minimize Sediment Resuspension During Removal Activities.</b> Possible water quality impacts, from sediment resuspension, would be minimized by implementing <b>MM BIO-1</b> above.					

Table 5-1. Mitigation Monitoring and Reporting Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
<b>Transportation/Traffic</b>						
<b>TRA-1: Potential navigation hazard</b>	<b>MM TRA-1. U.S. Coast Guard (USCG) Notification.</b> Two (2) weeks prior to commencing Project activities in the Bay, the Applicant shall notify the USCG of the start date so that the USCG can issue a notice to mariners alerting other marine vessel operators to the potential navigation hazard posed by the Project's marine equipment and personnel.	Contractor base	Compliance with notification guidelines	Prior to pipeline removal	Applicant, and contractors	Reduce risk of navigation hazard

THIS PAGE INTENTIONALLY LEFT BLANK

## 6.0 PREPARATION SOURCES AND REFERENCES

The California State Lands Commission (CSLC)'s Division of Environmental Planning and Management (DEPM) staff, with the assistance of Boudreau Associates LLC, prepared this Mitigated Negative Declaration (MND). The analysis in the MND is based on information identified, acquired, reviewed, and synthesized based on DEPM's guidance, and recommendations.

### 6.1 CSLC STAFF

**Project Manager:** Afifa Awan, Environmental Scientist, DEPM

**Deputy Project Manager:** Jennifer DeLeon, Environmental Program Manager, DEPM

**Other:** Eric Gillies, Assistant Chief, DEPM

Cy Oggins, Chief, DEPM

Ken Foster, Public Land Management Specialist

### 6.2 SECTION AUTHORS

Name and Title	Affiliation	MND Sections
Christine Boudreau, Principal	Boudreau Associates LLC	Complete document
Susanne von Rosenberg, Principal and Project Manager	GAIA Consulting Inc.	Complete document
Susa Gates, Senior Scientist	GAIA Consulting Inc.	Complete document

### 6.3 REFERENCES CITED

Association of Bay Area Governments (ABAG). 2013. San Francisco Bay Trail "About Us." [www.baytrail.org/aboutus.html](http://www.baytrail.org/aboutus.html). Accessed September 14, 2013.

Bay Area Air Quality Management District (BAAQMD). 1999. BAAQMD CEQA Guidelines. BAAQMD. December.

\_\_\_\_\_. 2006. Bay Area 2005 Ozone Strategy. Adopted January 4, 2006.

\_\_\_\_\_. 2010. Source Inventory of Bay Area Greenhouse Gas Emissions. February.

\_\_\_\_\_. 2011. Base Year 2008 Bay Area Emissions Inventory Summary Report. May.

\_\_\_\_\_. 2013a. Ambient Air Quality Standards and Bay Area Attainment Status webpage. [http://hank.baaqmd.gov/pln/air\\_quality/ambient\\_air\\_quality.htm](http://hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm). Accessed June 14, 2013.

- 1 \_\_\_\_\_ . 2013b. Climate Protection Program. [www.baaqmd.gov/?sc\\_itemid=83004271-](http://www.baaqmd.gov/?sc_itemid=83004271-3753-4519-8B09-D85F3FC7AE70)  
2 [3753-4519-8B09-D85F3FC7AE70](http://www.baaqmd.gov/?sc_itemid=83004271-3753-4519-8B09-D85F3FC7AE70). Accessed June 14, 2013.
- 3 \_\_\_\_\_ . 2013c. CEQA Guidelines. [www.baaqmd.gov/Divisions/Planning-and-](http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES.aspx)  
4 [Research/CEQA-GUIDELINES.aspx](http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES.aspx). Accessed June 14, 2013.
- 5 Berg, L. and T. Northcote. 1985. Changes in territorial, gill-flaring, and feeding behavior  
6 in juvenile coho salmon (*Oncorhynchus kisutch*) following short-term pulses of  
7 suspended sediment. *Can. J. Fish. Aq. Sci.* 42:1410-1417.
- 8 Buchanan, P. A. and D. H. Schoellhamer. 1996. Summary of Suspended-Solids  
9 Concentration Data, San Francisco Bay, California, Water Year 1995. U.S.  
10 Geological Survey Open-File Report 96-591, Sacramento, California.
- 11 California Air Resources Board (CARB). 2008. Climate Change Program website  
12 [www.arb.ca.gov/cc/cc.htm](http://www.arb.ca.gov/cc/cc.htm). Accessed on December 23, 2008.
- 13 \_\_\_\_\_ . 2012. Analysis of the 2012 PM<sub>2.5</sub> Emissions Inventory Submittal to the State  
14 Implementation Plan for the San Francisco Bay Area. Accessed at:  
15 [www.arb.ca.gov/planning/sip/planarea/StaffReport.pdf](http://www.arb.ca.gov/planning/sip/planarea/StaffReport.pdf). Accessed February 25,  
16 2013.
- 17 California Department of Conservation, Division of Land Resource Protection (DLRP),  
18 2010. Contra Costa County Land Use (1984 – 2010),  
19 [http://redirect.conservation.ca.gov/DLRP/fmmp/county\\_info\\_results.asp](http://redirect.conservation.ca.gov/DLRP/fmmp/county_info_results.asp). Accessed  
20 March 4, 2013.
- 21 California Department of Fish and Wildlife (CDFW). 2000-2007. Interagency Ecological  
22 Program for San Francisco Estuary. Monthly Mid-water and Otter-trawl Survey Data  
23 for San Francisco Estuary.
- 24 California Department of Toxic Substances Control (DTSC). EnviroStor.  
25 [www.envirostor.dtsc.ca.gov/public/](http://www.envirostor.dtsc.ca.gov/public/). Accessed March 4, 2013.
- 26 California Energy Commission (CEC). 2006. Inventory of California Greenhouse Gas  
27 Emissions and Sinks: 1990 to 2004. December.
- 28 California Geological Survey. 2008. Special Publication 117, Guidelines for Evaluating  
29 and Mitigating Seismic Hazards in California.
- 30 California State Lands Commission (CSLC). 2002. Environmental Justice Policy,  
31 [www.slc.ca.gov/policy%20statements/policy\\_statements\\_home.htm](http://www.slc.ca.gov/policy%20statements/policy_statements_home.htm). Accessed March  
32 18, 2013.
- 33 \_\_\_\_\_ . 2009. Coscol Petroleum/EI Paso Corporation Marine Terminal Deconstruction  
34 and Pipeline Abandonment Project Final Mitigated Negative Declaration.
- 35 City of Hercules. 1998. City of Hercules, California, General Plan. September.
- 36 \_\_\_\_\_ . 2000. New Pacific Properties Specific Plan. Adopted April 11, 2000.

- 1 \_\_\_\_\_. 2010. Land Use and Zoning Map. March 29.  
2 [www.ci.hercules.ca.us/index.aspx?page=200](http://www.ci.hercules.ca.us/index.aspx?page=200). Accessed March 29, 2013.
- 3 \_\_\_\_\_. 2012. Zoning Ordinance. Revised November 13.
- 4 Clarke, D. G., and Wilber, D. H. (2000). "Assessment of potential impacts of dredging  
5 operations due to sediment resuspension," DOER Technical Notes Collection  
6 (ERDC TN-DOER-E9), U. S. Army Engineer Research and Development Center,  
7 Vicksburg, MS. [www.wes.army.mil/el/dots/doer](http://www.wes.army.mil/el/dots/doer)
- 8 Contra Costa County. 2005. Contra Costa County General Plan 2005-2020. Published  
9 January 2005.
- 10 \_\_\_\_\_. 2012. Contra Costa County Climate Action Plan – Draft. December.
- 11 \_\_\_\_\_. 2013. Contra Costa County Community Development Department, Zoning Map,  
12 [www.co.contra-costa.ca.us/depart/cd/current/zoningmap.htm](http://www.co.contra-costa.ca.us/depart/cd/current/zoningmap.htm). Accessed March 4,  
13 2013.
- 14 ESA. 2009. Coscol Petroleum/El Paso Corporation Marine Terminal Deconstruction and  
15 Pipeline Abandonment Project Final Mitigated Negative Declaration. May. Prepared  
16 for California State Lands Commission.
- 17 ETrac Engineering Inc. 2013. Hercules Pipeline Multibeam Survey. January 14.  
18 Prepared for Boudreau Associates LLC.
- 19 Federal Transit Administration (FTA), 2006. Transit Noise and Vibration Impact  
20 Assessment. May.
- 21 Google Earth. 2013. Accessed June 20, 2013.
- 22 Herbich. 2000. Handbook of Dredging Engineering, 2nd Ed. New York: McGraw-Hill.
- 23 Herbich, J.B., S.B. Brahme. 1991. Literature Review and Technical Evaluation of  
24 Sediment Resuspension During Dredging. Contract Report HL-91-1, Prepared for  
25 the Department of the Army, Washington, DC: U.S. Army Corps of Engineers.
- 26 Intergovernmental Panel on Climate Change (IPCC). 2001. Climate Change 2001:  
27 Working Group I: The Scientific Basis, Section F.5, Table 4.  
28 [www.grida.no/climate/ipcc%5Ftar/wg1/032.htm#f5](http://www.grida.no/climate/ipcc%5Ftar/wg1/032.htm#f5). Accessed June 14, 2013.
- 29 National Oceanic and Atmospheric Administration (NOAA). 2007. Report on the  
30 Subtidal Habitats and Associated Biological Taxa in San Francisco Bay. August.
- 31 Newell, R.C.; Seiderer, L.J., and Hitchcock, D.R., 1998. The impact of dredging works in  
32 coastal waters: A review of the sensitivity to disturbance and subsequent recovery of  
33 biological resources on the seabed. *Oceanography and Marine Biology*, 36, 127-178.
- 34 Olberding Environmental, Inc. 2008. Steelhead Trout, Chinook Salmon, and Green  
35 Sturgeon Biological Assessment for the Pacific Refining Company Marine Terminal

- 1 Deconstruction and Pipeline Project, Southeastern San Pablo Bay, Contra Costa,  
2 CA. Prepared for Pacific Refining Company. October 2008. 34 64 pp.
- 3 Pacific EcoRisk Inc. 2013. Characterization of the Sediment for the Removal of a  
4 Wastewater Outfall Pipeline Located in Hercules, CA: Sampling and Analysis  
5 Results. April 30.
- 6 Parr, W., S.J. Clarke, P. Van Dijk, N. Morgan. 1998. Turbidity in English and Welsh  
7 Tidal Waters. WRC Report No. CO 4301, Report for English Nature, WRC  
8 Medmenham, Bucks.
- 9 Peddicord, R. K., and McFarland, V. A. (1978). "Effects of suspended dredged material  
10 on aquatic animals," [Technical Report D-78-29](#), U.S. Army Engineer Waterways  
11 Experiment Station, Vicksburg, MS., NTIS No. AD A058 489.  
12 <http://el.ercd.usace.army.mil/elpubs/pdf/trd78-29.pdf>
- 13 Pennekamp, J.G.S., R.J.C. Eskamp, W.F Rosenbrand, A. Mullie, G.L. Wessel, T. Arts,  
14 I.K. Decibel. 1996. Turbidity Caused by Dredging; Viewed in Perspective. Terra et  
15 Aqua 64:10-17.
- 16 Regional Water Quality Control Board, San Francisco Region (RWQCB). 1998. Ambient  
17 concentrations of toxic chemicals in San Francisco Bay Sediments: Draft Staff  
18 Report. San Francisco Regional Water Quality Lab Control Board, Oakland, CA.
- 19 \_\_\_\_\_. 2007. 2006 CWA Section 303(d) List of Water Quality Limited Segments.  
20 USEPA Approved June 28, 2007.  
21 [www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/TMDLs/303dlist.s](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/303dlist.s)  
22 [html](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/303dlist.s). Accessed May 19, 2013.
- 23 \_\_\_\_\_. 2010. 303(d) Staff Report Resolution No. R2-2009-0008.  
24 [www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/TMDLs/303dlist.s](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/303dlist.s)  
25 [html](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/303dlist.s). Accessed May 19, 2013.
- 26 \_\_\_\_\_. 2011. San Francisco Bay Basin (Region 2) Water Quality Control Plan for the  
27 San Francisco Bay Basin (Basin Plan), adopted December 31.
- 28 San Francisco Bay Conservation and Development Commission (BCDC). 2008,  
29 San Francisco Bay Plan, [www.bcdc.ca.gov/pdf/planning/plans/bayplan/bayplan.pdf](http://www.bcdc.ca.gov/pdf/planning/plans/bayplan/bayplan.pdf)
- 30 San Francisco Estuary Institute (SFEI), 2008. Effects of Short-term Water Quality  
31 Impacts Due to Dredging and Disposal on Sensitive Fish Species in San Francisco  
32 Bay. SFEI Contribution 560. San Francisco Estuary Institute, Oakland, California.  
33 [www.sfei.org/node/1407](http://www.sfei.org/node/1407).
- 34 \_\_\_\_\_. 2013. Dredge Material Testing Thresholds for San Francisco Bay Area  
35 Sediments. [www.sfei.org/content/dmno-ambient-sediment-conditions](http://www.sfei.org/content/dmno-ambient-sediment-conditions). [Richmond,](http://www.sfei.org/content/dmno-ambient-sediment-conditions)  
36 [California](http://www.sfei.org/content/dmno-ambient-sediment-conditions). Accessed November 21, 2013.

- 1 Schoellhamer, D. H. 1996. Factors Affecting Suspended-Solids Concentrations in South  
2 San Francisco Bay, California. *Journal of Geophysical Research* 101:12087–12095.
- 3 State Coastal Conservancy, Ocean Protection Council, NOAA, BCDC, and San  
4 Francisco Estuary Partnership. 2010. San Francisco Bay Subtidal Habitat Goals  
5 Report. [www.sfbaysubtidal.org/report.html](http://www.sfbaysubtidal.org/report.html). Accessed June 24, 2013.
- 6 Stern, E.M., W.B. Stickle. 1978. Effects of Turbidity and Suspended Material in Aquatic  
7 Environments; Literature Review. Technical Report D-78-21, U.S. Army Engineer  
8 Waterways Experiment Station, CE, Vicksburg, MS.
- 9 U.S. Army Corps of Engineers (USACE). 2004. Port of Oakland Outer Harbor  
10 Maintenance Dredging Operations Spatial Characterization of Suspended Sediment  
11 Plumes During Dredging Operations Through Acoustic Monitoring. Prepared by  
12 MEC Analytical Systems, Inc. and U.S. Army Engineer Research and Development  
13 Center Dredging Operations Technical Support Program (EM-D) 3909 Halls Ferry  
14 Road Vicksburg, Mississippi 39180.
- 15 U.S. Department of Transportation, Federal Highway Administration. Construction Noise  
16 Handbook.  
17 [https://www.fhwa.dot.gov/environment/noise/construction\\_noise/handbook/handbook](https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm)  
18 [k09.cfm](https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm). Accessed June 14, 2013
- 19 U.S. Environmental Protection Agency (USEPA). 2013a. Greenhouse Gas Emissions –  
20 Methane Emissions. <http://epa.gov/climatechange/ghgemissions/gases/ch4.html>.  
21 Accessed February 24, 2013.
- 22 \_\_\_\_\_. 2013b. Greenhouse Gas Emissions – Nitrous Oxide Emissions.  
23 <http://epa.gov/climatechange/ghgemissions/gases/n2o.html>. Accessed February 24,  
24 2013.
- 25 U.S. Fish and Wildlife Service (USFWS) 2008. Endangered and Threatened Wildlife  
26 and Plants; 12-month Finding on a Petition to List the San Francisco Bay-  
27 Delta Population of the Longfin Smelt as Endangered or Threatened.
- 28 Wilber, D. H., and Clarke, D. G. (2001). “Biological effects of suspended sediments: A  
29 review of suspended sediment impacts on fish and shellfish with relation to dredging  
30 activities in estuaries,” *North American Journal of Fisheries Management* 21(4), 855-  
31 875.

## 32 PERSONAL COMMUNICATIONS

- 33 Lopeman, Jim. 2013. Personal Communication. February 19.
- 34 Mat, Shiva. 2013. Personal Communication. June 20.

THIS PAGE INTENTIONALLY LEFT BLANK

**Appendix A**  
**Mailing List of MND Recipients**

THIS PAGE INTENTIONALLY LEFT BLANK

**Agencies and Organizations:**

Amah/Mutsun Tribal Band  
Asian Pacific Environmental Network  
Association of Bay Area Governments  
Bay Area Air Quality Management District  
Bay Institute of San Francisco  
Benicia Marina  
California Coastal Conservancy  
California Department of Boating and Waterways  
California Department of Conservation  
California Department of Fish & Wildlife, Habitat Conservation Planning Branch  
California Department of Fish and Wildlife, Region 3  
California Department of Parks and Recreation  
California Department of Toxic Substance Control  
California Department of Transportation, District 4  
California Environmental Rights Alliance  
California Indians for Cultural and Environmental Protection  
California Maritime Academy  
California Public Utilities Commission  
California Rural Legal Assistance Foundation  
California Sportfishing Protection Alliance  
Center for Environmental Design Research  
Central Contra Costa Sanitary District  
City of Hercules  
City of Hercules Library  
Congressmember Mike Thompson  
Conoco Phillips Rodeo Refinery  
Contra Costa County Board of Supervisors  
Contra Costa County Clerk  
Contra Costa County Flood Control and Water Conservation District  
Contra Costa County Public Works  
Contra Costa County, Department of Conservation and Development of Community Development  
Contra Costa Fire Protection District  
Contra Costa Health Services HAZ/MAT Occupational Health  
Contra Costa Mosquito and Vector Control District  
Contra Costa Resource Conservation District  
Contra Costa Shoreline Parks Commission  
Earthjustice Legal Defense Fund  
East Bay Community Foundation  
East Bay Regional Park District  
Environmental Justice Fund

Environmental Law and Justice Clinic  
Harbor Safety Committee, SF Bay Region, c/o Marine Exchange of SF Bay Region  
Indian Canyon Mutsun Band of Costanoan  
Kathleen Campbell Consultants  
Korean Center, Inc.  
Muir Heritage Land Trust  
Muwekma Ohlone Indian Tribe of the SF Bay Area  
MWH Americas, Inc.  
Napa-Solano Audubon Society  
Native American Heritage Commission  
Natural Resources Agency  
NOAA National Marine Fisheries Service  
Office of Historic Preservation  
Ohlone/Costanoan Tribe  
Pacific Coast Federation of Fishermen's Associations  
Pacific Crockett Energy, Inc.  
Pacific Institute  
San Francisco Bay Conservation and Development Commission  
San Francisco Bay Regional Water Quality Control Board  
Save San Francisco Bay Association  
Save San Pablo Baylands  
Sierra Club, S. F. Bay Chapter  
Spanish Speaking Unity Council  
The Ohlone Indian Tribe  
TXI/Pacific Custom Materials, Inc.  
U.S. Army Corps of Engineers, Regulatory Division  
U.S. Coast Guard MSO (MEP)  
U.S. Department of Justice, Office of the Attorney General  
U.S. Environmental Protection Agency  
U.S. Fish and Wildlife Service  
Union Pacific Railroad  
United Anglers  
Urban Habitat  
West Contra Costa Transportation Advisory Committee

**Public:**

ABDULLAH AMBER	BRAGA WILLIAM P & JANICE A
ABEYTA JOE N & LILLIAN	BRASIER CHARLES ANDREW II
ABEYTA LILLIAN	BRAY STEPHEN H & CAROL TRE
ABEYTA MICHAEL	BRINDLE ROGER L & MARGARET TRE
ABRAO ALFRED W JR & NAJIA W	BROUSSARD GREGORY &
ADAMS CHARLES A & IFEOMA M	JACQUELINE
ADEBITE ALTON O	BROWN ALLEN T & VESSIE
ADEGBITE MONSURAT Y	BRYSON RANDY C
ADHAN FARIDHA S	BUNYARD DAVID TRE
AGUILAR RAFAEL S & CAROL	BURGIN RUTH
AHMADI GHULAM A & PARWEEN	BURGIN RUTH EVELYN TRE
ALBINI PATRICK C	BURNS ROWENA TRE
ALEJANDRE RAFAEL & LUZ MARIA	BYRD HAROLD
ALEXANDER KIMBULAR F	CABUGAO JESSIE & AURORA
ALTUNA JESUS J	CACHAPERO BENJAMIN & DELIA
ALVAREZ GRACIELA	CACHAPERO NORMITA
ALVAREZ JAVIER	CALDIERO SUSAN
AN SUN HI	CALIFORNIA ST LANDS COMMISSION
ANDREWS CALVIN	CALLAHAN JO ANN R TRE
ARGUELLES MARIA P	CANETTA ENZIO & MARILYN A TRE
ARRUDA DON M TRE	CAO HANLIN
ASLAM BADAR	CAROLL KENT C
ASUNCION ESTANISLAO M TRE	CASTANEDA DANIEL ALEXANDER H
ASUNCION ROSANNA D TRE	CASTRO CARLOS F & MA CECILIA
AYALA JESUS JR & LISBETH M	CATAP-PUGEDA ANTONETTE
BAL GURWANT & PARMJIT	CELIUS TIFFINEY D
BALMOREZ VALENTINO F & MARIA A	CHAMBERS ROBERT
BARNES CHRISTINA HAZEL	CHAN HILTON & MARICEL
BARTLEY THOMAS A & KATHRYN TRE	CHAN NORMAN K & JENNIFER F L
BASANES ANTONIO F & NELIA Q	CHANG KEVIN C
BASRAI JOGINDER K	CHANG PAULINE J
BAUTISTA CANDIDO L & JULIE	CHANG YU-LIN
BAYANI BENJAMIN & CLEMENTINA	CHAVEZ ALEX A & FRANCES G
BELL JAYNELLE	CHAVEZ ANGELIQUE TRE
BENNETT ANDREA	CHEN KEWU
BENNETT JEFFEREY C & CHERYL	CHEN SOPHIE
BERRY GLENN D & CAROL A TRE	CHIA DAVID S JR
BHULLAR HERMONPAL SINGH TRE	CHIN JOHNNY & JUDY W
BHULLAR NAMRATA KAUR TRE	CHO SOO SUN & JONG HEE
BHUSHAN VISHAV	CHOI DAI WON & JUNE
BIO-RAD LABORATORIES INC	CHOI MICHELLE
BLACK BERTELL H & MARY L TRE	CLANCY BRIAN P
BOND LAURA	CLARK MARLA J
BOYLES GARY E & JOLENE G	CLIVE TEAGAN

COBIANCHI MARK & SANDA  
COLBERT SONJA NICOLLE TRE  
COLEMAN CHARLES L & SHARON TRE  
COLEMAN CHARLES S & PAMELA TRE  
COMANDANTE DONNA D  
COMANDANTE FEDERICO M JR  
COMMON AREA TR 8595  
COMMON AREA TRACT 8593  
COMMON AREA TRACT 8596  
CONTRA COSTA COUNTY  
COODY MICHAEL A JR & CHRISTINE  
CROW ARCHIE E & KIMBERLY E  
CROWELL TALIA  
CRUZ JOSE & LEVINIA TRUST  
CRUZ MICHELLE U  
CUEVA ENER N & LOLITA M TRE  
CUEVA MARIO N & ELIZABETH O  
CUEVA STEPHEN PAOLO O  
CUSTIS CHARLES A  
CUSTIS CHERYLL L  
DARAKHSHAN SIAVOSH  
DAVENPORT SHARON L TRE  
DAVIES DONALD & SHIRLEY TRE  
DAVIS NATHANIEL F & NANCY A  
DAVIS PATRICK SEAN  
DE VERA MANUEL JR & MYRNA TRE  
DECENA BAILON M & VILMA  
DECENA PASCUAL & OFELIA  
DECKER MALCOLM & ANTOINETTE TR  
DELOSSANTOS AMANDO & KELLY  
DEMARTINI CATHERINE T TRE  
DEMIDOV OLEKSIY  
DEORIAN DERAN  
DEORIAN RICHARD & BETTY  
DESOUZA MANUEL R & KATHRYN K  
DEUTSCHE BANK NATIONAL TRE  
DIAS GRAIG & HELEN E TRE  
DICKERSON GARRY FRANCIS  
DICKERSON XUE MIN HUANG  
DILL PAUL JR  
DILLARD DAVID A & RHONDA S  
DOAN NHUNG THU  
DOBBS ALLENE F TRE  
DOMINGUEZ CLAUDIA J TRE  
DONOHUE TAMI  
DOWNING PATTI M  
DYER EVELYN M TRE  
EAST BAY REGIONAL PARK DIST  
EASTMAN WYLENDIA R  
ELLENOWETH CHARLES H TRE  
ELLIS JOHN  
ERICKSON CYNTHIA COLLINS TRE  
ESPERANZA RONALDO & CREANNE  
ESPINOSA EUGENE G & LOLITA P  
ESPINOSA GENE R  
ESPIRITU NOEL Z & MARY JOY  
ESTRADA BLANCA M  
FANNIE MAE  
FARIA RONALD A & KATHLEEN TRE  
FENG JIE HUAN  
FERNANDEZ ROEL CANO & AGNES S  
FERNANDEZ VERONICA  
FISHER BRIAN E  
FITZGERALD ELIZABETH V TRE  
FITZGERALD JAMES R TRE  
FLIPPEN SHIRLEY  
FOON BRADFORD M  
FORD ARTHUR R & KATHERINE M  
FOSTER CHARLES W & LAVERNE C  
FOSTER DAVID A & MARGO L  
FREDRICKS DAVID R  
GALLMAN BARBARA C TRE  
GARABILES JOSE G & GRACE S  
GASSAMA ABDUL K  
GEILER DEBRA A  
GENNA MICHAEL J & JAMEY  
GEORGE ROSALINA TRE  
GHAZIZADEH MOHSEN  
GILL KULDIP S & IKBAL K  
GLEASON KAREN S  
GO AMIELA R  
GO ARMANDO C & RUBY R  
GODOY ABELARDO PADILLA  
GODOY GRACIA BUNGABONG  
GOLDEN LISA ANN  
GOMEZ JAIME & MARTHA  
GOMEZ LARRY  
GONZAGA RAPHROGER & JENNIFER  
GOUGH ALAN PETER & TINA  
GRAY CLEO R  
GREGORY UREAL  
GUERRERO FRANCISCO & NELLY

GUEVARA SAMUEL  
GURUWAYA-FOON EUGENIA  
HAIRSTON SONIA SUTHERLAND  
HALL DONNA J  
HALL TAMIKA L  
HAMBLIN LARRY & KIM  
HAMILTON DAVID LEE & JOANN  
HARDY KEITH M  
HARMON GEORGE M & GWEN TRE  
HARPER ALFONZIA T & BEVERLY  
HERCULES BAYFRONT LLC  
HERCULES CITY OF  
HERCULES LLC  
HERMAN HALLMARK  
HESTER CHRISTOPHER SR & TRACY  
HIDALGO JOSE & DAYSI  
HILL GARY V & MARILYN E  
HIPOLITO MIGUEL A  
HMI PROPERTIES LLC  
HOANG LEE TRE  
HOANG YEN  
HOGLUND HOMER Z & BARBARA TRE  
HOM GORDON TRE  
HOPE SUSAN R  
HOUGHTON PATRICK J  
HOWARD ADAM L & APRIL E  
HOWARD LAWRENCE & LYNETTE TRE  
HU HONG YING  
HU QUNYING  
HUANG RENDONG & KANG  
HUCKABAY DAVID B & JUDY TRE  
HUGGETT THOMAS J & MARY S  
HURENHAUS DOUGHNUT TRE  
HUSSAIN MAHMOOD  
HUYNH NHUNG THI HONG TRE  
HYLAND TERENCE J TRE  
HYLAND TUONG-VAN B TRE  
IMAH KEN & RITA  
IMAM NAHREEN  
INGHAM LIANE J  
INPRASUETH CHOMTHAI & JOMPENG  
IRIAN FAYZE & SHERRY  
ITOUA RACHEL  
JACKSON DEMARCO & PECKENPAUGH  
JD SERVICES SYSTEM LLC  
JEFFERSON MARITZA  
JIM MARKGRAF  
JIMENEZ ILIA  
JIMENEZ PEDRO J & NATALIE R  
JOHANSON ROBERT H & MARJO TRE  
JOHN SWETT UNIFIED SCHOOL DIST  
JOHNSON DARREN C & SANDRA TRE  
JOHNSON FRANCIS & EUNICE TRE  
JOHNSON JERRY C TRE  
JOHNSON STEPHANI  
JONES DONALD & DIANA  
JONES STEVEN E & SABINA  
JORDAN DELORES  
JOSE FIDELA E  
JUDAN MANUEL & MARYLYNN  
KAPHLE MARK & SHASHI  
KAUL TINA TRE  
KEEFE MARCIA K  
KENNETH MAJOR  
KESMATYAR MOHAMMAD & MENA  
KHAHERA CHARANJEET K  
KITAVEELAIH VANSAI & JUDY S  
KOO ANTHONY & LIYA  
KOPY INVESTMENTS LLC  
KRAGER ARLENE C TRE  
KULLAR AMARDEEP  
KULLAR PRAMEEL  
KWAN CALVIN & VANESSA  
LACHAUX-WADLEY AIDA  
LAFORST CHELSEA A  
LAI WILSON L & YANWEN Z  
LANDIS LIMITED LLC  
LANE FAMILY TRUST  
LANG FREDERICK A & JAYNE I  
LANGIT RAY  
LAWYER DEBRAH  
LAXAMANA IRMA  
LE THACH  
LEAL ALAN J & WINONA J TRE  
LEAL MARY MADELINE TRE  
LEAL WAYNE D & BONNIE TRE  
LEDUNA LEO BERNARD  
LEE ERIC & MARIA V A  
LEE EUL BUM  
LEE HAN SOO & MYUNG SOON  
LEECH ISABEL Y  
LEWIS JAMES A TRE

LI HUEI-FEN  
LIANG ANITA RUN XIAN  
LIN DOUGLAS  
LIN JAMES & ANNE  
LIN JEENGUAN  
LINDAK BARNES  
LIU SUHONG  
LOPEZ PRECIOSA  
LOUDEN LLC  
LOVETT TOREY D  
LUANN LONG  
LUM MARIA BOLANO TRE  
LUONG BA VAN  
LUTZ CHRISTOPHER S  
LY MARK V  
MA JASON & ALFIE JOSE  
MACAPAGAL RAMON Z & LYDIA M  
MACAULAY BRUCE & SANDRA  
MACY COREN LEA  
MALONEY APRIL RENEE  
MANN JOHN MICHAEL & ANNE K  
MANUEL CORONA  
MAPANAO ALISA PATRICIA  
MARISCAL ARUTRO  
MARON KURT & HEIDY TRE  
MARQUEZ FELIX & MARIA IMELDA  
MARRONE JEFFREY V  
MATEO ONOFRE & MERCY  
MCCAY DOUGLAS R & MEREDITH L  
MCGHEE DEBRA  
MCGUIRE JULIE A  
MCLEOD ROBERT W TRE  
MCNAMARA TIMOTHY  
MEKKAM AUGUSTINE & RITA C  
MENDES FRANK D  
MENDEZ JAMES D TRE  
MENDOZA NELSI E D  
MENDOZA RIGOBERTO C & MARTHA  
MERCADO ALEJANDRO & ISELA  
MIER LILIA SIERRA  
MIJARES HENRY J  
MIJARES SALLY J  
MILLS JOHN SHERMAN JR TRE  
MIRANDA FEDERICO J & RAQUEL B  
MITCHELL TERRY & TAMITRICE  
MOHSIN JAFAR & NIGHAT S  
MONCADA FAUSTO J JR & BEVERLY  
MONTGOMERY GERALD W &  
SHANNON  
MOONSAMY SAMUEL & SUE A  
MOORE ANGELA  
MORRIS DARREN  
MORRIS DARREN E & DEBORAH A  
MOUX GLENN  
MUNOZ ENRICO S & JEANNIE M  
MURRAY WILLIAM & MARY C  
MUSHTAG YASIR  
MUSHTAQ YASIR  
NAQVI SYED N R & NOREEN TRE  
NEWSOM TARI L  
NGUYEN HONG  
NGUYEN TIMOTHY  
NGUYEN TONY  
NICHOLS VICKIE M TRE  
NIHEI MARK  
NORRIS JACALYN S  
NUNEMANN JERROLD L TRE  
NUNEMANN PATRICIA A TRE  
OBIOHA UGOCHI  
OBRIEN GILLIAN A  
OCHOA ALEJANDRO & LETICIA  
OJALA WILLIAM E  
OLEA MIGUEL  
OLIVER CRAIG L  
ONEILL MARK E  
ONG ILDEFONSO C & TERESITA  
ONG RICHARD M & HYDEE T  
OROZCO ANTONIO  
ORTIZ-PADILLA MARIA  
OSEN CRAIG R  
OU XIU  
OVERHOLT KATHRYN M  
OWEN MATTHEW G & MELANIE D  
PACLIBAR RAMIR P & ROSEMARIE  
PALLOTTA ROBERT R TRE  
PALTAO MIGUEL R JR  
PAMINTUAN MARVIN G  
PAREJA NELSON A  
PARIK KATRINA  
PARSONS MICHAEL & DEBORAH  
PAT MCVEY-RITSICK  
PATEL VISTASP N & ABAN V

PEERSON ROGER & MARLENE	SANCHEZ ROBERTO
PENG XIANG	SANCHEZ-MARRONE ANNETTE C
PENN REMEDIOS V TRE	SANDHU KIRANDEEP S
PERALTA BEATRIZ	SANDHU SIMRANDEEP S
PEREGRINO JOSE L & ERNESTINA	SANTOS MICHAEL & JANIE
PEREZ HUMBERTO & JOANN	SANTOS NERIVALDO & MEIRE
PERIS THOMAS G & JINSUN GEON	SAVELLANO JOSE A & CAROLYN C
PETER PANKEY	SCHOMP GRETCHEN A
PICKENS JOSEPH & JENNIFER L	SCHROEDER ROBERT V & GRETCHEN
PIRES NOEMIA DESOUSA COSTA TRE	SCOGGINS ALPHAS B & GLORIA
POPHAM CHAD E	SCULLY PAMELA
PRICE CEDRIC & NATOSHA	SEKHON RAGHBIR & SURINDER
PROLOGIS TAX COORDINATOR	SELVESTER DONALD & W F TRE
PROPHET SONYA TRE	SENA ROBERT JEFF
PRUETT RODNEY D & TERESA M	SHAHEEM SHAHIMA
PUGEDA RODANNI T	SHAVERS MICHAEL A & ANA I
PUNTCH AGNES ANN	SHIN IH CHEOL & SOON CHO
PURVIS ANDREW J & RAMONA H TR	SIEGFRIED JOSIANE
QIN CHAOBIN	SIKAND JASMINDER & SONIA
QUEMA PURITA B	SIKAND JASMINDER S
RADOSEVICH JOHN & ANNETTE	SILVA COLBERT
RAJ RAJESH & RUMITA A	SIMS ARTHUR L & SHERDELLA
RAJPUT ISHWARLAL L & GITABEN L	SINGH BHAVDEEP
RAMOS OSVALDO & MARINA G	SINGH MANDEEP
REED DENAE	SINGH PARMINDER
REESE GREGORY A	SIVERSON KEVIN & NATALIE
REESE PAUL D & TERESA T	SIVERSON MICHAEL K & SHERILYNN
RESPICIO SATURNINO & JENNIFER	SLAGOWSKI JON L
RIBO ANDRIONNI G	SLATE IDA OZELLA TRE
RIBO JOSEF C & COSSETTE G	SMITH ELLEN M TRE
RINNE DEBBIE A	SMITH NATHANIEL
ROBERTSON ERIC SR	SMREKAR AMANDA J
ROBERTSON PATRICK A & JUDITH	SNYDER BERNARD TRE
ROBILLARD GAVIN M & BARBARA A	SOHAL GURDIP S & AMANDEEP
ROBINSON DANTE W & LISA H	SOHAL SUKHDEEP KAUR
ROCCA WILLIAM & CHRISTINE TRE	SOLIS TRISTAN P
RODDEN VERNA D TRE	SOTO-WILBERG DIANA L
RODEO FIRE DISTRICT	STONENWORK HORACE & MARY ANNA
ROGERS DAVID L & LESLIE P	SUAREZ ELEANOR J
ROMERO REYNALDO & CHRISTINE	SUI KYLE
SAGHA BADRI	SUI WENDY LEE
SALAZAR JESSICA ROSSMERIE A	SULLIVAN JAMES G & LORRI G
SALMI DENNIS & DORIS	SUMMERS IRVIN E & SHERRY
SALO PETER R & ELIZABETH C	SURAJBANSI HARJIT SINGH
SALTZBERG MARVIN & ELIZABETH	SURAJBANSI RANJIT S
SAN ANTONIO EDUARDO & FLORIDA	SUTHERLAND ROBERT H

SWIFT DARRYLYN ZENOBIA  
TAHA EHAB  
TANG LIANG  
TARVIN SUSAN E  
TATE MICHAEL R  
TERRADO FERDINAND & MARIANEL  
THOMAS DONALD R  
THOMAS DONALD R & ZONNA K TRE  
THOMAS FLOYD WAYNE  
TIGH TERRY L & ROBIN K  
TORRES KEVIN C & TINA D  
TORRES SAMUEL T & SUSAN A TRE  
TORRES-MARISCAL TINA MARIE  
TRAINER RONALD L  
TRAN ANNIE THIEN-HUONG TRE  
TRAN KIM HO  
TRAN LUAN  
TRAUTVETTER RICHARD & C M TRE  
TRAVERSO SARA  
TRUONG JACKIE  
TSAI LEONA  
TURQUEZA DERICK M & MADONNA R  
UBHI INDERJIT S  
UY GARY Z & MARISSA C  
UYEYAMA NATHANAEL  
VALDERRAMA IRENEO O JR  
VALDERRAMA ROSALINA R  
VASCONCELLOS JOHN B  
VEGA BIENVENIDO E & MILAGROS L  
VEGA JOSE & GWEN  
VEGA RICARDO & HERMELINDA  
VELASQUEZ JUAN B  
VELLENOWETH LAURA  
VERGARA FELIPE D & ROSALINA  
VICTORIA BY THE BAY ASSN  
VICTORIA BY THE BAY ASSOC  
VICTORIA BY THE SEA ASSOC  
VINAI AGVATEESIRI & SIRIPORN  
VITUG-HOM AIMEE TRE  
VUONG TAO C  
WADLEY RICHARD E  
WAHNEE SAMUEL & HASINA  
WAIS SADO A  
WATSON ROLLAND E & SHARON TRE  
WELSH DANIEL M & RENEE D TRE  
WHEELER MARIE A TRE  
WHITT WALTER & YOLANDA  
WILBERG ERNEST C  
WILKINS WILLIAM W  
WOLLMAN JEFF  
WONG JUSTIN & ANNA  
WOOD JOHN C & TRACY L  
WU LIN-YI TRE  
WYNN ALCENIA ANN  
YAN TIMOTHY & CINDY H  
YAO GENIE  
YOUSUF MOHAMMAD  
YU DANNY  
ZADIK MORDEHAI S & REGINA TRE  
ZARLOW HARRIET  
ZEDD DOUGLAS E & BILLIE M  
ZENG JIA LI  
ZHANG JING  
ZHAO ZHI JUN  
ZHOU XIAO YONG  
ZHUANG QIN HUI

**Appendix B**  
**Greenhouse Gas Emission Estimates**

THIS PAGE INTENTIONALLY LEFT BLANK

**HERCULES LLC/PROLOGIS AIR EMISSION AND GHG EMISSION ESTIMATE**

BACKGROUND DATA						
Work Period						
Construction Period (calendar days)	15					
Construction Period (weeks)	3					
No. of crew/day	10					
No. of hours/day	10					
Soil Disturbance	Area		Assumptions/Notes			
	100	sq ft	Riprap removal			
	200	sq ft	Uncover pipeline for grouting			
	Soil condition: primarily wet or moist due to shoreline location					
Equipment Use	No.	Hours/ Day	No. of Days	Load Factor	hp	Assumptions/Notes
Tug/tending	1	10	15	0.1	950	Mostly idle; 1 hr active work
Tug/towing	1	5	3	0.9	950	Assumes 1 RT for onshore barge; 2 RTs for pipeline removal barge; assumes barge is located in Alameda; 21 nm one-way @ 8 - 9 knots
Crew Boat	1	3	15	0.8	635	
Air Compressor	1	10	15	0.4	48	
Welding Machine	1	10	1	0.4	49	
Work Skiff (gasoline)	1	8	15	0.4	50	
Crane	1	10	4	0.3	185	Used to remove and replace riprap; would also move gangway; less than 1 hour/day during onshore work period when not moving riprap
Derrick	1	10	10	0.4	320	Work Skiff

Note: All equipment is diesel-fueled unless otherwise noted

On-Road Vehicles	No. of Vehicles	Daily Mileage/ Vehicle	No. of Days	Total Miles	Basis	Assumptions and Notes
Crew Commute Vehicles	10	60	15	9,000	30 mi. one-way	Worst case, each crew member drives his/her own vehicle; assume average 60 mi. RT commute, average vehicle age = 5 years, equal mix of gasoline cars, gasoline pick-ups/SUVs, diesel pick-ups/SUVs
Off-haul Trucks	1	60	5	300	25 mi. one-way	
Misc. Construction Support	1	50	15	750	30 mi. one-way	Pick-up Truck

**EMISSION FACTORS**

Construction Equipment Emission Factors	No.	g CO2/hp-hr	gCH4/hp-hr	gN2O/hp-hr
Tug/tending	1	864.6	0.12	0.009
Tug/towing (assume 3 RTs)	1	864.6	0.12	0.009
Crew Boat	1	864.6	0.12	0.009
			g CH4/gal	gN2O/gal
Air Compressor	1	273	0.58	0.26
Welding Machine	1	256	0.58	0.26
Work Skiff (gasoline)	1	780.7	0.64	0.22
Crane	1	244.6	0.58	0.26
Derrick	1	244.6	0.58	0.26

<i>Brake-Specific Fuel Consumption for Off-Road Equipment</i>	
Engine hp	BSFC (lb/hp-hr)
26 - 50	0.54
51 - 121	0.49
121-175	0.47
176-250	0.47

Sources for Emission Factors:  
 CH2M HILL. 2008. Container Terminal Project. April (Appendix E1.3; p. E1.3-13)  
 2012 Climate Registry Default Emission Factors, Released January 6, 2012  
 URBEMIS2007 for Windows Users' Guide, Version 9.2; Appendix I - Construction Equipment Emission Factors, P. I-41

<i>Average emission factor for crew personal vehicles</i>			
<b>Gasoline cars</b>	<b>Year</b>	<b>Methane</b>	<b>Nitrous Oxide</b>
		g/mi.	g/mi.
	2003	0.0114	0.0135
	2004	0.0145	0.0083
	2005	0.0147	0.0079
	2006	0.0161	0.0057
	2007	0.0170	0.0041
	2008	0.0172	0.0038
	2009	0.0173	0.0036
	2010	0.0173	0.0036
	2011	0.0173	0.0036
	2012	0.0173	0.0036
Average		0.01601	0.00577
<b>Gasoline Pickup/SUVs</b>	2003	0.0155	0.0114
	2004	0.0152	0.0132
	2005	0.0157	0.0101
	2006	0.0159	0.0089
	2007	0.0161	0.0079
	2008	0.0163	0.0066
	2009	0.0163	0.0066
	2010	0.0163	0.0066
	2011	0.0163	0.0066
	2012	0.0163	0.0066
Average		0.01599	0.00845
<b>Diesel Pickup/SUVs</b>	1996-present	0.0010	0.0015
<b>Average for personal vehicles</b>		0.0110	0.0052

Assumes 1/3 each gasoline cars, gasoline pick-ups, and diesel pick-ups/SUVs

Source: 2012 Climate Registry Default Emission Factors; Released January 6, 2012

Summary of Vehicle Emission Factors	"Average" Crew Commute Vehicle	Large Passenger Van (Gasoline)	Diesel Pick-up (Moderate)	Med.- or Heavy-Duty Truck	Ag Equip. (diesel)	Misc. Constr. Equipment (diesel)
		g/mi.	g/mi.	g/mi.	g/gal	g/gal
Methane	0.0110	0.1516	0.0009	0.0051	1.44	0.58
Nitrous Oxide	0.0052	0.0639	0.0014	0.0048	0.26	0.26

Source: 2012 Climate Registry Default Emission Factors; Released January 6, 2012

**GENERAL ASSUMPTIONS AND CALCULATION FACTORS**

1 gal =	0.264	liters
	4.45	lbs/hr. fuel consumption of misc. small gasoline-fueled constr. equipment (50 hp) at full load
8780	g CO <sub>2</sub> /gal motor gasoline	
39,035	gCO <sub>2</sub> /hr	
780.7	gCO <sub>2</sub> /hp-hr	
6.073	gasoline density lbs/gal	
	Source: Wikipedia	
7.09	density of diesel fuel; lbs/gal	
	Source: <a href="http://enxsa.com/diesel.html">http://enxsa.com/diesel.html</a>	

*Global Warning Potential Relative to CO<sub>2</sub>*

Methane	21
Nitrous Oxide	310
Source: US EPA	

**Fuel Consumption Estimate**

Type	mi/gal	kgCO <sub>2</sub> / gal fuel	gCO <sub>2</sub> / mi	Source
Personal Vehicles	24.1	8.78	364.3	
Pick-up Truck	17.3	10.21	590.2	
Off-Haul Trucks	7.3	10.21	1,398.6	

Sources:

Personal Vehicles: [www.epa.gov/otaq/consumer/420f08024.pdf](http://www.epa.gov/otaq/consumer/420f08024.pdf)

Pick-up Trucks: [www.epa.gov/otaq/consumer/420f08024.pdf](http://www.epa.gov/otaq/consumer/420f08024.pdf)

Off-Haul Trucks: [http://cta.ornl.gov/vtmarketreport/pdf/chapter3\\_heavy\\_trucks.pdf](http://cta.ornl.gov/vtmarketreport/pdf/chapter3_heavy_trucks.pdf)

**CALCULATION OF CONSTRUCTION EMISSIONS**

**Criteria Air Pollutants**

Not required: Minimal construction during, minor project; BAAQMD BMPs apply

**GHG Emissions**

Vehicle Emissions	Total CO2		Total Methane		Total Nitrous Oxide		MT CO2e CH4 and N2O	TOTAL CO2e (MT)
	g	MT	g	MT	g	MT		
Crew Commute Vehicles	3,278,838	3.28	99	9.90E-05	47.16	4.72E-05	0.02	3.3
Off-haul Trucks	177,052	0.18	1.53	1.53E-06	1.44	1.44E-06	0.00	0.2
Misc. Construction Support (Pick-up Truck)	1,048,973	1.05	0.68	6.75E-07	1.05	1.05E-06	0.00	1.0
<b>TOTAL ON-ROAD VEHICLE USE</b>								<b>4.5</b>

Construction Equipment Emissions	Calculated fuel consumption (gal)	MT CO2	MT CO2e from CH4 and N2O	TOTAL CO2e
Global warming potential factor				
Tug/tending		12.32	0.073	12.4
Tug/towing (assume 3 RTs)		11.09	0.066	11.2
Crew Boat		19.77	0.118	19.9
Air Compressor	219.4	0.79	0.020	0.8
Welding Machine	14.9	0.05	0.001	0.1
Work Skiff (gasoline)	213.4	1.87	0.017	1.9
Crane	84.5	0.27	0.008	0.6
Derrick	974.9	3.13	0.090	3.2
<b>TOTAL CONSTRUCTION EQUIPMENT</b>				<b>50.0</b>

**TOTAL CONSTRUCTION EQUIPMENT PLUS VEHICLE USE CO2e (MT) 54.5**

**CALCULATION OF OPERATING EMISSIONS**

None: construction project only

THIS PAGE INTENTIONALLY LEFT BLANK

**Appendix C**  
**Biological Assessment and Letter of Concurrence**

THIS PAGE INTENTIONALLY LEFT BLANK