CALENDAR ITEM
C25

A 15 12/06/16
PRC 8818.1
V. Caldwell
S. Mongano

S 9 J. Fabel

CONSIDER ADOPTION OF A MITIGATED NEGATIVE DECLARATION, STATE CLEARINGHOUSE NO. 2016082014 AND A MITIGATION MONITORING PROGRAM AND CONSENTING TO THE COMMENCEMENT OF THE CHEVRON LONG WHARF MAINTENANCE AND EFFICIENCY PROJECT

INTRODUCTION:

Chevron Products Company (Chevron or Applicant) is the current lessee of 68.14 acres, more or less, of sovereign land in San Francisco Bay, adjacent to the Chevron Refinery in the city of Richmond, Contra Costa County. The existing 30-year lease (Lease No. PRC 8818.1) authorizes the operation, use, and maintenance of a 3,480-foot-long marine terminal with a T-head pier, comprising four deep-water outer product berths, three breasting and two mooring dolphins, two inner product berths, additional inner berths that provide temporary moorings for standby tugs and barges, oil pipelines, launching facilities for crew and oil spill response boats, and annual dredging of up to 350,000 cubic yards of material.

Chevron is seeking the Commission's consent to proposed modifications to the existing Chevron Richmond Refinery Long Wharf (Long Wharf). The proposed Long Wharf Maintenance and Efficiency Project (Project) includes the following modifications to improve the reliability and efficiency of the Long Wharf, comply with Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) requirements, and enhance crew and operator safety.

Berth 1	• Install new mooring hook dolphin with new hook
	• Install new breasting dolphin and breasting point with standoff fenders
	• Replace existing gangway and add new elevated fire monitor
	• Remove existing catwalk; replace with new short catwalk at different location
Berth 2	• Install new gangway, new elevated fire monitor, and four new standoff fenders
	• Replace bollard with new hook

	• Replace existing auxiliary, hose, and vapor recovery hose cranes
	• Remove three concrete jacketed piles
Berth 3	• Install new gangway and new elevated fire monitor
Berth 4	• Install two new dolphins with standoff fenders (two per dolphin) and two catwalks
	• Seismically retrofit Berth 4 loading platform

The Project is not anticipated to change throughput levels of oil that cross the terminal or result in an increase in the number or size of ships calling at the Long Wharf. A Mitigated Negative Declaration (MND) was prepared pursuant to the California Environmental Quality Act (CEQA).

BACKGROUND:

The Chevron Long Wharf, the largest marine oil terminal in California, was built in 1902 by the Pacific Coast Oil Company as a terminal for its refinery and has been in operation continuously since. In 1905, the Long Wharf and Refinery were purchased by Standard Oil of California. The Long Wharf has been modified several times over the years. In 1946-1947, the entire timber wharf was replaced with a new concrete wharf and causeway which extended into much deeper water supported on deeper concrete piles. In 1974, the Long Wharf was modified to accommodate larger vessels. Since 2006, Chevron has completed many more improvements, including significant upgrades such as: major pipeway seismic retrofit, fender system upgrades, mooring hardware rehabilitation, fire alarm and detection system upgrades, and electrical system upgrades.

In 2009, Chevron and the Commission executed the Long Wharf 30-year Lease Agreement (Lease) commencing July 1, 2009, and certified the Chevron Richmond Long Wharf Marine Terminal Lease Consideration Environmental Impact Report (Lease EIR). A subsequent lawsuit challenged the Lease EIR pursuant to CEQA, and in 2011, the California Court of Appeal upheld the Lease EIR and Lease in *Citizens for East Shore Park v. State Lands Commission* (2011) 202 Cal. App. 4th 549.

Execution of the Lease triggered Chevron's compliance requirements pursuant to the Mitigation Monitoring Program (MMP) of the Lease EIR. To demonstrate compliance with the conditions in the MMP, Commission staff have conducted a series of annual onsite audits of Chevron's Lease compliance documentation. Since 2010, Commission staff has found Chevron to be in full compliance with all of the Lease EIR MMP requirements.

The Long Wharf's operations are regulated primarily by the Commission through the Lease, Commission regulations (Cal. Code Regs., tit. 2, § 2300 et seq.), and MOTEMS (Cal. Code Regs., tit. 24, § 3101F et seq.).

Recently, concerns about the Long Wharf's consistency with MOTEMS led Commission staff to restrict the maximum speed that vessels can approach the Long Wharf for mooring. In addition, only two of the Long Wharf's berths are able to accommodate ocean going vessels, meaning many vessels must anchor to await mooring space. Finally, the existing gangways are not designed for current vessel configurations (i.e., cannot accommodate larger vessels that now call at the Long Wharf), and create potential safety concerns for crews and operators.

In order to address these limitations, Chevron is now proposing improvements and alterations to the Long Wharf structure to: 1) improve the Long Wharf's efficiency in managing and mooring vessels; 2) comply with MOTEMS seismic and fendering requirements; and 3) enhance the safety of vessel crews and operators working on the Long Wharf.

Although the proposed Project is consistent with the terms of Chevron's existing Lease and will not require an amendment to that Lease, permits for the proposed activities must be obtained from other governmental agencies. Pursuant to Section 10(b)(2)(E) of the Lease, the Commission's discretionary approval is required for "any activity or project that requires analysis under CEQA." The Commission, acting as lead agency under CEQA, has developed an MND analyzing the Project and its potential for environmental impact.

PROPOSED CHEVRON LONG WHARF MAINTENANCE AND EFFICIENCY PROJECT:

The proposed Project includes modifications to the Long Wharf to: improve its reliability and efficiency in handling and mooring vessels; comply with MOTEMS seismic and fendering requirements; and enhance the safety of crews and operators working on the Long Wharf. The Project involves modifications to four berths (Berths 1, 2, 3, and 4).

The changes to the berths will allow the Long Wharf to better manage vessel mooring and calls across Berths 1 through 4, which will have the added benefit of reducing idling time of marine vessels as they queue for space at the Wharf. Specifically, as described in the Lease EIR, "Berths No. 1 and No. 4 are used for ship cargo transfers, and Berths 2 and 3 are used for ship and barge cargo transfers." Since Berths 2 and 3 are the only berths that receive ocean going barges, each is occupied by vessels (both ships and barges) nearly 75 percent of

the time, which is a very high utilization rate that can cause delays for vessels attempting to berth. The improvements to Berth 1 will allow it to receive ocean going barges that otherwise would be required to use Berths 2 or 3. This will better balance utilization across Berths 1, 2, and 3, which will reduce demurrage and idling time of vessels that currently must queue for berth space.

The Project involves the installation of piles and over water structures. Piles to be installed are a combination of concrete piles, composite piles, (concrete piles wrapped with a polymer material, steel H piles (H-shaped steel beams) and steel pipe piles. Barges would be used to haul and move materials throughout the Project's duration. A flat barge would serve as a staging area to carry materials along with any debris generated in open water areas near the Long Wharf. Existing piles would be extracted by attempting to vibrate them out. If a pile cannot be extracted by vibration, it would be cut off as far below the mudline as possible. Piles that have been removed would be placed on the material barge and transported from the site by a properly licensed transporter for disposal.

The Project is not expected to result in an increase in the number of ships calling at the Long Wharf. Vessel calls will remain within the ranges and fluctuations typically experienced over the 3-year baseline period as described and analyzed in the Chevron Modernization Project Environmental Impact Report (State Clearinghouse No. 2011062042) and as authorized by the Lease. As a result, there would be no change in operational emissions due to the Project.

Crude oil offloading and product loading and throughput rates are not expected to change as a result of the Project. Receipts of crude oil and volumes of finished products manufactured by the Refinery are also not expected to change, and would remain within currently permitted limits after completion of the Project.

The Project being evaluated is the improvements to Berths 1, 2, 3, and 4, and the impacts associated with the construction activities involved in those improvements. Those activities associated with the operations of the Long Wharf are considered part of the existing environmental baseline. Because the Project would not change operational capacity at the Long Wharf or operational emission from vessel calls at the Long Wharf, current operations do not create a significant under CEQA. For this reason, potential operational impacts are not evaluated, and the Initial Study Checklist analyzes only the Project's construction-related impacts to applicable resource areas.

STAFF ANALYSIS AND RECOMMENDATION:

Authority:

Public Resources Code section 6005, 6216, 6301, and 6501.1; California Code of Regulations, title 2, section 2000, subdivision (b).

Preparation of a Mitigated Negative Declaration under the California Environmental Quality Act:

The Commission is the lead agency for the Project pursuant to CEQA (Pub. Resources Code, § 21000 et seq.) and as lead agency, conducted an Initial Study to determine if the Project may have a significant effect on the environment (State CEQA Guidelines, § 15063). Although the Initial Study identified several potentially significant impacts to Biological Resources, Hazards and Hazardous Materials, and Hydrology and Water Quality, mitigation measures were proposed and agreed to by the Applicant prior to public review that would avoid or mitigate the identified potentially significant impacts "to a point where clearly no significant effects would occur" [State CEQA Guidelines, § 15070, subd. (b)(1)]. Consequently the Initial Study concluded that "there is no substantial evidence, in light of the whole record before the agency, that the Project as revised may have a significant effect on the environment" [State CEQA Guidelines, § 15070, subd. (b)(2)], and a MND was prepared.

Pursuant to the Commission's delegation of authority and the State CEQA Guidelines (Cal. Code Regs., tit. 14, § 15025), the staff prepared a MND identified as Commission MND No. 790, State Clearinghouse No. 2016082014.

The Commission originally issued the MND for the proposed Project for a 30-day public comment period on August 5, 2016. In response to public comments received during the comment period, Commission staff revised and recirculated the MND pursuant to State CEQA Guidelines section 15073.5. Commenters requested that the MND clarify and better explain the baseline conditions at the Long Wharf, clarify and amplify the mitigation measures relating to underwater sound impacts, and clarify the type of lighting that would be utilized for the Project. The MND was subsequently revised to: include new information about emissions from tug boats proposed for use in Project activities; clarify and amplify mitigation measures for impacts to protected species to reflect further consultation with the California Department of Fish and Wildlife; include a discussion of updated National Marine Fisheries Service standards for underwater noise released in July 2016; clarify and amplify the proposed

changes to minimize stray lighting at the Long Wharf, including using shielded 3000 Kelvin color temperature light emitting diode (LED) lighting that minimizes the blue spectrum; and clarify the Project purpose.

The Proposed MND and Initial Study were recirculated for a 30-day public review period from October 10, 2016 to November 9, 2016. Staff received two comment letters:

- Contra Costa County Public Works: Flood Control & Water Conservation District, commented that because the proposed project is located in Drainage Area 114, an unformed drainage area, there are no drainage area fees due at this time.

- A residential Long Wharf neighbor, acknowledged that measures to minimize stray lighting at the Long Wharf were clarified but remained concerned about ongoing noise (operational, not construction related) at the Long Wharf.

Based upon the Initial Study, the MND, and the comments received in response thereto, there is no substantial evidence that the Project will have a significant effect on the environment; California Code of Regulations, title 14, section 15074, subdivision (b). A Mitigation Monitoring Program has been prepared in conformance with the provisions of CEQA (Pub. Resources Code, § 21081.6), and is contained in Exhibit C, attached hereto.

Public Trust and State's Best Interests Analysis:

The California Legislature has delegated to the Commission exclusive control and jurisdiction over ungranted Public Trust lands. (Pub. Resources Code, §§ 6216, 6301). The Commission also retains State authority reserved over lands that have been legislatively granted in trust to other governmental entities (Pub. Resources Code, § 6301). The Commission implements the common law Public Trust Doctrine through careful consideration of its principles and the exercise of discretion within the specific context and location of proposed uses. In administering its trust responsibilities, the Commission exercises its discretionary authority in the best interests of the State, accommodating the changing needs of the public while preserving the public's right to use Public Trust lands for the purposes to which they are uniquely suited.

Commerce and navigation have been recognized as traditional Public Trust uses by the courts. (See, for example, *Marks v. Whitney* (1971) 6 Cal.3d 251, 259.) The subject facility is consistent with the common law Public Trust Doctrine because it is used to aid water-dependent commerce and navigation. The Long Wharf accommodates the transfer of roughly 145 million barrels per year of crude oil as well as refined oil and petroleum products, and has an average of approximately 720 vessels and barge calls per year. It has a total of six active transfer berths for receiving raw materials and shipping final products. The proposed Project seeks to improve the seismic stability and the ability of the Long Wharf to safely receive and moor vessels. These improvements are consistent with the Long Wharf's Public Trust uses. Further, the Project complies with Chevron's current Commission Lease agreement requirements, and is expected to be completed within the existing operational footprint of the Long Wharf with no expansion of the Commission Lease or dredge footprint.

The impacts of sea-level rise, including increased wave activity, storm events, and flooding, are not limited to the open coast. The Long Wharf is located on the San Francisco Bay within a region identified as tidally-influenced; the Long Wharf is, therefore, at higher risk of flood exposure given future projection scenarios of sea-level rise. By 2030, California's coast could see up to one foot of sea-level rise (from year 2000 levels), two feet by 2050, and possibly more than five feet by 2100 (National Research Council 2012). In addition, as stated in Safeguarding California (California Natural Resources Agency 2014), climate change is projected to increase the frequency and severity of natural disasters related to flooding, drought, and storms (especially when coupled with sea-level rise).

To monitor the changing conditions brought about by climate change and sea-level rise, the Long Wharf hosts National Oceanographic and Atmospheric Administration tide and current monitoring stations to track sea states, including high tides and king tide conditions. These monitors are used to make tidal predictions and can be viewed at http://tidesandcurrents.noaa.gov station ID 9414863. Data from these stations is archived for use in monitoring trends and in considering updates to the facilities as well as vessel mooring and loading limitations. Under Section 3103F.5.3.4 of MOTEMS, Chevron is required to consider the effect of sea-level rise on the Long Wharf over the expected life of the terminal. At least every four years an in-depth multidisciplinary inspection

and audit is performed of the Long Wharf's structure and equipment. Marine oil terminals across the state have made upgrades pursuant to the findings of the regular audits. Chevron submitted their latest 2016 Subsequent Audit on September 30, 2016. Chevron is addressing MOTEMS deficiencies as part of the Project, with most of the remaining issues only requiring monitoring and re-inspection. In addition, regulations under the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (Pub. Resources Code, § 8570 et seq.) require Chevron to operate the Long Wharf safely and ensure that crude oil and refined product conveyances remain above the waterline at all times. Compliance with these regulations will minimize the effects of sea-level rise on the Long Wharf and its operations.

For all the reasons above, Commission staff believes granting consent for the Project is consistent with the common law Public Trust Doctrine and in the best interests of the State.

OTHER PERTINENT INFORMATION:

1. This activity is consistent with the following Strategies contained within the Commission's Strategic Plan:

    - Strategy 1.1, to deliver the highest levels of public health and safety in the protection, preservation, and responsible economic use of the lands and resources under the Commission's jurisdiction.
    - Strategy 1.4, to incorporate strategies to address climate change, adapt to sea-level rise, incentivize water conservation, and reduce greenhouse gas emissions and the generation of litter and marine debris into all the Commission's planning processes, project analyses, and decisions; and
    - Strategy 1.5, to ensure the highest level of environmental protection and public safety in the production and transportation of oil and gas resources.

2. This activity involves lands identified as possessing significant environmental values pursuant to Public Resources Code section 6370 et seq., but such activity will not affect those significant lands. Based upon staff's consultation with the persons nominating such lands and through the CEQA review process, it is staff's opinion that the project, as proposed, is consistent with its use classification.

APPROVALS REQUIRED:

U.S. Army Corps of Engineers
National Marine Fisheries Service
U.S. Fish and Wildlife Service
San Francisco Bay Regional Water Quality Control Board
San Francisco Bay Conservation and Development Commission
California Department of Fish and Wildlife
City of Richmond

EXHIBITS:

A. Land Description
B. Site and Location Map
C. Mitigation Monitoring Program

RECOMMENDED ACTION:

It is recommended that the Commission:

CEQA FINDING:

Certify that the MND, CSLC MND No. 790 (October 2016), State Clearinghouse No. 2016082014790, was prepared for this Project pursuant to the provisions of CEQA, that the Commission reviewed and considered the information contained therein and in the comments received in response thereto and that the MND reflects the Commission's independent judgment and analysis.

Adopt the MND and determine that the Project, as approved, will not have a significant effect on the environment.

Adopt the Mitigation Monitoring Program, as contained in Exhibit C attached hereto.

PUBLIC TRUST AND STATE'S BEST INTERESTS:

Find that the proposed Project will not substantially interfere with the Public Trust needs and values at this location at this time, is consistent with the common law Public Trust Doctrine, and is in the best interests of the State.

SIGNIFICANT LANDS INVENTORY FINDING:

Find that this activity is consistent with the use classification designated by the Commission for the land pursuant to Public Resources Code section 6370 et seq.

AUTHORIZATION:

Pursuant to Section 10(b)(2)(E) of Lease No. PRC 8818.1, consent to the commencement of the proposed Long Wharf Maintenance and Efficiency Project at the Chevron Richmond Refinery Long Wharf consistent with the requirements of the Marine Oil Terminal Engineering and Maintenance Standards.

EXHIBIT A W 25263

LAND DESCRIPTION

A parcel of submerged land in the bed of San Francisco Bay situated in Contra Costa County, California, said parcel being more particularly described as follows:

BEGINNING at a point adjacent to the easterly shore of San Francisco Bay having California Coordinates System 1983, Zone 3, coordinates of X = 6,013,267.97 feet and Y = 2,165,822.91 feet from which NGS monument "San Pablo Ridge Reset" bears North 19° 13' 56" West 12,094.64 feet, said monument having California Coordinates System 1983, Zone 3, coordinates of X = 6,009,284.01 feet and Y = 2,177,242.56 feet; thence the following thirty two courses:

1. South 55° 04' 29" West 413.00 feet;
2. North 34° 55' 31" West 36.00 feet;
3. South 55° 04' 29" West 126.00 feet;
4. South 34° 55' 31" East 37.00 feet;
5. South 55° 04' 29" West 1164.00 feet;
6. North 34° 55' 31" West 37.00 feet;
7. South 55° 04' 29" West 126.00 feet;
8. South 34° 55' 31" East 37.00 feet;
9. South 55° 04' 29" West 678.00 feet;
10. North 34° 55' 31" West 73.00 feet;
11. South 55° 04' 29" West 634.00 feet;
12. North 34° 55' 31" West 157.00 feet;
13. North 55° 04' 29" East 90.00 feet;
14. North 34° 55' 31" West 500.00 feet;
15. North 55° 04' 29" East 190.00 feet;
16. North 34° 55' 31" West 2150.00 feet;
17. South 55° 04' 29" West 603.00 feet;
18. South 34° 55' 31" East 300.00 feet;
19. South 55° 04' 29" West 50.00 feet;
20. South 34° 55' 31" East 1200.00 feet;
21. North 55° 04' 29" East 50.00 feet;
22. South 34° 55' 31" East 2658.00 feet;
23. North 55° 04' 29" East 335.00 feet;
24. North 11° 12' 31" East 320.00 feet;
25. North 34° 55' 31" West 74.00 feet;
26. North 06° 33' 22" East 311.00 feet;
27. North 34° 55' 31" West 475.00 feet;
28. North 28° 16' 55" East 150.00 feet;
29. North 34° 55' 31" West 72.00 feet;

30. North 55° 04' 29" East 2027.00 feet;
31. North 58° 54' 18" East 688.00 feet;
32. North 75° 25' 07" West 238.80 feet, more or less to the point of beginning.

EXCEPTING THEREFROM any land lying landward of the west line of lot 28 as shown on the Board of Tide Land Commissioners Map No.1 of Salt Marsh and Tide Lands, situated in the County of Contra Costa, dated July 6th, 1872.

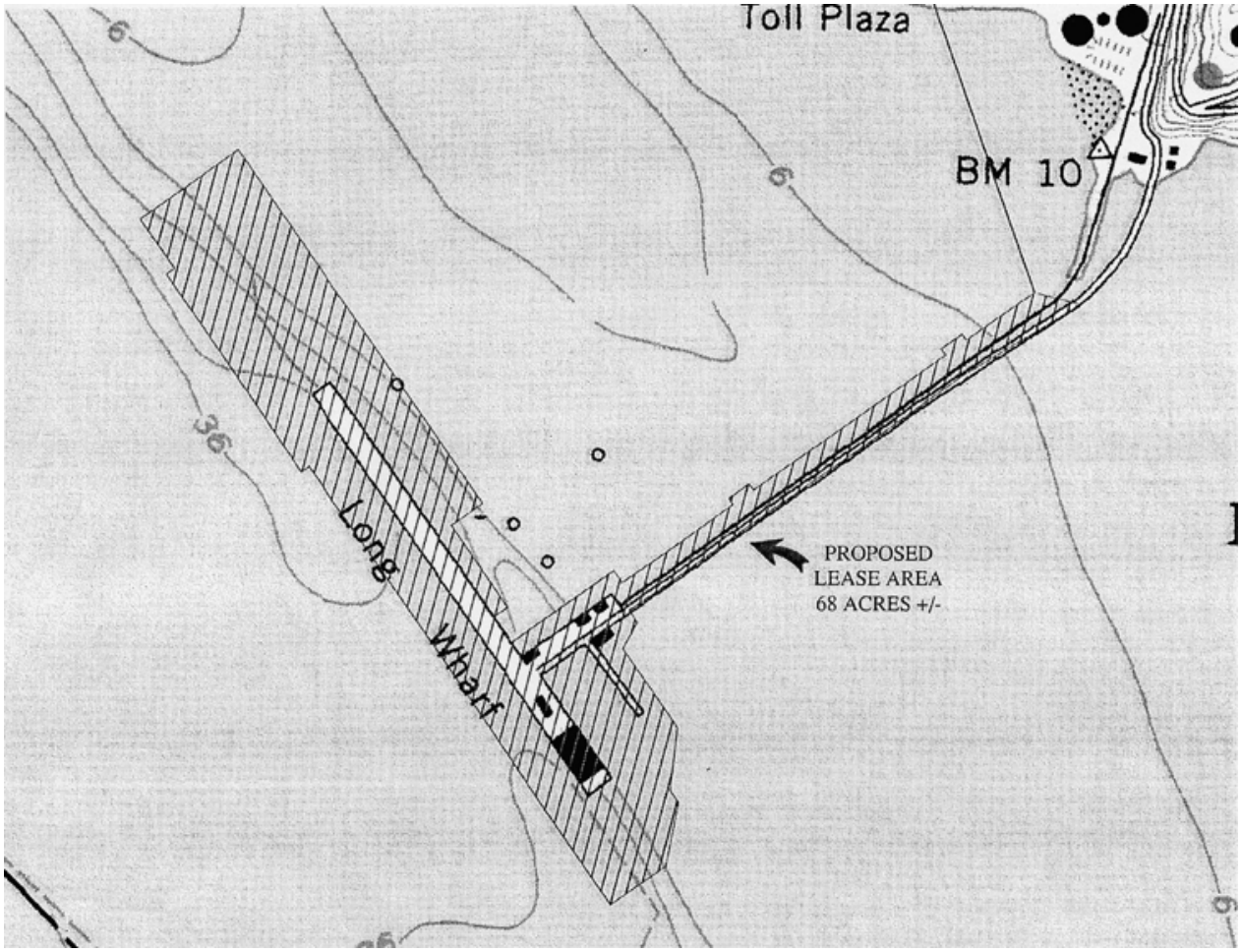
Bearings, distances and Coordinates in the above description are based CCS83, Zone 3 as shown on Chevron Products Company drawing # D-332915-1, dated June 14th, 1996.

END OF DESCRIPTION

Prepared 01-03-2006 by the Boundary Unit of the California State Lands Commission.

NO SCALE

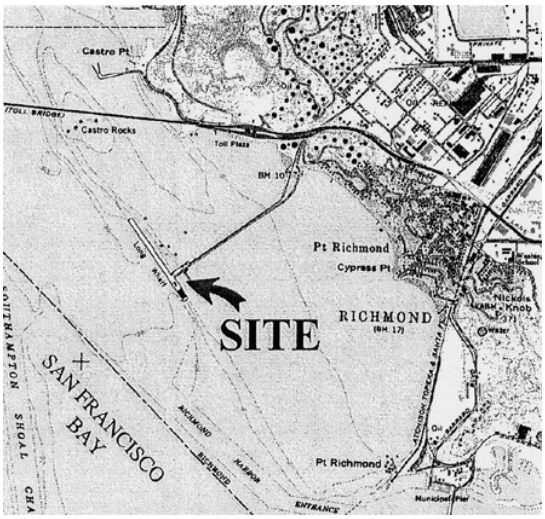
SITE



CHEVRON LONG WHARF, SAN FRANCISCO BAY

NO SCALE

LOCATION



This Exhibit is solely for purposes of generally defining the lease premises, is based on unverified information provided by the Lessee or other parties and is not intended to be, nor shall it be construed as, a waiver or limitation of any State interest in the subject or any other property. MAP SOURCE: USGS QUAD

Exhibit B

W 25263
GENERAL LEASE
INDUSTRIAL USE
RICHMOND
CONTRA COSTA COUNTY

RAB 12/05

EXHIBIT C
CALIFORNIA STATE LANDS COMMISSION
MITIGATION MONITORING PROGRAM

CHEVRON LONG WHARF MAINTENANCE AND EFFICIENCY PROJECT
(State Clearinghouse No. 2016082014)

The California State Lands Commission (CSLC) is the lead agency under the California Environmental Quality Act (CEQA) for the Chevron Long Wharf Maintenance and Efficiency Project (Project). In conjunction with approval of this Project, the CSLC adopts this Mitigation Monitoring Program (MMP) for implementation of mitigation measures (MMs) for the Project to comply with Public Resources Code section 21081.6, subdivision (a) and State CEQA Guidelines sections 15091, subdivision (d), and 15097.

The Project authorizes Chevron Products Company (Chevron or Applicant) to implement maintenance and efficiency improvements to enhance long term reliability of its Chevron Long Wharf (Long Wharf).

PURPOSE

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

ENFORCEMENT AND COMPLIANCE

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

MONITORING

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

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

- ensuring the Applicant has obtained all applicable agency reviews and approvals;

- coordinating with the Applicant to integrate the mitigation monitoring procedures during Project implementation (for this Project, many of the monitoring procedures shall be conducted during the deconstruction phase); and
- ensuring the MMP is followed.

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

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

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

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

Public Access to Records. Records and reports are open to the public and would be provided upon request and in accordance with the Public Records Act.

MITIGATION MONITORING TABLE

This section presents the mitigation monitoring table (Table C-1) for the following environmental disciplines: biological resources, hazards and hazardous materials, hydrology and water quality. All other environmental disciplines were found to have less than significant or no impacts and are therefore not included below. Additionally, Applicant Proposed Measures (APMs) would be implemented, as feasible, to further minimize less than significant impacts for the following environmental discipline: Noise. These APMs are included here for the purpose of tracking. The table lists the following information, by column:

- Impact (impact number, title, and impact class);
- Mitigation measure (full text of the measure);
- Monitoring/reporting action (action to be taken by monitor or Lead Agency);
- Timing (before, during, or after construction; during operation, etc.);
- Responsible agency; and
- Effectiveness criteria (how the agency can know if the measure is effective).

Table C-1 Mitigation Monitoring Program

Biological Resources					
Sensitive species and their habitats	**BIO-1 Work Windows**: Chevron shall conduct pile driving activities in accordance with the NMFS Long Term Management Strategy (LTMS) work window of June 1-November 30 to avoid sensitive life stage periods of special status species.	Monitoring reports	During construction	Contractor/ Chevron, NMFS	Sensitive species avoided or protected throughout construction.
	BIO-2 Soft Start: Chevron shall use "soft starts" during impact pile driving (gradually increasing the force during the first few blows) to give fish (as well as marine mammals) an opportunity to move out of the area away from the sound source. Soft starts would be implemented at the start of each day's pile driving and at any time following the cessation of pile driving for a period of 30 minutes or longer. Examples of typical soft starts are identified below. • Vibratory pile drivers. Sound is initiated for 15 seconds at reduced energy followed by a 30-second waiting period. Repeat two additional times. • Impact drivers. An initial set of strikes at reduced energy is followed by a 30-second waiting period, then two subsequent reduced energy strike sets.	Monitoring reports	During construction	Contractor/ Chevron	Sensitive species able to move out of the area during construction.
	BIO-3 Underwater Sound Reduction: Chevron shall deploy bubble curtains during driving of the 60-inch diameter steel piles to reduce underwater noise. In addition, wood cushion blocks shall be used during impact driving of concrete piles to reduce sound levels and reduce the area of Bay affected by underwater noise.	Monitoring reports	During construction	Contractor/ Chevron	Sensitive species protected throughout construction.
	BIO-4 Hydroacoustic and Marine Mammal Monitoring: To ensure that no Level A (injurious) harassment occurs during pile-driving activities, Chevron shall conduct site-specific hydroacoustic and marine mammal monitoring using Marine Mammal Observers approved by California State Lands Commission (CSLC) staff, in consultation with National Marine Fisheries Service (NMFS) and California Department of Fish and Wildlife (CDFW) staffs.	Monitoring reports	During construction	Contractor/ Chevron	Sensitive species avoided or protected throughout construction.

Table C-1 Mitigation Monitoring Program

	Such monitoring shall include at least the following elements. • Underwater noise levels shall be measured and visual marine mammal monitoring conducted during all construction activities that involve pile driving. • Monitoring shall include hydroacoustic measurements during driving of each type of pile. • The approved Marine Mammal Observers shall monitor the calculated Level A zone for the presence of marine mammal species. If no marine mammals are sighted within the Level A zone (exclusion zone) for 20 minutes, pile driving may begin. • If a marine mammal is sighted in the exclusion zone, or approaching the exclusion zone during this time, pile driving activities shall be delayed until the animal has left and no marine mammals have been sighted within the zone for another 20 minutes. • The approved Marine Mammal Observers shall record sightings and animal behavior within the Level B zone during pile driving activities. • Results shall be reported to CSLC staff annually.				
	BIO-5 Off-Site Mitigation: To reduce temporary and permanent benthic habitat loss and increased cantilever fill as a result of the Project, prior to commencing construction Chevron shall purchase credits at a ratio of 1:1 (0.11 acre) at the Liberty Island Conservation Bank (or an equivalent location, subject to agency concurrence). In addition, prior to commencing construction, Chevron will fund a pile removal and habitat enhancement project to fulfill mitigation obligations with the Bay Conservation & Development Commission (BCDC), NMFS, United States Army Corps of Engineers (USACE), and California Department of Fish and Wildlife (CDFW), subject to agency concurrence.	Post- construction report	Pre-construction	Chevron, BCDC, CCC, NMFS, USACE	Compensatory mitigation for temporary and permanent benthic habitat loss and increased cantilever fill as a result of the Project.

Table C-1 Mitigation Monitoring Program

	BIO-6 Pre-Construction Surveys: Chevron shall conduct pre-construction surveys for nesting birds if construction is to take place during the nesting season (April 1 through August 31). A qualified wildlife biologist shall conduct a pre-construction nest survey no more than 5 days prior to initiation of construction activities to search for active migratory bird or raptor nests. If active nests are encountered, species-specific avoidance buffers to prevent abandonment of the nest until the young have fledged and/or measures such as nest relocation or removal and incubation of eggs shall be implemented by a qualified biologist in consultation with state and/or federal resource agencies.	Monitoring reports	Pre-construction	Qualified Biologist/ Chevron	Sensitive species avoided or protected throughout construction.
Hazards and Hazardous Materials					
Significant hazard to the public through the routine transport, use, disposal, or accidental release of hazardous materials	**Spill Preparedness and Emergency Response Plan (SPERP).** Chevron will review and, as needed, revise the existing Refinery SPERP to address the emergency cleanup of any hazardous material that would be stored or used on site.	SPERP	Pre-Construction	Chevron	An accidental release of hazardous material is avoided or responded to appropriately.
	Employee Training. Chevron will train workers, contractor crews, and supervisors regarding the health and safety of the Project and hazardous materials used on site to ensure they understand how to safely use and dispose of all hazardous materials.	Monitoring reports	Pre-Construction	Chevron	Educate workers to safely use and dispose of all hazardous materials.
Hydrology and Water Quality					
Violation of water quality standards or the degradation of water quality	**HYD-1 Spill Prevention:** The following practices would be followed to prevent spills from entering the waterway: • Equipment shall be inspected daily by the operator for leaks or spills. If leaks or spills are encountered, the source of the leak will be identified, leaked material would be cleaned up, and the cleaning materials would be collected and properly disposed. Equipment leaks shall be repaired. • All fuel, waste, oils, and solvents shall be stored away from the construction site. Fueling of land and marine-	Monitoring reports	During construction	Contractor/ Chevron	Avoid or reduce potential spills from entering the waterway.

Table C-1 Mitigation Monitoring Program

	based equipment shall be conducted in accordance with Best Management Practices described in the SWPPP. Any spills would be contained and properly disposed. Chevron will be notified by the contractor of all spills, regardless of size. • Containment booms and sorbent materials will be available during all work activities and will be deployed immediately in the event of a spill to limit its spread. • When cutting and boring any debris generated will be contained and prevented from entering the Bay by using platforms below the piers to catch debris. • Equipment and utility barges will be equipped with precautionary safety and spill containment equipment. • If any materials or wastes are inadvertently released to the Bay, the contractor will immediately stop all work and use all available resources to assure containment and removal.				
	HYD-2 Construction Waste: Fresh cement or asphalt concrete would not be allowed to enter the Bay. Construction waste shall be collected and transported to an authorized upland disposal area or recycle site by a properly licensed transporter (in accordance with Cal. Code Regs., tit. 22, div. 4.5). During pile extraction, removed piles will be lifted and placed directly on a barge for transport to an approved offsite facility for disposal. Excess mud that may cling to the extracted piles will not be washed into the Bay.	Monitoring reports	During construction	Contractor/ Chevron	Avoid fresh cement or asphalt concrete entering the waterway.
	HYD-3 Minimize Cutting Over Water: Chevron shall minimize cutting and boring that occurs over the water. Any debris generated will be contained and prevented from entering the Bay through the use of protective devices such as tarps and plywood sheets to catch falling debris before it enters the Bay.	Monitoring reports	During construction	Contractor/ Chevron	Avoid debris entering the waterway.
	HYD-4 Demobilize Equipment: Upon Project completion, Chevron shall ensure that all equipment and	Monitoring reports	During construction	Contractor/ Chevron	Avoid or reduce potential spills from

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	materials are safely demobilized from the Project site(s) and that (in accordance with Cal. Code Regs., tit. 22, div. 4.5): • all debris is unloaded from barges and placed into trucks for proper disposal; and • all construction materials, wastes, debris, sediment, rubbish, trash, fencing, etc., is removed from the site and transported to an authorized disposal or recycle site by a properly licensed transporter.				entering the waterway.
Noise					
Noise from construction activities	**APM NOI-1** Chevron will provide written notification to potentially affected residents before construction, identifying the type, duration, and frequency of construction activities to residences directly exposed to the Project construction noise. Notification materials shall identify a mechanism for residents to register complaints with the appropriate jurisdiction if construction noise levels are overly intrusive or construction occurs outside the permitted hours. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) shall be included in the notification.	Monitoring reports	Pre-Construction	Chevron	Minimize noise disturbance
	APM NOI-2 Chevron will designate a disturbance coordinator and conspicuously post this person's number around the Project site, in adjacent public spaces, and in construction notifications. The disturbance coordinator shall be responsible for responding to any complaints about construction activities. The disturbance coordinator shall receive all public complaints about construction disturbances and be responsible for determining the cause of the complaint and implementation of feasible measures to be taken to alleviate the problem.	Chevron disturbance coordinator reports	During construction	Chevron	Minimize noise disturbance
	APM NOI-3 Prohibit the start-up of machines or equipment before 7 a.m. and after 7 p.m. Monday through Friday.	Monitoring reports	During construction	Contractor/ Chevron	Minimize noise disturbance

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	APM NOI-4 Use electrically powered equipment instead of internal combustion equipment where practicable and feasible.	Monitoring reports	During construction	Contractor/ Chevron	Minimize noise disturbance
	APM NOI-5 Restrict the use of bells, whistles, alarms, and horns to safety-warning purposes.	Monitoring reports	During construction	Contractor/ Chevron	Minimize noise disturbance
	APM NOI-6 Equip all construction equipment with noise-reduction devices such as mufflers to minimize construction noise and operate all internal combustion engines with exhaust and intake silencers.	Monitoring reports	During construction	Contractor/ Chevron	Minimize noise disturbance
	APM NOI-7 Locate fixed construction equipment (e.g., compressors and generators), construction staging and stockpiling areas, and construction vehicle routes as far as feasible from noise-sensitive receptors.	Monitoring reports	During construction	Contractor/ Chevron	Minimize noise disturbance
	APM NOI-8 Use noise-attenuating buffers such as structures or truck trailers between noise generation sources and sensitive receptors, where feasible and particularly in locations subject to prolonged construction	Monitoring reports	During construction	Contractor/ Chevron	Minimize noise disturbance