Draft

MONTEREY MUNICIPAL WHARVES I AND II – STRUCTURAL MAINTENANCE PROGRAM

Initial Study

Prepared for
City of Monterey

April 2019

ESA

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City of Monterey

April 2019

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MONTEREY MUNICIPAL WHARVES I AND II – STRUCTURAL MAINTENANCE PROGRAM

Initial Study

1. Project Title:	Monterey Municipal Wharves I and II – Structural Maintenance Program
2. Lead Agency Name and Address:	City of Monterey
3. Contact Person and Phone Number:	John Haynes, Harbormaster 831-646-3950
4. Project Location:	City of Monterey
5. Project Sponsor's Name and Address:	The project applicant is the City of Monterey (City), which is applying on behalf of the City as well as on behalf of its tenants and/or other owners of private structures that are located on Wharves I and II; the City's lead contact is as follows: John Haynes, Harbormaster City of Monterey Harbor Office 250 Figueroa Street Monterey, CA 93940 haynes@monterey.org 831-646-3950
6. General Plan Designation(s):	Commercial
7. Zoning:	Planned Community

8. Description of Project: The City's two municipal wharf structures, Wharves I and II, have degraded due to age, abrasion, and marine borer attack. In order to facilitate continued and future uses of the wharf structures a "program" of maintenance activities is required. The purpose of the proposed Program is to perform the necessary structural maintenance on the wharves in order to facilitate safe and reliable continued and future uses of the municipal wharves. The Program aims to restore the original capacity of specific structural wharf members that have degraded. Please refer to Chapter 1, Project Description, for details.

9. Surrounding Land Uses and Setting:

Please see Project Description.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

U.S. Army Corps of Engineers, Central Coast Regional Water Quality Control Board, California Coastal Commission.

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

On August 23, 2018, the Housing and Community Development Manager of the City of Monterey held a tribal consultation meeting with Ms. Louise Ramirez, Tribal Chairwoman of the Ohlone Costanoan Esselen Nation. The proposed Program was reviewed and the archaeologically sensitive areas surrounding the Program were discussed. Ms. Ramirez requested to review the archaeological survey report completed for the Program and did not have any further requests or questions regarding the Program.

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☐ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards/Hazardous Materials
☒ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☒ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation/Traffic	☒ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Mandatory Findings of Significance	

DETERMINATION: (To be completed by the Lead Agency)

On the basis of 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.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

4/24/2019

Signature — Date

Signature — Date

CHAPTER I
Project Description

1.1 Introduction

The City's two municipal wharf structures, Wharves I and II, have degraded due to age, abrasion, and marine borer attack. In the past, the City has sought project-by-project permits and approvals for such maintenance activities. This project specific approach resulted in added delays and costs. Therefore, the City is seeking to increase regulatory predictability and decrease the cost and time required to obtain project-specific regulatory permits and environmental review. In order to facilitate continued and future uses of the wharf structures - which includes municipal, commercial, industrial, recreational, and other uses - a "program" of maintenance activities is required. The City plans to accomplish this by seeking programmatic permits and approvals for a long-term maintenance program, hereby referred to as the proposed Municipal Wharves I and II Structural Maintenance Program (Program). The purpose of the proposed Program is to perform the necessary structural maintenance on the wharves in order to facilitate safe and reliable continued and future uses of the Municipal Wharves. The Program aims to restore the original capacity of specific structural wharf members that have degraded. Necessary maintenance activities may range from immediate (i.e., addressing immediate safety threats) to preventative, from structural to superficial, from minor repairs to full replacement, and from rare to periodic to extremely routine. Where appropriate, modern materials will be substituted for original materials. No dredging is proposed as a part of the Program; any dredging, if needed, would be conducted under the City's existing dredging permits or newly-sought permits. Furthermore, no expansion in usable footprints or change in use(s) is proposed.

The Program would obtain permits and environmental clearances for the maintenance of all the wharves' structural elements, regardless of ownership. This is necessary because some of the buildings (or concessions), and the structures which support and lie immediately beneath them, are in fact owned and occupied by, and the maintenance responsibility of, private entities (tenants) with no City. The City's proposed maintenance Program does not include the buildings (concessions) situated atop the wharves, as the buildings' maintenance needs are significantly different from those of the structural elements of the wharves. As part of the Program, the City would require their tenants to design and implement the necessary repairs, in compliance with any CEQA and/or permit requirements or conditions. The Program activities are specific to the wharf structures themselves, and not the entity proposing to conduct the work. Therefore, the maintenance activities may be conducted by the City and/or by any other entities (i.e., tenants) with legal rights and responsibilities for the maintenance of the wharf structures.

The City is seeking authorization of the proposed long-term structural maintenance Program as soon as possible, in order to conduct the most urgent necessary structural repairs in 2019. The City is seeking long-term authorization of the proposed Program, rather than on a project-specific basis, and requests a duration of 10 years for Program authorization (with anticipated annual notification and reporting procedures, to enable Program monitoring and assessment of efficacy).

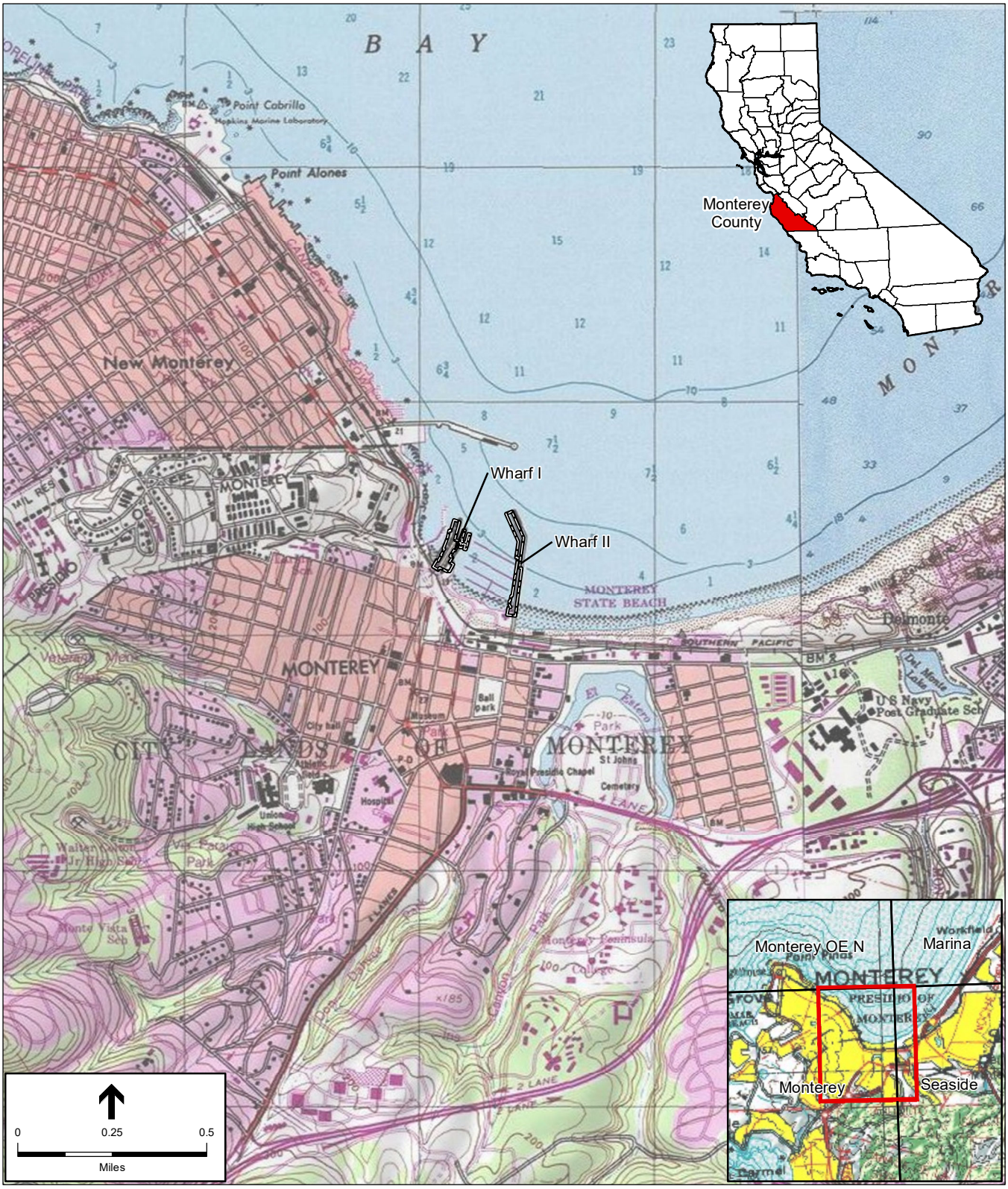
1.2 Program Location and Setting

The proposed Program would be located on the City of Monterey's two existing and actively-used municipal wharf structures, Wharf I (also known as Old Fisherman's Wharf) and Wharf II. The City's wharves are located within waters and shoreline of the Monterey Harbor, in southern Monterey Bay, in the City of Monterey (**Figure 1, Program Location**).

Wharf I is the western of the two wharves, and it extends approximately 700 feet into Monterey Harbor, comprising an area of approximately 2.3 acres of pile-supported in- and over-water structures. Just to the east, the larger Wharf II demarcates the eastern boundary of Monterey Harbor, and it extends approximately 1,500 feet into the harbor and comprises approximately 2.5 acres of pile-supported in- and over-water structures. Numerous City-owned boat docks occupy the harbor between the two wharves, and the wharves and docks are partially sheltered from wind and wave activity by an existing breakwater to their north (**Figure 2, Aerial Photograph**). Elevations at the Program site range from approximately -15 feet below to 15 feet above mean sea level (msl).

Potential areas of disturbance would include areas in the waters and along the shoreline immediately surrounding the two wharves that could be affected by the proposed maintenance activities such as: demolition, removal, repairs, and maintenance replacements of existing wharf structural elements. These activities may be conducted by in-water (marine) construction equipment as well as from atop or suspended from the existing wharf decks and/or sub-structure. Potential areas of disturbance would also include access and staging areas, all of which are located either atop, on the underside of, or in the waters immediately surrounding the wharves. Access to and from the wharves would occur on existing paved roadways, and minimally along the shoreline (to access portions of the wharves that abut the shoreline).

The City's proposed Program would encompass the entirety of the two wharves' structural elements, including the wharves' piles and concrete pedestals, wharf sub-structures, wharf decks, and the structural and/or safety elements, which extend out horizontally and/or vertically from the wharves - such as various platforms, docks, fender systems, and their associated fender and guide piles.



SOURCE: USGS Monterey

Monterey Municipal Wharves Program . 160711

Figure 1
Program Location

SOURCE: ESA, 2018; Google Earth, 2018

Monterey Municipal Wharves I and II – Maintenance Program . 160711

Figure 2

Aerial Photograph

1.3 Site Characteristics and Conditions

1.3.1 Background

As mentioned in Section 1.1, Introduction, the proposed Program would address long-term maintenance needs for the entirety of Wharf I and Wharf II's structural elements. This includes the wharves' supporting piles and/or concrete pedestals, sub-structures, decks, and the structural and/or safety elements, which extend out horizontally and/or vertically from the wharves - such as various platforms, docks, fender systems and their associated fender and guide piles. This may require the temporary (or in very few cases, permanent) relocation of existing utility lines which are affixed to the wharves structural members, if they impede necessary maintenance activities. In order to enable the most flexibility for maintenance implementation, the proposed Program includes all structural members of the wharves regardless of ownership or tenancy.

1.3.1.1 Structural Condition Inspections

The City retained COWI, an engineering firm, to complete a comprehensive above-water and underwater inspection of Wharves I and II. The results of this inspection, conducted in 2017, are included in COWI's Wharf 1 and Wharf 2 Condition Survey Report (COWI, 2017). COWI's report assessed the condition of all structural members of the existing wharves and determined that the overall condition of Wharf I and II is '*poor*'[1] (ASCE, 2015). COWI's report characterized the observed structural conditions by priority (in descending order of priority: immediate, critical, non-critical, and preventative), summarized the total quantities of defects encountered, and provided recommendations for needed repairs. This COWI report serves as the basis for the proposed Program.

With respect to City-owned structures, and based on COWI's Condition Survey Report, the City and COWI have identified a sub-set of recommended repairs that the City proposes to conduct immediately following authorization, in the first "cycle" (or Cycle #1) of the proposed Program. COWI has prepared 90% engineering designs for proposed maintenance repairs in Cycle #1. The 90% engineering designs are specific to the City's proposed Cycle #1 maintenance repairs to City-owned structures. Proposed Cycle #1 repairs to tenant-owned structures would be designed and implemented by the tenants and their contractors, as selected by the tenants following City notification of the required structural repairs.

1.3.2 Description of Structures

In order to convey a basic understanding of the existing structures proposed for maintenance, including an understanding of the terminology specific to the City's wharf structures, the following section provides a general description of the existing wharf structures.

The City's Wharf I and II structures both extend north from the shoreline out into the tidal waters of Monterey Bay Harbor. The Wharf I and II structures were built over a broad time period with a

[1] 'Poor' is defined in the American Society of Civil Engineers' (ACSE) Manuals and Report on Engineering Practice No. 130: *Waterfront Facilities Inspection and Assessment as "Major deterioration or overstressing observed on widespread portions of the structure but does not significantly reduce the load-bearing capacity of the structure. Repairs may need to be carried out with moderate urgency".*

wide variety of materials and structural configurations. Structural elements fall into two broad classifications: foundations and framing. The foundations are typically piles composed of concrete, plastic, timber, or steel. In a few locations, foundations are supported by concrete piers that bear on the seafloor. Fender and/or guide pile systems are included with foundations and consist of the various wood, steel, and concrete piles on the wharf perimeter and serve to either protect the wharf docks from vessel impacts or to anchor the docks and other floating structures to the wharves while still allowing vertical movement with tidal fluctuations. Framing consists of cap beams, stringers, and braces. Framing is typically timber but some portions of Wharf I and II are concrete or steel.

1.3.2.1 Wharf I

Wharf I, commonly referred to as Old Fisherman's Wharf, opened for activity in the mid-1800's. It was originally utilized for unloading freight and eventually for the transportation of sardines. The City of Monterey assumed ownership of the Wharf in 1913 and through the 1900's the purpose of the Wharf changed. Today, the Wharf provides dining, shopping, special events, whale watching, bay cruises, a glass bottom boat, fishing, and sailing. Wharf I is composed of the Main Boardwalk and several concession buildings, finger piers, and docking and mooring structures. As mentioned previously, Wharf I includes both City-owned structures and some non-City owned (tenant) concession buildings (**Figure 3**). See **Figure 4** for the Wharf I Overall Site Plan.

On Wharf I, the Main Boardwalk is the main access route for both pedestrian and vehicular traffic (primarily limited to delivery, maintenance, and emergency medical service traffic). The Main Boardwalk is oriented in the north-south direction and is approximately 650 feet long and varies in width. The boardwalk is supported by 53 sections, or bents, of 12- to 16-inch-diameter treated or pressure treated timber piles. The number of piles per bent varies from four piles to 14 piles, with almost all piles being plumb, i.e., driven vertically. The piles are typically wrapped with a polyethylene wrap to prevent deterioration by marine borer activity. Generally, the wraps extend from just below the mudline to just above mean high water (MHW). At the inshore portion of the boardwalk, most of the piles have partial length concrete encasements. Various fender/guide piles are located throughout the facility associated with the Main Boardwalk. In total, there are 409 structural piles, and 39 fender/guide piles at Wharf I. The pile caps typically consist of 12-inch by 12-inch timber pile caps with 4-inch by 12-inch timber deck stringers. The stringers typically support 3-inch by 12-inch timber decking with an asphalt overlay.

Several concession structures, finger piers, and mooring structures are located throughout Wharf I. They are all located around the Main Boardwalk and have varying construction materials, pile numbers, pile types, and bent orientations. **Table 1** provides a summary of each structure, size, approximate number of piles, approximate number of fender and/or guide piles, and typical construction materials. It is typical for a single pile to support two adjacent concessions. Therefore, a pile may be included more than once in the pile count as shown in Table 1.

SOURCE: City of Monterey, 2018

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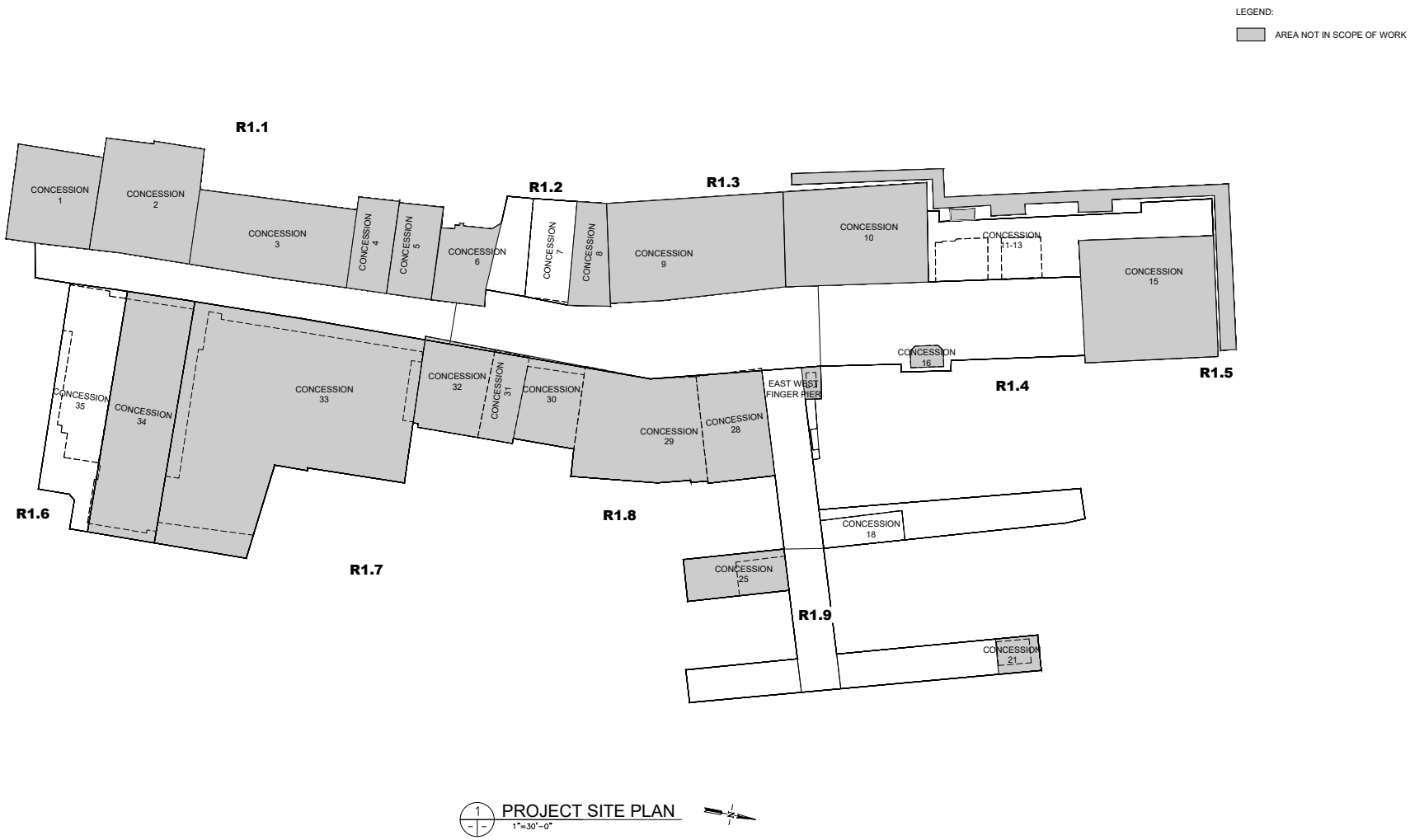
Figure 3

Wharf I Building Ownership



SOURCE: COWI, 2018

Monterey Municipal Wharves I and II – Maintenance Program . 160711

Figure 4

Project Site Plan – Wharf 1

TABLE 1
SUMMARY OF WHARF I STRUCTURES

Structure	Approx. Size (ft x ft)	Approx. No. of Piles	Approx. No. of Fender/ Guide Piles	Typical Construction Materials
Main Boardwalk	650 x 37	257	0	Wrapped Timber piles, Concrete pedestals/ encasements near shore, timber pile caps, stringers, and decking.
Concession 1	52x58	25	0	Concrete pedestals/encasements with rail ties/timber posts, timber bracing, stringers, pile caps, and decking.
Concession 2	62x70	41	0	Concrete encasements with rail ties/timber posts, concrete filled PVC piles, timber bracing, stringers, pile caps, and decking.
Concession 3	100 x 50	58	0	Concrete encasements with rail ties/timber posts, concrete filled PVC piles, timber pile caps, timber stringers, decking, abandoned in place rail piles.
Concession 4	57 x 25	15	0	Concrete filled PVC piles, timber bracing, stringers, pile caps, and decking.
Concession 5	55 x 30	15	0	Timber piles, timber pile caps, stringers, and decking.
Concession 6	60 x 60	32	1	Timber piles, timber pile caps, stringers, and decking.
Concession 7	60 x 30	19	0	Timber piles, concrete filled PVC piles, timber pile caps, timber stringers, decking, abandoned in place rail piles.
Concession 8	65 x 25	15	0	Square concrete piles, timber pile caps, stringers, decking, and abandoned in place rail piles.
Concession 9	110 x 60	111	9	Timber piles, concrete filled PVC piles, concrete filled steel pipe piles, timber and steel pile caps, timber stringers, decking, abandoned in place rail piles.
Concession 10	90 x 60	46	7	Timber piles, pile caps, stringers, and decking.
Concession 11-13	170 x 25 120 x 33	75	0	Plumb and batter timber piles, pile caps, stringers, and decking.
Concession 15	85 x 70 82 x 75	102	4	Plumb and batter timber piles, bracing, pile caps, stringers, and decking.
East-West Finger Pier	195 x 25	99	11	Timber piles, pile caps, stringers, and decking.
Concession 18	165 x 25	80	25	Timber piles, concrete filled PVC piles, timber pile caps, stringers, and decking.
Concession 21	195 x 25	115	20	Timber piles, pile caps, stringers, and decking.
Concession 25	62 x 25	19	0	Timber piles, pile caps, stringers, and decking.
Mooring Structure 1	65 x 2	0	7	Timber piles and timber pile cap.
Mooring Structure 2	65 x 2	0	7	Timber piles and timber pile cap.
Concession 28	65 x 45	38	0	Timber piles, concrete filled PVC piles, steel H-piles, timber pile caps, stringers, and decking.
Concession 29	85 x 65	52	0	Steel pipe piles, steel bracing, steel pile caps, timber stringers and decking.
Concession 30	45 x 40	20	0	Concrete filled PVC piles, timber pile caps, stringers, decking, and abandoned in place rail ties.

TABLE 1
SUMMARY OF WHARF I STRUCTURES

Structure	Approx. Size (ft x ft)	Approx. No. of Piles	Approx. No. of Fender/ Guide Piles	Typical Construction Materials
Concession 31	55 x 25	15	0	Concrete filled PVC piles, timber pile caps, stringers, decking, and abandoned in place rail ties.
Concession 32	55 x 45	34	0	Concrete filled PVC piles, timber pile caps, stringers, decking, and abandoned in place rail ties.
Concession 33	120 x 120	128	0	Timber piles and concrete encased timber piles, pile caps, stringers, and decking
Concession 34	150 x 45	59	0	Timber piles, concrete pedestals/encasements with rail ties/timber posts, timber bracing, stringers, pile caps, and decking.
Concession 35	145 x 40 140 x 35	50	0	Timber piles, concrete pedestals/encasements with rail ties/timber posts, timber bracing, stringers, pile caps, and decking.
TOTAL	**125,000 SF**	**409**	**39**	Varies

1.3.2.2 Wharf II

Wharf II was originally constructed in 1926 to service the commercial fishing industry. Today, the Wharf continues to support the commercial fishing industry as well as public access, parking, restaurants, and a yacht club. When the adjacent marina was expanded in the late 1950's, a new concrete sheet pile breakwater was constructed along the eastern edge of Wharf II. The roadway atop the Wharf II deck was then expanded to include a parking area partially supported by the breakwater. A number of inspection and subsequent repair and rehabilitation programs have been undertaken at the Wharf, most recently from 2012 to 2017. Previous repair efforts were also performed in 1983, 1991, and 1998.

The primary Wharf can be divided into three main bents based upon structural configurations: bents 19 to 66, bents 67 to 103, and bents 93 to 128. A structural transition occurs between bents 93 and 103 resulting in bents having configurations typical of both sections. In addition, a number of secondary structures exist that support various enterprises along the Wharf including the Monterey Peninsula Yacht Club, the Sandbar & Grill, Loulou's, a boat crane, boat dock, and the U.S. Freezer Company Building. See **Figure 5** for the Wharf II Overall Site Plan and **Table 2** for a summary table of Wharf II structures. See **Figure 6** for the location of tenant-owned structures on Wharf II.

Wharf II has a total of 109 bents with six to 14 piles per bent. In total, there are approximately 1,561 structural piles and 257 fender and/or guide piles. Most of the piles are 12- to 16-inch-diameter treated timber piles with wraps, encasements, or jackets depending on the location. However, there are approximately 304, 12-inch by 12-inch concrete batter piles bracing the concrete sheet pile wall.

SOURCE: City of Monterey, 2018

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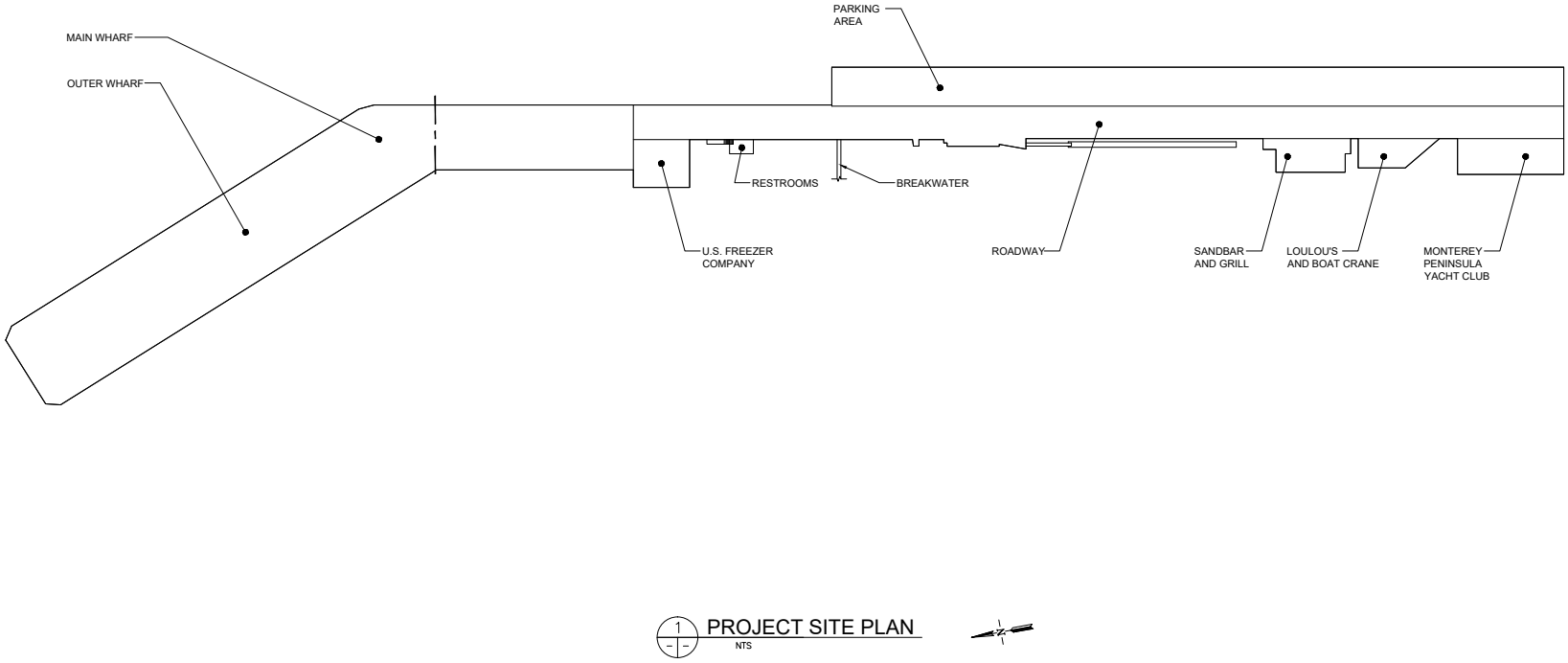
Figure 5

Wharf II Building Ownership



SOURCE: COWI, 2018

Monterey Municipal Wharves I and II – Maintenance Program . 160711

Figure 6

Project Site Plan – Wharf 2

TABLE 2
SUMMARY OF WHARF II STRUCTURES

Structure	Approx. Size (ft x ft)	Approx. No. of Piles	Approx. No. of Fender/ Guide Piles	Typical Construction Materials
Bents 19 to 66: Roadway and Parking	680 x 75	409	0	Wrapped or encased timber piles, timber pile caps, stringers, and decking.
Bents 67 to 103: Roadway and Main Wharf	435 x 65	357	105	Wrapped or encased timber piles, timber pile caps, stringers, and decking.
Bents 93 to 128: Outer Wharf (includes Warehouse Bldg.)	415 x 95	364	142	Reinforced concrete jacketed piles, concrete pile caps, edge beams, and bracing; timber stringers and decking.
Monterey Peninsula Yacht Club	95 x 40	36	2	Wrapped or encased timber piles, timber pile caps, stringers, and decking.
Loulou's and Boat Crane	80 x 35	25	0	Wrapped or encased timber piles, timber pile caps, stringers, and decking.
Sandbar & Grill	75 x 35	24	0	Wrapped or encased timber piles, timber pile caps, stringers, and decking.
Boat Dock	25 x 15	8	3	Wrapped or encased timber piles, timber pile caps, stringers, and decking.
U.S. Freezer Company Building	50 x 45	34	5	Wrapped or encased timber piles, timber pile caps, stringers, and decking.
Sheet Pile Wall	3x1500	304	0	Concrete Sheet Pile Wall, 12"x12" Concrete Batter Piles
TOTAL	**116,000 SF**	**1561**	**257**	

1.4 Proposed Program

1.4.1 Approach to Maintenance Activities

Repairs to wharf structural elements would generally be approached by the City in what has been termed a cycle. The City would select and implement these cycle repairs based on a “best value” approach, described below. The location of the proposed structural maintenance work can generally be classified as either in-water or above-water work.

Maintenance activities which require extensive engineering design and outside contractors and equipment to implement are identified as cycle repairs. Based on COWI’s engineering recommendations and City preferences, Program maintenance activities are anticipated to be performed on an approximately 3-year cycle of inspection, repair design, and implementation (construction), each phase of which would require approximately one year.

In coordination with their engineers, the City would prioritize, select, design, and perform maintenance repairs under this approximate 3-year cycle based upon the urgency of the needed repairs, the availability of City funds, and a best value approach.

Based on COWI's engineering recommendations and City preferences, a number of additional Program maintenance activities would be selected and implemented concurrently with the necessary cycle repairs, based on a best value approach. This approach is aimed at performing some non-urgent repairs in conjunction with those repairs prioritized for a specific cycle, based on the efficiencies or economies of scale available when already mobilizing contractors and equipment to conduct the prioritized cycle repairs, by performing similar (but less critical) repairs in adjacent areas.

This cyclical best value approach would allow any new damage or degradation to be identified and mitigated efficiently in combination with other non-urgent repairs. This approach would allow the City to prevent unnecessary costs, delays, or additional deferred maintenance.

The focus of each cycle may vary to some degree; for example, each cycle may undertake a different type of maintenance (e.g., repairs to piles in a certain area during one cycle and concrete repairs during the next).

The City's first proposed cycle of maintenance repairs under the Program (Cycle #1) is described below in Section 1.5.2, Maintenance Activities.

1.4.2 Proposed Maintenance Activities

1.4.2.1 Repair Types, Design, and Methods

This section describes the types and intent of the proposed cycle repairs, as well as the typical repair or replacement design and methods employed for these cycle repairs. Proposed cycle repairs have been broadly divided into two types based on the structural component proposed for repair: foundation repairs (wharf pile and concrete block repairs, including associated fender and/or guide pile repairs), and framing repairs (timber cap beams and stringers, miscellaneous framing repairs, and concrete framing repairs). All repairs are designed using materials that follow local, California, and national environmental regulations; this includes the use of concrete, cementitious grout, and epoxy specifically chosen for marine/in-water applications.

1.4.2.2 Proposed Cycle Repairs

The proposed Cycle #1 maintenance activities, as combined for both the City-owned and tenant-owned structures, are planned for implementation in 2019-2020. Cycle #1 would include repairs identified as Immediate and Critical in COWI's report (COWI, 2017). Additionally, this cycle would include fender and/or guide pile replacements and additional non-urgent maintenance activities located in the vicinity of the Immediate and Critical repairs. The first cycle would focus on timber repairs and would minimize the amount of concrete work. In future cycles it is expected that more concrete repairs would be performed.

The City proposes to implement Cycle #1 maintenance activities starting in late summer/early fall 2019 (with work anticipated to require approximately 3-8 months, continuing through early 2020). The City plans to initiate the first proposed cycle of repairs in September 2019. The City expects the next cycle (Cycle #2) of repairs would be initiated with inspections in 2020, design in 2021, and construction in 2022.

Regarding structures owned by non-City entities (tenants), who have both legal rights and responsibilities for the maintenance of the wharf structures below their concessions, the City expects to inform tenants of the observed structural conditions and structural maintenance needs below their concessions following completion of the CEQA process, and to require tenants to contract for the design and implementation of the first cycle of necessary repairs, in compliance with any CEQA and/or permit requirements or conditions, within 6 months of City notification. The City plans to require that a building permit be applied for by tenants for said repairs within 90 days of City notification. The City cannot predict each tenant's specific schedule for designing and conducting these maintenance activities, but expects that schedules will similarly be driven by tenant budget availability, the urgency of the repair, as well as a City requirement to conduct the work. Completion of the Program's CEQA process and subsequent tenant notification by the City is planned for late 2018/early 2019; therefore, tenant-led repairs can be expected to be designed and proposed for implementation in 2019-2020 (similar to the City-led repair schedule).

The estimated quantities of cycle repairs or replacements, which addresses both Wharf I and II combined, for the first approximately 9 to 10 years of the Program (expected to consist of Cycles #1 through #3) are shown in **Tables 3 and 4** below. The values are approximate, proposed repairs include both City-owned and non-City owned structures, and are subject to change. Cycle #1, is presented in the first column; a 6-year combined average is used to indicate the likely proposed maintenance activities to occur over the subsequent two repair cycles. The actual repairs proposed in future years and cycles will depend on the observed damage at the time; therefore, each specific cycle may be different than the estimated values presented, which are intended to present conservative estimates for the proposed Program. No cycle repair activities are expected to require surface excavations greater than two feet in depth. Limited work would be required on the shoreline adjacent to the wharves as the repairs are focused on the wharves' structural members.

TABLE 3
FOUNDATION (PILE) REPAIRS

Foundation (Pile) Repairs	Cycle #1 (3 yr cycle) Approx. Number of Repairs	Cycle #2 + #3 (6 yrs combined) Approx. Number of Repairs	Average Area or Length per Repair
Pile Replacement (timber support piles)	15	30	70 feet
Pile Replacement (formed concrete)	5	10	40 feet
Pile Sleeves	30	60	15 feet
Wrap Repairs	5	10	15 feet
Friction Collars	25	50	-
Encasement Repair	5	10	20 square feet
Concrete Block Foundations	20	40	8 square feet
Fender and/or Guide Pile Replacement	30	60	45 feet
Total Approx. Foundation Repairs/Replacement	**135**	**270**	**-**

TABLE 4
FRAMING REPAIRS

Framing Repairs and/or Replacements	Cycle #1 (3 yr cycle) Approx. Number of Repairs	Cycle #2 + #3 (6 yrs combined) Approx. Number of Repairs	Average Area or Length per Repair
Timber Cap Beams	30	60	10 feet
Timber Stringers	50	100	14 feet
Misc. Framing	40	80	10 feet
Concrete Repairs	10	50	15 square feet
Total Timber Framing Repairs/Replacements	**120**	**240**	-
Total Approx. Concrete Repairs/Replacements	**10 repairs, 150ft^2 total work**	**50 repairs, 750ft^2 total work**	**-**

In-Water Work

Maintenance activities that require in-water work include those activities that are actually conducted within the water column (between the water surface and the seafloor). In many cases, marine construction equipment and crews would be used to conduct in-water work, and small vessels (e.g., floats, small boats, or skiffs) and divers would also be used.

Some of these in-water maintenance activities would be considered minor (such as installing a pile wrap or patching a small area of spalling concrete. Other in-water work would be considered major (such as pile replacement or repairs to concrete block foundations).

In-water activities are all assumed to require the use of in-water equipment. Many of the in-water activities may also require the permanent placement of fill material (such as pile wraps, sleeves,

grout, concrete, etc.) or the placement of permanent structures (such as replacement piles or repaired concrete blocks) in the water column.

Above-Water Work

Maintenance activities that do not require in-water work are considered above-water work, as no work would occur within the water column. Instead, above-water work would be conducted from atop the wharf deck or suspended above-water from the wharf deck, and in some cases from floats, small boats, or skiffs (used to access the above-water structures that are below the wharf deck).

Some of these above-water maintenance activities would be minor (such as installing a pile wrap or patching spalling concrete above the water line), but others would be major construction activities (such as fender framing or bracing repairs).

In general, these above-water activities do not require the temporary placement of in-water equipment, structures, or work; nor do they propose the permanent placement of structures or fill material in the Bay. These above-water activities do have the potential to result in accidental/unintentional discharges into the water below (such as from falling debris).

Foundation Repairs

Piles and concrete blocks form the structural foundations of the wharves, and serve to transfer the vertical and horizontal loads from the deck of the wharves to the seafloor below. Foundation repairs comprise the majority of the proposed Program's in-water work, and therefore the majority of the cycle repairs required.

Pile Replacement (timber support piles)

Where damage to existing timber support piles is to such an extent that a repair is impractical, a replacement pile would be installed. This method of repair is used where an existing timber pile is missing, completely broken off, or the section is severely deteriorated. The two primary methods for timber pile replacement are described below. The Program does not propose any replacement of steel pipe or steel H-support piles, as all of the existing support piles are timber

Replacement with Timber Support Piles

The large majority of piles needing replacement are expected to be replaced with small diameter (less than 18-inch) timber piles, which would be installed using a small impact hammer (typically a 3,000-pound drop hammer, with cushion blocks). The replacement timber pile would be installed adjacent to the damaged pile and then tied into the framing such that the loads previously intended for the damaged pile are now resisted by the replacement pile. To the extent practicable, obsolete piles would be pulled or cut at the mudline.

Replacement with Formed Concrete

A few support piles needing replacement are expected to be replaced using a formed concrete pile, also of a small diameter (< 18 inches, and possibly 12 inches square). For this method, reinforced concrete piles are formed in place, using a form made of polyvinyl chloride (PVC) or

other inert material which is jetted into place (typically limited to a shallow depth). Once the form is in place, it is filled with pressurized marine-safe concrete or grout and rebar (for structure), and cured in sections working upward. These sections are continued upward to the pile cap beams, where the tops of the formed concrete pile are grouted, blocked, or bracketed to ensure proper bearing to the cap beam above. Once the pile is complete, the temporary form is either removed or left in place (to serve as extra protection around the concrete pile). This method is employed in situations where it is not practicable to use a crane and vibratory/impact hammer, such as where there is a concession (building) directly above the missing pile. However, because this method is not as robust as driving a replacement pile (because an appreciable depth for increased structural integrity cannot be achieved), this method is not the preferred method for pile replacement, and would be used in very limited situations. To the extent practicable, obsolete piles would be pulled or cut at the mudline.

Pile Sleeves

Where damage to a pile is limited or is in a location where pile replacement is not practical, a pile sleeve is used to repair the pile. The intent of the pile sleeve is to restore the original capacity to the pile. First, a circular, fiberglass sleeve is installed around the pile extending at least two feet above and below the damaged section. The sleeves have a tongue and groove type connection, allowing them to be opened up, placed around the pile, and then the vertical connection made. These sleeves can also be spliced one on top of another for longer repair applications. Once the sleeve is in place and a seal has been made at the bottom, the annulus is filled with a cementitious grout. The cementitious grout is specifically chosen for marine/in-water applications and adheres to all California and national environmental regulations. Once completed, the grout provides a load path through the damaged section and the sleeve serves as physical protection for the grout.

Wrap Repairs

Where pile wraps have been damaged, marine borers are able to penetrate to the pile, which could lead to degradation of the pile. Where wraps are damaged, a new wrap would be installed over the damaged area or the wrap is replaced. The wraps are typically thin, high-density polyethylene (HDPE) sheets that come in 3-inch-wide rolls that are wrapped around the pile and attached by nails or cable ties. They are intended to restore the integrity of the wrap, preventing marine borers from reaching the pile. The wrap also kills any borers that may already be infesting the pile by blocking oxygen from reaching the pile. Wrap repairs may be conducted to both above-water and in-water portions of piles. Wrap repairs do not require any grout.

Friction Collars

Splits in piles are a cause for concern as they can allow marine borers to penetrate to untreated portions of the pile as well as cause a reduction in load capacity. The reduction in capacity is due to the fact that, over the length of the split, the pile will act structurally as several, smaller, split pieces, instead of a single section. Friction collars are only used above-water and are typically installed from a float or small boat/skiff. Friction collars are two halves of a pipe that clamp around the pile, squeezing the pile and closing the split. Friction collars help to close up the split, prevent the section from further separating and becoming further susceptible to marine borers, and allows the two sections to act together to resist loads.

Encasement Repair

The concrete encasements have various types of cracks and spalls. These encasements can be repaired by patching the spall or filling the crack with cementitious grout. The intent of these repairs is primarily to restore the protective function of the encasement to interior timber pile, preventing marine borers from reaching the pile. In addition, the repairs restore structural capacity to the concrete encasements, allowing them to confine the timber piles and transfer loads to the seafloor.

Concrete Block Foundations

In some locations on Wharf I, a timber post sits on a concrete block, which bears on the seafloor or ground. The blocks are square or circular with a cross-section of approximately five square feet. Where these foundations have been significantly undermined, the concrete block foundation should be extended and recast to bear on the seafloor or ground. This can be accomplished by pouring grout into a fiberglass sleeve or form work. These repairs may be conducted in-water or above-water.

Fender and/or Guide Pile Replacement

The City expects that a number of fender and/or guide piles could be replaced/installed using either steel pipe piles (typically 18- to 24-inch-diameter with a one-quarter-inch wall thickness) or solid timber pointed-tip piles, either of which are tethered to the wharf in place and which settle several feet in depth under their natural weight over a period of several months, as has been the case for numerous fender/guide pile replacements the City has conducted in the past.

However, some fender/guide piles may not successfully settle under their natural weight and some may require more efficient replacement. This may occur when the City needs to accomplish replacements in less than several months, as well in situations when the City requires the maintenance or replacement of a larger number of piles in a specific region of the wharves to occur in a short period of time (the City estimates this would be approximately 30 total fender/guide piles in one cycle of repairs on average). For these situations, hydraulic jetting is the preferred method proposed by the City.

Hydraulic jetting of replacement fender/guide piles would be conducted by trained diver(s) in one of two ways: 1) for installing either a steel pipe pile or a solid timber pointed-tip pile, a water pump (using surrounding sea water) feeds a water hose that is attached to a hand-held wand and is inserted into the sand at the desired pile point location in order to set the pile point in place. Divers then continue to insert the wand into the sand around the base of the pile as sea water is pumped through the wand, with a controlling mechanism to only pump water when necessary, or 2) utilize a solid concrete pile with a built-in, or plumbed tube that runs the length of the pile and jets sea water out of the tip of the pile. Divers would guide the plumbed pile to the desired location and depth and control the jetting duration, ensuring only the minimum duration of jetting necessary is conducted. For either method the pumps create a high volume, low pressure jet stream, which results in a very localized disturbance of the surrounding sand and a minimal turbidity plume.

Framing Repairs

The timber framing consists of cap beams, stringers, cap splices, and subcaps. These elements transfer loads from the deck to the piles below.

Timber Cap Beams

Cap Beam Repairs

"Sister" repairs are typically specified to mitigate the damage to the timber cap beams. Sister repairs typically involve placing a new structural member alongside an old deteriorating one and joining the two together to provide the needed structural integrity to the old member. These repairs are intended to restore the capacity to the caps. The sisters work by strengthening the cap beam section over the damaged area. The through-bolts allow the sistered section to act as a single member, as opposed to three individual members. Sisters are installed over damaged cap areas and extend back to the adjacent piles. Where a sister repair is impractical due to obstructions on the sides of the cap, new members are installed between the piles in the damaged area, below the cap. Blocking and shims are then installed between the new member and the cap, allowing load to be transferred from the caps, through the blocking, and then ultimately back to the cap. Sisters are typically preferred, as blocking and shims can come loose over time.

Subcap Repairs

Major damage was observed at various locations where caps bear on subcaps rather than directly on piles. In-kind replacement of subcaps is not a practical repair due to the need for temporary shoring of the cap beams. The recommended repair for damaged subcaps is to bolt T-frames made from steel C channels to both sides of the caps and pile. The frame restores the load path between the caps and the pile and provides a splice between the two caps. This repair can be completed without the use of temporary shoring.

Cap Beam Splice Repairs

A number of cap beam splices were found to be split. Depending on location, these splices are under load and should not be removed without providing temporary shoring. The recommended repair is to replace the splices in kind, providing temporary shoring as required. As an alternative, the splices can be repaired without removing the existing cap beam splices. This repair can be done using a new member installed beneath the splice and an additional member installed outside of the existing splice.

Timber Stringers

There are two types of repairs specified for damaged stringers. The first one is to replace in-kind, which involves cutting out the original stringer and placing a new member in its place. The second repair is to add a stringer next to the damage stringer. In both repairs the stringer can be placed from below on a skiff or float or a portion of the deck can be removed and the stringer added from above.

Miscellaneous Framing

Fender Framing

Fender hardware, chocks, and other fendering components exhibit wear due to their frequent contact with berthing vessels. When damaged these elements should be replaced in-kind, which

involves removing the existing member and bolting in a new one, typically performed from a skiff or float. Where applicable new materials will be used. New material may consist of recycled plastic, plastic lumber, HDPE, treated timber, galvanized steel, or rubber.

Bracing

Bracing, which consists of linear structures braced between vertical piles, can experience deterioration from age, impact, and/or marine borers. Existing bracing is primarily made of wood and may include some steel and/or concrete. When damaged, the bracing is replaced in-kind, using replacement bracing and bolts. Where applicable new materials will be used.

Concrete Repairs

Concrete Beam Cracks

The goal of crack repairs is to restore the structural capacity of the member and to prevent the intrusion of water to the reinforcing steel. Cracks without staining can be repaired with various types of epoxy and grout, depending on crack width. This repair binds the cracked sections together and prevents water intrusion. Cracks with staining must be chipped back to the corroded reinforcing. Once these cracks have been opened and the reinforcing steel cleaned and prepared, they are patched with a cementitious grout. This restores the cover to the reinforcing steel and reconnects the cracked elements. The float or skiff is typically positioned directly below the repair to catch any debris and in some instances tarps or platforms are used to ensure no debris falls in the water.

Concrete Beam Spalls

The intent of spall repairs is to restore section and cover to the damaged member. In addition, if reinforcing steel is exposed and corroded, it must be replaced. First, the spalled concrete must be removed back to sound material. Any exposed steel must be cleaned and prepared; if excessive section has been lost, it must be replaced. Once the area is prepared, a cementitious patch is applied to restore the cover and section to the member. The float or skiff is typically positioned directly below the repair to catch any debris and in some instances tarps or platforms are used to ensure no debris falls in the water.

Concrete Sheet Pile Breakwater

The concrete sheet pile breakwater at Wharf II shows minor signs of deterioration. Where present, cracks and spalls would be filled or patched. Cracks without staining can be repaired with various types of epoxy and grout, depending on crack width. Spalls or cracks with staining should be chipped out to sound concrete and patched with cementitious grout. If rebar is corroded it should be replaced in-kind or supplementary rebar should be added. Chipping of concrete would only take place above-water and the contractor would ensure any debris is captured.

Relocation of Utilities

Relocation of utilities (such as plumbing and electrical lines), which are for the most part attached to the underside of the wharf decks, would be kept to a minimum but may be required to accommodate the necessary maintenance repairs. If unavoidable, the utility in question would be shut-off, disconnected, and then moved and attached to near-by wharf members. The relocation of utilities would be coordinated between the contractor, tenants, the City, and any relevant

municipal agencies or parties to ensure that the utilities are moved safely and minimize disruption to relevant parties.

1.4.2.3 Access and Staging

Wharf access would primarily occur via the existing paved landside roads adjacent to and serving the harbor and wharves, and via the paved deck surfaces of the wharves. Access to the foundation or sub-structure of the wharves would occur via marine-based vessels such as a skiff, float, or other small support vessels.

Limited work would be required on the shoreline adjacent to the wharves, as the majority of the work would be to the structural members of the wharves themselves. No access or staging would be permitted in an area identified as archaeologically sensitive along the shoreline adjacent to Wharf I.

Short-term materials (less than the current work-weeks materials) and land-based equipment staging would occur atop the wharf decks or platforms, with the exception of marine-based equipment and materials being used in cycle repairs. Medium- to long-term materials staging (more than one-week worth of materials) and land-based equipment would be staged at nearby City parking lots or at the Harbor Maintenance Yard at 417 Figueroa Street (see **Figure 7**).

Marine-based equipment may be temporarily staged/stored in the waters below and immediately adjacent to the wharves, using temporary mooring or anchoring methods; materials being utilized by this marine-based equipment may be temporarily stored on the equipment itself, while moored or anchored, and would be properly stabilized and protected to ensure no washings or runoff enter the water.

1.4.2.4 Construction Schedule and Equipment

Based on the City's agreements with local businesses on and around the wharves, and to avoid construction-related impacts during the busy summer tourism season, Program work would typically be limited to after Labor Day (the first Monday in September) and prior to Memorial Day (the last Monday of May), in any given year. Work would typically occur on weekdays, generally 8:00 am-5:00 pm, but may occur at night during periods when the work could affect wharf business and tourism.

Maintenance activities are expected to be performed on skiffs, floats, temporary scaffolding or from the deck, in small teams. Pile sleeve repairs and wrap repairs may require the use of divers. All framing and deck work is expected to be above-water, some of the pile bracing may be submerged during high-tides. The only expected in-water work will be from foundation repairs.

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Monterey Municipal Wharves I and II – Maintenance Program . 160711

* City or Monterey Harbor Maintenance Yard, 417 Figueroa St

Figure 7
Potential Staging Area

Equipment for repairs and maintenance is likely to include:

- Skiffs and floats
- Small support vessels for crew transportation
- Concrete truck
- Concrete pump truck
- Generators
- Forklift
- Backhoe and compactor
- Grader
- Small land-based mobile crane (to be utilized atop the wharf deck/platforms and existing roadways)
- Vibratory hammer, and impact hammer for timber pile installation (typically a 3,000-pound drop hammer)
- Water pump (seawater), flexible hose, and hand-held wand for hydraulic jet installation of fender and/or guide piles
- Pickup trucks
- Small hand tools (shovels, jack hammer, "come-along" hand wench, drill guns, electric hand saws, tape measurers, nail gun, clamps, etc.)

1.5 Avoidance and Minimization Measures

General best management practices (BMPs) for pollution prevention and construction management would be employed during construction. In order to avoid and/or minimize potential impacts to jurisdictional waters, water quality and biological resources the following standard construction BMPs and other avoidance and/or minimization (A&M) measures would be implemented by the Program. These measures would be subject to modification and additions based upon regulatory and resource agency review:

- Deteriorated timber piles will be repaired to the extent practicable. Where repair is not feasible, deteriorated timber piles will be replaced with new ACZA – treated timber piles (or approved equivalent). New timber piles will be encapsulated with a continuous polymer coating to prevent leaching of treatment into the environment.

- All repairs will be designed using materials that follow local, California, and national environmental regulations; this includes the use of concrete, cementitious grout, and epoxy specifically chosen for marine/in-water applications.

- No debris, rubbish, creosote-treated wood, soil, silt, sand, cement, concrete, or washings thereof, or other construction-related materials or wastes, oil, or petroleum products shall be allowed to enter into jurisdictional waters or placed where it would be subject to erosion by rain, wind, or waves and enter into jurisdictional waters. Staged construction materials with the potential to be eroded/entrained during a rainfall event will be covered at all times if not in use. All construction material, wastes, debris, sediment, rubbish, trash, fencing, etc., will

be removed from the wharves on a regular basis during work, and thoroughly at completion of each repair cycle. Debris will be transported to an authorized upland disposal area.

- Floating booms shall be used to contain any accidental debris discharged into waters, and any debris shall be removed as soon as possible, and no later than the end of each workday. If feasible, personnel in workboats within the work area will immediately retrieve such debris for proper handling and disposal. Non-buoyant debris discharged into waters shall be recovered (by divers) as soon as possible after discharge.

- Protective measures will be utilized to prevent accidental discharges of oils, gasoline, or other hazardous materials to jurisdictional waters during fueling, cleaning, and maintenance of equipment.

- Well-maintained equipment will be used to perform construction work, and, except in the case of failure or breakdown, equipment maintenance will be performed off-site. Crews will check heavy equipment daily for leaks, and if leaks are discovered it will be immediately contained and use of the equipment will be suspended until repaired. The source of the leak will be identified, material will be cleaned up, and the cleaning materials will be collected and properly disposed.

- Vehicles and equipment used during the course of construction will be serviced offsite. On-site fueling of marine equipment will comply with U.S. Coast Guard requirements. Smaller equipment, such as generators, welding machines, and hand tools will be fueled using fuel tanks, hoses, and fuel cans. Fueling locations will be inspected after fueling to document that no spills have occurred. Any spills will be cleaned up immediately.

- The construction contractor shall have a spill contingency plan for hazardous waste spills into the Monterey Harbor. The plan shall include maintaining floating booms and absorbent materials in an on-site spill response kit, to enable rapid recovery of hazardous wastes.

- All hazardous materials will be labeled and stored in containers designed to provide adequate containment. Short-term laydown of hazardous materials for immediate use will be permitted with appropriate spill prevention measures.

- Machinery or construction materials not essential for project improvements shall not be allowed at any time in jurisdictional waters, including the intertidal zone. The construction contractor shall be responsible for checking and observing daily tide and current reports.

- Prior to starting work, all construction workers at the project areas will attend a Construction Worker Environmental Awareness Training and Education Program developed and presented by either the lead biologist, an appointed qualified biologist, and/or the qualified biological monitor (1 person total). The training program will include information on federal- and state-listed species with the potential to be encountered, as well as other special-status wildlife and sensitive natural communities that may be encountered during construction activities. The training will include: information on special-status species' life history and legal protections; the A&M measures its contractors have committed to implementing to protect special-status species and sensitive natural communities; reporting requirements and communication protocols; and specific measures that each worker will employ to avoid "take" of special-status species.

1.6 Program Approvals

The following is a summary of the Program's anticipated requirements for compliance under various State and Federal environmental laws.

City of Monterey

- Building and encroachment permits.

U.S. Army Corps of Engineers

- Section 404/10 Regional General Permit (RGP) – for the proposed Program of structural maintenance activities, which would occur within federally-jurisdictional open tidal waters of Monterey Harbor as regulated by the USACE; Environmental Assessment.

Central Coast Regional Water Quality Control Board

- 401 Certification/Waste Discharge Requirements - for the proposed Program of structural maintenance activities, which would occur within federally- and state-jurisdictional waters of Monterey Harbor, as regulated by the Regional Water Quality Control Board

U.S. Fish and Wildlife Service, National Marine Fisheries Service, and California Department of Fish and Wildlife

- Coordination to ensure Program compliance under: Section 7 of the Federal Endangered Species Act, for potential Program impacts to federally-listed species and/or designated critical habitats protected by the U.S. Fish and Wildlife Service (USFWS). A Biological Assessment has been prepared to support interagency coordination with the USFWS pursuant to Section 7 of the Endangered Species Act.

- Coordination to ensure Program compliance under: Section 7 of the Federal Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act, and/or the Marine Mammal Protection Act, for potential Program impacts to federally-listed species and/or designated critical habitats including Essential Fish Habitat and non-listed marine mammals protected by the National Marine Fisheries Service (NMFS). A Biological Assessment has been prepared to support interagency coordination with the NMFS pursuant to Section 7 of the Endangered Species Act.

- Coordination to ensure Program avoidance of take under the California Endangered Species Act, for potential Program impacts to state-listed species and/or protected habitats regulated by the California Department of Fish and Wildlife (CDFW). A Biological Assessment has been prepared to support CDFW's review and input regarding the proposed Program with respect to species protected under the California Endangered Species Act.

California Coastal Commission

- Coastal Development Permit, or Waiver – for the proposed Program of structural maintenance activities, which would occur within the open tidal waters of Monterey

Harbor and the adjacent uplands located within the coastal zone, as regulated by the California Coastal Commission.

State Historic Preservation Office

- Coordination to ensure Program compliance under Section 106 of the National Historic Preservation Act (NHPA), for potential Program impacts to federally-protected cultural resources, including archaeological resources and/or historic architectural resources. Documents for use in Section 106 consultation have been prepared by the City and their contractors to support interagency coordination with the State Historic Preservation Officer (SHPO) pursuant to Section 106 of the NHPA.

1.7 References

American Society of Civil Engineers' (ASCE). 2015. Manuals and Report on Engineering Practice No. 130: *Waterfront Facilities Inspection and Assessment*.

COWI. 2017. City of Monterey Wharf 1 and Wharf 2 - Condition Survey Report (Inspection Report). Prepared November 29, 2017.

COWI. 2018. City of Monterey Wharf 1 and 2 - 90% Repair Drawings. Prepared September 7, 2018.

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CHAPTER II
Environmental Checklist

1. Aesthetics

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
1.	**AESTHETICS — Would the project:**				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	☐	☐	☒	☐

Environmental Setting

The City of Monterey is well known for its scenic visual character. Positioned on southern end of the Monterey Peninsula, the City is located directly on the coast, in the southern end of Monterey Bay. Hills rise up behind the City of Monterey, providing a scenic backdrop for the historic city (City of Monterey, 2016). Many scenic vistas of the coastline, Monterey Bay, and the hills that surround the city are available from the wharves and surrounding areas. The wharves are an important component of the historic waterfront area of Monterey (City of Monterey, 2016). Wharf I is an important historic area for the City of Monterey and is located adjacent to the Monterey Old Town National Historic Landmark District (City of Monterey 2012; City of Monterey 2016). Additionally, the Lower Historic Presidio Park is located approximately 150 yards northwest of Wharf I and Monterey State Historic Park is located adjacent to Wharf II. The Monterey Bay Coastal Recreation Trail runs along the shoreline, just south of the wharves.

Wharf I (Old Fisherman's Wharf) was constructed in the mid 1800's and was originally used for the commercial sardine industry. Today, the wharf provides dining and shopping and is a large tourist attraction for visitors to the City of Monterey. Wharf I's visual character is historic, nautical, and commercial, characterized by small shops, fish markets, restaurants, and whale watching and fishing opportunities. A small beach is located immediately to the west of the Wharf. From Wharf I, there are sweeping views of the Monterey Bay to the north and east, including views of moored boats, the marina, and of Wharf II. To the west, a view of Fisherman's Shoreline Park, and Lower Historic Presidio Park is available, views to the south from Wharf I include the City of Monterey in the foreground and a forested ridgeline in the background.

Wharf II was constructed in 1926 to serve the commercial fishing industry. Wharf II continues to support the commercial fishing industry and also provides public access, parking, restaurants, and a yacht club. Wharf II's visual character can be characterized as industrial and nautical. A marina is located adjacent and to the west of Wharf II while Monterey State Beach is located adjacent and to the east. From Wharf II, views of Monterey Bay, Monterey State Beach, and the coastline are available to the north and east. To the south, views include the City of Monterey in the foreground, and the wooded ridgeline in the background. Views west include Wharf I, Fishermen's Shoreline Park, and the marina in the foreground and forested hills in the background.

There are two state designated scenic highways in Monterey, Highway 68 (the Monterey-Salinas Highway) and Highway 1 (Caltrans 2018; City of Monterey 2016). The Program site is approximately 0.8 miles from Highway 1 and approximately 1.3 miles from Highway 68.

Both wharves have significant amounts of nighttime lighting along walkways and from concessions, fishing operations, and surrounding boats. The wharves also have existing sources of glare such as metal railings, ramps, and other metal structural components, metal materials on boats, vehicles, cranes, and metal buildings and structures.

Discussion

a) ***Less than Significant.*** For the purpose of this analysis, a scenic vista is defined as a vantage point with a broad and expansive view of a significant landscape feature (e.g., a mountain range, lake, or coastline) or of a significant historic or architectural feature (e.g., views of a historic tower or building). A scenic vista is a location that offers a high quality, harmonious, and visually interesting view. Using this definition, the wharves provide views of important historical elements (Wharf I and Lower Historic Presidio Park) as well as views of Monterey Bay and the California coastline. Wharf II is visible from Monterey State Beach and could be visible from Lower Historic Presidio Park.

The length of repair time would vary depending on required maintenance for each cycle. However, each cycle is anticipated to be approximately 3-8 months and would occur approximately every 3 years for about 10 years. As described in the Project Description, to avoid impacts during the summer season, which brings the greatest number of visitors and potential sensitive receptors, work would typically be limited to after Labor Day and prior to Memorial Day. Some staging and access would occur from marine-based vessels or platforms adjacent to the wharves. The majority of work would be conducted on structural elements underneath the wharf platforms. Due to the fact that most work would be conducted underneath the wharves, the impact of maintenance activities on the aesthetic components of the wharves would be minimal. During maintenance cycles, the presence of construction equipment and crews would result in a degree of visual change relative to existing conditions. However, maintenance activities would be temporary, isolated to specific portions of wharves, and conducted underneath the wharves.

Maintenance activities during each cycle would be visible from the wharf areas, the shoreline, Monterey State Beach, the adjacent marina, Monterey State Historic Park, and

potentially Lower Historic Presidio Park. Additionally, depending on the maintenance activity, there is a possibility that portions or all of the wharves would need to be temporarily blocked off from public access. Under these circumstances, the ability of the public to access scenic vistas from the wharves would be impacted. However, any limits to public access of the wharves would be temporary. As a result, each maintenance cycle would result in temporary, minor adverse impacts to scenic vistas from the wharves and surrounding viewing locations for approximately 3-8 months due to the presence of construction equipment and construction crews. This impact would be less than significant.

As discussed above, the purpose of the Program is to restore degraded wharf structural elements to their original capacity. Additionally, an objective of the Program is to, "Continue providing safe and reliable access to and use of the two existing wharf structures, which support navigation and mooring, maritime commerce and industry (including the abalone farm below Wharf II), commercial fisheries, recreational opportunities, over-water viewing and access, and other existing public and private uses of the structures". Therefore, although the Program would result in temporary visual impacts to scenic vistas, the Program is necessary in order to return the wharf structures to their original capacity and to allow recreational access and viewing opportunities from the wharves to continue in the future. Therefore, the Program would result in minor, temporary, adverse impacts and long-term beneficial impacts to scenic vistas. The Program's impact to scenic vistas would be less-than-significant.

b) ***No Impact.*** No scenic resources would be damaged as part of the Program. The Program would, in fact, restore Wharf I (a scenic and historic resource) to its original capacity. As discussed in the Environmental Setting, there are two designated State scenic highways near the Program site, Highway 1 (0.8 miles from the wharves) and Highway 68 (1.3 miles from the wharves). Due to the intervening distances between these highways and the Program site, as well as geographic features and buildings, the Program site would not be visible from the designated scenic highways. A review of satellite and other imagery from both highways confirmed that no portion of the Program site would be clearly visible from either highway. As a result, the Program would have no impact under this criterion.

c) ***Less than Significant.*** As described in the Environmental Setting, the wharves have a unique, historic, maritime character. Both wharves have restaurants, commercial fishing elements and are popular tourist attractions in Monterey. The Program would conduct required maintenance activities to restore degraded structural elements, ultimately improving the visual quality of the wharves. The Program would not substantially alter any of the wharves' visual elements as the majority of maintenance would be conducted to the wharves' below-deck components. Additionally, maintenance activities are intended to restore the wharves to their original capacity. Maintenance activities proposed as part of the Program are necessary in order to provide continued access of the wharves. Therefore, the Program would have no long-term impact with regard to the degradation

of the wharves' visual character. Ultimately, the Program would have a beneficial, long-term impact on the visual quality and character of the wharves.

During maintenance cycles, the presence of construction equipment and crews would introduce an element of temporary visual contrast to the wharves. Most equipment and work would be isolated to the area immediately surrounding the wharves and staging areas and would not result in a significant visual impact to areas around the wharves. Additionally, the majority of work would be conducted on the wharves' below-deck components and, therefore, would not have a substantial impact on the above-deck aesthetic features of the wharves. The Program would have temporary, minor impacts and long-term, beneficial impacts to the visual character and quality of the wharves and surrounding area. Impacts to existing visual character and quality would be less than significant.

d) ***Less than Significant.*** The Program site currently has existing sources of glare and light, including: lighting from concessions, lampposts, metal railings and structural components, boats, vehicles, cranes, and metal structures. The Program would involve maintenance activities to return the wharves to their original capacity. If necessary, some modern materials may be used to replace original materials. New materials may consist of recycled plastic, plastic lumber, HPDE, treated lumber, galvanized steel, or rubber. These materials would not be substantially different from existing materials on the wharves and would not introduce a new substantial source of glare. Additionally, the Program does not propose to install any permanent, new light sources. The Program would not result in any permanent, new sources of substantial light or glare.

Maintenance activities would involve the temporary use of materials, equipment, and vehicles which could potentially result in a minor amount of glare. However, the use of such materials would be temporary and would not represent a significant change from existing conditions as vehicles and commercial fishing equipment are currently present on the wharves. There is a potential that maintenance activities would occur at night in order to avoid peak visitation times to the wharves. In this case, some amount of lighting would be necessary to illuminate work areas. However, the use of nighttime lighting would be minimal and short-term. Additionally, as described in the Environmental Setting, the wharves currently have nighttime lighting; therefore, the addition of minimal, temporary lighting for workspaces would not result in a significant impact. The Program would have a less-than-significant impact under this criterion.

References

California Department of Transportation (Caltrans), 2017. Designated and Eligible Routes. Available: www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm. Accessed November 14, 2018.

City of Monterey, 2012. National Historic Landmark District and Downtown Area Context Statement and Reconnaissance Survey Monterey, California. Adopted February 21, 2012.

Available: https://monterey.org/Services/Community-Development/Planning/Historic-Preservation. Accessed November 14, 2018.

City of Monterey, 2016. City of Monterey General Plan. Adopted January 2005 Available: https://monterey.org/Portals/0/Policies-Procedures/Planning/GeneralPlan/16_0323-General-Plan.pdf. Accessed November 14, 2018.

2. Agriculture and Forestry Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
2. AGRICULTURE AND FORESTRY RESOURCES — 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 forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **Would the project:**				
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 Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Environmental Setting

While much of Monterey County is known for, and associated with, an abundance of agricultural operations, the City itself has no agricultural operations or potential for future agriculture resources or activities. The City does not have any forest lands zoned for Timberland Production. The City is primarily an urbanized environment.

Discussion

a-c) The proposed Program would not affect any identified agriculture resources, land identified for potential agricultural production, lands zoned for agricultural use, or lands under a Williamson Act contract or as protected by the federal Farmland Protection Policy Act. Agriculture operations are not an allowable use in the City's Zoning Code. Therefore, there would be no impact to farmland, agricultural land, forest land, or timberland.

d-e) The City also does not have any identified forest land use, nor land identified for potential timberland production or use. The proposed Program would not result in the

removal of existing trees or vegetation. Therefore, there would be no impact to farmland, agricultural land, forest land, or timberland.

References

City of Monterey, General Plan Conservation Element

City of Monterey General Plan Update Initial Study 2003

City of Monterey Zoning Ordinance

Monterey County Important Farmland 2014 (California Department of Conservation, 2016a)

Monterey County Williamson Act FY 2015/2016 (California Department of Conservation, 2016b)

3. Air Quality

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
3. AIR QUALITY — 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:**				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
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)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Environmental Setting

The Monterey Bay Air Resources District (MBARD) is the primary local agency with respect to air quality for all of Monterey, Santa Cruz, and San Benito Counties. The study area for impacts on air quality is the North Central Coast Air Basin (Air Basin).

The U.S. Environmental Protection Agency has classified air basins or portions thereof as either “attainment” or “non-attainment” for each criteria air pollutant, based on whether or not the federal standards have been achieved. The California Clean Air Act, which is patterned after the federal Clean Air Act, also requires areas to be designated as “attainment” or “non-attainment”

for the state standards. The Air Basin is designated as attainment for all federal standards and is designated non-attainment for ozone and particulate matter (PM10) under the state standards.

The MBARD has adopted two different sets of CEQA guidelines: Guidelines for Implementing the California Environmental Quality Act (2016 guidelines) for the MBARD's implementation of CEQA as a lead or responsible agency (MBUAPCD, 2016a), and CEQA Air Quality Guidelines (2008 guidelines) that provide guidance for lead agencies that prepare project-specific CEQA and NEPA documentation for projects within the air district (MBUAPCD, 2008). The 2016 guidelines establish criteria pollutant significance thresholds for construction emissions, which were not included in the 2008 guidelines. Although the purpose of the 2016 guidelines is to describe the MBARD's procedures for enforcing CEQA, the MBARD recommends that lead agencies use the new criteria pollutant mass emissions thresholds identified in the 2016 guidelines for projects that would include a large construction effort (MBUAPCD, 2016b).

The 2016 guidelines state that a project would not have a significant air quality effect on the environment if construction or operation of the project would emit less than 137 pounds per day of nitrogen oxides (NOx - an ozone precursor compound) or reactive organic gases (ROG - an ozone precursor compound), 82 pounds per day of PM10, 55 pounds per day of fine particulate matter (PM2.5), or 550 pounds per day of carbon monoxide (CO).

Discussion

a) ***Less than Significant.*** Any project that could conflict with the MBARD's goal of attaining the state 8-hour ozone standard would be considered to conflict with the intent of its 2012 Air Quality Management Plan (AQMP). The measures for determining whether a project would conflict with the intent of the 2012 AQMP is consistency with the CEQA mass emissions thresholds of significance for NOx and ROG, and/or whether a project would contribute to population growth not accounted for in the 2012 AQMP. If the CEQA thresholds of significance are exceeded, or if the project would result in population growth not accounted for the 2012 AQMP, then the project would be considered to conflict with the intent of the 2012 AQMP and the associated impact would be significant.

As discussed in the responses questions b) and c), below, the proposed Program would not result in criteria pollutant emissions that would exceed the MBARD's significance thresholds of 137 pounds per day of NOx_x or ROG, 82 pounds per day of PM10, 55 pounds per day of PM2.5, or 550 pounds per day of CO. Given that the proposed Program is not growth inducing, the proposed Program would have a less than significant impact with respect to conflicts with, or obstruction of, implementation of the AQMP.

b) ***Less than Significant.*** Air emissions resulting from the proposed Program were calculated using the latest version of the CalEEMod emissions model (2016.3.2) and using emission factors generated by the Harbor, Dredge, and barge emission Factor Calculator of the Sacramento Metropolitan Air Quality Management District for in-water work and supply boats.

Consistent with the assumptions of the Biological Assessment conducted for the Program (ESA, 2018), construction activities related to cycle improvements to the wharves were assumed to occur for a period of 8 months every three years. A total of 20 pile installations were assumed as part of the representative first cycle with a total of 5 piles installed per day.

Table AQ-1 presents the estimated criteria pollutant emissions associated with the proposed Program for the representative first cycle. Emissions from future cycles would be less than those of the first cycle due to on-going turnover of construction equipment and boats with cleaner running engines that would be utilized in future years. Because MBARD's thresholds are in terms of pounds per day, a worst case scenario was assumed as a day when pile driving was conducted with all other equipment active. As can be seen from Table AQ-1, criteria pollutant emissions would be less than the CEQA significance thresholds of the MBARD. Consequently, the proposed Program would have a less than significant impact with respect to violating any air quality standard or contributing substantially to an existing or projected air quality violation.

TABLE AQ-1
CRITERIA AIR POLLUTANT EMISSIONS ASSOCIATED WITH FIRST CYCLE IMPROVEMENTS

	Pollutant Emissions (pounds per day)			
Source	**ROG**	**NOx**	**PM10**	**PM2.5**
Off-road Equipment and truck and worker trips	2.9	28.1	2.1	1.4
Marine emissions from Work Boats	3.5	43.6	2.0	1.8
Total	6.4	71.7	4.1	3.2
MBARD Threshold	137	137	82	55
Above Threshold?	No	No	No	No

c) ***Less than Significant.*** Please refer to the analysis above with respect to question c). The MBAD's CEQA thresholds represent cumulatively considerable contributions to regional air quality within the District's jurisdiction. Consequently, these thresholds are used to represent an emission rate that could potentially result in a substantial contribution to an

existing air quality violations of ozone and PM2.5 as well as 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.

d) ***Less than Significant.*** Diesel powered construction equipment can generate diesel particulate matter (DPM) which has been identified by the California Air Resources Board as a toxic air contaminant (TAC). The nearest sensitive receptors to the wharves would be single family residences west of Van Buren Street, approximately 1,000 feet and further from the Wharf I. Some California Air Districts such as the Bay Area Air Quality Management District (BAAQMD) have developed methodologies for analyzing health risk impacts and in doing so have established a 1,000-foot zone of influence from a source beyond which impacts from TAC exposure in most common instances are assumed to be less than significant. Given the absence of the TAC threshold for MBARD, this analysis uses the BAAQMD methodology for assessing TAC impacts. Because construction areas of the proposed Program would be further than 1,000 feet from the nearest existing sensitive receptor, construction related impacts from localized TAC emissions would be less than significant.

Nearby hotel land uses such as the Portola Hotel would not be a sensitive receptor with respect to diesel equipment exposure because guests would not be present for more than a few weeks at most. The state Office of Health Hazard Assessment has published Guidelines for performing health risk assessments to evaluate potential health exposure impacts to sensitive populations (OEHHA, 2015). This guidance states that it does not recommend assessing cancer risk for projects lasting less than two months at the receptor.

e) ***Less than Significant.*** Diesel powered construction equipment can generate some degree of odors. The Wharves are generally located distant from sensitive receptors. Given the limited number of equipment involved and predominant coastal breezes, the Program would have a less than significant impact with respect to creation of odors affecting a substantial number of people.

References

Monterey Bay Unified Air Pollution Control District (MBUAPCD), 2008. *CEQA Air Quality Guidelines*. Adopted 1995. Revised February 2008.

Monterey Bay Unified Air Pollution Control District (MBUAPCD), 2016a. *Guidelines for Implementing the California Environmental Quality Act*. Adopted 1996. Revised February 2016.

OEHHA, California Environmental Protection Agency, *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessment*, February 2015, *http://oehha.ca.gov/air/hot_spots/2015/.pdf*, accessed November 11, 2018.

4. Biological Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
4. BIOLOGICAL RESOURCES — Would the project:				
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 Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
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 Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
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?	☐	☒	☐	☐
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?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Environmental Setting

This Section describes the existing terrestrial and aquatic biological resources within the vicinity of the proposed Program in Monterey, California. Information used in preparation of this section is from a biological reconnaissance survey conducted by Environmental Science Associates (ESA) biologists on September 21, 2017, and National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) Biological Assessments (BA). In addition, ESA reviewed and incorporated applicable information from the following resources:

- Wharf II Repairs and Parking Upgrades and Monterey Water Front Area Repairs and Maintenance Project, Biological Assessment, submitted to regulatory agencies April, 2015 (Denise Duffy & Associates 2015).
- Monterey Peninsula Water Supply Project, NMFS Biological Assessment, submitted to regulatory agencies May, 2017 (AECOM 2017).
- Monterey Peninsula Water Supply Project, Final Environmental Impact Report, published March 30, 2018 (ESA 2018).

Habitat quality and species distribution were considered in evaluating the likelihood of special-status species occurrence in the Program area. The Program area does not fall within any local, regional, or state habitat conservation plan; therefore, criterion f) is not applicable to the proposed Program.

Existing Marine Habitats and Communities

Intertidal and Nearshore Habitats

The intertidal zone is located between the highest and lowest tide elevations. Intertidal zones along the central California coast include rocky shores, sandy beaches, coastal marshes, and tidal flats located within estuaries and lagoons. The intertidal zone adjacent to the Program area is characterized by sandy beaches. Sand and gravel beach communities are structured in part by grain size, slope of the beach, and wave energy. Intertidal beach communities are also subject to daily tidal changes that result in highly fluctuating physical regimes in temperature, salinity, and moisture content of the sand.

Various invertebrate animals live in the sand and in wracks of decaying seaweed and other detritus. These include crustaceans, cirolanid isopods, and mole crabs (Oakden, 1977). Polychaete worms, bivalves (i.e. clams, mussels, and scallops) are also regularly present, though typically in low abundances. In addition, there are numerous species of shorebirds that use the sandy beaches adjacent to the Program area to feed at the water's edge, such as sanderling, marbled godwit, and willet. Western snowy plover is a protected species that nests on these same beaches, though not within the Program area. Marine mammals, including California sea lions, harbor seals, and elephant seals, haul out on nearby isolated beaches and sands spits. Southern sea otters (*Enhydra lutris nereis*) forage for crustaceans and bivalves in the surf zone during high tide. Sand dollars, worms, clams, crabs, and a variety of fish, including multiple species of surfperch, flatfish, rays, and sharks, inhabit or utilize the surf zone.

Pelagic (Open Water) Habitat

The pelagic habitat supports planktonic organisms that float or swim in the water, as well as fish, marine birds, and marine mammals. Monterey Bay has a high level of phytoplankton primary production[2] due to annual seasonal upwelling. Phytoplankton, the primary producers in the marine pelagic food web, are consumed by many species of zooplankton. In turn, the zooplankton supports a variety of species, such as small schooling fish (e.g., sardine, herring) and baleen whales (*Mysticeti*).

Seasonal blooms of phytoplankton regularly occur in Monterey Bay when optimal conditions for each species (e.g. temperature, nutrient concentrations, salinity) develop (Pennington and Chavez, 2000). Some phytoplankton species, such as the dinoflagellate (*Cochlodinium*), produce toxins and can cause harmful algal blooms when they reproduce to very high densities (Kudela et al. 2008; Shahraki et al 2013). A diatom (*Pseudo-nitzschia*) produces domoic acid, a neurotoxin that can bioaccumulate in the food chain and result in mortality in marine mammals, birds, and

[2] Phytoplankton primary production refers to the growth rate of the phytoplankton community.

humans. This diatom is regularly associated with harmful algal blooms in Monterey Bay (Armstrong-Howard et al. 2007; Kudela et al. 2005).

Common zooplankton in Monterey Bay include small shrimp-like invertebrates (crustaceans) of the order Euphausiacea commonly known as krill. Large aggregations of euphausiids often precede the arrival of blue whales that come to feed on crustaceans at the edge of the Monterey Bay Submarine Canyon. Euphausiids feed on phytoplankton that grow after nutrient rich water has upwelled to the surface. Euphausiid species typically present in these groups are *Euphausia pacifica*, *Thyanoessa spinifera*, and *Nyctiphanes simplex* (Croll et al. 2005).

The nearshore phytoplankton and zooplankton communities of Monterey Bay support a diverse group (over 80 species) of fishes, sharks, and rays. These include flatfish such as halibut, sanddab, flounder, turbot, and sole that are closely associated with sandy habitats, as well as surfperch, rockfish, goby, and sculpin, which are normally associated with rocky habitats. Pelagic schooling fishes include northern anchovy (*Engraulis mordax*), Pacific herring (*Clupea pallasii*), smelts (Osmeridae), Pacific sardine (*Sardinops sagax*), and New World silversides (Atherinopsidae). The close proximity of the Monterey Bay Submarine Canyon to the shoreline means that certain fish, sharks, and marine mammals that would normally exist predominantly in deeper offshore waters can also be frequent inhabitants of the nearshore pelagic environment.

Market squid *(Doryteuthis (Loligo) opalescens*) inhabit the pelagic habitat in Monterey Bay and supports a major commercial fishery in the area, as well as providing a key food source for marine mammals, birds, and fish. Underneath Wharf II, Monterey Abalone Company operates the only abalone farm in California with a permanent ocean facility.

Market squid adults typically inhabit deeper offshore waters but return to shallower nearshore areas to spawn on sand and mud seafloor habitats. Peak spawning in Monterey Bay occurs in April. Squid larvae and juveniles inhabit the nearshore coastal waters of the Program area (Porzio and Brady 2006). Between 2009 and 2014, commercial landings of market squid in Monterey Bay ranged between 2.3 million and 90.4 million pounds annually with an average annual landing of 43.1 million pounds (CDFW 2016c).

Monterey Bay has one of the most diverse and abundant marine mammal assemblages in the world with up to six species of seals and sea lions, 20 species of whales, dolphins, and porpoises, and one species of sea otter (MBNMS 2016a). The most common seals and sea lions observed within the waters adjacent to the Program area include the Pacific harbor seal (*Phoca vitulina*), California sea lion (*Zalophus californianus*), and the northern elephant seal (*Mirounga angustirostris*).

The most commonly observed cetaceans (whales) within Monterey Bay include the humpback whale (*Megaptera novaengliae*), California gray whale (*Eschrichtius robustus*), the blue whale (*Balaenoptera musculus*), and occasionally the Minke whale (*Balaenoptera acutorostrata*). Other whale species that occur within Monterey Bay but are rarely or infrequently observed in nearshore waters include the fin, sperm, North Pacific right, Sei, killer, and Baird's beaked whales. The most commonly observed dolphins and porpoises within the nearshore areas of Monterey Bay include the common dolphin (*Delphinus* spp.), bottlenose dolphin (*Tursiops*

truncates), Pacific white-sided dolphin (*Lagenorhynchus obliguidens*), and Risso's dolphin (*Grampus griseus*). Additionally, while harbor porpoises (*Phocena phocena*) are frequently observed in the nearshore waters adjacent to Sunset Beach to the north of the Program area, they are infrequently observed in close proximity to the Program area. Other dolphin and porpoise species present within Monterey Bay do not utilize nearshore waters or occur very infrequently; these include Dall's porpoise, Northern right whale dolphin, and striped dolphin. Southern sea otter (*Enhydra lutris nereis*) inhabits the nearshore waters of Monterey Bay and the Program area (MBNMS 2016a).

Benthic (Seafloor) Habitats

The soft substrate habitat in the Program area has been characterized as a flat featureless plain with a gently sloping sandy seafloor (Eittreim et al. 1997). Physical processes, such as waves and currents, sort the sediment particles roughly by grain size so that there are onshore-offshore gradients in the fineness of sediments, with coarser sand deposits closer to shore grading to muddy areas farther offshore (Edwards et al. 1997). The seafloor habitat located within the high-energy surf zone is characterized by coarse, mobile sands and contains a limited range and abundance of species commonly including flatfish, rays, shrimp, crabs, sand dollars, amphipods, clams, and large polychaete worms (Edwards et al. 1997). Offshore, the seafloor sediment gradually changes to a finer mud composition with increasing percentages of silts and clays, as a result of decreasing wind-driven wave energy. As a result of the increased organic and silt/clay composition of the seafloor sediments, and decreased energy, the associated invertebrate and fish communities commonly inhabiting these areas increase substantially over the nearshore surf zone. The infaunal marine community typically consists of multiple species of polychaete and oligochaete worms, amphipods, cumaceans, isopods, ostracods, mollusks, decapods, gastropods, and ophiuroides. Common megabenthic epifauna include anemones, crabs, shrimp, gastropod snails, echinoderm sea stars, and sea pens. Many different fish species spend all or part of their life cycle in association with the seafloor. These species include flatfish, gobies, poachers, eelpouts, and sculpins, which all live in close association with the benthos during their subadult and adult life. Others, such as salmon, steelhead, smelt, sturgeon and other fish species, use the benthos for foraging.

This habitat area typically extends throughout most of the Monterey Bay with associated species composition and abundance changing gradually with depth. This habitat is not as physically dynamic as the nearshore sandy habitat and is normally not subject to large fluctuations in water quality parameters like salinity and temperature. However, this region is still subject to wave and current action, which sorts bottom sediments and removes organic material.

Rocky areas along the central California coast provide habitat for a diverse group of organisms. More than 660 marine algae and kelp species are present in the rocky habitats of central California (Abbott and Hollenberg 1976). Kelp forests occur in rocky subtidal areas and provide abundant microhabitats by virtue of their vertical structure. Kelp forests are capable of providing sufficient primary productivity (rate of formation of energy-rich organic compounds) to sustain the entire ecosystem. The growth requirements for kelp include light, relatively cool water, and high nutrients (primarily nitrates, phosphates, and some metals). In addition to macrophytes like giant kelp (*Macrocystis pyrifera*) and bull kelp (*Nereocystis* spp.) that anchor on hard substrate,

highly diverse invertebrate and fish assemblages also inhabit rocky areas. These include multiple species of bryozoans, anemones, shrimp, ectoprocts, solitary and branching corals, hydrocorals, sponges, scallops, crabs, tubeworms, tunicates, and fish, including rockfish (*Sebastes*), sculpins, lingcod, and greenlings. While small amounts of giant and bull kelp are found within the Program area, no kelp forest habitat is present.

Potentially Jurisdictional Waters and Wetlands

The portions of Monterey Bay within the Program area are considered Waters of the U.S. and Waters of the State, subject to U.S. Army Corps of Engineers (USACE) and State Water Resources Control Board jurisdiction pursuant to the Clean Water Action (sections 404 and 401), Rivers and Harbor Act, and Porter-Cologne Act.

Wildlife Movement Corridors

Wildlife movement corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or by areas of human disturbance or urban development. Topography and other natural factors, in combination with urbanization, have fragmented or separated large open-space areas. The fragmentation of natural habitat creates isolated "islands" of vegetation that may not provide sufficient area to accommodate sustainable populations and can adversely affect genetic and species diversity. Movement corridors mitigate the effects of fragmentation by allowing animals to move between remaining habitats, which in turn allows depleted populations to be replenished and promotes genetic exchange between populations.

The waters within the Program area are unlikely to serve as a migration corridor for special-status fish and marine mammal species give the high degree of human activity that occurs. However, the adjacent waters of Monterey Bay are an important migration corridor for many species of marine mammals and fish. Given the enclosed nature of the two wharf structures, and limited in-water impact of the Program as a whole, no impact on wildlife movement corridors is expected to occur.

Special-Status Wildlife

Green Sturgeon

The federally threatened southern Distinct Population Segment (DPS) of North American green sturgeon (*Acipenser medirostris*) is the most widely distributed member of the sturgeon family and the most marine-oriented of the sturgeon species, entering rivers only to spawn. Juveniles rear in fresh water for as long as 2 years before migrating to sea. Green sturgeon are thought to spawn every 3 to 5 years in deep pools with turbulent water velocities and prefer cobble substrates but can use substrates ranging from clean sand to bedrock. Females produce 60,000 to 140,000 eggs that are broadcast to settle into the spaces between cobbles. Adult green sturgeon migrate into freshwater beginning in late February with spawning occurring in late spring and early summer (March through July), with peak activity in April and June. After spawning, juveniles remain in fresh and estuarine waters for one to four years and then begin to migrate out to the sea (Moyle et al. 1995). The upper Sacramento River has been identified as the only known spawning habitat for green sturgeon in the southern distinct population segment (Moyle 2002). Within the bays and estuaries, sufficient water flow is required to allow adults to successfully

orient to the incoming flow and migrate upstream to spawning grounds. Subadult and adult green sturgeon occupy a diversity of depths within bays and estuaries for feeding and migration.

In the marine environment, sub-adults and adults occupy water to a depth of 360 feet (110 meters), and congregate in coastal bays and estuaries of continental U.S. during the summer and fall. In winter and spring, they are found in aggregations in British Columbia, Canada (NMFS 2010). Little is known about the feeding of the green sturgeon in marine environments. They likely feed on benthic invertebrates, including shrimp, mollusk, amphipods, and small fish (Moyle et al. 1992).

Green sturgeon, after outmigration from freshwater, disperse widely in nearshore coastal waters from Mexico to the Bering Sea and are common occupants of bays and estuaries along the western coast of the United States (Moyle et al. 1995). Critical habitat for green sturgeon is designated as coastal marine habitat off California from Monterey Bay, north and east to include waters in the Strait of Juan de Fuca, Washington, and extends from mean higher high water to a depth of 358 feet (109 meters) (74 FR 52300). This designation includes the aquatic portion of the Program area.

Green sturgeon are known to occur in Monterey Bay, and therefore may presumably occur within the Program area. Monterey Bay serves as important habitat for sub-adult and adult individuals, and may provide the necessary characteristics for rearing, feeding, and growth (NMFS 2009). The Program area may support both the protected Southern DPS and the Northern DPS (not protected under ESA), because both have been documented in Monterey Bay (NMFS 2009). Based on observations, bycatch, and tagging studies, it appears that the Southern DPS uses coastal waters between Monterey and San Francisco Bay in the spring. Upon exiting their spawning grounds in the Sacramento River, they are known to migrate south to Monterey Bay and to the north, congregating in large numbers in the Columbia River Washington estuaries and overwintering in waters off Vancouver Island, British Columbia. Waters in the Program area are most likely used as over-summering habitat, and most records are from the spring.

A principal factor in the decline of the Southern DPS is the reduction of historic spawning area to a limited section of the Sacramento River. This remains a threat due to increased risk of extirpation due to catastrophic events. Insufficient freshwater flow rates in spawning areas, contaminants (e.g., pesticides), bycatch of green sturgeon in fisheries, potential poaching (e.g., for caviar), entrainment by water projects, influence of exotic species, small population size, impassable barriers, and elevated water temperatures likely pose a threat to this species. Additionally, green sturgeon may be susceptible to overfishing, as sexual maturity is not reached until 15 to 20 years of age.

Steelhead

Both the federally threatened central California coast (CCC) DPS and the federally threatened south central California coast (south-CCC) DPS of steelhead have the potential to utilize water adjacent to the Program site as a migration corridor. Steelhead are anadromous (sea-run) forms of rainbow trout and are nearly indistinguishable from resident rainbow trout that also reside in the same streams in which they spawn, with the exception of being larger when hatched (Moyle

2002). Winter-run steelhead are at or near sexual maturity when they enter freshwater during late fall and winter, and spawn from late December through April, with the peak between January and March. Juvenile steelhead typically rear in freshwater for a longer time period than other salmonids, typically ranging from one to three years. The actual time however is highly variable with the individual. Throughout their range, steelhead typically remain at sea for one to four growing seasons before returning to freshwater to spawn (Burgner et al. 1992).

Steelhead typically enter freshwater in early winter, using the main channels to migrate to upstream spawning habitat, as opposed to small tributaries. Migrating fish require deep holding pools with cover such as underwater ledges and caverns. Coarse gravel beds in riffle areas are used for egg laying and yolk sac fry habitat once eggs have hatched. Because juvenile steelhead remain in the creeks year-round for several years while rearing, adequate flows, suitable water temperatures, and an abundant food supply are necessary to sustain steelhead populations. The most critical period is in the summer and early fall, when these conditions become limiting. Additionally, steelhead require cool, clean, well-oxygenated water, and appropriate gravel for spawning. Spawning habitat condition is strongly affected by water flow and quality, especially temperature, dissolved oxygen, shade, and silt load, all of which can greatly affect the survival of eggs and larvae (NMFS 2006). Steelhead are primarily drift feeders and may forage in open water of estuarine subtidal and riverine tidal wetland habitats (Leidy 2000). The diet of juvenile steelhead include emergent aquatic insects, aquatic insect larvae, snails, amphipods, opossum shrimp, and small fish. Adults may also feed on newly emergent fry (Leidy 2000). Steelhead usually do not eat when migrating upstream and often lose body weight (Pauley and Bortz 1986).

The ocean phase of steelhead is not well studied, and poorly understood. Studies of other salmonid species in the ocean environments have found specimens of steelhead, and therefore it is believed that the species does not congregate in large schools like other Pacific salmon of the genus *Oncorhynchus* (NMFS 2013). Some anadromous salmonids have been found in coastal waters relatively close to their natal rivers, while others may range widely in the North Pacific (NMFS 2016a). Adults feed on aquatic and terrestrial insects, mollusks, crustaceans, fish eggs, minnows, and other small fishes (including other trout).

The CCC DPS is found in coastal river basins from the Russian River south to Soquel and Aptos Creek, California (inclusive), and the drainages of San Francisco and San Pablo Bays, including the Napa River. They are also known to migrate to the South Bay, where they spawn in the Guadalupe River, Coyote Creek, and San Francisquito Creek. Suitable habitat for ocean life stages, including potential foraging and migration, is present in the Program area. The nearest naturally spawned populations of CCC steelhead occur in Aptos Creek, north of the Program site within Santa Cruz County. The species would likely use the Program area and other similar habitats adjacent to the Program area as foraging grounds and during immigration and emigration events. The occurrence of the species and individuals is expected to be temporary in nature, and individuals are not expected to permanently reside in the Program area.

The south-CCC DPS includes fish that spawn in waterways from the Pajaro River (Monterey County), south to Arroyo Grande Creek (San Luis Obispo), inclusively, and includes portions of other coastal watersheds that are seasonally accessible to fish entering from the ocean (NMFS

2013). Suitable habitat for ocean life stages, including potential foraging and migration, is present in the Program area. The species would likely use the Program area and other similar habitats adjacent to the Program area as foraging grounds and during immigration and emigration events. Within the Monterey Bay region adult and juvenile steelhead of the South-CCC DPS are known to occur in the Salinas and Pajaro Rivers. The occurrence of the species and individuals is expected to be temporary in nature, and individuals are not expected to permanently reside in the Program area.

The largest factor limiting growth of this species is the placement of migration barriers that prevent access to spawning habitat (NMFS, 2007b). Water diversions further reduce freshwater habitat quality throughout the range of these species. Other threats to steelhead include agricultural operations, forestry operations, gravel extraction, illegal harvest, streambed alteration, unscreened or substandard fish screens on diversions, suction dredging, urbanization, water pollution, potential genetic modification in hatchery stocks resulting from domestication selection, incidental mortality from catch-and-release hooking, climatic variation leading to drought, flooding, variable ocean conditions, and predation (NMFS, 2007b). Secondarily, the quantity and quality of summer rearing habitat with cool water pools and extensive cover for older juvenile steelhead can be considered limiting factors for steelhead in California streams.

Chinook salmon

The federal threatened California Coastal Evolutionarily Significant Unit (ESU), federally threatened California central valley spring-run ESU, and the federally endangered Sacramento River winter-run ESU may utilize waters adjacent to the Program site as a migration corridor. The Chinook salmon is the largest and least abundant species of Pacific salmon (Behnke 2002). Like all salmonids, the Chinook is anadromous (a migratory fish that is born in fresh water and spends a portion of its life in the sea before returning to fresh water to spawn), but unlike steelhead, Chinook salmon are semelparous (i.e., they die following a single spawning event).

Chinook salmon have two basic life history types: stream-type (central calley spring-run ESU) and ocean-type (Sacramento River winter-run and California coastal ESUs). Stream-type have adults that run upstream before they have reached full maturity, in spring or summer, and juveniles that spend usually more than 1 year in fresh water. Ocean-type have adults that spawn soon after entering fresh water, in summer and fall, and juveniles that spend 3 months to a year rearing in fresh water. These variations of life history are named for the timing of spawning runs of adults, such as spring-run or fall-run (Moyle 2002).

Upon entry into the ocean, they tend to stay along the continental shelf of the California and Oregon coast, but migration may continue to higher latitudes. They stay at depths that are typically in the range of 65 to 150 feet (20 to 45 meters) although the range can vary from 0 to 328 feet (0 to 100 meters) depending on the season (CDFW 2016a). As they grow larger and mature into adults, fish becomes a dominant part of their diet. Adult Chinook salmon spend 1 to 5 years in the ocean before returning to their natal stream to spawn. As adults return to the natal stream to spawn, they depend on the nearshore and estuarine environments (NMFS 2016b).

Once they reach their natal stream, Chinook salmon select large, deep pools (more than 2 meters deep) with bedrock bottoms and moderate velocities for holding. Spawning occurs in areas with a substrate mixture of gravel and small cobbles, with low silt content and adequate subsurface flow. In general, stream-type juveniles move downstream and out to sea as smolts, at lengths of 3.15 to 6 inches (80 to 150 millimeters [mm]), but ocean-type juveniles move downstream at 1.2 to 2 inches (30 to 50 mm) to rear in the estuary (Moyle 2002).

Chinook salmon feed on aquatic and terrestrial invertebrates and salmon eggs in freshwater. In intertidal areas Chinook salmon feed on amphipods, insects, and fish larvae. During the oceanic life stage, Chinook salmon feed on fish, large crustaceans, and squid. Adult winter-run Chinook salmon return to freshwater during the winter but delay spawning until the spring and summer. Juveniles spend about 5 to 9 months in the river and estuary systems before entering the ocean.

The marine environments within Monterey Bay are used extensively during the ocean phase of the Chinook salmon, and therefore the various adults and sub-adults may occur within the Program area. Chinook salmon ESUs may use the Program area for foraging, or simply as passage through for migration and dispersal. Individuals or aggregations of various ESUs would only be expected to occur temporarily (or perhaps intermittently) and are not expected to reside permanently in the Program area. The nearshore areas provide forage opportunities contributing to the growth and successful survival of the species (NOS 2014).

Although little information exists on Chinook salmon in marine waters, ocean type juveniles appear to be concentrated over the continental shelf, and it appears that ocean-type juveniles use different marine areas for rearing than stream-type juveniles, which are believed to migrate to ocean water farther offshore early in the ocean residence. Furthermore, different Chinook stocks may use different ocean habitats and employ a variety of migratory patterns. The majority of juvenile Chinook salmon are found within 17 miles (28 km) of the coastline; however, marine distribution is extensive and varies seasonally and interannually. Juveniles and adults may be pelagic, semi-demersal or semi-pelagic, or found near the surface. Juveniles are typically found in water depths between 98 and 262 feet (30 to 80 meters). Juveniles, sub-adults, and adults in marine waters consume fish, planktonic crustaceans, and insects, and become more piscivorous with size (PFMC 2014). These conditions are similar to conditions in the Program area and may support juveniles, sub-adults, and adults for short periods of time.

Coho salmon

The federally endangered California coastal ESU (*Oncorhynchus tshawytscha*) may utilize the water adjacent to the Program site as a migration corridor. The ESU includes all naturally spawned populations of Coho salmon from Punta Gorda in northern California, south to and including the Aptos Creeks in central California—as well as tributaries to San Francisco and San Pablo Bay, excluding the Sacramento-San Joaquin River system, and three artificial propagation Programs: the Don Clausen Fish Hatchery Captive Broodstock Program, Scott Creek/King Fisher Flats Conservation Program, and Scott Creek Captive Broodstock Program (77 FR 19552).

Coho salmon are typically associated with small to moderately sized coastal streams characterized by heavily forested watersheds; perennially flowing reaches of cool, high-quality

water; dense riparian canopy; deep pools with abundant overhead cover; in-stream cover consisting of large, stable woody debris and undercut banks; and gravel or cobble substrates (Moyle 2002).

In contrast to the life history patterns of other anadromous salmonids, Coho salmon in California generally exhibit a relatively simple 3-year life cycle. Adult salmon typically begin the freshwater migration from the ocean to their natal streams after heavy late-fall or winter rains breach the sand bars at the mouths of coastal streams (61 FR 56138). Migration continues into March, but generally peaks in December and January, with spawning occurring shortly after returning to the freshwater spawning ground. Female Coho salmon choose spawning sites usually near the head of a riffle, just below a pool, where water changes from a laminar to a turbulent flow and there is small to medium gravel substrate. The flow characteristics of the redd location usually ensure good aeration of eggs and embryos and flushing of waste products. Coho salmon may spawn in more than one redd and with more than one partner (CDFW 2016b).

After eggs hatch, the fry gradually transition from shallow water along stream margins to deep pools. Preferred rearing habitat has little or no turbidity and abundant cover, with sustained invertebrate forage production. In the spring, as yearlings, juvenile Coho salmon undergo a physiological process, or smoltification, which prepares them for living in the marine environment. They begin to migrate downstream to the ocean during late March and early April, and out-migration usually peaks in mid-May, if conditions are favorable (CDFW 2016b).

After entering the ocean, the immature salmon initially remain close to their parent stream. Eventually, they move north along the coast along the continental shelf, congregating in schools. Information on ocean distribution of Coho salmon is sparse; however, it is believed that Coho salmon ultimately join schools from Oregon and possibly Washington. During this time, they are primarily piscivorous, foraging on small fish and marine invertebrates (NOS 2014). The amount of time spent in the ocean environment is variable, but most remain for 2 years and some return to their natal streams after the first year (CDFW 2016b).

The ESU includes all naturally spawned populations of Coho salmon from Punta Gorda in northern California, south to and including the Aptos Creeks in central California—as well as tributaries to San Francisco and San Pablo Bay, excluding the Sacramento-San Joaquin River system, and three artificial propagation programs: the Don Clausen Fish Hatchery Captive Broodstock Program, Scott Creek/King Fisher Flats Conservation Program, and Scott Creek Captive Broodstock Program (77 FR 19552).

Several of the southernmost streams associated with the Coho discharge into Monterey Bay, including San Lorenzo, Soquel Creek, and Aptos Creek. Members of this population are believed to generally disperse north and congregate with stocks from northern California and Oregon; however, they could occur temporarily in Monterey Bay. Although the Program area is south of the natal streams and the associated estuarine and marine areas, the Program area may be temporarily occupied by Coho salmon prior to dispersing north or during migrations to natal streams.

In the ocean, two dispersal patterns have been observed in Coho salmon after emigrating from freshwater. California stocks typically remain in coastal water near their natal stream for at least the first summer; although, depending on annual and seasonal changes in oceanographic conditions, they may instead migrate northward into offshore waters of the Pacific Ocean after only spending a few weeks in coastal waters. These movements are influenced by ocean currents and the strength of the upwelling. With weak upwelling, Coho salmon concentrate in upwelling zones closer to the shore and submarine canyons. Generally, the majority of juvenile salmon are found within 23 miles (37 km) of the coast. The highest concentrations appear to be found in more productive waters of the continental shelf, outside of the Program area. Coho salmon rarely use areas where sea surface temperature exceeds 59 degrees Fahrenheit (°F) (15°C); they are generally found in the uppermost 32 feet (10 meters) of the water column. When juveniles first enter marine waters their primary diet includes marine invertebrates, such as copepods, euphausiids, amphipods, and carb larvae. Sub-adults and adults consume primarily fish, including capelin, northern anchovy, clupeids (e.g., herring, shad, and menhadens), and osmerids (e.g., smelt) (PFMC 2014). These conditions are similar to those found within the Program area and may support juveniles, sub-adults, and adults for short periods of time.

Leatherback Sea Turtle

The federally threatened leatherback sea turtle (*Dermochelys coriacea*) is found along the California coastline, but is not known to nest within California. Leatherback sea turtles are able to use a wide variety of marine ecosystems through a number of species-specific physiological, anatomical, and behavioral adaptations. Typically, they are associated with continental shelf habitat and pelagic environments (NMFS and USFWS 1998). They are able to use areas that are much colder than those in which other sea turtles are capable of surviving, but must have access to large amounts of food to meet their energetic demands. They are typically associated with areas of high productivity where they have access to food resources, including gelatinous organisms (jellyfish, particularly medusa, siphonophores, and true jellyfish), but also crustaceans, vertebrates, and plants and tunicates (salps and pyrosomas) found in temperate and boreal latitudes (NMFS and USFWS 2013). Specific to the California, leatherbacks target dense aggregations of coast brown sea nettle (*Chrysaora fuscescens*) during the summer and fall, but also consume moon jellies (*Aurelia labiate*) (NMFS 2012).

Nesting occurs primarily on beaches of tropical and subtropical climates; in the eastern Pacific Ocean, nesting occurs primarily on beaches of Mexico and Costa Rica, with rare nesting events from the Gulf of California. Nesting beaches have a wide variety of characteristics, and are generally associated with deep water and strong waves and current. The species is also known to nest in areas with shallow water and mud banks. Suitable substrates are generally free of rock, coral, or other abrasive substrates, and typically include coarse-grained sand (NMFS and USFWS 2012). However, leatherback sea turtles that occur in the Pacific west coast of the U.S. originate from the western Pacific beaches.

Leatherback sea turtles occur in all of earth's oceans, generally ranging from 71°N to 47°S and nesting from 38°N to 34°S, depending on the ocean basin. In the Pacific Ocean, they are widely distributed from waters in British Columbia and the Gulf of Alaska to Chile and New Zealand (NMFS and USFWS 2013). The species undertakes one of the longest migrations reported and is

known to migrate as far as 10,000 miles (16,100 km) between nesting areas (Papua New Guinea, Indonesia, and the Solomon Islands) and non-nesting areas (Pacific west coast of the U.S.) (NMFS and USFWS 1998). Critical habitat was designated for this species on January 26, 2012 (77 FR 4170) and includes the portion of the Program area.

Leatherback sea turtles are known to occur in Monterey Bay, and may be present in the Program area. Nesting does not occur on the beaches in the vicinity of the Program, and nesting has not been documented in the state of California. Leatherback sea turtles have been described as the most common sea turtle in the waters off of the Pacific Coast north of Mexico, and have been reported with regularity in Monterey Bay, where they may forage and migrate from the nesting beaches of the western Pacific Ocean. As described in the *Recovery Plan for U.S. Pacific Populations of the Leatherback Turtle*, there have been 96 sightings within 31 miles (50 km) of Monterey Bay from 1986 to 1991 (NMFS and USFWS 1998). Leatherbacks have also been regularly caught in drift/gill fishing nets off Monterey Bay, and newspapers regularly report sightings.

Monterey Bay provides suitable habitat for the prey species commonly associated with the leatherback sea turtle. Leatherback sea turtles have been reported along the California coast generally from May to November. Occurrence and foraging in the Program area may be dependent on oceanic climates, which may deter migration to nearshore habitats (NMFS 2012).

The foraging behavior of the species had been studied in Central California waters, and it was found that leatherback sea turtles dove less than 328 feet (100 meters) and spent most of the time in shallower water (262 feet [80 meters] or less). In coastal waters, they spend about 50 percent of their time at or within 3 feet (1 meter) of the surface and more than 75 percent of their time in the upper 16 feet (5 meters) of the water column (NMFS 2012).

The primary threat to leatherback turtle populations worldwide is bycatch in fishing gear. Bycatch primarily occurs in gillnets longlines, trawls, and trap fisheries. Other threats include the harvest of eggs, vessel collisions, loss of access to nesting habitat, and increases to ocean pollution the form of marine debris (NMFS and USFWS 2013).

Black abalone

The federally endangered black abalone (*Haliotis cracherodii*) are one of seven abalone species native to the Pacific Coast of North America. Similar to other, more common abalone, black abalone are a mostly-sedentary marine gastropod found in shallow, intertidal environments. Black abalone are dioecious broadcast spawners and, as intertidal organisms on exposed rocky shores, typically release gametes into environments of extreme turbulence. As a consequence, eggs and sperm must be released from adults in relatively close spatial and temporal proximity in order to have any chance of union and fertilization before rapid dispersal and loss of opportunity. Spawning occurs seasonally during the summer months with peaks at the beginning and end of the summer season.

Black abalone occur in rocky intertidal and shallow subtidal habitats along the Pacific coast of North America. They range from Point Arena in northern California to Bahia Tortugas, Mexico.

They are also found on numerous offshore islands within this extent (NOAA 2011). Critical habitat includes areas of rocky intertidal and subtidal habitats with rocky substrate, including rocky benches that contain channels with crevices or large boulders, abundant food resources and suitable water quality. Additional elements of critical habitat include juvenile settlement habitat and nearshore circulation patterns that retain eggs, sperm, fertilized eggs, and ready-to-settle larvae within 100 km from shore so that fertilization and settlement to the rocky intertidal can occur (NOAA 2011). The nearest critical habitat identified for black abalone is in Pacific Grove, California.

Detailed information on the distribution of black abalone within Monterey Bay is lacking. While likely rare, small amounts of suitable habitat along the rocky intertidal portion of the Program area may support black abalone. Threats to black abalone include overfishing, illegal take, disease (withering syndrome), and loss of habitat. Additionally, NMFS has identified five extinction risk factors for black abalone. These include: low abundance, low growth and productivity, lack of population connectivity, low genetic diversity, and the continued spread of withering disease (NOAA 2011).

Southern Sea Otter

The federally threatened southern sea otter (*Enhydra lutris nereis*) is found within the Monterey Bay waters of the Program site. Within the nearshore areas of the North Pacific Ocean, sea otters are considered keystone species, and have a strong influence on the composition of their ecosystems (USFWS 2015). Southern sea otters have high energetic requirements due to little body fat, and must consume 20 to 25 percent of their body mass per day. Therefore, southern sea otters spend between 20 to 50 percent of their time foraging for marine invertebrate prey items. This species breeds throughout the year, however there are two peak periods of pupping, one from October to January, the other from March to April (USFWS 2015). Females care for their pups until they are weaned at about 6 months. Sea otters will rest in groups consisting of between 2 to 20 individuals, called “rafts”, but they are also found alone. Generally, they prefer to rest in areas with surface kelp, but are found in open water as well. Additionally, southern sea otters have been found to haul-out on land. Most sea otters will remain within 1.2 miles (2 kilometers) of shore in California, and southern sea otters utilize rocky areas and soft-sediment areas up to 82 feet (25 meters) in depth for foraging. Rocky habitats contain the most diverse prey items for southern sea otters, and therefore contain high densities of individuals.

The current range of the southern sea otter is along the Central California coast from Half Moon Bay in San Mateo County to Coal Oil Point in Santa Barbara County, with the highest population abundance occurring in the center of this range; however southern sea otters can often be found outside of this range (USFWS 2015). In general, those areas that are rocky and are dominated by kelp contain stable populations of southern sea otters, while sandy and soft-bottom habitats contain variable populations. Home range size and movement patterns are dependent on individual factors including sex and reproductive strategy, as well as resource accessibility and water depth. Females travel less than males and will not often disperse beyond 12 miles (20 kilometers). Males that are territorial will travel less than males that are non-territorial (USFWS 2015). Southern sea otter are known residents of Monterey Bay and are likely to occur within the Program area briefly during foraging or while moving through the area.

The USFWS has identified five key factors that have contributed to the decline in southern sea otter abundance. These include loss of existing habitat, exploitation for commercial and scientific purposes, increased disease and predation, inadequacy of existing regulatory mechanisms, and other exogenous factors including climate change, oil spills, and impacts to kelp forests (USFWS 2015).

Western Snowy Plover

The federally threatened Pacific Coast DPS of western snowy plover (*Charadrius alexandrines nivosus*) is known to nest along the shoreline of Monterey Bay, and may occur temporarily within the Program area. The Pacific Coast DPS's range is from Baja California, Mexico, north to Damon Point, Washington, breeding primarily on coastal beaches within that range. There is also an interior snowy plover population, which winters along the California coast and the Baja California coast and intermingles with the Pacific Coast DPS. The Pacific Coast DPS can be found year round in California (USFWS 2007).

Snowy plover habitat includes sandy coastal beaches with little to no vegetation above the high tide line, the dry salt flats of lagoons, beaches of rivers, lakes, and ponds, dunes with little vegetation, dredged spoils on beaches, dry salt ponds, and river bars (Page et al. 2009; USFWS 2007). The nesting season usually occurs between March through September, but can vary by location. Chicks hatch between April through August, with fledging occurring a month after hatching (USFWS 2007). Nesting occurs in depressions on dry ground, often lined with vegetation or shell fragments, bones, mud chips, or pebbles (Page et al. 2009). Plovers feed on terrestrial and aquatic invertebrates by seizing prey from the beach surface or tide flat, or probing in the sand (Page et al. 2009).

There is Critical Habitat along the coast of Monterey Bay from Moss Landing down to Seaside; this includes portions of the Program area (77 FR 36727). Primary Constituent Elements consist of sandy beaches, dune systems immediately inland of an active beach face, salt flats, mud flats, seasonally exposed gravel bars, artificial salt ponds and adjoining levees, and dredge spoil sites which have: 1) areas below heavily vegetated or developed areas that are above high tides; 2) shoreline habitat with little vegetation for feeding between annual low and high tides; 3) organic debris which attracts prey items; and 4) minimal disturbance by human activity (77 FR 36727).

Western snowy plover are known to occur along the Monterey Bay shoreline. Nesting within the Program area is unlikely given the large amount of human disturbance and overall lack of suitable habitat. As such, presence of snowy plover within the Program area is likely to be temporary, and confined to foraging or migration events. Habitat degradation caused by human disturbance, urban development, introduced beachgrass (*Ammophila* spp.), and expanding predatory populations has resulted in a decline in active nesting areas and in the size breeding and wintering populations (USFWS 2007).

Marine Mammals

The Program area, and extended Monterey Bay region, supports a wide diversity of marine mammal species. The southern sea otter (*Enhydra lutris nereis*), listed as threatened under the

Federal Endangered Species Act,[3] is the only federally-listed marine mammal species with the potential to occur within the Program area. This species' presence was confirmed during the September 21 site visit. Other marine mammals including the California sea lion (*Zalophus californianus*), harbor porpoise (*Phocoena phocoena*), and Pacific harbor seal (*Phoca vitulina richardsi*) are frequent visitors to the waters adjacent to the wharves.

California sea lions are exceedingly abundant within and around both wharves, and were confirmed as present during the September site visit. Portions of both wharves are used as haul-out sites for sea lions who are known to occur year-round (URS 2014). NMFS maintains monthly counts of the sea lions within the Program area and nearby Coast Guard Pier, where population numbers fluctuate anywhere between 1 and 1,124 individuals in a given month (Lowry 2012; URS 2014).

A significant number of cetacean species utilize the open waters of the coast of central California as a migration corridor, including: blue whale (*Balaenoptera musculus*), eastern North Pacific gray whale (*Eschrichtius robustus*), North Pacific humpback whale (*Megaptera novaeangliae*), killer whale (*Orcinus orca*), minke whale (*Balaenoptera acutorostrata*), Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), Risso's dolphin (*Grampus griseus*), long-beaked common dolphin (*Delphinus capensis*), bottlenose dolphin (*Tursiops truncatus*), and Dall's porpoise (*Phocoenoides dalli*) (USACE 2015). Of these, gray whale is the most commonly encountered cetacean off Monterey Bay, as migrating populations often pass within 3 km of the coastline (NOAA 2017). However, none of the large cetacean species described above are likely to occur within the Program area itself, given its enclosed nature and proximity to the shoreline.

Discussion

a) ***Less than Significant with Mitigation.*** As discussed above, the occurrence of the majority of special-status aquatic species within the Program area may occur but would be temporary in nature. Short-term impacts on special-status fish and marine mammals could occur from increased noise levels during pile installation and from water quality impacts associated with jetting and other maintenance work. Impacts that are typically associated with these activities include temporary elevated sound pressure levels, the short-term loss of access to foraging habitat, and temporary impacts to water quality through increased turbidity levels. Implementation of **Mitigation Measure BIO-1** and **BIO-2** would ensure that, if special-status species are present within the Program area during in-water construction, the impact on these species would be minimized or avoided, and would be less than significant. With respect to black abalone, Mitigation Measure BIO-2 would require pre-construction surveys within suitable abalone habitat before any maintenance work can begin in those areas.

Mitigation Measure BIO-1: Pile Driving

The measures specific to pile driving activities have been developed in accordance with the majority of the measures outlined in the 2013 USACE/NMFS NLAA Program criteria, in order to reduce Program effects on

[3] All marine mammal species are protected under the Marine Mammal Protection Act (MMPA)

sensitive resources. Avoidance and minimization measures that will reduce Program noise effects include the following:

- Pile removal and/or replacement will be conducted in general accordance with the 2013 Corps/NMFS NLAA Program criteria, e.g.:
    - Piles will be removed by direct pull or vibratory hammer, where possible.
    - Piles that cannot be pulled will be cut at least two feet below the mudline.
    - A "soft start" technique will be implemented during all impact hammer pile driving, at the start of each period of impact hammer pile driving or after a break in impact hammer driving of 30 minutes or more, to give fish and marine mammals an opportunity to vacate the area. A "soft start" would consist of an initial set of three strikes made by the hammer at 40 percent energy, followed by a 1-minute waiting period, then two subsequent three-strike sets, before initiating continuous driving.
    - A wood cushion block would be utilized during impact hammer pile installation, to attenuate noise levels.

As a measure to be confirmed during informal Section 7 consultation with NMFS, Program participants (the City and/or legal tenants on the wharves) will monitor marine mammal presence during all pile installation activities (impact hammer, vibratory, or hydraulic jetting). Marine mammal monitoring will include, at a minimum, the following conditions:

- A 50-meter marine mammal monitoring zone will be established around each pile installation location (note: a 50-meter zone well exceeds the zone of calculated potential hydroacoustic impacts to fish and marine mammals from impact hammer installation of timber piles.
- A qualified biological monitor(s) would be located at the best vantage point(s) in order to properly see as much of the monitoring zone as possible.
- During all observation periods, the monitor(s) will use binoculars and the naked eye to search continuously for marine mammals.
- If the monitoring zone is obscured by fog or poor lighting conditions, pile installation at that location will not be initiated until that zone is visible. Should such conditions arise while installation is underway, the activity would be paused.
- The monitoring zone around the pile will be monitored for the presence of marine mammals 30 minutes before, during, and 15 minutes after any pile driving activity.
- Work activities would be halted when a marine mammal enters the monitoring zone and resume only after the animal has been gone from the area for a minimum of 15 minutes.

The below measures are specific to hydraulic jetting of replacement fender and/or guide piles within the coarse-grained sandy substrate of the Harbor, in order to minimize short-term turbidity and other potential Program effects on sensitive resources:

- Hydraulic jetting of fender and/or guide piles would be limited to those situations in which natural settling is either not feasible or not practicable for the City to accomplish necessary maintenance replacements.
- A professional diver would be present to conduct and observe all hydraulic jetting pile installation activities underwater; the diver would ensure the pile is placed in the correct location, as well as guide the pile into the substrate and to the proper depth.
- The diver would ensure the amount of time the water pump is actively jetting is limited to the minimum duration necessary, to limit the duration of jetting disturbance to that time during which pile is being effectively installed. The diver would also control the placement and location of hydraulic jetting, to ensure that substrate disturbance is physically limited to the area necessary to successfully install the pile.

Mitigation Measure BIO-2: Black Abalone Surveys

Before maintenance activities may occur within rocky, or other hardscape, intertidal portions of the Program area, a qualified biologist will visually survey the existing habitat to determine if black abalone are present. Rocky, intertidal habitat is uncommon within the Program area and is primarily confined to portions of the Wharf I nearshore environment. Additionally, all piles scheduled for removal, sleeving or other maintenance work will be visually inspected before work begins to ensure no black abalone are present on the pile. If water visibility is too low to accurately assess the presence of black abalone in intertidal habitat or on support piles from a boat, divers will be used to complete the survey. If black abalone are observed, the qualified biologist shall notify and consult with NMFS before relocating the abalone to nearby suitable habitat.

b, c) ***Less than Significant with Mitigation.*** Proposed in-water and above-water maintenance work could result in substantial adverse effects to waters of the U.S. under the jurisdiction of the U.S. Army Corps of Engineers and waters of the State under the jurisdiction of the Central Coast Regional Water Quality Control Board. However, none of these jurisdictional waters are wetlands. Potential significant impacts resulting from maintenance activities include, but are not limited to temporary disturbance of jurisdictional non-wetland waters, degradation of water quality and open water aquatic habitat, and accidental discharge of toxic materials. As such, **Mitigation Measure BIO-3** would be required to reduce potential impacts to less than significant levels.

Mitigation Measure BIO-3: Jurisdictional Water and Water Quality

In order to avoid and/or minimize potential impacts to jurisdictional waters and water quality, including Program activities that would be conducted in or over

waters, the following standard construction best management practices (BMPs) would be implemented by Program participants (the City and/or legal tenants on the wharves), to prevent releases of construction materials or hazardous materials and to avoid other potential environmental impacts:

- Deteriorated timber piles will be repaired to the extent practicable. Where repair is not feasible, deteriorated timber piles will be replaced with new ACZA – treated timber piles (or approved equivalent). New timber piles will be encapsulated with a continuous polymer coating to prevent leaching of treatment into the environment.
- All repairs will be designed using materials that follow local, California, and national environmental regulations; this includes the use of concrete, cementitious grout, and epoxy specifically chosen for marine/in-water applications.
- No debris, rubbish, creosote-treated wood, soil, silt, sand, cement, concrete, or washings thereof, or other construction-related materials or wastes, oil, or petroleum products shall be allowed to enter into jurisdictional waters or placed where it would be subject to erosion by rain, wind, or waves and enter into jurisdictional waters. Staged construction materials with the potential to be eroded/entrained during a rainfall event will be covered every night and during any rainfall event (if applicable). All construction material, wastes, debris, sediment, rubbish, trash, fencing, etc., will be removed from the wharves on a regular basis during work, and thoroughly at completion of each repair cycle. Debris will be transported to an authorized upland disposal area.
- Floating booms shall be used to contain any accidental debris discharged into waters, and any debris shall be removed as soon as possible, and no later than the end of each workday. If feasible, personnel in workboats within the work area will immediately retrieve such debris for proper handling and disposal. Non-buoyant debris discharged into waters shall be recovered (by divers) as soon as possible after discharge.
- Protective measures will be utilized to prevent accidental discharges of oils, gasoline, or other hazardous materials to jurisdictional waters during fueling, cleaning, and maintenance of equipment.
- Well-maintained equipment will be used to perform construction work, and, except in the case of failure or breakdown, equipment maintenance will be performed off-site. Crews will check heavy equipment daily for leaks, and if leaks are discovered it will be immediately contained and use of the equipment will be suspended until repaired. The source of the leak will be identified, material will be cleaned up, and the cleaning materials will be collected and properly disposed.
- Vehicles and equipment used during the course of construction will be serviced offsite. On-site fueling of marine equipment will comply with U.S. Coast Guard requirements. Smaller equipment, such as generators, welding machines, and hand tools will be fueled using fuel tanks, hoses, and fuel cans. Fueling locations will be inspected after fueling to document that no spills have occurred. Any spills will be cleaned up immediately.

- The construction contractor shall have a spill contingency plan for hazardous waste spills into the Monterey Harbor. The plan shall include maintaining floating booms and absorbent materials in an on-site spill response kit, to enable rapid recovery of hazardous wastes.
- All hazardous materials will be stored in containers designed to provide adequate containment. Short-term laydown of hazardous materials for immediate use will be permitted with appropriate spill prevention measures.
- Machinery or construction materials not essential for project improvements shall not be allowed at any time in jurisdictional waters, including the intertidal zone. The construction contractor shall be responsible for checking and observing daily tide and current reports.

d) ***Less than Significant with Mitigation.*** It is unlikely that wildlife passage through the Program area would be hindered since it is located within an already urbanized, much-trafficked, environment. Additionally, any terrestrial habitat that falls within the Program area is of poor quality and unlikely to support and special-status species.

Special-status aquatic species, including fish and marine mammals, may, but are unlikely to, temporarily utilize portions of the Monterey Wharves waterfront as a movement corridor. Large marine mammal species migrating along the California coast are especially unlikely to occur within the Program area, as their large body size would make maneuvering within the active wharves exceedingly difficult. Additionally, migrating cetaceans typically prefer deeper waters than those found within the Program area. Migrating special-status salmonids (Chinook salmon, Coho salmon, and steelhead) are also unlikely to occur within the Program area. In addition to the high levels of disturbance and human activity surrounding the wharves, migrating salmonids typically follow ocean current patterns, foraging in continental shelf upwelling areas and traveling through deeper pelagic waters when migrating between the open ocean and spawning streams.[4] Special-status fish species do forage within coastal waters in close proximity to the shoreline, however, the amount of activity and disturbance within the Program area makes their presence along the wharves unlikely. As such, the proposed Program would not substantially interfere with the movement of any native resident or migratory fish, marine mammal, or wildlife species, and any potential impacts would occur at less-than-significant levels.

e) ***No Impact.*** No impact with local ordinances protecting biological resources would occur with Program implementation.

f) ***No Impact.*** There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans applicable to the Program.

[4] Pacific Fishery Management Council (PFMC), 2014. Appendix A to the Pacific Coast Fishery Management Plan. As modified by Amendment 18 to the Pacific Coast Salmon Plan. Identification and Description of Essential Fish Habitat, Adverse Impacts, and Recommended Conservation Measures for Salmon. September. Portland, Oregon. Available: http://www.pcouncil.org/wp-content/uploads/Salmon_EFH_Appendix_A_FINAL_September-25.pdf.

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5. Cultural Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
5. CULTURAL RESOURCES — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Environmental Setting

History of the Wharves

Wharf I (also referred to as Fisherman's Wharf) was a small pier and warehouse built to handle freight destined to the Del Monte Hotel and Bathhouse. The first large quantities of sardines in Monterey Bay were discovered around 1910. The City became interested in obtaining ownership of Fisherman's Wharf from the Pacific Coast Steamship Company, and by 1916 the City had purchased the wharf and established the Office of Wharfinger. The City began to expand the wharf, providing more services to the fishing fleet and to the freight businesses. By 1920, the wharf served as the location for two warehouses, nearly 20 wholesale and retail fish outlets, a marine service station, a restaurant, and an abalone shell grinding business.

In 1926, Wharf II was built with funds from a public bond issue. This wharf was built to handle the loading and unloading of cargo vessels. Most of this shipping was to or from the many fish canneries.

Wharf I now primarily services the tourist industry with numerous concessionaires including restaurants, gift shops, sport fishing and whale watching operations, and fish markets flanking the main pier structure. The present configuration includes a main pier of approximately 640 feet and another 283 feet of laterals and finger piers. The main wharf is a timber pile-supported structure with timber pile caps, stringers and decking. The decking of the main section of the pier is overlain with asphalt. The decking for the finger piers is a hardwood (Apitong) overlay secured to the original Douglas Fir deck planks. The wharf has had considerable maintenance and reconstruction work conducted over the years. The most recent inspections (prior to that conducted by COWI as a part of this effort) were completed in 1978, 1987, and 1994. As a result, significant rehabilitation work was completed in 1978, 1988, and 1995. Large elements of this work involved replacing and wrapping timber piles and replacing pile caps, stringers and decking.

Evaluation for Historical and Archaeological Resources

In preparation for the City's proposed structural maintenance program for Monterey Municipal Wharves I and II, Evans & DeShazo, Inc. conducted a field survey and prepared a report assessing

the Old Fisherman's Wharf (Wharf I) eligibility for listing on the California Register of Historical Resources (California Register), or for local listing. This analysis was conducted in accordance with CEQA and City of Monterey local historic preservation ordinances and resulted in the reconnaissance-level documentation of 24 resources (23 buildings and one structure) located on Wharf I. Although the resources were not individually evaluated for significance and integrity, it appears that two resources may be individually eligible for listing on the California Register and that 19 of the resources appear to be contributors to a potential historic district. Wharf II was included in the Monterey Old Town National Historic Landmark District and Downtown Area Context Statement and Reconnaissance Survey completed in 2012. Wharf II, completed in 1926, includes a warehouse building constructed at the same time. The warehouse and the Wharf II structure were recorded as a single resource in the context of a possible historic district; no determination as to its individual eligibility was made in the report. Per CEQA, Wharves I and II and 19 of the buildings present on the wharves are being treated as historical resources for the purposes of this Program, and the Program's impacts to these resources have been analyzed.

ESA staff conducted a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University on September 12, 2017 (File No. 17-0805). The purpose of the records search was to: (1) determine whether known cultural resources have been recorded in the vicinity of the wharves; (2) assess the likelihood for unrecorded cultural resources to be present based on historical references and the distribution of nearby resources; and (3) develop a context for the identification and preliminary evaluation of cultural resources. The records search consisted of an examination of the NWIC base maps (U.S. Geological Survey Monterey, California 7.5-minute topographic map) to identify recorded cultural sites and studies within a ¼-mile radius of the wharves. Included in the review was the Historic Properties Directory (HPD) listing for Monterey County (May 2012). The HPD includes listings of the National Register, California Register, and most recent listings of the California Historical Landmarks and California Points of Historical Interest. Historic-period topographic maps and aerial imagery were also reviewed.

Records at the NWIC indicate there is a previously recorded buried shipwreck between Wharf I and Wharf II. There are no recorded historical shipwrecks in the vicinity of the proposed work areas for the proposed Program.

The results of the research also indicate that there are four prehistoric archaeological resources within a ¼-mile radius of the proposed Program. These sites comprise a National Register of Historic Places district – El Castillo – which was listed in 1971 as National Register District #71000167.

Prehistoric archaeological resource CA-MNT-108, one of the sites that comprise the National Register-listed El Castillo, was originally recorded in 1946 during excavations for the original location of the flag pole where the first United States flag was raised at the Custom's House (Pilling, 1949). In the spring of 1988, archaeologists conducted a salvage excavation of a small portion of the prehistoric site (Breschini and Haversat, 1989). Artifacts indicate that CA-MNT-108 was probably occupied from approximately 2800 B.C. to 400 B.C. and appears to have been the main Early Period residential site or "village center" during the summer months. The excavation in

1988 found the site to have a material density greater than any other site examined on the Monterey Peninsula. Archaeologists completed a subsequent salvage excavation at part of the site in 2016 (Garlinghouse, 2016). An ESA archaeologist conducted a surface survey of the work areas and shore below the wharves. No midden soil or prehistoric artifacts were observed in the slope face or on the shore. Given the dynamic tidal nature of this location, cultural materials were not expected. In addition, no historic-period archaeological resources, including shipwrecks, were observed during the survey.

Discussion

a) ***Less than Significant with Mitigation.*** A significant impact would occur if the Program would cause a substantial adverse change to a historical resource, herein referring to historic-era architectural resources or the built environment, including buildings, structures, and objects. A substantial adverse change includes the physical demolition, destruction, relocation, or alteration of the resource. The Program site includes two historic-age structures, Wharves I and II.

Proposed maintenance activities over the life of the Program could directly impact Wharves I and II by altering the wharves' piles and concrete pedestals, wharf sub-structures, wharf decks, and the structural and/or safety elements which extend out horizontally and/or vertically from the wharves - such as various platforms, docks, fender systems, and their associated fender and guide piles. The proposed Program includes maintenance activities necessary to prevent the deterioration of the historical resources, Wharves I and II. Although the specific quantities and extent of the Program maintenance activities are not known at this time (because the Program is intended to cover future maintenance needs over a number of years, and therefore the level of deterioration or other maintenance needs cannot be fully identified at this time) the intent of the Program is to maintain Wharves I and II in their current forms for their current functions. Therefore, the types and methods of repair and/or replacement are known at this time. The Program can be expected to include numerous minor repairs and less frequent major repairs and/or replacements of existing wharf structures, without any appreciable change in materials or footprint. Furthermore, these Program repairs would be limited to the wharf structural elements which consist primarily of wharf substructures (such as piles, pedestals, wood framing beams and stringers, concrete beams and sheet pile, and mounted utilities - all of which occur below-deck) and the wharf decking itself, if needed to access the below-deck sub-structures. In other words, the Program does not include any proposed work involving the buildings or other structures which sit atop/above the wharf decks. Finally, the Program's methods for repair and/or replacement have largely been determined and designed, and would primarily be conducted by hand tools and small equipment, thereby minimizing disruption to the surrounding wharf structures and decking to the extent practicable. As stated above, no work is proposed to the buildings that sit on either Wharf I or II; however, they could be indirectly impacted by vibrations generated during work on the wharf structures if certain vibration producing equipment is used. Specifically, a small (typically ~3,000 lb) 'drop-hammer' would be used to drive replacement wood piles into the sandy substrate below the wharves. It is anticipated Program pile replacement would require no more than a total of

20 replacement wood piles be installed every 3 years, on average; when installed, not more than approximately 5 piles would be installed per day, each of which would require approximately 300 impact hammer strikes per pile to install. It should be noted that the use of an impact hammer to install wood piles results in significantly less noise and vibration as compared to the impact hammer installation of steel piles. Furthermore, contractors would be required to utilize a wood pile-driving cushion block (located between the impact hammer and the pile) in order to attenuate (reduce) the force of the impact hammer on the pile. This measure will reduce the noise and vibration that is translated from the pile to the substrate below, and indirectly to the wharves which sit atop the sandy substrate. In other words, vibratory effects from the impact hammer on the pile are not transferred directly to the wharves (or the buildings atop the wharves), but rather only indirectly from the pile through the sandy substrate that the pile is being driven into.

The following mitigation measures will ensure that the Program has a less-than-significance impact to the historical resources present.

> **Mitigation Measure CUL-1.** Maintenance activities over the life of the Program will be executed in conformance with the Secretary of the Interior's Standards.
>
> **Mitigation Measure CUL-2.** The historical resources identified above shall be monitored for vibration during construction activities that require the use of impact hammers or other equipment with the potential to cause vibration above the threshold of 0.20 inches per second (ips) peak particle velocity (PPV). A small (typically ~3,000 lb) 'drop-hammer' would be used during construction, to drive replacement wood piles into the sandy substrate below the wharves. No more than 5 piles shall be installed per day, each of which would require approximately 300 impact hammer strikes per pile to install. Furthermore, contractors would be required to utilize a wood pile-driving cushion block (located between the impact hammer and the pile) in order to attenuate (reduce) the force of the impact hammer on the pile. This measure will reduce the noise and vibration that is translated from the pile to the substrate below, and indirectly to the wharves which sit atop the sandy substrate. Vibration monitors will be installed on buildings prior to these construction activities, and checked periodically at the discretion of the qualified professional, to determine if vibration impacts are occurring. If construction vibration levels exceed 0.20 ips PPV, construction shall be halted and other feasible construction methods shall be employed to reduce the vibration levels below the damage threshold. All measurements will be recorded and kept on file with other Program documents.

b) ***Less than Significant with Mitigation.*** This section discusses archaeological resources, both as historical resources according to CEQA Guidelines Section 15064.5, as well as unique archaeological resources as defined in Public Resources Code Section 21083.2(g). A significant impact would occur if the Program would cause a substantial adverse change to an archaeological resource through physical demolition, destruction, relocation, or alteration of the resource.

Based on the records search and survey results, as well as the environmental setting, it does not appear that Program replacement and/or repair of the wharf foundations would impact archaeological resources. The other activities associated with the Program would

not cause ground disturbance and, therefore, would not have the potential to impact archaeological resources. However, because of the archaeological sensitivity of the general Program area due to the proximity of prehistoric archaeological resources, there is the potential that ground disturbance could impact previously undiscovered or buried prehistoric archaeological resources. Impacts to a prehistoric archaeological resource would be potentially significant. To reduce impacts to a less-than-significant level, the City will implement **Mitigation Measure CUL-3**, which would develop an Archaeological Monitoring Plan (AMP) and a Post-Review Discovery Plan (PRDP). The AMP would require that no staging or access associated with the Program be permitted within a pre-established archaeologically sensitive area and that archaeological monitoring be conducted in the vicinity of known prehistoric archaeological resources.

> **Mitigation Measure CUL-3. Archaeological Monitoring Plan and Post-Review Discovery Plan.** Prior to construction, a Secretary of the Interior-qualified archaeologist with expertise in California archaeology shall develop an archaeological resources training program for all construction and field workers involved in ground-disturbing activities that details the recognition and importance of archaeological resources, and establishes accidental discovery procedures should archaeological resources be encountered during construction.
>
> For repair or replacement of the Wharf I foundations for the concessions nearest to the shore (Concessions 1 and 2), a Secretary of the Interior-qualified archaeologist or supervised archaeologist shall prepare an Archaeological Monitoring Plan (AMP) and a Post-Review Discovery Plan (PRDP). The AMP and PRDP will outline protocol for archaeological monitoring and the steps to follow in the event of a discovery. The AMP will also provide details for an archaeologically sensitive area (ASA) where no ground disturbance or project staging would occur including staging or access in the vicinity of the known prehistoric archaeological resource.
>
> If cultural materials are encountered during Program implementation, all construction activities within 100 feet shall halt and the City of Monterey shall be notified. A Secretary of the Interior-qualified archaeologist shall inspect the find within 24 hours of discovery. If the find is determined to be potentially significant, the archaeologist, in consultation with the City of Monterey and the culturally-affiliated Native American group(s) shall determine whether preservation in place is feasible. Consistent with PRC Section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If avoidance is not feasible, the archaeologist, in consultation with the City of Monterey and the culturally-affiliated Native American group(s), shall prepare and implement a detailed treatment plan. Treatment of unique archaeological resources shall follow the applicable requirements of PRC Section 21083.2. Treatment for most resources would consist of (but would not be not limited to) sample excavation, artifact collection, site documentation, and historical research, with the goal of recovery of important scientific data contained in the portion(s) of the significant resource to be impacted by the Program. The treatment plan shall include provisions for analysis of data in a regional context, reporting of results within a

timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and state repositories, libraries, and interested professionals.

c) ***Less than Significant***. Paleontological resources are the fossilized evidence of past life found in the geologic record. Despite the tremendous volume of sedimentary rock deposits preserved worldwide, and the enormous number of organisms that have lived through time, preservation of plant or animal remains as fossils is an extremely rare occurrence. Due to the infrequency of fossil preservation, fossils are considered nonrenewable resources. A significant impact would occur if the Program were to destroy a unique paleontological resource or site, or a unique geologic feature.

The geologic unit underlying the wharves is composed of Pleistocene marine sediments (CGS, 2002). This unit is not considered a unique geologic feature, however it is considered to have a high potential for paleontological resources based on the rock type and age of the unit. A literature review of the geology on site and in the Program area also confirms the presence of paleontological potential (Martin et al., 2004; Greene, 1977). However, the anticipated ground disturbing activities that may affect this unit are not expected to exceed 2 feet in depth. Therefore, the potential of uncovering any paleontological resource is low, as it is unlikely that fossil resources would be encountered in these disturbed soils which are close to the surface. Additionally, as the potential resource is underwater, any possible resource would be largely unobtainable and impractical to excavate. Due to the relatively non-invasive Program activities, and the inaccessibility of any potential resource, this impact would be considered less than significant.

d) ***Less than Significant with Mitigation.*** Based on the records search and survey results, no human remains are known to exist within the Program area. The Program would involve ground-disturbing activities; therefore, it is possible that such actions could inadvertently unearth, expose, or disturb buried human remains, which would be a potentially significant impact. Implementation of **Mitigation Measure CUL-4** would reduce this impact to a less than significant level by requiring the City to contact the County Coroner to determine if identified remains are Native American and contact the Native American Heritage Commission to provide additional recommendations.

Mitigation Measure CUL-4. Inadvertent Discovery of Human Remains. In the event of discovery or recognition of any human remains during construction activities, such activities within 100 feet of the find shall cease until the Monterey County Coroner has been contacted to determine that no investigation of the cause of death is required. The Native American Heritage Commission (NAHC) will be contacted within 24 hours if it is determined that the remains are Native American. The NAHC will then identify the person or persons it believes to be the most likely descendant from the deceased Native American, who in turn would make recommendations to the City of Monterey for the appropriate means of treating the human remains and any grave goods.

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6. Energy

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
6. **ENERGY — Would the project:**				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Environmental Setting

Energy Consumption and Efficiency

PG&E is one of the largest utilities in the state of California and is the primary purveyor of electricity and natural gas in the County of Monterey. In 2016, the California Energy Commission estimated that the County of Monterey consumed approximately 2,587 kWh of energy for both residential and non-residential sectors (CEC, 2016). The County has taken many steps to improve energy efficiency and conservation programs and technologies. As of 2017, the County of Monterey has reduced GHG emissions by 1,366 metric tons of GHG emissions through the implementations of the Municipal Climate Action Plan and associated energy efficiency measures (County of Monterey, 2018).

Gas and Diesel

Gasoline has become the most widely used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles. According to the State Board of Equalization, in 2015, 15.1 billion gallons of gasoline were sold in California (CEC, 2018a). Diesel fuel is the second largest transportation fuel used in California, representing 17 percent of total fuel sales behind gasoline. Predominantly all heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, and construction equipment have diesel engines (CEC, 2018b).

Warren-Alquist Act

The 1975 Warren-Alquist Act (Pub. Res. Code §25000 et seq.) established the California Energy Resources Conservation and Development Commission, now known as the CEC. The Act established a State policy to reduce wasteful, uneconomical and unnecessary uses of energy by employing a range of measures. The Act also was the driving force behind the creation of Appendix F, Energy Conservation, to the CEQA Guidelines.

Monterey County Municipal Climate Action Plan

Greenhouse gas (GHG) emissions and energy consumption have decreased since the implementation of the Monterey County Municipal Climate Action Plan (MCAP) was adopted by the Board of Supervisors in 2013. The MCAP outlines the County's goal to reduce municipal GHG emissions to 15% below 2005 baseline levels by the year 2020 (County of Monterey, 2018).

Monterey Bay Community Power

On March 21, 2017, the Monterey County Board of Supervisors adopted an ordinance to join the Monterey Bay Community Power joint powers agency. MBCP is a regional project among local government agencies that aims to provide electricity to residents and businesses throughout Monterey, San Benito and Santa Cruz. The Community Choice Energy (CCE) model that would be used by the counties would enable communities to choose clean-source power at a cost equivalent to PG&E, while retaining PG&E's role in maintaining power lines and providing customer service. MBCP anticipates serving electricity to customers beginning spring 2018. Current PG&E customers will be automatically enrolled in MBCP (MBCP, 2018). The City of Monterey will be the first city in its tri-county area to use electric power that will be generated through solar, wind, biomass, geothermal, and hydro-electric power plants (Sustainability City Network, 2010).

Discussion

a) ***Less than Significant.*** Maintenance activities required in each cycle would result in the consumption of energy in the form of gasoline and diesel fuel, and electricity. Gasoline and diesel fuel would be used by worker vehicles, delivery trucks, and maintenance equipment such as in-water support vessels, generators, backhoes, etc. Additionally, a small amount of electricity may be used for work area lighting in the event that maintenance activities occur during nighttime hours.

Each maintenance cycle is anticipated to require 3-8 months to complete. Cycle #1 is expected to be completed in 2020. Subsequent cycle repairs are anticipated to occur approximately every 3 years for 10 years. Fuel consumption during this time would be temporary and negligible in comparison to the 15.1 billion gallons of gasoline sold in California in 2015. (CEC, 2018b). Therefore, the Program would not result in any wasteful, inefficient, or unnecessary consumption of energy resources during maintenance cycles. Impacts regarding to the wasteful or inefficient use of energy would be less than significant.

b) ***No Impact.*** The intent of the Program is to repair and maintain two existing wharves. As discussed above, although the Program would result in the consumption of some energy, the amount of energy required for the Program would not be significant. Therefore, the Program would not conflict with any state or local plan related to renewable energy or energy efficiency measures. The Program would comply with all local ordinances and action plans related to energy conservation and efficiency and vehicle fuel efficiency standards. As a result, the Program would have no impact under this criterion.

References

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7. Geology, Soils, and Seismicity

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
7. GEOLOGY and Soils — Would the project:				
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.)	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Environmental Setting

The proposed Program site lies within a coastal region of California with many active and potentially active faults and is considered an area of high seismic activity.[5] The U.S. Geological Survey (USGS) along with the California Geological Survey and the Southern California Earthquake Center formed the Working Group on California Earthquake Probabilities which has evaluated the probability of earthquakes of Magnitude 5 and greater occurring in the state of California over the next 30 years, beginning in 2014 (USGS, 2015). The result of the evaluation indicated a 95 percent likelihood that a Magnitude 6.7 or greater earthquake will occur in the Northern California region (USGS, 2015). Active faults including the San Gregario, Monterey,

5 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).

Navy, and Palo Colorado faults are all in proximity to the Program site. In addition, the San Andreas fault is located approximately 20 miles east of the site.

Ground movement during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. The composition of underlying soils, even those relatively distant from faults, can intensify ground shaking. For this reason, earthquake intensities are also measured in terms of their observed effects at a given locality. The intensities of an earthquake will vary over the region of a fault and generally decrease with distance from the epicenter of the earthquake.

Discussion

a.i) ***Less than Significant.*** The Program site is located just outside the Alquist-Priolo Earthquake Fault Zone for the Monterey Fault Zone (Jennings, 2010). The Alquist-Priolo Earthquake Fault Zoning Act requires the delineation of zones by the California Department of Conservation, Geological Survey along sufficiently active and well-defined faults. The purpose of the Act is to restrict construction of structures intended for human occupancy along traces of known active faults. Alquist-Priolo Zones are designated areas most likely to experience surface fault rupture, although fault rupture is not necessarily restricted to those specifically zoned areas. Even though the Program site is located relatively close to the Alquist-Priolo Zone, the site is not within the zone and the Program would not change the existing hazard that is already present. As a result, the potential impact related to fault rupture hazards associated with the proposed Program are considered less than significant.

a.ii) ***Less than Significant.*** The Monterey Bay region contains both active and potentially active faults and is considered to be a region of high seismic activity. The San Andreas (approximately 20 miles east) as well as the closer faults (San Gregario, Monterey, Navy, and San Colorado faults) are all capable of producing strong groundshaking at the site. According to the USGS Working Group on Earthquake Probabilities, the probability of one or more earthquakes of Richter magnitude 6.7 or higher occurring somewhere in the Northern California region over the next 30 years is 95 percent (USGS, 2015). The probability of a large earthquake anywhere along the northern segment of the San Andreas Fault the probability is 6.4 percent.

The Program site could experience a range of ground shaking effects during an earthquake on one of the aforementioned faults. The degree of groundshaking depends on a variety of parameters including distance to causative fault, duration of shaking, characteristics of underlying materials, and others. The site is located at the Monterey Bay shoreline with piles extending into the sandy sediments. Considering that the Program includes general repair work to improve the structural integrity by making repairs to existing piles and foundations as well as placement of new piles for locations where the existing piles have become irreparably deteriorated, the Program would overall improve the ability of the wharves to withstand seismic groundshaking without substantive damage. The proposed improvements would be designed and overseen by a California licensed engineer in accordance with applicable California Building Code

(CBC) and American Society of Civil Engineers (ASCE) standards and requirements. Therefore, the potential impact related to groundshaking would be less than significant.

a.iii) ***Less than Significant.*** Groundshaking can also trigger localized liquefaction.[6] Secondary ground failure caused by liquefaction can damage structures, placing people at risk of injury and property loss. In general, sandy coastal deposits can be susceptible to liquefaction. However, the potential for liquefaction generally diminishes with depth as the deposits become denser with the pressure of the overlying materials. As noted above, the design and type of construction for the proposed replacement piles to support the existing wharves would provide greater structural stability. The new piles would be driven to depth and seated in competent materials that would minimize the potential for adverse effects related to liquefaction. The piles would be designed by a California licensed engineer in accordance with applicable CBC and ASCE standards and requirements. Thus, with implementation of building code requirements and industry standard practices, the potential for liquefaction to cause damage to the proposed improvements would be reduced to less than significant.

a.iv) ***Less than Significant.*** The wharves are located in a relatively level to gently sloping area and the Program would not involve any substantive changes to the existing topography. Therefore, the potential impacts related to seismically induced landslides would be less than significant.

b) ***Less than Significant.*** The proposed improvements to the wharves would not involve any substantive earthwork activities or any disturbances to topsoil. Submerged sediments would be disturbed in very localized areas where new piles are installed but would not expose any soils or sediments to the effects of erosion as the piles would be driven into place. Therefore, based on the nature of the proposed improvements and the location of the wharves over water, the potential impacts related to erosion and loss of topsoil would be less than significant.

c) ***Less than Significant.*** The Program site is underlain by relatively thin shoreline sediment deposits over shallow fractured and solid bedrock. For Wharf I, the solid bedrock is encountered at a depth of approximately 19 to 43 feet below the wharf decking (Reynolds, Jacobs, and Haro Associates, 1979). As noted above, the new piles would be driven into place in accordance with CBC and ASCE standards and requirements as overseen by a California licensed engineer. Therefore, based on the relatively shallow depth to bedrock, implementation of building code standards and standard industry practices would ensure that Program design would provide sufficient foundation support to the proposed improvements and reduce potential adverse effects from unstable soils to less-than-significant levels.

d) ***No Impact.*** All proposed improvements associated with the Program are located above or within the water column. New piles and other foundation improvements would be located

6 Liquefaction is the process by which saturated, loose, fine-grained, granular soils, such as sand, behaves like a dense fluid when subjected to prolonged shaking during an earthquake.

in saturated sediments that are not exposed to conditions where expansion properties would be present. As a result, none of the proposed improvements would be subject to any soils that experience volume changes associated with expansive soils and there would be no impact.

e) ***No Impact.*** There are no septic or other alternative wastewater systems proposed as part of the Program. Therefore, there would be no impact related to this criterion.

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8. Greenhouse Gas Emissions

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
8. GREENHOUSE GAS EMISSIONS — Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Environmental Setting

Greenhouse gases (GHGs) trap heat by preventing some of the solar radiation that hits the earth from being reflected back into space. Some GHGs occur naturally and are needed to keep the earth's surface habitable. Over the past 100 years, human activities have substantially increased the concentration of GHGs in our atmosphere. This has intensified the natural greenhouse effect, increasing average global temperatures.

Carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) are the principal GHGs associated with land use projects. CO_2, CH_4, and N_2O occur naturally, and through human activity. Emissions of CO_2 are largely by-products of fossil fuel combustion and CH_4 results from off gassing[7] associated with agricultural practices and landfills.

CO_2 is the reference gas for climate change because it is the predominant GHG emitted. The effect that each of the aforementioned gases can have on global warming is a combination of the mass of their emissions and their global warming potential (GWP). GWP indicates, on a pound-for-pound basis, how much a gas contributes to global warming relative to how much warming would be predicted to be caused by the same mass of CO_2. CH_4 and N_2O are substantially more potent GHGs than CO_2, with 100-year GWPs of 28 and 265 times that of CO_2, respectively.

In emissions inventories, GHG emissions are typically reported as metric tons of CO_2 equivalents (CO_2e). CO_2e are calculated as the product of the mass emitted of a given GHG and its specific GWP. While CH_4 and N_2O have much higher GWPs than CO_2, CO_2 is emitted in such vastly higher quantities that it accounts for the majority of GHG emissions in CO_2e.

The California Air Pollution Control Officers Association considers GHG impacts to be exclusively cumulative impacts (CAPCOA, 2008). Therefore, assessment of significance is based on whether a project's GHG emissions represent a cumulatively considerable contribution to the global atmosphere.

The GHG analysis in this analysis relies on significance criteria identified by staff of the local air pollution control district, Monterey Bay Air Resources District (MBARD, formerly the Monterey Bay Unified Air Pollution Control District or MBUAPCD). In February 2014, the MBUAPCD

[7] Off-gassing is defined as the release of chemicals under normal conditions of temperature and pressure.

staff recommended that its Board of Directors approve an operational significance threshold of 10,000 metric tons CO_2e per year for stationary source projects that rely on operational processes and equipment that are subject to MBUAPCD permitting requirements. For land use projects, the MBUAPCD staff recommended to its board in February 2014 that it adopt the following options (i.e., if adopted, land use projects would be required to apply one of these options to demonstrate a less-than-significant impact): (a) a "bright line" significance threshold of 2,000 metric tons CO_2e per year; (b) incorporate mitigation measures to reduce all project GHG emissions by 16 percent compared to unmitigated emissions; or (c) demonstrate compliance with an applicable adopted GHG reduction plan/climate action plan (MBUAPCD, 2014). In February 2016, the MBUAPCD adopted the staff-recommended significance threshold of 10,000 metric tons for stationary source projects (MBUAPCD, 2016). However, as a conservative analysis, this Initial Study uses the significance threshold of 2,000 metric tons CO_2e per year to evaluate whether the proposed Program's emissions could have a significant impact on the environment.

It is acknowledged that the 2,000 metric ton significance threshold focuses on new commercial and residential development rather than construction or industrial uses; however, similar to the emissions that would be associated with the proposed Program, GHG emissions associated with commercial and residential development projects tend to be indirect in nature, primarily as a result of automobile and electricity use. This significance threshold falls short of meeting the Executive Order S-3-05 emissions reduction goal of lowering emissions to 80 percent below 1990 levels by 2050, which is equivalent to lowering emissions to 84 percent below current levels. The MBUAPCD staff and CARB have not yet provided guidance or recommendations for significance thresholds to evaluate consistency with the 2050 emissions reduction goal.

Discussion

a) ***Less than Significant.*** Operations of the proposed Program would generate GHG emissions from a variety of sources, including off-road construction equipment, on-road worker commute trips, and haul trucks vehicles and marine vessels engaged in maintenance and repairs. Emissions from land-based emission sources were estimated using the CalEEMod emission estimator model version 2016.3.2 and marine vessel emissions were calculated using emission factors generated by the Harbor, Dredge, and Barge Emission Factor Calculator of the Sacramento Metropolitan Air Quality Management District for in-water work and supply boats. Estimated GHG missions are presented in **Table GHG-1**. As can be seen from Table GHG-1, operational emissions would be below the 2,000 metric ton per year threshold applied in this analysis. Consequently, GHG emissions would represent a less than significant cumulative GHG impact.

TABLE GHG-1
GHG EMISSIONS ASSOCIATED WITH FIRST CYCLE IMPROVEMENTS

Source	GHG Emissions in Metric Tons/Year
Off-road Equipment and truck and worker trips	329.5

Marine emissions from Work Boats	78.4
Total	408
MBARD Threshold	2,000
Exceed Threshold?	No

b) ***Less than Significant.*** As discussed under the response to question a), GHG emissions associated with the proposed Program would not exceed the MBARD's GHG emissions significance threshold that was developed with respect to year 2020 GHG reduction goal of the State of California's first Climate Change Scoping Plan to 1990 levels by 2020. Emissions of the proposed Program would be 20 percent of the threshold. The latest Climate Change Scooping Plan Update adopted a more aggressive GHG reduction target of 40 percent below 1990 levels by 2030. Adjusting the 2,000 MT/year of CO_2e threshold by a further 40 percent results in a revised 2030 threshold of 1,200 MT/year of CO_2e. Program annual GHG emissions would also be below this adjusted threshold.

Additionally, the City of Monterey adopted a Climate Action Plan in March of 2016 that represents its local effort to address the City's contribution to a global environmental problem with community-level impacts (City of Monterey, 2016). While this Climate Action Plan identifies a number of reduction measures, there are no measures that specifically target the primary sources of GHG's associated with this proposed Program: Off-road equipment, marine work boats, and on-road haul trucks. Consequently, Program operations would not conflict with any measures within the City of Monterey's Climate Action Plan. Therefore, the proposed Program would have a less than significant impact with respect to conflicts with any applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.

References

City of Monterey, *Climate Action Plan*, March 2016.

Monterey Bay Unified Air Pollution Control District (MBUAPCD), 2014. District Board of Directors Agenda Item No. 10, Subject: Receive a Presentation on District GHG Threshold Development. February 6, 2014.

Monterey Bay Unified Air Pollution Control District (MBUAPCD), 2016. *Guidelines for Implementing the California Environmental Quality Act*. Adopted 1996. Revised February 2016.

9. Hazards and Hazardous Materials

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
9. HAZARDS AND HAZARDOUS MATERIALS — Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
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?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Environmental Setting

Definition of Hazardous Materials

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for hazards and hazardous materials are provided below.

Hazardous Material: The term "hazardous material" can have varying definitions depending on the regulatory programs. For the purposes of this Initial Study, the term refers to both hazardous materials and hazardous wastes. The California Health and Safety Code Section 25501(p) defines hazardous material as: Hazardous material means any material that because of its quantity, concentrations, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

Hazardous Waste: A "hazardous waste" is a waste that because of its quantity, concentration, or physical, chemical, or infectious characteristic, causes or significantly contributes to an increase in mortality or illness or poses substantial or potential threats to public health or the environment (42 U.S.C. 6903(5)). Hazardous wastes are further defined under the Resource Conservation and Recovery Act (RCRA) as substances exhibiting the characteristics of ignitability, reactivity, corrosivity, or toxicity. Chemical-specific concentrations used to define whether a material is a hazardous, designated, or non-hazardous waste include Total Threshold Limit Concentrations (TTLCs), Soluble Threshold Limit Concentrations (STLCs), and Toxic Characteristic Leaching Procedure (TCLPs), listed in CCR Title 22, Chapter 11, Article 3, Section 66261, and used as waste acceptance criteria for landfills. Waste materials with chemical concentrations above TTLCs, STLCs, and TCLPs must be sent to Class I disposal facilities, may be sent to Class II disposal facilities depending on the waste material, and may not be sent to Class III disposal facilities.

Existing Site Conditions

The proposed Program consists of maintenance of existing structures to potentially include: demolition, removal, repair, and replacement of existing wharf structural elements. All Program activities would occur within existing developed wharves, as described in the Program Description.

Based on a review of the Department of Toxic Substances (DTSC) EnviroStor and the State Water Resources Control Board (SWRCB) GeoTracker hazardous materials databases, there are several sites within 0.25 miles of the proposed Program and staging area sites, that indicate a past or present hazardous materials release or contamination, as discussed below.

- *PG&E Monterey MPG (60000711)*: The 1.1-acre site, located approximately 650-feet south of Wharf II, is an operating substation and gas regulator facility for PG&E. Built in 1902, the site was split into two parcels in 1965. The split off parcel was developed by the City of Monterey Redevelopment Agency as a sports complex after remediation. The existing site has had a Preliminary Assessment and a Preliminary Endangerment Assessment done. Contamination includes low levels of PAHs and TPH in soil, subsurface and groundwater that extends out into the streets. Potential Contaminants of Concern include metals, petroleum, polychlorinated biphenyls (PCBS), and polynuclear aromatic hydrocarbons (PAHS). Site status is active as a voluntary clean-up site (DTSC, 2018b).

- *Russo's Marine Fueling Station (SLT3S5671374)*: The site owned by the City of Monterey is in open assessment and interim remedial action as of February 2018. Located at the corner of Del Monte and Figueroa, approximately 500 feet south of Wharf II, and approximately 500-feet north of the Harbor Maintenance Yard staging area. The former fueling station is being monitored for potential contaminants of concern to soil and groundwater including: benzene, diesel, gasoline, and toluene (SWRCB, 2018).

- *Washington Mutual Bank- Monterey (T0605397777)*: This cleanup program site located at 468 Washington Street, approximately 0.25 miles southwest of Wharf II, and 900-feet west of the Harbor Maintenance Yard staging area is being monitored for potential contaminants of concern (to groundwater) including tetracholroethylene (PCE) and trichloroethylene (TCE) (SWRCB, 2018b).

Proximity to Schools

Brandman University Monterey Campus (a private college) is located approximately 600-feet south of Wharf I. There are no public schools within one-quarter mile of the wharves. The closest public school is Monterey High School, located 0.70 miles southwest of Wharf I.

Proximity to Airports

The Monterey Regional Airport, located on 200 Fred Cane Drive in Monterey is a 498-acre "non-hub" primary airport, whose district boundaries encompass the cities of Carmel, Del Rey Oaks Monterey, Pacific Grove, Sand City, and portions of Seaside, Pebble Beach, Carmel Highlands and the west end of Carmel Valley and the Monterey-Salinas Highway to Laureles Grade (MPAD, 2018).

Emergency and Disaster Routes

The Safety Element of the Monterey County General Plan identifies state, and county roads that would be utilized as evacuation routes in the event of a disaster. The closest road to the Program is State Highway 1, located approximately one-mile southeast of the wharves (County of Monterey, 2010).

Wildland Fires

The proposed Program would occur primarily within and above the water of Monterey Bay. The Program would not be located within an area susceptible to wildland fires.

Federal and State Regulations

The primary federal agencies with responsibility for hazardous materials management include the U.S. Environmental Protection Agency (USEPA), U.S. Department of Labor Occupational Safety and Health Administration (Fed/OSHA), and the U.S. Department of Transportation (USDOT). Federal laws, regulations, and responsible agencies are summarized in **Table HAZ-1.**

TABLE HAZ-1
FEDERAL LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible Federal Agency	Description
Hazardous Materials Management	Community Right-to-Know Act of 1986 (also known as Title III of the Superfund Amendments and Reauthorization Act [SARA])	Imposes requirements to ensure that hazardous materials are properly handled, used, stored, and disposed of and to prevent or mitigate injury to human health or the environment in the event that such materials are accidentally released.
Hazardous Waste Handling	Resource Conservation and Recovery Act of 1976 (RCRA)	Under RCRA, the USEPA regulates the generation, transportation, treatment, storage, and disposal of hazardous waste from "cradle to grave."
	Hazardous and Solid Waste Act	Amended RCRA in 1984, affirming and extending the "cradle to grave" system of regulating hazardous wastes. The amendments specifically prohibit the use of certain techniques for the disposal of some hazardous wastes.
Hazardous Materials Transportation	USDOT	USDOT has the regulatory responsibility for the safe transportation of hazardous materials. The USDOT regulations govern all means of transportation except packages shipped by mail (49 CFR).

Classification	Law or Responsible Federal Agency	Description
	U.S. Postal Service (USPS)	USPS regulations govern the transportation of hazardous materials shipped by mail.
Occupational Safety	Occupational Safety and Health Act of 1970	Fed/OSHA sets standards for safe workplaces and work practices, including the reporting of accidents and occupational injuries (29 CFR 1910).
Structural and Building Components (Lead-based paint, polychlorinated biphenyls, and asbestos)	Toxic Substances Control Act	Regulates the use and management of polychlorinated biphenyls in electrical equipment, and sets forth detailed safeguards to be followed during the disposal of such items.
	USEPA	The USEPA monitors and regulates hazardous materials used in structural and building components and their effects on human health.

State and local agencies often have either parallel or more stringent rules than federal agencies. In most cases, state law mirrors or overlaps federal law and enforcement of these laws is the responsibility of the state or of a local agency to which enforcement powers are delegated. For these reasons, the requirements of the law and its enforcement are discussed under either the state or local agency section.

The primary state agencies with responsibility for hazardous materials management in the region include the California Department of Toxic Substances Control (DTSC) and the RWQCB within the California Environmental Protection Agency (Cal EPA), California Occupational Safety and Health Administration (Cal/OSHA), California Department of Health Services (CDHS), California Highway Patrol (CHP), and the California Department of Transportation (Caltrans). State laws, regulations, and responsible agencies are summarized in **Table HAZ-2.**

TABLE HAZ-2
STATE LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible State Agency	Description
Hazardous Materials Management	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program); CUPA	In January 1996, Cal EPA adopted regulations, which implemented a Unified Program. The plan is implemented at the local level and the agency responsible for implementation of the Unified Program is called the Certified Unified Program Agency (CUPA), which for the Project area, is the Monterey County Environmental Health Services (EHS).
	State Hazardous Waste and Substances List (“Cortese List”); DTSC, RWQCB, SC EHD.	The Project site includes one hazardous materials site on the “Cortese List” compiled pursuant to Government Code section 65962.5 and referenced in Public Resources Code 21092.6. The oversight of hazardous materials sites often involves several different agencies that may have overlapping authority and jurisdiction. For the on-site hazardous materials cases and issues, the RWQCB is the lead agency. Other cases may be overseen by the DTSC, the RWQCB, or the Monterey County EHS.

Classification	Law or Responsible State Agency	Description
Hazardous Waste Handling	California Hazardous Materials Release Response Plan and Inventory Law of 1985; CUPA	The California Hazardous Materials Release Response Plan and Inventory Law of 1985 (Business Plan Act) requires that businesses that store hazardous materials on-site prepare a Hazardous Materials Business Plan (HMBP) and submit it to the local CUPA, which in this case is the Monterey County EHS.
	California Hazardous Waste Control Act; DTSC	Under the California Hazardous Waste Control Act, California Health and Safety Code, Division 20, Chapter 6.5, Article 2, Section 25100, et seq., DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste in California. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills. DTSC is also the administering agency for the California Hazardous Substance Account Act. California Health and Safety Code, Division 20, Chapter 6.8, Sections 25300 et seq., also known as the State Superfund law, providing for the investigation and remediation of hazardous substances pursuant to State law.
	DTSC	The California Code of Regulations (Title 22, Division 4.5, Chapter 34) contains alternative management standards regarding safe and economical disposal of treated wood waste (22 CCR).
	Part 9 of the California Building Standards Code; Fire Departments	Part 9 the California Fire Code regulates the operation, placement, and use of emergency generators.
Hazardous Materials Transportation	Title 26 of the California Code of Regulations	Regulates the transportation of hazardous waste originating in the state and passing through the state through Caltrans (26 CCR).
	CHP and Caltrans	These two state agencies are primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies.
Occupational Safety	Cal/OSHA	Cal/OSHA has primary responsibility for developing and enforcing workplace safety regulations in California. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in Title 29 of the Code of Federal Regulations (CFR). Cal/OSHA standards are generally more stringent than federal regulations.
	Cal/OSHA regulations (8 CCR)	Concerning the use of hazardous materials in the workplace require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation.
	California Office of Statewide Health Planning and Development	The Office of Statewide Health Planning and Development serves as the regulatory building agency for all hospitals and nursing homes in California. Its primary goal in this regard is to ensure that patients in these facilities are safe in the event of an earthquake or other disaster, and to ensure that the facilities remain functional after such an event in order to meet the needs of the community affected by the disaster.

Classification	Law or Responsible State Agency	Description
Construction Storm Water General Permit (Construction General Permit; Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ)	RWQCB	Dischargers whose project disturbs one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one of more acres, are required to obtain coverage under the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). Construction activity subject to this permit includes clearing, grading, grubbing, and other disturbances to the ground such as excavation and stockpiling, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of a facility. The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific Best Management Practices (BMPs) designed to prevent sediment and pollutants from contacting stormwater from moving off-site into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area.
Phase II Small Municipal Separate Storm Sewer System (MS4) Permit NPDES No. CAS000004 and Order No. 2013-0001DWQ	RWQCB	The MS4 permit requires permittees (in this case, the County and the City of Monterey) to reduce pollutants and runoff flows from new development and redevelopment using BMPs to the maximum extent practical. The MS4 permittee also has its own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification element. The MS4 permit requires specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.
Industrial Storm Water General Permit Order No. 2014-0057-DWQ	RWQCB	Stormwater discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ (IGP). The IGP regulates discharges associated with certain defined categories of industrial activities including manufacturing facilities; hazardous waste treatment, storage, or disposal facilities; landfills, land application sites, and open dumps; cement manufacturing; fertilizer manufacturing; petroleum refining; phosphate manufacturing; recycling facilities; steam electric power generating facilities; transportation facilities; and sewage or wastewater treatment works. The IGP requires the implementation of best management practices, a site-specific Storm Water Pollution Prevention Plan (SWPPP), and monitoring plan. The IGP also includes criteria for demonstrating no exposure of industrial activities or materials to stormwater, and no discharges to waters of the United States.

Discussion

a, b) ***Less than Significant.*** The maintenance Program would include the routine use of potentially hazardous materials such as fuels, oils and equipment lubricants, paints, solvents, and other chemicals. The use, storage, transport, and disposal of hazardous materials used during construction and/or maintenance of the Program would be in accordance with all applicable federal, state, county and local regulations and permit requirements. As the maintenance of wharf structures would occur within and near

jurisdictional waters, permits for Program activities would be obtained from the Central Coast Regional Water Quality Control Board, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and National Marine Fisheries Service, as described in Section 1.6 of the Program Description. Adherence to the agencies' permit requirements would include implementation of Best Management Practices (BMPs) and avoidance and minimization measures relating to jurisdictional waters and water quality (outlined above).

Construction associated with the Program could include the removal, replacement, repair and storage of treated wood piles and other construction debris know to contain potentially hazardous materials. Disturbance of these structural features could potentially release hazardous materials into the water. However, per applicant proposed avoidance and minimization measures, deteriorated timber piles would be repaired to the extent practicable, or replaced with new (ACZA) timber piles encapsulated with a continuous polymer coating to prevent leaching of treatment into the environment. For concrete repairs, debris would be intercepted to ensure that no construction debris falls into water. The construction BMPs include appropriate protocols for site maintenance, equipment and fuel use, spill prevention and response, among others, to prevent potential releases of hazardous materials into jurisdictional waters and the surrounding environment. Implementation of the Program including adherence to the BMPs, avoidance measures and all applicable conditions stipulated in permits would minimize the potential for accidental releases of hazardous materials in or near the water. Following construction, which would occur in a planned manner at 3-year intervals, the Program would not create or otherwise introduce hazards to the public or the environment through the routine transport, use or disposal of hazardous materials or accident conditions involving the release of these substances. Program impacts would be less than significant.

c) ***Less than Significant.*** There is one private college (Brandman University, Monterey Campus) located within 0.25 miles of the Program site. As described under questions a) and b) above, impacts associated with hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within the vicinity of the proposed Program would be decreased by adherence to the Program's avoidance and minimization measures and BMPs. There are no public schools located within 0.25 miles of the proposed Program. Impacts, if any, would be less than significant.

d) ***Less than Significant.*** As identified in the existing conditions (environmental setting) section, the Program would be located in the vicinity of several sites (compiled pursuant to Government Code Section 65962.5) potentially containing hazardous materials, the disturbance of which could present a hazard to the public and the environment. The former Russo's Marine Fueling Station, located approximately 500-feet south of Wharf II is currently being monitored for potential contaminants of concern to soil and groundwater including: benzene, diesel, gasoline, and toluene. The site is listed as in open assessment and interim remediation. A DTSC records search also revealed an existing PG&E operating substation and gas regulator facility which is located approximately 650-feet south of Wharf II. This facility has undergone preliminary

assessments that showed low levels of contaminants such as PAHs and TPH in soil, subsurface and groundwater that extends out into the streets. The site is currently active as a voluntary clean-up site.

The proposed Program would not include soil disturbances such as excavation or grading that could spread existing contaminants from these sites. The proposed Program would consist of maintenance and repairs to existing structures. No land use change or construction of additional structures is proposed to occur as part of the proposed Program. In addition to the implementation of previously described BMPs and avoidance and minimization measures, the proposed Program would adhere to the terms of all in-water permits required for the Program, which would minimize proliferation of contaminants that may be present on or near the Program site. Therefore, impacts would be less than significant.

e) ***No Impact.*** The Program would be located within two miles of the Monterey Regional Airport. However, the Program consists predominantly of maintenance and repair of existing structures. No land use change would occur with implementation of the proposed Program. No alteration or increase in heights of existing structures is proposed to occur as part of the Program. The Program's proposed activities would be compatible with the policies and criteria in the Monterey Peninsula Airport Land Use Plan. Therefore, there would be no impact associated with this question.

f) ***No Impact.*** The Program is not located in the vicinity of a private airstrip. Therefore, there would be no impact related to this question.

g) ***No Impact.*** The Program would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, as Program activities would not be located along routes identified in the region's emergency evacuation plans. There would be no impact related to this question.

h) ***No Impact.*** The Program would occur within and above the waters of Monterey Bay and would not be located in an area that would be prone to wildfires. Therefore, there would be no impact related to this question.

References

California State Water Resources Control Board, 2018. Geotracker Website http://geotracker.waterboards.ca.gov/map/ accessed November 14, 2018.

California Department of Toxic Substances, 2018. Envirostor Website https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=cortese+list+Monterey, accessed November 14, 2018.

California Department of Toxic Substances, 2008. Treated Wood Waste Fact Sheet https://www.dtsc.ca.gov/hazardouswaste/upload/Treated-Wood-Waste-Generators-Fact-Sheet.pdf

Monterey Peninsula Airport District, 2018. Official Website, About the Airport District, available online at: https://montereyairport.specialdistrict.org/the-airport-district, accessed November 12, 2018.

10. Hydrology and Water Quality

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
10. HYDROLOGY AND WATER QUALITY — Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
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)?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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 that would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☒	☐	☐
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?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
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?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

Environmental Setting

The Monterey Bay area contains two primary watersheds: the Salinas River valley, which is the third-longest river in California and traverses the length of Monterey County, and the Pajaro River valley, the primary tributary of which begins in San Benito County and runs through southeastern Santa Cruz County. In addition, a number of smaller watersheds are located between the western face of the Coast Range mountains and the Pacific Ocean in both Monterey and Santa Cruz counties.

In the Monterey Bay area, polluted stormwater and urban runoff discharges have degraded the water quality of creeks, rivers, sloughs, reservoirs, and the Pacific Ocean. Runoff pollutants can include pesticides, fertilizers, green waste, animal waste, human waste, petroleum hydrocarbons

(gasoline, motor oil), trash, and other constituents. Due to the prevalence of agriculture in the Salinas River valley and the lower Pajaro valley, pesticide-laden runoff is one of the primary sources of surface water contamination. In addition, stormwater flowing over roadways and other transportation facilities carries urban pollutants through natural drainage systems or man-made storm drain facilities to a body of surface water. Such discharges from farmland and transportation facilities are referred to as "non-point" sources because the pollutants are generated from multiple locations rather than a single source and location. These discharges are mostly unregulated, resulting in untreated pollutants entering waterways. Pollutants contained within urban runoff primarily include suspended solids, oil, grease, pesticides, pathogens, and air pollutants. The State Water Resources Control Board (SWRCB), in compliance with the Clean Water Act, Section 303(d), has prepared a list of impaired water bodies in the State of California. The Monterey Harbor is listed as impaired by metals and toxic sediments by the SWRCB.

Discussion

a) ***Less than Significant with Mitigation.*** Proposed improvements to the two wharves include in-water and above-water maintenance work that would involve the use of fuels, oils, solvents, adhesives and other hazardous materials. If not managed appropriately, inadvertent releases could result in substantial adverse effects to waters of the U.S. In addition, in-water work would include disturbance to saturated sediments where new piles would be impact driven and could potentially release existing contaminants into the water column. However, **Mitigation Measure BIO-3** would be required for all construction activities that would include measures to protect water quality. Mitigation Measure BIO-3 requires that construction best management practices (BMPs) be implemented by Program participants (the City and/or legal tenants on the wharves), to prevent releases of construction materials or hazardous materials and to avoid other potential environmental impacts. BMPs would include use of floating booms, implementation of spill prevention and spill response plans, ensuring use of well-maintained equipment, good housekeeping practices, appropriate storage of hazardous materials, maintenance activities designated in offsite locations, and adherence to existing local, state and federal regulatory requirements regarding the use, storage and disposal of hazardous materials and waste.

Otherwise, once construction activities are complete, the proposed Program would not involve any changes to discharges to the harbor compared to existing conditions. Therefore, the potential impacts to water quality and waste discharge requirements would be less than significant with implementation of Mitigation Measure BIO-3.

b) ***No Impact.*** The Program site is located within the Monterey Bay. The proposed Program would not require withdrawal of groundwater and would not introduce any impervious surfaces that might affect groundwater recharge. As a result, the proposed Program would have no permanent, adverse impacts to groundwater supplies or aquifers and there would be no impact related to this criterion.

c) ***No Impact.*** The proposed Program would not significantly alter the drainage patterns on the existing Program site. Following construction, in terms of drainage patterns, the

Program site would be restored to existing conditions. There would be no substantive changes in the over-water coverage of the site and the Program would not result in significant changes in drainage patterns that could result in erosion or other degradation of surface water quality or siltation offsite. There would be no impact.

d) ***No Impact.*** As above, the proposed Program would not significantly alter the drainage patterns on the existing Program site. There would be no changes to runoff and the Program site is located on the Bay such that there would be no potential to cause flooding on or off-site. There would be no impact.

e) ***No Impact.*** As above, the proposed Program would not significantly alter the drainage patterns on the existing Program site. There would be no changes to runoff and the Program site is located on the Bay such that there would be no potential to cause flooding on- or off-site. There would be no impact.

f) ***Less than Significant with Mitigation.*** As discussed above in question a), the proposed Program would require implementation of BMPs in accordance with **Mitigation Measure BIO-3**. The proposed Program does not include any other discharges that could adversely affect water quality. Therefore, with implementation of Mitigation Measure BIO-3 the impact would be less than significant.

g) ***No Impact.*** The Program does not include any residential housing component and therefore there would be no impact related to flooding.

h) ***No Impact.*** The wharves are located within the harbor and the proposed improvements would not place any structures within a flood zone. As a result, there would be no impact related to this criterion.

i) ***No Impact***. The Program would largely make repairs to the existing wharves and thus there would be no change in the flooding potential at the site. However, the wharves are located in and above the ocean already and are not protected by levees or dams. There would be no impact.

j) ***Less than Significant.*** Seiche waves occur in enclosed or semi-enclosed water bodies. The Program site is located in the harbor and is not susceptible to seiche waves. According to mapping compiled by the California Office of Emergency Services, the Program site is located in a tsunami inundation hazard zone. The Program, however, would not change the elevation of the existing wharves and would not change any land uses associated with the wharves. Therefore, while this hazard is still present the proposed Program would not exacerbate the hazard and therefore the potential impact is considered less than significant. The relatively low lying topography of the area surrounding the site also makes the potential for mudslides very low.

References

California Office of Emergency Services (OES), *My Hazards, web tool*, http://myhazards.caloes.ca.gov/, accessed November 16, 2018.

11. Land Use and Land Use Planning

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
11. LAND USE AND LAND USE PLANNING — Would the project:				
a) Physically divide an established community?	☐	☐	☒	☐
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?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Environmental Setting

The Program site is located on the two existing and actively-used municipal wharves located within the waters and shoreline of Monterey Harbor. The wharves are located in southern Monterey Bay in the City of Monterey. The wharves are zoned as "Planned Community" according to the City of Monterey Zoning Map (City of Monterey, 2016a; City of Monterey 2016b). On the City's General Plan Land Use Map, the wharves have been designated as "Commercial" (City of Monterey, 2011). Areas surrounding the Program site are zoned as "Planned Community" and "Visitor Accommodation Facility". The nearest area zoned for residential purposes is approximately 0.16-mile west of Wharf I. Areas zoned as "Historic-H1" are located adjacent and to the south of Wharf I, and approximately 0.1-mile south of Wharf II.

The wharves are located within the planning area for the City's Waterfront Master Plan. The Program site is also located in the Coastal Zone and is within the Monterey Harbor Land Use Plan, one of the five segments of the City's Local Coastal Program Land Use Plan. (City of Monterey, 2013; City of Monterey 2003).

Discussion

a) ***Less than Significant.*** The division of an established community would typically involve the construction of a physical barrier to neighborhood access, such as a new freeway, or the removal of an existing means of access. Although the Program is located in the City of Monterey, the wharves extend into the harbor and are not located within existing residential communities The Program would involve periodic maintenance activities on the existing wharves and would not alter or make any additions to the wharves' structure. The Program would not add any potential physical barriers or remove any existing means of access in the vicinity of the Program. Although portions of the area surrounding the Program may experience minor disruptions due to the movement of equipment, crews, and vehicles between staging sites and the wharves, this impact would be temporary and less than significant.

b) ***No Impact.*** The Program site is designated "Commercial" and is zoned "Planned Community" in the City of Monterey General Plan (City of Monterey 2011; City of Monterey 2016a). The Program entails periodic maintenance to existing structures and would not result in any changes to existing uses of the wharves. As a result, the Program would be consistent with the City of Monterey Zoning Code. The Program involves maintenance activities that are required in order to allow continued access to and use of the wharves. As a result, the Program supports policies outlined in the City of Monterey General Plan, such as Policy A.3: "Retain active waterfront activities, including commercial and sport fishing, working wharves, boat access, and boat repair, which show Monterey's historic interface with the Bay. Maintain a natural appearance and maritime use of the water's edge;" Policy B.2: "Preserve the City's active use areas adjacent to the Monterey Bay, including, but not limited to, the wharves, boat access facilities, and piers;" Policy I.3: "Support recreational fishing on Wharf II;" and Policy O.2: "Provide ongoing and preventative maintenance [of public facilities] in a timely manner" (City of Monterey, 2016a). Therefore, maintenance activities proposed by the Program would be consistent with the existing zoning of the Program site and with policies set forth in the City of Monterey General Plan.

The Program site also falls within the City's Waterfront Master Plan, the goal of which is to create a vision for the implementation of General Plan policies for the waterfront area. The Waterfront Master Plan contains the primary land use and development standards for the waterfront area. The Waterfront Plan identifies keeping a high standard of maintenance of public facilities as a goal for the planning area. Additionally, the plan encourages improvement of public facilities while retaining the historic, commercial fishing character of the wharves. Therefore, the Program would support the goals set forth in the Waterfront Master Plan and would be consistent with the plan.

As described above, the Program site is located in the coastal zone and is within the planning area of the Monterey Harbor Land Use Plan, one of the five segments of the City's Local Coastal Program Land Use Plan (City of Monterey, 2003). The Monterey Harbor Land Use Plan identifies parts of the Coastal Act that pertain to development in the planning area. Additionally, the plan outlines a number of policies relevant to the preservation of marine and water resources, public access, recreational opportunities, visual resources and other resources in the planning area. As part of the permitting process for the Program, the City would consult with the California Coastal Commission in order to obtain the appropriate permitting clearance under the Coastal Act. This process would ensure that the Program would not conflict with the Monterey Harbor Land Use Plan. As identified above, the Program would be consistent with all relevant land use plans and would have no impact under this criterion.

c) ***No Impact.*** The Program area does not fall within any local, regional, or state habitat conservation plan. Therefore, there would be no impact.

References

City of Monterey, 2003. Monterey Harbor Land Use Plan. City of Monterey Local Coastal Program Certified by Coastal Commission May 8, 2003. Available: https://monterey.org/Portals/0/Policies-Procedures/Planning/LandUse/Coastal/Land-Use-Plan-Monterey-Harbor.pdf Accessed November 16, 2018.

City of Monterey, 2011. General Plan of the City of Monterey, Map 3 Showing Land Use. Created by the City of Monterey February 2011. Available: https://monterey.org/Portals/0/ Policies-Procedures/Planning/Maps/General-Plan-Land-Use-Map.pdf Accessed November 16, 2018.

City of Monterey GIS, 2013. City of Monterey Coastal Zone Boundary. Created November 2013. Available: https://monterey.org/Portals/0/Policies-Procedures/Planning/Maps/Coastal-Zone-Map-11x17.pdf. Accessed November 16, 2018.

City of Monterey, 2016a. City of Monterey General Plan. Adopted January 2005, Amended March 2016. Available: https://monterey.org/Portals/0/Policies Procedures/Planning/ GeneralPlan/16_0323-General-Plan.pdf. Accessed November 16, 2018.

City of Monterey, 2016b. City of Monterey Zoning Map. Adopted January 2005. Available: https://monterey.org/Portals/0/Policies-Procedures/Planning/Maps/Zoning-Map.pdf. Accessed November 16, 2018.

City of Monterey, 2016c. Waterfront Master Plan. Adopted February 16, 2016. Available: https://monterey.org/Portals/0/Policies-Procedures/Planning/WorkProgram/WFMP/ 16_0216_Final_Waterfront_Master_Plan.pdf. Accessed November 16, 2018.

12. Mineral Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
12. MINERAL RESOURCES — Would the project:				
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Environmental Setting

While there are small-scale mineral extraction operations around the City of Monterey, these are limited to commercial sand removal operations in the Sand City/Marina area; there are no mineral resources within the City limits.

Discussion

a, b) No mineral resources exist within the proposed Program site and no impact would occur.

References

City of Monterey, General Plan Conservation Element.

City of Monterey, General Plan Initial Study, Page 11.

13. Noise

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
13. NOISE — Would the project result in:				
a) 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?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
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?	☐	☐	☐	☒
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Environmental Setting

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude. Given that the typical human ear is not equally sensitive to all frequencies of the audible sound spectrum, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes low and extremely high frequencies, referred to as A-weighting, and is expressed in units of A-weighted decibels (dBA).[8]

Noise Exposure and Community Noise

Noise levels rarely persist consistently over a long period of time. Rather, noise levels at any one location vary with time. Specifically, community noise is the result of many distant noise sources that constitute a relatively stable background noise exposure where the individual contributors are unidentifiable. Throughout the day, short duration single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens) that are readily identifiable to the individual add to the existing background noise level. The combination of the slowly changing background noise and the single-event noise events give rise to a constantly changing community noise environment.

8 All noise levels reported herein reflect A-weighted decibels unless otherwise stated.

To legitimately characterize a community noise environment and evaluate cumulative noise impacts, community noise levels must be measured over an extended period of time. This time-varying characteristic of environmental noise is described using statistical noise descriptors, including the ones described below:

L_{eq}: The equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The L_{eq} is the constant sound level that would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

L_{max}: The instantaneous maximum noise level measured during the measurement period of interest.

Ldn: The day-night average sound level (Ldn) is the energy average of the A-weighted sound levels occurring during a 24-hour period, accounting for the greater sensitivity of most people to nighttime noise by weighting ("penalizing") nighttime noise levels by adding 10 dBA to noise between 10:00 p.m. and 7:00 a.m.

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise would be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause adverse response.

These relationships occur in part because of the logarithmic nature of the decibel system. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, but rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Applicable Noise Regulations

While Section 38-111 of the City of Monterey municipal code establishes noise performance standards by zoning district, the Code is silent on application of these limits to construction activity. For open space districts and residential districts, the performance standard is 60 dBA. Most communities exempt construction noise from land use performance standards as long as they are conducted during daytime hours. Given that most individual pieces of construction equipment exceed this performance standard by up to 15 dBA at a distance of 50 feet, this analysis assumes that this standard applies to construction work conducted outside the allowable hours of construction.

Section 38-112.2 of the City of Monterey municipal code establishes limitations on construction hours. Specifically, the hours for all construction, alteration, remodeling, demolition and repair activities which are authorized by a valid City Building Permit, as well as the delivery and removal of materials and equipment associated with these activities, are limited to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, 8:00 a.m. to 6:00 p.m. Saturday and 10:00 a.m. to 5:00 p.m. Sunday.

Policy D.2 of the City of Monterey General Plan Noise Element directs the City to limit hours of noise generating construction activities.

Discussion

a) ***Less than Significant.*** The proposed Program would involve intermittent operation of a variety of off-road construction equipment and some in-water work boats. Construction activities related to cycle improvements to the wharves could occur for a period of 8 months every three years.

The nearest sensitive receptors to the Wharfs would be single family residences west of Van Buren Street, approximately 1,000 feet and further from the Wharf I. Hotel uses such as the Portola Hotel and Spa are commercial and would only be considered noise-sensitive during nighttime hours when Program improvements would not be conducted.

The noisiest construction activity would involve pile driving. A total of 20 pile installations were assumed as part of the representative first cycle with a total of 5 piles installed per day. Noise levels of up to 70.2 dBA, Leq could be expected at the nearest receptor during peak pile driving activities estimated at a duration of one week every three years. Resultant noise levels from other equipment would be substantially less. For example, simultaneous operation of a concrete truck, concrete pump tuck, and a backhoe would generate a noise level of 53.1 dBA, Leq at the nearest residence, which would be an acceptable noise level even during nighttime hours. Similarly, noise levels from standard equipment at the Portola Hotel and Spa would be 55.0 dBA, Leq, which would also be an acceptable noise level during daytime or nighttime hours. Consequently, construction activities during the allowable daytime hours would have a less than significant impact with respect to exposure of persons to noise levels in excess of standards established in a General Plan or noise ordinance.

However, nighttime would require a permit to allow an exception to hour restrictions by the Zoning Administrator following a Notice and Public Hearing. Requests for exceptions must show that compliance with the hour limitations would be impractical and that the exception is necessary to accommodate unique factors specific to the property. The exception shall be for a limited duration, and may be conditioned to require renewal after a period of three months.

b) ***Less than Significant with Mitigation.*** Groundborne vibration from activities of the Program would primarily be the result of pile driving activities. A total of 20 pile

installations are assumed as part of the representative first cycle with a total of 5 piles installed per day. Pile driving typically generates vibration levels of 0.65 inches per second at 25 feet (Caltrans, 2013).

There are a number of structures surrounding the wharfs, the most sensitive to vibration being historic structure. As discussed in Section 5, Cultural Resources, the buildings that sit on either Wharf I or II could be indirectly impacted by vibrations generated during work on the wharf structures if certain vibration producing equipment is used. Consequently, a potentially significant impact could result from exposure of these resources to groundborne vibration, warranting inclusion of **Mitigation Measure CUL-2** identified above in Section 5. Additionally, the distance to the nearest sensitive receptors would be sufficient to reduce vibration impacts to below perceptible levels. With inclusion of Mitigation Measure CUL-2, vibration associated with proposed remediation activities would be a less than significant impact.

c) ***No Impact.*** There would be no permanent noise generating activities outside of the construction and maintenance activities of the Program. Therefore, there would be no impact with respect to permanent noise increases in ambient noise levels in the Program vicinity.

d) ***Less than Significant with Mitigation.*** As stated in the response to question a), noise generated by pile driving at the nearest noise sensitive receptors could be as high as 70.2 dBA at the nearest receptors. This would be a substantial increase over typical urban noise levels. Additionally, excessive noisy activities such as pile driving should only be conducted during weekday daytime hours, which is in included as Mitigation Measure NOI-1 below.

Mitigation Measure NOI-1 is identified to restrict the window of pile driving to daytime hours in order to minimize sleep-disturbance impacts and during weekdays when most residences are occupied. Given the relatively short window of disturbance (one week every three years), with implementation of Mitigation Measure NOI-1, the proposed Program would have a less than significant impact with respect to substantial permanent increases in ambient noise levels.

> **Mitigation Measure NOI-1: Construction Activity Restrictions**: The Program sponsor shall limit all extreme noise-generating construction activities to 8:00 a.m. to 5:00 p.m., Monday through Friday. No pile driving or other extreme noise generating activity is permitted on Saturdays, Sundays, and holidays.

e) ***No Impact.*** The closest public airport to the Program area is the Monterey Peninsula Airport, which is approximately 1.9 miles west of the wharves. The Program site is not located within the 65 dBA CNEL noise contour on the "Noise Exposure Map for Forecast Conditions" in the *Comprehensive Land Use Plan for Monterey Peninsula Airport* (Monterey County Airport Land Use Commission, 1987). Additionally, the proposed Program would not result in creation of a new noise-sensitive land uses (i.e., the proposed Program does not include the construction of new housing or other noise-sensitive

receptors that would be subject to aviation noise). Therefore, there would be no impact in relation to airports and the Program exposing people residing or working in the Program area to excessive noise levels.

f) ***No Impact.*** There are no private airstrips within a 10-mile radius of the Program. Additionally, the proposed Program would not result in creation of a new noise-sensitive land uses (i.e., the proposed Program does not include the construction of new housing or other noise-sensitive receptors that would be subject to aviation noise). Therefore, there would be no impact in relation to private airstrips and the Program exposing people residing or working in the Program area to excessive noise levels.

References

California Public Utilities Commission (CPUC) and Monterey Bay National Marine Sanctuary (MBNMS), 2018. CalAm Monterey Peninsula Water Supply Project Final Environmental Impact Report / Environmental Impact Statement. [Specific section ref if you don't mean all 8k pages]. March

Caltrans, Transportation and Vibration Guidance Manual, September 2013; page 37.

City of Monterey, 2005. *City of Monterey General Plan*. Amended March, 2016

Monterey County Airport Land Use Commission, *Comprehensive Land Use Plan for Monterey Peninsula Airport*, March 23, 1987.

U.S. Department of Transportation, Federal Transit Administration, Transit Noise and Vibration Impact Assessment, April, 2006; page 12-12

14. Population and Housing

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
14. POPULATION AND HOUSING — Would the project:				
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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Setting

The 2014 - 2023 Regional Housing Needs Allocation Plan prepared by the Association of Monterey Bay Area Governments (AMBAG) identified a future housing need in Monterey of 650 new dwelling units for the period of 2014 - 2023. The City's General Plan is required to show adequate sites for the 650 units to be in compliance with state law requirements.

Discussion

a) ***No Impact.*** The proposed Program would not induce population growth because its scope is limited to repairs and/or replacement of existing wharf infrastructure. The intent of the repairs is to restore the original capacity to specific structural wharf members that have degraded. Where appropriate, modern materials will be substituted for the original materials. No expansion in usable footprint or change in use is associated with the City's proposed repairs. Therefore, there would be no impact to population growth.

b, c) ***No Impact.*** The proposed Program would not displace housing or people because the Program site does not contain housing. As such, there would be no impact.

References

City of Monterey, General Plan

15. Public Services

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
15. PUBLIC SERVICES — Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government 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 following public services:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Environmental Setting

The major public facilities in the City of Monterey are police and fire, park and recreation facilities, schools, military, cultural, conference center, health care, civic center, cemeteries, harbor, sewage treatment, storm drain system, water supply, and reduction and recycling of waste.

Discussion

a.i-v) ***No Impact.*** The proposed Program scope is limited to repairs and/or replacement of existing wharf infrastructure. The intent of the repairs is to restore the original capacity to specific structural wharf members that have degraded. Where appropriate, modern materials will be substituted for the original materials. No expansion in usable footprint or change in use is associated with the City's proposed repairs. New or physically altered public facilities would not be needed. Therefore, there would be no impact related to public services.

References

City of Monterey, General Plan Public Facilities Element Goal c, Policies c.1–c.5

City of Monterey Fire Department

City of Monterey, General Plan Public Facilities Element Goal b, Policies b.1–b.3

City of Monterey Police Department

City of Monterey, General Plan Public Facilities Element Goal d, Policies d.1–d.6
Monterey Peninsula Unified School District

City of Monterey, General Plan Public Facilities Element Goal j, Policies j.1–j.6

City of Monterey Recreation & Community Services Department

City of Monterey Maintenance Division-Parks & Beaches

City of Monterey, General Plan Public Facilities Element Goals a, e, f–i, k–p ; Policies f.1–f.7, i.1–i.3, k.1–p.2 ; Programs m.1.1–m.2.1

City of Monterey Public Works Department

City of Monterey Maintenance Division-Streets & Utilities

City of Monterey Recreation and Community Services Department

16. Recreation

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
16. RECREATION:				
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒

Environmental Setting

The City of Monterey has a wide variety of recreational facilities and open spaces which provide a wealth of recreational opportunities. Many of the City of Monterey's 36 parks and recreational areas includes features such as barbeque grills, sports fields, playground equipment and other amenities. The City owns, operates and maintains the majority of park and recreation sites, but also enters into joint use arrangements with various other jurisdictional entities (City of Monterey, 2016).

Wharf I is open daily to the public and has become a center for residents and visitors that offers restaurants, fish markets, art and gift shops, fishing and sailing, whale watching cruises, and harbor sightseeing trips. Wharf II is located directly east of Wharf I in Monterey Harbor and includes wholesale fish companies, commercial abalone farm, public restrooms, snack bars, restaurants, a boat hoist, and the Monterey Peninsula Yacht Club. Fishing is open to anglers on the east side of the wharf where a fishing promenade extends approximately 700 feet from Wharf II. The boat hoist is also available for use by the public (City of Monterey, 2018).

The closest recreational facilities to the Program are Lower Presidio Historic Park, Monterey Municipal Beach and the Monterey Recreational Trail that runs along the coast of the City of Monterey (City of Monterey, 2016). The Lower Presidio Historic Park is located approximately 600 feet west of Wharf I on the shoreline and is a historical destination for visitors and residents. The closest beach to the Program site is be the Monterey Municipal Beach located directly east and adjacent to Wharf II. Recreational activities and amenities at the Monterey Municipal Beach include kayaking, scuba diving, biking, sunbathing, volleyball courts, and swimming. The waterfront Monterey Bay Coastal Recreation Trail stretches 18 miles, from Castroville in the north to Pacific Grove in the south and hugs the coast of Monterey. This waterfront trail passes by the proposed Program site as well as Monterey Municipal Beach and provides a safe path for bikers, walkers, and joggers (Monterey Municipal Beach, 2018).

The staging area for the Program site would be located directly east of Jacks Ballpark and Tennis Center (City of Monterey, 2016).

Discussion

a) ***Less than Significant.*** The Program is intended to provide structural repairs and maintenance work to improve the safety and reliability of the existing degraded wharves. No structural repairs or maintenance would occur other than those intended to restore the original capacity of the wharves. Therefore, as the wharves themselves are recreational areas, the Program would ultimately prevent the physical deterioration of the recreational facility of the wharves.

Maintenance activities proposed as part of each maintenance cycle could cause portions or all of the wharves to be temporarily restricted from public access. This restriction could deter visitors to the wharves and result in an increase in use of surrounding neighboring parks, beaches, and trails. Additionally, in-water structural maintenance work could restrict kayak use and swimming around the wharves. This decrease in available in-water recreational area could lead to an increase in use of surrounding recreational facilities. However, these potential, temporary increases in the use of surrounding recreational facilities would not be significant. Further, in accordance with City agreements with local businesses on and around the wharves, the Program would avoid conducting maintenance activities during the busy summer tourism season, reducing potential impacts to recreational facilities. As a result, the Program's impacts to the physical deterioration of recreational facilities would be less than significant.

b) ***No Impact.*** The Program would not include any new, additional structures; therefore, the Program would not require the construction or expansion of recreational facilities that could have an adverse physical effect on the environment. Under this criterion, there would be no impact.

References

City of Monterey, 2016. Monterey Parks and Recreation Master Plan, Existing Conditions & Needs Analysis. Available online at: https://www.monterey.org/Portals/0/Policies-Procedures/Planning/WorkProgram/PRMP/ApxB_Existing_Conditions_Final.pdf. Accessed on November 9, 2018.

City of Monterey, 2018. Fisherman's Wharf and Wharf II. Available online at: https://www.monterey.org/Services/Harbor-and-Marina/Fishermans-Wharf-and-Wharf-II. Accessed on November 9, 2018.

Monterey Municipal Beach, 2018. Available online at: https://www.californiabeaches.com/beach/monterey-municipal-beach/. Accessed on November 15, 2018.

17. Transportation and Traffic

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
17. TRANSPORTATION/TRAFFIC — Would the project:				
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
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?	☐	☐	☒	☐

Discussion

a, b) ***Less than Significant.*** The proposed Program involves long-term maintenance activities for structural elements of Wharf I and Wharf II. These activities would not conflict with an applicable traffic plan, ordinance, or policy or impact the performance of the circulation system because no alterations to the existing circulation system would occur. As discussed in the Program Description, access to the wharves for both in-water and above-water maintenance activities would primarily occur via the existing paved landside roads adjacent to and serving the harbor and wharves, and via the paved deck surfaces of the wharves. Short-term materials and land-based equipment staging would occur atop the wharf decks or platforms, with the exception of marine-based equipment and materials. Medium- to long-term materials staging and land-based equipment would be staged at nearby City parking lots or at the Harbor Maintenance Yard at 417 Figueroa Street. Based on the City's agreements with local businesses on and around the wharves, and to avoid construction-related impacts during the busy summer tourism season, Program work would typically be limited to after Labor Day and prior to Memorial Day in any given year. Work would typically occur on weekdays, generally 8:00am-5:00pm, but may occur at night, during time periods when the work would severely impact wharf business and tourism. While maintenance activities may result in a temporary and intermittent addition of a minor amount of additional vehicles accessing the wharves

transporting workers or equipment, these increases would not substantially impact traffic flow on local or regional roadways. In accordance with Senate Bill (SB) 743, CEQA Guidelines Section 15064.3, subdivision (b) was adopted in December 2018 by the California Natural Resources Agency. These revisions to the CEQA Guidelines criteria for determining the significance of transportation impacts shifts the focus from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land uses. The minor amount of construction traffic attributable to the Program would not conflict with CEQA Guidelines Section 15064.3(b). The impact would be less than significant.

c) ***No Impact.*** The proposed Program would not be located immediately adjacent to any public airports or airstrips; the nearest airport, Monterey Regional Airport, is located approximately 2 miles east of the Program site. In addition, there would be no permanent structures that would interfere with air traffic operations (e.g., take-offs or landings). The Program would not generate any aviation activity or result in a change in air traffic patterns. Maintenance activities associated with the proposed Program would not result in a change in air patterns, nor would it result in substantial safety risks. There would be no impact to airport transportation or air traffic patterns.

d) ***Less than Significant.*** A list of the construction equipment needed to perform the maintenance activities associated with the proposed Program is provided in the Program Description. The delivery of construction equipment to either the short-term staging areas at the wharves and to long-term staging areas at off-site parking lots would be performed using highway-approved trucks and trailers. Furthermore, the proposed Program would not construct any new roadways or driveways that would introduce new hazards. The use of local roadways to access the Program site could increase traffic safety hazards due to potential conflicts between construction vehicles (with slow travel speeds and wide turning radii) and automobiles, pedestrians, and bicyclists. However, the addition of a minor amount of vehicles accessing the wharves would not pose substantial safety hazards to other roadway users due to the temporary and intermittent nature of such increases, and the restriction of construction activities to non-peak months (i.e., non-summer months) and days (i.e., weekdays) when tourist and recreational activity is minimal. Therefore, no substantial increase in hazards due to a design feature or incompatible uses would occur and the impact would be less than significant.

e) ***Less than Significant.*** Maintenance activities associated with the proposed Program would occur on the wharves where there is established ingress and egress. Temporary construction staging and maintenance activities at the wharves would not block or interfere with emergency response vehicles. Increases in traffic volumes on local roadways providing access to the wharves could cause intermittent and temporary slowdowns in traffic flow, although as concluded above under criteria a-b), operational conditions are not expected to deteriorate on local roadways as a result of Program-generated vehicle trips. The proposed Program would not result in inadequate emergency access and the impact would be less than significant.

f) ***Less than Significant.*** The Monterey Trolley, operated by Monterey-Salinas Transit (MST), is the only public transit line operating near the Program site. It operates daily during summer months and on weekends-only during the rest of the year (MST, 2018). There is also a high-level of bicycle and pedestrian activity near the Program site due to the attraction of the wharves themselves and also the presence of the Monterey Bay Coastal Recreation Trail directly adjacent to the wharves (Transportation Agency for Monterey County, 2016).

Temporary impacts related to construction and maintenance could cause the wharves to be restricted in certain working areas during public hours. However, the impacts would be temporary and all construction materials would be removed from the wharves on a regular basis during construction work, and thoroughly at completion of each repair cycle. Furthermore, the temporary and intermittent addition of a minor amount of additional vehicles accessing the wharves transporting workers or equipment would not substantially interfere with pedestrian or bicycle activity on or adjacent to the Program site. The Program would avoid construction-related impacts during the busy summer months based on the City's agreements with local businesses on and around the wharves. Construction and maintenance activities would not interfere with Monterey Trolley operations, nor would they result in any increases in demand for public transit service. Based on the above, the proposed Program would not conflict with any adopted policies, plans, or programs supporting alternative transportation and the impact would be less than significant.

References

Monterey-Salinas Transit, 2018. Monterey Trolley Map and Schedule effective August 25, 2018. Available at: https://mst.org/routes/monterey-trolley/.

Transportation Agency for Monterey County, 2015. *Monterey County Bike Map*. Available at: https://www.tamcmonterey.org/wp-content/uploads/2015/12/Monterey-BikeMap_0222016-ForWeb.pdf.

18. Tribal Cultural Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
18. Tribal Cultural Resources — Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Discussion

a, b) ***Less than Significant with Mitigation.*** CEQA requires lead agencies to consider the effects of a Program on tribal cultural resources. As defined in Public Resources Code Section 21074, tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed, or determined to be eligible for listing, on the national, state, or local register of historical resources.

On August 23, 2018, the Housing and Community Development Manager of the City of Monterey held a tribal consultation meeting with Ms. Louise Ramirez, Tribal Chairwoman of the Ohlone Costanoan Esselen Nation. The proposed Program was reviewed and the archaeologically sensitive areas surrounding the Program were discussed. Ms. Ramirez requested to review the archaeological survey report completed for the Program (ESA, 2018) and did not have any further requests or questions regarding the Program.

Based on the background research and the surface survey, there are no tribal cultural resources in the Program area. However, because of the archaeological sensitivity of the general Program area due to the proximity of prehistoric archaeological resources, there is the potential that ground disturbance could impact previously undiscovered or buried prehistoric archaeological resources, resources that could also be considered tribal cultural resources. Impacts to a tribal cultural resources would be potentially significant. To reduce impacts to a less-than-significant level, the City will implement **Mitigation Measure CUL-3** (included in Section 5, Cultural Resources**)**, which would develop an Archaeological Monitoring Plan (AMP) and a Post-Review Discovery Plan (PRDP). The AMP would require that no staging or access associated with the Program be permitted within a pre-established archaeologically sensitive area and that archaeological

monitoring be conducted in the vicinity of known prehistoric archaeological resources. With the incorporation of Mitigation Measure CUL-3, impacts to tribal cultural resources would be less than significant.

References

ESA, *Monterey Municipal Wharves Program City of Monterey, Monterey County, Archaeological Resources Survey Report. Prepared for the City of Monterey.* August 2018.

19. Utilities and Service Systems

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
19. UTILITIES AND SERVICE SYSTEMS — Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
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?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Environmental Setting

The setting information provided below is based on information provided in the City's General Plan and General Plan EIR.

Wastewater

The City maintains the sanitary sewer collection system within its jurisdictional boundaries. The existing sanitary sewer collection system conveys sewage from sewer point sources within the City, such as homes, businesses, and public facilities, to a regional wastewater treatment plant for treatment and disposal. The sanitary sewer collection system operated by the City consists of approximately 102 miles of sewer pipeline maintained by City personnel and seven sewer lift stations.

Monterey's sewage is conveyed through pipelines to the Monterey One Water sewer treatment plant in the City of Marina for treatment and disposal. Per Monterey One Water, sixty percent (60%) of incoming wastewater is highly treated through its water recycling facility and distributed for irrigation uses on farmlands in northern Monterey County. Monterey One Water performs secondary treatment of the remaining wastewater, which is then discharged though an ocean outfall two miles into Monterey Bay.

Local sewer collection pipelines of various capacities exist underground within the City and eventually flow to larger sewer mains that feed into the Monterey One Water interceptor pipeline. The interceptor pipeline receives sewer flows from both Pacific Grove and Monterey and carries those flows to the wastewater treatment plant. Monterey's existing sewer collection system is an aged one, and requires on-going maintenance and rehabilitation. The City is completing a multiyear program to repair and replace sanitary sewer collection system structures. The existing capacity of the system is adequate to convey the sewer loads generated.

Water Supply - Potable Water

The Planning Area is served by the California-American Water Company (Cal-Am). It is the goal of the City of Monterey and the General Plan to obtain a long-term, sustainable water supply, including evaluation of water supply options outside the present Monterey Peninsula Water Management District (MPWMD) framework. Water is supplied to most of the Monterey Peninsula by the California American Water Company (Cal Am) through wells in Carmel Valley, dams on the Carmel River, and a well on the Seaside Aquifer. The City is wholly within the MPWMD, which is responsible for developing long-term water supply for the Monterey Peninsula cities in the district.

Cal-Am supplies water to the residential, municipal, and commercial needs of the Monterey Peninsula area communities. Cal-Am's water distribution system distributes water from two main sources: the Carmel River and the Seaside Basin coastal subarea.

State Water Resources Control Board Order Number 95-10

In 1995, in response to complaints that Cal-Am was illegally taking water from the Carmel River, the State Water Resources Control Board (State Water Board) issued Order No. WR 95-10 directing Cal-Am to implement actions to terminate its unlawful diversion. Order No. 95-10 recognized that Cal-Am had legal rights to divert 3,376 acre-feet annually (afa) of water from the Carmel River Basin, but found that Cal-Am was diverting a total of 14,046 afa for this purpose, an excess of approximately 10,730 afa, "without a valid basis of right." The Order also determined that such diversions have historically had an adverse effect on the riparian corridor along portions of the river, wildlife that depend on riparian habitat, and steelhead and other fish which inhabit the river. The 3,376 afa rights are not subject to instream flow requirements.

On November 30, 2007, both MPWMD and Cal-Am jointly obtained an additional right to divert water from the river. Due to the overdraft condition of the Seaside Groundwater Basin, the State Water Board issued Permit 20808A authorizing the diversion of up to 2,246 afa water from the river to underground storage in the Seaside Groundwater Basin from December through May of each year, if specified streamflow requirements are met. On November 30, 2011, a second right (Permit 20808C) was authorized for up to 2,900 afa subject to instream flow requirements, The State Water Board also issued Cal-Am an appropriative right for 1,484 afa (Table 13), subject to instream flow requirements, but this may only be used in the Carmel River Basin. The amount of rights authorized by the State Water Board is a maximum; the actual availability of water is dependent on streamflow. The MPWMD estimates the long-term average yield of rights subject to instream flows totals approximately 2,400 afa. However, due to physical constraints in the Cal-Am system, not all of this water may currently be produced.

Through various conservation efforts over the past 13 years, Cal-Am has reduced its annual illegal diversion of the Carmel River Basin to approximately 7,150 acre-feet. Cal-Am continues its effort towards providing an alternative potable water source.

State Water Resources Control Board Cease and Desist Order

On October 20, 2009, the State Water Resources Control Board issued a Cease and Desist Order (CDO) to Cal-Am. Among other matters, the CDO alleges that Cal-Am has failed to comply with Condition 2 of Order 95-10 that requires Cal-Am to terminate its unauthorized diversions from the river, that Cal-Am's diversions continue to have adverse effects on the public trust resources of the river and should be reduced, and that the ongoing diversion is a violation of Water Code Section 1052 prohibiting the unauthorized diversion or use of water.

The CDO seeks to compel Cal-Am to reduce the unauthorized diversions by specified amounts each year, starting in water year 2008-09 and continuing through water year 2016 when Cal Am must cease all unauthorized diversions. The adopted CDO prohibits Cal-Am from providing new service connections and increasing use at existing service addresses that were not provided a "will serve commitment" (or similar commitment) before October 20, 2009.

Water availability within the Cal-Am system remains under careful state scrutiny since State Water Resources Control Board Order No. 95-10 was imposed in 1995. State Board Order No. 95-10 requires Cal-Am to reduce the water it pumps from the Carmel River by 20 percent now, and up to 75 percent in the future. Also, any new water that is developed must first completely offset Cal-Am's unlawful diversions from the Carmel River, an estimated 10,730 acre-feet (AF) per year, before any water produced by Cal-Am can be used for new construction or expansions in use.

MPWMD Water Use Credit and Transfer Programs

In 1992, as part of its oversight of water allocation and distribution, MPWMD adopted Ordinance 60 establishing a program whereby a water customer may obtain and reuse water use credits when water use on a particular property is reduced or discontinued. A reduction of water use, whether by changing to a less-intensive use, by retrofitting equipment with water conserving devices, or by demolishing a building, results in a water use credit that may be used later on the same site. When a residential property owner applies to MPWMD for the water use credit, MPWMD calculates the amount of the credit based upon the number and types of water-using fixtures that will be discontinued. When a commercial property owner applies to the MPWMD for a water use credit, the MPWMD will determine credits based upon one of several methods:

The commercial water use factor associated with the historical use(s) may be used when a use is either being abandoned or permanently reduced to a lower intensity use; a quantification of water saved may be used when inefficient equipment is replaced with highly water efficient equipment; or historic records may be used to determine the past (abandoned) use. With a few exceptions, the water use credit is valid for 60 months and can be extended for 60 months. After the 60-month period, any remaining unused water use credit expires. Water use credits affected by the CDO will be reinstated at its conclusion with a term equal to the amount of time the CDO impacted the credit.

In 1993, MPWMD adopted Rule 28 to allow Water Use Credit Transfers between commercial properties. The rule was amended in 1995, to allow Water Use Credit Transfers from an existing commercial use to a jurisdiction's water allocation. The Water Use Credit rules are designed to provide incentives for undertaking extraordinary retrofitting and/or installation of proven new technology and to provide a mechanism for offsetting potential intensification in use.

The Water Credit rules also allow former uses to be reoccupied if a Water Credit has not been abandoned and expired or moved to another Site. Water savings after the Water Credits have been applied to a Water Permit can be minimal. The goal is that there is no increase in use.

City of Monterey Allocation

In 1981, MPWMD's Resolution 81-7 authorized an annual allocation of 5,746 acre-feet of potable water to the City. Subsequent annual allotments were made and were adjusted up to 6,125.48 acre-feet to more accurately reflect the City's actual water use. In 1993, the City received from MPWMD a water allocation of 308 afa from Cal-Am's Paralta Well in the Seaside Basin coastal subarea. This was the last allocation from MPWMD.

In 1986, the City Council reserved the remaining supply of the City's allocation for seven categories of uses and established procedures for determinations of water usage. The purpose for establishing the unallocated reserve was to provide a water account that could be used to address unanticipated or emergency water requests, such as increased usage caused by increased visitors, use by the Federal Government, State and other agencies beyond the jurisdiction of the City, and unanticipated emergencies. The categories have changed over time, and since 2006, are assigned as follows: 1) Affordable Housing, 2) Public Projects (reserve), 3) Public Projects (high priority), 4) Single Family Remodels, 5) Other Residential, 6) Commercial Projects, and 7) Economic and Environmental Sustainability. The City has established a Water Waiting list for those projects that have received all of their required discretionary approvals but do not have adequate water resources to develop this project. As of June 13, 2013, there were 37 projects on the wait list, accounting for over 35.2 acre feet of water.

The MPWMD has adopted rules that allow the transfer of water between uses and adjacent sites under the same ownership, though these rules are under strict regulation by MPWMD. The City conducted an inventory of water usage and availability helped to determine the presence of water credits on a particular site that may be available for an expanded use. The identification of water credits assisted in the identification of opportunity sites that could achieve Program objectives prior to the identification and delivery of a new water source to the City.

Additionally, The City owns two open space parcels adjacent to the Ryan Ranch Business Park, one of which is located on the former Fort Ord that has access to water. The Marina Coast Water District is the water purveyor for the former Fort Ord, and water allocations were made to the jurisdictions within its boundaries. The City of Monterey was allocated approximately 65 acre-feet (af) from the Fort Ord allocation for the City's entire 130+ acres. The City can allocate a portion of the 65 af for the open space parcel as it deems appropriate.

Storm Water

See Section 10, Hydrology and Water Quality.

Solid Waste

The regional waste collection facility is located in the City of Marina and is operated by the Monterey Regional Waste Management District. Locally, there is a transfer facility in Ryan Ranch operated by Monterey Disposal Service.

Discussion

a-g) ***No Impact.*** The proposed Program scope is limited to repairs and/or replacement of existing wharf infrastructure. The intent of the repairs is to restore the original capacity to specific structural wharf members that have degraded. Where appropriate, modern materials will be substituted for the original materials. No expansion in usable footprint or change in use is associated with the City's proposed repairs. No changes in wastewater or storm water loads would occur. Likewise, no changes in water or solid waste disposal demand would occur. Therefore, there would be no impact related to utilities and service systems.

References

City of Monterey Plans and Public Works Department

City of Monterey, General Plan

Monterey One Water

City of Monterey Plans and Public Works Department

City of Monterey, General Plan

Water Management District

California American Water Company

City of Monterey Plans and Public Works Department

Monterey City Code (M.C.C.) Chapter 31.5, Storm Water Management

City of Monterey, General Plan Public Facilities Element subsection l. Storm Drain

Monterey Peninsula Water Management District

City of Monterey, General Plan Public Facilities Element subsection k. Sewer

City of Monterey Solid Waste & Recycling Division

Monterey Regional Waste Management District

City of Monterey, General Plan Public Facilities Element subsection n. Reduction and Recycling of Waste

20. Mandatory Findings of Significance

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
20. MANDATORY FINDINGS OF SIGNIFICANCE —				
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, 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?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion

a) ***Less than Significant with Mitigation.*** Although there are biological resources in the Project area, as described in Section 4, Biological Resources, the potential impacts of the Project to biological resources would be reduced to less-than-significant with implementation of recommended Mitigation Measures BIO-1 through BIO-3. Therefore, the proposed Project would not 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, reduce the number or restrict the range of a rare or endangered plant or animal.

Implementation of Mitigation Measures CUL-1 through CUL-3 would ensure that the proposed Project would not eliminate important examples of the major periods of California history or prehistory.

b) ***Less than Significant with Mitigation.*** Potential impacts associated with the proposed Project include impacts on biological resources, cultural resources, hydrology, noise, and tribal cultural resources. These impacts are primarily short-term (construction-related) and would be mitigated to less-than-significant levels. Potential short-term cumulative impacts could only occur if construction of the proposed Project occurred simultaneously with other projects in the vicinity. No other projects are located near the Project site; therefore, given that implementation of the proposed Project would largely result in short-term impacts that would be mitigated to less-than-significant levels, when considered in conjunction with other past, present, or future projects within the vicinity of

the Project, the Project's contribution to any cumulative impacts would be less than considerable and impacts would be less than significant with mitigation.

c) ***Less than Significant with Mitigation.*** The proposed Project has the potential to have environmental effects that could cause substantial direct or indirect adverse effects on human beings; however, the implementation of Mitigation Measure NOI-1 would reduce impacts to a less-than-significant level.