

**REVISED DRAFT
ENVIRONMENTAL ASSESSMENT**

FOR

**CONTINUING AUTHORITIES PROGRAM
SECTION 107 NAVIGATION IMPROVEMENTS**

**OYSTER POINT MARINA
SAN MATEO COUNTY, CALIFORNIA**

PREPARED BY

**U.S. ARMY CORPS OF ENGINEERS
SAN FRANCISCO DISTRICT**

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SECTION 1 - INTRODUCTION

1.1 INTRODUCTION AND PROJECT DESCRIPTION

The San Francisco District of the U.S. Army Corps of Engineers (USACE) is proposing to remove and replace a section of breakwater at the Oyster Point Marina located in San Mateo County, California. The proposed modifications would allow larger vessels to enter the harbor, maintain conditions within the harbor so that they do not differ significantly from the present, and provide the needed protection for the San Francisco Bay area Water Transit Authority's (WTA) proposed ferry service from Oyster Point.

Since 1977, the San Mateo County Harbor District has operated Oyster Point Marina/Park under a Joint Powers Agreement with the City. A system of concrete breakwaters protects the harbor. The existing breakwater system consists of three separate concrete breakwaters that protect the harbor. The proposed modifications consist of shortening an existing piece of breakwater and building a new segment of the breakwater. The proposed modifications to the breakwater system are expected to improve safety for vessels entering the harbor by increasing the entrance's width and improving visibility among watercraft, thereby reducing the likelihood of collisions among existing boaters, and the proposed ferry vessels.

An initial Draft Environmental Assessment (EA) for this project was circulated for public comment in August of 2006. Due to changes in the project purpose and design elements, this is a Revised Draft for the proposed project.

1.2 SITE DESCRIPTION

1.2.1 Purpose and Need for Proposed Action. The purpose of this project is to improve navigation reliability, efficiency, and safety at Oyster Point Marina. The existing breakwater configuration creates a navigation hazard for vessels entering and exiting Oyster Point Marina. For larger vessels, including the Water Transit Authority's passenger ferry and commercial dining cruises, the present channel width is not adequate for reliable and efficient year-round navigation. Large vessels suffer from reduced efficiency as they must maneuver around the existing breakwater. The hazards to navigation are further exacerbated by high wave conditions during storms and high winds that raise the risk of collisions with the breakwater. This risk has caused commercial and private vessels to limit their use of Oyster Point Marina. Providing better maneuverability at the harbor entrance, increasing visibility among watercraft, and protecting the harbor from wave energy will address these needs and reduce the likelihood of collisions among existing boaters and proposed WTA ferry vessels.

1.2.2 Location. The City of South San Francisco owns Oyster Point Marina/Park, a 600-berth recreational/commercial marina located approximately ten miles south of San Francisco and approximately two miles north of San Francisco International Airport. The 46-acre facility is built on top of a capped landfill and includes picnic areas, jogging trails, a recreational fishing pier, bait shop, small boat marine service and sales center, existing and proposed hotels, restaurants and offices. Figure 1 shows the entire study area. Figure 2 shows a close-up of the

breakwater action area.



Figure 1. Breakwater replacement action area and staging areas parcels

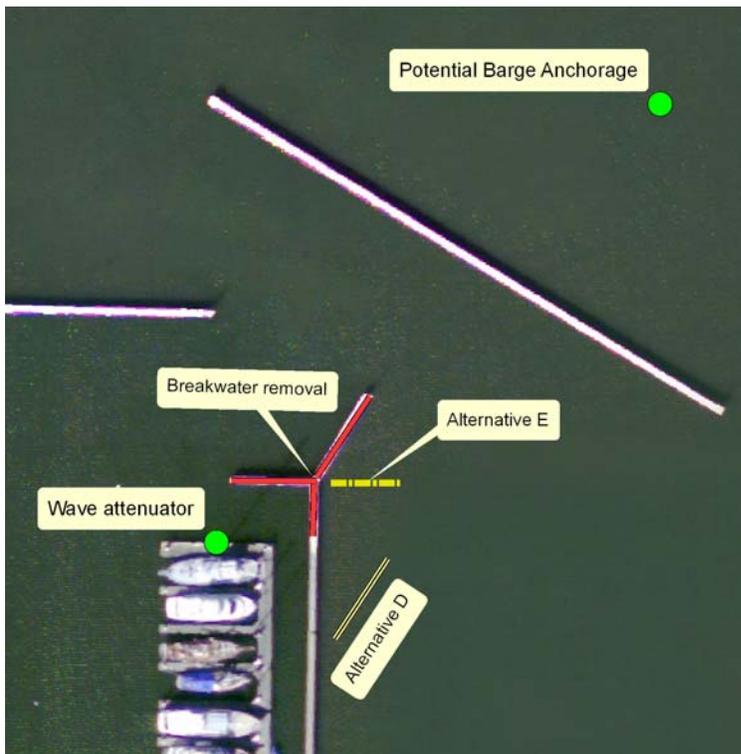


Figure 2. Breakwater action area close-up (breakwater to be removed is red; preferred breakwater Alternative D, and Alternative E are shown in yellow; wave attenuator and potential barge anchorage approximate locations are shown as green dots)

1.2.3 Timing of Project.

The structural changes are expected to start some time between June and October and would continue for no more than 90 days. This time of year was chosen to avoid certain protected fish species that may be in the harbor between December 1 and May 31, and to avoid dangerous wave impacts and maintenance delays by taking advantage of the smaller wave climate, lower chance of rain, and longer daylight hours during the summer and fall months.

1.2.4 Project Authorization.

This study is being conducted under the authority of Section 107 of the River and Harbor Act (RHA) of 1960 (PL 86-645), as amended. Section 107 of the 1960 RHA authorizes the Corps of Engineers to study, adopt, construct and maintain navigation projects using the same procedures and policies that apply to congressionally authorized projects. Section 107 of the 1960 RHA is one of the nine legislative authorities under which the Corps of Engineers is authorized to plan, design, and construct certain types of water resource and ecosystem restoration projects that are of limited scope and complexity, without additional and specific Congressional authorization. These authorities are called to as the Continuing Authorities Program (CAP) when referred to as a group.

1.3 ENVIRONMENTAL ASSESSMENT PROCESS

This Environmental Assessment (EA) shall address potential impacts associated with implementing discretionary actions as they relate to U.S. Army Corps of Engineers San Francisco District policies and those of other entities. The USACE is the lead federal agency for this project.

Pursuant to the U.S. Council on Environmental Quality (CEQ) guidance section 1502.21 this environmental assessment incorporates by reference two existing Environmental Impact Report/Environmental Assessment (EIR/EA) documents in order to cut down on bulk of this document without impeding agency and public review of the action. The content of this incorporated material is briefly described in the relevant sections of this document. Copies of both documents are available on the WTA website in the “library” section at the following URL: <http://www.watertransit.org/publications.shtml>

The EIR/EA citations are shown below:

South San Francisco Ferry Terminal Project Volume I Draft EIR/EA SCH No. 2004122091, February 2006, prepared for San Francisco Bay Area Water Transit Authority, 120 Broadway St., San Francisco, CA 94111, prepared by EIP Associates, 12301 Wilshire Blvd., Suite 430, Los Angeles, CA 90025.

and

Final Program Environmental Impact Report Expansion of Ferry Transit Service in the San Francisco Bay Area, June 2003, prepared for San Francisco Bay Area Water Transit Authority, prepared by URS Corporation.

SECTION 2 – PROJECT ALTERNATIVES

2.1 PROPOSED PROJECT CRITERIA REQUIREMENTS

The River and Harbor Act of 1960 authorizes and requires maintenance of breakwater structures to ensure continued safe navigability within harbors. Widening the mouth of the harbor would improve navigation safety at Oyster Point by increasing visibility and maneuverability among watercraft, and reducing the likelihood of collisions among existing boaters and proposed WTA ferry vessels. However, a wider entrance could expose the harbor to a higher level of damaging wave energy. Proposed action alternatives were formulated and selected to maintain wave energy protection within the harbor while satisfying the need for safe maneuverability through the harbor entrance. Wave energy, also referred to as “velocity magnitude,” was the criteria used to model the safety, reliability, and efficiency of the harbor configurations. Once this velocity magnitude was quantified, the alternatives were compared relative to their ability to protect the mouth and the interior of the harbor from wave energy, and for their ability to provide reliable, efficient use of the harbor by the proposed WTA ferry and other commercial and private users.

2.2 ALTERNATIVES SELECTION AND ELIMINATION

Other Sites. This project consists primarily of providing safe boating operations within Oyster Point Marina; therefore the project is site specific. Because the project is site specific, alternative locations outside of the harbor were not assessed.

Alternative Analysis. Many alternative plans have been considered for the breakwater entrance reconfiguration at Oyster Point Marina. The approach taken for reducing the alternatives down to a manageable number was iterative and evolved throughout the course of the Corps planning process. Two alternatives developed were initially evaluated based solely on design specifications. The completed evaluation was not adequate to select the best alternative, so numerical modeling of waves, currents, and sedimentation was suggested for further evaluation of the alternatives. The U.S. Army Corps of Engineers Engineering Research and Development Center (ERDC) conducted numerical modeling analysis for this proposed project.

The Corps’ approach to numerical modeling first concentrated on evaluating the alternative plans for their responses to waves then evaluating the higher performing plans for currents. The Corps’ modeling approach was divided into two phases: Phase 1 concentrated on setting up, testing, calibrating, and/or validating the wave (CGAWVE) and current (RMA2) models and simulating two cases (existing conditions and one plan). Phase 2 modeled an additional four plans, with a number of variations on these plans.

The Corps modeled the Existing (No Action) Plan and one plan (Plan A or Plan 1 depending on whether it was waves or current modeling) during this first phase of the modeling effort. Based on the results from the Phase 1 modeling and a new requirement for a wider entrance to safely accommodate much larger vessels, four plans (Plans B, C, D, and E) were further evaluated. During Phase 2, detached breakwaters were also considered. Based on the results from Phase 2, two plans (D and E) were selected for final evaluation, shown in figures 3 and 4 below.

Alternatives D and E each remove an existing piece of the breakwater and replace it with a new piece of breakwater. The breakwater to be removed is shown in red in figure 2. Alternative D replaces the breakwater at approximately the same angle as the outward spur of the breakwater wing, but at a different location, and would be approximately equal to the length of breakwater removed. Alternative E replaces the breakwater at the same location but at a different angle, and is shorter than the length of breakwater to be removed. Other alternatives considered but rejected did not meet the project criteria developed for safe movement of vessels in the harbor. The results for a final preferred alternative indicate that Alternatives D and E are similar in accomplishing the project purpose and impacts. Alternative D offers slightly more wave energy protection, but potential additional cost for this plan may or may not be justified for the relatively small amount of additional safety it would provide during southeast storms.

Construction during winter, and early spring was considered but not preferred due to an increased chance of rain and high, damaging wave heights from October to March that could interrupt work. Winter construction would also be less favorable for sensitive species in the San Francisco Bay.

Rejected Alternatives. Other alternative plans were considered and eliminated from consideration without modeling, whenever there was an obvious reason for the particular plan's elimination. These plans are briefly described in the following list:

Create a new entrance on the marina's northern side by removing part of the east-west orientated breakwater – this plan would require authorization and dredging of a new navigation channel;

Moor large vessels outside the marina and build a bridge to the marina – this plan would not provide adequate wave protection for the large vessels and the bridge would be more costly to the project;

Extend the existing diagonal breakwater further into the navigation channel and dog-leg the channel – this plan would have a negative effect on the project objective of improving navigation safety by requiring more maneuvering by the vessel pilots;

Move the existing diagonal breakwater further offshore and place rubble-mound revetments in front of the breakwaters – this plan would be more costly to the project and would involve more environmental impacts and permitting requirements;

Use multiple detached breakwaters to reduce incoming wave energy – this plan is only appropriate for easterly approaching waves, which do not appear to be a problem based on existing wave statistics, and would be more costly to the project;

Build an east-west orientated extension with a northeast-southwest or northwest-southeast bend to the north-south orientated breakwater – these plans were initially modeled by a contractor, but were eliminated from further consideration due to their redundancy to Corps Plan B.

2.3 ALTERNATIVES CONSIDERED

2.3.1 No Action Alternative. Under the No Action Alternative the breakwater and harbor area would remain in its current use as a marina. No breakwater modifications or navigation aids would be constructed. The No Action Alternative assumes future conditions with the

WTA's ferry service plan in place, and the increased safety and efficiency of altering the breakwater configuration at the harbor entrance would not be implemented. Further details are provided in the WTA's EIR/EA.

2.3.2 Action Alternatives Considered. Alternatives D and E both meet the project purpose and satisfy the selection criteria for reducing wave energy at the mouth and in the interior of the harbor. Both Alternatives D and E assume future conditions with the WTA's ferry service plan being implemented.

Proposed Project. Alternative D is the preliminary preferred alternative, as it most effectively provides wave protection at the mouth of the harbor, thereby reducing the chance of watercraft collisions. In comparison to the breakwater configuration of Alternative E, the configuration of Alternative D would slightly reduce the risk of structural and environmental damage to the existing breakwater and surrounding habitat that will not be removed. Velocity magnitudes are expected to be roughly less than one foot per second (ft/s) for Alternative D. Velocity magnitudes approach 1.4 ft/s in places under Alternative E, as shown in figures 3 and 4. However, both plans are technically feasible and would provide safe conditions for vessels entering the harbor. The final plan to be used for construction will depend on future USACE plan comparison between the two alternatives, and funding availability from both the USACE and the San Mateo County Harbor District (SMCHD).

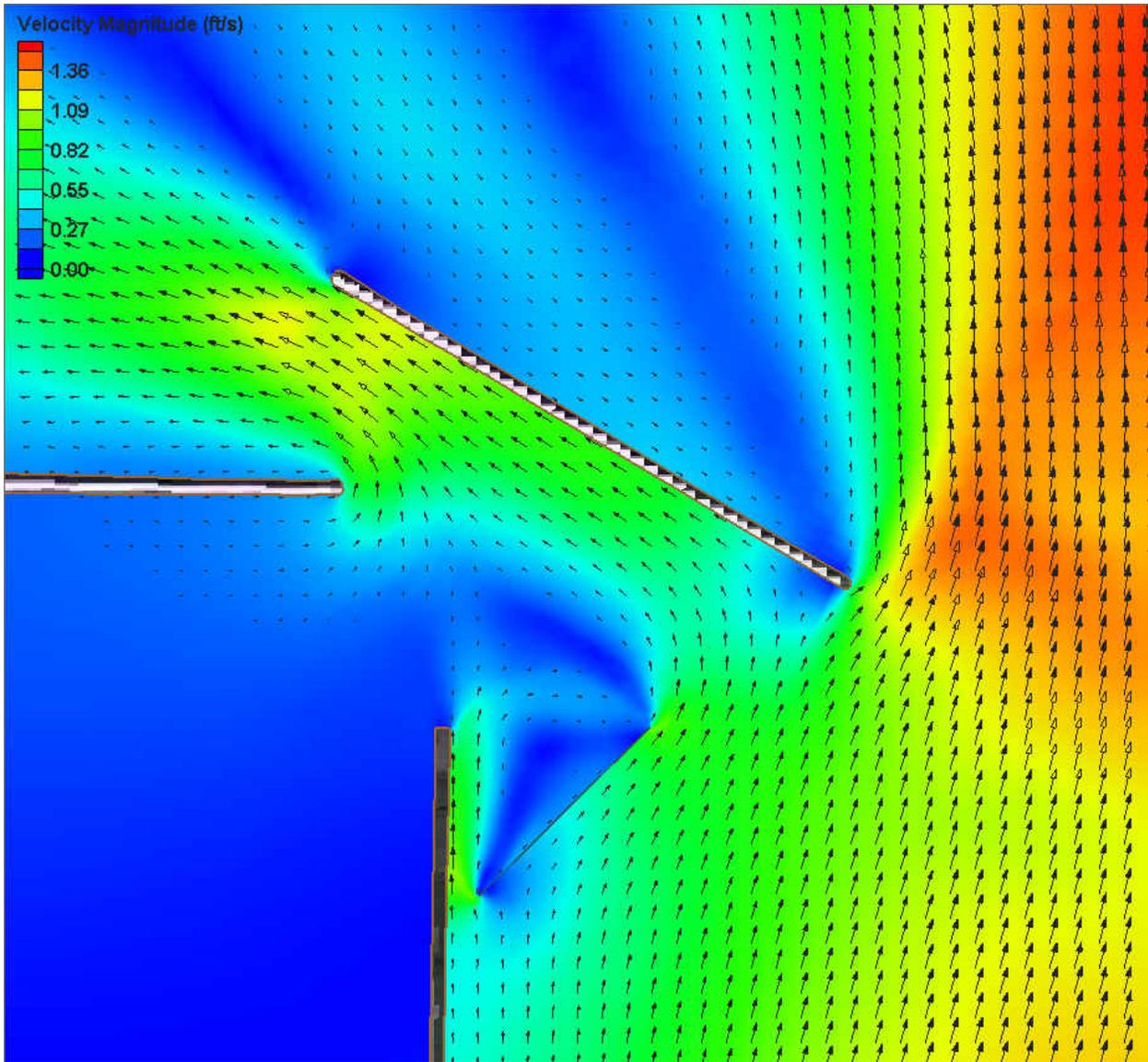


Figure 3. Alternative D (showing the lowest velocity magnitudes at the mouth of the harbor)

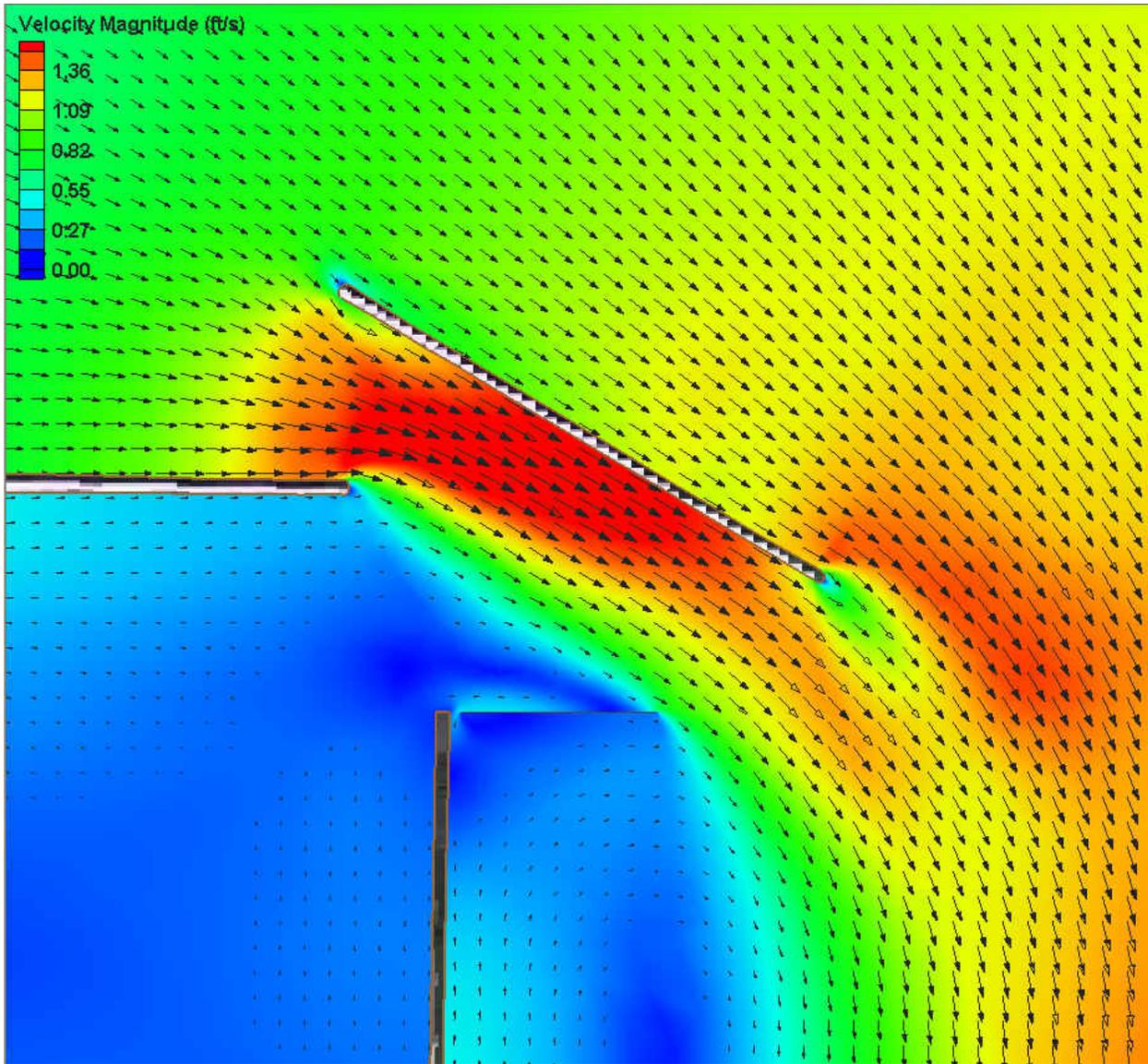


Figure 4. Alternative E (showing higher velocity magnitudes at the mouth of the harbor)

Breakwater Removal. The existing breakwater proposed for removal was constructed by the San Mateo County Harbor District in 1979 of precast, prestressed, cantilever concrete sheetpiles. The top of the sheetpiling is capped with a reinforced concrete beam. The typical sheetpile is 60 ft long, four ft wide and fourteen inches (in) thick. Approximately 147 ft of breakwater would be removed for either Alternative D or E. Roughly 400 cubic yards of concrete sheetpiles with reinforcing rods would be removed and hauled to a commercial dumpsite or landfill within approximately five miles of the project site. Removal would most likely take place by removing the sheetpiles from their base using vibratory methods and a crane. Removal by cutting the breakwater sheetpile below the mudline was considered but rejected due to environmental concerns from the dredging that would be required, and increased project costs.

Breakwater Construction. The new breakwater extension would be approximately 150 ft long, and would be constructed using similar materials and a similar construction scheme as the existing breakwater. The materials to be used for the new breakwater would be constructed of precast, prestressed, reinforced concrete piling and sheetpiling. Sheetpiles would most likely be installed using a vibratory device with hydraulic jetting. The breakwater sections would be held in place by the surrounding soil and will form a self-supporting cantilevered structure.

Aids to Navigation. Aids to navigation will be required to meet Coast Guard and USACE safety specification. Initial designs propose seven navigation aids, including two steel “dolphin” or “tripod” style navigation aids, four freestanding concrete navigation aids, and one aid attached to the end of the breakwater. The exact design specifications, materials, and locations for the navigation aids have not been completed.

Staging Areas. Land and water based staging areas would be configured as shown in figure 1. It has not been definitively determined if land-based staging areas would be required, but two areas have been included in this assessment in the event they are needed. The primary staging area, Parcel G, would be located on San Mateo County Harbor District (SMCHD) land in an empty, unpaved lot and would cover approximately 50,000 square ft, or about one acre. Sheetpiling from the breakwater site would be hauled away either by truck or boat. Material from the old breakwater would then be taken to a suitable disposal area. New material would be obtained from commercial sources, and could be taken directly to the waterfront, or stored temporarily at the staging area at Parcel G, if necessary.

If additional staging areas are needed, Parcel D-2 would be used as overflow. This staging area is also located on an empty, unpaved vacant lot owned by the SMCHD and the usable area would cover approximately 50,000 square ft, or approximately one acre.

Anchorage for barges and construction equipment such as cranes would be available at the northeast corner of the harbor. If no land-based staging areas end up being required, both staging areas would be eliminated from the project.

Ingress and Egress. Water access is available at the launch ramp in the eastern portion of the harbor, shown in figure 1. Materials would be transported to and from the site via truck or barge, and moved with a crane stationed on a barge. Road access to the site and staging areas is available via Marina Boulevard. Construction equipment could operate during summer daylight hours between 8 AM and 8 PM on weekdays, 9 AM and 8 PM on Saturdays, and 10 AM and 6 PM on Sundays and holidays. Longer construction hours during weekdays, and additional hours on weekends and holidays may be possible with the prior approval of SMCHD and live-aboard residents at the harbor.

SECTION 3 - ENVIRONMENTAL INVENTORY AND CONSEQUENCES

This section provides an assessment of potential impacts for the proposed project. If analyses show significant adverse impacts, then mitigation measures have been included to avoid the

impact or reduce the level to insignificance.

3.1 WATER QUALITY

3.1.1 Affected Environment. The WTA’s EIR/EA details surface and ground water, water quality, sediment transport, and dredging at Oyster Point. In summary, there are no surface streams in the area and ground water is not used as a potable water source. Water quality in the marina is generally the same as the surrounding water in San Francisco Bay. The Bay is listed on the Clean Water Act 303(d) list as an impaired water body due to various pollutants and stressors induced by human activities such as water commerce and residential, commercial, industrial, and agricultural development. Dredging is periodically performed by the SMCHD every 10 to 15 years to a depth of -8 ft MLLW. When the WTA’s proposed ferry project is implemented, dredging will be increased to depths of -10 and -12 ft MLLW, depending on the location.

Tides at Oyster Point area are characterized by the diurnal inequality common to the Pacific Coast, with a difference of several feet between the two high tides and two low tides in a 25-hour period. Water levels at the Oyster Point Marina are presented in Table 1.

Datum	Elev. Feet (MLLW)
Mean Higher High Water (MHHW)	7.1
Mean Tide Elevation	3.8
Mean Range of Tide	5.3

3.1.2 Environmental Consequences.

Criteria. An impact to water quality will be considered significant if:

- The project results in the release of toxic substances that would be deleterious to human, fish, or plant life;
- The project results in substantial impairment of beneficial recreational use of the project site; or
- Discharges create pollution, contamination, or nuisance as defined in Section 13050 of the California Water Code.

Breakwater Removal and Replacement Alternatives D & E. Turbidity may temporarily increase when the breakwater removal and construction activities are taking place. Due to the small increases in turbidity levels, the impact would not be significant. Turbidity levels would go back to their previous levels after the period of construction ends. Therefore, any potential negative impacts to water quality parameters would be temporary and minor. Over the long

term, sediment modeling performed by an independent contractor, CHE, (referenced in the WTA's EIR/EA) indicate that widening the breakwater entrance would decrease the rate at which sedimentation occurs in the marina, and therefore result in improved turbidity conditions. A desktop sedimentation study was conducted, and neither alternative appears to create any significant adverse depositional increases in the harbor. In fact, it should result in some beneficial increases in scour in the main channel and entrances, and a slight decrease in sedimentation throughout most of the harbor.

No Action Alternative. The temporary impacts discussed above would not occur. Benefits would not be realized from decreased sedimentation in the harbor as a result of widening of the breakwater entrance.

3.2 BIOLOGICAL RESOURCES/BIOLOGICAL ASSESSMENT

This section describes the habitats and types of organisms that may occur at the project area. This section also serves as an abbreviated Biological Assessment and incorporates by reference the more complete biological assessment information detailed in the WTA's EIR/EA and PEIR documents.

3.2.1 Affected Habitat. Habitats at various places on the breakwater, and the surrounding land and water are described below. Habitat also includes navigation aids and possibly a proposed wave attenuator. These structures would be made of the same or similar concrete material as the breakwater and are not discussed separately from the breakwater in the discussion below.

Marine Habitat

The sheetpile placed for construction of the breakwater serves as substrate for limited marine life. The area in the vicinity of the breakwater area includes man-made, intertidal and subtidal habitats on the smooth concrete sheetpile. These habitats are described below from lowest to highest elevation. Open water habitat surrounds the marina.

- **Subtidal habitat** is located at an elevation below MLLW and is covered by water. This habitat includes the breakwater submerged under the waters of the San Francisco Bay, the water column, and the Bay mud benthic environment at the bottom of the Bay. Breakwater removal and construction would take place in subtidal habitat. Small sessile invertebrates live in the benthic environment, and fish and other invertebrates live in the water column. There is no eelgrass (*Zostera marina*) in this area due to frequent routine dredging.
- **Intertidal habitat** is found in the tidal area between MLLW and MHHW, and is alternately exposed and covered by water twice daily. This habitat is located on the manmade sheetpile breakwater at the edge of the subtidal habitat, but at a slightly higher elevation. This habitat supports algae and invertebrates that cling to the concrete wall.
- **Open water** habitat is located in the San Francisco Bay surrounding the marina. This habitat supports a variety of fish, birds, marine mammals, and other organisms described

further in the Section 3.2.3 “Affected Species.”

Terrestrial Habitat

Terrestrial habitat includes the concrete top portion of the breakwater, and non-native grassland at the two potential staging area sites.

- **Man-made terrestrial breakwater habitat** is composed of concrete sheetpile that is high enough to remain dry even when the tide comes in. Birds rest on this breakwater, but it does not support any permanent habitat for other flora or fauna.
- **Non-native grassland** is composed of fill material supporting grass and weedy plants.

3.2.2 Environmental Consequences.

Criteria. An impact to habitat will be considered significant if:

- There is a net loss in value of a sensitive biological habitat including a marine mammal haul out site or breeding area, seabird rookery, or Area of Special Biological Significance;
- If the movement or migration of fish is impeded; and/or
- If there is a substantial loss in the habitat of any native fish, wildlife, or vegetation (a substantial loss is defined as any change in a population which is detectable over natural variability for a period of five years or longer).

Breakwater Removal and Replacement Alternatives D & E. There may be some minor and temporary impacts to the shallow intertidal habitat within the construction area. This potential impact is small and limited to the area where the sheetpile would be removed and replaced. It is anticipated that the newly placed sheetpile would recolonize shortly after the construction is completed. The net change in habitat will be minimal. The net gain or loss of habitat will depend on whether Alternative D or E is chosen, and the final quantities of materials that will be required for navigation aids and the wave attenuator.

No Action Alternative. Temporary and minor impacts to the habitats would not occur. The benefits of reducing the risk of boat accidents at the marina would not occur.

3.2.3 Affected Species.

The following is a discussion of the typical species located near the Oyster Point Marina breakwater area. The WTA’s EIR/EA and PEIR provide a more detailed discussion of common and special status species that may occur in the area.

Vegetation. The breakwater and dredged boat channel do not provide habitat suitable for most vegetation. The proposed staging areas support a variety of non-native grass and weeds. Bermuda grass (*Cynodon dactylon*) and dandelions (*Taraxacum officinale*) are common plants at the staging areas.

Invertebrates. Invertebrate species occur in the Bay in open water, attached to hard surfaces in intertidal habitat, or in subtidal habitat in the Bay mud. Common species include Bay shrimp (*Crangon* spp.), dungeness crab (*Cancer magister*) and other crab varieties such as *C. productus* and *C. antennarius*, and non-native species of benthic organisms such as eastern oyster (*Crassostrea virginica*), Japanese littleneck clam (*Tapes philippinarum*), and soft-shelled clam (*Mya arenaria*).

Fishes. San Francisco Bay waters near the breakwater and further into the Bay provide habitat for a variety of fish. Numerous fish species are found in the area, including English sole (*Parophrys vetulus*), starry flounder (*Platichthys stellatus*), northern anchovy (*Engraulis mordax*), soupfin shark (*Galeorhinus galeus*), cabezon (*Scorpaenichthys marmoratus*), and brown rockfish (*Sebastes auriculatus*).

Birds. The area surrounding the project supports a variety of shorebirds, diving birds, gulls, terns, wading birds and waterfowl. Open water habitat is the most heavily used habitat within the project area by birds. Birds also frequently rest on the breakwaters and jetties surrounding the marina, and habitats on shore. The land supporting the marina is primarily a developed area, attracting bird species such as red-winged blackbird (*Agelaius phoeniceus*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), European starling (*Sturnus vulgaris*), and rock dove (*Columba livia*). Waterbird species such as surf scoter (*Melanitta perspicillata*) and brown pelican (*Pelecanus occidentalis*) are common to the open water habitat.

Mammals. San Francisco Bay supports several common marine mammal species, including Pacific harbor seal (*Phoca vitulina richarii*) and California sea lion (*Zalophus californianus*). Their occurrence at the project site is unknown. Rodents such as rats, mice, voles, ground squirrels, and gophers may inhabit the staging areas. An inventory of these mammals was not conducted, but possible species include California vole (*Microtus californicus*), California ground squirrel (*Otospermophilus beecheyi*), and Botta's pocket gopher (*Thomomys bottae*).

Threatened and Endangered Species. Listed which may possibly occur at or near the project site include: California brown pelican (*Pelecanus occidentalis californicus*), California Clapper Rail (*Rallus longirostris obsoletus*), Western snowy plover (*Charadrius alexandrinus nivosus*), Salt Marsh Harvest Mouse (*Reithrodontomys raviventris*), Steelhead (*Oncorhynchus mykiss*), Chinook (*Oncorhynchus tshawytscha*), and Southern sea otter (*Enhydra lutris nereis*). The WTA's Draft EIR/EA, and Program Environmental Impact Report (EIR) discuss the likelihood of encountering these species and their critical habitat at the project site, and conclude these species would experience no significant impacts from this project. In summary:

- California brown pelicans may roost on breakwaters and feed in open water but would avoid construction activities.
- No suitable marsh habitat is available at the staging areas for California clapper rails.
- No salt ponds, sandy beaches, or marsh habitats are available for western snowy plovers.
- No tidal or brackish marsh habitat is available in the project area for the salt marsh harvest mouse to occupy.

- Steelhead may migrate through the site but the species and its habitat will not be negatively impacted by construction activities.
- Chinook (*Oncorhynchus tshawytscha*) have designated critical habitat in the San Francisco Bay. Designated critical habitat for Central Valley Chinook populations extends south only to the Bay Bridge, well north of the project.
- Southern sea otters have no kelp bed habitat present in the vicinity of Oyster Point because of periodic dredging and boat traffic, and the breakwater construction site is in an area with strong currents and relatively little protection from waves.

Therefore, impacts to these species would be less than significant. In addition, no terrestrial critical habitat occurs in the project area, and the project area does not support any of the primary constituent elements such as natural cover, large woody debris, and side channels required for aquatic critical habitat.

3.2.4 Environmental Consequences.

Criteria. An impact to species considered as biological resources will be considered significant if:

- The population of a threatened, endangered, or candidate species is directly or indirectly affected or its habitat is lost or disturbed;
- If there is a substantial loss in the population of any native fish, wildlife, or vegetation (a substantial loss is defined as any change in a population which is detectable over natural variability for a period of five years or longer).

Breakwater Removal and Replacement Alternatives D & E. There may be some minor and temporary detrimental impacts to sessile organisms (algae and invertebrates) currently attached to exposed concrete sheetpiling surfaces at the breakwater removal site. This potential impact would be small and limited to the area where the breakwater would be removed. The newly placed sheetpiling would recolonize shortly after completing construction. Terrestrial plants and animals are either not present, or present only in very limited areas on the breakwater, as the smooth concrete materials used to make the breakwater provides poor quality habitat, but also minimizes the project footprint on the Bay. Prior to the start of construction, measures would be taken to protect biological resources by posting signs, educating the contractor, installing temporary fencing, and other means.

Threatened and Endangered Species. The USACE has determined that the proposed project would not have an effect nor jeopardize the continued existence of any federal listed threatened or endangered species. This determination is based on the planned construction taking place for approximately 90 days in the late spring, summer, or very early fall. Formal consultation pursuant to Section 7 of the Endangered Species Act is not required for project implementation.

No Action Alternative. Construction impacts would not occur. Temporary and minor impacts to the biological resources would not occur.

3.3 AIR QUALITY

3.3.1 Affected Environment. The Oyster Point Harbor project area lies within the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB consists of nine counties: San Francisco, San Mateo, Santa Clara, Alameda, Contra Costa, Marin, Napa, the southeast portion of Sonoma, and the southwest portion of Solano counties. The Bay Area Air Quality Management District (BAAQMD) regulates onshore (stationary) air pollution sources in San Mateo County. Presently, the Bay Area, located within the BAAQMD, is in “attainment” of all National Ambient Air Quality Standards (NAAQS) except for ozone, although ozone did not exceed federal guidelines for three years in a row. The WTA’s EIR/EA goes into detail about the various ways attainment can be measured under county, state, and federal guidelines, and attainment history at the site.

Although the project area does not have measured levels above the NAAQS for any of the standards, the *CAA Amendments of 1990* require that any federally funded project must comply (i.e. complete an analysis) with the air quality standards and regulations that have been established by federal, state, and local regulatory agencies, unless an exemption is applicable to that proposed action.

3.3.2 Environmental Consequences.

Criteria. The Clean Air Act (CAA) as amended specifies in Section 176(a) (42 USC 7596(c)) that no department, agency, or instrumentality of the federal government shall engage in, support in any way, or provide financial assistance for, license or permit, or approve any activity which does not conform to an implementation plan after it has been approved or promulgated under Section 110 of this title. “Conformity” is defined in Section 176(c) of the CAA as conformity to the State Implementation Plan’s purpose of eliminating or reducing the severity and number of violations of the NAAQSs and achieving expeditious attainment of such standards, and that the activity will not:

1. Cause or contribute to any new violation of a standard in any area;
 2. Increase the frequency or severity of any existing violation of any standard in any area;
- or
3. Delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

Breakwater Removal and Replacement Alternatives D & E. Several construction mitigation measures are suggested by the BAAQMD CEQA Guidelines to minimize impacts to air quality from construction activities. The following mitigation measures may be observed at the construction site:

- Use alternative fueled construction equipment.
- Maintain properly tuned equipment.
- Limit the hours of operation of heavy duty equipment and/or the amount of equipment in use (also mentioned in the following Section 3.4 about noise).

No Action Alternative. Construction impacts would not occur. Temporary and minor impacts to the environment would not occur.

3.4 NOISE

3.4.1 Affected Environment. Dominant noise sources include waves, beach recreation activities, boats, and vehicle noise on adjacent roads and highway. Noise levels vary with factors including time of day, wave height, period, frequency, angle of attack, season, and wind.

3.4.2 Environmental Consequences.

Criteria. Impacts would be considered significant if the project produced substantial noise pollution.

Breakwater Removal and Replacement Alternatives D & E. Project noise sources are limited to the construction equipment to be used on the breakwater. Given the general background noise levels, including those from existing boat and vehicular traffic, construction noise impacts to humans are expected to be minor compared to background noise levels. Likewise, according to the WTA's EIR/EA, the impact of sound levels from the project on terrestrial and aquatic wildlife would be less than significant provided that construction activities do not involve unmitigated pile driving. The WTA's analysis stated that if pile driving installation methods were used noise levels could reach 101 dBA 50 ft away from the construction activity. This level of noise would exceed the allowable limit of would exceed the allowable construction noise level of 90 dBA at 25 feet.

The following remedial measures will be instituted to limit noise impacts: Limit the hours of operation of heavy duty equipment and/or the amount of equipment in use to the hours of 8 AM and 8 PM on weekdays, 9 AM and 8 PM on Saturdays, and 10 AM and 6 PM on Sundays and holidays; Drive piles with a vibratory device instead of an impact hammer if possible; If marine mammals are observed within 1,000 ft of the project, allow them to completely exit the project area before pile driving resumes; and, If piles will be installed during seasons when steelhead are in the Bay, restrict pile driving to the June 1 to November 30 work window as recommended by the National Marine Fisheries Service NOAA Fisheries (NMFS) to protect salmonids. Impacts, thus, are expected to be less than significant.

No Action Alternative. Construction activities associated with the project would not occur. However, the project's beneficial effects to the ecosystem would be lost.

3.5 CULTURAL RESOURCES

3.5.1 Affected Environment. A literature and records search for the Oyster Point Marina project was conducted by the WTA for the EIR/EA and the PEIR. This EA incorporates these records searches by reference.

In accordance with 36 CFR Part 800.4, additional research was conducted of the area of potential effects (APE) using in-house Corps of Engineers records and maps. The APE consists only of the geographic area, land and aquatic based around the harbor, within which the current project may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The Corps has determined there are no listed historic properties within the APE.

3.5.2 Environmental Consequences.

Criteria. The project would have a significant effect on cultural resources if it will disturb, remove from original context, or introduce incompatible elements out of character with any property considered eligible for the National Register of Historic Places.

Breakwater Removal and Replacement Alternatives D & E. No historic properties are present in the APE. The Corps has determined that the proposed project does not have the potential to cause effects to National Register listed properties. In accordance with 36 CFR 800.3(a)(1) no further coordination with the State Historic Preservation Officer is required.

No Action Alternative. No historic properties are present in the APE. Therefore, no effects will result from strong wave action at the breakwater. However, the project's beneficial effects to the harbor and the proposed ferry service would be lost.

3.6 VESSEL TRANSPORTATION AND SAFETY

3.6.1 Affected Environment. Oyster Point Marina is a heavily used recreational and small commercial vessel water body. Boat traffic, including commercial boats, fishing vessels, and recreational vessels frequent the proposed project site. Safe navigation is maintained by well-marked channels and the presence and activity of various law enforcement agencies (e.g. County Lifeguards, U.S. Coast Guard, California Department of Fish and Game).

3.6.2 Environmental Consequences

Criteria. A significant impact would occur if the proposed project results in a substantial reduction from present safety levels for vessels in the harbor. Safety impacts would be considered significant if activities present a navigational hazard to boat traffic or interfere with any emergency response or evacuation plans.

Breakwater Removal and Replacement Alternative D. Alternative D is the preferred alternative because it provides more wave energy reduction at the mouth of the harbor than Alternative E, or the No Action Alternative. Figures 3 and 4 above show a color representation of velocity magnitudes at the mouth of the harbor. Removal and construction work would not permanently impede access to any channels or entranceways. During construction, water vessel placement and movement will be coordinated with the Oyster Point harbor patrol to maintain safe navigation conditions during construction. All necessary buoys, signs, lights, and safety precautions must comply with the guidelines in the USACE publication EM 385-1-1 *Safety* -

Safety and Health Requirements and any other applicable safety laws or regulations. Any unforeseen impact to safe navigation created by the contractor would be the responsibility of the contractor to correct immediately by notifying the appropriate agency responsible for corrections and temporarily warning, barricading or safeguarding the affected areas. By widening the entrance and reducing wave energy at the mouth of the harbor the long-term impacts to vessel traffic safety are considered to be positive.

Breakwater Removal and Replacement Alternative E. Alternative E would not create as favorable conditions as Alternative D, as shown in figures 3 and 4. Safety precautions and impacts from removal and construction work would be the same as for Alternative D.

No Action Alternative. Additional vessel traffic associated with the project would not occur. However, the project's beneficial effects to the vessels currently using the harbor, the WTA's proposed ferry project, and ecosystem would be lost. In addition, benefits from the navigation aids included in both Alternatives D and E would not be gained.

3.7 RECREATIONAL USES

3.7.1 Affected Environment. The project area has a mix of public and private recreational boating and commercial uses. Oyster Point offers a variety of other recreational activities including fishing, sailing, kayaking, and windsurfing. The public access areas on the marina grounds are popular for picnicking, jogging, and cycling.

3.7.2 Environmental Consequences.

Criteria. Impacts will be considered significant if the project results in a permanent loss of existing recreational uses listed above.

Breakwater Removal and Replacement Alternative D. Impacts to land and water based recreational users would be negligible and insignificant. Long-term impacts would be beneficial. The breakwater replacement would maintain, sustain, and support recreational and commercial boating by keeping the approaches and entrance channels open with increased vessel safety at the mouth of the harbor. Fencing, barricades and associated land- and water- based warning signs would be erected as needed to warn and prevent the public from access to the breakwater work area, and if used, the land-based staging area(s). Impacts on visitors who use the fishing pier, picnic areas, and recreational paths for fishing, jogging, kayak access, and other activities would be limited to temporary interruptions as trucks or barges move to and from the project area. Visitors would be able to use other areas of the marina for recreational activities. If land-based staging areas are used, and if it is determined that the harbor needs to maintain these as part of their permit from the San Francisco Bay Conservation and Development Commission (BCDC), the USACE will consult with BCDC and the harbor to work out a viable solution or mitigate the temporary closure of parcels D-2 and/or G. The proposed project would not result in any permanent closures. Therefore, recreational impacts are considered to be insignificant.

Breakwater Removal and Replacement Alternative E. Impacts to land and water

based recreation would be the same as for Alternative D, except without the added benefit to boat users by increasing visibility and safe traffic flow at the mouth of the harbor.

No Action Alternative. The additional recreational benefits to boating and the marina would not occur. Benefits from the navigation aids and the wave attenuator included in both Alternatives D and E would not be gained.

3.8 AESTHETICS

3.8.1 Affected Environment. The overall aesthetic character of the project area is composed of a mix of residential and water-oriented facilities. The waterfront view further adds to the overall impression of a recreational-oriented visual setting. The area is well maintained as a recreational harbor. The natural resources in the area provide a visually attractive setting and relaxing atmosphere for residents and tourists.

3.8.2 Environmental Consequences.

Criteria. The project would significantly impact the aesthetics if a landscape is changed in a manner that permanently and significantly degrades an existing viewshed or alters the character of a viewshed by adding incompatible structures.

Breakwater Removal and Replacement Alternatives D and E. Given that the presence of construction equipment would be a short-term impact, aesthetic impacts would be insignificant.

No Action Alternative. Aesthetics of the area would remain unchanged and benefits from replacing the breakwater section would not be gained.

3.9 LAND/WATER USES

3.9.1 Affected Environment. Oyster Point Marina's current use is primarily characterized by the commercial and recreational boaters, kayakers, and fishing operations. Recreational visitors use the jogging path and picnic areas on the marina grounds. There are approximately 60 live-aboard residents at the marina at any given time.

3.9.2 Environmental Consequences.

Criteria. Impacts would be considered significant if access to existing uses is substantially restricted or is eliminated.

Breakwater Removal and Replacement Alternatives D and E. The presence of construction equipment would not restrict vessel traffic to the harbor during construction activities. Boat access would be maintained throughout all stages of work. The proposed project is not expected to result in adverse impacts. Likewise, recreational access via the public multi-use path would be maintained at all times. If land-based staging areas are utilized these areas

would be fenced off in a manner to protect public safety but maintain access to paths, roads, and parking areas.

An increase in the width of the harbor entrance could cause a minor increase in wave agitation within the harbor. Live-aboard vessels at the harbor could experience increased agitation due to the increased entrance width. This concern was included as a design consideration during alternative formulation, and modeling results have shown that although there would be a slight increase in wave agitation, this agitation is within acceptable standards for small craft harbors and the therefore no mitigation would be necessary.

No Action Alternative. Beneficial impacts to vessel traffic by increasing boat traffic safety at the mouth of the harbor would not be attained.

3.10 GROUND TRANSPORTATION

3.10.1 Affected Environment. The marina is accessed by automobiles, bikes, and pedestrians by Marina Boulevard via Highway 101, and by watercraft via the San Francisco Bay.

3.10.2 Environmental Consequences.

Criteria. A significant impact would occur if the proposed project results in: 1) inadequate parking facilities, 2) inadequate access or on-site circulation system, or 3) the creation of hazardous traffic conditions.

Breakwater Removal and Replacement Alternatives D and E. Construction work would require the use of heavy equipment. No parking areas or recreational paths would be closed while construction activities take place. Marina Boulevard, connecting roadways, and the boat launch ramp would remain open for public use, except for occasional temporary, short-term closures. Live-aboard residents and marina visitors would maintain access to their berths. In the long term, vessel traffic conditions would be safer as a result of the widened mouth of the harbor. The proposed project, therefore, is expected to have minor and temporary adverse impacts that are not considered to be significant.

No Action Alternative. Ground transportation in the area would remain unchanged, and benefits from increasing vessel safety at the mouth of the harbor would not be gained by vessel traffic.

3.11 CUMULATIVE IMPACTS

Cumulative impacts are defined as the impacts on the environment that result from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions.

The proposed breakwater removal and construction would modify the harbor entrance to

increase visibility and wave protection at the mouth of the harbor, as well as provide better conditions for larger vessels, including the Water Transit Authority's proposed ferry service. The ferry service would be able to operate without this proposed breakwater project, but with reduced efficiency and safety. Other larger vessels, such as Commodore Dinner Cruises, Marine Science Institute Vessels, are among several interested commercial, educational, and recreational users that are interested in expanding their use of Oyster Point Marina but are currently unable to safely enter the harbor year-round.

The WTA design team of ROMA and Moffatt & Nichol Engineers is currently working closely with the San Mateo County Harbor District's administrative and Oyster Point staff to design a ferry terminal, circulation and parking improvements to accommodate the WTA's proposed ferry service. The terminal will be on pilings and floats, off the landfill in Oyster Point's East Basin. Existing Docks 9 and 10 will be removed, and boats now berthed there will be relocated elsewhere in the marina. Construction is anticipated to begin in 2007-2008.

The WTA's EIR/EA outlines a detailed analysis of air pollutants for their ferry service. In summary, the ferry project as a whole would result in an increase of emissions of reactive organic gases (ROG) and nitrogen oxides (NO_x) that can form ozone, and would contribute to the Bay Area's violations of state ambient ozone standards. However, the increase would be less than the BAAQMD threshold of 80 pounds per day (ppd) for ROG and NO_x, making the impact less than significant.

In conclusion, operation of larger vessels including the proposed ferry service would not result in any unavoidable or significant cumulative impacts. Mitigation measures for several less-than-significant impacts are outlined in the document. This proposed USACE breakwater project adopted the same or similar construction mitigation measures relating to the topics in the list below. In general, these measures relate to:

- Noise monitoring and mitigation for construction activities, especially relating to pile driving
- Ensuring public access to land and water recreational facilities
- Vessel safety, including emergency response vessels
- Water quality and air quality impacts from construction equipment fuels and emissions

Other proposed projects in the area include improvements to parking and lighting facilities at the Oyster Point Marina facilities. These improvements are a joint undertaking of the SMCHD and the WTA. Implementation of this work is expected to begin before the surface improvements and ferry terminal work begins.

The proposed USACE breakwater removal and construction would not create negative impacts in consideration of current and future activities. The proposed breakwater relocation would prevent potential negative cumulative impacts from occurring at the site as strong wave energy at the mouth of the harbor continues to create hazardous navigation conditions for vessels passing through the narrow harbor entrance. Increased safety to vessels using the harbor, and the resulting economic and safety benefit to people and services in the area are positive permanent impacts resulting from relocating the breakwater. Minor temporary impacts to air quality,

aesthetics and noise are expected from the construction equipment.

SECTION 4 - ENVIRONMENTAL COMPLIANCE

4.1 COMPLIANCE

4.1.1 National Environmental Policy Act (NEPA) of 1969 (42 USC 4341 *et seq*)

This act requires that environmental consequences and project alternatives be considered before a decision is made to implement a federal project. NEPA established requirements for preparation of an Environmental Impact Statement (EIS) for projects potentially having significant environmental impacts, and an Environmental Assessment (EA) for projects with no significant environmental impacts.

This EA has been prepared to address impacts and develop mitigation (if warranted) associated with the proposed maintenance project, as discussed in the CEQ regulations on implementing NEPA (40 CFR 1500-1508). This document presents sufficient information regarding the impacts of the proposed construction activities at the Oyster Point breakwater project to guide future studies, and is intended to satisfy NEPA requirements.

4.1.2 Clean Water Act Of 1972 (33 USC 1251 *et seq*)

The objective of the Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Specific sections of the CWA control the discharge of pollutants and wastes into aquatic and marine environments.

The specific sections of the CWA that apply to the proposed project are Section 401, which requires certification that the permitted project complies with the State Water Quality Standards for actions within state waters. The San Francisco Regional Water Quality Control Board (SFRWQCB) has jurisdiction over Oyster Point. The total volume of breakwater proposed to be removed (measuring only the 18 ft height of breakwater above the mudline) would be approximately 115 cubic yards. The proposed project Alternatives D and E would add between 110 and 115 cubic yards of Bay fill in the form of precast, prestressed concrete sheetpile and cover an area approximately the same size as the breakwater section to be removed. Initial designs for the navigation aids indicate there would be seven navigation aids, including two "dolphin" or "tripod" style navigation aids, and five freestanding navigation aids. They would most likely add between 15 and 50 cubic yards of concrete Bay fill in the immediate breakwater removal area. Additional information on the fill can be found in the text of Appendix C, and figures C-2 and C-3, as well as in Section 2.3.2 in the "Breakwater Removal" and "Breakwater Construction" paragraphs.

USACE will comply with Section 404 by assuring that final construction designs would use the least amount of material needed to fulfill the project purpose and regulatory requirements, and would be the Least Environmentally Damaging Practicable Alternative (LEDPA). In addition, the project area is not located in a special aquatic site. USACE will comply with Section 401 by applying for water quality certification or waiver from the SFRWQCB.

4.1.3 Endangered Species Act of 1973 (16 USC 1531 et seq)

The Endangered Species Act (ESA) protects threatened and endangered species by prohibiting actions that would jeopardize continued existence of such species or result in destruction or adverse modification of any critical habitat of such species.

A list of threatened, endangered, and candidate species of birds, reptiles, fish and amphibians in the study area and its immediate surroundings provided by both the U.S. Fish and Wildlife Service and the National Marine Fisheries Service is presented in Appendix B. Although no impacts are expected to occur to any of these species or their critical habitat, an abbreviated Biological Assessment (BA) was prepared for listed species and is included in Section 3.2.

The USACE has concluded that the proposed project will not affect any federally listed endangered or threatened species, or their critical habitat, and formal consultation under Section 7 of the ESA is not required. The FWS and the NMFS provided their written concurrence with this determination in a letter dated September 25, 2006.

4.1.4 Clean Air Act of 1969 (42 USC 7401 et seq); CAA Amendments of 1990 (PL 101-549)

The purpose of the Clean Air Act is to protect and enhance the nation's air quality by regulating emissions of air pollutants, and to promote public health and welfare and the productivity of the population. Under this Act, the administrator of the EPA has established a set of National Ambient Air Quality Standards (NAAQS) for six pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, sulfur dioxide. The EPA designates "attainment" areas if air quality measurements for all six pollutants are better than the NAAQS.

The impacts from the USACE's breakwater project would result in *de minimus* impacts on air quality and is in compliance with the Clean Air Act. Appendix D includes a General Conformity Applicability Analysis and calculations for this conclusion.

4.1.5 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA) requires the USACE to give fish and wildlife resources equal consideration to other project features, and to consult with the U.S. Fish and Wildlife Service whenever the waters of any stream or other body of water are proposed to be impounded, diverted, or otherwise modified.

Specific comments were solicited and received from the FWS and the NMFS concerning the proposed project. Verbal comments were received from the FWS, and a written response from the USACE to the NMFS Biological Opinion was provided in October, 2006. At this time the USACE is in full compliance with FWCA provisions.

4.1.6 Magnuson-Stevens Fishery Conservation and Management Act Fishery Conservation Amendments of 1996, (16 USC 1801 et seq)

The Magnuson-Stevens Fishery Conservation and Management Act provides for the conservation and management of all fishery resources between 3 and 200 nautical miles offshore. The 1996 amendments to this act require regional fisheries management councils, with assistance from the NMFS, to delineate Essential Fish Habitat (EFH) in Fishery Management

Plans (FMPs) for all managed species. Federal action agencies which carry out activities that may adversely impact EFH are required to consult with the NMFS regarding potential adverse effects of their actions on EFH.

Pursuant to the Magnuson-Stevens Act, the USACE has conducted an assessment of EFH for the proposed project and concluded that the project is not likely to adversely affect essential fish habitat. EFH is defined as an area which consists of “waters and substrate necessary for spawning, breeding, feeding or growth to maturity” for certain fish species. The project is located within an area designated as EFH for three FMPs: the Pacific Coast Salmon Plan, the Coastal Pelagics Plan, and Pacific Groundfish Management Plan.

In addition to designated EFH, the regulations also require NMFS to designate a Habitat Area of Particular Concern (HAPC) for each species. HAPC are subsets of EFH, which are rare, particularly susceptible to human-induced degradation, ecologically important, or located in an environmentally stressed area. HAPCs are not afforded additional protection beyond that of the EFH; however, Federal projects with potential adverse impacts to HAPCs will be given more scrutiny during the consultation process. Designated HAPCs include estuaries, seagrass habitat, and areas of interest. Estuaries include bays, sounds, inlets, and river mouths influenced by ocean and freshwater. Estuaries are generally shallow, protected, nutrient rich, and biologically productive; providing important habitat for many marine organisms.

NOAA Fisheries defines the extent of estuarine HAPC as the MHHW, or the upriver extent of saltwater intrusion, defined as upstream and landward to where ocean-derived salts measure less than 0.5 parts per thousand (ppt) during a period of average annual low flow. The seaward extent is an imaginary line closing the mouth of a river, bay, or sound; and the seaward limit of wetland emergent vegetation, shrubs, or trees occurring beyond the lines closing rivers, bays, or sounds. Estuarine HAPC includes estuary influenced offshore areas of continuously diluted seawater.

Many of the species federally managed under these FMPs and within the HAPC are known to occur in the area, but are not expected to be adversely affected by the proposed project. Steelhead may swim by the project area during certain times of the year, but will not be impacted because construction activities will not take place during the window of time when they would potentially be present. In addition, steelhead and Chinook critical habitat are located in the Bay but not in the vicinity of the project area. Therefore, the proposed action is in full compliance with this act. In compliance with the coordination and consultation requirements of the Act, the Draft EA was sent to the NMFS for their review and comment. A biological opinion was received with a finding of not likely to adversely affect listed anadromous salmonids or the southern DPS of green sturgeon, and not likely to adversely affect essential physical or biological features associated with designated critical habitat.

The biological opinion stated that this project would minimize adverse impacts to Essential Fish Habitat, and included recommendations to further minimize adverse effects to EFH quality. In summary, these recommendations included conducting a survey of live native oysters at and near the project site during fall or spring months prior to breakwater removal. If native oysters were

observed in high densities, the USACE should mitigate by conducting more extensive monitoring. The USACE responded to these recommendations, agreeing to conduct a voluntary survey of live native oyster distribution and abundance on the existing breakwater area prior to breakwater removal. If the survey determined that oysters were present on the existing breakwater in high densities, the USACE did not agree to mitigate for the loss of live native oysters by monitoring under the scope of Essential Fish Habitat provisions of the Magnuson-Stevens Act, as live native oysters are not currently a managed species under a Fishery Management Plan or otherwise referred to by name as part of designated Essential Fish Habitat. Species that are not managed under the Magnuson-Stevens Act are not related to EFH regulations. See 67 Federal Register 2343, 2346, January 17, 2002. However, the USACE did agree to share the survey findings with the NMFS Santa Rosa Area Office Staff and discuss potential voluntary efforts to encourage the continuation of live native oysters and minimize impacts to the affected breakwater habitat.

The USACE conducted a voluntary survey of the project area in late fall of 2006, accompanied by representatives from the NMFS Santa Rosa Office Staff and other agencies and research groups named in the EFH recommendations. Native oysters were not observed in high densities in the vicinity of the project. Based on these observations and the small project size, the USACE finds that there will be no substantial effects on EFH.

4.1.7 Marine Mammal Protection Act, (16 USC 1361 et seq)

The Marine Mammal Protection Act (MMPA) provides protection to marine mammals in both the State waters (within three miles from the coastline) and the ocean waters beyond. As specified in the MMPA, the FWS is responsible for the management of polar bears, walrus, northern and southern sea otters, three species of manatees, and the dugong; the NMFS is responsible for all other marine mammals. The primary management features of the act include: 1) a moratorium on the “taking” of marine mammals; 2) the development of a management approach designed to achieve an “optimum sustainable population” for all species of marine mammals; and 3) the protection of species determined to be “depleted.”

Common marine mammal species in San Francisco Bay include the Pacific harbor seal (*Phoca vitulina*), California sea lion (*Zalophus californianus*), and more recently, the gray whale (*Eschrichtius robustus*). Other marine mammal species that have been seen less frequently in the Bay include the humpback whale (*Megaptera novaeangliae*), harbor porpoise (*Phocoena phocoena*), northern elephant seal (*Mirounga angustirostris*), Steller sea lion (*Eumetopius jubatus*), northern fur seal (*Callorhinus ursinus*), and less frequently, the southern sea otter (*Enhydra lutris*). All of these species and their habitats are discussed in the WTA documents mentioned above. Minimal and temporary disruption to the regular basking in this section of the breakwater may occur to marine mammals, because seals, sea lions, and other marine mammals are sometimes known to haul out on coastal breakwaters. If a marine mammal such as a California sea lion or Pacific harbor seal is encountered, maintenance work would immediately be halted, contractors would be responsible for contacting the USACE environmental manager and the FWS or NMFS, as appropriate, within 24 hours in order to ensure the safety of the animal.

4.1.8 Migratory Bird Treaty Act, (16 USC 703 et seq)

The essential provision of the Migratory Bird Treaty makes it unlawful except as permitted by regulations “to pursue, hunt, take, capture, kill...any migratory bird, any part, nest or egg,” or any product of any bird species protected by the convention. Many of the bird species found within or near to the Oyster Point project area are discussed in the Biological Resources section of the WTA’s EIR/EA. No bird species are expected to be negatively impacted by this breakwater maintenance activity.

4.1.9 Executive Order 11990, Protection of Wetlands, (42 FR 26961, May 25, 1977)

Under this Executive Order, federal agencies are directed to provide leadership and take action to minimize the destruction, loss, or degradation of wetlands. The proposed action is located in San Francisco Bay. Wetlands within the marina are limited to small areas along the margins of open water. The land-based staging areas are located on bare soil and non-native grassland. A site visit and the vegetation assessment in the WTA’S EIR/EA indicate they do not contain wetlands. Therefore this action is in full compliance with this Executive Order. No impacts to wetlands or other special aquatic sites would occur.

4.1.10 National Historic Preservation Act of 1966, as amended (16 USC 470 et seq)

The purpose of the National Historic Preservation Act (NHPA) is to preserve and protect historic and prehistoric resources that may be damaged, destroyed, or made less available by a project. Under this Act, federal agencies are required to identify cultural or historical resources that may be affected by a project and to consult with the State Historic Preservation Officer (SHPO) when a federal action may affect cultural resources.

Previous surveys indicate that no cultural resources exist in the project area. All project coordination with respect to Section 106 of the NHPA (36 CFR 800) will be completed prior to maintenance. If previously unknown cultural resources are identified during project implementation, all activity will cease until requirements of 36 CFR 800.11, *Discovery of Properties During Implementation of an Undertaking*, are met.

4.1.11 Executive Order 11593, Protection and Enhancement of the Cultural Environment, (36 FR 8921, May 13, 1971)

This Executive Order requires federal agencies to (1) inventory the cultural resources on lands under their jurisdiction, (2) outline measures to actively protect and preserve these cultural resources, (3) nominate to the National Register of Historic Places those inventoried cultural resources considered significant, and (4) initiate measures to ensure that their policies contribute to the protection and preservation of non-federally owned cultural resources. A detailed cultural resources investigation of the Oyster Point Marina was undertaken for the WTA’s EIR/EA and PEIR.

4.1.12 Archaeological and Historic Preservation Act of 1974, (16 USC 469 et seq)

The Archaeological and Historic Preservation Act (AHPA) amended the Reservoir Salvage Act of 1960. The AHPA provides for the preservation of historic and archaeological data that might otherwise be lost or destroyed as a result of any federal construction project or federally licensed or assisted undertaking. The AHPA authorizes the lead federal agency of a project, or the

Secretary of the Interior, to undertake recovery or preservation of such data. As stated above, the proposed action would not affect any potential submerged cultural resources. No impacts to archaeological or historical resources are expected from this maintenance project.

4.1.13 Abandoned Shipwreck Act of 1987, (43 USC 2101 et seq)

This Act creates federal authority to transfer ownership of abandoned shipwrecks to the state on whose submerged lands the wreck is located. The Act provides federal protection to any shipwreck that meets criteria for eligibility for inclusion in the National Register for Historic Places. Should any of the submerged cultural resources identified through research and remote sensing be found eligible for inclusion in the National Register, the Corps would achieve full compliance by consultation with the SHPO and selection of appropriate protection measures. No impacts are expected.

4.1.14 Submerged Lands Act, (Public Law 82-3167; 43 USC 1301 et seq)

Under this Act, states are granted ownership of all resources within the land and water to a distance of three miles offshore from the low tide line. The tidal and submerged lands located beneath navigable waters within the three mile limit, and thus located within the Oyster Point Marina, were granted in trust by the State of California legislature State Lands Commission (SLC) to the San Mateo County Harbor District (SMCHD). No impacts to submerged lands are expected.

4.1.15 Rivers and Harbors Act of 1899, (33 USC 403 et seq)

This Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from the USACE. Since the construction of the Oyster Point Marina breakwater was authorized by the River and Harbor Act of 1960, the proposed breakwater replacement would be in compliance with this act.

4.2 COORDINATION

An Environmental Assessment was circulated to the San Francisco Bay Conservation and Development Commission (BCDC), the California Department of Fish and Game, California Regional Water Quality Control Board – San Francisco Bay, San Mateo County Harbor District, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and various interested local individuals for review and comment for a period of 15 days in August, 2006. A Public Notice of Availability of the EA was provided to the public by posting the Draft EA on the USACE website. Due to changes in the project purpose, the revised EA is being re-circulated for a period of 15 days to the list of recipients above, as well as the U.S. Coast Guard, the Bay Area Air Quality Management District, and local marina residents.

4.3 PROPOSED REMEDIAL MEASURES

1. The USACE shall conduct a pre-construction meeting with the contractor to discuss the environmental protection commitments made in this document and to advise the contractor of potential environmental impacts and other measures they can take.
2. The contractor shall implement an Environmental Protection Plan to present a comprehensive overview of known or potential environmental issues which the

- contractor must address during construction.
3. Precautions shall be taken to fence off staging areas for safety, while maintaining public access to public trails, roads, and water access points.
 4. The contractor shall implement a Spill Prevention Plan at the breakwater project area, which shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by 40 CFR 68, 40 CFR 302, 40 CFR 355, and/or regulated under State or Local laws and regulations. This plan will address cleaning up oil and other pollutants introduced by construction vehicles.
 5. The contractor shall keep construction activities under surveillance, management and control to avoid pollution of surface and ground waters.
 6. Sound pressure measured underwater in the marina during pile driving shall not exceed the 180 decibel threshold.
 7. The USACE will coordinate with the Oyster Point harbor patrol to maintain safe navigation conditions during construction.
 8. The contractor shall keep construction activities under surveillance, management, and control to minimize interference with, disturbance to, and damage of fish and wildlife. In case of endangering wildlife, it is the contractor's duty to ensure safety of wildlife before operations are continued.
 9. If endangered or threatened species are encountered, the contractor shall take necessary precautions to halt operations and to notify the USACE environmental manager, construction manager, and the FWS or NMFS, as appropriate, within 24 hours.
 10. If cultural resources are discovered prior to or during work and cannot be avoided, work shall be suspended in that area until resources are evaluated for eligibility for listing in the NRHP after consultation with the SHPO. If resources are deemed eligible for the NRHP, the effects of the project will be taken into consideration in consultation with the SHPO. The Advisory Council on Historic Preservation will be provided an opportunity to comment in accordance with 36 CFR 800.11.
 11. An Accidental Prevention Plan shall be in place prior to the start of construction. Pre-construction and coordination meetings and briefings shall be held to ensure all shareholders responsible for the quality completion of the project understand their roles and responsibilities. An Activity Hazard Analysis (AHA) detailing tasks, hazards and controls shall be submitted and accepted by the government designated authority. Drowning hazards will exist for workers involved in revetment work. The contractor should be made to develop a AHA that details prevention actions to prevent this from occurring (i.e. personal flotation device use, safety personnel on site at all times, off-shore rescue vessels in case a worker gets washed over on the ocean side, accountability, etc.).
 12. The contractor shall move equipment upon request by the U.S. Coast Guard and Harbor patrol law enforcement and rescue vessels.
 13. It is the contractor's responsibility to monitor underwater and terrestrial noise levels and obtain all applicable noise permits and comply with federal, state, and local noise regulations.
 14. The contractor shall restore work areas and storage areas to the original condition at the completion of the project, and consult with the Harbor Master regarding Staging Area conditions.

15. If either of the proposed staging areas is determined to be a required public access area as part of the Oyster Point Marina's BCDC permit, the USACE shall coordinate with BCDC to ensure that adequate public access is maintained.
16. Final designs for the breakwater and navigation aids will use the minimum amount of material required to meet USACE, Coast Guard, and other design requirements in order to minimize the net increase in Bay fill.
17. In accordance with the BCDC permit issued to the San Mateo County Harbor District for Oyster Point Marina, USACE will inform BCDC at least one week in advance of commencing construction in public access areas.
18. Use alternative fuel for construction equipment where possible, and maintain properly tuned equipment.
19. Limit the hours of operation of heavy duty equipment and/or the amount of equipment in use to the hours of 8 AM and 8 PM on weekdays, 9 AM and 8 PM on Saturdays, and 10 AM and 6 PM on Sundays and holidays unless permission is obtained from the Harbor Master and live-aboard residents at the Oyster Point Marina.
20. A vibratory devices should be used to drive piles for the breakwater and navigation aids instead of an impact hammer. If a vibratory device cannot be employed due to unexpected local conditions, utilize a cushioning block between the hammer head and pile, or use a mitigation measures such as an air barrier or bubble curtain to minimize noise impacts to fish and wildlife.
21. If marine mammals are observed within 1,000 ft of the project, work shall halt to allow them to completely exit the project area before pile driving resumes.
22. If piles will be installed during seasons when salmonids are in the Bay, restrict pile driving to the June 1 to November 30 work window as recommended by NMFS to protect salmonids. (This is mirrored by recommendations by the USACE Dredged Material Management Office cited in the WTA's EIR/EA.) Work must halt December 1.
23. Commit to only use plastic or epoxy (plastic) coated steel for fender piles (if installed), instead of treated wood that can leach toxins into the water column.

SECTION 5 – REFERENCES

EIP Associates. *South San Francisco Ferry Terminal Project Volume I Draft EIR/EA* SCH No. 2004122091, February 2006, prepared for San Francisco Bay Area Water Transit Authority. Also available at <http://www.watertransit.org/publications.shtml>

GKO & Associates Draft San Mateo Harbor District Reconstruction of Breakwater at Oyster Point Marina, South San Francisco, California. Basis for design, August 14, 2003

Goals Project. 2000. Baylands Ecosystem Species and Community Profile: Life histories and environmental requirements of key plants, fish and wildlife. Prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project. P.R. Olofson, ed. San Francisco Bay Regional Water Quality Control Board, Oakland, Calif.

Oyster Point Marina/Park Project Status/Update
<http://www.smharbor.com/oysterpoint/opproj.htm>

URS Corporation. *Final Program Environmental Impact Report Expansion of Ferry Transit Service in the San Francisco Bay Area*, June 2003, prepared for San Francisco Bay Area Water Transit Authority. Also available at <http://www.watertransit.org/publications.shtml>

US Army Corps of Engineers Oyster Point Marina Continuing Authority, Section 107
<http://www.spn.usace.army.mil/projects/oysterpointmarina.html>

SECTION 6 - DISTRIBUTION LIST

Federal Agencies:	National Marine Fisheries Service U.S. Environmental Protection Agency, Region 9 U.S. Fish and Wildlife Service U.S. Coast Guard
State and Local Agencies:	San Francisco Bay Conservation and Development Commission California Department of Fish and Game City of South San Francisco Regional Water Quality Board San Francisco Bay Region Caltrans District 4 San Mateo County Department of Public Works San Mateo County Harbor District

SECTION 7 – ACRONYMS AND ABBREVIATIONS

AHPA.....	Archaeological and Historic Preservation Act
AHA.....	Activity Hazard Analysis
APE.....	Area of Potential Effects
BA.....	Biological Assessment
BAAQMD.....	Bay Area Air Quality Management District
BCDC.....	San Francisco Bay Conservation and Development Commission
CAA.....	Clean Air Act
CEQ.....	Council on Environmental Quality
CEQA.....	California Environmental Quality Act
CFR.....	Code of Federal Regulations
CWA.....	Clean Water Act
EA.....	Environmental Assessment
EFH.....	Essential Fish Habitat
EIR/EA.....	Environmental Impact Report/Environmental Assessment
EIS.....	Environmental Impact Statement
ESA.....	Endangered Species Act
FMP.....	Fishery Management Plan
FWS.....	Fish and Wildlife Service
FONSI.....	Finding of No Significant Impact
ft.....	foot or feet
ft/s.....	feet per secon
FWCA.....	Fish and Wildlife Coordination Act
HAPC.....	Habitat Area of Particular Concern
in.....	inches
LEDPA.....	Least Environmentally Damaging Practicable Alternative
MHHW.....	Mean Higher High Water
MLLW.....	Mean Lower Low Water
MMPA.....	Marine Mammal Protection Act
NAAQS.....	National Ambient Air Quality Standards
NEPA.....	National Environmental Policy Act
NHPA.....	National Historic Preservation Act
NMFS.....	National Marine Fisheries Service
NOAA.....	National Oceanic and Atmospheric Administration
NO _x	nitrogen oxides
PL.....	public law
ppd.....	pounds per day
RHA.....	River and Harbor Act
ROG.....	reactive organic gases
SHPO.....	State Historic Preservation Officer
SIP.....	State Implementation Plan
SFBAAB.....	San Francisco Bay Area Air Basin
SFRWQCB.....	San Francisco Regional Water Quality Control Board
SMCHD.....	San Mateo County Harbor District
SPN.....	San Francisco District of the U.S. Army Corps of Engineers
USACE.....	United States Army Corps of Engineers
USC.....	United States Code
WTA.....	Water Transit Authority

SECTION 8 – PREPARERS AND REVIEWERS

8.1 Preparers

Nancy Ferris USACE SPN, Biological Sciences Environmental Manager,
Environmental Planning Section A

8.2 Reviewers

Fari Tabatabai USACE SPN, Chief, Environmental Planning Section A
Peter LaCivita USACE SPN, Biologist, Environmental Planning Section B

APPENDIX A - MAILING LIST

Federal Agencies:

National Marine Fisheries Service

ATTN: Gary Stern
777 Sonoma Ave, Room 325
Santa Rosa, CA 95404

U.S. Coast Guard

ATTN: Vessel Traffic Service (VTS)
Kevin Mohr
Yerba Buena Island Bldg 278
San Francisco, CA 94130

U.S. Environmental Protection Agency, Region 9

ATTN: Alexis Strauss
75 Hawthorne Street
San Francisco, CA 94105- 3901

U.S. Fish and Wildlife Service

Sacramento Fish and Wildlife Office
ATTN: Ryan Olah
2800 Cottage Way, Room W-2605
Sacramento, California 95825

State and Local Agencies and Interested Parties:

Bay Area Air Quality Management District

Planning Section
ATTN: David Vintze
939 Ellis Street
San Francisco, CA 94109

BCDC

ATTN: Ming Yeung
50 California Street, Suite 2600
San Francisco, CA 94111

California Department of Fish and Game Central Coast Region III

ATTN: Rob Floerke
7329 Silverado Trail
Napa, CA 94558

California Regional Water Quality Control Board San Francisco Bay Region

ATTN: Habtemariam Kifle
1515 Clay Street, Suite 1400
Oakland, CA 94612

Caltrans District 4

ATTN: Jack Gaines
111 Grand Ave
Oakland, CA 94612

San Mateo County Department of Public Works

ATTN: Brent Spencer
555 County Center, 5th Floor
Redwood City, CA 94063-1665

San Mateo County Harbor District

ATTN: Robert Johnson
95 Harbormaster Road, #1
South San Francisco, California 94080

**APPENDIX B - LIST OF
THREATENED AND ENDANGERED
SPECIES**

**Federal Endangered and Threatened Species that Occur in
or may be Affected by Projects in the Counties and/or
U.S.G.S. 7 1/2 Minute Quads you requested (San Mateo Quad and
San Mateo County)**

**Federal Endangered and Threatened Species that Occur in
or may be Affected by Projects in the Counties and/or
U.S.G.S. 7 1/2 Minute Quads you requested**

Document Number: 060816121607

Database Last Updated: August 10, 2006

Species of Concern - The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. See www.fws.gov/sacramento/es/spp_concern.htm for more information and links to these sensitive species lists.

Red-Legged Frog Critical Habitat - The Service has designated final critical habitat for the California red-legged frog. The designation became final on May 15, 2006. See our [map index](#).

Species

Listed Species

Invertebrates

Icaricia icarioides missionensis

mission blue butterfly (E)

Incisalia mossii bayensis

San Bruno elfin butterfly (E)

Speyeria zerene myrtleae

Myrtle's silverspot butterfly (E)

Fish

Hypomesus transpacificus

delta smelt (T)

Oncorhynchus kisutch

coho salmon - central CA coast (E) (NMFS)

Oncorhynchus mykiss

Central California Coastal steelhead (T) (NMFS)

Central Valley steelhead (T) (NMFS)

Oncorhynchus tshawytscha

Central Valley spring-run chinook salmon (T) (NMFS)

winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Rana aurora draytonii

California red-legged frog (T)

Critical habitat, California red-legged frog (X)

Reptiles

Caretta caretta

loggerhead turtle (T) (NMFS)

Chelonia mydas (incl. *agassizi*)

green turtle (T) (NMFS)

Dermochelys coriacea

leatherback turtle (E) (NMFS)

Lepidochelys olivacea

olive (=Pacific) ridley sea turtle (T) (NMFS)

Thamnophis sirtalis tetrataenia

San Francisco garter snake (E)

Birds

Brachyramphus marmoratus

marbled murrelet (T)

Charadrius alexandrinus nivosus

western snowy plover (T)

Haliaeetus leucocephalus

bald eagle (T)

Pelecanus occidentalis californicus

California brown pelican (E)

Rallus longirostris obsoletus

California clapper rail (E)

Sternula antillarum (=Sterna, =albifrons) browni

California least tern (E)

Mammals

Eumetopias jubatus

Steller (=northern) sea-lion (T) (NMFS)

Reithrodontomys raviventris

salt marsh harvest mouse (E)

Plants

Cirsium fontinale var. *fontinale*

fountain thistle (E)

Eriophyllum latilobum

San Mateo woolly sunflower (E)

Hesperolinon congestum

Marin dwarf-flax (=western flax) (T)

Proposed Species

Amphibians

Rana aurora draytonii

Critical habitat, California red-legged frog (PX)

Candidate Species

Fish

Oncorhynchus tshawytscha

Central Valley fall/late fall-run chinook salmon (C) (NMFS)

Critical habitat, Central Valley fall/late fall-run chinook (C) (NMFS)

Selected Quads

SAN MATEO (448D)

County Lists

Listed Species

Invertebrates

Euphydryas editha bayensis

bay checkerspot butterfly (T)

Critical habitat, bay checkerspot butterfly (X)

Haliotes sorenseni

white abalone (E) (NMFS)

Icaricia icarioides missionensis

mission blue butterfly (E)

Incisalia mossii bayensis

San Bruno elfin butterfly (E)

Speyeria callippe callippe

callippe silverspot butterfly (E)

Speyeria zerene myrtleae

Myrtle's silverspot butterfly (E)

Fish

Eucyclogobius newberryi

tidewater goby (E)

Oncorhynchus kisutch

coho salmon - central CA coast (E) (NMFS)

Critical habitat, coho salmon - central CA coast (X) (NMFS)

Oncorhynchus mykiss

Central California Coastal steelhead (T) (NMFS)

Critical habitat, Central California coastal steelhead (X) (NMFS)

Oncorhynchus tshawytscha

Central Valley spring-run chinook salmon (T) (NMFS)

winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense

California tiger salamander, central population (T)

Rana aurora draytonii

California red-legged frog (T)

Critical habitat, California red-legged frog (X)

Reptiles

Caretta caretta

loggerhead turtle (T) (NMFS)

Chelonia mydas (incl. *agassizi*)

green turtle (T) (NMFS)

Dermochelys coriacea

leatherback turtle (E) (NMFS)

Lepidochelys olivacea

olive (=Pacific) ridley sea turtle (T) (NMFS)

Thamnophis sirtalis tetrataenia

San Francisco garter snake (E)

Birds

Brachyramphus marmoratus

Critical habitat, marbled murrelet (X)

marbled murrelet (T)

Charadrius alexandrinus nivosus

Critical habitat, western snowy plover (X)

western snowy plover (T)

Diomedea albatrus

short-tailed albatross (E)

Haliaeetus leucocephalus

bald eagle (T)

Pelecanus occidentalis californicus

California brown pelican (E)

Rallus longirostris obsoletus

California clapper rail (E)

Sternula antillarum (=Sterna, =albifrons) browni

California least tern (E)

Mammals

Arctocephalus townsendi

Guadalupe fur seal (T) (NMFS)

Balaenoptera borealis

sei whale (E) (NMFS)

Balaenoptera musculus

blue whale (E) (NMFS)

Balaenoptera physalus

finback (=fin) whale (E) (NMFS)

Enhydra lutris nereis

southern sea otter (T)

Eubalaena glacialis

right whale (E) (NMFS)

Eumetopias jubatus

Steller (=northern) sea-lion (T) (NMFS)

Megaptera novaeangliae

humpback whale (E) (NMFS)

Physeter catodon (=macrocephalus)

sperm whale (E) (NMFS)

Reithrodontomys raviventris

salt marsh harvest mouse (E)

Plants

Acanthomintha duttonii

San Mateo thornmint (E)

Cirsium fontinale var. fontinale

fountain thistle (E)

Cupressus abramsiana

Santa Cruz cypress (E)

Eriophyllum latilobum

San Mateo woolly sunflower (E)

Hesperolinon congestum

Marin dwarf-flax (=western flax) (T)

Lessingia germanorum

San Francisco lessingia (E)

Pentachaeta bellidiflora

white-rayed pentachaeta (E)

Potentilla hickmanii

Hickman's potentilla (=cinquefoil) (E)

Proposed Species

Amphibians

Rana aurora draytonii

Critical habitat, California red-legged frog (PX)

Candidate Species

Invertebrates

Haliotes cracherodii

black abalone (C) (NMFS)

Fish

Oncorhynchus tshawytscha

Central Valley fall/late fall-run chinook salmon (C) (NMFS)

Critical habitat, Central Valley fall/late fall-run chinook (C) (NMFS)

Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the [National Oceanic & Atmospheric Administration Fisheries Service](#). Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

**APPENDIX C - AGENCY
COMMENTS AND RESPONSE TO
COMMENTS**

The following are comments and responses received from circulating the Draft Environmental Assessment in August and September, 2006.

Comments from the San Mateo County Harbor District
(via personal correspondence with Robert Johnson on September 13, 2006)

The date of the breakwater construction should be changed from 1997 to 1979 on pages 7 and 19. An addition was also made to clarify that the original breakwater was constructed by the San Mateo County Harbor District.

Mistyped text referring to Pillar Point Harbor needs to be removed from page 13 and replaced with reference to Oyster Point.

The Harbor Master discussed his experience and recommendations based on past construction experiences at the harbor. Many of the key points are covered in the following section concerning BCDC's comments on the EA, and the USACE response.

As an additional measure, the USACE should coordinate with the Oyster Point harbor patrol to ensure safe ingress and egress of public boat traffic, road traffic, and construction traffic via land and water.

Comments from BCDC Followed by Embedded Responses:
(via personal correspondence with Ming Yeung on September 8, 2006)

BCDC outlined three primary comments:

- 1) **Breakwater fill:** would this project result in a net gain, loss, or no change in Bay fill? Clarify the dimensions of the existing breakwater to be removed and the two alternate replacement breakwater designs in order to determine if there will be a net increase or decrease or no change in the amount of fill in the Bay. If the total volume of the preferred alternative is larger than the total volume of the breakwater being removed, the USACE will need to confirm that this design uses the minimum amount of material required to accomplish this in order to justify the net increase in Bay fill.

Response:

Bay Fill Removal for Both Alternatives D and E

Bay fill removal for both alternatives would consist of removing three sections of breakwater shown in red in figure C-1 below. A typical cross section of the existing breakwater is shown in figure C-2. The total volume of breakwater to be removed (measuring only the 18 ft height of breakwater above the mudline) would be approximately 115 cubic yards.

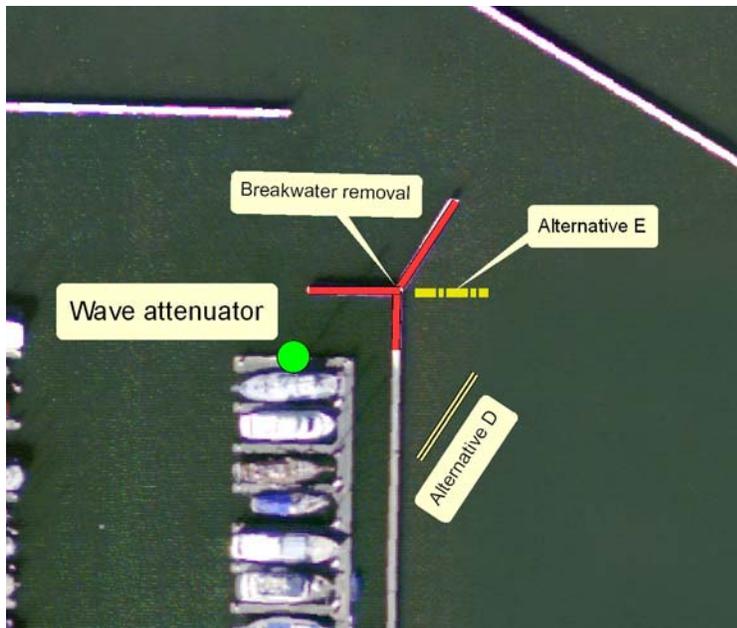


Figure C-1 Close up of breakwater removal

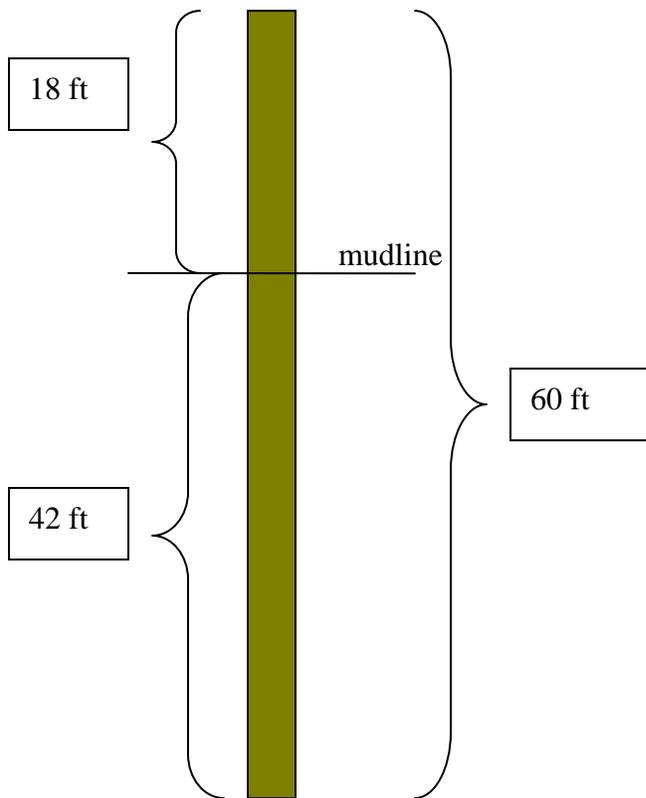


Figure C-2. Schematic of existing breakwater proposed for removal

Bay Fill for Alternative D

Based on current design estimates, approximately 115 cubic yards of precast, prestressed reinforced concrete breakwater would be added for Alternative D, shown in yellow in figure C-1.

There would be no net change in Bay fill by constructing Alternative D. Note that the new sheetpiling is 5 ft longer than the existing sheetpiling, but would be buried to expose the same 18 ft height of breakwater above the mudline.

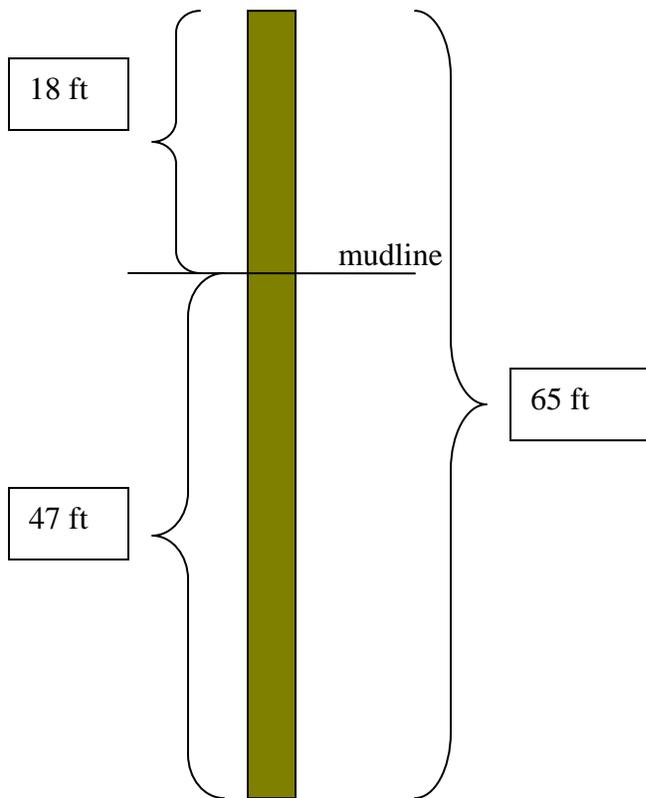


Figure C-3. Schematic of proposed breakwater replacement (same for Alternatives D & E)

Bay Fill for Alternative E

Based on current design estimates, approximately 100 cubic yards of precast, prestressed reinforced concrete breakwater would be added for Alternative D, shown in yellow in figure C-1. There would be a net decrease in Bay fill by constructing Alternative D.

Bay Fill for Navigation Aids

The exact design specifications and locations for the navigation aids have not been completed. Initial designs indicate there would be seven navigation aids, including two “dolphin” or “tripod” style navigation aids, and five freestanding navigation aids. They would most likely add somewhere between 15 and 50 cubic yards of concrete Bay fill in the immediate breakwater removal area. Final designs will use the minimum amount of material required to meet USACE, U.S. Coast Guard, and other design requirements in order to minimize the net increase in Bay fill. The U.S. Coast Guard will be notified and consulted for design and location of aids to navigation as well as dissemination of notice to mariners using the area.

- 2) **Public Access:** Examples of public access that need to be maintained include traffic and visual access. BCDC mentioned signs, fencing, and road closures associated with public access. USACE needs to verify there will not be conflicts between traffic for construction and traffic for recreation. USACE also needs to verify it will not hinder access for

recreational boaters, especially at the entrance to the harbor where the barge staging area is designated.

Response: The USACE consulted further with the Oyster Point Harbor Master regarding public access during construction activities at the harbor. Public access would be affected when materials are transferred to and from the breakwater site by land or water. Old and new breakwater material would be transferred between land and water at the public launch ramp, and at the promenade that crosses at the head of the public launch ramp. These impacts would be temporary, and restricted to the time it would take to load and unload materials.

During this transfer time, the promenade directly next to the public launch ramp, and the launch ramp itself would need to be closed to protect public safety. Closure times and frequencies would vary throughout the life of the project, depending on the removal or construction activity being performed at any given time. Closures would approximately take between a few minutes and a few hours. Transfers could occur up to a few times per day, but closures would probably not be required every day that work takes place. Roads leading to the marina, berths, and the public launch ramp could remain open at all times, with flagmen directing traffic. Safe alternatives for launch ramp access are available and have been used at the marina in the past. If necessary, the USACE could coordinate with the SMCHD and their lease holder, King Ventures, to arrange for an alternate public launch site within the harbor. Another option could be to bring all materials in to the site by boat, thereby eliminating impacts to the promenade and public access ramps. This option will be available to the contractor performing the work, but may or may not be feasible depending on the availability of accessing source materials by water, and the cost of transporting them by boat.

A barge and crane would be needed in the water next to the breakwater area regardless of whether materials are brought in and out of the project site by land or water. Impacts to boat traffic could result in moderate congestion in the eastern harbor entrance during transfer times when the entrance would need to be temporarily closed to protect public safety. The USACE will coordinate with the Oyster Point harbor patrol to maintain safe navigation conditions during construction.

An alternate entrance for boats entering and exiting the harbor is available during high tides at the northwest side of the harbor between the north breakwater and the detached breakwater. Impacts to the harbor entrance would only take place at the beginning of the project during removal of the existing breakwater, not during the construction of the new breakwater. Once the old section of breakwater is removed there would be enough additional space to allow boats unobstructed access in and out of the harbor.

- 3) **Pile driving:** BCDC requested the USACE consult with NMFS for determining the effects of pile driving and other construction noise on herring and other fish in the vicinity of the construction site.

Response: NMFS provided noise control recommendations that will be incorporated into the project. Refer to the conditions outlined below in the section titled “Additional Commitments Based on Feedback from NMFS.”

Additional commitments:

In accordance with the BCDC permit issued to the San Mateo County Harbor District for Oyster Point Marina, USACE will inform BCDC at least one week in advance of commencing construction in public access areas.

Written Comments from NMFS:

From: Gary Stern [mailto:Gary.Stern@noaa.gov]
Sent: Friday, September 08, 2006 3:06 PM
To: Ferris, Nancy M SPN
Cc: William Leet; Korie Schaeffer; Katie McGourty
Subject: Re: Oyster Point Marina CAP section 107 Navigation Project

OK - a couple more questions:

- (1) is the 180 dB "underwater" sound or "air" sound levels?
- (2) Can you commit to only use plastic for the fender piles. Treated wood can leach toxins into the water column?

Response:

- (1) 180 dB is the underwater sound level.
- (2) The USACE can commit to using only plastic or plastic (epoxy) coated metal. Treated wood would not be used. However, fender piles have been removed from the project description since the EA was circulated in August, 2006.

Gary Stern wrote:

> Nancy - I forgot about one other question. If pile driving is
> restricted to the period between June 1 and November 30, what other
> work at the breakwaters could occur outside this period?
>
> thanks
>
> Gary Stern wrote:
>> Nancy,
>>
>> On page 15 of the draft EA for Oyster Point Marina CAP section 107
>> Navigation Project discusses two measures to address impacts
>> associated with pile driving on fishes. The two measures are:
>>
>> (1) Drive piles with a vibratory device instead of an impact hammer
>> if possible; and
>> (2) Pile installation will be restricted to the period between June
>> 1 and November 30.
>>
>> Further on page 25, item #6 states "[s]ound pressure measured outside
>> of the marina during pile driving shall not exceed the 180 decibel
>> threshold".
>>
>> However, the EA (on page 15) also states that these are not
>> commitments, but could be instituted at the request of other
>> agencies. I would like to make this request. All three of these
>> measures are beneficial to fishes including listed steelhead, salmon
>> and green sturgeon. I would like the Corps to adopt all three of
>> these measures.
>>
>> If the Corps can provide written confirmation to NMFS that these
>> measures will be included in the project and required by the Corps'
>> contractor, NMFS can make a finding that this project, as proposed,
>> is not likely to adversely affect listed fish species. NMFS is
>> prepared to provide you a letter next week concluding an informal
>> consultation if you can confirm the project will incorporate these
>> measures. Please respond to this email regarding this request.
>> Without these measures, incidental take of listed fish species may

>> occur and NMFS may need to prepare a full biological opinion through
>> formal section 7 consultation with the Corps. Without these
>> measures, NMFS would also provide comments to the Corps regarding the
>> findings in the draft EA and biological assessment for this project.
>> In the absence of these measures, construction impacts would occur
>> and NMFS would disagree with the Corps' EA finding of "less than
>> significant" impacts.
>>
>> I can be reached at 707-575-6060 today to discuss this further. I
>> will be out of the office most of next week, but will check my email.
>>
>> thanks
>> Gary Stern

Response: Please see the "Revised Remedial Measures" section below agreeing to the requests from NMFS.

From: Katie McGourty [mailto:Katie.McGourty@noaa.gov]
Sent: Tuesday, September 12, 2006 2:15 PM
To: Ferris, Nancy M SPN
Subject: Oyster Point Breakwater Project

Hi, Nancy

[text deleted not related to EA comments]

I have a few questions about your project.

- 1) Project Timing: what year will the breakwater be constructed?
- 2) How will the existing breakwater materials be removed? (By boat? From land?)
- 3) What is the estimated period of breakwater removal and consequent re-construction?
- 4) What tidal elevation will the breakwater be removed and reconstructed?

[text deleted not directly related to EA comments]

Response:

1) Project timing was proposed to begin in June 2007 but may be delayed, potentially to September or October 2007.

2) A combination of boats and trucks would be used to remove breakwater materials, potentially transferring materials for construction and removal from the boat to the land.

3) The estimated period of breakwater removal and consequent re-construction would be approximately 90 days.

4) Breakwater and navigation aid work would take place subtidally at an elevation below the lowest tide level. No provisions have been made to restrict work at high or low tides.

Additional Environmental Commitments
Based on Feedback from NMFS, SMCHD, and BCDC

(1) Commit to only use plastic or plastic (epoxy) coated steel for the fender piles (if fender piles are needed), instead of treated wood that can leach toxins into the water column.

(2) Drive piles with a vibratory device instead of an impact hammer. If a vibratory device cannot be employed due to unexpected local conditions, utilize a cushioning block between the hammer head and pile, or use an air barrier or bubble curtain to minimize noise impacts to fish and wildlife.

(3) Sound pressure measured underwater in the marina during pile driving shall not exceed the 180 decibel threshold.

(4) Pile installation will be restricted to the period between June 1 and November 30 as recommended by NMFS to protect herring and salmonids. (This is mirrored by recommendations by the USACE Dredged Material Management Office cited in the WTA's EIR/EA.)

(5) Limit the hours of operation of heavy duty equipment and/or the amount of equipment in use to the hours of 8 AM and 8 PM on weekdays, 9 AM and 8 PM on Saturdays, and 10 AM and 6 PM on Sundays and holidays unless permission is obtained from the Harbor Master and live-aboard residents at the Oyster Point Marina.

(6) If marine mammals are observed within 1,000 ft of the project. Work shall halt to allow them to completely exit the project area before pile driving resumes.

(7) The USACE will coordinate with the Oyster Point harbor patrol to maintain safe navigation conditions during construction.

Additional opportunities to monitor live native oysters at the project site may be pursued with the assistance of the Santa Rosa NMFS Office. This is a voluntary action and is expressly not part of EFH compliance.

**APPENDIX D - GENERAL
CONFORMITY APPLICABILITY
ANALYSIS**

1.0 INTRODUCTION

The information and analysis in this appendix supports the U.S. Army Corps of Engineers (USACE), San Francisco District's updated review of the Oyster Point breakwater repair project for compliance with General Conformity requirements. The USACE finds that a Conformity Determination is not required and that the project complies with 40 CFR 93, Subpart B and Section 176(c) of the Federal Clean Air Act (CAA) as amended, 42 U.S.C. §7506.

2.0 REGULATORY BACKGROUND

The CAA requires states to establish and update a State Implementation Plan (SIP) to ensure that areas that are not in attainment of the National Ambient Air Quality Standards (NAAQS) have a viable plan in place to attain standards. Once standards are attained, the SIPs must provide for continued attainment or "maintenance" of the same standards. States submit SIP updates to EPA for approval. Section 176(c) of the CAA requires federal projects or actions to "conform" to the most recently approved SIP for each pollutant that has an attainment or maintenance plan. The HWRP is located in the Bay Area Air Quality Management District, (BAAQMD) which is classified as a Marginal Nonattainment Area for the national 8-hour ozone standard, and a Maintenance Area for the national 8-hour CO standard.

EPA promulgated General Conformity regulations on November 30, 1993. The rules are codified at 40 CFR Part 51, Subpart W and 40 CFR Part 93, Subpart B. The latter applies to federal agencies unless states adopt a rule identical to, or more stringent than, 40 CFR Part 51, Subpart W.

Section 93.153 (c)(1) of the General Conformity Regulations provide that projects do not need to demonstrate conformity if the combination of annual direct and indirect project emissions are less than threshold levels of nonattainment or maintenance pollutants. Project emissions below these thresholds are also referred to as "*de minimis*". The applicable threshold level for each federal action in the BAAQMD, a nonattainment area, is 100 tons for carbon monoxide (CO), and the ozone precursors nitrogen oxides (NOx) and volatile organic carbon (VOC).¹ Notwithstanding these thresholds, projects with direct and indirect emissions that are greater than 10% of the regional emissions of nonattainment or maintenance pollutants are considered regionally significant and must demonstrate attainment.²

1 40 CFR 93.153(b)(1), in accordance with the California State Implementation Plan
2 40 CFR 93.153 (i)

3.0 APPLICABILITY ANALYSIS

All activities associated with the Oyster Point breakwater project are located within the boundaries of the BAAQMD. The BAAQMD is in a marginal nonattainment area for ozone, and particulate matter (PM10), and a carbon monoxide (CO) maintenance area. Therefore, this applicability analysis must address three pollutants, the ozone precursors volatile organic compounds (VOC) and nitrogen oxides (NOx), and CO. Based on the attainment status and classifications of the BAAQMD, the applicable thresholds above which a conformity determination is required are 100 tons per calendar year for NOx and CO and 50 tons per calendar year for VOC.

3.1 Project Emissions

Alternatives D and E described in Section 2.3.2 are alternatives evaluated for this applicability analysis. Construction activities for both of these alternatives include the following: (1) mobilization and demobilization of construction equipment; (2) demolition of a portion of the existing breakwater; (3) construction of a new portion of breakwater. Equipment types needed for these activities include a tugboat, a derrick crane, and flatbed trucks. The project is expected to be completed within approximately 90 days from the start of construction. The following tables show the calculations used to estimate emissions for NOx, ROG, and CO.

Table D-1. NOx Emissions Calculations

Equipment Description	HP	Fuel Type and year	Estimated Hours				NOx Emission Factor (g/hp-hr)	Load Factor	Estimated NOx Emissions (tons)
			Mob/Demob	Construction	Demolition	Total			
Tug Boat	1200	Diesel-1971	40			40	13	1	0.69
Derrick Crane (Engine 1)	400	Diesel-1971		120	160	280	13	1	1.60
Derrick Crane (Engine 2)	400	Diesel-1971		120	160	280	13	1	1.60
Flatbed Truck	500	Diesel-1995	16	120	160	296	8.17	1	1.33
Total									5.23

Table D-2. ROG Emissions Calculations

Equipment Description	HP	Fuel Type and year	Estimated Hours				ROG Emission Factor (g/hp-hr)	Load Factor	Estimated ROG Emissions (tons)
			Mob/Demob	Construction	Demolition	Total			
Tug Boat	1200	Diesel-1971	40			40	1.26294	1	0.07
Derrick Crane (Engine 1)	400	Diesel-1971		120	160	280	1.26294	1	0.16
Derrick Crane (Engine 2)	400	Diesel-1971		120	160	280	1.26294	1	0.16
Flatbed Truck	500	Diesel-1995	16	120	160	296	0.817904	1	0.13
Total									0.51

TCH= Total hydrocarbon; mult. By 1.2028 to get ROG

Table D-3. CO Emission Calculations

Equipment Description	HP	Fuel Type and year	Estimated Hours			CO Emission Factor (g/hp-hr)	Load Factor	Estimated CO Emissions (tons)	
			Mob/Demob	Construction	Demolition				Total
Tug Boat	1200	Diesel-1971	40			40	4.2	1	0.22
Derrick Crane (Engine 1)	400	Diesel-1971		120	160	280	4.2	1	0.52
Derrick Crane (Engine 2)	400	Diesel-1971		120	160	280	4.2	1	0.52
Flatbed Truck	500	Diesel-1995	16	120	160	296	2.7	1	0.44
Total									1.70

Estimated emissions from the total project are:

NOx: 5.23 tons

ROG: 0.51 tons

CO: 1.70 tons.

Emissions were estimated from construction equipment estimates provided by the USACE and general emission factors provided by the California Air Resources Board.

3.2 Regional Significance Review

The comparison of the total project emissions to the regional emissions inventory for the BAAQMD is presented in Table D-4. Estimate total project emissions during the 90-day construction period of the Oyster Point breakwater project do not exceed 10% of the regional emissions inventory.

Table D-4. Comparison of Total Project Emissions to the BAAQMD Regional Inventory. Annual inventory was estimated from the Summer Daily Average presented in Table III of the BAAQMD emissions inventory

(http://www.baaqmd.gov/pln/emissions_inventory.htm).

	Ozone Precursors		CO
	NOx	ROG	
Annual Inventory (ton/yr) (1)	196,370	146,000	781,100
10% of Annual Inventory	19,637	14,600	78,110
Breakwater construction (tons)	5.23	0.51	1.70
percent of SF Bay Inventory	0.003%	0.000%	0.000%

4.0 CONCLUSIONS

Annual emissions from the Oyster Point breakwater project are *de minimis*; that is, emissions are less than the applicable 100 tons per year threshold for NOx and CO and the 50 tons per year threshold for VOC. In addition, total project emissions will not exceed 10% of the annual regional emissions for these pollutants. As a result, a formal conformity determination is not required and the Oyster Point breakwater project will comply with Section 176(c) of the Federal Clean Air Act, as amended, 42 U.S.C. §7506.