DRAFT
ENVIRONMENTAL ASSESSMENT

FOR

SAN DIEGO RIVER MISSION BAY
JETTY REPAIR PROJECT
San Diego County, California

PREPARED BY

U.S. ARMY CORPS OF ENGINEERS
SOUTH PACIFIC DIVISION
LOS ANGELES DISTRICT

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SECTION 1 - INTRODUCTION

1.1 PROPOSED PROJECT

Location. The Los Angeles District of the U.S. Army Corps of Engineers (Corps), as part of its Operations and Maintenance Program, is proposing to perform repairs to the North and Middle Jetties at the entrance channel to Mission Bay, San Diego County, California. Repair work would consist of resetting existing armor stone as needed and the placement of approximately 10,000-20,000 tons of new armor stone. The new stone would have a median stone size of 15-tons and a nominal diameter near 6 feet. Repairs would be conducted by a barge-mounted crane, barges carrying rock, tugboats, and other various small boats. Transport of stone would likely be by sea but may occur by land using dump trucks or other heavy equipment vehicles.

Background and Project History. The proposed repairs to the North and Middle Jetty are located at the entrance channel to Mission Bay, San Diego County, California (Figure 1). The Middle Jetty also acts as a levee controlling the flow of water from the mouth of the San Diego River, but serves as the southern border of the Navigation Channel. The function of both Jetties are essential to the protection of the harbor and must be well maintained. The Jetties are subjected to daily intense wave action and also extreme wave heights from storms, and are designed for natural deterioration to be mitigated through regular maintenance repairs. Repair work would consist of resetting existing armor stone as needed and the placement of approximately 10,000-20,000 tons of new armor stone.

Timing of Project. Construction is currently expected to occur from April 2020 until August 2020, although the schedule is subject to change based on availability of funding, equipment and supplies, weather, and other issues. Jetty repair activities are not anticipated to have any effect on navigation into Mission Bay. Craft large enough to interfere with construction/repair work would not be using the waterway.

Staging Areas. Due to limited truck access to the site, and the economics of transportation, the rock will most likely be transported by barge. Rock to be used will consist of 12 to 20 ton stones (6 to 7 feet in diameter). Rock may be supplied from a variety of sources including using barges from Pebbly Beach Quarry on Catalina Island located 77 miles from the project site. Barged stone would be towed to the location of repairs, and stockpile barges and idle equipment would be moored in the Mission Bay Turning Basin. While it is not anticipated, if an inland quarry is utilized, stone would be trucked from the quarry to a staging area in the vicinity of the Middle Jetty at an existing unpaved parking area, East of Hospitality Point, along Quivera Way (Figure 2).. The stones would be loaded onto a rock barge and towed to the jetty head for placement onto the jetty by derrick barge. Typical rock trucks carry 18 to 20 tons per load. The rock barge is expected to carry approximately 1,000 tons of stone per trip.

Construction Equipment. Repair of the harbor jetties would be accomplished using one crane-equipped barge, one storage barge (for hauling stone), and two support vessels. The capabilities and compliment of these vessels are as follows:

Land-Based Crane: May be needed if an inland stone use source is required.

Crane-equipped Barge. Typically, a barge with an attached crane that uses lifting tongs to retrieve stones from the storage barge, and then place those stones on damaged sections of the jetties. A boat operator in a skiff, and spotter on the Jetty, would direct the operation of the crane in order to pick and place the stones. The picked stone must be able to match the dimensions of the voids along the jetty. Approximately 30 to 35 stones can be picked and placed per day using this vessel. Roughly three to four stones per hour on average.

Support Vessels. Self-propelled boats that serve as tenders, tugs, and spotting craft. The main purpose of a support vessel is to assist the crane operator as well as to ferry equipment and crew back and forth from the shore, jetties, staging areas, and the crane and support barges. The compliment of these vessels is usually just one operator unless ferrying other crew.

Storage Barge. Another floating barge which serves as the stockpile of stone for repair work. This barge is typically towed in from an offsite quarry location (likely Pebbly Beach Quarry on Santa Catalina Island), and is then anchored next to the crane-equipped barge. The compliment of this vessel is usually a spotter/oiler who works with the crane operator to select stones. Unused/awaiting barges will be stored within the harbor.

1.2 ENVIRONMENTAL ASSESSMENT PROCESS

This Environmental Assessment (EA) addresses potential impacts associated with implementing the proposed project.

The Corps is the lead agency for this project. This EA complies with the National Environmental Policy Act (NEPA) of 1969, as amended, (42 U.S.C. 4321). The NEPA requires federal agencies to consider and disclose the environmental effects of their actions.

The EA process follows a series of prescribed steps. The draft EA will be sent out for public review during which written and verbal comments on the EA and, or the proposed project will be received. Review, concurrence or permissions from other Regulatory agencies will also be sought during this time, as necessary. The next step requires preparation of a Final EA (FEA) that incorporates and responds to comments received, along with a Finding of No Significant Impact (FONSI) if appropriate. The FEA/FONSI will be furnished to all who commented on the Draft and will be made available upon request.

If it is determined the project will have a significant impact upon the existing environment or the quality of the human environment, an EIS would be required.

1.3 RELATIONSHIP TO ENVIRONMENTAL PROTECTION STATUTES, PLANS, AND OTHER REQUIREMENTS

The Corps is required to comply with all pertinent federal laws and regulations; project compliance is summarized in Section 5.1.

Figure 1 Project Location

Figure 2 Proposed Project Location

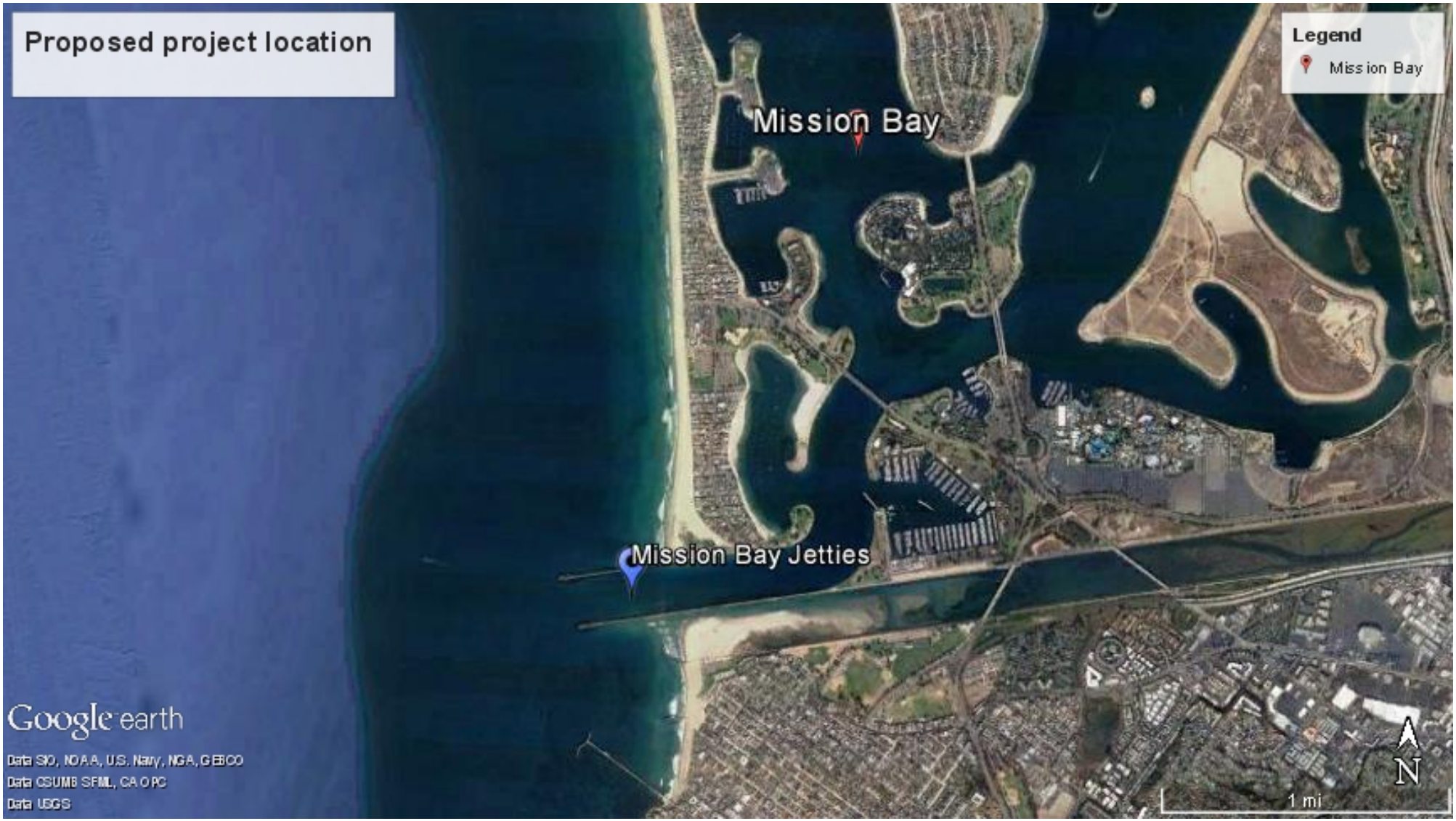

Figure 3 Proposed Project Area

SECTION 2 – PROJECT PURPOSE

2.1 PROJECT PURPOSE AND NEED

The purpose of the proposed project is to repair the existing North and Middle Jetties for the authorized purpose of maintaining navigability in the Federal Navigation Channel at Mission Bay. The jetties serve as protection from waves and currents, reduce shoaling and therefore facilitate navigability from the Pacific Ocean into the harbor entrance channel. Undermining of protective structures due to extreme wave action, if uncorrected, results in unsafe navigation conditions and economic impacts.

SECTION 3 – PROJECT ALTERNATIVES

3.1 ALTERNATIVES CONSIDERED

Two alternatives will be considered in this document - the "No Action Alternative" under which no repair would be conducted, and the "Preferred Alternative," which is the proposed action.

No Action Alternative. In the absence of jetty repair, the North and Middle Jetties would become increasingly susceptible to erosion and structural failure, which would jeopardize safety. Continued disrepair of the structures would eventually require emergency work to avoid public safety hazards, and/or closure of the harbor. Additional damages would also incur additional costs to restore the jetty with emergency repairs.

Preferred alternative. The proposed action is to repair both the North and Middle Jetties and restore them to the original design condition. Approximately 10,000-20,000 tons of stone will be replaced along 400 feet of the North and 300 feet of the Middle Jetty to restore them to their original design height of +14' Mean Lower Low Water (MLLW). Due to limited truck access to the site, and the economics of transportation, the rock will most likely be transported by barge.

Rock to be used will consist of 12 to 20 ton stones (6 to 7 feet in diameter). Rock will be supplied from the Pebbly Beach Quarry on Catalina Island located 77 miles from the project site. The stones would be loaded onto a rock barge and towed to the jetty head for placement onto the jetty by derrick barge. See Section 1.1 for additional detail about the proposed project, including a listing of equipment and staging areas that may be used, the project schedule and other information. Minimization measures, best management practices and other environmental commitments have been incorporated in the project description to avoid or minimize adverse impacts. These measures are listed in Section 5.2.

SECTION 4 - AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section summarizes the existing condition of the physical and human environment within the area of potential effects surrounding the project area, and also provides an assessment of potential impacts for the proposed project. Best management practices and other environmental

commitments have been incorporated in the project description to avoid or minimize adverse impacts (see Section 5.2). The finding or conclusion of level of significance following each resource category assumes that these measures will be applied.

4.1 Oceanography and Water Quality

4.1.1 Affected Environment. The tides in southern California are mixed, semi-diurnal tides with two unequal high tides and low tides roughly per day. Tidal variations are caused by the passage of two harmonic tidal waves; one with a period of 12.5 hours and one with a period of 25 hours. This causes a difference in height between successive high and low waters. The result is two high waters and two low waters each day, consisting of a higher high water and a lower high water, and a higher low water and a lower low water; respectively referred to as HHW, LHW, HLW, and LLW.

A greater than average range between HHW and LLW occurs when the moon, sun, and earth are aligned with each other to create a large gravitational effect. This spring tide corresponds to the phenomenon of a new or full moon. Neap tides, which occur during the first and third quarters of the moon, have a narrower range between HHW and LLW. In this situation, the moon, sun, and earth are perpendicular to each other, thereby reducing the gravitational effects on water levels. The mean tidal range for the project site is 5.4 feet. The extreme range is about 9.5 feet. Water quality is typically characterized by salinity, pH, temperature, clarity, and dissolved oxygen (DO). Table 2 characterizes the overall water quality parameters for the project site:

Table 1
Water Quality Characteristics

Parameters	Project Site
Salinity (ppt)	32.9 to 34.4
Surface Temperature (F)	55 to 66
pH	7.4 to 7.6
Clarity (ft.)	13 to 15
D.O. (mg/l)	8.9

4.1.2 Environmental Consequences.

Significance Criteria: An impact to Oceanography and 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 a pollution, contamination, or nuisance as defined in Section 13050 of the California Water Code that is not contained and fully mitigated in a timely manner.

Preferred alternative. It is not anticipated that the near shore environment would be significantly affected by sediments being stirred up into the water column. Stones used for the repair work would be hauled to repair sites via barge, or by truck to a nearby staging area. Stone delivered by truck, if utilized, would be transferred to a barge and then floated to the repair sites for

placement onto the jetties using a barge-mounted crane. The contractor is required to carefully fit and place the individual stones into the structure. Dropping of armor stone is not permitted, but it should be expected that some stones may be accidentally dropped during placement.

Aside from minor, incidental mobilization of fine sediments from placement of stones, anchoring and propeller wash, increases in sediment transport and turbidity are not anticipated to result from proposed project activities.

Accidents resulting in spills of fuel, lubricants, or hydraulic fluid from the equipment used during repair work could occur during the project and adversely affect water quality. Impacts would depend on the amount and type of material spilled as well as specific conditions (i.e. currents, wind, temperature, waves, tidal stage, and vessel activity). In such cases, spills would be cleaned up immediately, causing less than significant impacts. A larger spill that could have significant impacts on water quality is not expected to occur, even under reasonable worst-case conditions. The contractor will be required to have in place a Spill Prevention and Cleanup Plan that includes measures to prevent spills and to cleanup any spills that could occur. This plan would also require notification to appropriate regulatory agencies.

No Action Alternative. Impacts from jetty repair activities would not occur. Instead, these protective structures would continue to degrade and deteriorate. This would result in disruption to Bay operations as additional wave energy is allowed into the entrance channel and inner harbor. The increased wave energy has the potential to damage ships passing in and out of the channel, damage ship moorings, and increase loading times due to ship movement at berth slowing operations and increasing costs. This would result in lost commercial and recreational uses of Mission Bay.

4.2 Marine Resources

4.2.1 Affected Environment. Marine life in the jetty and bank protection areas include rock structures and adjacent sandy-bottom benthic environments.

Vegetation. Marine flora include several species of algae including giant kelp (*Macrocystis pyrifera*), red, calcareous coralline algae (*Corallina sp.*), and sea lettuce (*Ulva sp.*). Sandy areas in the entrance channel may include small beds of eelgrass (*Zostera marina*). Mission Bay is not known to harbor the invasive alga *Caulerpa taxifolia*. There is no liklielhood for eelgrass effect nor is there suitable habitat present given the intense wave action around the jetties.

Invertebrates. Invertebrates occurring in the sandy bottom adjacent to the jetty include several species of polychaete worms and clams. Invertebrates found on the submerged rocky substrate of the jetty and bank protection are likely to include California spiny lobster (*Panularis interruptus*) and crabs (*Pachygrapsis sp.* and *Cancer sp.*). The rocky intertidal zone includes invertebrates such as sea stars (*Pisaster sp.* and *Astropectin sp.*), limpets (*Patella sp.*), and sea urchins (*Stronglyocentrus sp.*). Barnacles (*Balanus sp.*) and mussels (*Mytilus edulis* and *M. californianus*) are found in both the intertidal and splash zones.

Fishes. Numerous fish species are found in the area including California halibut (*Paralichthys californicus*), rock fish (*Sebastes sp.*), speckled sanddab (*Cithrichthys stigmaeus*), northern

anchovy (*Engraulis mordax*), white croaker (*Genyonemus lineatus*), kelp bass (*Paralabrax maculata*), sand bass (*Paralabrax nebulifer*), and the California grunion (*Leuresthes tenuis*).

Birds. The jetties provide loafing, foraging, and roosting areas for a variety of shorebirds and waterfowl. Brown pelicans (*Pelecanus occidentalis californicus*), gulls (*Larus* spp), double-crested cormorants (*Phalacrocorax auritus*), and elegant terns (*Thalasseus elegans*), use the jetties for their respective life history requirements. Brown pelicans are very tolerant of human activity and utilize various shoreline structures such as piers, breakwaters, groins, and buoys for roosting. The jetties are not known to be night roosts for Brown Pelicans. Adjacent shallow waters also provide foraging and loafing areas for many shorebird species including the long-billed curlew (*Nemenius americanus*), willet (*Catoptrophorous semipalmatus*), black-bellied plover (*Pluvialis dominica*), sanderling (*Calidris alba*), marbled godwit (*Limosa fedoa*), and whimbrel (*Numenius phaeopus*). Seabirds observed foraging in nearshore waters include western grebes (*Aechmophorus occidentalis*), scoters (*Melanita* spp), and loons (*Gavia* spp).

Marine Mammals. California sea lions (*Zalophus caliornianus*) are commonly observed foraging in the entrance channel and harbor, as well as resting on the jetties and navigational buoys. California sea lions are not known to frequent the jetties as haul-out locations due to the height, large diameter and angularity of the stones, and steepness of the each structure′s embankment walls. Sea lions use docks/ personal vessels to haul out and rest from foraging at the Mission Bay bait docks (Schakner *et al*. 2017) and do not use the area for breeding. Several other marine mammal species that use the area, and are observed offshore, include harbor seals (*Phoca vitulina*), and whales and porpoises including pilot whale, *Globicephala macrorhynchus*; harbor porpoise, *Phocena phocena*; common dolphin, *Delphinus delphis*; Pacific white-sided dolphin, *Lagenorhynchus obliquidens*; and the bottlenose dolphin, *Tursiops truncatus*. Marine mammals are protected by the Marine Mammal Protection Act (MMPA).

Threatened and Endangered Species. Two species protected under the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. § 1531 *et seq*.), may occur near the project area. Federally-listed species which may occur at the project site include: the California least tern (*Sterna antillarum browni*) and Western Snowy Plover (*Charadrius nivosus nivosus*).

California least tern. The California least tern (CLT) is present for breeding beginning in late March early April. A nesting colony is located within Mission Bay approximately 1 mile from jetty repair site. Previous construction projects at Mission Bay Jetty have observed CLT in the project area but no effects were noted as a result of construction (Keane and Smith 2016).

Western Snowy Plover. Proposed Mission Bay jetty construction and repair activities in the near shore environment have been determined to have "no effect" on the western snowy plover. Snowy plovers forage on invertebrates in the wet sand and cast-off kelp found in the intertidal zone, in dry sandy areas above high tide, on salt pans, and along the edges of salt marshes and salt ponds. This species is not known to nest on or adjacent to any of the project sites.

Essential Fish Habitat (EFH). In accordance with the 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act, an assessment of Essential Fish Habitat (EFH) has been conducted for the proposed jetty repair work. The proposed project is located

within an area designated as EFH for two Fishery Management Plans (FMPs): Coastal Pelagics Plan and Pacific Groundfish Management Plan. Many of the 86 species federally managed under these plans are known to occur in the area.

4.2.2 Environmental Consequences

Significance Criteria. An impact to Marine Resources will be considered significant if:

- The population of a threatened, endangered, or candidate species is directly affected or its designated critical habitat lost or disturbed;
- If there is an unmitigated, 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 (ASBS);
- If the movement or migration of fish is impeded; and/or
- If there is a substantial loss in the population or 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 5 years or longer).

Preferred Alternative. Placement of rock on the end of the north and middle jetties will smother and/or crush sessile organisms currently attached to the currently exposed rock. However, due to the small length of jetty involved and the short construction duration, this impact is considered to be insignificant. Recolonization of the new rock surfaces is expected to be rapid. The area is already a designated mooring area with existing facilities for barge mooring. No eelgrass currently grows in the area of potential effect nor is there suitable habitat present. Therefore no eelgrass surveys will be conducted in connection with this portion of the project. The area is an area of high wave energy (see Figure 3). Any *Caulerpa taxifolia* present will have been dispersed more by the wave energy than would be by repair work. Therefore, no surveys for the presence of *Caulerpa taxifolia* will be conducted prior to construction of this portion of the project.

Threatened and Endangered Species. Least terns and Snowy Plovers will not be affected by the proposed action. The CLT Nesting area is far enough away that it will not be subject to noise or other disturbance; available foraging area extends throughout the harbor and nearshore areas up and down coast of the nesting area, and proposed repair work will affect only a small portion of that area, over a mile from the nest site. Foraging and nesting habitat for snowy plovers would not be affected by the proposed repairs. Therefore, the Corps has determined that the proposed project will not affect federally listed threatened or endangered species. Formal consultation pursuant to Section 7 of the Endangered Species Act is not required for project implementation.

Marine Mammals. The MMPA prohibits the taking of marine mammals without prior approval from the National Marine Fisheries Service (NMFS). The regulatory definition of "take" includes harassing or attempting to harass any marine mammal. Harassment may occur as the result of noise and physical exclusion associated with construction and repair activities on the jetties.

Ambient noise levels in harbors have been measured at between Leq 56.5 and 75.5 dBA depending on the time of day and day of the week. During daylight hours, particularly on the weekend, crane operation and stone placement noise would be somewhat elevated and distinguishable from background noise levels in the immediate vicinity of the repair work.

However, these activities would be temporary in nature and localized to one part of the structure at any one time. No repair work would occur at night. Startle reactions from sea lions or harbor seals that are in close proximity to the crane barge could occur as the result of start-up operations in the morning, or from loud noises resulting from the occasional dropped stone. These responses are temporary, however, and prone to habituation (Schakner et al 2017). Physical morphology of both species is much more suitable to landforms and artificial structures that offer easier accessibility from the water, coupled with less gradient. Docks, buoys, and beaches in the area are thus far more likely host pinnipeds like harbor seals and sea lions. In regards to their foraging activity, marine mammals in this area are accustomed to daily noise from people, boat traffic, and marine operations. It is highly unlikely that barge presence and repair activities would affect pinniped foraging in the areas around the jetties given the existing environmental baseline and harbor use. Proposed project activities, therefore are not likely to result in a taking, as defined in the MMPA. Further coordination and/or authorization for taking is not required for this project.

Essential Fish Habitat (EFH). The Corps has determined that the proposed project may adversely affect EFH, but would not result in a substantial, adverse impact to any species on the Fishery Management Plan or to their habitat. The following is a discussion of potential effects to EFH:

Proposed jetty repair activities would be short-term in duration. Potential impacts to EFH could result from proposed stone placement activities and movement of construction equipment (crane barge, storage barge, and tenders) from location to location along the jetties for construction/repair activities. Impacts may include direct removal/burial/crushing of organisms, temporary turbidity plumes and suspension of sediments from propeller wash, release of contaminants from equipment, entrainment, and noise. Direct removal/burial/crushing of organisms and water quality impacts would also be considered potential adverse impacts to EFH. Turbidity caused by repair activities would quickly subside as suspended sediments begin to settle after repair vessels have been moved. Displaced organisms from construction activities would also recolonize the impacted area. Given the extant high energy wave environment and dynamic coastal littoral processes, potential effects from stone placement operations are not considered significant.

Conclusion: In conclusion, the Corps has determined that the proposed Harbor jetty repair work would have no significant impact to marine resources and would have **no effect** on the California least tern, Western snowy plover or other Federally listed species. Pinniped species such as the harbor seal and the sea lion would likely not experience any displacement from jetty repair work given that neither species is recorded as utilizing those structures for hauling out, mating, or breeding. Foraging seals and sea lions are, furthermore, not expected to be affected by proposed repair work given the amount of surrounding area available for foraging, and the existing environmental baseline of almost constant human presence and commercial activity that already occurs in the area.

Avoidance and Minimization Measures: The following measures would be implemented to further avoid and minimize potential effects to the marine environment:

- The limits of the jetty repair activities shall be clearly marked to prevent heavy equipment from entering areas beyond the footprint needed to complete the project.
- Vehicles and all repair activities shall remain within the defined activity area and use only

designated access points and staging areas.

- The work area shall be kept clean to avoid attracting predators. All food and trash shall be disposed of in closed containers and removed from the project site.
- No pets shall be allowed on the construction site.

No action alternative. Impacts from jetty repair activities would not occur. Should the condition of the jetties deteriorate to a point of navigational hazard, emergency repair will be required. Emergency or future (deferred) repairs would have similar impacts to those described for the preferred alternative.

4.3 Air Quality

4.3.1 Affected Environment. The proposed project is located in the San Diego Air Basin. The climate in the project area is dominated by the influence of the Pacific Ocean with high humidity and moderate temperatures. It is characterized by moderate summer temperatures, mild winters, frequent morning coastal stratus clouds and fog, infrequent rainfall confined mainly from late fall to early spring, and moderate onshore breezes. Overall, ambient air quality is considered good in the project area. The San Diego County Air Pollution Control District (SDAPCD) is non-attainment for state and federal standards (see Table 3 for applicable standards) for ozone and for state standards for PM-10. The area shows showed one violation of the ozone standard for the years 2001-2002 and occasional violations of state suspended particulate standards, but no violations for carbon monoxide (CO) or nitrogen dioxide (NO2) at the Downtown San Diego monitoring station (the monitoring station closest to the project area).

4.3.2 Environmental Consequences

Significance Criteria. The Clean Air Act (CAA) as amended specifies in Section 176(a) 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 National Ambient Air Quality Standards and achieving expeditious attainment of such standards, and that the activity will not:

- Cause or contribute to any new violation of an standard in any area;
- Increase the frequency or severity of any existing violation of any standard in any area; or
- Delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.
- Expose the public (especially sensitive receptors) to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people.

Table 2. Attainment Status of Southern California Coast Air Basin

Pollutant	ADAB Attainment Status	
	Federal	State
Ozone - 8-hour	Nonattainment	Nonattainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Carbon Monoxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
PM10	Unclassified	Nonattainment
PM2.5	Unclassified/Attainment	Nonattainment
Lead	Unclassified/Attainment	Attainment

Source: CARB 2018 and USEPA 2018

Preferred alternative. Emissions associated with the proposed jetty repair activities will come mainly from the crane motor drive, and the motor drives from its two self-propelled attendant vessels. This operation will cause some minor air quality impacts. Because of the temporary nature of the emissions and the offshore location of the proposed repair work, it is not expected to have a significant impact on air quality in the area.

Stone placement operations are expected to be conducted by a crane-equipped barge fitted with lifting tongs. Stones would be lifted, moved, and adjusted by the crane at the direction of a spotter on the jetty or in a support skiff. Two attendant support vessels would be used to move the crane-equipped and storage barges as necessary along the jetties to perform repair activities. These boats would be used to ferry crew out to repair areas, and for miscellaneous transport of personnel and equipment on an as-needed basis. Placement of stones on the jetties would not produce dust since the material is composed entirely of solid rock.

Air emissions calculations for this project are provided in Appendix C. Results are provided in

Table 4. The barge-mounted crane and support vessels would not exceed the General Conformity *de minimis* thresholds for all criteria pollutants. The contractor would be required to obtain all necessary air quality permits and comply with the San Diego County Air Pollution Control District (SDAPCD) guidelines. Construction equipment would be properly maintained to reduce emissions. Emissions associated with the proposed jetty repair activities would be derived from the crane's motor drive and operation of the two support skiffs. Compared to the hundreds of tons of pollutants emitted in the County each day, the limited levels of crane and support vessels' exhaust pollutants are small, but still adverse. These impacts, however, would be temporary and would be further reduced by the following measures required by the Corps:

- Retarding injection timing of diesel-powered equipment for nitrogen oxide (NOX) control;
- Using reformulated diesel fuel to reduce ROC and SO2.

Impacts from air emissions for the jetty repair work would be adverse, but temporary, and are therefore considered less than significant. As stated above, project emissions are not expected to exceed "*de minimis*" levels established as a criteria for a finding of conformity. Therefore, the project is consistent with the SIP and meets the requirements of Section 176(c) of the CAA.

Table 3. Summary of Proposed Project Emissions

Total Project Emissions -	**Pounds/Day**				
Project Emissions	**ROC**	**CO**	**NOx**	**SOx**	**PM10**
Crane-equipped Barge	2.03	13.24	20.61	0.035	0.89
Support vessel 1 (skiff)	0.09	0.61	0.98	0.002	0.04
Support vessel 2 (tug)	2.08	13.55	21.96	0.037	0.91
Daily Threshold Levels*	**75**	**550**	**100**	**150**	**150**

***SCAQMD**

Total Project Emissions -	**Tons/Year**				
Project Emissions	**ROC**	**CO**	**NOx**	**SOx**	**PM10**
Crane-equipped Barge	0.19	1.22	1.89	3.37	0.08
Support vessel 1 (skiff)	0.01	0.06	0.09	0.15	0.004
Support vessel 2 (tug)	0.19	1.25	1.93	3.45	0.09
de minimis Thresholds	**10**	**100**	**100**	**100**	**70**

Green House Gases (GHGs). GHGs are defined as any gas that absorbs infrared radiation in the atmosphere. GHGs include water vapor, carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O). Increasing GHG concentrations in the atmosphere are believed to cause global warming and climate change.

On February 18, 2010, the Council for Environmental Quality (CEQ) issued its "Draft NEPA Guidance on Considerations of the Effects of Climate Change and Greenhouse Gas Emissions." On page 1 of the Draft NEPA Guidance, CEQ "affirms the requirements of the statute [i.e.,

NEPA] and regulations and their applicability to GHGs and climate change impacts." CEQ also underscores the practical limits on the analysis of global climate change. For example, CEQ provides that "agencies should recognize the scientific limits of their ability to accurately predict climate change effects, especially of a short-term nature, and not devote effort to analyzing wholly speculative effects." (Draft NEPA Guidance, p. 2.)

In the absence of an adopted or science-based GHG standard, the Corps will not propose a new GHG standard or make a NEPA impact determination for GHG emissions anticipated to result from the proposed Project or alternative. Rather in compliance with the CEQ's Draft NEPA Guidance on GHG's, the Corps used the 25,000 metric tons as an indicator level as to whether additional analysis is warranted.

Calculations of potential GHG emissions (CO2) from jetty repair activities are provided in Table 5 (below). Given the short-term, temporary nature of the proposed project and the estimated emission calculations, the proposed action would not result in significant GHG emissions and further analysis is not needed.

The contractor will be required to obtain all necessary air quality permits and comply with the SDCAPCD's Guidelines. Proposed mitigation measures include: (1) retarding injection timing of diesel-powered equipment for nitrogen oxide (NOx) control, and (2) using reformulated diesel fuel to reduce ROC and SO2.

Table 4. Project-related GHG Emissions

Total Project GHG Emissions – Yearly	**Tons Per Year**
Project Emissions	**CO2**
Crane-equipped Barge	302.28
Support vessel 1 (skiff)	13.74
Support vessel 2 (tug)	309.15

No Action Alternative. Jetty repair emissions associated with the project would not occur. However, if further harbor structure deterioration occurs, frequent emergency operations to repair the jetties may be undertaken to maintain navigable conditions. If emergency repair work were necessary, temporary increases in emissions from the construction equipment, ancillary vessels, and laborers' vehicles would be expected. This increase would be short term and less than significant.

4.4 Noise

Noise is defined as unwanted sound. Noise disrupts normal activities and diminishes the quality of the environment. There are two types of noise sources: stationary sources which are typically related to specific land uses, and transient sources which move through the environment. A locale's total acoustical environment is the blend of the background or ambient acoustics with unwanted noise. Human response to noise is diverse and varies with the type of noise, the time

of day, and the sensitivity of the receptor. The decibel (dB) is the accepted standard unit for measuring the level of noise, which is generally adjusted to the A scale (dBA) to correspond to the range of normal human hearing.

Slight changes in loudness are difficult to detect. A 3-dBA change is considered a just perceivable difference. A change of at least 5-dBA is required before any noticeable change in community response would be expected. A 10-dBA change is subjectively heard as approximately a doubling in loudness. Exterior noise becomes increasingly noticeable at night and most people are very sensitive to nighttime noise intrusion.

4.4.1 Affected Environment. Dominant noise sources include waves, beach recreation activities, and vehicle noise on adjacent roads. The sound of wave action will vary with factors including wave height, period, frequency, angle of attack, season, and wind conditions.

4.4.2 Environmental Consequences

Significance Criteria. Project noise impacts would be considered significant if the project is not in compliance with local noise ordinances for daytime construction. This is a short-term project and a perceived daytime doubling of noise levels is considered significant. A lower threshold is used for nighttime noise to reflect the increased sensitivity of people to nighttime sources of noise.

Preferred Alternative. Project noise sources are primarily limited to the operation of the crane-equipped barge, and the operation of the support vessels involved in the repair work. All vessels would only operate during daylight hours. Because of the temporary nature of the repair work and the offshore location of the operation, it is not expected to have a significant impact on the area. Refer to section 4.2.2 for a discussion on the potential for noise impacts to marine mammals.

Given the general background noise levels, including those from existing boat and vehicular traffic, project noise impacts are not expected to be discernible from background noise levels. Moreover, the following minimization measures would be implemented to mitigate noise impacts from jetty repair activities:

- The construction contractor would be required to comply with the local noise ordinance. Activities requiring use of heavy equipment shall be limited by local noise ordinance to the hours of 7 AM to 7 PM.

Conclusion: Impacts are expected to be less than significant.

No action alternative. Noise impacts from jetty repair activities associated with the project would not occur. However, if further harbor structure deterioration occurs, frequent emergency operations to repair the jetties may be undertaken to maintain navigable conditions. If emergency repair work were necessary, temporary increases in noise from the construction equipment, ancillary vessels, and laborers' vehicles would be expected. This increase would be short term and less than significant.

4.5 Cultural Resources

4.5.1 Affected Environment. The area of potential effect contains two known cultural resources, the North and Middle Mission Bay Jetties. Completed in 1949, the jetties meet the 50 year threshold for consideration under the National Historic Preservation Act. The Corps has determined that the jetties are eligible for the National Register of Historic Places under Criterion A due to their association with the recreational development of Mission Bay and as the first authorized Corps project that combined navigation with flood control. The Corps is currently seeking concurrence from the California State Historic Preservation Office on their determination.

4.5.2 Environmental Consequences Significance Threshold: The impacts of Federal undertakings on cultural resources are formally assessed through a process mandated by the National Historic Preservation Act (NHPA) of 1966, as amended (54 U.S.C. Section 300101 *et seq*), and its implementing regulation, Protection of Historic Properties (36 CFR 800). For the purposes of this analysis, the NHPA "criteria of adverse effect" was identified as the significance threshold for NEPA. The criteria of adverse effects are defined in 36 CFR 800.5a as follows:

"An adverse effect is found when an action may alter the characteristics of a historic property that qualify it for inclusion in NRHP in a manner that would diminish the integrity of the property's location, design, setting, workmanship, feeling, or association. Adverse effects may include reasonably foreseeable effects caused by the action that may occur later in time, be farther removed in distance, or be cumulative".

If the undertaking would result in an adverse effect on an historic property, there would be a significant impact under NEPA.

Preferred Alternative. Under the preferred alternative, approximately10,000-20,000 tons of stone will be replaced along 400 feet of the North and 300 feet of the Middle Jetty to restore them to their original design height. This repair work would restore the structures to their original design elevations and slopes in order to maintain safe passage for vessels entering and exiting the harbor. The jetties are a type of property whose continued effectiveness rely on repair and maintenance. Since their construction, the jetties have been repaired several times after major storm events. Previous repair efforts mirror the current proposed action where loose or dislodged stones are reset and additional stone is brought in to replace the materials that were damaged or lost during the storm event. The repair efforts would involve "in kind" replacement of materials and would not result in an adverse effect to the eligible jetties.

Due to limited truck access to the site and the cost of transportation, the rock will most likely be transported to the levees by barge. There would be no impacts to any archaeological sites under the preferred alternative.

The Corps is in the process of consulting with the State of California Historic Preservation Officer (SHPO) regarding the proposed breakwater and jetty repair work, as well as the associated storage and access of project materials. The Corps has determined that the undertaking would result in no historic properties adversely effected.

Conclusion. Impacts to cultural resources would be less than significant under NEPA.

No action alternative. Deterioration of protective Bay structures would result in severe

navigational hazards. This would require emergency repairs that would likely create similar short term obstacles as the preferred alternative.

4.6 Vessel Transportation and Safety

4.6.1 Affected Environment. Mission Bay is a heavily used recreational and small commercial vessel waterbody. Boat traffic, including commercial boats, fishing vessels, and recreational vessels, often traverse the proposed project site. Safe navigation is maintained by well-marked channels and the presence and activity of various law enforcement agencies (i.e. County Lifeguards, U.S. Coast Guard, California Department of Fish and Game).

4.6.2 Environmental Consequences

Significance Criteria. A significant impact would occur if the proposed project:

- Results in a substantial reduction of current safety levels for vessels in the Harbor.
- Presents a navigational hazard to boat traffic, or interferes with any emergency response or evacuation plans.

Preferred Alternative. Project impacts are not expected to significantly increase vessel traffic levels. All construction vessels would be marked and lighted in accordance with U.S. Coast Guard regulations, and notices would be published in Local Notice to Mariners warning boat users about times, durations, and locations of construction activities. Vessel traffic should be able to easily navigate around any short-term obstacles created by construction traffic. Vessels associated with jetty repair activities would be moored with sufficient room left in the main navigation channels for other vessels to pass. Construction will not impede access to any channels or entrance ways.

Conclusion: Impacts to vessel traffic are considered less than significant.

No action alternative. Additional vessel traffic associated with the project would not occur. Deterioration of protective Bay structures would result in severe navigational hazards. This would require emergency repairs that would likely create similar short term obstacles as the preferred alternative.

4.7 Recreational Uses

4.7.1 Affected Environment. The project area is a mix of public and private recreational boating and commercial uses. The coastal waters provide for recreational boating and fishing.

4.7.2 Environmental Consequences

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

Preferred Alternative. Impacts to recreational boaters will be negligible (see Section 4.6

above). Long-term impacts will be beneficial. The repair work will maintain, sustain, and support recreational and commercial boating by keeping the approaches and entrance channels open and free of navigational hazards. The proposed project will not result in any impediments to bay use.

Conclusion. Recreational impacts are considered less than significant.

No action alternative. Repairs to the jetties protecting Mission Bay would not occur. Continued deterioration of protective Harbor structures from large waves and winter storms would result in severe navigational hazards in Mission Bay which may require the closing of the harbor to recreational and commercial use over safety concerns.

4.8 Aesthetics

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

4.8.2 Environmental Consequences

Significance 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.

Preferred Alternative. The presence of construction equipment for jetty repairs would result in mixed impacts depending on the opinion of the viewer. Many viewers will consider the presence of the construction equipment to be an adverse impact, interrupting viewpoints from local land points and from boats. Other viewers may consider the presence of construction equipment and construction activity to be beneficial impacts, providing an interesting feature to watch from a safe distance (construction activity of this type often attracts curious onlookers). Given that the crane-equipped barge and support vessels for the proposed repair activities would be present during the tourist season, but located in off-shore areas away from beaches, and construction activity would be a short-term impact, aesthetic impacts would be less than significant. Long-term aesthetic impacts would be beneficial. The repaired jetties would continue to function as designed, and would not have gaps or voids that may indicate neglect.

Conclusion. Aesthetically, the viewshed would not change from the current baseline. Because impacts to aesthetics are temporarily adverse, and would be less than significant, no mitigation measures would be required.

No action alternative. Impacts discussed above regarding deterioration of the jetties would continue. Aesthetics of the area would change as high surf events and tidal action would degrade the harbor structures and erode adjacent beaches.

4.9 Ground Transportation

4.9.1 Affected Environment. Mission Bay and the adjacent beaches are accessed by several major routes. Seasonal variations can result in large differences in road use. Summer is the peak season and it is the basis for design of road capacity.

4.9.2 Environmental Consequences

Significance Criteria. A significant impact would occur if the proposed project results in:

- Inadequate parking facilities;
- An inadequate access or on-site circulation system; or
- The creation of hazardous traffic conditions.

Preferred Alternative. Construction would require the use of heavy equipment and support boats which requires manpower. A total construction crew of up to seven people is anticipated for the proposed project (1 captain, 1 crane operator, 2 boat operators, 1 oiler, 2 spotters/deckhands) per 12-hour shift, with only one shift per day. The proposed project will take place during the peak tourist season. The proposed project is, therefore, expected to have minor adverse impacts to ground transportation which are not considered significant. With these factors taken into account, impacts to ground transportation are considered less than significant. Mitigation measures are not proposed.

No action alternative. Construction activities associated with the project would not occur. The project's beneficial effects to Mission Bay use would be lost. Degraded Bay facilities would impact Harbor access, and navigational safety would be diminished.

4.10 Growth Inducement

The proposed project is located at Mission Bay in San Diego County. The proposed project is a routine maintenance program plan, with repair of the Harbor jetties for continued safe operation of Harbor facilities being the objective purpose. The proposed project is not in support of planned infrastructure improvements that would result in additional growth. The proposed project would not require additional employees other than temporary contractor to perform the repair construction operations. The proposed project would not induce growth within the project area.

4.11 Cumulative Impacts

Past. The Corps, as part of its Operations and Maintenance Program, performed repairs to the Middle Jetty at the entrance channel to Mission Bay in 2010. As a result of the El Nino storms

(1997-1998), the stone protection at the Jetty's head was displaced and the aid to navigation destroyed. Approximately 4,000 tons of stone were replaced along 150 feet of the Jetty to restore it to its original design height of +14' Mean Lower Low Water (MLLW). A small section of the revetment near Mariners Basin suffered damages from years of wave action and was also repaired. There are few construction projects on the Jetty since the last Corps repairs in 2010. Maintenance dredging occurred in mission bay in 2018, but it was not comprehensive, more for clearing up navigational hazards like shoals that had built up. Prior to that dredging had not occurred in the bay for years. No significant or long-term adverse impacts occurred from this action, and it is assumed that temporarily affected substrate would have recolonized with benthic organisms and other wildlife. The previous repair project would not contribute to ongoing or cumulative effects.

Present. Potential impacts to coastal processes and water quality from the proposed project would be short term and less than significant. The proposed project simply places rocky material on existing bay protection structures to restore original design elevations and slopes in order to maintain safe passage for vessels entering and exiting Mission Bay. The proposed project, therefore, provides a beneficial impact to local oceanographic conditions and is not expected to result in significant individual or cumulative impacts. Other than routine operations, maintenance and use of Mission Bay Harbor, no other construction activity is currently ongoing that would result in or contribute to increased cumulative effects.

Future. The proposed project is not expected to result in significant impacts to marine resources. Motile species are expected to relocate out of the area until jetty repair activities are finished. Some marine populations could be affected by repair activities (i.e. bivalves and mollusks that could be potentially displaced or crushed by rock placement on the existing structures), but are expected to recolonize the area once those activities have ceased. Other than continued routine operations, maintenance and use of Mission Bay Harbor, the Corps is not aware of any other planned or reasonably foreseeable construction activity in the immediate or surrounding area that would result in or contribute to increased cumulative effects.

Potential impacts to all other environmental resources including noise, cultural resources, vessel transportation and safety, recreational uses, aesthetics, land/water uses, and ground transportation would be minimal and less than significant. The proposed project would result in an overall beneficial impact as the harbors' authorized depths and widths would be maintained for safe navigation. Potential impacts to these resources from the proposed project, when analyzed in combination with other past, present and reasonably foreseeable projects or uses of Mission Bay, are not expected to result in significant cumulative impacts.

SECTION 5 - ENVIRONMENTAL COMPLIANCE AND COMMITMENTS

5.1 COMPLIANCE

5.1.1 National Environmental Compliance Act of 1969 (Public Law (PL) 91-190); National Environmental Policy Act (NEPA) of 1969 (42USC4321 et seq., PL 91-190); Council on Environmental Quality Regulations for Implementing NEPA, 40 CFR Parts 1500 to 1508; USACE Regulations for Implementing NEPA, 33 CFR Part 220.

The National Environmental Compliance Act includes the improvement and coordination of Federal plans to attain the widest range of beneficial uses of the environment and to achieve a balance between population and resource use permitting high standards of living and a wide sharing of life's amenities. The NEPA was established to ensure that environmental consequences of federal actions are incorporated into Agency decision making processes. It establishes a process whereby parties most affected by impacts of a proposed action are identified and opinions solicited. The proposed action and several alternatives are evaluated in relation to their environmental impacts, and a tentative selection of the most appropriate alternative is made.

This EA has been prepared to address impacts associated with the proposed project. The Draft EA is being circulated for public review and to appropriate resource agencies, environmental groups and other interested parties. Upon completion of a Final EA and FONSI, the project will be in full compliance with the National Environmental Policy Act and implementing regulations.

5.1.2 Clean Water Act of 1972 (33 USC 1251 et seq.)

The Clean Water Act (CWA) was passed to restore and maintain 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 major section of the CWA that applies to the proposed project is Section 401, which requires certification that the permitted project complies with the State Water Quality Standards for actions within state waters, and Section 404(b)(1), which establishes guidelines for discharge of dredged or fill materials into an aquatic ecosystem.

The Corps applied for a Section 401 Water Quality Certification from the San Diego Regional Water Quality Control Board (SDRWQCB) on April 4, 2019. This EA provides additional information to support that application. If no response is forthcoming from the SDRWQCB within 60 days of receipt of this EA per 33 CFR 336.1(b)(8)(iii), the Corps would notify the SDRWQCB of its intension to assume a waiver of water quality certification.

While the Corps does not permit itself under Section 404 of the Act, a 404(b)(1) analysis (see Appendix B) has been prepared to demonstrate substantive compliance with Section 404.

Upon receipt of a 401 Certification or waiver, the project will be in full compliance with the Clean Water Act.

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

The Endangered Species Act (ESA) protects threatened and endangered species by prohibiting federal actions that would jeopardize continued existence of such species or result in destruction or adverse modification of any critical habitat of such species. Section 7 of the ESA requires consultation regarding protection of such species be conducted with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) prior to project implementation if adverse impacts to protected species, or their respective critical habitat, is anticipated to occur. During the planning process, the USFWS and the NMFS evaluate potential impacts of all aspects of the project on threatened or endangered species. Their findings are contained in letters that provide an opinion on whether a project will jeopardize the continued existence of endangered species or modify critical habitat. If a jeopardy opinion is issued, the resource agency will provide reasonable and prudent alternatives, if any, that will avoid jeopardy. A non-jeopardy opinion may be accompanied by reasonable and prudent measures to minimize incidental take caused by the project.

Per Section 7 of the ESA, the Corps has determined that the proposed project would have “no effect” on the California least tern, Western snowy plover or other Federally listed species. The project is in compliance with the Endangered Species Act.

5.1.4 Coastal Zone Management Act of 1976 (PL 92-583; 16 USC 1456 et seq.)

Under the Coastal Zone Management Act (CZMA), any federal agency conducting or supporting activities directly affecting the coastal zone must demonstrate that the activity is, and proceed in a manner, consistent with approved State's Coastal Zone Management Program, to the maximum extent practicable. As no federal agency activities are categorically exempt from this requirement, the Corps is requesting concurrence from the California Coastal Commission (CCC) staff on a Negative Determination (ND). Federal consistency regulations allow an ND to be submitted for an activity "which is the same as or similar to activities for which consistency determinations have been prepared in the past." The proposed repair work is an extension of routine maintenance work. The Corps has determined that an ND is appropriate for the proposed project, and shall request concurrence from the CCC before implementing the proposed project. Upon receipt of that concurrence, the project will be in full compliance with the Coastal Zone Management Act.

5.1.5 Clean Air Act of 1969 (42USC7401 et seq.); CAA Amendments of 1990 (PL101-549)

Air quality regulations were first promulgated with the Clean Air Act (CAA). The CAA is intended to protect the Nation's air quality by regulating emissions of air pollutants. Section 118 of the CAA requires that all Federal agencies engaged in activities that may result in the discharge of air pollutants comply with state and local air pollution control requirements. Section 176 of the CAA prohibits federal agencies from engaging in any activity that does not conform to an approved State Implementation Plan.

The CAA established the NAAQS and delegated enforcement of air pollution control to the states. In California, the Air Resources Board (ARB) has been designated as the state agency responsible for regulating air pollution sources at the state level. The ARB, in turn, has delegated the responsibility of regulating stationary emission sources to local air pollution control or management districts which, for the proposed project, is the San Diego Air Pollution Control District (SDAPCD).

The CAA states that all applicable federal and state ambient air quality standards must be maintained during the operation of any emission source. The CAA also delegates to each state the authority to establish their own air quality rules and regulations. State adopted rules and regulations must be at least as stringent as the mandated federal requirements. In states where the NAAQS are exceeded, the CAA requires preparation of a State Implementation Plan (SIP) that identifies how the state will meet standards within timeframes mandated by the CAA. The 1990 CAA established new nonattainment classifications, new emission control requirements, and new compliance dates for areas presently in nonattainment of the NAAQS, based on the design day value. The design day value is the fourth highest pollutant concentration recorded in a 3-year period. The requirements and compliance dates for reaching attainment are based on the nonattainment classification.

One of the requirements established by the 1990 CAA was an emission reduction amount, which

is used to judge how progress toward attainment of the ozone standards is measured. The 1990 CAA requires areas in nonattainment of the NAAQS for ozone to reduce basin wide VOC emissions by 15 percent for the first 6 years and by an average 3 percent per year thereafter until attainment is reached. Control measures must be identified in the SIP, which facilitates reduction in emissions and show progress toward attainment of ozone standards.

The 1990 CAA states that a federal agency cannot support an activity in any way unless it determines the activity will conform to the most recent EPA-approved SIP. This means that Federally supported or funded activities will not: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any standard; or (3) delay the timely attainment of any standard or any required interim emission reductions or other milestones in any area. In accordance with Section 176 of the 1990 CAA, the EPA promulgated the final conformity rule for general Federal actions in the November 30, 1993 *Federal Register*.

Project emissions are not expected to exceed "de minimis" levels established as a criteria for a finding of conformity. Therefore, the project is consistent with the SIP and meets the requirements of Section 176(c). The project is in compliance with the Act.

5.1.6 National Historic Preservation Act of 1966 (16 USC 470 et seq.)

Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations 36 CFR §800 provide a regulatory framework for the identification, documentation, and evaluation of cultural resources that may be affected by Federal undertakings. Under the Act, Federal agencies must take into account the effects of their undertakings on historic properties (cultural resources that have been found to be eligible for listing or which are listed in the National Register of Historic Places) and afford the Advisory Council on Historic Properties a reasonable opportunity to comment on such undertaking.

In accordance with the Act, the Corps has retained the services of an architectural historian who meets the Secretary of Interior standards to record and provide a recommendation of eligibility for the two historic era jetties that are located with the area of potential effects. Based on these recommendations, the Corps has determined that the jetties are eligible for the National Register of Historic Places under Criterion A for their association with the recreational development of Mission Bay. The jetties do not meet the other three criteria. The Corps has further found that the repair of the jetties would result in no adverse effect. The Corps is in the process of consulting with the State Historic Preservation Office and seeking their agreement with their determinations and findings.

If previously unknown cultural resources are identified during project implementation, all activity will cease until requirements of 36 CFR 800.13, *Post-review discoveries*, are met. The project is in compliance with the Act.

5.1.7 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA) requires the Corps to coordinate with the U.S.

Fish and Wildlife Service on certain proposed activities. As this is not a new Water Resources Development Act Project, a Coordination Act Report is not required. However, coordination with the USFWS has occurred and will continue. The project is in compliance with the Fish and Wildlife Coordination Act.

5.1.8 Magnuson-Stevens Fishery Management and Conservation Act, as amended.

This Draft EA is subject to an EFH Assessment as required by the Magnuson-Stevens Act. Although jetty repair activities would occur within Essential Fish Habitat, the Corps has determined that the proposed project may adversely affect EFH, but would not result in a significant, adverse impact. Since the proposed project involves in-kind repair of an existing authorized structure, the Corps requested general concurrence that the project impacts would not be expected to have a substantial adverse impact on EFH or Federally managed fisheries in southern and central California waters. In compliance with the coordination requirements of the Act, the Draft EA will be sent to the NMFS for review and comment. Upon receipt of their comments, or upon completion of the public review period if no comments are received, the project will be in full compliance with this Act.

5.1.9 Executive Order 12898, Environmental Justice in Minority and Low-Income Populations

President Clinton signed Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority and Low-Income Populations," on February 11, 1994. It requires, to the greatest extent practicable, each Federal agency to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

The construction activities associated with the Mission Bay Jetties Repair Project would not result in disproportionate impacts to minority populations. The proposed project is in compliance with this Executive Order.

5.2 ENVIRONMENTAL COMMITMENTS

Following is a proposed summary of future commitments:

1. It is the Contractor's responsibility to obtain all applicable air permits and comply with federal, state, and local air and noise regulations.

2. The Contractor will implement retarding injection timing of diesel-powered equipment for nitrogen oxide (NOx) control, and use reformulated diesel fuel to reduce ROC and SO2 emissions.

3. In the event that previously unknown cultural resources are discovered during the project, all ground disturbing activities shall immediately cease within 200 feet of the discovery until the Corps has met the requirement of 36 CFR 800.13 regarding post-review discoveries. The Corps will evaluate the eligibility of such resources for listing on the National Register of Historic Places and propose actions to resolve any anticipated adverse effects. Work will not resume in the area surrounding the potential historic property until the Corps re-authorizes project construction.

4. The Contractor will keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters.

5. The Contractor will be required to have in place a Spill Prevention and Cleanup Plan that includes measures to prevent spills and to cleanup any spills that could occur.

6. There will be no intentional dropping of rock.

7. The Contractor will keep construction activities under surveillance, management, and control to minimize interference with, disturbance to, and damage of fish and wildlife.

8. The Contractor will mark their vessels, and all associated equipment, in accordance with U.S. Coast Guard regulations. The contractor must contact the U.S. Coast Guard two weeks prior to the commencement of construction and repair activities. The following information shall be provided: the size and type of equipment to be used; names and radio call signs for all working vessels; telephone number for on-site contact with the project engineer; the schedule for completing the project; and any hazards to navigation. Notices would be published in Local Notice to Mariners warning boat users about times, durations, and locations of construction activities.

9. The contractor will move equipment upon request by the U.S. Coast guard and Harbor patrol law enforcement and rescue vessels.

10. Construction and repair activities requiring heavy equipment would be limited to the hours of 7 AM to 7 PM Mon- Sat. No work on Sunday, federal holidays, and March 31 (Cesar Chavez Day).

11. The following best management practices would be implemented to ameliorate potential impacts from construction and repair activities in the proposed action area:
    - The limits of construction and repair activities shall be clearly marked to prevent heavy equipment from entering areas beyond the footprint needed to complete the project.
    - Vehicles and all construction-related activities shall remain within the defined activity area and use only designated access points and staging areas.
    - The work area shall be kept clean to avoid attracting predators. All food and trash shall be disposed of in closed containers and removed from the project site.

- No pets shall be allowed on the construction site.

12. Training shall be provided to the Contractor personnel to review and ensure full understanding of all project environmental protection requirements. Training shall include, but not limited to, methods of detecting and avoiding pollution, identification and avoidance measures for endangered species and marine mammals, and *Caulerpa taxifolia* identification and notification requirements.

5.3 SUMMARY

The proposed project is a navigation maintenance project designed and scheduled to avoid and/or minimize probable effects on the environment. It is determined the proposed project will not have a significant impact upon the existing environment or the quality of the human environment, as documented in this EA. As a result, preparation of an EIS is not required.

SECTION 6 – REFERENCES

Keane and Smith. 2016 California Least Tern Foraging Ecology in Southern California A Review of Foraging Behavior Relative to Proposed Dredging Locations. ERDC

Schakner ZA, T Götz, VM Janik, DT Blumstein. Can fear conditioning repel California sea lions from fishing activities? Animal conservation 20 (5), 425-432

SECTION 7 - DISTRIBUTION LIST

Federal Agencies:
U.S. Environmental Protection Agency, Region IX
U.S. Fish and Wildlife Service
National Marine Fisheries Service
U.S. Coast Guard

State/Local Agencies:
California Coastal Commission
California Department of Fish and Wildlife
City of San Diego
Regional Water Quality Control Board, San Diego
San Diego Air Pollution Control District
Department of Boating and Waterways
Office of Historic Preservation

SECTION 8 - ACRONYMS

ACHP.....Advisory Council on Historic Preservation
APE.....Area of Potential Effects
ARB .....Air Resources Board
ASBS.....Area of Special Biological Significance
CAA .....Clean Air Act
CEQ.....Council on Environmental Quality
CO .....Carbon monoxide
Corps .....U.S. Army Corps of Engineers
CWA .....Clean Water Act
DO.....Dissolved oxygen
EA .....Environmental Assessment
EFH .....Essential Fish Habitat
ESA .....Endangered Species Act
FEA .....Final Environmental Assessment
FMP.....Fishery Management Plan
FONSI.....Finding of No Significant Impact
FWCA .....Fish and Wildlife Coordination Act
LAD .....Los Angeles District
MLLW .....Mean Lower Low Water
NEPA .....National Environmental Policy Act
NHPA.....National Historic Preservation Act
NMFS.....National Marine Fisheries Service
NO2.....Nitrogen dioxide
PL.....Public Law
SHPO .....State Historic Preservation Officer
SIP.....State Implementation Plan
USFWS .....U.S. Fish and Wildlife Service
SDAPCD .....San Diego County Air Pollution Control District

SECTION 9 - PREPARERS/REVIEWERS

9.1 Preparers

Zac Schakner, PhD	USACE LAD, Biologist, Ecosystem Planning Section

9.2 Reviewers

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Danielle Storey	USACE LAD, Archeologist, Regional Planning Section
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Hayley Lovan	USACE LAD, Chief, Ecosystem Planning Section

APPENDIX B

404(b)(1) EVALUATION

THE EVALUATION OF THE EFFECTS OF THE DISCHARGE OF DREDGED OR FILL MATERIAL INTO THE WATERS OF THE UNITED STATES IN SUPPORT OF THE ENVIRONMENTAL ASSESSMENT FOR THE MISSION BAY JETTY REPAIR PROJECT LOCATED IN SAN DIEGO COUNTY, CALIFORNIA

I. **INTRODUCTION.** The following evaluation is provided in accordance with Section 404(b)(1) of the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500) as amended by the Clean Water Act of 1977 (Public Law 95-217). Its intent is to succinctly state and evaluate information regarding the effects of discharge of dredged or fill material into the waters of the U.S. As such, it is not meant to stand alone and relies heavily upon information provided in the environmental document to which it is attached. Citation in brackets [] refer to expanded discussion found in the Environmental Assessment (EA), to which the reader should refer for details.

II. **PROJECT DESCRIPTION.** [1.1]

a. Location. The proposed project area to perform repairs to the North and Middle Jetties at the entrance channel to Mission Bay, San Diego County, California.

b. General Description. The Los Angeles District of the U. S. Army Corps of Engineers, as part of its Operations and Maintenance Program, is proposing to perform repairs to the North and Middle Jetty at the entrance channel to Mission Bay, San Diego County, California. The Middle Jetty also acts as a levee controlling the flow of water from the mouth of the San Diego River, and serves as the southern border of the Navigation Channel. The jetties function are essential to the protection of the harbor and must be well maintained. The jetties are subjected to daily intense wave action and often extreme wave heights from storms, and are designed for natural deterioration to be mitigated through regular maintenance repair

Repair work would consist of resetting existing armor stone as needed and the placement of approximately 10,000-20,000 tons of new armor stone. The new stone would have a median stone size of 15-tons and a nominal diameter near 6 feet. Repairs would be conducted by a barge-mounted crane, barges carrying rock, tugboats, and other various small boats. Transport of stone would likely be by sea but may occur by land using dump trucks or other heavy equipment vehicles

c. Authority and Purpose. This evaluation has been prepared pursuant to Section 404(b)(1) of the Clean Water Act of 1977 (38 USC 1344) which applies to the discharge of dredged or fill materials into waters of the United States. The primary purpose of the proposed project is to repair protective structures at Mission Bay to maintain the safe navigability of the Harbor's approach and entrance channels.

d. General Description of Dredged or Fill Material. Approximately 10,000-20,000 tons of stone will be replaced along 400 feet of the North and 300 feet of the Middle Jetty to restore them to their original design height of +14' Mean Lower Low Water (MLLW). It is not anticipated that the nearshore environment would be affected by sediments being artificially stirred up into the water column. Stones used for the repair work (likely from Pebbly Beach Quarry on Santa Catalina Island) would be hauled to repair sites via barge, or by tractor trailer truck to a nearby staging area. Stone would be floated by barge to the repair sites, and then placed onto the breakwater and jetties using a barge-mounted crane. Aside from minor,

incidental mobilization of fine sediments from positioning of stones, anchoring and propeller wash, increases in sediment transport and turbidity are not anticipated to result from proposed project activities.

e. Description of the Proposed Discharge Site. Approximately 10,000-20,000 tons of stone will be replaced along 400 feet of the North and 300 feet of the Middle Jetty to restore them to their original design height of +14' Mean Lower Low Water (MLLW). Stones used for the repair work would be hauled to repair sites via barge, or by truck to a nearby staging area. Stone delivered by truck, if utilized, would be transferred to a barge and then floated to the repair sites for placement onto the jetties using a barge-mounted crane. The contractor is required to carefully fit and place the individual stones into the structure. Dropping of armor stone is not permitted, but it should be expected that some stones may be accidentally dropped during placement.

f. Timing and duration of Discharge. Jetty construction and repair work is anticipated to take approximately 5-6 months to complete. Construction is currently expected to occur from April 2020 until August 2020, although the schedule is subject to change based on availability of funding, equipment and supplies, weather, and other issues.

III. FACTUAL DETERMINATIONS.

a. Disposal Site Physical Substrate Determinations:

b. Substrate Elevation and Slope.

Impact: ____ N/A __X_ INSIGNIFICANT ____ SIGNIFICNT

The proposed project is not expected to result in significant substrate impacts. The proposed project will restore pre-existing substrate types by placing stone on damaged sections of the jetties.

c. Sediment type.

Impact: ____ N/A __X_ INSIGNIFICANT ____ SIGNIFICNT

The proposed project would not modify sediment types in the action area.

d. Dredged/Fill Material Movement.

Impact: ____ N/A __X_ INSIGNIFICANT ____ SIGNIFICNT

The purpose of the proposed project is to repair the existing jetties at Mission Bay for the authorized purpose of maintaining navigability in the Federal channel. The majority of the materials would remain on the existing structures. Some structural deterioration and rock displacement may occur over time due to wave action and weathering. However, the rock would likely remain immediately adjacent to the existing structures in the near shore environment.

e. Physical Effects on Benthos (burial, changes in sediment type, composition, etc.).

Impact: ____ N/A __X_ INSIGNIFICANT ____ SIGNIFICNT

Temporary, short-term impacts would occur. However, no long-term significant impacts are expected. Organisms are expected to recolonize the area once construction and repair activities cease.

f. Other Effects.

Impact: ____ N/A __X_ INSIGNIFICANT ____ SIGNIFICNT

g. Actions Taken to Minimize Impacts.

Needed: ____ YES __X_ NO

If needed, Taken: ____ YES ____ NO

h. Effect on Water Circulation, Fluctuation, and Salinity Determinations:

(1) Water. The following potential impacts were considered:

Salinity	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
Water Chemistry	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
Clarity	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
Odor	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
Taste	__X_ N/A	____ INSIGNIFICANT	____ SIGNIFICANT
Dissolved gas levels	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
Nutrients	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
Eutrophication	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
Others	__X_ N/A	____ INSIGNIFICANT	____ SIGNIFICANT

The proposed project is not expected to significantly effect water circulation, fluctuation, and/or salinity.

(2) Current Patterns and Circulation. The potential of discharge on the following conditions were evaluated:

Current Pattern and Flow	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
Velocity	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
Stratification	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
Hydrology Regime	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT

The proposed project is not expected to significantly affect current patterns or circulation as the jetties are existing structures that remain functional even when damaged.

(3) Normal Water Level Fluctuations. The potential of discharge on the following were evaluated:

Tide	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
River Stage	__X__N/A	___ INSIGNIFICANT	____ SIGNIFICANT

The proposed project is not expected to have a significant impact on normal water level fluctuations.

i. Suspended Particulate/Turbidity Determinations.

(1) Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Disposal Site.

Impact: ____N/A __X_ INSIGNIFICANT ____ SIGNIFICANT

Impacts would be temporary and adverse within the immediate construction area, but not significant. Suspended particulates in the repair area(s) would settle after construction and repair activities cease. It is expected that any impacts from suspended particulates and turbidity would not be significantly greater than those that are caused by natural surf zone processes at the receiver sites.

(2) Effects on Chemical and Physical Properties of the Water Column.

Light Penetration	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
Dissolved Oxygen	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
Toxic Metals & Organic	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
Pathogen	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
Aesthetics	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
Others	__X_ N/A	____ INSIGNIFICANT	____ SIGNIFICANT

(3) Effects of Turbidity on Biota.

Primary Productivity	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT
Suspension/Filter Feeders	____N/A	__X_ INSIGNIFICANT	____ SIGNIFICANT

Sight feeders ____N/A __X_ INSIGHIFICANT ____ SIGNIFICANT

Impacts will be temporary and adverse within the immediate construction area, but not significant.

(4) Actions Taken to Minimize Impacts.

Needed: ____ YES __X_ NO

If needed, Taken: ____ YES ____ NO

j. Contaminant Determination. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material. (Check only those appropriate.

(1) Physical characteristics ..... _X_

(2) Hydrography in relation to known or anticipated sources of contaminants ..... _X_

(3) Results from previous testing of the material or similar material in the vicinity of the proposed project ..... _X_

(4) Known, significant sources of contaminants (e.g. pesticides) from land runoff or percolation ..... ___

(5) Spill records for petroleum products or designated (Section 311 of the CWA) hazardous substances ..... ___

(6) Other public records of significant introduction of contaminants from industries, municipalities, or other sources ..... ___

(7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities ..... ___

(8) Other sources (specify) ..... ___

An evaluation of the appropriate information above indicates that the armor stone material proposed for placement on the existing structures is not a carrier of contaminants. Rocky materials proposed for repair work are substantively similar to rocks comprising the structural matrix of the existing breakwater and jetties, and are not likely to be constraints. See section 4.1.2 of the EA for further discussion.

YES ___ NO _X__Presence of contaminants.

Impact: ____N/A __X_ INSIGNIFICANT ____ SIGNIFICANT

If the material does not meet the testing exclusion criteria above, describe what testing was performed and results: N/A

k. Effect on aquatic Ecosystem and Organism Determinations.

Plankton ____N/A __X_ INSIGNIFICANT ____ SIGNIFICANT

Benthos ____N/A __X_ INSIGNIFICANT ____ SIGNIFICANT

Nekton ____N/A __X_ INSIGNIFICANT ____ SIGNIFICANT

Food Web ____N/A __X_ INSIGNIFICANT ____ SIGNIFICANT

Sensitive Habitats

Sanctuaries, refuges ___X_N/A ___ INSIGNIFICANT ____ SIGNIFICANT

Wetlands _X___N/A ___ INSIGNIFICANT ____ SIGNIFICANT

Mudflats __X__N/A ___ INSIGNIFICANT ____ SIGNIFICANT

Eelgrass beds ____N/A __X_ INSIGNIFICANT ____ SIGNIFICANT

Riffle & pool complexes ___X_N/A ___ INSIGNIFICANT ____ SIGNIFICANT

Threatened & endangered species__N/A __X_ INSIGNIFICANT ____SIGNIFICANT

Other wildlife _N/A __X_ INSIGNIFICANT ____ SIGNIFICANT

l. Actions Taken to Minimize Impacts.

Two Federally listed species utilize the near shore environment adjacent to the proposed project area(s), but would not be affected by the project: the threatened western snowy plover, and the endangered California least tern.

Western snowy plover. Proposed Mission Bay jetty construction and repair activities in the near shore environment have been determined to have "no effect" on the western snowy plover. There is no suitable nesting or foraging habitat for this species on or adjacent to any of the project areas.

California least tern. Proposed jetty construction and repair activities in the near shore environment have been determined to have "no effect" on the California Least Tern. Nonetheless, specific measures shall be taken as best management practices for the biological environment. These measures include: (1) the limits of the construction and repair activities shall be clearly marked on project maps to prevent construction equipment from entering areas beyond the footprint needed to complete the project; (2) vehicles and all repair activities shall remain within the defined activity area and use only designated access points and staging areas; (3) the work area shall be kept clean to avoid attracting predators; (4) all food and trash shall be disposed of in closed containers and removed from the project site; and (5) no pets shall be allowed on the construction site.

m. Proposed Disposal Site Determinations. Are construction and repair activities confined to the smallest practicable zone? __X_ YES ____ NO

n. Determination of Cumulative Effects of Disposal or Fill on the Aquatic Ecosystem.
Impacts: ____N/A __X_ INSIGNIFICANT ____ SIGNIFICANT

o. Determination of Indirect Effects of Disposal or Fill on the Aquatic Ecosystem.
Impacts: ____N/A __X_ INSIGNIFICANT ____ SIGNIFICANT

IV. FINDING OF COMPLIANCE

a. Adaptation of the Section 404 (b)(1) Guidelines to this Evaluation. No significant adaptations of the guidelines were made relative to this evaluation.

b. Evaluation of Availability of Practicable Alternatives to the Proposed Discharge Site Which Would Have Less Adverse Impact on the Aquatic Ecosystem. There are no practicable alternatives for breakwater and jetty repair work other than repairing damaged sections (proposed action), or no action. The proposed project is the least environmentally damaging alternative that meets project objectives.

c. Compliance with Applicable State Water Quality Standards: The proposed project will comply with State water quality standards promulgated by the California Regional Water Quality Control Board, Central Coast Region.

d. Compliance with Applicable Toxic Effluent Standard or Prohibition under Section 307 of the Clean Water Act: No toxic materials/wastes are expected to be produced or introduced into the environment by this project.

e. Compliance with the Endangered Species Act of 1973: As discussed in the attached EA, the Corps has determined the proposed project would not have significant impacts upon the continued existence of any species Federally-listed as threatened or endangered. The Corps has

made a determination of "no effect" pursuant to Section 7 of this act for this project.

f. Compliance with Specified Protection Measures for Marine Sanctuaries Designated by the Marine Protection, Research, and Sanctuaries Act of 1972: No sanctuaries as designated by the Marine Protection, Research and Sanctuaries Act of 1972 will be affected by the proposed project.

g. Evaluation of Extent of Degradation of the Waters of the United States: No significant degradation of municipal or private water supplies, special aquatic sites, or plankton resources will occur. The project will have a short-term effect upon fish and invertebrates due to project-related turbidity and/or the burial of organisms.

h. Appropriate and Practicable Steps Taken to Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem: Specific environmental commitments are outlined in the attached EA.

i. On the Basis of the Guidelines, the Proposed Disposal Site(s) for the Discharge of Dredged or Fill Material is:

____ (1) Specified as complying with the requirements of these guidelines; or,

_X_ (2) Specified as complying with the requirements of these guidelines, with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects on the aquatic ecosystem; or,

____ (3) Specified as failing to comply with the requirements of these guidelines.

Prepared by: Zachary Schakner Date: 15 May 2019