DRAFT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

FOR

Port San Luis Harbor Breakwater Repair Project Modification
Excess Breakwater Stone Relocation
San Luis Obispo County, California

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

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SECTION 1 – INTRODUCTION

In 2021, the Corps prepared a Final Environmental Assessment (FEA; USACE 2021) to evaluate the potential impacts associated with repairing damaged sections of the Port San Luis (PSL) Breakwater in San Luis Obispo County, California. Subsequent to the finalization of the 2021 FEA, the Corps determined up to 10,000 tons of stone currently incorporated into the breakwater might need to be replaced and relocated during repair. However, the potential effects associated with the relocation of any displaced stone were not analyzed in the 2021 FEA. This Supplemental Environmental Assessment (SEA) evaluates the potential environmental impacts associated with the relocation of displaced stone during the repair of the PSL Breakwater. The potential effects associated with other aspects of the PSL Breakwater repair are covered in the 2021 FEA and are not further addressed in this SEA.

This document was prepared in compliance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code (USC) 4321, et seq.); Council on Environmental Quality (CEQ) regulations implementing the procedural provisions of NEPA (40 Code of Federal Regulations (CFR) parts 1500-1508); and the United States Army Corps of Engineers' (Corps) procedures for implementing NEPA (33 CFR Part 230).

1.1 PROPOSED ACTION

1.1.1 Project Background

The PSL Breakwater was constructed between 1889 and 1913 as a rubble-mound breakwater that extended outwards 2,400 feet from the tip of Point San Luis in a southeasterly direction.

A comprehensive condition survey of the PSL Breakwater was performed from 2015 to 2017 using bathymetric and topographic surveys, site inspections, and an assessment of construction and repair records. The functional effectiveness and structural integrity of the breakwater were assessed in terms of wave overtopping, wave transmission, and armor stability. Recommendations for repairs were developed from the findings of the comprehensive survey, and primarily include the need to reset and replace stone along the breakwater's length with a focus on the most heavily damaged 1,420 feet between Stations 4+00 and 18+20 (Figure 1). In 2021, the Corps prepared an FEA to evaluate the effects of repairing the damaged breakwater, and a contract to conduct the needed repairs was awarded in September 2021. Subsequent to contract award, the Corps determined that the breakwater repair may generate up to 10,000 tons of displaced stone.

Initially, the Corps investigated placing the displaced stone within one mile of the PSL Breakwater structure; however, the potential large quantity of stone accompanied by the presence of proposed and federally listed species, designated critical habitat for black abalone, eelgrass, existing rocky reefs, and other sensitive habitats led the Corps to evaluate alternative placement locations. Through coordination with tribal groups, resource agencies and others, the Corps is now proposing to transport and place the displaced stone west of Morro Rock, in the nearshore vicinity of Morro Bay Harbor.

1.1.2 Project Location

The PSL Breakwater repair project area and the Proposed Placement Area are located along the central California Coast, in San Luis Obispo County (Figure 2). The Proposed Placement Area is approximately 20 miles north of the PSL Breakwater, in the nearshore waters approximately 1,500 feet west of Morro Rock (Figure 3). The City of Morro Bay has granted the Corps permission to use the area within their Tidelands Grant, the Proposed Placement Area is within the Tidelands Grant boundary.

1.1.3 Project Description

The Corps, as part of its operations and maintenance (O&M) program, is proposing a modification to the PSL Breakwater repair project. The Corps proposes to relocate up to 10,000 tons of existing PSL Breakwater stone that may be displaced by repair activities, to the Proposed Placement Area in the nearshore waters located approximately 1,500 feet west of Morro Rock (Figures 2 and 3). The armor stone size required for hydraulic stability while maintaining the breakwater design may result in the displacement of existing breakwater stone. The displaced existing stone from the PSL Breakwater will range in size up to 10 tons (approximately 5 feet in diameter). The Corps proposes to barge any displaced stone to the Proposed Placement Area, which is approximately 29 acres in size; however, the footprint of stone placement would encompass up to approximately 3 acres of the sandy ocean bottom at a depth ranging from approximately -50 to -65 feet Mean Lower Low Water (MLLW) as shown in figure 3. The crest height would be variable from 1-13 feet above the sea floor with an allowable upward tolerance of + 5 feet and a maximum crest elevation of approximately -40 feet MLLW so that the structures exhibit a random low to high vertical relief, dependent on anticipated weather conditions and maintaining safety standards. Contiguous connected modules would be added based on the volume of stone relocated with additional modules being added in succession (Figure 4). During placement of displaced stone at the Proposed Placement Area site track loaders would likely be utilized on the barge to place displaced stone into module configurations through a controlled push off method. Quarried armor stones (approximately 5 to 7 feet in diameter) would be required to serve as anchors and remain in place permanently as part of each module, it is anticipated two armor stones per module would be required.

Relocation and placement of displaced stone would occur concurrent with breakwater repair activities, generally anticipated to extend from June to October 2022. Work windows and timelines are variable due to weather patterns and other factors such as equipment availability, working performance of the equipment, contractual commitments, and availability of funds.

Displaced stone relocation and placement construction activities would be sea-based, conducted by barges carrying stone, tugboats, small craft support vessels, a track loader, and a crane equipped barge. The displaced stone would be moved to the Proposed Placement Area via barge in approximately 1,000 ton increments and placed in sets of modules to maintain cohesion between all stone placed. Each trip would take approximately 3-5 days including both travel and placement time. In the event of adverse weather, the contractor would relocate the equipment and seek shelter, mooring within the established PSL Harbor District designated anchorage or within Morro Bay Harbor.

1.1.4 Construction Equipment

The following is a description of the type of the primary pieces of equipment to be utilized for the relocation and placement of the displaced PSL Breakwater stone. The capabilities and compliment of such equipment are as follows:

Crane-equipped Barge. During breakwater repair and construction, a barge with an attached crane would be outfitted with lifting tongs to reset existing stone and retrieve new quarry stones from the storage barge, and then place those stones on damaged sections of the breakwater (Figure 5). The same crane would place the displaced stone onto a storage/rock barge for transport to the Proposed Placement Area. Although unlikely, the crane-equipped barge could be utilized for placement of the displaced stone at the Proposed Placement Area.

Storage/Rock Barge(s). Another floating barge would be used to stockpile and transport excess stone from PSL Harbor to the Proposed Placement Area. 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 rock barge is expected to carry approximately 1,000 tons of displaced stone per trip to the Proposed Placement Area. Unused/awaiting barges would be stored within a designated area within PSL Harbor.

Track Loader(s). During placement of displaced stone at the Proposed Placement Area, track loaders would be utilized on the storage/rock barge to place the displaced stone into module configurations through a controlled push off method.

Support Vessels. Tenders, tugs, and spotting craft are self-propelled support vessels and 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, breakwater, Proposed Placement Area, mooring areas, the crane barge, and storage barges. There is usually just one operator on a support vessel unless the vessel is ferrying other crew members.

1.2 SCOPE AND CONTENT OF THE SEA

The potential impacts associated with the Proposed Action and no action alternatives were assessed and only the resources relevant to this SEA are analyzed. These resources evaluated in the SEA are:

- Oceanography and Water Quality
- Marine Resources
- Cultural Resources
- Air Quality
- Recreation
- Sea Vessel Traffic and Safety

1.3 NEPA SCOPE OF ANALYSIS

As part of the NEPA process, the Corps is responsible for establishing the NEPA scope of analysis pursuant to 33 CFR Part 230. The Corps' NEPA scope of analysis encompasses the approximate

20-acre project area within the PSL Harbor in San Luis Obispo County, plus sea vessel barging the displaced stone on the Pacific Ocean from PSL Harbor to the Proposed Placement Area west of Morro Rock (Figure 3).

1.4 AGENCY AND PUBLIC INPUT

This document is available for public review and comment for a period of 15 days, beginning May 11, 2022, through May 25, 2022, and will be posted on the Corps website. Comments should be e-mailed to:

Gabrielle Dodson: XXXXXXXX

1.5 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.

SECTION 2 – PROJECT PURPOSE

2.1 PROJECT PURPOSE AND NEED

The PSL Breakwater serves as protection from offshore waves and currents and therefore facilitates navigability within PSL Harbor. Maintenance repairs on the PSL Breakwater are needed to ensure navigational safety and to prevent degradation of the structural integrity of harbor facilities. The Corps has recently learned that up to 10,000 tons of stone may be displaced during repairs and may not be able to be incorporated back into the breakwater structure. The stone has been deemed too small to meet the current design requirements and placing the stone along the toe of the breakwater or elsewhere in PSL Harbor is not feasible due to potential impacts to biological and cultural resources, navigation safety and existing harbor uses. The Corps needed to identify an alternative location for the displaced stone.

As part of the 2021 FEA (USACE 2021), in compliance with Section 106 of the National Historic Preservation Act (NHPA), the Corps consulted with the State Historic Preservation Officer (SHPO) and Federally and non-Federally recognized tribes who may attach religious or cultural significance to historic properties near the project area. During consultation, the Corps was informed by two consulting tribes, the yak tityu tityu yak tiłhini - Northern Chumash Tribe and the Northern Chumash Tribal Council, that much of the stone used to build the breakwater was taken from Morro Rock, a location of great cultural significance to both the Chumash and Salinan Tribes. For the two consulting tribes, the stones maintain their sacredness despite their separation from Morro Rock. In response to tribal input, the Corps committed to treating the stone in a respectful manner and reincorporating the stone back into the PSL Breakwater where it would maintain proximity to the other stone harvested from Morro Rock. Maintaining the translocated stone as a cohesive unit was very important to both consulting tribes.

The Corps has coordinated further with the two consulting tribes and has identified a location near Morro Rock that would meet their request to reunite the stone with Morro Rock in a manner that

does not result in significant adverse effects to marine resources. The Proposed Placement Area also meets the Corps' need for disposition of excess stone in a manner and location that avoids adverse effects to a significant tribal resource.

2.2 AUTHORIZATION

The PSL Breakwater Repair Project was authorized as described in Executive Document # 81 (Senate), 49th congress, 2nd session, 10 February 1887, titled "Reports of Engineers Relative to a Breakwater at Whalers Point, California". Construction of a federal breakwater was authorized by the Rivers and Harbors Act of August 11, 1888 (s. Doc 81, 49th Congress, 2nd Session; USACE, 1969). Federal responsibility for maintenance of the breakwater structure was authorized by the Rivers and Harbors Act of 1899, as amended, and modified by Public Law 99- 62 (House Document 303, 81st Congress, 2nd session) provides for the establishment and maintenance of a breakwater.

SECTION 3 – PROJECT ALTERNATIVES

3.1 ALTERNATIVES CONSIDERED

3.1.1 No Action Alternative

Under this alternative, the construction footprint and PSL Breakwater would be repaired to the design as originally described in the 2021 FEA (USACE 2021). The original design would entail incorporating all existing breakwater stone back into the structure which could limit the quantity of larger armor stone incorporated into the breakwater repair. However, in the absence of the proposed project modification, additional analyses would be required to assess structural integrity and constructability of the breakwater repair.

3.1.2 Proposed Project Modifications (Proposed Action)

The Proposed Action, as described more fully in Section 1.1, consists of relocating up to 10,000 tons of existing PSL Breakwater stone via barge to the Proposed Placement Area. The footprint of stone placement would encompass up to approximately 3 acres of the sandy ocean bottom at a depth ranging from approximately -50 to -65 feet MLLW. The crest height would be variable from 1-13 feet above the sea floor with an allowable upward tolerance of + 5 feet and a maximum crest elevation of approximately -40 feet MLLW so that the structures exhibit a random low to high vertical relief. Contiguous connected modules would be added based on the volume of stone relocated with additional modules being added in succession. Environmental commitments incorporated in the project description to avoid or minimize adverse impacts are listed in Section 5.2.

3.2 ALTERNATIVES REJECTED FROM CONSIDERATION

3.2.1 Alternative Displaced Stone Placement Site

Alternative sites within one mile of the PSL Breakwater were investigated and evaluated; however, the potential large quantity of stone accompanied by the presence of proposed and federally listed

species, designated critical habitat for black abalone, eelgrass, existing rocky reefs, and other sensitive habitat led the Corps to determine the alternative sites were not considered practicable or reasonable due the potential adverse effects to historic properties, existing habitat, proposed and federally listed species, designated critical habitat, and navigational safety.

SECTION 4 – AFFECTED ENVIRONMENT AND ENVIRONMENTALCONSEQUENCES

This section provides a discussion of the affected environment and assessment of potential impacts associated with the Proposed Action and No Action Alternatives. Only the resources relevant to this SEA are analyzed. These resources include Oceanography and Water Quality, Marine Resources, Cultural Resources, Air Quality, Recreation, Sea Vessel Traffic and Safety.

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 higher highwater (HHW), lower high water (LHW), higher low water (HLW), and lower low water (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.

Water quality is typically characterized by salinity, pH, temperature, clarity, and dissolved oxygen (DO). Section 303(d) of the 1972 CWA requires states to identify water bodies that do not meet water quality objectives and are not supporting their beneficial uses. Each state must submit an updated list, called the 303(d) list, to the United States Environmental Protection Agency (USEPA) every two years. In addition to identifying the water bodies that are not supporting beneficial uses, the list also identifies the pollutant or stressor causing impairment and establishes a priority for developing a control plan to address the impairment. The EPA has not listed impairments for the most recent 2016 Waterbody Report for Pacific Ocean at Morro Bay City Beach (Morro Rock).

4.1.2 Environmental Consequences

Significance Criteria. An impact to Oceanography and Water Quality will be considered significant if an alternative would:

- Cause substantial changes in topography or physical processes acting on the system;
- Cause substantial, long-term alteration of chemical properties and turbidity within the water column outside of a 500’ buffer area around the project area and Proposed Placement Area;

● Cause release of toxic substances that would be deleterious to human, mammal, fish, or plant life.

Proposed Action. Work previously described as occurring at the PSL Breakwater remains unchanged and the analysis in the 2021 FEA (USACE 2021) is adequate to cover those activities without modification. As such, the analyses below are limited to the potential effects associated with displaced stone placement in the Proposed Placement Area.

The Potential Placement Area is not identified on the 303(D) list as an area with impairments. Therefore, the activities associated with the Proposed Action would not result in the release of toxic substances that would be deleterious to human, mammal, fish, or plant life.

The Corps has performed an analysis to assess potential impacts to oceanographic resources and physical processes. The results of the analysis have concluded that for the Proposed Placement Area location and structure there would be no impact on the incidental wave energy, currents, or littoral transport of sediment. See Appendix C, Proposed Morro Rock Reunification: Possible Wave and Transport Impact Analysis, San Luis Obispo County, California (USACE 2022).

Specifically, the displaced stone would be placed offshore of Morro Rock and can be expected to result in temporary elevation of turbidity as stone passes through the water column to the seafloor. Turbidity is expected to be limited to the immediate Proposed Placement Area as the stones are derived from the wave washed breakwater and are generally free of sediment. However, they would discharge biogenic particulates from marine growth as well as rock fragments from handling of the stone. The upper water column turbidity is expected to dissipate in a matter of minutes after placement due to particulate settlement, while turbidity at the sea floor may remain slightly elevated for days as material suspended off the stone settles or disperses.

The temporary and localized increase in turbidity described above would not substantively change topography or physical processes, cause deleterious water quality conditions, or cause substantial levels of pollution orcontamination. Therefore, impacts to Oceanography and Water quality are considered less than significant.

No Action Alternative. Impacts associated with the transport and placement of displaced stone would not occur. In the absence of replacing smaller existing stone with larger stone during breakwater repair, the breakwater would become increasingly susceptible to erosion, structural failure, and hydraulic instability which would jeopardize safety. However, breakwater repair would still occur to the extent possible as detailed in the July 2021 EA. Less than significant impacts to Oceanography and Water Quality would still occur as discussed in the July 2021 EA.

4.2 MARINE RESOURCES

The affected area within the project area remains unchanged in Section 4.2 of the July 2021 FEA (USACE 2021) and therefore the Affected Environment discussed in 4.2.1 below is limited to the Proposed Placement Area.

4.2.1 Affected Environment

4.2.2 Environmental Consequences

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

- Degrade habitat for, or reduce the population of a federally listed species;
- Cause a net loss in value of a sensitive biological habitat including a marine mammal haul out site or breeding area;
- Cause a substantial loss in the population or habitat of any native fish or wildlife (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).

Proposed Action.

Marine Ecosystem, Fish, and Essential Fish Habitat Assessment

The placement of displaced stone would result in impacts to benthic habitat and species, especially sessile invertebrates occupying the Proposed Placement Area. Some benthic species may suffer injury or mortality due to burial, crushing, or exposure to turbidity. Placement of displaced stone can be expected to result in temporary elevation of turbidity as stone passes through the water column to the seafloor. Turbidity is expected to be limited as the stones are derived from the wave washed breakwater and are generally free of sediment. However, they would discharge biogenic particulates from marine growth as well as rock fragments from handling of the stone. The upper water column turbidity is expected to dissipate in a matter of minutes after placement due to particulate settlement, while turbidity at the sea floor may remain slightly elevated for days as material suspended off the stone and settles or disperses.

The Corps has determined that the temporary increase in turbidity described above may have adverse effects to federally managed species under the FMPs described in Section 4.2.1. However, these adverse effects would not cause a substantial loss in the population of any native fish or wildlife, or a net loss in the value of any sensitive biological habitats. As a result, the temporary adverse effects of stone placement would be less than significant. The Corps initiated Supplemental EFH Consultation (Appendix H) with NMFS to address the potential effects of the Proposed Action at the Proposed Placement Area.

In addition to temporary turbidity effects, the Proposed Action may have localized adverse effects to soft bottom species due to benthic habitat conversion from silty sand soft bottom to rocky hard bottom habitat with varied low to high relief. This conversion could adversely affect soft bottom species managed under the Pacific Coast Groundfish FMP. The Proposed Action would not fully eliminate soft bottom habitat as the design of the Proposed Placement Area creates a complex mosaic of hard bottom units that are physically varied and interconnected with interspersed soft bottom habitat. The stone placement would provide a replacement habitat feature in areas of displaced soft bottom that would be expected to also be used by marine species. Marine species, including managed groundfish species, are expected to begin colonizing the area upon project

completion. This impact is considered to be adverse but not significant as the replacement substrate provided would ensure no net loss in habitat value occurs.

The Proposed Action would not adversely affect any HAPC such as seagrass, canopy kelp, or rocky reef. The Proposed Action would not cause a substantial loss in the population or habitat of any native wildlife or result in the permanent loss in value of sensitive biological habitat. Therefore, the Proposed Action would result in less than significant impacts to the marine ecosystem, fish, and EFH.

Marine Mammals

While marine mammals have the potential to infrequently occur in the Proposed Placement Area, no marine mammal breeding area or haul-out sites are present. Barge movement is slow and fixed position placement poses no substantial risk to marine mammal species should they be present in the Proposed Placement Area.

In the unlikely event of an occurrence of a marine mammal within the vicinity of the Proposed Placement Area during construction, the following environmental commitments are included as part of the Proposed Action:

- An on-site qualified marine mammal monitor will be on-site at all times during stone placement activities at the Proposed Placement Area.
- A 200-meter safety zone for marine mammal species (with the exception of the southern sea otter) will be established for the Proposed Placement Area. Should a marine mammal species come within 200 meters of the construction activities, operations will be halted until the marine mammal leaves the designated safety zone.

The Proposed Action would not cause a substantial loss in the population or habitat of any native wildlife or result in a net loss in value of sensitive biological habitat. Therefore, impacts would be less than significant.

Threatened and Endangered Species

Southern Sea Otter (*Enhydra lutris nereis*). Based on coordination with the California Department of Fish and Wildlife and US Fish and Wildlife's Sea Otter Biologists, the Corps has determined while southern sea otters are common inside the Morro Bay Harbor, they occur on a non-regular basis in the Proposed Placement Area outside the Morro Bay Harbor. The Proposed Placement Area is sandy ocean bottom absent of any rocky reef and kelp beds that are commonly used by southern sea otters as resting and foraging areas with high site fidelity.

In the unlikely event of an occurrence of southern sea otters within the vicinity of the Proposed Placement Area during construction, the following environmental commitments are included as part of the Proposed Action:

- An on-site qualified marine mammal monitor would be on-site at all times during stone placement activities at the Proposed Placement Area.
- A 50-meter safety zone for southern sea otters would be established for the Proposed Placement Area. Should a sea otter come within 50 meters of the construction activities, operations would be halted until the sea otter leaves the designated safety zone.

The Corps has determined the Proposed Action would have no effect on the southern sea otter. The Proposed Action would not degrade habitat for or reduce the population size of a federally listed species. Impacts to federally listed species would be less than significant.

No Action Alternative. Impacts associated with the transport and placement of displaced stone would not occur. Under this alternative, the construction footprint and PSL Breakwater would be repaired to the design as originally described in the 2021 FEA (USACE 2021). Therefore, no additional impacts would occur. Less than significant impacts to Marine Resources would still occur as discussed in the 2021 FEA.

4.3 CULTURAL RESOURCES

4.3.1 Affected Environment

Cultural resources are locations of past human activities on the landscape. The term generally includes any material remains that are at least 50 years old and are of archaeological or historical interest. Examples include archaeological sites such as lithic scatters, villages, procurement areas, rock shelters, rock art, shell middens; and historic era sites such as trash scatters, homesteads, railroads, ranches, and any structures that are over 50 years old. Cultural resources also include aspects of the physical environment that are associated with cultural practices or beliefs of a living community that are both rooted in that community's history and are important in maintaining its cultural identity (Parker and King 1998). Commonly referred to as Traditional Cultural Properties (TCP), these areas are afforded the same consideration as other cultural resources. Under the National Historic Preservation Act, federal agencies must consider the effects of federal undertakings on cultural resources that are listed or eligible for listing in the National Register of Historic Places (NRHP). Cultural resources that are listed or eligible for listing in the NRHP are referred to as historic properties.

As part of the Section 106 review process for the originally proposed PSL breakwater repair, the Corps, in consultation with the State Historic Preservation Office, defined the area of potential (APE), conducted a record search and survey, determined that the singular cultural resource located in the APE (the PSL Breakwater) is not eligible for listing on the National Register of Historic Places (NRHP) and that the project would result in no historic properties affected. As part of the tribal consultation process for the original undertaking the Corps was informed by two separate tribes that much of the stone used to build the breakwater was taken from Morro Rock, a location of great cultural significance to those tribes. In response to tribal input, the Corps had committed to reincorporating all the stone back into the breakwater and treating it in a respectful manner.

In response to the proposed modifications, the Corps has expanded the APE for the Proposed Action to include the 29-acre site where the rock may be placed (Proposed Placement Area) and Morro Rock. While outside of the direct impact area, the Corps has included Morro Rock because the tribes feel that the quarried stone is still spiritually connected to Morro Rock and so it may be indirectly affected by the stone's placement. Vertical disturbance should be minimal since the rock is placed on the surface of the ocean floor; however, the Corps has extended the vertical APE of the 29-acre placement site to three feet below the surface to account for any impacts that may be

caused by dropping the rock. For the purposes of this NEPA and NHPA analysis and based on input from consulting tribes as discussed in detail in Section 5.1.7, the Corps is assuming that Morro Rock is eligible for the NRHP under all four NRHP criteria.

The Corps contracted with Merkel & Associates Inc. (M&A) to complete a side scan sonar of the Proposed Placement Area near Morro Rock. The side scan sonar surveys had a dual purpose of identifying both subtidal marine habitat and any anthropogenic features on the seafloor. No cultural resources were located within the proposed 29-acre rock placement site.

As a result of the proposed modifications, the Corps reinitiated consultation with the tribes. As with the previous consultation for the PSL Breakwater repair, only the yak tityu tityu yak tiłhini - Northern Chumash Tribe and the Northern Chumash Tribal Council responded that they wanted to consult. The displaced rock placement site and configuration has been developed in consultation with both tribes.

4.3.2 Environmental Consequences

Significance Criteria. An impact to Cultural Resources will be considered significant if an alternative would result in:

- A substantial adverse effect to a historic property such that the implementation of the alternative would result in the destruction of a historic property or the loss of a property's listing in or eligibility for listing in the National Register of Historic Places.

Proposed Action. Only one historic property is located with the APE. Morro Rock is a major feature on the landscape that appears in the traditional stories of both the Chumash and Salinan Tribes and continues to be the location of annual ceremonies held on the summer and winter solstices. For the purposes of this project, the Corps has assumed that Morro Rock is eligible for the NRHP. The Corps has found that the Proposed Action would not result in any adverse effects to historic properties nor result in the destruction of a historic property or loss of a property's listing in or eligibility for the NRHP. The Corps is in the process of consulting with the SHPO on the, expanded APE, the assumption of eligibility and the finding of effect. Impacts would be less than significant.

No Action Alternative. Under the No Action Alternative, the breakwater repairs would still occur as described in the 2021 FEA, with all of the stone being reincorporated into the breakwater. There would be no change in the condition of the stone within the breakwater. The Corps, in consultation with the SHPO, has determined that the No Action Alternative, as analyzed in the 2021 FEA, would result in no historic properties affected. The No Action Alternative would not result in the destruction of a historic property or loss of a property's listing in or eligibility for the NRHP. Impacts would be less than significant.

4.4 AIR QUALITY

4.4.1 Affected Environment

The Affected Environment as it relates to the project area for the breakwater repair remains unchanged from the 2021 FEA and therefore the Affected Environment discussed below is limited

to the Proposed Action. The Proposed Action is within the South Central Coast Air Basin (SCCAB) under the jurisdiction of the San Luis Obispo County Air Pollution Control District (SLOCAPCD) in the western portion of San Luis Obispo County.

General Conformity Rule. Established under the Clean Air Act (section 176 (c)(4)), federal agencies must conform to air quality plans established by applicable state implementation plans. A conformity determination is required for each criteria pollutant or precursor where the total of direct and indirect emissions of the criteria pollutant or precursor in a nonattainment or maintenance area caused by a Federal action would equal or exceed any of the rates specified in 40 CFR 93.153(b)(1). Total of direct and indirect emissions means the sum of direct and indirect emissions increases and decreases caused by the Federal action; i.e., the "net" emissions considering all direct and indirect emissions. The portion of emissions which are exempt or presumed to conform under § 93.153 (c), (d), (e), or (f) are not included in the "total of direct and indirect emissions." The "total of direct and indirect emissions" includes emissions of criteria pollutants and emissions of precursors of criteria pollutants.

Direct emissions include construction emissions. Indirect emissions means those emissions of a criteria pollutant or its precursors:

1. That are caused or initiated by the Federal action and originate in the same nonattainment or maintenance area but occur at a different time or place as the action;
2. That are reasonably foreseeable;
3. That the agency can practically control; and
4. For which the agency has continuing program responsibility.

This analysis is limited to the Proposed Action emissions. For the western portion of San Luis Obispo County, the SCCAB is in attainment for the pollutants regulated under the NAAQS. The basin is in attainment; therefore, the general conformity rule does not apply.

Greenhouse Gases (GHG). Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). GHGs are emitted by natural processes and human activities. Examples of GHGs that are produced both by natural processes and industry include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). There are currently no Federal GHG emission thresholds. Therefore, the Corps will not propose a new GHG threshold or make a NEPA significance impact determination for GHG emissions anticipated to result from the Proposed Action. Rather, in compliance with NEPA implementing regulations, the anticipated emissions are disclosed without expressing a judgment as to their significance.

4.4.2 Environmental Consequences

Significance Criterion. An impact to Air Quality will be considered significant if an alternative would result in:

- Exceed the General Conformity applicability rates specified in 40 CFR 93.153.

Proposed Action. Emissions associated with the Proposed Action would come mainly from the transportation of excess stone to the Proposed Placement Area. Displaced stone relocation and placement construction activities would be sea-based, conducted by barges carrying rock/stone, tugboats, small craft support vessels, a track loader, and a crane equipped barge. The displaced

stone would be moved to the Proposed Placement Area via barge in approximately 1,000-ton increments; each trip would take approximately 3-5 days (travel and placement time). Up to ten total trips would be required.

Air emissions and GHG emission calculations and assumptions are provided in Appendix E. Results are provided in Tables 1 and 2. The emissions were estimated for all activities associated with the federal action both in this SEA and the July 2021 FEA and are disclosed in Table 2. Calculations are shown in Appendix E.

Table 1. Rock Transport and Placement Project Construction Emissions

Annual Emissions (Tons/year)									
Activity/Equipment Type	**VOC**	**CO**	**NOx**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**
Barge (rock/storage)	0.01	0.03	0.14	0.00	0.00	0.00	12.18	0.00	0.00
Tug Boat	0.04	0.41	1.97	0.18	0.05	0.05	105.89	0.02	0.00
Track Loader	0.03	0.13	0.42	0.01	0.02	0.01	42.96	0.01	0.00
Crane equipped barge	0.02	0.07	0.33	0.01	0.01	0.01	28.12	0.00	0.00
Small Craft Support Vessel	0.00	0.03	0.21	0.01	0.01	0.01	13.24	0.00	0.00
Sea Vessels	0.11	0.68	3.06	0.22	0.09	0.08	202.39	0.03	0.00
SCCAB	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

GHG=CO2+CH4+N20

Table 2. Total Project Construction Emissions

Activity/Equipment Type	VOC	CO	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O
Barge (rock/storage)*	0.01	0.04	0.17	0.00	0.01	0.01	14.62	0.00	0.00
Tug Boat*	0.05	0.49	2.36	0.21	0.06	0.06	127.07	0.02	0.00
Crew Boat*	0.02	0.09	0.29	0.01	0.01	0.01	29.99	0.00	0.00
Crane equipped barge*	0.03	0.09	0.40	0.01	0.01	0.01	33.74	0.01	0.00
Small Craft Support Vessel*	0.01	0.04	0.25	0.02	0.01	0.01	15.88	0.00	0.00
Work Boat*	0.02	0.05	0.22	0.01	0.01	0.01	18.74	0.00	0.00
Survey Boat*	0.02	0.05	0.22	0.01	0.01	0.01	18.74	0.00	0.00
Barge (rock/storage)	0.01	0.03	0.14	0.00	0.00	0.00	12.18	0.00	0.00
Tug Boat	0.04	0.41	1.97	0.18	0.05	0.05	105.89	0.02	0.00
Track Loader	0.03	0.11	0.50	0.01	0.02	0.02	42.96	0.01	0.00
Crane equipped barge	0.02	0.07	0.33	0.01	0.01	0.01	28.12	0.00	0.00
Small Craft Support Vessel	0.00	0.03	0.21	0.01	0.01	0.01	13.24	0.00	0.00
Sea Vessels Rock	0.26	1.51	7.05	0.48	0.20	0.19	461.18	0.07	0.01
SCCAB SLO	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

GHG = CO2 + CH4 + N20
*Pulled from July 2021 FEA.

No Action Alternative. Impacts associated with the transport and placement of displaced stone would not occur. In the absence of replacing smaller existing stone with larger stone during breakwater repair, the breakwater would become increasingly susceptible to erosion, structural failure, and hydraulic instability which would jeopardize safety. However, breakwater repair would still occur to the extent possible as detailed in the July 2021 FEA. Less than significant impacts to Air Quality would still occur as discussed in the July 2021 FEA.

4.5 RECREATION

4.5.1 Affected Environment

The Affected Environment as it relates to the project area for the breakwater repair remains unchanged from the 2021 FEA and therefore the Affected Environment discussed below is limited to the Proposed Action. The area in a three-mile radius surrounding the Proposed Placement Area is a popular recreational surf spot, cultural landmark, and small craft commercial and recreational harbor. Morro Bay provides important recreational resources for the regional and local area. These

recreational and commercial uses include boating, fishing, surfing and beach activities in Morro Bay and on Morro Rock Beach. Typical recreation activities in the three-mile radius include beach activities, boating and water sports, kayaking, sport fishing, and surfing. . The area immediately adjacent to the Proposed Placement Area is not heavily utilized for recreational activities.

4.5.2 Environmental Consequences

Significance Criterion. An impact to Recreation will be considered significant if an alternative would:

- Result in permanent changes that are incompatible with designated uses.

Proposed Action. Construction related activities would affect only those areas immediately adjacent to the Proposed Placement Area. The Proposed Placement Area is located in the nearshore waters adjacent to Morro Rock and is only accessible by boat and not utilized on a regular basis for recreational purposes.

To the extent practicable, construction would not interfere with public access or public parking/docking near Morro Bay Harbor. The stone placement would occur outside of the area which there is no significant sediment exchange, which is considered the depth of closure, there would be no impacts to recreational surfing. Navigational impacts would be minimized during construction by issuing a notice to mariners and properly marking the construction area so that surfers, kayakers, and boaters could safely avoid the immediate project area. The public's right of access to the sea, surrounding areas, and associated recreation facilities would not be interfered with and would not result in a physical encroachment upon such facilities, including public access, public parking/docking, and navigation to and from shore. Upon completion of construction, recreation would return to pre-project conditions. Based on the above, the Proposed Action would not result in permanent changes that are incompatible with designated uses. Therefore, impacts would be less than significant.

No Action Alternative. Impacts associated with the transport and placement of displaced stone would not occur. In the absence of replacing smaller existing stone with larger stone during breakwater repair, the breakwater would become increasingly susceptible to erosion, structural failure, and hydraulic instability which would jeopardize safety. However, breakwater repair would still occur to the extent possible as detailed in the July 2021 FEA. Less than significant impacts to Recreation would still occur as discussed in the July 2021 FEA.

4.6 SEA VESSEL TRAFFIC AND SAFETY

4.6.1 Affected Environment

The Affected Environment as it relates to the project area for the breakwater repair remains unchanged from the 2021 FEA and therefore the Affected Environment discussed below is limited to the Proposed Action. Displaced stone relocation and placement construction activities would be sea-based, conducted by barges carrying rock/stone, tugboats, small craft support vessels, a track loader, and a crane equipped barge. Each transport and placement trip would take approximately 3-5 days. Unused/awaiting barges would be stored within a designated area within PSL Harbor. In the event of adverse weather, the contractor would relocate the equipment and seek shelter,

mooring within the established PSL Harbor District designated anchorage or within Morro Bay Harbor.

4.6.2 Environmental Consequences

Significance Criteria. An impact to Sea Vessel Traffic and Safety will be considered significant if an alternative would:

- Cause a navigational hazard to boat traffic or interfere with any emergency response or evacuation plans.
- Substantially changes sea vessel traffic or patterns.

Proposed Action. Construction would not impede access to any harbor channels or entranceways, and would therefore, not create a substantial reduction in sea vessel traffic, impact navigation safety, create a navigational hazard to sea vessel traffic or interfere with local emergency/excavation response plans**.** construction related activities would affect only the areas immediately adjacent to the Proposed Placement Area. The Proposed Placement Area is located in the nearshore waters and is only accessible by boat and not utilized on a regular basis by any parties. To the extent practicable, construction would not interfere with such public access or with public parking/docking in these locations. Navigational impacts would be minimized during construction by issuing a notice to mariners and properly marking the construction area so that public would safely avoid the immediate project area. The Proposed Action would neither significantly affect, nor eliminate access, or the public's ability to utilize the general area. The public's right of access to the sea and surrounding areas, would not be interfered with and would not result in a physical encroachment upon navigation to and from shore. Upon completion of the Proposed Action, sea vessel traffic would return to pre-project conditions. Therefore, the Proposed Action would have less than significant impacts to Sea Vessel Traffic and Safety.

No Action Alternative. Under this alternative, the breakwater would be built within the same construction footprint as originally described in the 2021 FEA, to the extent feasible with no additional impacts (USACE 2021). In the absence of replacing smaller existing stone with larger stone in the breakwater repair, the breakwater would become increasingly susceptible to erosion and structural failure, and hydraulic instability which would jeopardize safety. Continued disrepair of the structure would eventually require emergency work to avoid public safety hazards, and/or closure of the harbor.

Additional analysis would be needed to further identify the structural integrity of the breakwater repair. However, breakwater repair would still occur to the extent possible as detailed in the July 2021 FEA. Less than significant impacts to Sea Vessel Traffic and Safety would still occur as discussed in the July 2021 FEA.

SECTION 5 – ENVIRONMENTAL COMPLIANCE AND COMMITMENTS

5.1 COMPLIANCE

National Environmental Policy Act (NEPA) of 1969

This SEA has been prepared to address impacts associated with the Proposed Action in accordance

with NEPA. If it is determined after public review that the Proposed Action will not have a significant impact upon the quality of the human environment, then a Finding of No Significant Impact will be prepared, and preparation of an environmental impact statement would not be required.

Clean Water Act

Section 404
Section 404 of the CWA (33 U.S.C. 1344) governs the discharge of dredged or fill material into waters of the U.S. Although the Corps does not process and issue permits for its own activities, the Corps authorizes its own discharges of dredged or fill material by applying all applicable substantive and procedural legal requirements, including public notice, opportunity for public hearing, and application of the section 404(b)(1) guidelines. A draft 404(b)(1) analysis is included with this SEA as Appendix G.

Section 401 Water Quality Certification
The Corps requested an amendment to Water Quality Certification No. 34021WQ04 on March 9, 2022, and received an amended water quality certification from the CCRWQCB on April 11, 2022. Conditions of the water quality certification will be implemented in order to minimize adverse impacts to water quality. A copy of the amended 401 Certification is in Appendix J. The Proposed Action is in compliance with the Clean Water Act.

Endangered Species Act of 1973

Under ESA Section 7(a)(2), each federal agency must ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of the species' designated critical habitat (16 U.S.C. § 1536(a)(2)). If an agency determines that its actions "may affect" a listed species or its critical habitat, the agency must conduct informal or formal consultation, as appropriate, with either the USFWS or the NMFS, depending on the species at issue (50 C.F.R. §§402.01, 402.14(a)– (b)). If, however, the action agency independently determines that the action would have "no effect" on listed species or critical habitat, the agency has no further obligations under the ESA.

The Corps has determined that the Proposed Action would have "no effect" on the Southern sea otter. The Proposed Action is in compliance with the ESA.

Coastal Zone Management Act (CZMA) of 1972, as amended

Section 307 of the CZMA states that federal activities within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs. The California Coastal Act is this state's approved coastal management program applicable to the federal action. The Corps has evaluated the Proposed Action and has determined it is consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program pursuant to section 307(c) of the Coastal Zone Management Act of 1972, as amended. On April 11, 2022, the Corps formally coordinated a request for modification to the Consistency Determination for the PSL Breakwater Repair (CD-

0002-21) on the Proposed Action with the California Coastal Commission (CCC). The Proposed Action has been placed on the CCC's May 2022 meeting agenda. With concurrence by the CCC, the Proposed Action will be in compliance with the Act.

Clean Air Act (CAA)

A conformity determination is required for each criteria pollutant or precursor where the total of direct and indirect emissions of the criteria pollutant or precursor in a nonattainment or maintenance area caused by a Federal action would equal or exceed any of the applicability rates specified in 40 CFR 93.153(b). Based on the analysis in Section 4, the total direct and indirect emissions associated with the federal action are in attainment. The general conformity rule does not apply. The Proposed Action is in compliance with the CAA.

Magnuson-Stevens Fishery Conservation and Management Act, as amended

Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, as amended, the Corps
consulted with the NMFS regarding the effects of the breakwater repair on essential fish habitat (EFH) and received general concurrence from the NMFS on June 7, 2021 (USACE FEA 2021). Pursuant to 50 CFR 600.920(1), the Corps must reinitiate EFH consultation with NMFS if the project is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS's EFH Conservation Recommendations. The Corps initiated Supplemental EFH Consultation with the NMFS regarding the Proposed Action. The Corps received general concurrence from the NMFS on March 25, 2022. The Proposed Action is in compliance with this Act.

National Historic Preservation Act

The impacts of Federal undertakings on cultural resources are formally assessed through a process mandated by the NHPA, as amended (54 U.S.C. Section 300101), and its implementing regulation, Protection of Historic Properties (36 CFR 800). Section 106 of the NHPA describes the process for identifying and evaluating historic properties, for assessing the effects of Federal undertakings on historic properties, and for consulting to avoid, reduce, or minimize adverse effects. Historic properties are cultural resources that are either included in, or are eligible for inclusion in, the National Register of Historic Places (NRHP). The Section 106 process does not require historic properties to be preserved but ensures that the decisions of Federal agencies concerning the treatment of these properties result from meaningful consideration of cultural and historic values and the options available to protect the properties.

In 2017, the Corps, in consultation with the SHPO defined the APE for the project as the footprint of the existing breakwater, plus a 400' wide buffer along the harbor-side of the breakwater. As part of the Corps' good faith effort to identify historic properties within the APE, the Corps retained Far Western Anthropological Research Group, Inc. to complete a records search and record and evaluated the PSL breakwater (Brookshear et al 2018). The Corps also requested a sacred lands search for the study area from the Native American Heritage Commission (NAHC). The Corps contacted the tribes listed by the NAHC: the yak tityu tityu yak tiłhini - Northern Chumash Tribe; the Northern Chumash Tribal Council; the Santa Ynez Band of Chumash Indians; the

Barbareno/Ventureno Band of Mission Indians; the Salinan Tribe of Monterey, San Luis Obispo Counties; the Xolon-Salinan Tribe; and the Coastal Band of the Chumash Nation and invited them to consult on the undertaking.

The Corps was informed by the yak tityu tityu yak tiłhini - Northern Chumash Tribe and the Northern Chumash Tribal Council that much of the stone used to build the breakwater was taken from Morro Rock, a location of great cultural significance to those Tribes. In response to tribal input, the Corps had committed to reincorporating all the stone back into the breakwater and treating it in a respectful manner.

Only one potential historic property was located within the original APE, the PSL breakwater. The Corps, in consultation with the SHPO, determined that the breakwater was not eligible for the NRHP and that the project would result in a finding of no historic properties affected. Following the addition of an eelgrass mitigation site and expanded dredging in 2021, the Corps consulted a second time with the SHPO, receiving concurrence on March 25, 2021 that no historic properties would be affected

As a result of the Proposed Action, the Corps has expanded the APE to include the 29-acre site where the rock may be placed and Morro Rock and has requested the SHPO's comment. While outside of the direct impact area, the Corps has included Morro Rock because the tribes feel that the quarried stone is still spiritually connected to Morro Rock and so it may be indirectly affected by the stone's placement. Vertical disturbance should be minimal since the rock is placed on the surface of the ocean floor; however, the Corps has extended the vertical APE of the 29-acre placement site to three feet below the surface to account for any impacts that may be caused by dropping the rock.

As described in Section 4.3, recent surveys indicate that no cultural resources are present within the Proposed Placement Area. Due to its role in the traditional stories of both the Chumash and Salinan Tribes and its continued location of annual ceremonies held on the summer and winter solstices, the Corps has assumed that Morro Rock is eligible for the NRHP under all four NRHP criteria for the purposes of this project. The Corps has requested that the SHPO concur with the Corps' assumption of eligibility. Consultation on the assumed eligibility of Morro Rock is ongoing.

The Corps reinitiated consultation with all of the tribes originally consulted with; provided a brief description of the proposal to bring the excess breakwater stone back to Morro Bay; transmitted the expanded APE for their comment; and invited them to consult on the modified undertaking. As with the 2017 consultation for the PSL breakwater repair, only the yak tityu tityu yak tiłhini - Northern Chumash Tribe and the Northern Chumash Tribal Council responded that they wanted to consult. The displaced rock placement site and configuration was developed in consultation with both tribes.

The Corps has found that the Proposed Action would result in no adverse effect. The Corps is currently consulting with the SHPO concerning this finding. Consultation letters can be found in Appendix D.

Marine Mammal Protection Act of 1972, as amended

The Proposed Action was coordinated with the USFWS, NMFS, and CDFW. Pursuant to section 101(a)(5) of the Marine Mammal Protection Act of 1972, as amended, the Proposed Action would not entail the "take" of any marine mammal species. The Proposed Action is in compliance with the Marine Mammal Protection Act.

Migratory Bird Treaty Act (MBTA) as amended

The Proposed Action was coordinated with the USFWS and CDFW. The Proposed Action would not entail the taking, killing or possession of any migratory birds and is therefore in compliance with the Act. The Proposed Action is in compliance with the Act.

Executive Order 12898, Environmental Justice in Minority and Low-IncomePopulations

Executive Order (EO) 12898 focuses Federal attention on the environment and human health conditions of minority and low-income communities and calls on agencies to achieve environmental justice as part of its mission. Pursuant to Section 220 of EO 14008 January 27, 2021, Section 1–102 of EO 12898 of February 11, 1994 has created an Environmental Justice Interagency Council. The order requires the USEPA and all other Federal agencies (as well as state agencies receiving Federal funds) to develop strategies to address this issue as part of the NEPA process. Agencies are required to identify and address, as appropriate, any disproportionately high and adverse human health or environmental impacts of their programs, policies, and activities on minority and low-income populations. The order makes clear that its provisions apply fully to programs involving Native Americans. The Council of Environmental Quality (CEQ) has oversight responsibility for the Federal government's compliance with EO 12898 and NEPA. The CEQ, in consultation with the USEPA and other agencies, has developed guidance to assist Federal agencies with their NEPA procedures so that environmental justice concerns are effectively identified and addressed. According to the CEQ's Environmental Justice Guidance under NEPA, agencies should consider the composition of the affected area to determine whether minority populations or low-income populations are present in the area affected by the Proposed Action, and if so whether there may be disproportionately high and adverse human health or environmental impacts (CEQ 1997).

Minority populations. EO 12898 defines a minority as an individual belonging to one of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. A minority population, for the purposes of this environmental justice analysis, is identified when the minority population of the potentially affected area is greater than 50% or the minority population is meaningfully greater than the general population or other appropriate unit of geographic analysis.

Low-Income Population**.** The EO does not provide criteria to determine if an affected area consists of a low-income population. For purposes of this assessment, the CEQ criterion for defining low-income population has been adapted to identify whether or not the population in an affected area constitutes a low-income population. An affected geographic area is considered to consist of a low-income population (i.e., below the poverty level, for purposes of this analysis) where the percentage of low-income persons: 1) is greater than 50%, or 2) is meaningfully greater than the

low-income population percentage in the general population or other appropriate unit of geographic analysis. The United States Census Bureau poverty assessment weighs income before taxes and excludes capital gains and non-cash benefits (such as public housing, Medicaid, and food stamps).

Demographic data from the USEPA's EJSCREEN (USEPA, 2022), an online environmental justice screening and mapping tool, served as the source data (Table 5.1) for evaluation. Maps and data from EJSCREEN are found in Appendix F. EJSCREEN incorporates demographic data from the U.S. Census Bureau. An analysis of demographic data was conducted to derive information on the approximate locations of low-income and minority populations in the community of concern. Since the analysis considers disproportionate impacts, two areas must be defined to facilitate comparison between the area actually affected and a larger regional area that serves as a basis for comparison and includes the area actually affected. The larger regional area is defined as the smallest political unit that includes the affected area and is called the community of comparison. For purposes of this analysis, the affected area is a three-mile radius around the Proposed Placement Area, and the San Luis Obispo County is the community of comparison.

Table 3. Environmental Justice Study Area Demographics

Demographic	Affected	State of	San Luis Obispo
Minority Population	20%	63%	31.5% [1]
Low-Income Population	23%	31%	10.6% [1]

Source: [1] U.S. Census Bureau 2019

As summarized in Table 5.1, the aggregate minority population in the affected area is 20% and 23% of individuals in the affected area are considered low-income. The aggregate minority and low-income population percentages in the affected area do not exceed 50%. In addition, the affected area minority population and low-income percentages are not greater than the minority and low-income population percentages in the state of California as a whole, or the City of San Luis Obispo. Therefore, the affected area does not constitute an EJ community and there would be no impacts resulting from the Proposed Action that would result in disproportionately high and adverse impacts to minority and low-income communities.

5.2 ENVIRONMENTAL COMMITMENTS

Environmental commitments previously described for the PSL Breakwater Repair project remain unchanged and can be referenced in Section 5.0 of the 2021 Final EA (USACE 2021).

The following additional environmental commitments are included as part of the Proposed Action and will be incorporated into the project plans and contract specifications for the proposed project modification, as follows:

1. The Marine Mammal Monitoring Plan will be expanded to include the placement of the

displaced PSL Breakwater stone at the Proposed Placement Area.

2. All minimization and avoidance measures committed to under the previous Section 7 Consultation and 2021 Final EA (USACE 2021) would apply to the Proposed Action and will be adopted at the Proposed Placement Area during related construction activities. Specifically:

> *An on-site qualified marine mammal monitor will be on-site at all times during stone placement activities at the Proposed Placement Area. A 50-meter safety zone for southern sea otters will be established for the Proposed Placement Area. Should a sea otter come within 50 meters of the construction activities, operations will be halted until the sea otter leaves the designated safety zone.*

3. Consistent with the IHA issued by NMFS for construction activities within PSL Harbor the following measures will be adopted at the Proposed Placement Area and during related construction activities. Specifically:

> *A qualified marine mammal monitor will be on-site at all times during stone placement activities at the Proposed Placement Area. A 200-meter safety zone for marine mammal species (with the exception of the Southern sea otter) will be established for the Proposed Placement Area. Should a marine mammal species come within 200 meters of the construction activities, operations will be halted until the marine mammal leaves the designated safety zone.*

4. As-built survey requirements for the project will be modified to include requirements for an as-built of the Proposed Placement Area. The as-built survey will document the site elevations and surface topology using interferometric sidescan sonar, or multi-beam sonar technologies. Bathymetric surface data shall be provided at a grid spacing not coarser than 1.5 x 1.5 feet in order to effectively evaluate site topology and elevational relief across the placement site. The “as-built” surveys will also be made available to NMFS, CDFW, Coastal Commission, Morro Bay Harbor Department, USCG, as well as NOAA's Office of Coast Survey for future updates to navigational charts.

5. The Contractor’s Spill Prevention and Response Plan required under the project plans and specifications will be modified to include the activities at the Proposed Placement Area.

6. Marine discharge prohibitions including spills, sewage, ballast water, and other discharges will be incorporated into the Contractor’s Spill Prevention and Response Plan, excepting discharges associated with normal vessel bilge pumping for safe vessel operations, or emergency dewatering of vessels.

7. The project will remain in compliance with the amended Water Quality Certification No. 34021WQ04 issued to the Corps for the PSL Breakwater Repair Project.

SECTION 6 – REFERENCES

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SECTION 7 – ACRONYMS

ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
ARB	Air Resources Board
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CO	Carbon monoxide
CWA	Clean Water Act
DO	Dissolved oxygen
EA	Environmental Assessment
EFH	Essential Fish Habitat
ESA	Endangered Species Act
FMP	Fishery Management Plan
FONSI	Finding of No Significant Impact
MLLW	Mean Lower Low Water
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO2	Nitrogen dioxide
SEA	Supplemental Environmental Assessment
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
USFWS	U.S. Fish and Wildlife Service
VCAPCD	Ventura County Air Pollution Control District

SECTION 8 – PREPARERS/REVIEWERS

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Natalie Martinez-Takeshita	Corps, Biologist
Danielle Storey	Corps, Archeologist

Reviewers

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SECTION 9- FIGURES

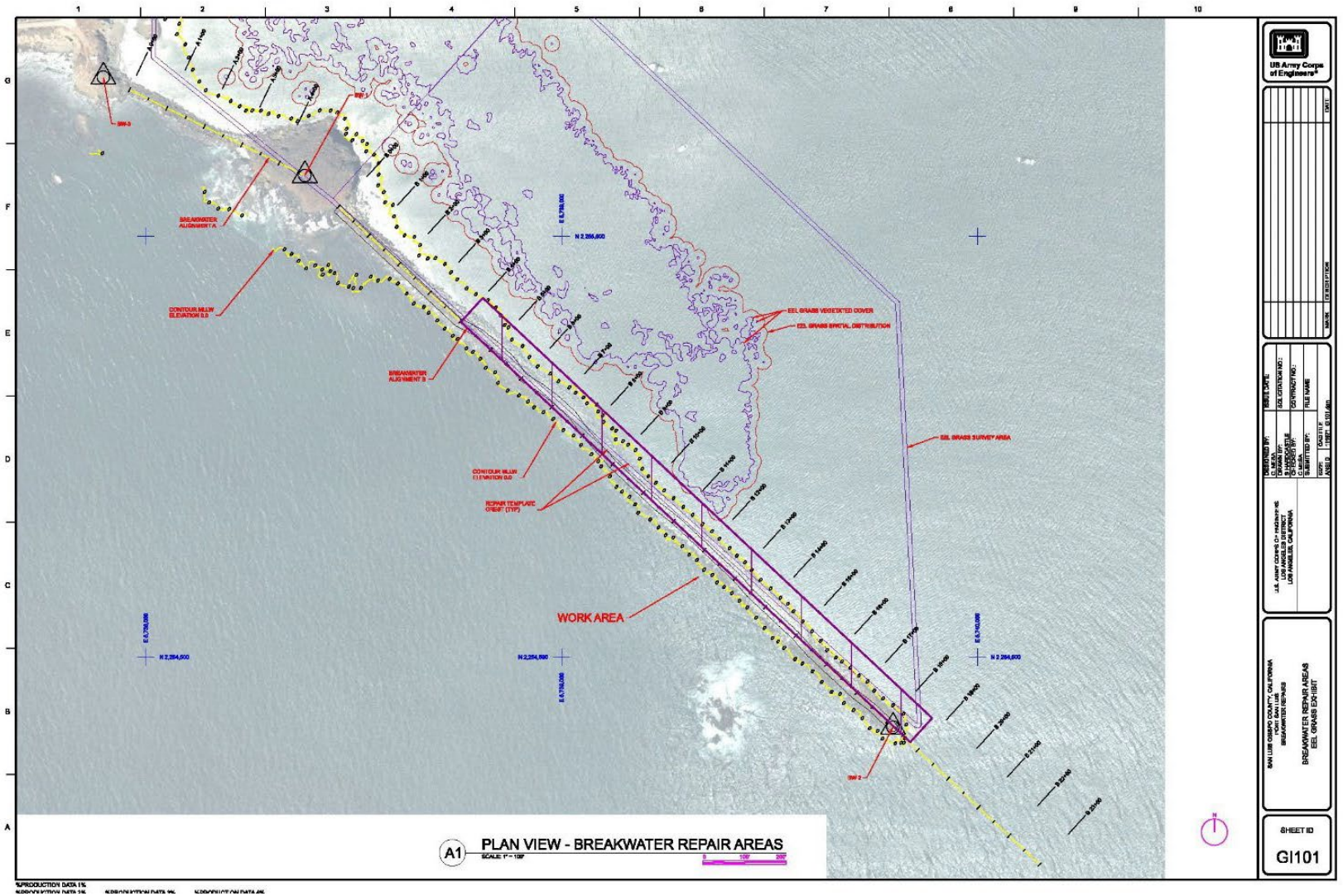

Figure 1: Port San Luis Breakwater Repair Areas

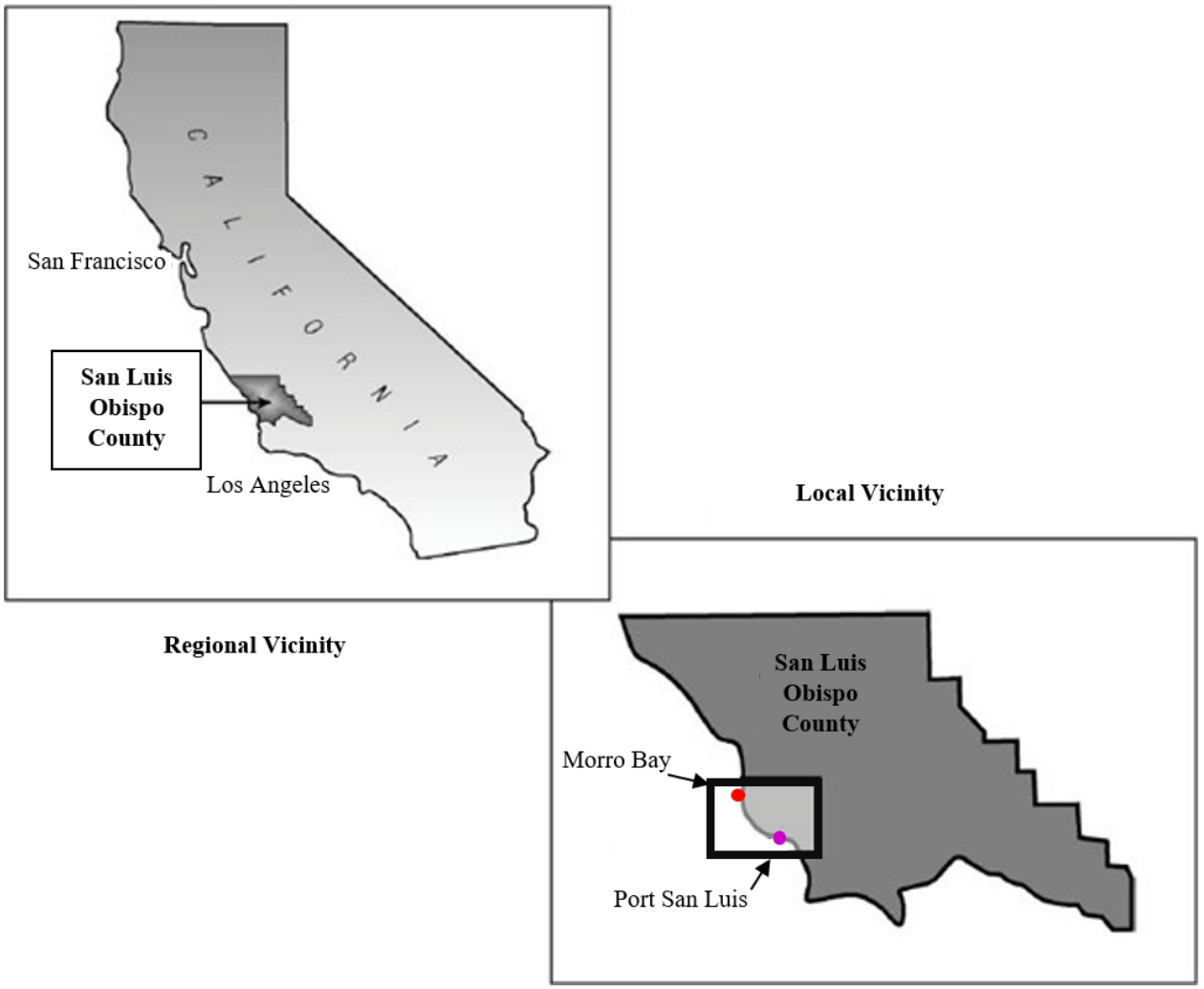

Figure 2: Project Location

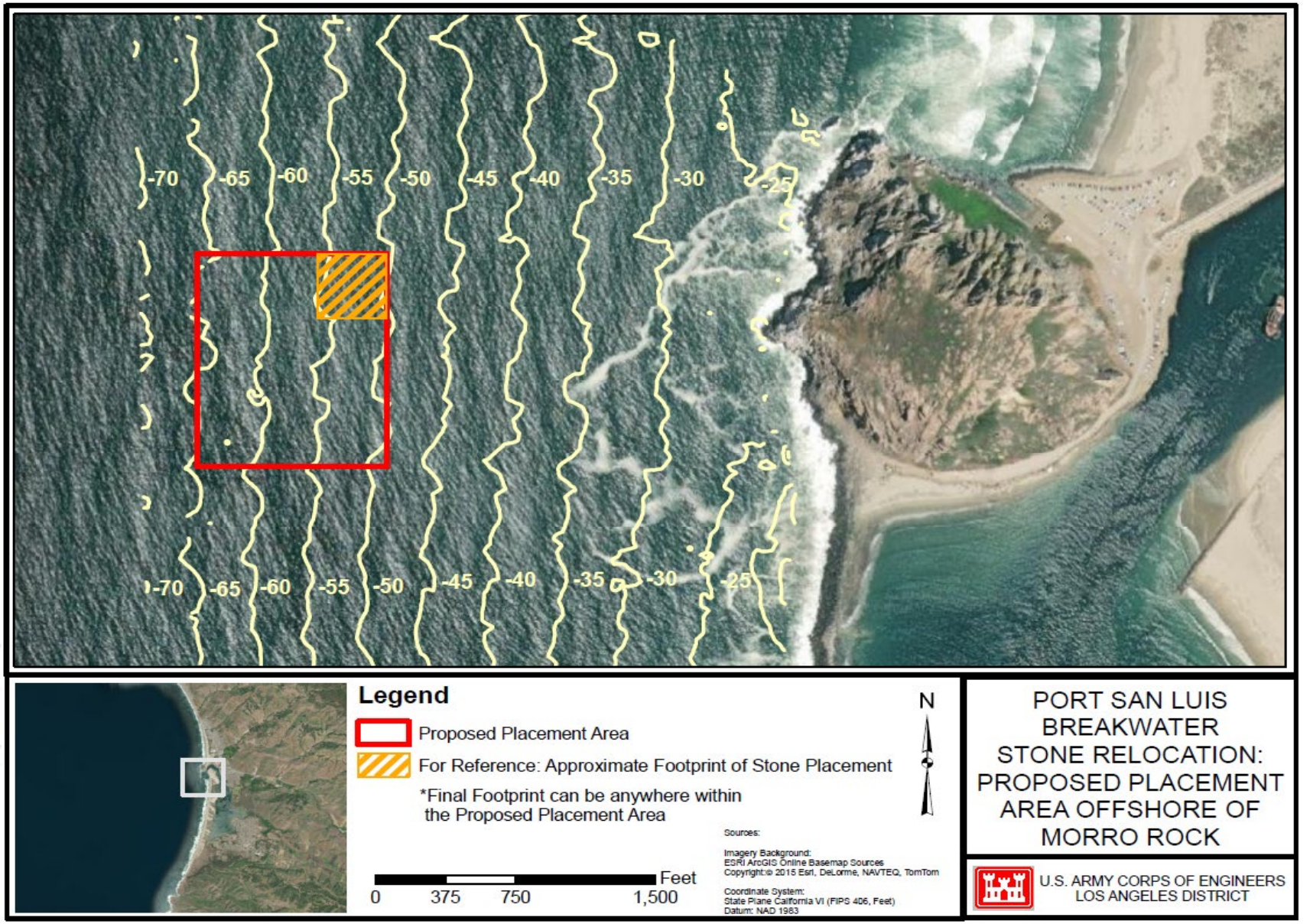

Figure 3: Proposed Placement Area Site Map.

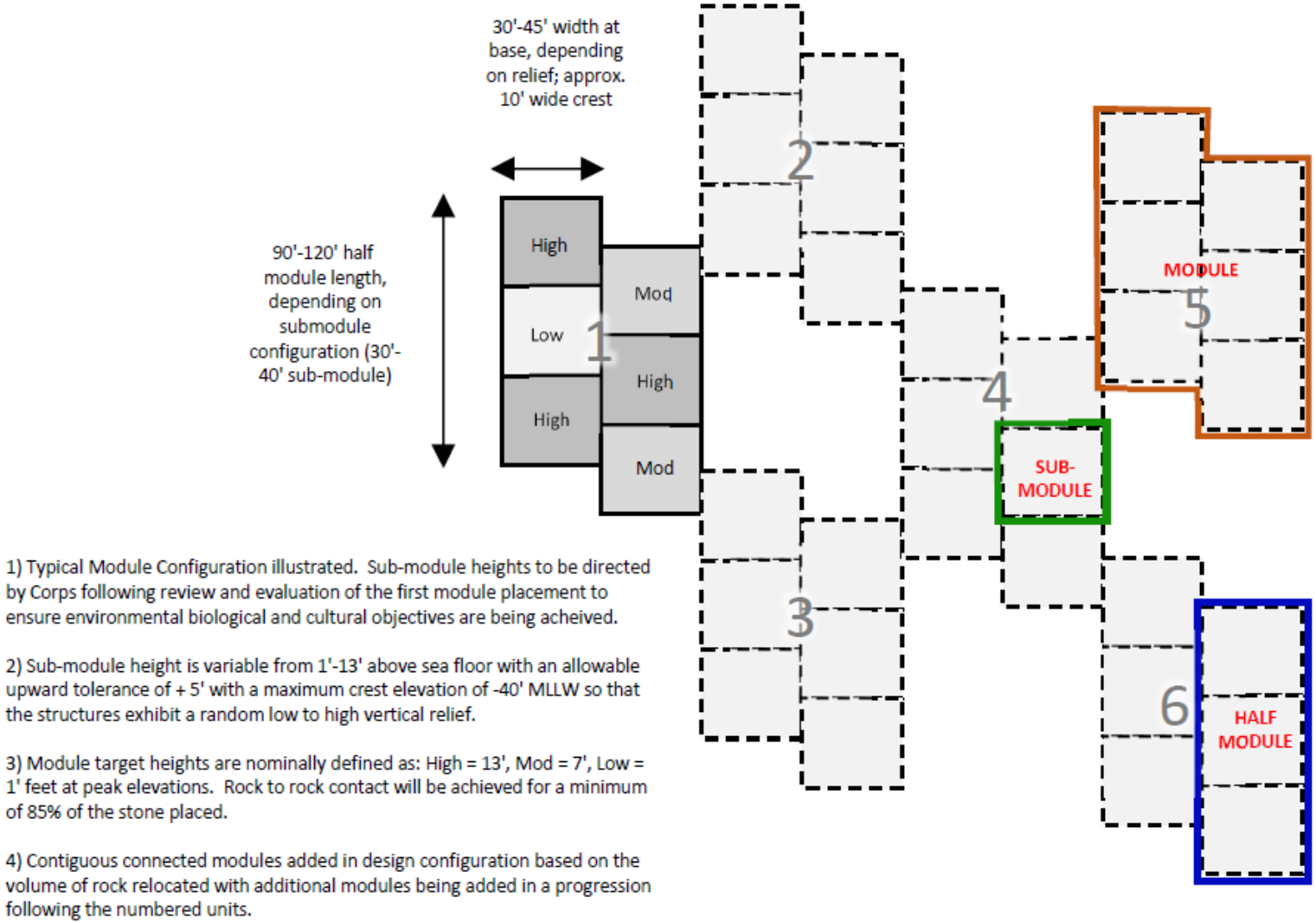

Figure 4: Stone Placement Reconfiguration.

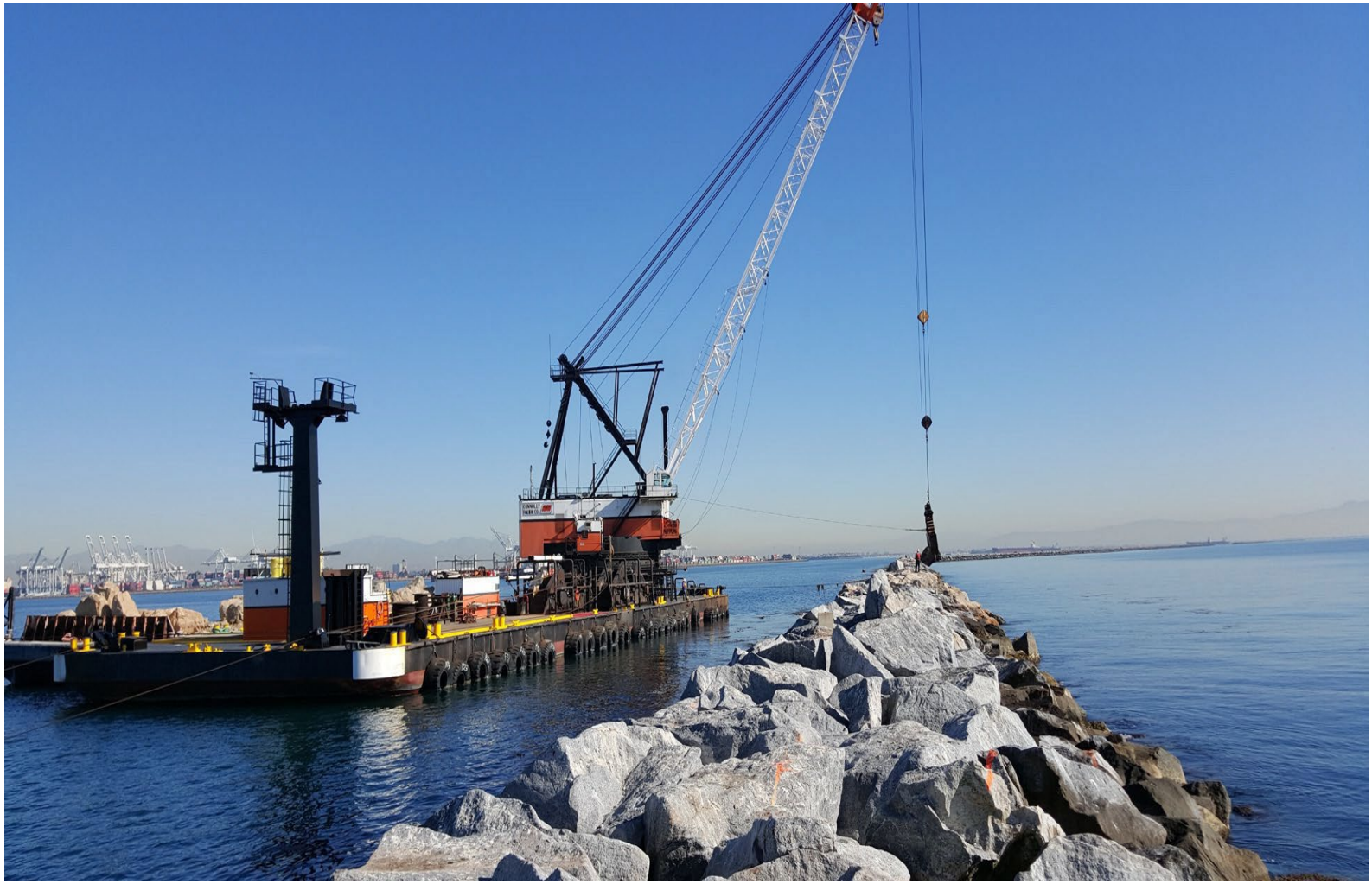

Figure 5: Example photo of crane-equipped barge which is utilized for breakwater repair.

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SECTION 10- APPENDICES

APPENDIX A- MAILING DISTRIBUTION LIST

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APPENDIX A

Mailing Distribution List

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National Marine Fisheries Service

U.S. Fish and Wildlife Service, Ventura Field Office

California Department of Fish & Wildlife

United States Coast Guard (USCG), 11th Coast Guard District

US Environmental Protection Agency, Region 9

National Park Service, Channel Islands National Park

California Coastal Commission

California Regional Water Quality Control Board, Central Coast, Region 3

State Lands Commission

State Historic Preservation Officer

California State Parks (Parks and Recreation)

County of San Luis Obispo Parks and Recreation

California Natural Resources Agency

California State Clearinghouse

California Division of Boating and Waterways

Native American Heritage Commission

California Department of Transportation (CALTRANS)

Santa Barbara County Air Pollution Control District

San Luis Obispo County Air Pollution Control Board

San Luis Obispo County Public Works Department

Port San Luis Harbor District

Coastal Band of the Chumash Nation

Santa Ynez Band of Chumash Indians

Barbareno/Ventureno Band of Mission Indians

Salinan Tribe of Monterey

Salinan Tribe of Monterey and San Luis Obispo Counties

Xolon-Salinan Tribe

Chumash Tribe

Northern Chumash Tribal Council

Barbareno/Ventureno Band of Mission Indians

Xolon-Salinan Tribe

Diablo Canyon Power Plant

San Luis Obispo Board of Supervisors

City of Morro Bay

Mojave Desert Air Quality Management District

South Coast Air Quality Management District

Ventura County Air Pollution Control District

Sea Otter Savvy

The Marine Mammal Center

Surfrider Foundation San Luis Obispo Chapter

Morro Bay Harbor District

APPENDIX B

Port San Luis Breakwater Repair Subtidal Habitat Survey Report For Displaced Morro Rock Stone Relocation

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Merkel & Associates, Inc.

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March 9, 2022
M&A# 05-024-42

U.S. Army Corps of Engineers
Attn: Ms. Natalie Martinez-Takeshita
XXXXXXXX

Port San Luis Breakwater Repair Subtidal Habitat Survey Report for Displaced Morro Rock Stone Relocation

Dear Ms. Martinez-Takeshita:

PURPOSE AND INTRODUCTION

Merkel & Associates Inc. (M&A) has been retained by the U.S. Army Corps of Engineers, Los Angeles District (USACE) to conduct a focused mapping of subtidal marine habitat in support the Port San Luis (PSL) Breakwater Repair Project.

Specifically, surveys were conducted in areas within one mile of the Port San Luis Breakwater in waters off Point San Luis, and to the west of Morro Rock (Figure 1). Work was performed to characterize potential locations for placement of displaced jetty stone that has been deemed too small to meet the current requirements of the Port San Luis Breakwater and which would be removed from the breakwater structure. Because the jetty stone was initially harvested from Morro Rock, a site recognized as sacred by indigenous people, there has been a request to keep the rock together as a unit and repatriate the rock either near the other Morro Rock stone that remains within the Port San Luis Breakwater, or to repatriate the displaced stone back to a site near Morro Rock. This calls for maintaining a cohesive aggregation of rock in proximity to either the previously translocated rock within the Port San Luis breakwater, or preferably, transferring the displaced rock back to Morro Rock, approximately 20 coastal miles north of the breakwater repair area.

While the principal objective of the Morro Rock stone placement is for cultural unification purposes, secondary objectives include placing the stone in a location that does not result in significant adverse effects to marine resources and, to the extent practical, enhances marine life habitat features. There are no numeric objectives for habitat performance, however it is expected that the rock should provide increased vertical relief and stable substrate, benefitting fish and invertebrate abundance and diversity over that present within soft bottom environments in the area. To aid in planning rock placement design, the characteristics of two local artificial reefs (Atascadero Artificial Reef and San Luis Obispo County Artificial Reef) were reviewed along with the design of the recently constructed Palos Verdes Restoration Reef that was designed to increase fish productivity.

This document focuses on the distribution and characteristics of habitat features within the survey areas. Recommendations are made regarding the siting and configuration of rock placement to ensure that: 1) the rock achieves a unified configuration in proximity to other stone derived from

Morro Rock or Morro Rock itself; 2) the rock placement is designed to be modular and can be scaled in volume based on the uncertainties as to how much rock is displaced from the breakwater; 3) the rock is placed on soft bottom to avoid impacts to rocky reef habitat; and 4) rock is placed below the depth of closure within the littoral cell to avoid interference with sediment transport or wave influence along the shoreline.

SURVEY AREA LOCATIONS

Point San Luis Survey Area

The Point San Luis habitat survey extended over areas within one mile of the PSL Breakwater between depths of -20 to -50 feet MLLW. The survey area wrapped around the head of the Port San Luis Breakwater and extended along the western face of Point San Luis covering a total area of approximately 369 acres (Figure 1).

Morro Rock Survey Area

The Morro Rock survey area extends along the west side of Morro Rock and the northern Morro Bay Breakwater with the survey area extending between approximately -20 and -70 feet MLLW. The survey area covered a total area of approximately 245 acres (Figure 1).

REGIONAL REEFS FOR DESIGN REFERENCE

While the placement of the stone is intended to serve a cultural repatriation purpose, there is a strong relationship between the Chumash people and the marine resources of the Central California coast. As a result, the Northern Chumash Tribal Council has proposed the Chumash Heritage National Marine Sanctuary and supports the rock repatriation also providing habitat enhancement benefits, as practical. For this reason, prior reefs constructed in the region were considered to aid in the design of the proposed rock relocation.

The survey areas are in proximity to two artificial reefs (CDFG 1989). The Atascadero Artificial Reef is an artificial reef constructed in 1985 approximately 2 miles north of the entrance to Morro Bay entrance at a depth of approximately -55 feet MLLW (Figure 1). The reef consists of two modules that are each approximately 100 feet long by 60 feet wide with a height of 8 feet. The two units are approximately 100 feet apart and are cumulatively comprised of 3,500 tons of quarry rock. The Atascadero Artificial Reef has been noted to support concentrations of adult brown, gopher, and blue rockfish as well as pile and striped surfperch (CDFG 1989).

The second artificial reef is the San Luis Obispo Artificial Reef located between 42 to 52 feet below MLLW approximately 4 miles north of the Point San Luis Survey Area (Figure 1). This reef was also constructed in 1985 within a 13-acre area of the sea floor. It was constructed of 27,000 tons of concrete Tribar and rubble in four modules each occupying a footprint of approximately 0.8 acres each and rising to heights of approximately 10-13 feet off the sea floor. The San Luis Obispo Artificial Reef has been identified as a nursery ground for rockfish with large numbers of adult blue rockfish with algal growth on the reef and bull kelp forest habitat (CDFG 1985).

A third reef was also considered in the design of the project, the Palos Verdes Reef Restoration Project, constructed in 2020 off the Palos Verde Peninsula (Southern California Marine Institute and Vantuna Research

Regional Locator Map
Port San Luis Breakwater Repair Project
San Luis Obispo County, CA

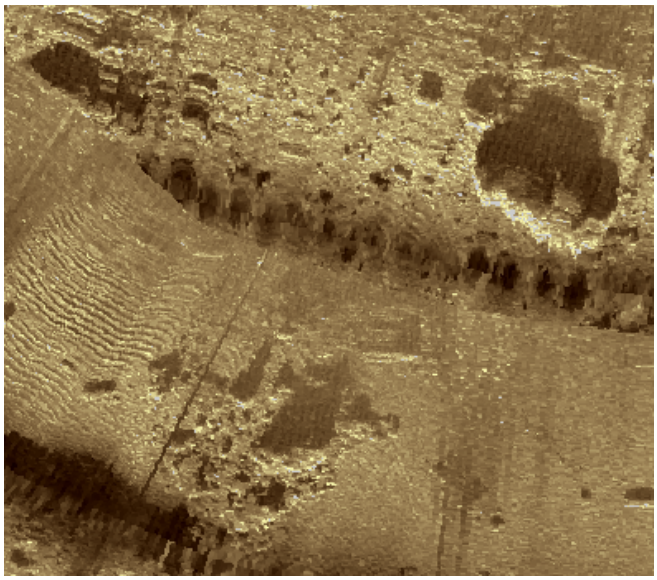
Figure 1

Group 2020). This reef is considerably south of the Port San Luis Breakwater; however, it has the benefit of being recently designed with the benefit of considerable insights on fish use of reefs and provides guidance for modular construction to account for uncertainties in the volume of rock that will be displaced. It also provides guidance on variable reef vertical relief. The Palos Verdes reef occurs in waters from 52 to 69 feet below MLLW and consists of multiple disjunct modules rising from the sea floor to variable heights of up to 14 feet.

SURVEY METHODOLOGY

Habitat distribution data were collected using an interferometric sidescan sonar operating at 468 kHz scanning out 50 meters on both the starboard and port channels for a 100-m wide swath. The survey was conducted by running parallel tracklines that were spaced to allow for overlap between adjoining sidescan swaths. Parallel tracklines were surveyed until the entirety of the survey area was captured in the survey report. Following completion of the survey, interferometric sidescan sonar traces were mosaicked into a spatially rectified image and transferred to geographic information systems (GIS) software to support mapping. Bathymetry was also a derived product of the interferometric swath survey.

The swath sonographic surveys allowed for mapping and characterization of different habitats present within the survey areas based on differences in backscatter reflectance, rugosity, and bottom topology. In addition to separation of substrate habitat features (e.g., rock and sand bottom), the survey methods also allowed for the mapping of energy influenced sand, based on sand rippling of the bottom. Biotic features that are readily mappable from the sidescan sonar, including eelgrass was mapped during the habitat inventory.



Example interferometric sidescan image of the bottom within the Point San Luis Survey Area. The image illustrates rock bottom habitat of low and high relief reef along with sand bottom and energy influenced sand bottom, represented by the sand ripples.

The fall-winter 2021 canopy kelp was mapped using three clear sky satellite image tiles collected on October 28, November 12, and November 27 from European Space Agency's Sentinel-2 satellites. Accepted algorithms for extracting kelp signatures were applied to the images to illuminate the distribution of canopy kelp habitat (Mora-Soto et al. 2020). Subsequent ground-truthing of the mapping was conducted on December 4 and 5 and determined that most of the kelp present within the survey area in fall-winter 2022 was bull kelp (*Nereocystis luetkeana*).

Visual observations of the bottom were made using a towed video camera that relayed imagery back to the survey vessel to be documented in real time. Cameras were not towed throughout the survey area, but rater were used for ground-truthing and benthic characterization, with the primary survey focus being on the sandy bottom that was a prior deemed most suited to rock placement.

SURVEY RESULTS

- ***Point San Luis Survey Area***

The Point San Luis Survey Area supports a complex mosaic of rock exposures intermixed with sand bottom habitat extending from -15 feet MLLW to -55 feet MLLW (Figure 2). Within the shallower portions of the soft bottom habitat, and even at some deeper locations where rock outcrops focus swell energy, the bottom exhibits energy influenced sand ripples (Figure 2).

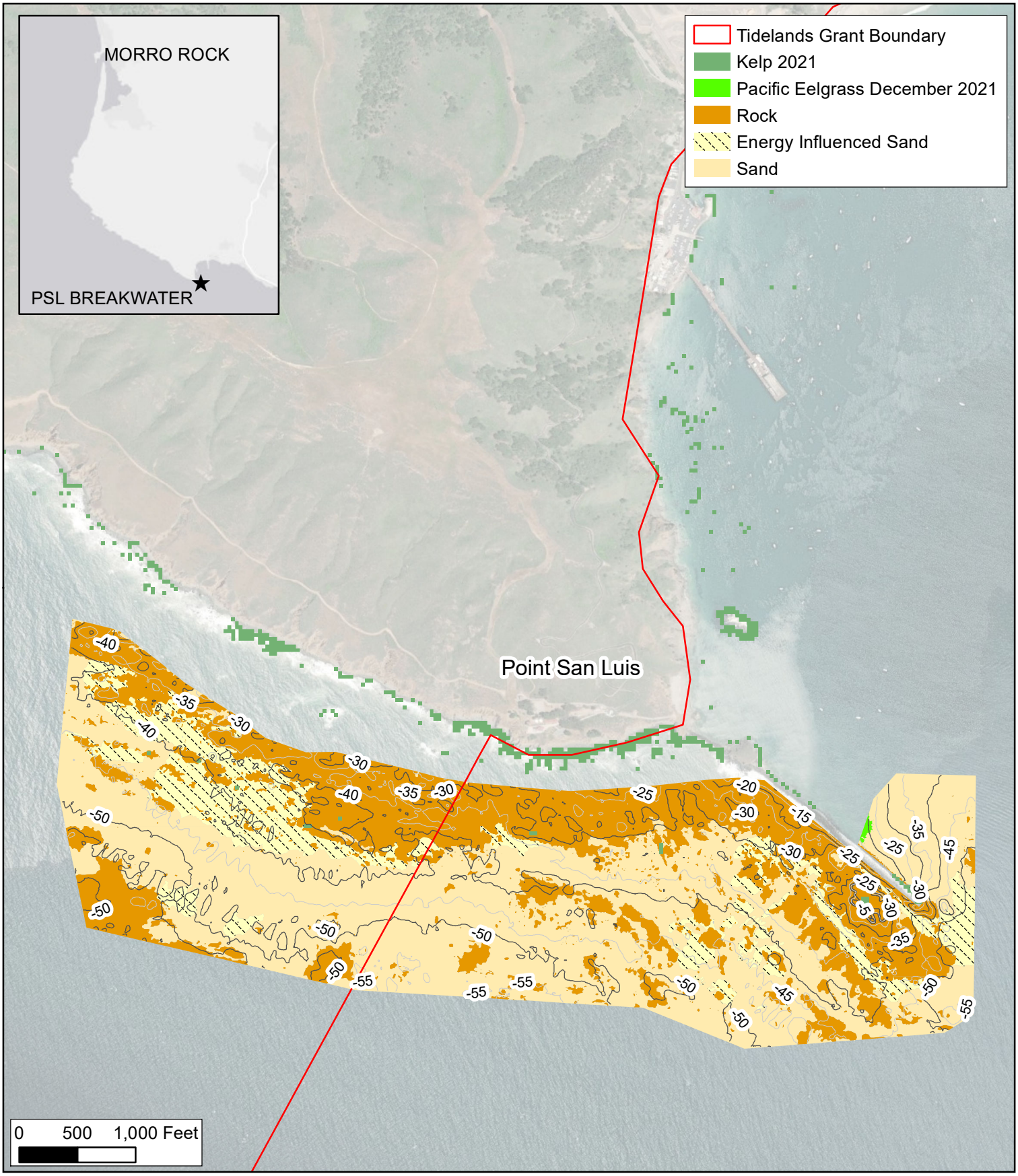
The Point San Luis Survey Area wraps from outside of the breakwater to the lee of the breakwater tip within the mooring field of the Port San Luis Harbor. As a result, the survey area extends just into the Pacific eelgrass beds in the lee of the breakwater. Canopy kelp was not well represented during the survey and fall-winter leading up to the survey. Small patches of kelp were widely distributed over the hard bottom habitat (Figure 2). As noted, bull kelp was the most abundant species within most of the survey area. However, giant kelp (*Macrocystis pyrifera*) was the dominant species in the lee of the breakwater and in more shallow waters against the shoreline of Point San Luis, outside of the survey area. Habitat acreage in the Point San Luis Survey Area is provide in Table 1.

Table 1. Habitats present within the Point San Luis Survey Area

Substrate Features	2022 Area (Acres)
• Rock	131.0
• Sand	191.7
• Energy Influenced Sand	46.2
• **Total Survey Area**	**368.9**
Mapped Biotic Overlays	
• Pacific Eelgrass	0.3
• Canopy Kelp	0.5

While no sub-bottom surveys were done during the present investigations, the mosaic of low relief reef and large boulders intermixed with sand and energy influenced sands within the Point San Luis Survey Area suggest that the surface conditions are reflective of an eroded headland bench that supports a thin veneer of sand over bedrock. This is a common occurrence offshore of prominent headlands. It also suggests that the low relief reef features observed in some areas of the survey area may be intermittently exposed and buried because of very large storms.

One characteristic of the Point San Luis Survey Area is the strong integration of soft and hard bottom habitat. While the arrangement of habitat features would not preclude being able to place the displaced rock purely on sand bottom, as some of the areas of sand flat are several acres in size, the site is somewhat constraining to vessel positioning and anchoring in a manner that may result in some damage to existing reef during rock placement. Further, the present mosaic of rock at Point San Luis already provides a diverse and complex habitat condition with tall boulder outcrops, low relief reef, soft-hard bottom ecotones, and intermittent sparse to heavy kelp canopy that would provide enhanced marine habitat function. In other words, a reef located within this area would not provide a substantively unique habitat feature and thus would be expected to provide less net functional habitat benefit than a reef located in a less physically complex environment.



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Point San Luis Survey Area
Port San Luis Breakwater Repair Project
San Luis Obispo County, CA

Figure 2

- ***Morro Rock Survey Area***

The Morro Rock Survey Area stands in stark contrast to the Point San Luis Survey Area in that it is dominated by open sandy bottom with the only rocky features represented being the steep western faces of Morro Rock and the northern breakwater for Morro Bay (Figure 3). The survey area extends from the shoreline rock out to a depth of -70 feet MLLW. The shoreline margin of the site is highly energetic due to the near vertical nature of Morro Rock and the breakwater that result in reflective wave energy that builds wave heights locally.

No mappable biotic resources were observed in the Morro Rock Survey Area. Canopy kelp was absent, and no eelgrass occurs in the survey area. Canopy kelp surveys have regularly been performed in portions of the present survey area in association with maintenance dredging activities conducted by the Corps in Morro Bay from 2013-2021 (Merkel & Associates 2013-2021). These surveys, and 1989-2016 data from the CDFW long-term kelp habitat monitoring program (CDFW 2018) have documented an absence of kelp in the survey area. This is likely associated with two factors; a lack of suitable hard bottom habitat at appropriate depths to support kelp, and high reflected wave energy off the steep shoreline rock surfaces.

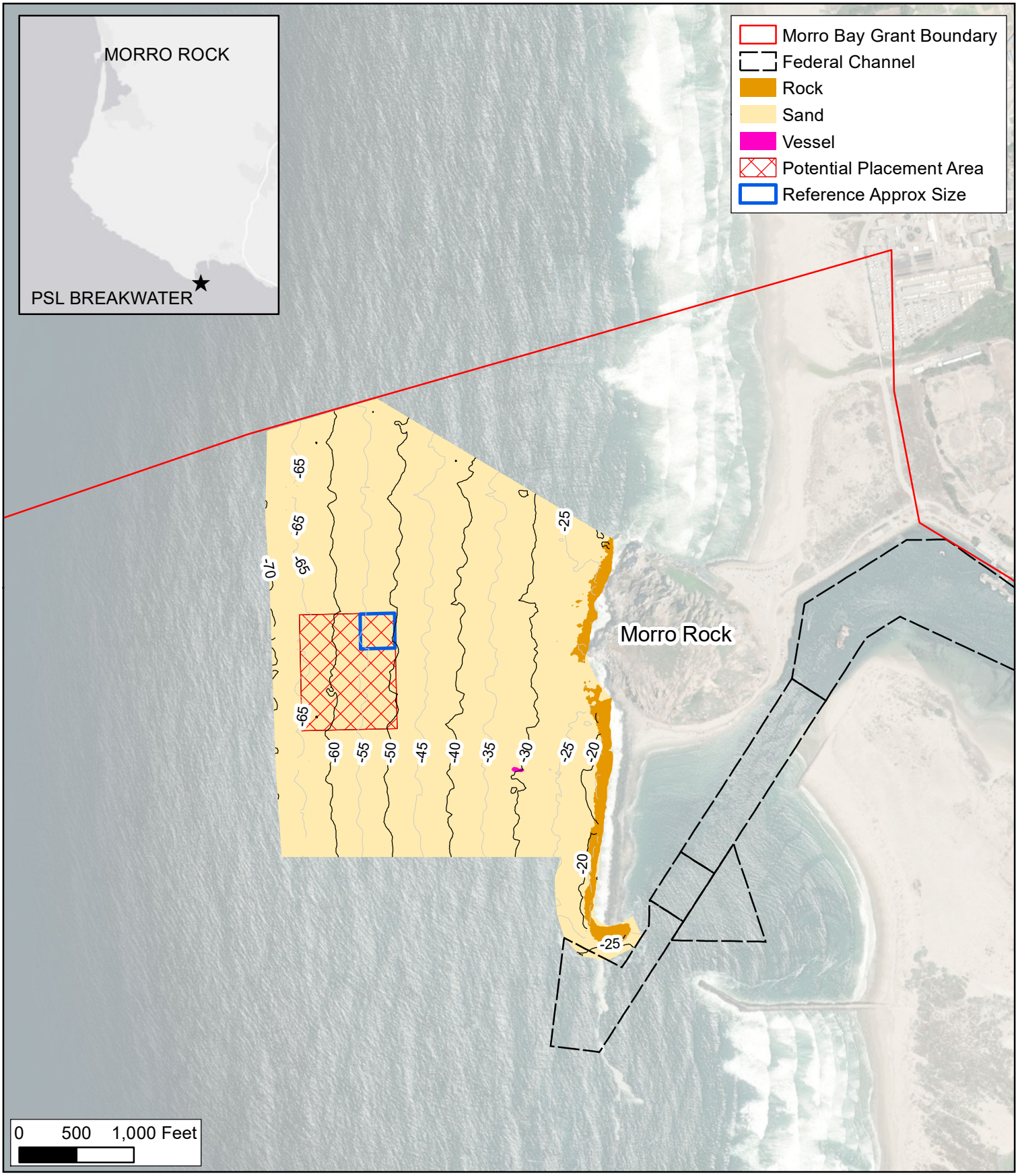
A single sunken vessel occurs within the survey area on the -30-foot contour west of the northern Morro Bay breakwater. The vessel is approximately 80 feet in length and may be split into two parts. It is approximately 1,000 feet from the evaluated area for potential rock placement and shallower than desired for rock placement. As a result, it was not investigated in detail for the present effort. No other anthropogenic debris or vessels were noted within the survey area.

Habitat acreage in the Morro Rock Survey Area is provide in Table 2.

Table 2. Habitats present within the Morro Rock Survey Area

Substrate Features	2022 Area (Acres)
• Rock	8.3
• Sand	236.6
• Sunken Vessel	0.1
• **Total Survey Area**	**245.0**

The bottom habitat characteristics of the Morro Rock Survey Area is dominated by clean sand in shallower areas to silty sand at the deeper margins of the survey area. The sand does not exhibit characteristic shore parallel ripples as seen in area of the Point San Luis Survey Area. The rock on the outside of the breakwater and west face of Morro Rock receives regular and extreme wave energy influence and thus much of the algal and invertebrate communities at lower elevations are limited to crusts, turfs, and prostrate growth forms. This also differs somewhat from the environment within the Point San Luis Survey Area where the orientation of the shoreline creates some degree of protection from long-fetch northwest swell conditions.



Morro Rock Survey Area
Port San Luis Breakwater Repair Project
San Luis Obispo County, CA

Figure 3

- ***Habitat Characterization for Both Survey Areas***

Sand Bottom

Sand bottom within both survey areas is comprised of a gradient of sand texture ranging from clean sand in the shallower portions of the study areas to increasingly silty sand with depth and reduced energy levels. Sand bottom supports abundant sand dollars between -25 and -55 feet at Morro Rock and sparse sand dollars at Point San Luis within depths below -30 feet. Sand dollars are the only organism noted to be abundant in the sand at either site. Other species noted within the area include Moon Snail (*Euspira lewisii*) and purple olive snail (*Olivella biplicata*). At Point San Luis, the ornate tubeworm (*Diopatra ornata*), a species commonly found near rocky outcrops, was common within the sandy environment near the reefs. Clam siphons were occasionally encountered in low numbers within both survey areas and shells from northern razor-clam (*Siliqua patula*) and Pacific gaper (*Tresus nuttallii*) were observed occasionally on the sand surface. Unidentified flatfish were uncommonly encountered at both locations but were never viewed close enough or long-enough to determine species.

Hard Bottom Habitats

Hard bottom substrates supports non-canopy macroalgal dominated habitat on surfaces below approximately mean sea level. Both survey areas exhibit rock with limited available primary space, although the vertical structure of the algal and invertebrate communities is very different within the two areas. At Point San Luis, lower prevailing energy environments and considerable low to high relief reef provides for presence of an understory of foliose algae over much of the rocky bottom. Species observed include brown algae of *Cystoseira osmundacea, Dictyopteris* sp*., Gigartina tepida*, *Desmarestia lingulate, and Laminaria* spp. Canopy kelp included sparse *Nereocystis luetkeana* with an even lesser presence of *Macrocystis pyrifera.* Several coralline algae species were also noted including *Corallina officinalis, Bossiella chiloensis*, *Calliarthron,* and *Lithothamnion* spp. Red turf algae were common on reefs off of Point San Luis. The reefs support populations of the corallimorph strawberry anemone, *Corynactis californica*. Bat stars (*Patiria miniata*) and pink short-spined sea stars (*Pisaster brevispinus*) as well as urchins (*Strongylocentrotus purpuratus* and *S. franciscanus*) were noted but were not particularly abundant.

In contrast to the relatively foliose understory on rocky reefs at Point San Luis, the steep and exposed rock surface along the shoreline margin of the Morro Rock Survey Area was dominated by coralline algae crusts including *Corallina spp.*, *Calliarthron spp.*, and *Lithophyllum spp.*, encrusting sponges, and sessile invertebrates including barnacle species, and mussels at the waterline. Sea state conditions did not allow access close enough to the rocky shoreline to inspect the subtidal areas of the rock, but prior observations made on the outer tip of the northern jetty indicate that primary substrate on these rocks is very short statured due to high energy and the abrasive environment derived from waves and suspended sands. Organism noted on the rocky faces included acorn barnacles (*Balanus* spp. and *Chthamalus dalli/fissus*) and mussels (*Mytilus californianus*). Gooseneck barnacles (*Pollicipes polymerus*) were also observed in cracks and cervices as well as under overhangs of the near vertical Morro Rock.

Eelgrass Beds

Pacific eelgrass (*Zostera pacifica*) beds barely extend into the Point San Luis Survey Area and have been well documented in prior surveys for the Port San Luis Breakwater Repair Project. These beds are not within any area considered for rock placement.

Canopy Kelp Beds

Canopy forming kelp beds are limited to areas within the Point San Luis Survey Area and presently include sparse bull kelp and even less well represented giant kelp. Long-term survey data from the Department of Fish & Wildlife reveal that kelp habitat extending over the reef habitat in this survey area varies considerably over time and can be substantial in some years.

DISCUSSION

- ***Breakwater Stone Relocation Configuration***

The relocation of Morro Rock stone would be done with the principal objective of reuniting rock derived from Morro Rock with Morro Rock or ensuring that it remains in proximity and unified with the initial rock displaced to the Port San Luis breakwater from Morro Rock when the breakwater was constructed. As a result, the project is foremost a cultural repatriation project. However, in placing the rock in a unified manner it is desirable to ensure that the work avoids and minimizes harm to high value marine communities, and where practical provides added habitat benefit supporting marine resources and culturally important values of the Native Americans in the region.

Rock placement locations have been coordinated with interested tribes the placement design has been developed to ensure unity of rock being relocated. The more detailed configuration of rock placement has borrowed from examination of artificial reefs in the area, and the well documented Palos Verdes Reef Restoration Project with the intent of providing the best opportunity for the reef to add functionally to the marine ecosystem.

Because the actual total amount of the undersized stone remains unknown and will not be known until the breakwater repair is completed, the design of the cultural reef has been made module, such that each new load of stone placed would add to prior rock in a manner that retains goals for a vertically variable reef configuration, following designs that have contributed to high fishery value, particularly for rockfish species. The contemplated conceptual design of the reef is illustrated in Figure 4.

Each module of the reef consists of two half-modules that are based on a volume reflected by a single scow load of rock. The half modules are made up of sub-modules that are placed as rock mounds of variable height from 1 foot to 15 feet above the seafloor (Figure 4). The submodules are positioned to provide rock to rock contact with adjacent submodules to create a unified reef structure. As additional stone is displaced, it would be placed in adjacent areas of the bottom creating a rock-to-rock contact array that also provides integrated retention of sandy bottom habitat. The elevation of the rocky reef to be developed has been kept in waters between -50 and -65 feet MLLW to ensure that the reef can be safely constructed and that the highest reef crests remain at depths at or below -40 feet to avoid any potential for the reef to interfere with natural wave environments or sediment transport conditions along the shoreline.

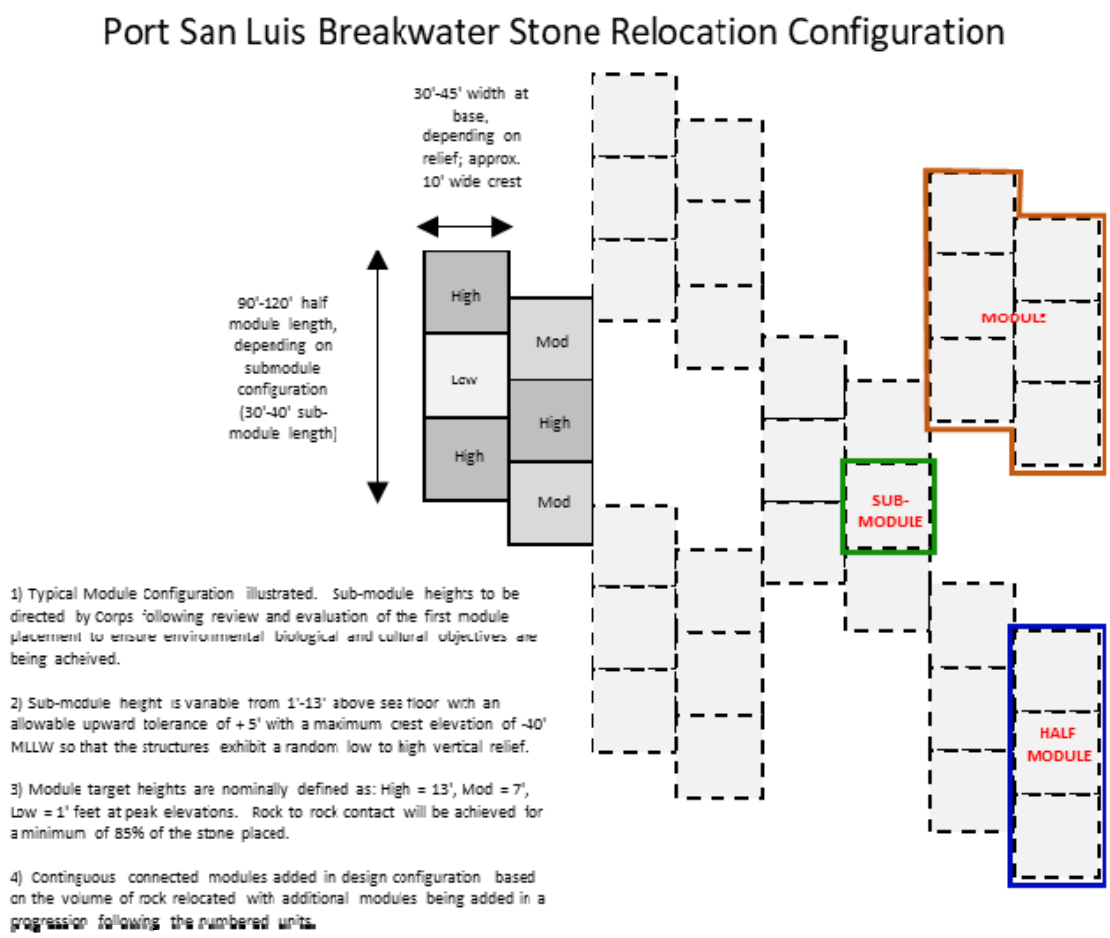


Figure 4. Conceptual layout for cultural repatriation reef

- ***Site Selection Considerations***

The two locations considered for placement of the Morro Rock stone have both similarities and differences. They are regionally located in close proximity with both having a close relationship to Morro Rock. The two locations include waters within tideland grant boundaries to the local municipal agencies (Port San Luis and Morro Bay). Both sites include waters that are deep enough and removed far enough from access into the harbors that sites could avoid navigational conflicts.

Screening of potential conflicts with navigation and mooring areas within Port San Luis have eliminated any potential for reefs on the lee of the breakwater or near the breakwater end. Similarly, at Morro Bay, the Harbor Department has expressed support for the project, but concern about positioning a reef too close to the breakwater where waves build and multiply as it may be difficult to construct and may attract fisherman to close to the area, increasing safety concerns.

From a biological perspective, there is a strong preference for reef placement on sand bottom to avoid rocky reefs, a Habitat Area of Particular Concern (HAPC) under the Pacific Groundfish Fisheries Management Plan (Pacific Fisheries Management Council 2020). While placement of the reefs on sand would result in localized adverse impacts to soft bottom dwelling marine species, the rocky substrate would be expected to replace this habitat loss with a more structurally diverse and

stable environment that is recognized as HAPC for its benefits, principally to rockfish. As a result, the impacts of placement in soft bottom would not be considered significant.

While it is technically feasible to fit the full reef configuration illustrated in Figure 4 within soft bottom of the Point San Luis Study Area, and within the tidelands grant boundary, it is unlikely that a reef could be readily constructed in this area without some potential to damage rocky reef habitat in proximity through anchor placement and cable drags. Such effects may result in significant damage to marine resources, particularly because dragging of anchor cables may be expected to shear many vertical sessile organisms and clear overstory and understory kelp from rock. As a result, should this site be selected additional analysis working in concert with the breakwater contractor would be necessary to determine if potential exists to avoid risk of significant temporary impact to marine resources. Construction of a reef within the open sand bottom of the Morro Rock Study Area does not have similar inherent risk of damage to an HAPC due to the absence of reefs in the area.

Finally, when considering the two study areas and potential for habitat benefit, the Morro Rock site again stands out. While placement of a rocky reef in either site would be expected to result in enhancement of fish and invertebrate communities, such as structure at Point San Luis would not be unique. There are dozens of low to high relief reefs in immediate proximity to the sands suited to support a reef at Point San Luis. Continuing north along the shoreline the trend of many offshore reefs, pinnacles, and boulders continues. As a result, the spatial context of a new reef in this area would suggest that it is nothing unique and thus would not be expected to have the same benefits of adding structural complexity to an already structurally complex bottom. Conversely, at Morro Rock, the bottom is relatively featureless sand and thus any reef feature would create a unique vertical relief and stable substrate condition in the region. Further, even the existing rock present along the shoreline at Morro Rock and the northern breakwater reflect a harshly energetic environment, unsuited to providing significant continuously occupied habitat by some species. A reef set away from shore within deeper water in this location would provide stable and occupiable habitat for species expected to be poorly represented in the immediate area, particularly rockfish.

There remains a question regarding whether a reef off Morro Rock would support persistent or even intermittent kelp habitat. The site is uniquely exposed and generally does not have a history of kelp occupancy. However, as noted, it also lacks suitable substrate. For this reason, whether kelp would occur on the reef if there were a reef remains uncertain. However, it is not believed that the reef need support any particular biological resource to be deemed successful as the principal goal remains repatriation of a culturally important resource and as such, habitat functions are considered an ancillary benefit that is desired, but not required.

If you have any questions regarding these data, please do not hesitate to contact me.

Sincerely,

Keith W. Merkel
Principal Consultant

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APPENDIX C

Proposed Morro Rock Reunification: Possible Wave and Transport Impact Analysis

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Proposed Morro Rock Reunification: Possible Wave and Transport Impact Analysis
San Luis Obispo County, California

Prepared By:
John T Goertz
Coastal Engineer
Los Angeles District, USACE

U.S. Army Corps of Engineers
Los Angeles District

March 2021

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Proposed Morro Rock Reunification: Possible Wave and Transport Impact Analysis

Purpose

Repairs to the Port San Luis Breakwater during Spring 2022 may result in excess stone originally contained within the structure. As the stone used in the initial construction of the breakwater circa 1900 came from Morro Rock, it is proposed to return this excess to the vicinity of Morro Rock as a cultural resource consideration. This analysis presents the possible impact, or lack thereof, to the local hydrodynamic conditions of the Morro Bay area by the placement of stone at the proposed reunification site.

Location

The proposed location of stone placement for reunification is approximately 1,500 feet west of Morro Rock, as shown in Figure 1. This location was chosen to minimize or eliminate any possible impact on navigation, waves, currents, or littoral transport.

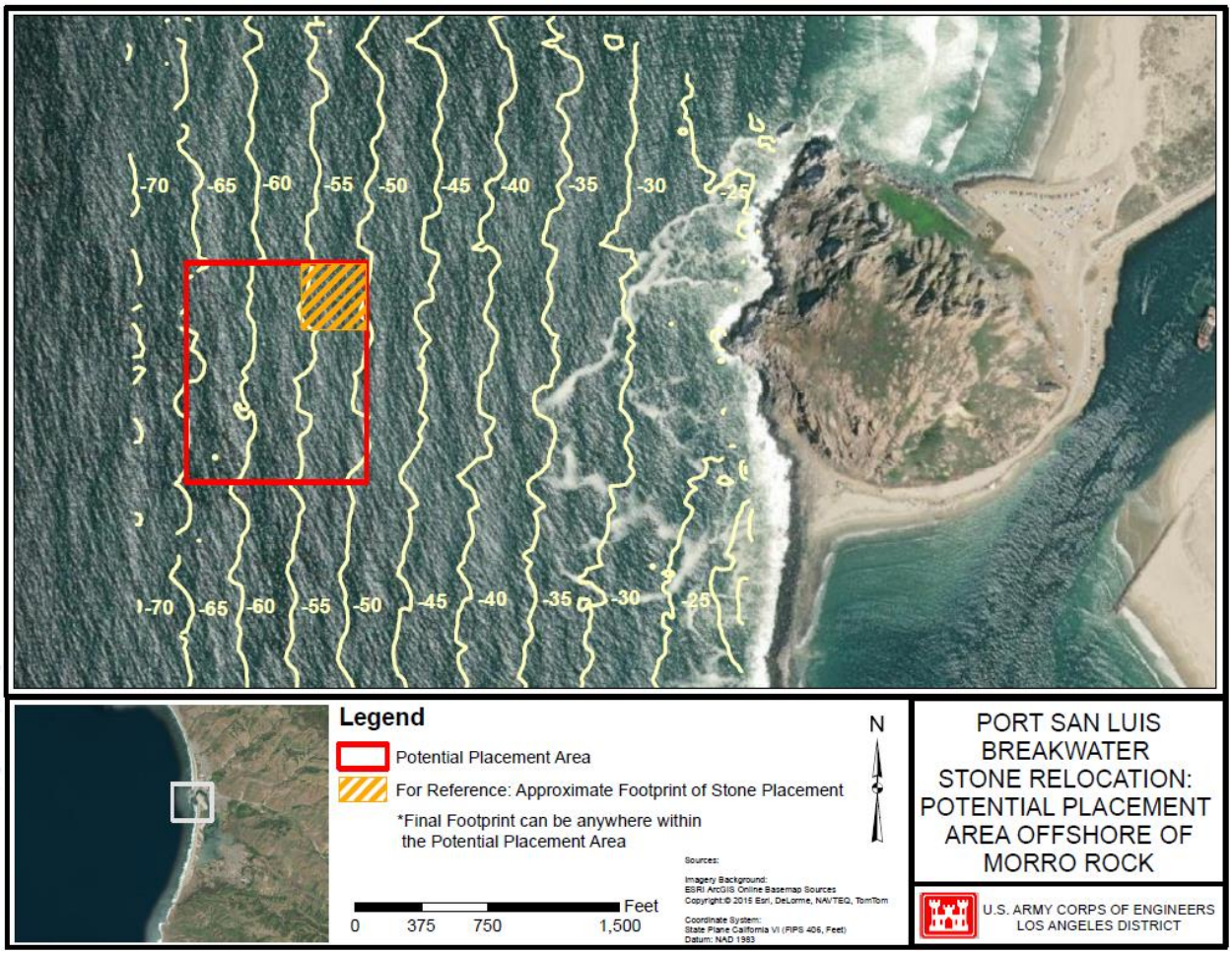

Figure 1 Potential Placement Area of Stone Near Morro Rock

Stone

There may be up to a maximum of 10,000 tons of excess stone during repair of the Port San Luis Breakwater. Stone will range up to 10 tons in weight and will be approximately 2-5 feet in diameter. It will be moved to Morro Rock via barge in 1,000 ton increments and placed in sets of "modules" to maintain cohesion between all stone placed; each trip will take approximately 3-5 days (travel and placement time).

Each barge of stone will cover approximately 4,000 square feet (sf) if placed in a single layer. However, each barge load will be placed with varied relief/heights in multiple modules and submodules. Two anchor stones will be used per module to hold barge position during placement, each approximately 12-15 tons. Depth of placement will vary from -50 to -65 feet Mean Low Low Water (MLLW), with height of the structure varying with depth and submodule. Module crests will not be above approximately -40 feet MLLW. The sediment in this area consists of silty sand and some settlement of placed stones is expected, though this should not exceed a maximum of 1/2 the stone size for the bottom layer of each sub module.

Impact

Wave

Effects on wave energy transmission beyond a structure can be caused by wave overtopping and wave penetration through the structure if it is permeable. For submerged structures a reduction in wave energy can similarly occur due to interactions of the wave energy below the surface. The ratio of transmitted wave height to incident wave height or transmitted wave energy to incident wave energy is represented as the transmission coefficient, C_t. The Coastal Engineering Manual (EM 1110-2-1100) presents a way to calculate the transmission coefficient for several types of coastal structures, including submerged structures, via the van der Meer and d'Angremond (1991) method. However, it makes note that when the crest of the structure is deeply submerged the transmission coefficient approaches one (representing no change in wave energy). This occurs once the ratio of structure crest depth (R_c) to median stone diameter (D_{50}) is beyond negative six ($R_c/D_{50} < -6$).

For the proposed placement location and structure build this ratio will be -10 or lower, and as such we expect that there will be no impact on the incidental wave energy passing over the structure. Additionally, as nearshore currents in this area are driven by wave energy, the resulting lack of impact to the wave environment leads to no expected impacts on nearshore currents.

Sediment

The stone will be placed outside of the depth of closure, defined as the depth beyond which there is little to no net seasonal movement of littoral sand on- or off-shore. Seaward of this depth there is no significant change in bathymetry during a given time interval, while shoreward of this depth seasonal littoral movement of sediment both alongshore and on-/off-shore is common. For Central and Southern California this depth ranges from -30 feet MLLW to -40 feet MLLW, conservatively. As the minimum depth of stone placement will be at -50 feet MLLW we can expect no interference with the littoral transport of sediment.

APPENDIX D

Cultural Resource Consultation Letters

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DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT
915 WILSHIRE BOULEVARD, SUITE 1109
LOS ANGELES, CALIFORNIA 90017-3409

April 22, 2022

Ms. Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
XXXXXXXX

Dear Ms. Polanco,

The Corps is continuing to consult with you regarding proposed repairs to the Port San Luis (PSL) Breakwater in San Luis Obispo Bay near the City of Pismo Beach, San Luis Obispo County, California, in accordance with Section 106 of the National Historic Preservation Act (COE_2017_1221_00). Section 106 consultation with your office in February of 2018 resulted in your concurrence that the PSL Breakwater is not eligible for listing on the National Register of Historic Places (NRHP) and that the project would result in no historic properties affected. Our previous consultation letters are enclosed for your convenience (Enclosure 1). As part of the tribal consultation process for the undertaking, the Corps was informed by the yak tityu tityu yak tiłhini - Northern Chumash Tribe and the Northern Chumash Tribal Council that much of the stone used to build the breakwater was taken from Morro Rock, a location of great cultural significance to those Tribes. In response to tribal input, the Corps had committed to reincorporating all the stone back into the breakwater and treating it in a respectful manner. These conditions were listed in our finding of effect letter submitted to your office.

The Corps has recently learned that some of the stone may not be able to be incorporated back into the breakwater structure. The Corps discussed this issue with representatives of the two consulting Tribes. From the Tribes' perspective, the rock maintains its sacredness despite its removal from Morro Rock. For them, further harm to the sacred stone could only be avoided by either retaining the unity of the translocated stone by keeping it in the breakwater or by returning the stone to a location close to Morro Rock. The Tribes' preferred strategy is to return any displaced stone to Morro Bay. The Corps is, therefore, reopening consultation on the modified undertaking. While the repairs would be conducted in the same manner as described before, the Corps is proposing to transport the displaced stone back to Morro Bay and place the stone in a respectful manner on the sandy bottom and in a configuration that is expected to have ancillary environmental benefits; however, the primary purpose is to reunify the stone with Morro Rock. This letter provides a brief description of the proposed modification to the undertaking; transmits the expanded area or potential effect (APE) for your comment; and transmits the Corps new finding that the modified undertaking would result in no adverse effect.

The PSL breakwater was originally constructed between 1889 and 1913 to protect the inner bay, harbor, and small craft marine facilities from heavy surf and wave action approaching from the west. The breakwater had been damaged by heavy wave action from storms and the 2003 San Simeon Earthquake. The repairs to the breakwater would involve resetting and replacing some of the armor stone with larger sized armor stone that better meets current design standards for hydraulic stability. This will likely result in the displacement of excess stone. Approximately 100,000 tons of the stone used in the breakwater was quarried from Morro Rock.

In respect of the tribal request that the stone be reunited with Morro Rock, the Corps has identified a 29-acre location, approximately 1,500 feet west of Morro Rock (Enclosure 2), where the rock could be placed. Only a small portion of the 29-acre site would be utilized. Several citing criteria were used in selecting the placement location. The location should be near Morro Rock. The stone placement should not impact navigation, wave patterns, currents, littoral transport, or cause significant adverse ecological impacts. Finally, the rock should be placed in a location where it would not be dispersed by wave action. The selected rock placement location meets the citing criteria. The Corps has been granted permission from the City of Morro Bay to use the area within the San Luis Obispo County Tidelands Grant for rock placement.

During the PSL breakwater repairs, stone that cannot be reincorporated into the breakwater would be placed to the side and when enough excess stone has been identified, it would be transported via barge approximately 20 miles to the placement site. The footprint of the stone placement would encompass up to 3 acres of the sandy ocean bottom at a depth ranging from approximately -50 to -65 feet Mean Lower Low Water (MLLW). The stone crest elevation will vary with placement depth and the crest peaks would not be above approximately -40 feet MLLW. The design for the placement of stone would consist of contiguously connected rock which varies in height from approximately 1 to 18 feet above the sea floor.

In 2017, the Corps, in consultation with your office, defined the APE as the footprint of the existing breakwater, plus a 400-foot-wide buffer along the harbor-side of the breakwater. The Corps is expanding the APE to include the 29-acre site where the rock may be placed and Morro Rock. While outside of the direct impact area, the Corps has included Morro Rock because the Tribes feel that the quarried stone is still spiritually connected to Morro Rock and so it may be indirectly affected by the stone’s placement. Vertical disturbance should be minimal since the rock is placed on the surface of the ocean floor; however, the Corp has extended the vertical APE of the 29-acre placement site to three feet below the surface to account for any impacts that may be caused by dropping the rock. The Corps welcomes your comment on the expanded APE (Enclosure 3).

In order to determine the optimal placement for the displaced stone, the Corps contracted with Merkel & Associates Inc. (M&A) to complete a side-scan sonar survey of two areas—the first by the PSL breakwater and the second by Morro Rock (Enclosure 4). The surveys were conducted early in the site selection process and were used to assist the Corps in choosing a location. The side-scan sonar surveys had a dual purpose of identifying both subtidal marine habitat and any anthropogenic features on the seafloor.

The surveys were conducted using an interferometric side-scan sonar (ISS) operating at 468 kHz scanning out 50 meters on both the starboard and port channels for a 100-meter wide swath. The running parallel tracklines were spaced to allow for overlap between adjoining side-scan swaths. Parallel tracklines were surveyed until the entirety of the survey area was covered. The ISS is ideally suited to support surveys for both marine habitats and anthropogenic features due to the integrated collection of both high resolution side-scan and bottom relief data that further enhances detectability and characterization of features with vertical relief elements such as reefs and shipwrecks.

The Morro Rock survey area covered 245-acres and included the proposed 29-acre placement site. No anthropogenic features were located within the proposed 29-acre rock placement site. A single sunken vessel occurs within the survey area but outside the APE. The vessel is approximately 80 feet in length and may be split into two parts. It is approximately 1,000 feet from the edge of proposed rock placement site. Being outside of the APE, it was not investigated in detail. No other anthropogenic debris or vessels were noted within the survey area. The Corps also checked the National Oceanic and Atmospheric Administration's (NOAA) Automated Wreck and Obstruction Information System to see if there were any shipwreck or obstruction in the APE. None were located.

As part of our good faith effort to identify historic properties, the Corps has also considered the potential for significant submerged prehistoric sites to be impacted by the project. Intact underwater archaeological sites would only exist in protected areas of high alluvium or where intervening landforms such as reefs or rocky headlands would have lessened erosive forces. The proposed placement site is located on an exposed shore face that was above the tide level prior to about 9,000 BP when sea level was about 25 meters lower than present. By 7,500 BP the level was about 15 meters below present and the placement site would have been submerged. As the water rose, the proposed placement site would have been strongly weathered by prevailing wave energy. As water continued to rise, littoral transport of sand would have filled in, bringing the sand surface up as sand migrated around Morro Rock from the north. In the modern age, active transport along the north face of Morro Rock and the wave energy reflected off the steep face of the Morro Rock lava dome continues to raise the elevation of the sand.

The proposed placement area was never conducive to prehistoric sites due to its extreme energy exposure on the west side of an anchoring headland tombolo. Further if a site had existed it likely would have been destroyed as the water rose to present elevations. Finally, any remnant site, should it survive, would be buried deep in the sand that filled in as the water rose and littoral transport followed. Any remnant site would be well below the three feet of possible vertical disturbance for the project.

The Corps believes that the above constitutes a reasonable and good faith effort to identify historic properties in the APE. The Corps has considered the relative likelihood of submerged prehistoric sites being present in the modified APE, has checked the NOAA charts, and has conducted a side-scan sonar survey of the placement site. Two potential historic properties were identified within the APE, the PSL breakwater and Morro Rock.

In consultation with your office, the PSL breakwater has previously been determined to be ineligible for listing on the NRHP; however, the significance of the stone was not considered at the time. The issue of the National Register eligibility of the translocated stone in the PSL breakwater is a difficult question. The stone in the breakwater has been moved from its original location in Morro Rock, a quality that may make the stone ineligible under Criteria Consideration B, (moved properties). Further, the translocated rock in its current state does not have significance beyond that which was bestowed by being part of Morro Rock. For the consulting Tribes, the stones' significance stems from its connection to Morro Rock and not for any associations or its use in the PSL breakwater. The PSL breakwater is not the traditional cultural property (TCP); instead, Morro Rock is the TCP, and the stones are still spiritually connected to it. When discussing the need to find a place to put the displaced stone, both consulting Tribes talked about the further harm that their removal would do to Morro Rock.

Therefore, the Corps is affirming its determination that the PSL breakwater is not eligible for the NRHP and has included Morro Rock in the APE because it may be indirectly affected by the removal of the sacred stone from the breakwater. Please note that while Morro Rock was used as a material source for several shoreline protection structures along the central coast, the PSL breakwater and the Morro Bay breakwater are the only structures known to have been constructed almost entirely from material quarried from Morro Rock.

Beyond its designation as a California National Landmark, Morro Rock is a major feature on the landscape that appears in the traditional stories of both the Chumash and Salinan Tribes and continues to be the location of annual ceremonies held on the summer and winter solstices (Enclosure 5). Morro Rock would clearly meet at least one of the criteria for eligibility for listing on the NRHP. For the purposes of the consultation, the Corps is assuming that Morro Rock is eligible for the NRHP under all four criteria. This is in keeping with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716). Standard I (Identification of

Historic Properties Is Undertaken to The Degree Required to Make a Decision), which indicates that the extent of investigation on the eligibility of a resource is based on the amount of information required to provide “a sound basis for making decisions.”

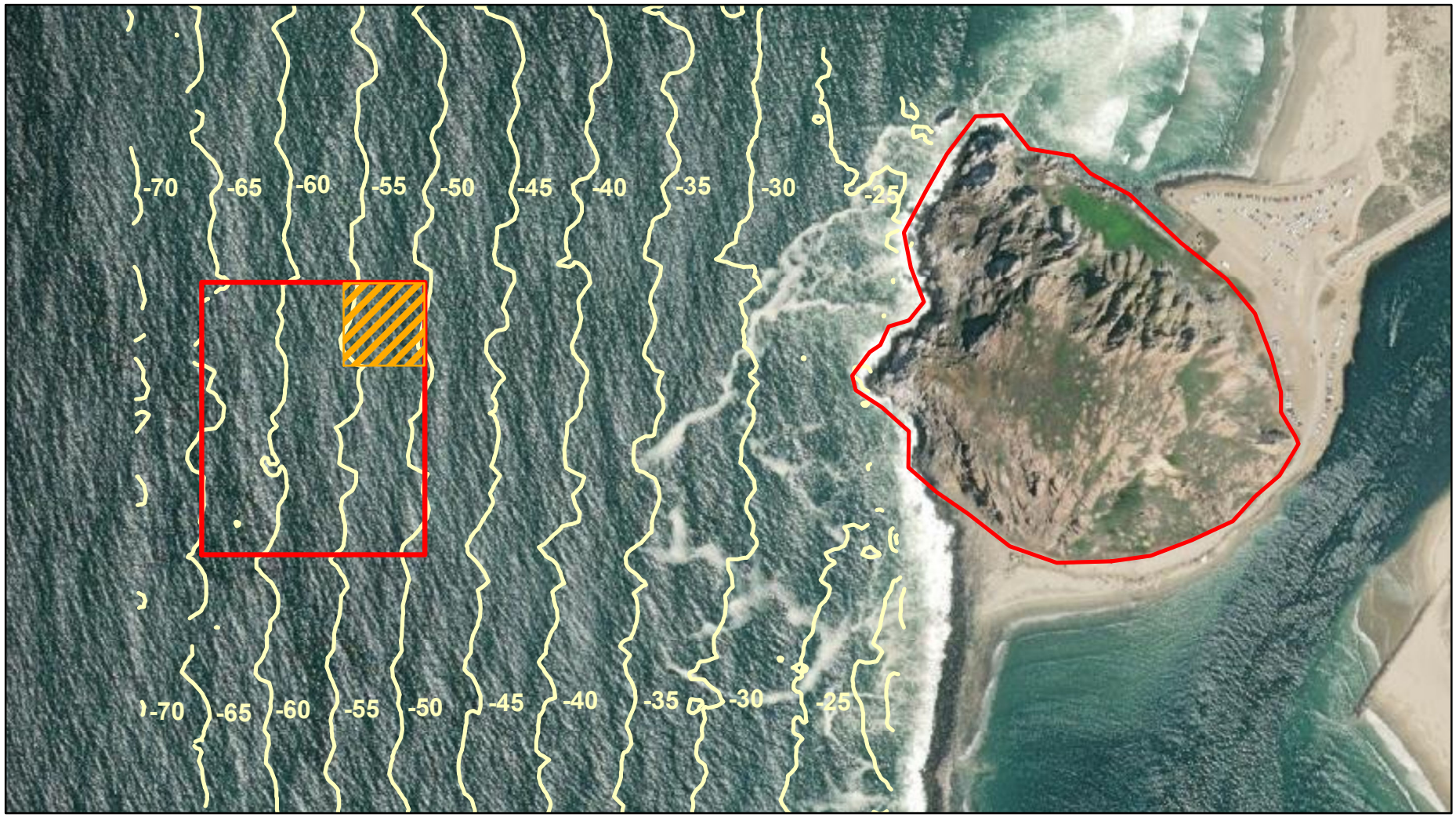
On March 18, 2022, the Corps sent letters to the yak tityu tityu yak tiłhini - Northern Chumash Tribe; the Northern Chumash Tribal Council; the Santa Ynez Band of Chumash Indians; the Barbareno/Ventureno Band of Mission Indians; the Salinan Tribe of Monterey, San Luis Obispo Counties; the Xolon-Salinan Tribe; and the Coastal Band of the Chumash Nation informing them of the change to the undertaking. The Corps provided a brief description of the proposal to bring the excess breakwater stone back to Morro Bay; transmitted the expanded APE for their comment; and invited them to consult on the modified undertaking. As with the 2017 consultation for the PSL breakwater repair, only the yak tityu tityu yak tiłhini - Northern Chumash Tribe and the Northern Chumash Tribal Council responded that they wanted to consult. The displaced rock placement site and configuration has been developed in consultation with both Tribes.

The Corps has been working with the consulting Tribes since late September to establish an acceptable alternative for the rock placement. The placement site was chosen in consultation with the yak tityu tityu yak tiłhini - Northern Chumash Tribe and the Northern Chumash Tribal Council, and both Tribes are in support of the project. We request your concurrence with our assumed eligibility of Morro Rock and our subsequent finding that the modified undertaking would result in no adverse effect. The issue of having displaced stone that cannot be reincorporated into the breakwater was not realized until after the construction contract was awarded. Because the contract was awarded, the Corps must pay the contractor for any down time that they incur while the modified undertaking goes through its subsequent environmental reviews. For this reason, the Corps is requesting expedited review of this project. If that is not possible, the Corps looks forward to your response within the next 30 days. If you have specific questions or if we can provide any clarification about this request or any other concerns, please contact Ms. Danielle Storey, Archaeologist, atXXXXXXXXor at XXXXXXXX

Sincerely,

Maricris Lee
Deputy Chief, Planning Division

Enclosure(s)



Legend

Area of Potential Effect (APE)

For Reference: Approximate Footprint of Stone Placement

*Final Footprint can be anywhere within the Potential Placement Area

N

Feet

0 375 750 1,500

Sources:

Imagery Background:
ESRI ArcGIS Online Basemap Sources
Copyright:© 2015 Esri, DeLorme, NAVTEQ, TomTom

Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

PORT SAN LUIS BREAKWATER: AREA OF POTENTIAL EFFECT (APE)

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

Document Path: C:\Users\1pdrgzd\Desktop\PSL figures.mxd

April 2022

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT
915 WILSHIRE BOULEVARD, SUITE 1109
LOS ANGELES, CALIFORNIA 90017-3489

March 18, 2022

Mona Olivas Tucker
Chairwoman
yak tityu tityu - Northern Chumash Tribe
[redacted]

Dear Chairperson Tucker:

The Army Corps of Engineers, Los Angeles District Corps) s contin ng to consult with you regarding proposed repairs to the Port San Luis PSL) reakwater in San Luis Obispo Bay near the City of Pismo Beach, San Luis Obispo ounty, California in accordance with Section 106 of the National Histori Pre ervat n Act. The Corps first contacted you about these proposed repairs in No ember o 2017. At that time, the Corps provided you a description of the proposed r pairs (r setting and replacing stones and raising the height of the breakw ter by thr f et) and requested your assistance in identifying any properties of ultural r relig ous significance to the tribe that might be affected by the proposed proj ct. In response, the Corps was informed by the yak tityu tityu yak tiłhini - Northe n Chuma h Tribe and the Northern Chumash Tribal Council that much of the stone used to build the breakwater was taken from Morro Rock, a location of great cultural s gnifica ce to those Tribes. In response to tribal input, the Corps had commit ed to e corporating the stone back into the breakwater and treating it in a r ectful ma ner. The Corps has recently learned that some of the stone may not b able to be inc rpor ted back into the breakwater structure. The Corps has informally dis ed this issue with representatives of the two consulting Tribes and has u d stood th t the preferred strategy is to return any unused stone to Morro Bay. The Corps is proposing to transport the excess stone back to Morro Bay and place the stone i a r spectful manner on the sandy bottom and in a configuration that is expected to have ancillary environmental benefits; however, the primary purpose is to reunify the stone with Morro Rock. This letter provides a brief description of the proposed modification to the undertaking to relocate the excess breakwater stone back to Morro Bay; transmits the expanded area or potential effect (APE) for your comment; and invites you to consult on the modified undertaking.

The PSL breakwater was originally constructed between 1889 and 1913 to protect the inner bay, harbor, and small craft marine facilities from heavy surf and wave action approaching from the west. The breakwater had been damaged by heavy wave action from storms and the 2003 San Simeon Earthquake. The repairs to the breakwater would involve resetting and replacing some of the armor stone with larger sized armor stone that better meets current design standards for hydraulic stability. This will likely

result in the displacement of excess stone. Much of this stone was originally quarried from Morro Rock.

In respect of the tribal request that the stone be reunited with Morro Rock, the Corps has identified a location, approximately 1,500 feet west of Morro Rock (Enclosure), where the rock could be placed. Several citing criteria were used in selecting the placement location. The location should be near Morro Rock. The stone placement should not impact navigation, wave patterns, currents, littoral transport, or cause significant adverse ecological impacts. Finally, the rock should be placed in a location where it would not be dispersed by wave action. The selected rock placement location meets the citing criteria. The Corps has been granted permission from the City of Morro Bay to use the area within the San Luis Obispo County Tidelands Grant for rock placement.

During the PSL breakwater repairs, stone that cannot be reincorp ated into the breakwater would be placed to the side and when eno gh exc ss tone has been identified, it would be transported north approximately 20 miles the placement site. The footprint of the stone placement would encompass up t 3 acre of the sandy ocean bottom at a depth ranging from approximately 50 to -65 feet Mean Lower Low Water (MLLW). The stone crest elevation will vary with pla ement depth and the crest peaks would not be above approximately -40 feet LLW. T e design for the placement of stone would consist of contiguously conn d roc whi h varies in height from approximately 1 to 18 feet above the sea f oor.

In 2017, the Corps, in consultation with th State Historic Preservation Officer, defined the APE as the footprint of the existing pproximately breakwater, plus a 400' wide buffer along the harbor-sid f the reakwater. The Corps is expanding the APE to include the 29-acre site where the rock may be placed. The Corps welcomes your comment on the expanded APE Enc ure).

The Corps i aware th t Morr Rock and the surrounding area is extremely important to the ocal ibal communities. We welcome your knowledge and expertise n developing this project to b ng the stone back to Morro Rock. At this time, the Corps is respectfully reque ting that you indicate whether you wish to consult on this undertaking within the next 30 days. If you have specific questions or if we can provide any clarification about this request or any other concerns, please contact Ms. Danielle Storey, Archaeologist, at XXXXXXXX or at XXXXXXXX.

Sincerely,

Maricris Lee
Deputy Chief, Planning Division

Enclosure(s)

Northern Chumash Tribal Council

A Native American Corporation
PO Box 6533, CA 93412 (805) 356-6149

CHUMASH HERITAGE
National Marine Sanctuary

4/25/2022
Colonel Julie A. Balten
Commander and District Engineer
U.S. Army Corps of Engineers
Los Angeles District
XXXXXXXX

Morro Bay Lisamu' Rock Reunification Project:ie Port San Luis (PSL) Breakwater in San Luis Obispo Bay near the City of Pismo Beach, San Luis Obispo County,

The Northern Chumash Tribal Council supports the reunification of stone that was used to make the Port San Luis Obispo breakwater finally being returned near to its place of origin and people in the sacred place of Morro Bay and would like to be considered a partner with this project. Through early consultation on this project, we were happy to extend our knowledge expertise, and stories of the significance of Morro Rock (Lisamu') and relieved to have the sacred rock that was once mistreated-reunited. Our early input on the planning was crucial to getting to where we are at today. This is a seized opportunity, to treat the rock quarried from Lisamu' with the dignity it deserves, and it should be brought back to Morro Bay. It is showing the greatest respect for our cultural and spiritual significance to heal place we have been worshiping at since time immemorial.

It is with great joy that we give your our support and the approval of 3 generations of Chumash people who have been working to see healing done for Lisamu. We ask you and any of the staff who helped facilitate this to join us and participate in a ceremony blessing this occasion as partners. We would like to express the excitement in the Chumash community as well to see the project happen. We realize there were many moving parts and hurdles to overcome to create this opportunity. Specifically, we appreciate the ability to make right and whole our community which also has been chipped away at and spread apart like Lisamu'.

Please let us know if there are other ways we can support you regarding the projected reunification of Morro Rock. The reunification project is a dream my father had before he passed it is important to me and other members of my tribe. The community looks forward to planning a celebration of the reunification project to represent the good work the Army Corps and other agencies have done facilitating this massive request on behalf of tribal people to make a wound in our community whole again.

This is a project with many different organizations working together to heal the past and create a restorative future for the tribes. This is something to be proud of and an example of the good work that can be done by early consultation with tribes. Reunification is so critically important symbol of the culture and sacred sites that have been lost by the Chumash. This is a Spiritually sensitive location that has immeasurable value to the Chumash.

Regards,

Violet Sage Walker, Chairwoman of the Northern Chumash Tribal Council

Violet Sage Walker

Northern Chumash Bear Clan

Michael A. Khus-zarate
Clan Elder

25 April, 2022

Colonel Julie A. Balten, Commander and District Engineer
U.S. Army Corps of Engineers
Los Angeles District
915 Wilshire Blvd, Los Angeles, CA 9001730

Dear Colonel,

We wish to make it known that we support the reunification of Morro Rock, or Lisamu' a sacred Chumash site and we encourage the California Coastal Commission to expedite their review of the US Army Corps of Engineers (USACE) modified plan to repair the Port San Luis (PSL) Breakwater.

The stone material used to construct the PSL breakwater was ripped away from Lisamu' between 1889 and 1913. The Northern Chumash Tribal Council has requested that, to the degree possible that the stone material be returned to Lisamu. We have endorsed that request.

The USACE has proposed transporting the stone material by barge and respectfully depositing the rock material about 1500 west of Lisamu, offshore on the sandy bottom. While we anticipate the deposited rock material will have some environmental benefits, we are most interested in the cultural or spiritual significance of this reunification of Lisamu.

Returning rock material taken from Morro Rock would be a meaningful step in healing the desecration of Lisamu' and address the spiritual hardship that our Elders endured.

Therefore, we respectfully request that the review of USACE plans for this project be approved so that our Chumash community may celebrate and give thanks for our beloved Lisamu.

Thank you,

Michael Khus-Zarate, Clan Elder

John Khus, Ksen/Speaker

Previous Consultation

PORT SAN LUIS BREAKWATER REPAIR

MODIFIED UNDERTAKING

San Luis Obispo County, California

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
915 WILSHIRE BOULEVARD, SUITE 930
LOS ANGELES, CALIFORNIA 90017

December 18, 2017

Ms. Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
XXXXXXXX

Dear Ms. Polanco:

The U.S. Army Corps of Engineers, Los Angeles District (Corps), is initiating consultation with the State Historic Preservation Officer (SHPO), regarding a proposal to repair the Port San Luis Breakwater. We are consulting with you in accordance with Title 36 Code of Federal Regulation Part 800 (36 C.F.R. 800), implementing Section 106 of the National Historic Preservation Act. At this time, we are only consulting on the area of potential effects (APE), established for the undertaking. We will further consult regarding the results of the inventory and any potential effect of the project on cultural resources at a later date.

Description of the Undertaking

The Port San Luis Breakwater is located in San Luis Obispo Bay near the City of Pismo Beach, San Luis Obispo County, California. The breakwater was originally constructed between 1889 and 1913 to protect the inner bay, harbor, and small craft marine facilities from heavy surf and wave action approaching from the west. The purpose of the project is to restore the breakwater from damage caused by the December 2003 San Simeon Earthquake and by heavy wave action resulting from storms. In its current condition, the potential exists for damage to vessels and facilities in the mooring area and harbor.

There have been six previous Operations and Maintenance (O&M), repairs to the Port San Luis breakwater structure, most recently in 1992 and 2005, which together have resulted in some alteration to the entire length of the breakwater. The proposed O&M breakwater repair project would be similar to past O&M repair breakwater projects. The Corps proposes to reset and replace stones along the approximately 2,400 foot long breakwater but would focus work on the most heavily damaged 600 feet of the structure located between Stations 6+00 and 12+00. The Corps also proposes to raise the crest elevation from the original +13' to +16' in order to meet current design standards. The footprint of the breakwater would not be changed.

The Corps estimates that 7,000 tons of existing stone would need to be reset and 11,000 tons of new stone would be placed to restore the breakwater to its original

design. Repairs would be conducted by a barge-mounted crane, barges carrying rock, tugboats, and other various small boats. Transport of new stone would most likely be by sea, but may occur on land, using dump trucks or other heavy equipment vehicles. Terrestrial (on shore), staging/storage areas near the harbor for the proposed O&M repair project would be utilized for construction equipment and supplies. The staging area would be located within the existing paved parking lot near the harbor office.

Minor excavation of accumulated sand/sediment (approximately 15,000 CY), may be necessary to allow adequate depths for barges and other equipment to access the breakwater. Excavation would be limited to within 400' of the harbor-side of the breakwater. This would provide access for two barges plus anchor spread distance. The excavated material would be side cast (lifted and deposited to the side), in the same area where it was removed from the sandy bottom areas adjacent to the breakwater. Most of the excavated material would settle in the immediate area, which is a dynamic and rapidly moving soft bottom. The area of sediment removal was previously dredged for the construction of the breakwater and prior repairs. No maintenance dredging would be performed in the harbor as part of this project.

APE

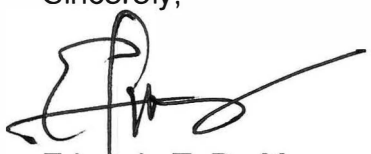
The Corps' project area ("area of potential effects"), is defined as the footprint of the existing approximately 2,400-foot long breakwater, plus a 400' wide buffer along the harbor-side of the breakwater where minor dredging may be required to create enough depth for barges to be brought in. There will also be a temporary staging area located within the existing paved parking areas near the shore. The staging area would be within the paved parking lot near the harbor office and may include two spaces in from of the Harbor Office and approximately seven spaces in Area 3 of the public parking lot. No disturbance of the existing asphalt in the proposed staging areas will be necessary.

Finding

At this time, the Corps is requesting your review and agreement with our definition of the APE. The Corps will consult regarding eligibility of the breakwater and any potential effects of the project under a separate letter after inventory and tribal consultation are complete. We appreciate your consideration of our request.

If you have specific questions, concerns, or want any clarification about this request, please contact Travis Bone at XXXXXXXX or via e-mail at XXXXXXXX

Sincerely,



Encls

Eduardo T. De Mesa
Chief, Planning Division

CF:
CESPL-PD
CESPL-PDR
CESPL-PDR-L


Port San Luis Breakwater Cultural Resources
Area of Potential Effect
(maximum 400 feet along breakwater)
Staging Area in Parking Lot
Breakwater
Port San Luis Breakwater Centerline
Area of Potential Effect
0
1,000
2,000
4,000
Feet
1:24,000
N
W
E
S
For general information only.
All locations are approximate.
Copyright© 2013 National Geographic Society, i-cubed, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

State of California • Natural Resources Agency Edmund G. Brown Jr., *Governor*

DEPARTMENT OF PARKS AND RECREATION Lisa Ann L. Mangat, *Director*
OFFICE OF HISTORIC PRESERVATION
Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

January 09, 2018

In reply refer to: COE_2017_1221_001

Mr. Eduardo T. De Mesa
Chief, Planning Division
U.S. Army Corps of Engineers
Los Angeles District
XXXXXXXX

Subject: Section 106 Consultation for the Port San Luis Breakwater Repair Project, San Luis Obispo County, California

Dear Mr. De Mesa:

The State Historic Preservation Officer (SHPO) received your letter on December 21, 2017 initiating consultation on the above referenced project in order to comply with Section 106 of the National Historic Preservation Act of 1966 (as amended) and its implementing regulations at 36 CFR Part 800. The U.S. Army Corps of Engineers (COE) is requesting comments only on their Area of Potential Effect (APE) for the San Luis Breakwater Repair Project located in San Luis Obispo Bay near the City of Pismo Beach, San Luis Obispo County, California.

The COE is proposing to reset and replace stones along the approximately 2,400-foot-long San Luis Breakwater to restore damage caused by the 2003 San Simeon Earthquake and heavy wave action due to storms. Most of the repair work will be focused on the most heavily damaged 600 feet of the breakwater, between Stations 6+00 and 12+00. The COE also proposes to raise the breakwater crest elevation by 13-16 feet. Minor excavation of accumulated sediment may be necessary to allow for access by barges and equipment.

The COE has defined the APE as the footprint of the 2,400-foot-long breakwater, a 400-foot-wide buffer along the harbor-side of the breakwater where minor dredging may be required, and a temporary staging area located within an existing paved parking area near the shore. The COE has requested comments on their APE at this time. The APE appears to be appropriately defined pursuant to 36 CFR 800.4(a)(1).

The COE has stated that they will continue consultation on the historic property identification efforts, eligibility determinations, and finding of effect for this undertaking under a separate letter. I look forward to continuing consultation with the COE for this undertaking under 36 CFR Part 800. For more information or if you have any questions, please contact Koren Tippett at XXXXXXXX or XXXXXXXX.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
915 WILSHIRE BOULEVARD, SUITE 930
LOS ANGELES, CALIFORNIA 90017

January 27, 2018

Planning Division

Ms. Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
XXXXXXXX

SUBJECT: Section 106 of the National Historic Preservation Act consultation for the Port San Luis Breakwater Repair

Dear Ms. Polanco:

The U.S. Army Corps of Engineers, Los Angeles District (Corps) proposes to repair the Port San Luis Breakwater. We are consulting with you in accordance with Title 36 Code of Federal Regulation Part 800 (36 C.F.R. 800), implementing Section 106 of the National Historic Preservation Act. We are consulting on the adequacy of our identification effort. We are also seeking your review and agreement on our finding that the Port San Luis Breakwater is not eligible for the National Register of Historic Places (NRHP) and that no historic properties would be affected by the proposed undertaking.

Description of the Undertaking

The purpose of the project is to restore the breakwater from damage caused by the December 2003 San Simeon Earthquake and by heavy wave action resulting from storms. In its current condition, the potential exists for damage to vessels and facilities in the mooring area and harbor.

The Corps proposes to repair the breakwater by resetting and replacing stones along the approximately 2,400 foot long breakwater, but work would focus on the most heavily damaged 600 feet of the structure located between Stations 6+00 and 12+00. The footprint of the breakwater would not be changed, but the crest elevation would be raised from 13' to 16' in order to provide additional protection against sea level rise and to meet current design criteria. There have been six previous Operations and Maintenance (O&M) repairs to the Port San Luis breakwater structure, most recently in 1992 and 2005, which together have resulted in some alteration to the entire length of the breakwater. The proposed O&M breakwater repair project would be similar to past O&M breakwater repair projects.

It is estimated that 7,000 tons of existing stone would need to be reset and 11,000 tons of new stone would be placed to restore the breakwater to its original design. 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 on land using dump trucks or other heavy equipment vehicles. Terrestrial (on shore) staging/storage areas near the harbor for the proposed O&M repair project would be utilized for construction equipment and supplies. A temporary staging area would be delineated within the paved parking lot near the harbor office.

Minor excavation of accumulated sand/sediment (approximately 15,000 CY) may be necessary to allow adequate depths for barges and other boats to access the harbor side of the breakwater. The excavated material would be side cast (lifted and deposited to the side) adjacent to the area where it was removed from the sandy bottom. Most of the excavated material would settle in the immediate area, which is a dynamic and rapidly moving soft bottom. The area of sediment removal has been previously dredged for the construction of the breakwater and prior repairs, so any sediment needing to be moved would be recently accumulated. No maintenance dredging would be performed in the harbor as part of this project.

Area of Potential Effect

The Corps' project area ("area of potential effects"), is defined as the footprint of the existing approximately 2,400-foot long breakwater, plus a 400' wide buffer along the harbor side of the breakwater where minor dredging may be required to create enough depth for barges to be brought in. There will also be a temporary staging area located within the existing paved parking areas near the shore. The staging area would be within the paved parking lot near the harbor office and may include two spaces in front of the Harbor Office and approximately seven spaces in Area 3 of the public parking lot. No disturbance of the existing asphalt in the proposed staging areas will be necessary. Your office indicated that the APE is appropriately defined in a letter dated January 9, 2018 (COE_2017_1221_001).

Identification of Historic Properties

Far Western Anthropological Research Group, Inc. (Far Western) recently completed a records search of the project area and requested a Sacred Lands File Search from the Native American Heritage Commission (NAHC). No cultural resources were identified within the APE. The area along the breakwater that may require excavation to allow barge access comprises recently accumulated sediment, so no underwater inventory was conducted in this area. Far Western also concluded that there is a low sensitivity for submerged shipwrecks or archaeological sites in the project area based on their research. The staging area would be located in an existing paved parking lot, which is built on imported fill, so no pedestrian survey was performed.

Far Western subcontracted with JRP Historical Consulting, LLC (JRP) to record and evaluate the breakwater as a historic structure. The cultural resources report is attached (Enclosure). JRP concluded that the Port San Luis Breakwater generally retains its physical integrity but does not meet the significance criteria for listing in the NRHP. The Corps accepts JRP's recommendation and is determining the Port San Luis Breakwater to be ineligible to the NRHP.

The tribal contacts provided by the NAHC were invited to consult in a letter dated December 4, 2017. Unresponsive tribes were contacted on December 29, 2017 as a courtesy reminder. Most tribes either responded that the project was outside of their traditional use area or deferred to local tribes. Mona Olivas Tucker, Chair of the yak tityu tityu yak tilhini - Northern Chumash Tribe of San Luis Obispo County and Region, noted that some of the original stone came from the quarry in Morro Bay. She requested that the stones be treated with care to avoid breakage and that none be removed from the breakwater. Fred Collins, Chair of the Northern Chumash Tribal Council, requested that the work be completed respectfully. It is in the Corps' best interest to preserve all of the existing stone in good condition for use onsite. The Corps would reuse all the displaced stone, and no material would be removed or disposed.

Finding

The Corps concludes that the Port San Luis Breakwater is not eligible for the NRHP. No other cultural resources are known to exist within the APE. The APE has been previously disturbed by the construction and maintenance of the breakwater. Thus, no historic properties would be affected by the proposed project. At this time, the Corps is requesting your review of the inventory. We are also requesting your concurrence with our determination that the Port San Luis Breakwater in not eligible for the NRHP and that no historic properties would be affected by the proposed project. We appreciate your consideration of our request. If you have specific questions or if we can provide any clarification about this request, please contact Travis Bone at XXXXXXXX or via e-mail at XXXXXXXX.

Sincerely,

Eduardo T. De Mesa
Chief, Planning Division

Enclosure

State of California • Natural Resources Agency Edmund G. Brown Jr., *Governor*

DEPARTMENT OF PARKS AND RECREATION Lisa Ann L. Mangat, *Director*
OFFICE OF HISTORIC PRESERVATION

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

February 20, 2018

In reply refer to: COE_2017_1221_001

Mr. Eduardo T. De Mesa
Chief, Planning Division
U.S. Army Corps of Engineers
Los Angeles District
XXXXXXXX

Subject: Section 106 Consultation for the Port San Luis Breakwater Repair Project, San Luis Obispo County, California

Dear Mr. De Mesa:

The State Historic Preservation Officer (SHPO) received your letter on February 02, 2018 continuing consultation on the San Luis Breakwater Repair Project in order to comply with Section 106 of the National Historic Preservation Act of 1966 (as amended) and its implementing regulations at 36 CFR Part 800. The U.S. Army Corps of Engineers (COE) is requesting comments on the adequacy of their historic property identification efforts, eligibility determinations, and finding of effect for the undertaking.

The COE is proposing to reset and replace stones along the approximately 2,400-foot-long San Luis Breakwater located in San Luis Obispo Bay near the City of Pismo Beach, San Luis Obispo County, California. The project will be implemented to restore damage caused by the 2003 San Simeon Earthquake and heavy wave action due to storms. Approximately 7,000 tons of existing stone would be reset and 11,000 of new stone would be placed to restore the breakwater to its original design. Most of the repair work will be focused on the most heavily damaged 600 feet of the breakwater, between Stations 6+00 and 12+00. The COE also proposes to raise the breakwater crest elevation from 13 to 16 feet. Minor excavation of accumulated sediment may be necessary to allow for access by barges and equipment.

The COE has defined the Area of Potential Effects (APE) as the footprint of the 2,400-foot-long breakwater, a 400-foot-wide buffer along the harbor-side of the breakwater where minor dredging may be required, and a temporary staging area located within an existing paved parking area near the shore. I previously commented that the APE appears to be adequately defined in a letter dated January 09, 2018.

Far Western Anthropological Research Group, Inc. (Far Western) conducted a records search at the Central Coast Information Center which identified five previously recorded archaeological sites located along Point San Luis adjacent to the project area, but outside of the APE. No previously recorded built environment resources were identified in the APE, and there are no know submerged shipwrecks in the APE. JRP Historical Consulting, LLC (JRP) recorded and evaluated the Port San Luis Breakwater as a historic built environment resource. Based on JRP's recommendation, the COE has determined that the Port San Luis Breakwater is not eligible for listing on the National Register of Historic Places (NRHP).

Far Western requested a Sacred Lands File search of the project area from Native American Heritage Commission (NAHC), which was negative. The COE sent letters to the Native American contacts provided by the NAHC on December 04, 2017 and those who did not respond were contacted again on December 29, 2017. The Northern Chumash Tribal Council requested that the work be completed respectfully. The Chair of the yak tityu tityu yak tilhini – Northern Chumash Tribe of San Luis Obispo County and Region commented that some of the original stone came from the quarry in Morro Bay and requested that they be treated with care to avoid breakage and that none be removed from the breakwater. The COE has stated that no material will be removed and all existing stone in good condition will be reused on-site.

The COE has concluded that the Port San Luis Breakwater is not eligible for listing on the NRHP and therefore no historic properties will be affected by the proposed undertaking. After reviewing the submitted materials, the following comments are provided:

- Pursuant to 36 CFR 800.4(c)(2), the COE has determined that the Port San Luis Breakwater is not eligible for the NRHP. **I concur.**

- Pursuant to 36 CFR 800.4(b), the historic property identification efforts carried out for this undertaking appear to be adequate.

- Pursuant to 36 CFR 800.4(d)(1), **I do not object** to a finding of *no historic properties affected* for this undertaking.

Be advised that under certain circumstances, such as unanticipated discovery or a change in project description, the COE may have additional future responsibilities for this undertaking under 36 CFR Part 800. For more information or if you have any questions, please contact Koren Tippett, Archaeologist, at XXXXXXXX or XXXXXXXX or Kathleen Forrest, Historian, at XXXXXXXX or XXXXXXXX.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT
915 WILSHIRE BOULEVARD, SUITE 930
LOS ANGELES, CALIFORNIA 90017-3489

March 3, 2021

Ms. Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
XXXXXXXX

Dear Ms. Polanco:

The U.S. Army Corps of Engineers, Los Angeles District (Corps) previously consulted with your office and tribes regarding planned repairs to the Port of San Luis Obispo breakwater. On February 20, 2018 your office agreed that proposed actions to replace and reset storm damaged stonework, to include minor excavation of previously dredged areas of accumulated sediment would not affect historic properties. When repair efforts within the existing Area of Potential Effects (APE) were subsequently expanded, your office also agreed in an informal consultation on December 18/19, 2019 that no historic properties would be affected by the additional work.

The project has since been expanded again to include mitigation of valuable eelgrass that would be lost as a result of excavation along the breakwater necessary to provide safe access for work. In conformance with federal and California state laws protecting *Pacific eelgrass*, the Corps has identified viable sites within San Luis Obispo Bay to replant and reestablish eelgrass. Because these areas were previously included in the consultation, we are hereby re-consulting with your office to meet obligations under Section 106 of the National Historic Preservation Act (NHPA), 36 CFR 800, as amended. The original APE as well as the expanded APE are depicted in the enclosure.

Prior to excavation along the breakwater, eelgrass rhizomes will be harvested from the identified excavation template for replanting in the identified suitable sites by SCUBA divers (enclosure). To create an additional mitigation area, excavated material will be deposited along the boundary of the eelgrass bed to create a shallow environment of recently accumulated sediment and dropped from a barge into this engineered eelgrass mitigation site. Lastly, if needed the excavated template and engineered site will receive supplemental replanting by SCUBA divers.

Repairs to the breakwater between 1935 and 1992 involved the addition of stone and selective pouring of concrete on the crest to stabilize breached areas. As noted in our February 2018 consultation, in 1992 to ensure safe access for repair work, the Corps excavated sediments where depths had become too shallow. For the current

project, excavation will be made to create a consistent depth of -12 to -14 ft MLLW, removing deposits in previously excavated areas.

Because the highly active nature of San Luis Obispo Bay and heavy waves around the breakwater have created a pattern of extreme deposition and shoaling, excavation would not reach intact seafloor. Eelgrass mitigation would overlay recently established sediments and would not disturb original seafloor. We have therefore concluded the undertaking poses no potential to affect historic properties.

Finally, no staging areas will be designated for the project; parking for work crews will be provided in the existing harbor parking lot.

At this time the Corps is requesting your review and agreement with our finding that the undertaking would result in no historic properties affected. The Corps has also notified the following tribes about the eelgrass mitigation proposal and will forward any comments or concerns received: Barbareno-Ventureno Band of Mission Indians; Coast Band of the Chumash Nation; Northern Chumash Tribal Council; Salinan Tribe Monterey; Santa Ynez Band of Chumash; Xolon-Salinan Tribe; and the Yak tityu tityu-Northern Chumash.

If you have any questions, please contact Ms. Lauren McCroskey, at XXXXXXXX or via email at XXXXXXXX.

Sincerely,

Eduardo T. De Mesa
Chief, Planning Division

Enclosure(s)

ATTACHMENT A – Port of San Luis Obispo Eelgrass Mitigation

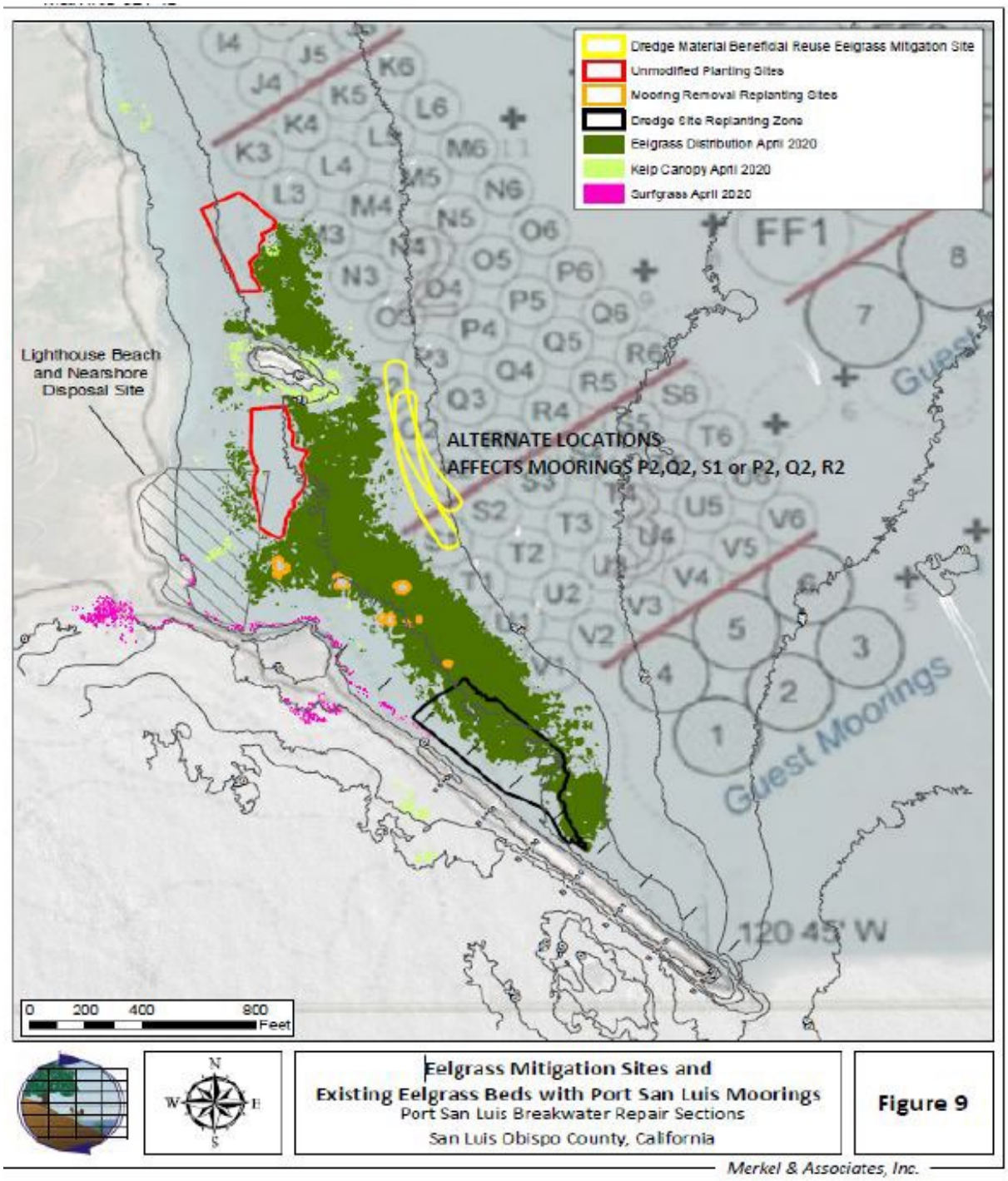


Figure 1. The expanded APE for the eel grass mitigation sites consists of the following: 1) The black outline represents the area proposed for excavation and harvesting of eelgrass for replanting. In addition, at the end of construction this area will be replanted with eelgrass as well. 2) The two red polygons and smaller orange nodes indicate areas proposed for eelgrass replanting; 3) The narrow yellow oblong indicates the area where excavated materials will be deposited to encourage a shallow environment for future eelgrass propagation and supplemental replanting if needed. *(U.S. Army Corps of Engineers, Los Angeles District).*

Figure 2. Parking for work crews will be provided in the existing harbor parking areas shown above.

State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Armando Quintero, *Director*

Julianne Polanco, State Historic Preservation Officer
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March 25, 2021

In reply refer to: COE_2017_1221_001

Mr. Eduardo De Mesa
Chief, Planning Division
U.S. Army Corps of Engineers
Los Angeles District
XXXXXXXX

Via Email

RE: Section 106 Consultation—Port of San Luis Breakwater Repair Project

Dear Mr. De Mesa,

The State Historic Preservation Officer (SHPO) is in receipt of your consultation letter dated March 3, 2021 regarding the above referenced project. The United States Army Corps of Engineers (COE) consults pursuant to Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. § 300101), as amended, and its implementing regulation found at 36 CFR § 800. The COE is consulting on a revision to the above referenced project that the SHPO consulted on previously via letters dated January 9, 2018 and February 20, 2018. The SHPO did not object to a finding of no historic properties affected in those letters.

The project that the COE proposes would reset and replace stones along the approximately 2,400-foot-long San Luis Breakwater located in San Luis Obispo Bay near the City of Pismo Beach, San Luis Obispo County, California. The project has since been revised to include eelgrass mitigation. To create the re-planting areas of eelgrass that would be disturbed, excavated project materials would be redeposited on recently established sediments and would not disturb original seafloor. No additional staging areas are necessary as the additional mitigation work will be conducted from a barge. No comments or concerns were received during consultation with Native American Tribes.

The COE provided a revised Area of Potential Effects (APE) map in Attachment A. No historic properties have been identified within the APE following a review of records at the Central Coast Information Center

The COE determines that no historic properties will be affected because of this undertaking and included the following document in support of its finding

Following review of your submittal, I offer the following comments:

- Pursuant to 36 CFR § 800.4(a)(1), **I do not object** to the APE as defined;
- Pursuant to 36 CFR § 800.4(b)(1), I find the efforts to identify historic properties within the APE to be reasonable and in good faith;
- Pursuant to 36 CFR § 800.4(d)(1), **I do not object** to a finding of no historic properties affected;

If you have any questions or concerns, please contact Associate State Archaeologist Brendon Greenaway at XXXXXXXX.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

yak titᵛu titᵛu yak tiłhini – Northern Chumash Tribe
San Luis Obispo County and Region
660 Camino Del Rey, Arroyo Grande, CA 93420

May 9, 2022

Colonel Julie A. Balten
Commander and District Engineer
U.S. Army Corps of Engineers
Los Angeles District
XXXXXXXX
XXXXXXXX

Dear Colonel Balten:

I'm writing on behalf of our Tribal Council and the members of our tribe, yak titᵛu titᵛu yak tiłhini – Northern Chumash Tribe San Luis Obispo County and Region. Lisamu' also known as Morro Rock located in Morro Bay, California is a sacred site for our Tribe. It is appalling that the decision was made several years ago to dynamite this sacred place, so that the shattered rock could be used in various construction projects. One of the major projects in which this rock was used includes the break water at Port San Luis in Avila Beach, CA. We always acknowledge Lisamu' in any conversation regarding this breakwater. We always apologize to Lisamu' for the damage she had to endure.

But the story of Lisamu' and what was violently removed from her isn't over. It's now been a few years since the U.S. Army Corps of Engineers first consulted with our Tribe regarding repair of the Port San Luis breakwater. We, of course, immediately mentioned that part of the breakwater was made from rock from Lisamu'. We also said this rock could not be hauled off and disposed of as if insignificant. In the ensuing years we thought the rock would be safe, then we were told that it would have to be disposed of, and to us, it would be lost forever. This is unacceptable and an affront to our Tribe

However, there appears to be a way for the rock from Lisamu' to be returned to the Morro Bay area. To us this the same as parts of Lisamu's finally coming home. Full dignity can't ever be restored to Lisamu' but the Army Corps of Engineers is now in a position to undo some of the damage and to help correct a terrible event that broke the hearts of Tribal people. We call upon you to not repeat history and instead help Lisamu' and us by returning what taken from her. The relocation of this rock to near Lisamu' and the naming will be a contemporary story in our Tribal culture that will live on in our history forever. Please help this story be respectful and joyous.

Thank you for your time and consideration,

DocuSigned by:
Mona Tucker
1957BF871D6344D...

Mona Olivas Tucker, Chair
yak titᵛu titᵛu yak tiłhini – Northern Chumash Tribe
San Luis Obispo County and Region

APPENDIX E

Air Quality Calculations

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Part 1 of 2- Calculated Data from July 2021 Final Environmental Assessment

Proposed Project Port San Luis Harbor Sea Vessel Rock Delivery (from Catalina Island in Los Angeles County to Port San Luis Harbor in San Luis Obispo County) Air Emission Calculations

(1) Equipment: 1 rock barge, tug boats, crew boat, a crane-equipped barge, a small craft support vessel, a crew boat vessel, a work boat, a survey boat.

(2) Approximate production rate: Approximately 60,000 tons of new stone is required to perform operations and maintenance (O&M) repair on the breakwater. Individual stone size range is anticipated to be from 5 to 20 tons.

(3) A rock barge capacity is approximately 2,000 to 4,000 tons per barge

4) A workday is approximately 11 hours a day (daylight hours); 6 days a week. Rock barge transport by sea is expected to be completed in approximately 60 days, approximately 11 hours a day workday, 6 days a week.

(5) Approximate distance from Pebbly Beach quarry (Catalina Island) to Port San Luis Harbor by sea; approximately 400 miles one way (800 miles round trip).

(6) 10 to 12 laborers for crew/construction work

(7) Proposed Project area (breakwater) is located in Port San Luis Harbor, San Luis Obispo County

Part 2 of 2- Calculated Data for Draft Supplemental Environmental Assessment

Proposed Project Air Emission Calculations: Transport of Excess Stone from Port San Luis Harbor to Morro Rock using Sea Vessel Rock Delivery

(1) Equipment: 1 rock barge, tug boats, a track loader, a crane-equipped barge, a small craft support vessel.

(2) Approximate rate: Up to Approximately 10,000 tons of existing stone is required to be moved from the PSL breakwater. Individual stone size range is anticipated to not exceed 5 tons.

(3) A rock barge with the max capacity is approximately 1,000 tons per barge

(4) A workday is approximately 11 hours a day (daylight hours); 6 days a week. Rock barge transport by sea is expected to be completed in approximately 2 days per barge load, rock placement is up to 3 days. A toal of 5 days per load. (50 possbile work days)approximately 11 hours a day workday, up to 10 times in a season (1,000 tons per load & up to 10,000 tons = 10 trips=2 days per trip= 20 trips).

(5) Approximate distance from Port San Luis Harbor to Morro Rock by sea; approximately 20 miles one way (40 miles round trip).

(6) 10 to 12 laborers for crew/construction work

(7) Proposed Project area, San Luis Obispo County

Table NAAQS Attainment Status

Air Basin	**MDAB[1]**	**SCAB[2]**	**SCCAB [3]**	**SCCAB [4]**	**SCCAB [5]**
Air District	**MDAQMD[1]**	**SCAQMD[2]**	**VCAPCD [3]**	**SBCAPCD [4]**	**SLOAPCD [5]**
Pollutant					
Ozone (O3) [7]	Non-attainment (Severe [6])	Non-attainment (Extreme [6])	Non-Attainment (Serious [6])	Unclassifiable/Attainment	Attainment [6] (Western portion of San Luis Obispo County); Non-Attainment [6] [(Eastern portion of San Luis Obispo County) - Marginal)]
Carbon Monoxide (CO)	Unclassified/Attainment	Attainment (Maintenance)	Attainment	Attainment	Unclassified
Nitrogen Dioxide (NO2)	Unclassified/Attainment	Attainment (Maintenance)	Attainment	Unclassifiable/Attainment	Unclassified
Particulate Matter (PM10)	Non-attainment (Moderate[6])	Attainment (Maintenance)	Attainment	Attainment	Unclassified/Attainment
Particulate Matter (PM2.5)	Unclassified/Attainment	Non-attainment (Serious [6])	Attainment	Unclassifiable/Attainment	Unclassifiable/Attainment
Sulfur Dioxide (SO2)	Unclassified/Attainment	Unclassifiable/Attainment	Attainment	Unclassifiable/Attainment	Unclassified
Lead (Pb)	Unclassified/Attainment	Non-attainment (Serious [6])	Attainment	Attainment	Attainment

Source: [1] https://www.mdaqmd.ca.gov/home/showpublisheddocument?id=1267, Accessed January 28, 2021

[2] https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=2 , accessed January 28, 2021, February 2-3, 2021

[3] http://www.vcapcd.org/air_quality_standards.htm , Accessed January 28, 2021

[4] https://www.ourair.org/air-quality-standards/#data-table, Accessed January 28, 2021

[5] https://storage.googleapis.com/slocleanair-org/images/cms/upload/files/AttainmentStatus29January2019.pdf (O3 Attainment, Western portion of San Luis Obispo County; O3 Non-Attainment-Marginal, Eastern portion of San Luis Obispo County), accessed 1/28/2021

[6] https://www3.epa.gov/airquality/greenbook/ancl2.html; https://www3.epa.gov/airquality/greenbook/ancl3.html, accessed January 28, 2021, February 2-3, 2021

[7] Ozone O3 [precursors: Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx)]. Reactive Organic Gases (ROG) is interchangeable with VOC, and Reactive Organic Compounds (ROCs). The relation between O3, NOx and VOC is driven by complex nonlinear photochemistry. Furthermore, the chemical reaction leading to the formation of O3 is reversible. Moreover, CARB on-road and off-road do not provide estimates for the compound. Additionally, due to the variability in rates of ozone formation, EMFAC2007 does not provide estimates for ozone. Instead, the emission associated with ozone precursors (VOCs and NOx) are calculated and used as a surrogate for reporting O3 emissions per the General Conformity Applicability Rates. Since the consumption of VOC in O3 formation reaction is variable and reversible, actual O3 levels are lower than those estimated. NAAQS Ozone (O3) is for 8-hour. There is no NAAQS 1-hour for Ozone (O3).

Table Applicable General Conformity Rates (Tons/Year)[1]

Air Basin	MDAB	SCAB	SCCAB	SCCAB	SCCAB
Air District	**MDAQMD**	**SCAQMD**	**VCAPCD**	**SBCAPCD**	**SLOAPCD**
Pollutant					
Ozone (O3)[3]	25	10	50	100	100 [2]
Volatile Organic Compound (VOC)[3]	25	10	50	100	100
Nitrogen Oxide (NOx) [3]	25	10	50	100	100
Carbon Monoxide (CO)	100	100	100	100	100
Nitrogen Dioxide (NO2)	100	100	100	100	100
Particulate Matter (PM10)	100	100	100	100	100
Particulate Matter (PM2.5)	100	70	100	100	100
Sulfur Dioxide (SO2)	100	100	100	100	100
Lead (Pb)	25	25	25	25	25

Source: [1] 40 CFR 93.153(b)(1) and 40 CFR 93.153(b)(2); https://www.epa.gov/general-conformity/de-minimis-tables, accessed February 2 - 3, 2021

[2] Port San Luis Harbor is located in Western San Luis Obispo County that is in attainment for Ozone (O3); https://storage.googleapis.com/slocleanair-org/images/cms/upload/files/AttainmentStatus29January2019.pdf (O3 Non-Attainment-Marginal, Eastern portion of San Luis Obispo County; O3 Attainment, Western portion of San Luis Obispo County, accessed 1/28/2021)

[3] Ozone O3 [precursors: Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx)]. Reactive Organic Gases (ROG) is interchangeable with VOC, and Reactive Organic Compounds (ROCs). The relation between O3, NOx and VOC is driven by complex nonlinear photochemistry. Furthermore, the chemical reaction leading to the formation of O3 is reversible. Moreover, CARB on-road and off-road do not provide estimates for the compound. Additionally, due to the variability in rates of ozone formation, EMFAC2007 does not provide estimates for ozone. Instead, the emission associated with ozone precursors (VOCs and NOx) are calculated and used as a surrogate for reporting O3 emissions per the General Conformity Applicability Rates. Since the consumption of VOC in O3 formation reaction is variable and reversible, actual O3 levels are lower than those estimated. NAAQS Ozone (O3) is for 8-hour. There is no NAAQS 1-hour for Ozone (O3).

Table Rock Delivery Scenario: Sea Vessels Rock Delivery Transport Air Emissions from Catalina Island (Pebbly Beach Quarry) located in Los Angeles County to Port San Luis Harbor located in San Luis Obispo County

SCAB SCAQMD Air Emission Estimates (Tons/year): Los Angeles County Sea Vessels Rock Transport Air Emissions

Work Activity Emissions (Tons/Year)	**VOC [1]**	**CO**	**NO2**	**PM10**	**PM2.5**	**SO2**	**Pb [2]**	**GHG [3]**	**GHG [4] MT/Year CO2eq.**
Sea Based Rock Delivery	0.039	0.2459	1.2089	0.036	0.033	0.087	Not Calculated (n.c.)	75.4199	68.471
Total	0.039	0.2459	1.2089	0.036	0.033	0.087	Not Calculated (n.c.)	75.4199	68.471
General Conformity Applicable Rates	10	100	100	100	70	100	25	[3]	[3]

SCCAB VCAPCD Air Emissions Estimates (Tons/year): Ventura County Sea Vessels Rock Delivery Transport Air Emissions

Work Activity Emissions (Tons/Year)	VOC [1]	CO	NO2	PM10	PM2.5	SO2	Pb [2]	GHG [3]	GHG [4] MT/Year CO2eq.
Sea Based Rock Delivery	0.04212	0.26568	1.30572	0.03888	0.03564	0.09396	Not Calculated (n.c.)	81.4536	74.196
Total	0.04212	0.26568	1.30572	0.03888	0.03564	0.09396	Not Calculated (n.c.)	81.4536	74.196
General Conformity Applicable Rates	50	100	100	100	100	100	25	[3]	[3]

SCCAB SBCAPCD Air Emissions Estimates (Tons/year): Santa Barbara County Sea Vessels Rock Delivery Transport Air Emissions

Work Activity Emissions (Tons/Year)	VOC [1]	CO	NO2	PM10	PM2.5	SO2	Pb [2]	GHG [3]	GHG [4] MT/Year CO2eq.
Sea Based Rock Delivery	0.03042	0.19188	0.94302	0.02808	0.02574	0.06786	Not Calculated (n.c.)	58.8276	53.586
Total	0.03042	0.19188	0.94302	0.02808	0.02574	0.06786	Not Calculated (n.c.)	58.8276	53.586
General Conformity Applicable Rates	100	100	100	100	100	100	25	[3]	[3]

Excess Stone Transport and Placement Scenario: Sea Vessels Transport and Placement Air Emissions from Port San Luis Breakwater located in San Luis Obispo County to Morro Rock located in San Luis Obispo County

SCCAB SLOCAPCD Air Emissions Estimates (Tons/year): San Luis Obispo County Sea Vessels Rock Delivery Transport and Placement Air Emissions

Work Activity Emissions (Tons/Year)	**VOC [1]**	**CO**	**NO2**	**PM10**	**PM2.5**	**SO2**	**Pb [2]**	**GHG [3]**	**GHG [4] MT/Year CO2eq.**
Sea Based Rock Delivery	0.11	0.68	3.06	0.09	0.08	0.22	Not Calculated (n.c.)	202.42	183.63
Total	0.11	0.68	3.06	0.09	0.08	0.22	Not Calculated (n.c.)	202.42	183.63
General Conformity Applicable Rates	100	100	100	100	100	100	25	[3]	[3]

Note(s): [1] Ozone O3 [precursors: Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx)]. Reactive Organic Gases (ROG) is interchangeable with VOC, and Reactive Organic Compounds (ROCs). Ozone (O3) formation is driven by two major classes of directly emitted precursors: nitrogen oxides (NOx) and VOC. The relation between O3, NOX , and VOC is driven by complex nonlinear photochemistry. Furthermore, the chemical reaction leading to the formation of O3 is reversible. Moreover, CARB on-road and off-road do not provide estimates for the compound. Instead, the emissions estimates for VOCs is used as a surrogate for reporting O3 emissions per the General Conformity Applicability Rates. Since the consumption of VOC in O3 formation reaction is variable and reversible, actual O3 levels are lower than those estimated. NAAQS Ozone (O3) is for 8-hour. There is no NAAQS 1-hour for Ozone (O3).

[2] Not Calculated (n.c.) - Pb (Lead). Emissions were estimated based on both on road and off-road equipment using EMFAC2007 emission factors. Estimates of lead emissions were not calculated. With the exception of lead, estimate of emissions for all criteria pollutants were calculated. Lead emissions from mobile sources in California have significantly decreased due to the near elimination of lead in fuels. Thus, EMFAC2007, does not provide estimated emission factors for lead. Little or no quantifiable and foreseeable lead emissions would be generated by any of the alternatives.

[3] There are currently no Federal GHG emission thresholds. Therefore, a GHG significance threshold to assess impacts is not proposed. Rather, in compliance with NEPA implementing regulations, the anticipated emissions are disclosed for each alternative without expressing a judgment as to their significance.

[4] GHG emissions Metric Tons (MT)/Year calculator. Source: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator, accessed 3/16/2021, 3/17/2021; GHG Units in Metric Tons/Year CO2 equivalent (MT/Year CO2eq).

Proposed Project Port San Luis Harbor Operations and Maintenance (O&M) Breakwater Rock Repair Construction Work Air Emissions Calculations

Project Data

(1) Equipment: barges, tug boats, a crew boat, a crane equipped barge, a scow, a work boat, a skiff vessel.

(2) Total work days: approximately 174 days, 6 day work week, approximately 11 hours workday (daylight hours); an approximately 7 months project duration (April through October)

(3) Approximate production rate (placement of approximately 60,000 tons of new stone placed on breakwater from rock barge. Approximately 30 to 35 stones can be picked and placed on the breakwater per day using the crane-equipped barge, or roughly three to four stones per hour on average can be placed on the breakwater.

(4) Approximate 29,000 tons of existing rock on breakwater to be reset.

(5) 10 to 12 laborers for crew/construction work

(6) Proposed Project area (breakwater) is located in Port San Luis Harbor, San Luis Obispo County

Engine Data

Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Annual Hp-Hrs	Ref. Notes
Barge (rock/storage)	195	0.20	2	78	11	858	174	149,292	(1)(2)
Tug Boat	800	0.25	2	400	11	4,400	174	765,600	(1) (2)
Crew Boat	400	0.20	1	80	11	880	174	153,120	(1) (2)
Crane equipped barge	180	0.50	1	90	11	990	174	172,260	(2) (2)
Scow	195	0.20	1	39	11	429	174	74,646	(1) (2)
Work Boat	250	0.20	1	50	11	550	174	95,700	(1) (2)
Skiff vessel (Small Craft Support)	250	0.20	1	50	11	550	174	95,700	(1) (2)

Ref. Notes: (1) Horsepower (Hp) and Load Factor data from Port of Los Angeles (POLA) 2009 Channel Deepening Project Air Quality (AQ) Appendix, EIS/EIR

Ref. Notes: (2) Hp from engine data matched to Emission Factors below which are categorized by Hp

Emission Factors

Emission Factors (Gm/Hp-Hr)	ROG	CO	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O	Ref. Notes
Off-Road Equipment - 25-50 Hp	2.06	5.92	5.94	0.18	0.70	0.64	568	0.11	0.01	
Off-Road Equipment - 51-120 Hp	1.11	3.77	7.56	0.18	0.77	0.71	568	0.1	0.01	
Off-Road Equipment - 121-175 Hp	0.71	3.04	6.94	0.18	0.42	0.38	568	0.09	0.01	
Off-Road Equipment - 176-250 Hp	0.46	1.48	6.66	0.18	0.23	0.21	568	0.09	0.01	
Off-Road Equipment - 251-500 Hp	0.37	1.73	5.51	0.18	0.20	0.18	568	0.08	0.01	
Off-Road Equipment - 501-750 Hp	0.46	1.99	6.66	0.18	0.24	0.22	568	0.08	0.01	
Off-Road Equipment >750 Hp	0.47	2.02	6.48	0.18	0.20	0.18	568	0.08	0.01	
Crew /Work/Skiff Boat	0.16	1.27	7.46	0.47	0.30	0.28	481.34	0.07	0.00	
Tugboat	0.20	1.87	8.94	0.81	0.22	0.21	481.34	0.07	0.01	

Annual Emissions (tons/year)

GHG = CO2 + CH4 + N20

Activity/Equipment Type	**ROG [1]**	**CO**	**NOx**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**Pb (Lead) [2]**	**Ref. Notes**
Barge (carrying rock)	0.07	0.22	0.99	0.03	0.03	0.03	84.80	0.01	0.00	Not Calculated (n.c.)	
Tug Boat	0.15	1.43	6.84	0.62	0.17	0.16	368.51	0.05	0.00	n.c.	
Crew Boat	0.02	0.19	1.14	0.07	0.05	0.04	73.70	0.01	0.00	n.c.	
Crane equipped barge	0.08	0.25	1.15	0.03	0.04	0.04	97.84	0.02	0.00	n.c.	
Scow	0.03	0.11	0.50	0.01	0.02	0.02	42.40	0.01	0.00	n.c.	
Work Boat	0.02	0.12	0.71	0.04	0.03	0.03	46.06	0.01	0.00	n.c.	
Skiff vessel	0.02	0.12	0.71	0.04	0.03	0.03	46.06	0.01	0.00	n.c.	
Breakwater Rock Repair Emission(Tons/year)	0.39	2.46	12.05	0.85	0.36	0.34	759.39	0.11	0.01	n.c.	

Breakwater Rock Repair GHG emissions = 694 Metric Tons (MT)/Year CO2 equivalent (CO2 eq). Source: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator, accessed 3/16/2021, 3/17/2021; GHG Units in Metric Tons/Year CO2 equivalent (MT/Year CO2eq).

Total Emissions (tons/year)

GHG = CO2 + CH4 + N20

	ROG [1]	CO	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O	Pb (Lead) [2]
Est. Emissions	0.39	2.46	12.05	0.85	0.36	0.34	759.39	0.11	0.01	n.c.
Applicability Rates	100	100	100	100	100	100	n/a	n/a	n/a	25

Daily Emissions (lbs/day)

GHG = CO2 + CH4 + N20

Activity/Equipment Type	ROG [1]	CO	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O	Pb (Lead) [2]	Ref. Note
Barge (carrying rock)	0.87	2.80	12.60	0.34	0.44	0.40	1074.39	0.17	0.02	n.c.	(3)
Tug Boat	1.94	18.14	86.72	7.86	2.13	2.04	4669.08	0.68	0.05	n.c.	(3)
Crew Boat	0.31	2.46	14.47	0.91	0.58	0.54	933.82	0.14	0.00	n.c.	(3)
Crane Equipped Barge	1.00	3.23	14.54	0.39	0.50	0.46	1239.68	0.20	0.02	n.c.	(3)
Scow	0.44	1.40	6.30	0.17	0.22	0.20	537.20	0.09	0.01	n.c.	(3)
Work Boat (Survey Boat)	0.19	1.54	9.05	0.57	0.36	0.34	583.64	0.08	0.00	n.c.	(3)
Tug Boat	0.24	2.27	10.84	0.98	0.27	0.25	583.64	0.08	0.01	n.c.	(3)
Breakwater Rock Repair Emissions (lbs/day)	5.00	31.84	154.51	11.22	4.50	4.23	9621.44	1.44	0.10	n.c.	(3)
Breakwater Rock Repair Emission(Tons/QTR)	0.18	1.13	5.50	0.40	0.16	0.15	342.28	0.05	0.00	n.c.	

Ref. Notes: (3) grams to lbs conversion 1lb = 453.6 g

Ref. Note: lbs to tons conversion 2204.6 lbs = 1 ton

Proposed Project O&M Breakwater Rock Repair Emissions General Conformity Applicability Rates (Tons/Year)

$GHG^3 = CO2^3 + CH4^3 + N20^3$

Air Basin|Air District|Emissions General Conformity Applicability Rates (Tons/Year)	ROG [1]	CO	NOx	SOx	PM10	PM2.5	CO2 [3]	CH4 [3]	N2O [3]	Pb (Lead)
SCCAB SLOCAPCD General Conformity Thresholds(Tons/Year)	100	100	100	100	100	100	n/a	n/a	n/a	25

Note(s): [1] Ozone (O3) formation is driven by two major classes of directly emitted precursors: nitrogen oxides (NOx) and VOC. The relation between O3, NOX , and VOC is driven by complex nonlinear photochemistry. Furthermore, the chemical reaction leading to the formation of O3 is reversible. Moreover, CARB on-road and off-road do not provide estimates for the compound. Instead, the emissions estimates for VOCs is used as a surrogate for reporting O3 emissions per the General Conformity Applicability Rates. Since the consumption of VOC in O3 formation reaction is variable and reversible, actual O3 levels are lower than those estimated. Volatile Organic Compounds (VOCs), Reactive Organic Gases (ROGs), and Reactive Organic Compounds (ROC) are similar, and are interchangeable. NAAQS Ozone (O3) is for 8-hour. There is no NAAQS 1-hour for Ozone (O3).

[2] Not Calculated (n. c.) - Pb (Lead). Emissions were estimated based on both on road and off-road equipment using EMFAC2007 emission factors. Estimates of lead emissions were not calculated. With the exception of lead, estimate of emissions for all criteria pollutants were calculated. Lead emissions from mobile sources in California have significantly decreased due to the near elimination of lead in fuels. Thus, EMFAC2007, does not provide estimated emission factors for lead. Little or no quantifiable and foreseeable lead emissions would be generated by any of the alternatives.

[3] Not Applicable (n/a) - Greenhouse Gases (GHG). There are currently no Federal GHG emission thresholds. Therefore, a GHG significance threshold to assess impacts is not proposed. Rather, in compliance with NEPA implementing regulations, the anticipated emissions are disclosed for each alternative without expressing a judgment as to their significance.

Proposed Project O&M Breakwater Rock Repair Emissions Comparison to SLOCPACD Thresholds (lbs/day); Tons/QTR; Tons/Year; GHG MT/Year CO2eq

GHG = CO2 + CH4 + N2O

Proposed Project O&M Breakwater Rock Repair	**ROG [1]**	**CO**	**NOx**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**Pb (Lead) [2]**
O&M Breakwater Rock Repair lb/day	5.00	31.84	154.51	11.22	4.5	4.23	9621.44	1.44	0.1	n.c.
O&M Breakwater Rock Repair Tons/QTR	0.18	1.13	5.50	0.40	0.16	0.15	342.28	0.05	0.00	n.c.
O&M Breakwater Rock Repair Tons/Year	0.39	2.46	12.05	0.85	0.36	0.34	759.39	0.11	0.01	
O&M Breakwater Rock Repair GHG MT/Year CO2eq							GHG = 694 MT/yr CO2eq [4]			
SCCAB SLOCAPCD Emission Thresholds	137 L/D[a]		137 L/D[a]		2.5 T/Q[c]	7 L/D[b]	GHG: 10,000 MT/yr CO2eq			

Notes: [a] ROG+ NOx (combined) = 137 lbs per day (L/D); Quarterly Tier 1 = 2.5 tons; Quarterly Tier 2 = 6.3 tons.

[b] Diesel Particulate Matter (DPM) Emissions - 7 lbs/day (L/D); Quarterly Tier 1 = 0.13 tons; Quarterly Tier 2 = 0.32 tons. Assume PM2.5 emission is similar to DPM emission.

[c] Fugitive Particulate Matter (PM10), Dust Emissions Quarterly 1= 2.5 Tons/Quarter (Tons/Qtr) or (T/Q).

Note(s): [1] Ozone (O3) formation is driven by two major classes of directly emitted precursors: nitrogen oxides (NOx) and VOC. The relation between O3, NOX , and VOC is driven by complex nonlinear photochemistry. Furthermore, the chemical reaction leading to the formation of O3 is reversible. Moreover, CARB on-road and off-road do not provide estimates for the compound. Instead, the emissions estimates for VOCs is used as a surrogate for reporting O3 emissions per the General Conformity Applicability Rates. Since the consumption of VOC in O3 formation reaction is variable and reversible, actual O3 levels are lower than those estimated. Volatile Organic Compounds (VOCs), Reactive Organic Gases (ROGs), and Reactive Organic Compounds (ROC) are similar, and are interchangeable. NAAQS Ozone (O3) is for 8-hour. There is no NAAQS 1-hour for Ozone (O3).

[2] Not Calculated (n. c.) - Pb (Lead). Emissions were estimated based on both on road and off-road equipment using EMFAC2007 emission factors. Estimates of lead emissions were not calculated. With the exception of lead, estimate of emissions for all criteria pollutants were calculated. Lead emissions from mobile sources in California have significantly decreased due to the near elimination of lead in fuels. Thus, EMFAC2007, does not provide estimated emission factors for lead. Little or no quantifiable and foreseeable lead emissions would be generated by any of the alternatives.

[3] Not Applicable (n/a) - Greenhouse Gases (GHG). There are currently no Federal GHG emission thresholds. Therefore, a GHG significance threshold to assess impacts is not proposed. Rather, in compliance with NEPA implementing regulations, the anticipated emissions are disclosed for each alternative without expressing a judgment as to their significance.

[4] GHG emissions Metric Tons (MT)/Year calculator. Source: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator, accessed 3/16/2021, 3/17/2021; GHG Units in Metric Tons/Year CO2 equivalent (MT/Year CO2eq).

Proposed Project Excavation Around Breakwater Emission Comparison to SLOCAPCD Daily Threshold (lb/day);Ton/QTR; Tons/Year; MT/Year CO2eq

GHG = CO2 + CH4 + N2O

Proposed Project Excavation	**ROG [1]**	**CO**	**NOx**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**Pb (Lead)[2]**
Excavation lbs/day	8.84	55.90	270.19	19.63	7.81	7.34	16838.05	2.52	0.19	n.c.
Excavation Tons/QTR	0.07	0.46	2.21	0.16	0.06	0.06	137.48	0.02	0.00	n.c.
Excavation Tons/Year	0.07	0.46	2.21	0.16	0.06	0.06	137.48	0.02	0.00	n.c.
Excavation GHG MT/Year CO2eq							GHG = 125 MT/yr CO2eq [4]			
SCCAB SLOCAPCD Emission Thresholds	137 L/D[a]		137 L/D[a]		2.5 T/Q[c]	7 L/D[b]	GHG: 10,000 MT/yr CO2eq			

Notes: [a] ROG+ NOx (combined) = 137 lbs per day (L/D); Quarterly Tier 1 = 2.5 tons; Quarterly Tier 2 = 6.3 tons.

[b] Diesel Particulate Matter (DPM) Emissions - 7 lbs/day (L/D); Quarterly Tier 1 = 0.13 tons; Quarterly Tier 2 = 0.32 tons. Assume PM2.5 emission is similar to DPM emission.

[c] Fugitive Particulate Matter (PM10), Dust Emissions Quarterly 1= 2.5 Tons/Quarter (Tons/Qtr) or (T/Q).

Note(s): [1] Ozone (O3) formation is driven by two major classes of directly emitted precursors: nitrogen oxides (NOx) and VOC. The relation between O3, NOX , and VOC is driven by complex nonlinear photochemistry. Furthermore, the chemical reaction leading to the formation of O3 is reversible. Moreover, CARB on-road and off-road do not provide estimates for the compound. Instead, the emissions estimates for VOCs is used as a surrogate for reporting O3 emissions per the General Conformity Applicability Rates. Since the consumption of VOC in O3 formation reaction is variable and reversible, actual O3 levels are lower than those estimated. Volatile Organic Compounds (VOCs), Reactive Organic Gases (ROGs), and Reactive Organic Compounds (ROC) are similar, and are interchangeable. NAAQS Ozone (O3) is for 8-hour. There is no NAAQS 1-hour for Ozone (O3).

[2] Not Calculated (n. c.) - Pb (Lead). Emissions were estimated based on both on road and off-road equipment using EMFAC2007 emission factors. Estimates of lead emissions were not calculated. With the exception of lead, estimate of emissions for all criteria pollutants

were calculated. Lead emissions from mobile sources in California have significantly decreased due to the near elimination of lead in fuels. Thus, EMFAC2007, does not provide estimated emission factors for lead. Little or no quantifiable and foreseeable lead emissions would be generated by any of the alternatives.

[3] Not Applicable (n/a) - Greenhouse Gases (GHG). There are currently no Federal GHG emission thresholds. Therefore, a GHG significance threshold to assess impacts is not proposed. Rather, in compliance with NEPA implementing regulations, the anticipated emissions are disclosed for each alternative without expressing a judgment as to their significance.

[4] GHG emissions Metric Tons (MT)/Year calculator. Source: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator, accessed 3/16/2021, 3/17/2021; GHG Units in Metric Tons/Year CO2 equivalent (MT/Year CO2eq).

Proposed Project SLO County (SLO) Sea Vessels Rock Delivery Emissions Compared to SLOCAPCD Thresholds (lbs/day); Tons/QTR; Tons/Year ; HG MT/Year CO2eq

GHG = CO2 + CH4 + N2O

County	**ROG**	**CO**	**NOx**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N20**	**GHG**	**Pb(Lead)[2]**	**Units**
SLO Sea Vessels Rock Delivery (lbs/day)	0.67	4.41	21.45	1.59	0.62	0.58	1320.71	0.20	0.01	1320.92	n.c.	lbs/day
SLO Sea Vessels Rock Delivery (Tons/QTR)	0.01859	0.11726	0.57629	0.04147	0.01716	0.01573	35.94455	0.005352	0.000358	35.95026	n.c.	Tons/QTr
SLO Sea Vessels Rock Delivery (Tons/Year)	0.01859	0.11726	0.57629	0.04147	0.01716	0.01573	35.94455	0.005352	0.000358	35.95026	n.c.	Tons/Year
Sea Vessels Rock Delivery GHG (MT/Year CO2eq)	137 L/D[a]									GHG=CO2+CH4+N2O= 32.8 MT/yr CO2eq [4]		MT/Year CO2eq
SLOCAPCD Thresholds	137 L/D[a]		137 L/D[a]		2.5 T/Q[c]	7 lbs/day[b]				GHG=CO2+CH4+N2O= 10,000 MT/yr CO2eq		

Notes: [a] ROG+ NOx (combined) = 137 lbs per day (L/D); Quarterly Tier 1 = 2.5 tons; Quarterly Tier 2 = 6.3 tons.

[b] Diesel Particulate Matter (DPM) Emissions - 7 lbs/day (L/D); Quarterly Tier 1 = 0.13 tons; Quarterly Tier 2 = 0.32 tons. Assume PM2.5

emission is similar to DPM emission.

[c] Fugitive Particulate Matter (PM10), Dust Emissions Quarterly 1= 2.5 Tons/Quarter (Tons/Qtr) or (T/Q).

Note(s): [1] Ozone (O3) formation is driven by two major classes of directly emitted precursors: nitrogen oxides (NOx) and VOC. The relation between O3, NOX , and VOC is driven by complex nonlinear photochemistry. Furthermore, the chemical reaction leading to the formation of O3 is reversible. Moreover, CARB on-road and off-road do not provide estimates for the compound. Instead, the emissions estimates for VOCs is used as a surrogate for reporting O3 emissions per the General Conformity Applicability Rates. Since the consumption of VOC in O3 formation reaction is variable and reversible, actual O3 levels are lower than those estimated. Volatile Organic Compounds (VOCs), Reactive Organic Gases (ROGs), and Reactive Organic Compounds (ROC) are similar, and are interchangeable. NAAQS Ozone (O3) is for 8-hour. There is no NAAQS 1-hour for Ozone (O3).

[2] Not Calculated (n. c.) - Pb (Lead). Emissions were estimated based on both on road and off-road equipment using EMFAC2007 emission factors. Estimates of lead emissions were not calculated. With the exception of lead, estimate of emissions for all criteria pollutants were calculated. Lead emissions from mobile sources in California have significantly decreased due to the near elimination of lead in fuels. Thus, EMFAC2007, does not provide estimated emission factors for lead. Little or no quantifiable and foreseeable lead emissions would be generated by any of the alternatives.

[3] Not Applicable (n/a) - Greenhouse Gases (GHG). There are currently no Federal GHG emission thresholds. Therefore, a GHG significance threshold to assess impacts is not proposed. Rather, in compliance with NEPA implementing regulations, the anticipated emissions are disclosed for each alternative without expressing a judgment as to their significance.

[4] GHG emissions Metric Tons (MT)/Year calculator. Source: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator, accessed 3/16/2021, 3/17/2021; GHG Units in Metric Tons/Year CO2 equivalent (MT/Year CO2eq).

Proposed Project Construction (Excavation Around Breakwater + O&M Breakwater Rock Repair) Emissions + Sea Vessels Rock Delivery Emissions Comparison to SLOCAPCD Thresholds (lbs/day); Tons/QTR; Ton/Year; MT/Year CO2eq

GHG = CO2 + CH4 + N2O

Proposed Work Activity Emissions	**ROG [1]**	**CO**	**NOx**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**Pb (Lead) [2]**
Sea Vessel Rock Delivery Emissions(Lb/Day)	0.67	4.41	21.45	1.59	0.62	0.58	1320.71	0.20	0.01	n.c.
Construction(Excavate+ Breakwater Repair) Lb/Day	13.84	87.74	424.70	30.85	12.31	11.57	26459.49	3.96	0.29	n.c.
Total Construction Emissions (Lb/Day)	14.51	92.15	446.15	32.44	12.93	12.15	27780.20	4.16	0.30	**n.c.**
Sea Vessel Rock Delivery Emission(Ton/QTR))	0.01859	0.11726	0.57629	0.04147	0.01716	0.01573	35.94455	0.00535	0.00036	n.c.
Construction(Excavate+ Breakwater Repair) Tons/QTR	0.25	1.59	7.71	0.56	0.22	0.21	479.76	0.07	0.00	n.c.
Sea Rock Deliver + Construction (Tons/QTR)	0.26646	1.70997	8.28298	0.60062	0.23725	0.22621	515.707	0.07658	0.00392	n.c
Sea Vessel Rock Deliver Emission(Ton/Year)	0.01859	0.11726	0.57629	0.04147	0.01716	0.0173	35.94455	0.00535	0.00036	n.c.
Construction(Excavate+ Breakwater Repair) Tons/Year	0.46	2.92	14.26	1.01	0.42	0.4	896.87	0.13	0.01	n.c.
Sea Rock Deliver + Construction (Tons/Year)	0.47859	3.03726	14.8363	1.051457	0.43716	0.4173	932.8146	0.13535	0.01036	
Sea Vessel Rock Delivery GHG Emissions MT/Year CO2eq							GHG = 32.80 MT/Year CO2eq			
Construction (Excavate+ Breakwater Repair) GHG Emissions MT/Year CO2eq							GHG = 819.00 MT/Year CO2eq			

Sea Vessels Rock Delivery + Construction GHG Emissions MT/Year CO2eq							GHG = 851.80 MT/Year CO2eq			
SCCAB SLOCAPCD Emission Thresholds (lbs)	137 L/D[a]		137 L/D[a]		2.5 T/Q[c]	7 L/D[b]	GHG: 10,000 MT/Year CO2eq			

Notes: [a] ROG+ NOx (combined) = 137 lbs per day (L/D); Quarterly (QTR) Tier 1 = 2.5 tons; Quarterly (QTR) Tier 2 = 6.3 tons.

[b] Diesel Particulate Matter (DPM) Emissions - 7 lbs/day (L/D); Quarterly (QTR) Tier 1 = 0.13 tons; Quarterly Tier 2 = 0.32 tons. Assume PM2.5 emission is similar to DPM emission.

[c] Fugitive Particulate Matter (PM10), Dust Emissions Quarterly 1= 2.5 Ton/QTR (T/Q).

Note(s): [1] Ozone (O3) formation is driven by two major classes of directly emitted precursors: nitrogen oxides (NOx) and VOC. The relation between O3, NOX , and VOC is driven by complex nonlinear photochemistry. Furthermore, the chemical reaction leading to the formation of O3 is reversible. Moreover, CARB on-road and off-road do not provide estimates for the compound. Instead, the emissions estimates for VOCs is used as a surrogate for reporting O3 emissions per the General Conformity Applicability Rates. Since the consumption of VOC in O3 formation reaction is variable and reversible, actual O3 levels are lower than those estimated. Volatile Organic Compounds (VOCs), Reactive Organic Gases (ROGs), and Reactive Organic Compounds (ROC) are similar, and are interchangeable. NAAQS Ozone (O3) is for 8-hour. There is no NAAQS 1-hour for Ozone (O3).

[2] Not Calculated (n. c.) - Pb (Lead). Emissions were estimated based on both on road and off-road equipment using EMFAC2007 emission factors. Estimates of lead emissions were not calculated. With the exception of lead, estimate of emissions for all criteria pollutants were calculated. Lead emissions from mobile sources in California have significantly decreased due to the near elimination of lead in fuels. Thus, EMFAC2007, does not provide estimated emission factors for lead. Little or no quantifiable and foreseeable lead emissions would be generated by any of the alternatives.

[3] Not Applicable (n/a) - Greenhouse Gases (GHG). There are currently no Federal GHG emission thresholds. Therefore, a GHG significance threshold to assess impacts is not proposed. Rather, in compliance with NEPA implementing regulations, the anticipated emissions are disclosed for each alternative without expressing a judgment as to their significance.

Proposed Project Air Emission Calculations: Transport of Excess Stone from Port San Luis Harbor to Morro Rock using Sea Vessel Rock Delivery

(1) Equipment: 1 rock barge, tug boats, a track loader, a crane-equipped barge, a small craft support vessel.

(2) Approximate rate: Up to Approximately 10,000 tons of existing stone is required to be moved from the PSL breakwater. Individual stone size range is anticipated to not exceed 5 tons.

(3) A rock barge with the max capacity is approximately 1,000 tons per barge

(4) A workday is approximately 11 hours a day (daylight hours); 6 days a week. Rock barge transport by sea is expected to be completed in approximately 2 days per barge load, rock placement is up to 3 days. A toal of 5 days per load. (50 possbile work days)approximately 11 hours a day workday, up to 10 times in a season (1,000 tons per load & up to 10,000 tons = 10 trips=2 days per trip= 20 trips).

(5) Approximate distance from Port San Luis Harbor to Morro Rock by sea; approximately 20 miles one way (40 miles round trip).

(6) 10 to 12 laborers for crew/construction work

(7) Proposed Project area, San Luis Obispo County

Engine Data

Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Annual Hp-Hrs	Ref. Notes
Barge (rock/storage)	195	0.20	1	39	11	429	50	21,450	(1)(2)
Tug Boat	800	0.25	2	400	11	4,400	50	220,000	(1) (2)
Track Loader	275	0.50	1	138	11	1,513	50	75,625	(2) (3)
Crane equipped barge	180	0.50	1	90	11	990	50	49,500	(2) (2)
Small Craft Support Vessel	250	0.20	1	50	11	550	50	27,500	(1) (2)

Ref. Notes: (1) Horsepower (Hp) and Load Factor data from Port of Los Angeles (POLA) 2009 Channel Deepening Project AQ Appendix, EIS/EIR

Ref. Notes: (2) Hp from engine data matched to Emission Factors below which are categorized by Hp

Ref. Notes (3): Horsepower (Hp) data from CAT Website https://www.cat.com/en_US/products/new/equipment/track-loaders/track-loaders/1000033102.html

Emission Factors

Emission Factors (Gm/Hp-Hr)		ROG	CO	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O
Off-Road Equipment - 25-50 Hp		2.06	5.92	5.94	0.18	0.70	0.64	568	0.11	0.01
Off-Road Equipment - 51-120 Hp		1.11	3.77	7.56	0.18	0.77	0.71	568	0.1	0.01
Off-Road Equipment - 121-175 Hp		0.71	3.04	6.94	0.18	0.42	0.38	568	0.09	0.01
Off-Road Equipment - 176-250 Hp		0.46	1.48	6.66	0.18	0.23	0.21	568	0.09	0.01
Off-Road Equipment - 251-500 Hp		0.37	1.73	5.51	0.18	0.20	0.18	568	0.08	0.01
Off-Road Equipment - 501-750 Hp		0.46	1.99	6.66	0.18	0.24	0.22	568	0.08	0.01
Off-Road Equipment >750 Hp		0.47	2.02	6.48	0.18	0.20	0.18	568	0.08	0.01
Crew/Small Craft/Work/Survey Boat		0.16	1.27	7.46	0.47	0.30	0.28	481.34	0.07	0.00
Tugboat		0.20	1.87	8.94	0.81	0.22	0.21	481.34	0.07	0.01

Annual Emissions (Tons/year) GHG = CO2 + CH4 + N20

Activity/Equipment Type		ROG [1]	CO	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O	Pb (Lead) [2]
Barge (rock/storage)		0.01	0.03	0.14	0.00	0.00	0.00	12.18	0.00	0.00	Not Calculated (n.c.)
Tug Boat		0.04	0.41	1.97	0.18	0.05	0.05	105.89	0.02	0.00	n.c.
Track Loader		0.03	0.13	0.42	0.01	0.02	0.01	42.96	0.01	0.00	n.c.
Crane equipped barge		0.02	0.07	0.33	0.01	0.01	0.01	28.12	0.00	0.00	n.c.
Small Craft Support Vessel		0.00	0.03	0.21	0.01	0.01	0.01	13.24	0.00	0.00	n.c.
											n.c.

GHG = CO2 + CH4 + N20

Total Emissions (Tons/year)

	ROG [1]	CO	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O	Pb (Lead) [2]
Est. Emissions	0.11	0.68	3.06	0.22	0.09	0.08	202.39	0.03	0.00	n.c.
Applicability Rates	100	100	100	100	100	100	n/a	n/a	n/a	25

Daily Emissions (lbs/day)							GHG = CO2 + CH4 + N20				
Activity/Equipment Type	**ROG** [1]	**CO**	**NOx**	**SOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**Pb (Lead)** [2]	**Ref. Note**
Barge (rock/storage)	0.44	1.40	6.30	0.17	0.22	0.20	537.20	0.09	0.01	n.c.	(3)
Tug Boat	1.94	18.14	86.72	7.86	2.13	2.04	4669.08	0.68	0.05	n.c.	(3)
Track Loader	1.23	5.77	18.37	0.60	0.67	0.60	1893.96	0.27	0.03	n.c.	(3)
Crane Equipped Barge	1.00	3.23	14.54	0.39	0.50	0.46	1239.68	0.20	0.02	n.c.	(3)
Small Craft Support Vessel	0.19	1.54	9.05	0.57	0.36	0.34	583.64	0.08	0.00	n.c.	(3)
Total Daily Emissions (lbs/day)	4.81	30.08	134.97	9.59	3.88	3.63	8923.56	1.31	0.11	n.c.	

Ref. Notes: (3) grams to lbs conversion
1lb = 453.6 g

Engine Data

Equipment Type	Power Rating (Hp)	Load Factor	# Active	Hourly Hp-Hrs	Hours Per Day	Daily Hp-Hrs	Work Days	Annual Hp-Hrs	Ref. Notes
Barge (rock/storage)	195	0.20	1	39	11	429	60	25,740	(1)(2)(3)
Tug Boat	800	0.25	2	400	11	4,400	60	264,000	(1) (2)(3)
Crew Boat	400	0.20	1	80	11	880	60	52,800	(1) (2)(3)
Crane equipped barge	180	0.50	1	90	11	990	60	59,400	(2) (2)(3)
Small Craft Support Vessel	250	0.20	1	50	11	550	60	33,000	(1) (2)(3)
Work Boat	250	0.20	1	50	11	550	60	33,000	(1) (2)(3)
Survey Boat	250	0.20	1	50	11	550	60	33,000	(1) (2)(3)
Barge (rock/storage)	195	0.20	1	39	11	429	50	21,450	(1)(2)
Tug Boat	800	0.25	2	400	11	4,400	50	220,000	(1) (2)
Track Loader	275	0.50	1	138	11	1,513	50	75,625	(2) (3)
Crane equipped barge	180	0.50	1	90	11	990	50	49,500	(2) (2)
Small Craft Support Vessel	250	0.20	1	50	11	550	50	27,500	(1) (2)

Ref. Notes: (1) Horsepower (Hp) and Load Factor data from Port of Los Angeles (POLA) 2009 Channel Deepening Project AQ Appendix, EIS/EIR

Ref. Notes: (2) Hp from engine data matched to Emission Factors below which are categorized by Hp

Ref. Notes: (3) Information pulled from July 2021 PSL FEA

Emission Factors

Emission Factors (Gm/Hp-Hr)		ROG	CO	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O
Off-Road Equipment - 25-50 Hp		2.06	5.92	5.94	0.18	0.70	0.64	568	0.11	0.01
Off-Road Equipment - 51-120 Hp		1.11	3.77	7.56	0.18	0.77	0.71	568	0.1	0.01
Off-Road Equipment - 121-175 Hp		0.71	3.04	6.94	0.18	0.42	0.38	568	0.09	0.01
Off-Road Equipment - 176-250 Hp		0.46	1.48	6.66	0.18	0.23	0.21	568	0.09	0.01
Off-Road Equipment - 251-500 Hp		0.37	1.73	5.51	0.18	0.20	0.18	568	0.08	0.01
Off-Road Equipment - 501-750 Hp		0.46	1.99	6.66	0.18	0.24	0.22	568	0.08	0.01
Off-Road Equipment >750 Hp		0.47	2.02	6.48	0.18	0.20	0.18	568	0.08	0.01
Crew/Small Craft/Work/Survey Boat		0.16	1.27	7.46	0.47	0.30	0.28	481.34	0.07	0.00
Tugboat		0.20	1.87	8.94	0.81	0.22	0.21	481.34	0.07	0.01

Annual Emissions (tons/year)

Activity/Equipment Type	ROG [1]	CO	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O	Pb (Lead) [2]
Barge (rock/storage)*	0.01	0.04	0.17	0.00	0.01	0.01	14.62	0.00	0.00	Not Calculated (n.c.)
Tug Boat*	0.05	0.49	2.36	0.21	0.06	0.06	127.07	0.02	0.00	n.c.
Crew Boat*	0.02	0.09	0.29	0.01	0.01	0.01	29.99	0.00	0.00	n.c.
Crane equipped barge*	0.03	0.09	0.40	0.01	0.01	0.01	33.74	0.01	0.00	n.c.
Small Craft Support Vessel*	0.01	0.04	0.25	0.02	0.01	0.01	15.88	0.00	0.00	n.c.
Work Boat*	0.02	0.05	0.22	0.01	0.01	0.01	18.74	0.00	0.00	n.c.
Survey Boat*	0.02	0.05	0.22	0.01	0.01	0.01	18.74	0.00	0.00	n.c.
Barge (rock/storage)	0.01	0.03	0.14	0.00	0.00	0.00	12.18	0.00	0.00	Not Calculated (n.c.)
Tug Boat	0.04	0.41	1.97	0.18	0.05	0.05	105.89	0.02	0.00	n.c.
Track Loader	0.03	0.11	0.50	0.01	0.02	0.02	42.96	0.01	0.00	n.c.
Crane equipped barge	0.02	0.07	0.33	0.01	0.01	0.01	28.12	0.00	0.00	n.c.
Small Craft Support Vessel	0.00	0.03	0.21	0.01	0.01	0.01	13.24	0.00	0.00	n.c.
Sea Vessels Rock Delivery Emission(Tons/year)	0.26	1.51	7.05	0.48	0.20	0.19	461.18	0.07	0.01	n.c.

Sea Vessel Rock Delivery GHG emissions = 229 Metric Tons (MT)/Year CO2 equivalent (CO2 eq). Source: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator, accessed 3/16/2021, 3/17/2021; GHG Units in Metric Tons/Year CO2 equivalent (MT/Year CO2eq).

* Information pulled from July 2021 PSL FEA

Total Emissions (Tons/Year)

	ROG [1]	CO	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O	Pb (Lead) [2]
Est. Emissions	0.26	1.51	7.05	0.48	0.20	0.19	461.18	0.07	0.01	n.c.
Applicability Rates	100	100	100	100	100	100	n/a	n/a	n/a	25

Proposed Project Sea Vessels Rock Delivery Emissions in San Luis Obispo (SLO) County; Air Basin/APCD Thresholds (Lbs/day), Tons/Quarter (QTR); Tons/Year; MT/year CO2eq

Air Basin|Air District|Emissions Thresholds (lbs/day)		ROG [1]	CO	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O	Pb (Lead)
SCAB SCAQMD Emission Thresholds (lbs/day)		55 lb/day	550 lb/day	55 lb/day	150 lb/day	150 lb/day	55 lb/day	GHG: 10,000 MT/yr CO2eq			3 lbs/day
SCCAB SLOCAPCD Emission Thresholds (lbs)		137 L/D[a]		137 L/D[a]		2.5 T/Q[c]	7 L/D[b]	GHG: 10,000 MT/yr CO2eq			
SLO County Sea Barge Delivery lb/day		4.81	30.08	134.97	9.59	3.88	3.63	GHG = 1320.92			n.c.
SLO Sea Vessel Rock Tons/QTR		0.03	0.17	0.77	0.05	0.02	0.02	50.60	0.01	0.00	n.c.
SLO Sea Vessel Rock Tons/Year		0.11	0.68	3.06	0.22	0.09	0.08	202.39	0.03	0.00	n.c.
SLO Sea Vessels Rock Delivery GHG MT/year CO2eq								GHG = 160.2 MT/year CO2eq [4]			

Notes: [a] ROG+ NOx (combined) = 137 lbs per day (L/D); Quarterly (QTR.) Tier 1 = 2.5 tons; Quarterly Tier 2 = 6.3 tons.

[b] Diesel Particulate Matter (DPM) Emissions - 7 lbs/day (L/D); Quarterly Tier 1 = 0.13 tons; Quarterly Tier 2 = 0.32 tons. Assume PM2.5 emission is similar to DPM emission.

[c] Fugitive Particulate Matter (PM10), Dust Emissions Quarterly 1= 2.5 Tons/QTR. (T/Q).

Note(s): [1] Ozone (O3) formation is driven by two major classes of directly emitted precursors: nitrogen oxides (NOx) and VOC. The relation between O3, NOX , and VOC is driven by complex nonlinear photochemistry. Furthermore, the chemical reaction leading to the formation of O3 is reversible. Moreover, CARB on-road and off-road do not provide estimates for the compound. Instead, the emissions estimates for VOCs is

used as a surrogate for reporting O3 emissions per the General Conformity Applicability Rates. Since the consumption of VOC in O3 formation reaction is variable and reversible, actual O3 levels are lower than those estimated. Volatile Organic Compounds (VOCs), Reactive Organic Gases (ROGs), and Reactive Organic Compounds (ROC) are similar, and are interchangeable. NAAQS Ozone (O3) is for 8-hour. There is no NAAQS 1-hour for Ozone (O3).

[2] Not Calculated (n. c.) - Pb (Lead). Emissions were estimated based on both on road and off-road equipment using EMFAC2007 emission factors. Estimates of lead emissions were not calculated. With the exception of lead, estimate of emissions for all criteria pollutants were calculated. Lead emissions from mobile sources in California have significantly decreased due to the near elimination of lead in fuels. Thus, EMFAC2007, does not provide estimated emission factors for lead. Little or no quantifiable and foreseeable lead emissions would be generated by any of the alternatives.

[3] Not Applicable (n/a) - Greenhouse Gases (GHG). There are currently no Federal GHG emission thresholds. Therefore, a GHG significance threshold to assess impacts is not proposed. Rather, in compliance with NEPA implementing regulations, the anticipated emissions are disclosed for each alternative without expressing a judgment as to their significance.

[4] GHG emissions Metric Tons (MT)/Year calculator. Source: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator, accessed *3/16/2021, 3/17/2021; GHG Units in Metric Tons/Year CO2 equivalent (MT/Year CO2eq).

Proposed Project SLO County (SLOC) Sea Vessels Rock Delivery Emissions Compared to SLOCAPCD Thresholds (lbs/day); Tons/Quarter (QTR); Tons/Year; GHG MT/year CO2eq

County		ROG	CO	NOx	SOx	PM10	PM2.5	CO2	CH4	N20	GHG	Pb(Lead)
SLO Sea Vessels Rock lb/day		4.81	30.08	134.97	9.59	3.88	3.63	8923.56	1.31	0.11	1320.92	n.c.
SLO Sea Vessel Rock Tons/QTR		0.03	0.17	0.77	0.05	0.02	0.02	50.6	0.01	0	50.60464	n.c.
SLO Sea Vessel Rock Tons/Year		0.11	0.68	3.06	0.22	0.09	0.08	202.39	0.03	0	202.4186	n.c.
SLO Sea Vessels Rock Delivery GHG MT/year CO2eq											160.2 MT/year CO2eq	
SLOCAPCD Thresholds		137 L/D[a]		137 L/D[a]		2.5 T/Q[c]	7 lbs/day [b]	GHG = CO2+CH4+N2O = 10,000 MT/Year CO2eq				

Proposed Project: Port San Luis Harbor Sea Vessel Rock Delivery (from Catalina Island in Los Angeles County to Port San Luis Harbor in San Luis Obispo County), Project Construction (Excavation Around Breakwater + O&M Breakwater Rock Repair) in Port San Luis County, and Transport of Excess Stone from Port San Luis Harbor to Morro Rock using Sea Vessel Rock Delivery.

Proposed Project Sea Vessels Rock Delivery Emissions (Tons/year) compared to General Conformity Applicability Rates (Tons/Year)										
Sea Vessels Rock Delivery Emissions (Tons/year)										
Air Basin|Air District|Emissions General Conformity Applicability Rates (Tons/Year)	**ROG [1]**	**CO**	**NOx**	**SOx**	**PM10**	**PM2.5**	**CO2 [3]**	**CH4 [3]**	**N2O [3]**	**Pb (Lead)**
SCAB SCAQMD General Conformity Thresholds (Tons/Year)	10	100	100	100	100	70	n/a	n/a	n/a	25
SCCAB Ventura CO. APCD Gen. Con. Thresholds (Tons/Year)	50	100	100	100	100	100	n/a	n/a	n/a	25
SCCAB Santa Barbara CO. APCD Gen. Con. Thresholds (Tons/Year)	100	100	100	100	100	100	n/a	n/a	n/a	25
SCCAB SLOCAPCD General Conformity Thresholds (Tons/Year)	100	100	100	100	100	100	n/a	n/a	n/a	25

Note(s): [1] Ozone (O3) formation is driven by two major classes of directly emitted precursors: nitrogen oxides (NOx) and VOC. The relation between O3, NOX , and VOC is driven by complex nonlinear photochemistry. Furthermore, the chemical reaction leading to the formation of O3 is reversible. Moreover, CARB on-road and off-road do not provide estimates for the compound. Instead, the emissions estimates for VOCs is used as a surrogate for reporting O3 emissions per the General Conformity Applicability Rates. Since the consumption of VOC in O3 formation reaction is variable and reversible, actual O3 levels are lower than those estimated. Volatile Organic Compounds (VOCs), Reactive Organic Gases (ROGs), and Reactive Organic Compounds (ROC) are similar, and are interchangeable. NAAQS Ozone (O3) is for 8-hour. There is no NAAQS 1-hour for Ozone (O3).

[2] Not Calculated (n. c.) - Pb (Lead). Emissions were estimated based on both on road and off-road equipment using EMFAC2007 emission factors. Estimates of lead emissions were not calculated. With the exception of lead, estimate of emissions for all criteria pollutants were calculated. Lead emissions from mobile sources in California have significantly decreased due to the near elimination of lead in fuels. Thus, EMFAC2007, does not provide estimated emission factors for lead. Little or no quantifiable and foreseeable lead emissions would be generated by any of the alternatives.

[3] Not Applicable (n/a) - Greenhouse Gases (GHG). There are currently no Federal GHG emission thresholds. Therefore, a GHG significance threshold to assess impacts is not proposed. Rather, in compliance with NEPA implementing regulations, the anticipated emissions are disclosed for each alternative without expressing a judgment as to their significance. GHG can be comprised of CO2, CH4, N2O.

APPENDIX F

EJ Screen Report

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Save as PDF

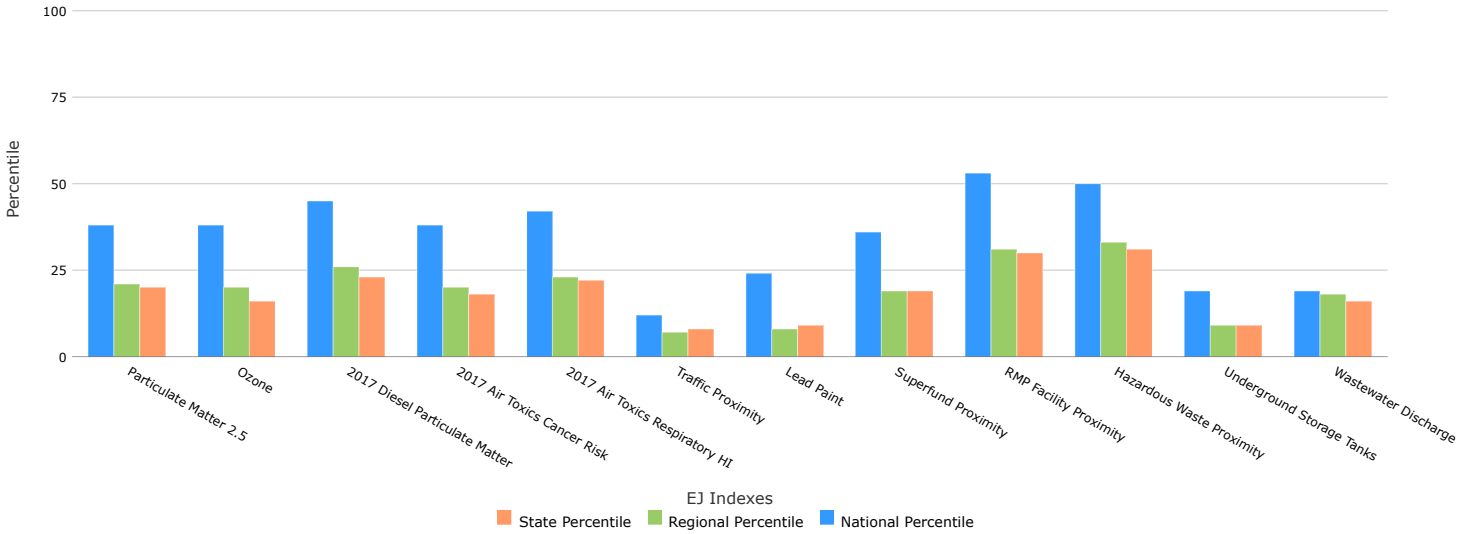
EJScreen Report (Version 2.0)

3 miles Ring Centered at 35.369383,-120.873688
CALIFORNIA, EPA Region 9
Approximate Population: 10,592
Input Area (sq. miles): 28.27

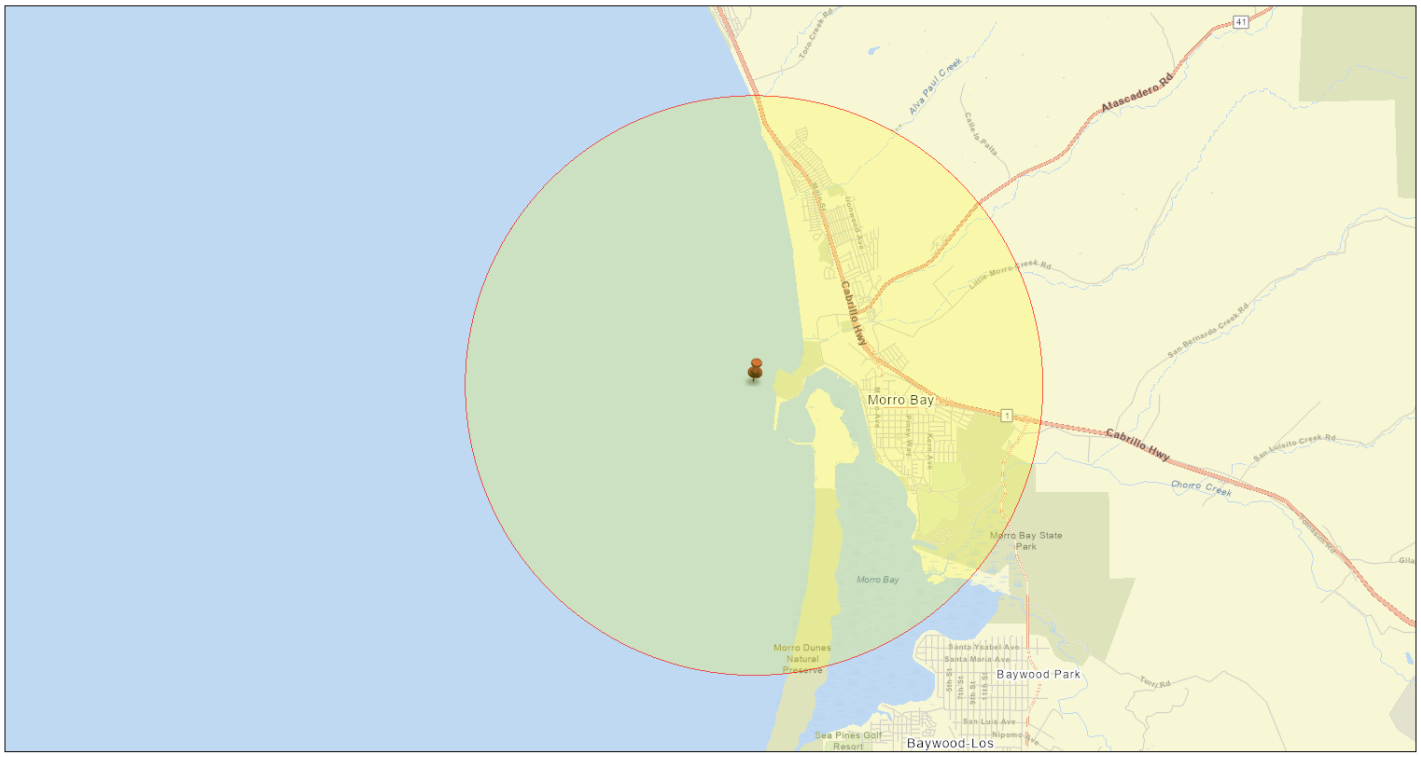
(The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	Percentile in State	Percentile in EPA Region	Percentile in USA
Environmental Justice Indexes			
EJ Index for Particulate Matter 2.5	20	21	38
EJ Index for Ozone	16	20	38
EJ Index for 2017 Diesel Particulate Matter*	23	26	45
EJ Index for 2017 Air Toxics Cancer Risk*	18	20	38
EJ Index for 2017 Air Toxics Respiratory HI*	22	23	42
EJ Index for Traffic Proximity	8	7	12
EJ Index for Lead Paint	9	8	24
EJ Index for Superfund Proximity	19	19	36
EJ Index for RMP Facility Proximity	30	31	53
EJ Index for Hazardous Waste Proximity	31	33	50
EJ Index for Underground Storage Tanks	9	9	19
EJ Index for Wastewater Discharge	16	18	19

EJ Index for the Selected Area Compared to All People's Blockgroups in the State/Region/US



This report shows the values for environmental and demographic indicators and EJScreen indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports.



April 11, 2022

Proposed Placement Area

1:72,224

0 0.75 1.5 3 mi
0 1 2 4 km

California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA

Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

Selected Variables	Value	State		EPA Region		USA	
		Avg.	%tile	Avg.	%tile	Avg.	%tile
Pollution and Sources							
Particulate Matter 2.5 (µg/m³)	6.72	11.7	0	10.8	6	8.74	9
Ozone (ppb)	34.1	48.1	12	49.6	9	42.6	9
2017 Diesel Particulate Matter* (µg/m³)	0.0844	0.33	5	0.33	<50th	0.295	<50th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	20	31	16	30	<50th	29	<50th
2017 Air Toxics Respiratory HI*	0.2	0.43	3	0.41	<50th	0.36	<50th
Traffic Proximity (daily traffic count/distance to road)	500	1300	58	1300	60	710	68
Lead Paint (% Pre-1960 Housing)	0.26	0.29	55	0.23	63	0.28	60
Superfund Proximity (site count/km distance)	0.036	0.18	20	0.15	25	0.13	32
RMP Facility Proximity (facility count/km distance)	0.035	1.1	0	1	2	0.75	2
Hazardous Waste Proximity (facility count/km distance)	0.054	5.2	1	4.4	2	2.2	8
Underground Storage Tanks (count/km²)	1.7	3.7	47	3.3	50	3.9	55
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.0065	74	42	59	42	12	65
Socioeconomic Indicators							
Demographic Index	21%	47%	11	46%	13	36%	34
People of Color	20%	63%	6	60%	8	40%	36
Low Income	23%	31%	43	31%	42	31%	42
Unemployment Rate	7%	6%	68	6%	69	5%	74
Linguistically Isolated	1%	9%	19	8%	23	5%	49
Less Than High School Education	7%	17%	33	16%	35	12%	41
Under Age 5	3%	6%	16	6%	16	6%	17
Over Age 64	31%	14%	95	15%	94	16%	94

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update. (https://www.epa.gov/haps/air-toxics-data-update)

For additional information, see: www.epa.gov/environmentaljustice (https://www.epa.gov/environmentaljustice)

EJScreen is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJScreen outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

APPENDIX G

404(b)(1) Evaluation
Port San Luis Harbor Breakwater Repair Project
Modification Excess Breakwater Stone Relocation

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THE EVALUATION OF THE EFFECTS OF THE DISCHARGE OF DREDGED OR FILL MATERIAL INTO THE WATERS OF THE UNITED STATES IN SUPPORT OF THE SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT FOR THE PORT SAN LUIS HARBOR BREAKWATER REPAIR PROJECT MODIFICATION- EXCESS STONE RELOATION LOCATED IN SAN LUIS OBISPO COUNTY, CALIFORNIA

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 Supplemental Environmental Assessment (SEA), to which the reader should refer for details.

I. Project Description [1.0; 2.0-2.4]

a. Location: The project site is located along the central California Coast, in between Port San Luis and Morro Bay, in San Luis Obispo County. The Proposed Placement Area is approximately 20 miles north of the Port San Luis breakwater, in the nearshore waters approximately 1,500 feet west of Morro Rock, in San Luis Obispo County, California.

b. General Description: The Los Angeles District of the U. S. Army Corps of Engineers, as part of its Operations and Maintenance (O&M) Program, is proposing a modification to the Port San Luis Breakwater repair project. The Corps proposes to relocate up to 10,000 tons of existing Port San Luis (PSL) Breakwater stone that may be displaced by repair activities, to the Proposed Placement Area in the nearshore waters located approximately 1,500 feet west of Morro Rock. The armor stone size required for hydraulic stability while maintaining the breakwater design may result in the displacement of existing breakwater stone. The displaced existing stone from the PSL Breakwater will range in size up to 10 tons. Some of the existing PSL Breakwater stone may be re-used and retained within the structure. The Corps proposes to barge any displaced stone to the Proposed Placement Area located approximately 20 miles to the north. The footprint of stone placement will encompass up to approximately 3 acres of the sandy ocean bottom at a depth ranging from approximately -50 to -65 feet Mean Lower Low Water. The crest height will be variable from 1-13 feet above the sea floor with an allowable upward tolerance of + 5 feet and a maximum crest elevation of approximately -40 feet MLLW so that the structures exhibit a random low to high vertical relief, dependent on anticipated weather conditions and maintaining safety standards. Contiguous connected modules will be added based on the volume of stone relocated with additional modules being added in succession. During placement of displaced stone at the Proposed Placement Area site track loaders would likely be utilized on the barge to place displaced stone into module configurations through a controlled push off method. Quarried armor stones (approximately 5 to 7 feet in diameter) will be required to serve as anchors and remain in

place permanently as part of each module, it is anticipated two armor stones per module will be required.

Relocation and placement of displaced stone would occur concurrent with breakwater repair activities, generally anticipated to extend from April to October 2022. Work windows and timelines are variable due to weather patterns and other factors such as equipment availability, working performance of the equipment, contractual commitments, and availability of funds.

Displaced stone relocation and placement construction activities would be sea-based, conducted by barges carrying stone, tugboats, small craft support vessels, a track loader, and a crane equipped barge. The displaced stone would be moved to the Proposed Placement Area via barge in approximately 1,000 ton increments and placed in sets of modules to maintain cohesion between all stone placed; each trip will take approximately 3-5 days (travel and placement time). In the event of adverse weather, the contractor will relocate the equipment and seek shelter, mooring within the established Port San Luis Harbor District designated anchorage or within Morro Bay Harbor.

c. Basic and Overall Project Purpose: The basic project purpose is navigational safety. The overall project purpose is to support safe commercial and recreational navigation operations in Port San Luis Harbor.

d. General Description of Dredged or Fill Material: Up to 10,000 tons of existing excess PSL Breakwater stone which will range in size up to approximately 10 tons (Approximately 2-5 feet in diameter). Quarried armor stones (approximately 5 to 7 feet in diameter) will also be required.

(1) General Characteristics of Material (grain size, soil type): Stones will range in size up to approximately 10 tons (approximately 2 to 5 feet in diameter) and anchor stones will range in size from 5 to 7 feet in diameter.

(2) Quantity of Material: Up to approximately 10,000 tons of existing stone from the PSL Breakwater may be displaced by repair activities.

(3) Source Material: Existing stone from the PSL Breakwater.

e. Description of the Proposed Discharge Site:

(1) The excess breakwater stone would be placed in the nearshore water, approximately 1,500 feet west of Morro Rock. The characteristic habitat type placement site is open-coast sandy sediment.

(2) Size (acres): The excess breakwater stone would encompass up to approximately 3 acres.

(3) Type of Site (confined, unconfined, open water): Unconfined, open water.

f. Description of Disposal Method: Displaced stone relocation and placement construction activities would be sea-based, conducted by barges carrying stone, tugboats, small craft support vessels, a track loader, and a crane equipped barge. During breakwater repair and construction, a barge with an attached crane will be outfitted with lifting tongs to place the displaced stone onto a storage/rock barge for transport to the Proposed Placement Area. During placement of displaced stone at the Proposed Placement Area, a track loader would be utilized on the storage/rock barge to place the displaced stone into module configurations through a controlled push off method. The displaced stone would be moved approximately 20 miles to the Proposed Placement Area via barge in approximately 1,000 ton increments and placed in sets of modules to maintain cohesion between all stone placed; each trip will take approximately 3-5 days (travel and placement time).

II. Factual Determinations**.**

a. Physical Substrate Determinations:

(1) Substrate Elevation and Slope:

Depth of placement will vary from -50 to -65 feet Mean Low Low Water (MLLW), with height of the structure varying with depth and submodule. Module crests will not be above approximately -40 feet MLLW. The sediment in this area consists of silty sand and some settlement of placed stones is expected, though this should not exceed a maximum of 1/2 the stone size for the bottom layer of each sub module. As the minimum depth of stone placement will be at -50 feet MLLW.

(2) Sediment Type.

The Proposed Placement Area consists of silty sand and the excess stone is mainly igneous rock.

(3) Dredged Material Movement.

Dredged sediment will not be placed with this proposed action; however, the sediment in the Proposed Placement Area consists of silty sand and some settlement of placed stones is expected, though this should not exceed a maximum of 1/2 the stone size for the bottom layer of each sub module. The stone will be placed outside of the depth of closure, defined as the depth beyond which there is little to no net seasonal movement of littoral sand on- or off-shore. Seaward of this depth there is no significant change in bathymetry during a given time interval, while shoreward of this depth seasonal littoral movement of sediment both alongshore and on-/off-shore is common. For Central and Southern California this depth ranges from -30 feet MLLW to -40 feet MLLW, conservatively. As the minimum depth of stone placement will be at -50 feet MLLW we can expect no interference with the littoral transport of sediment.

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

Temporary, short-term adverse impacts would occur. Placement of excess stone on the ocean bottom would bury benthic organisms. Minor short-term fluctuations in turbidity levels may exist in the immediate vicinity of the placement operations. Species abundance and productivity would be expected to fully recover within one to three years. No long-term adverse effects are expected.

(5) Other Effects. N/A

(6) Actions Taken to Minimize Impacts (Subpart H).

Needed:_ YES __X_NO

No measures can be taken to minimize direct impacts to benthic organisms from burial.

If needed, Taken:____ YES__NO

b. Water Circulation, Fluctuation, and Salinity Determinations

(1) Water (refer to 40 CFR sections 230.11(b), 230.22 Water, and 230.25 Salinity Gradients; testing specified in Subpart G may be required). Consider effects on salinity, water chemistry, clarity, odor, taste, dissolved gas levels, nutrients, eutrophication, others.

Placement of excess breakwater stone on the ocean bottom approximately 1,500 feet west of Morro Rock is not expected to affect water circulation, fluctuation, and/or salinity. Only excess breakwater stone and anchor stones would be placed in the Proposed Placement Site. These stones are not a source of contaminants. Minor turbidity levels may exist in the immediate vicinity of the placement operations that may result in minor, temporary reductions in dissolved oxygen. The stones would not be a source of nutrients; thus, eutrophication is not expected to result. There would be no effect on salinity levels.

(2) Current Patterns and Circulation (consider items in sections 230.11(b), and 230.23), Current Flow, and Water Circulation.

The placement of excess stone in the Potential Placement Area is not expected to affect circulation. It is expected that there will be no impact on the incidental wave energy passing over the structure. Additionally, as nearshore currents in this area are driven by wave energy, the resulting lack of impact to the wave environment leads to no expected impacts on nearshore currents. As the minimum depth of stone

placement will be at -50 feet MLLW we can expect no interference with the littoral transport of sediment.

(3) Normal Water Level Fluctuations (tides, river stage, etc.) (consider items in sections 230.11(b) and 230.24)

Placement of excess stone in the Potential Placement Area is not expected to have an impact on normal water level fluctuations. There would no change to tidal elevations, which is determined by access to the open ocean, which would not be changed.

(4) Salinity Gradients (consider items in sections 230.11(b) and 230.25)

Placement of excess stone in the Potential Placement Area is not expected to have any impact on normal water salinity nor is it expected to create salinity gradients; thus, there would be no creation of salinity gradients.

(5) Actions That Will Be Taken to Minimize Impacts (refer to Subpart H)

Needed: _YES _X_ NO

No measures can be taken to minimize direct impacts to Water Circulation, Fluctuation, and Salinity from stone placement.

If needed, Taken: ___YES___ NO

c. Suspended Particulate/Turbidity Determinations

(1) Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Disposal Site (consider items in sections 230.11(c) and 230.21)

Placement of excess stone in the Potential Placement Area will not result in long term impacts to water quality from turbidity. Impacts would temporary and not significant. The impact is expected to be highly localized within the immediate vicinity of each stone placement in the Proposed Placement Site. The area is expected to return to background levels within hours to days after placement activities ceases.

(2) Effects (degree and duration) on Chemical and Physical Properties of the Water Column (consider environmental values in section 230.21, as appropriate)

Only excess stone and anchor stone will be placed in the Potential Placement Area. Minor short term turbidity levels may exist in the immediate vicinity of the stone placement in the Potential Placement Area.

(3) Effects on Biota (consider environmental values in sections 230.21, as appropriate).

Benthic marine species may suffer injury or mortality due to exposure to turbidity, however turbidity is expected to be localized and temporary. Organisms are expected to begin colonizing the area upon project completion.

(4) Actions taken to Minimize Impacts (Subpart H)

Needed: _YES _X NO
If needed, Taken: ____YES___ NO

No measures can be taken to minimize direct impacts to Suspended Particulate/Turbidity from stone placement.

d. Contaminant Determinations (consider requirements in section 230.11(d)): The following information has been considered in evaluating the biological availability of possible contaminants in excavated or placement sediments. (Check only those appropriate.)

(1) Physical characteristics __

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

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

(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 proposed action and a Hydraulic Analysis of the Proposed Placement Area indicate that the stone placement will not introduce contaminants.

e. Aquatic Ecosystem and Organism Determinations (use evaluation and testing procedures in Subpart G, as appropriate).

(1) Plankton, Benthos and Nekton

Stone placement would result in short-term turbidity impacts that would affect plankton in the area. Organisms could stifle in the immediate vicinity as these small organisms are impacted by turbidity. However, these effects would be small in both area and time and the plankton would be expected to recover quickly once placement is completed. Benthic organisms would be crushed, buried, smothered, and/or displaced by stone placement activities, but the areas would be minor in comparison to total benthic habitat available and would recolonize and re-establish productivity rates. Larger organisms in the nekton would be expected to avoid placement operations and would not be impacted.

(2) Food Web

Impacts to the bottom of the food chain (plankton and nekton) due to stone placement would be short term and occur in a small area. Recovery would be quick once placement operations are concluded.

(3) Special Aquatic Sites

There are no special aquatic sites in Potential Placement Area. No impacts to special aquatic sites are anticipated due to stone placement activities.

(4) Threatened & Endangered Species [4.2 and 5.2]

Federally threatened southern sea otters have the potential to occur in the Proposed Placement Area. While southern sea otters are common inside the Morro Bay Harbor, they occur on a non-regular basis in the Proposed Placement Area outside the Morro Bay Harbor. The Proposed Placement Area is sandy ocean bottom absent of any rocky reef and kelp beds that are commonly used by southern sea otters as resting and foraging areas with high site fidelity. In the unlikely event of an occurrence of southern sea otters within the vicinity of the Proposed Placement Area environmental commitments have been included as part of the Proposed Action. The Corps has determined that the Proposed Action would have “no effect” on the southern sea otter.

(5) Other fish and wildlife [4.2 and 5.2]:

The majority of fish species are expected to avoid the immediate areas during these activities due to auditory and turbidity disturbances. Marine mammals would not be affected by placement activities.

(6) Actions to Minimize Impacts (refer to Subpart H)

Needed:__YES_X_ NO

No measures can be taken to minimize direct impacts to plankton and nekton.

f. Proposed Disposal Site Determinations

(1) Mixing Zone Determination (consider factors in section 230.11(f)(2))

Is the mixing zone for each disposal (placement) site confined to the smallest practicable zone?
__X_ YES_NO

Excess stone placement does not require a mixing zone. As such, the mixing zone is considered to be the smallest practicable.

(2) Determination of Compliance with Applicable Water Quality Standards (present the standards and rationale for compliance or non-compliance with each standard)

The project is in compliance with state water quality standards. Excess stone placement on the ocean bottom would result in short-term elevated turbidity levels, but no appreciable long-term changes in other water quality parameters, including dissolved oxygen, pH, nutrients, or chemical contaminants. Therefore, impacts to water quality from stone placement would not violate water quality standards.

(3) Potential Effects on Human Use Characteristic

a) Municipal and Private Water Supply (refer to section 230.50)

There are no municipal or private water supply resources (i.e., aquifers, pipelines) in the project area. The project would have no effect on municipal or private water supplies or water conservation.

b) Recreational and Commercial Fisheries (refer to section 230.51)

The Proposed Placement Area is not subject to commercial fishing. Recreational fishing is not common is this area but would move to avoid the placement activities and to allow fish out of these areas.

c) Water Related Recreation (refer to section 230.52)

Construction equipment would be required to maintain ocean access outside of the immediate, designated construction limits for all uses. During the project, proper advanced notice to mariners would occur. The displacement of recreational boating and kayaking would be temporary and short-term. The currents are not expected to change in magnitude or direction. Therefore, stone placement activities are not expected to change currents or change surfing in any discernible way. To minimize navigation impacts and threats to vessel safety, all barges, scows and tugboats would be equipped with markings and lightings in accordance with the U.S. Coast Guard regulations. The location and schedule of the work would be published in the U.S. Coast Guard Local Notice to Mariners.

d) Aesthetics (refer to section 230.53)

During stone placement the visual character of the site would minimally be affected by the barge and tugboats; however, these activities are temporary in duration, and as such, would not result in permanent effects to the visual character of the site.

e) Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves (refer to section 230.54)

Placement activities would not have any adverse effect on national and historic monuments, national seashores, wild and scenic rivers, wilderness areas or research sites.

f) Determination of Cumulative Effects on the Aquatic Ecosystem (consider requirements in section 230.11(g))

No other past, present or reasonably foreseeable future projects are ongoing or anticipated within the Proposed Action's area of potential effects that would result in residual or additional cumulative effects to the aquatic ecosystem.

g) Determination of Secondary Effects on the Aquatic Ecosystem (consider requirements in section 230.11(h))

Secondary effects of the placement activities would be negligible. Areas outside the direct impact would also be negligible.

III. Findings of Compliance or Non-Compliance with the Restrictions on Discharge

a. Adaptation of the Section 404(b)(l) 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:

Alternative placement sites would have adverse impacts on the Aquatic and Ecological Ecosystem when compared to the proposed placement site. Alternative sites were not considered practicable alternatives due to the increased cost the project would incur and increased time necessary for consultation to place the excess breakwater stone closer to the Port San Luis Harbor breakwater.

Impacts of the No Action alternative have been evaluated in the SEA, but this would not meet the project's purpose and need. In the absence of breakwater repair, the breakwater would become increasingly susceptible to erosion and structural failure, which would jeopardize safety. Continued disrepair of the structure 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 breakwater with emergency repairs.

c. Compliance with Applicable State Water Quality Standards.

The proposed project meets State of California water quality standards.

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 proposed discharges of dredged or fill material into waters of the US.

e. Compliance with Endangered Species Act of 1973.

As discussed above, the USACE has determined the placement of displaced breakwater stone will not have an effect on any species Federally listed as threatened or endangered nor any designated critical habitat.

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 proposed displaced breakwater stone relocation into waters of the US.

g. Evaluation of Extent of Degradation of the Waters of the United States

(1) Significant Adverse Effects on Human Health and Welfare

(a) Municipal and Private Water Supplies

Placement activities will have no effect on municipal and private water supplies.

(b) Recreation and Commercial Fisheries

The proposed project would likely not have impacts on recreation fisheries. The Potential Placement Area is not subject to commercial fishing. Recreational fishing would move to avoid the project area and to allow fish out of these areas. To minimize navigation impacts and threats to vessel safety, all barges, scows and tug vessels would be equipped with markings and lightings in accordance with the U.S. Coast Guard regulations. The location and schedule of the work would be published in the U.S. Coast Guard Local Notice to Mariners.

(c) Plankton

Placement operations would result in short-term turbidity impacts that would affect plankton in the area. Organisms could stifle in the immediate vicinity as these small

organisms are impacted by turbidity. However, these effects would be small in both area and time and the plankton would be expected to recover quickly once placement is completed.

(d) Fish

Larger organisms in the nekton would be expected to avoid placement operations and would not be impacted.

(e) Shellfish

Benthic organisms, including shellfish, would be buried by placement activities, but the areas would be minor in area and recolonization would begin once placement activities are complete.

(f) Wildlife

Marine mammals would likely avoid the Proposed Placement Area during the displaced stone placement activities.

(g) Special Aquatic Sites

There are no special aquatic sites in the placement area.

(2) Significant Adverse Effects on Life Stages of Aquatic Life and Other Wildlife Dependent on Aquatic Ecosystems:
Any adverse effects would be short-term and insignificant. Refer to Section 4.2 (Marine Resources) of the SEA.

(3) Significant Adverse Effects on Aquatic Ecosystem Diversity, Productivity and Stability: Any adverse effects would be short-term and less than significant. Refer to sections 4.1 and 4.2 of the SEA.

(4) Significant Adverse Effects on Recreational, Aesthetic, and Economic Values: Any adverse effects would be short-term and less than significant. Refer to sections 4.5 of the EA.

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 analysis above and in the attached EA. All appropriate and practicable steps have been taken which will minimize potential adverse impacts of the placement of excess breakwater stone on the aquatic ecosystem.

i. On the Basis of the Guidelines, the Proposed Disposal Site(s) for the Discharge of Dredged or Fill Material (specify which) is:
__X__ (1) Specified as complying with the requirements of these guidelines; or,

___(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: __Gabrielle Dodson_____ Date: _____10MAY2022_____

APPENDIX H

National Marine Fisheries Service Supplemental
Essential Fish Habitat Concurrence

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From:	Bryant Chesney - NOAA Federal
To:	Martinez-Takeshita, Natalie M CIV USARMY CESPL (USA)
Subject:	[URL Verdict: Neutral][Non-DoD Source] Re: Request for Supplemental Essential Fish Habitat Consultation for the Port San Luis Harbor Operations and Maintenance Breakwater Repair Project (NMFS No: WCRO-2021-01276)
Date:	Friday, March 25, 2022 12:07:01 PM

Dear Ms. Natalie Martinez-Takeshita,
NOAA's National Marine Fisheries Service (NMFS) has reviewed your email requesting essential fish habitat (EFH) supplemental consultation, and the referenced report, Port San Luis Breakwater Subtidal Habitat Survey Report for Displaced Morro Rock Stone Relocation. NMFS appreciates your previous coordination regarding the need to address the culturally significant breakwater stone associated with the Chumash sacred site, Morro Rock. NMFS generally concurs with your EFH assessment and the referenced report's conclusions. Therefore, NMFS concurs that no additional EFH conservation recommendations are necessary to address potential adverse effects to EFH. Thank you for consulting with NMFS.
Best regards,
Bryant

On Thu, Mar 24, 2022 at 11:19 AM Martinez-Takeshita, Natalie M CIV USARMY CESPL (USA) <NXXXXXXXXX> wrote:

> Dear Mr. Bryant Chesney,
>
> The U.S. Army Corps of Engineers (Corps) is planning to commence work on the Port San Luis Harbor Operations and Maintenance Breakwater Repair Project to repair damage to the breakwater. Work is described under the *Final Environmental Assessment for Operations and Maintenance (O&M) Breakwater Repairs Port San Luis Harbor, San Luis Obispo County, California* (USACE July 2021). On June 7, 2021, your agency issued written concurrence with USACE determinations regarding impacts to black abalone through Endangered Species Act (ESA) consultation and impacts to Essential Fish Habitat (EFH) through an EFH consultation. The concurrences were issued within a single combined letter "Endangered Species Act Section 7(a)(2) Concurrence Letter and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Port San Luis Harbor Operations and Maintenance Breakwater Repair Project".
>
> Since the issuance of the concurrence letter, it has been determined that the project description must be modified in order to manage displaced stone that has been deemed to be undersized for the design requirements of the breakwater and thus must be removed from the breakwater prism as part of the construction. This displaced stone is culturally significant as it was initially derived by quarrying the rock from Morro Rock to construct the Port San Luis Breakwater. Morro Rock is recognized by the Chumash as a sacred site and rock that is being removed must be appropriately handled to retain its relationship to Morro Rock, or the breakwater comprised of a large amount of previously dislocated stone. After coordinating with the tribes and evaluating potential placement areas for the material near the Port San Luis Breakwater or Morro Rock, it has been determined that the most culturally appropriate and least impactive, location for placement of the displaced stone is to the west of Morro Rock. It is estimated that up to 10,000 tons of stone may be displaced from the

PSL Breakwater and would be transported approximately 20 miles up the coast from Port San Luis and placed on sand bottom west of Morro Rock in waters between -50 to -70 feet MLLW. The displaced stone is proposed to be placed within modules consisting of high and low relief stone piles that provide contiguous contact from module to module, but which provide stone to stone contact as requested by the tribes. Because the final volume of stone is unknown, the module configuration is to be constructed in a sequencing of units and has been configured to accept all the rock that may be displaced; recognizing that the ultimate configuration may fall short of the maximum. Site conditions and placement configuration for this relocated material has been documented in a letter report *Port San Luis Breakwater Subtidal Habitat Survey Report for Displaced Morro Rock Stone Relocation* (Merkel & Associates, March 9, 2022), previously provided and reviewed via online presentation meeting on March 11, 2022.

The Corps has determined that the proposed addition of the cultural relocation and placement of Morro Rock stone on sandy bottom near Morro Rock constitutes a substantial change in the project with respect to actions subject to EFH consultation but not ESA consultation. As a result, we wish to initiate Supplemental EFH consultation under the Magnuson-Stevens Act (MSA). Work previously described as occurring at the Port San Luis Breakwater remains unchanged and the consultation previously conducted is adequate to cover those activities without modification. As such, we are requesting initiation of Supplemental EFH Consultation to address the new stone placement west of Morro Rock only and we are relying on the prior concluded consultation to address the previously evaluated work.

The Corps believes that the proposed placement of stone offshore of Morro Rock would have adverse but not significant effects to federally managed species under the Coastal Pelagic Species, Pacific Coast Groundfish, Pacific Coast Salmon, and Highly Migratory Species FMPs. Specifically, displaced rock will be placed offshore of Morro Rock and can be expected to result in temporary elevation of turbidity as rock passes through the water column to the seafloor. The turbidity is expected to be limited as the rocks are derived from the wave washed breakwater and are generally free of sediment. However, they will discharge biogenic particulates from marine growth as well as rock fragments from handling of the stone. The upper water column turbidity is expected to dissipate in a matter of minutes after placement due to particulate settlement, while turbidity at the sea floor may remain slightly elevated for days as material suspended off the stone and settles or disperses. Temporary turbidity issues were previously addressed in the prior consultation, however the proposed action constitutes a new geographic location for the adverse effect. Temporary elevated turbidity may have adverse effects to federally managed species under the Coastal Pelagic Species, Pacific Coast Groundfish, Pacific Coast Salmon, and Highly Migratory Species FMPs

In addition to temporary turbidity effects, the work may have localized adverse effects to soft bottom species managed under the Pacific Coast Groundfish FMP due to benthic habitat conversion from soft to hard bottom habitat. This would include replacing silty sand soft bottom with rocky bottom with varied low to high relief and structural void spaces within

the modules as developed by the rock stacking. The project would not fully eliminate soft bottom as the intended design is to create a complex mosaic of hard bottom units that are physically varied and interconnected with interspersed soft bottom habitat. The rock placement would provide a replacement habitat feature in areas of displaced soft bottom that would be expected to also be used by managed groundfish species. This impact is considered to be adverse but not significant due to the replacement substrate provided.

Adverse effects are considered to be temporary or permanent and minor as proposed. Further, the proposed work would not adversely affect any Habitat Area of Particular Concern (HAPC) such as seagrass, canopy kelp, or rocky reef. Temporary impacts have been previously analyzed by type such that only the action area is expanded for turbidity. Therefore, the Corps does not believe additional mitigation measures, BMPs, or conservation recommendations are necessary to avoid, minimize, mitigate, or otherwise offset the work proposed in this requested supplement to the prior EFH consultation.

The Final EA dated July 2021, Appendices of the Final EA, and a signed Finding of No Significant Impact (FONSI) dated August 13, 2021, may be downloaded as PDF documents from the following location:

https://www.spl.usace.army.mil/Media/Public-Notices/Article/2952940/spl-2022-0302-nlh-port-of-san-luis-harbor-om-breakwater-repair/

If you have any questions or would like additional information, please contact me.

Natalie Martinez-Takeshita

Biologist

Ecosystems Planning Section, Planning Division

Los Angeles District US Army Corps of Engineers

XXXXXXXX

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Bryant Chesney

Senior Marine Habitat Resource Specialist, West Coast Region

Protected Resources Division, Long Beach, California

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APPENDIX I

Modification to Coastal Consistency Determination

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DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT
915 WILSHIRE BOULEVARD, SUITE 1109
LOS ANGELES, CALIFORNIA 90017-3409

April 11, 2022

Mr. John Ainsworth
Executive Director
California Coastal Commission
Attention: Mr. Cassidy Teufel
XXXXXXXX

Dear Mr. Ainsworth:

The U.S. Army Corps of Engineers (Corps) submits this cover letter, modification briefing memo, and enclosures in support of our request for a modification to the Coastal Consistency Determination for the Port San Luis (PSL) Breakwater Repair (CD-0002-21) to relocate up to 10,000 tons of existing PSL Breakwater stone that may be displaced by repair activities. The Corps has evaluated the proposed project modification and has determined it remains consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program pursuant to section 307(c) of the Coastal Zone Management Act of 1972, as amended.

Your timely review of the enclosed package is appreciated. Please keep us informed of any concerns and when we may expect your staff's review and concurrence. Placement on the May 2022 California Coastal Commission's meeting agenda would allow us to maintain the current schedule for these necessary repairs.

Thank you for your attention to this document. If you have any questions, please contact Ms. Gabrielle Dodson, Environmental Coordinator, at XXXXXXXX, or email: XXXXXXXX.

Sincerely,

Maricris Lee

Maricris Lee
Deputy Chief, Planning Division

Enclosure

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT
915 WILSHIRE BOULEVARD, SUITE 1109
LOS ANGELES, CALIFORNIA 90017-3409

CESPL-PD **8 April 2022**

MEMORANDUM FOR California Coastal Commission, XXXXXXXX
Attention: Mr. Cassidy Teufel & Ms. Alexis Barrera

SUBJECT: Modification to Coastal Consistency Determination for the Port San Luis Breakwater Repair (CD-0002-21) Briefing Memo

Per recent discussions between California Coastal Commission (CCC) and U.S. Army Corps of Engineers Los Angeles District (Corps) staff, this information is provided to support a request for modification to the Coastal Consistency Determination (CD) for the Port San Luis (PSL) Breakwater Repair (CD-0002-21). In February 2021, the Corps prepared a CD for the Operation and Maintenance Port San Luis Breakwater Repair Project, San Luis Obispo County, California. The CD addressed all aspects of the breakwater repairs that were identified at that time. The Corps received CCC concurrence with that determination on April 16, 2021. Subsequent to the CCC concurrence and finalization of the 2021 Environmental Assessment (Final EA, USACE, 2021) the Corps determined that the breakwater repair may generate up to 10,000 tons of displaced existing PSL Breakwater stone, which will be replaced by larger quarry stone meeting present design standards.

Constructed at the turn of the last century, most of the Port San Luis Breakwater was built with stone quarried from Morro Rock, a recognized sacred site for both the Chumash and Salinan Tribes. As part of the tribal consultation process for the Port San Luis Breakwater repair, the Corps was informed by the yak tityu tityu yak tiłhini - Northern Chumash Tribe and the Northern Chumash Tribal Council that the rock maintains is sacredness despite its removal from Morro Rock. Based on input from the consulting tribes, further adverse effects to the stone could only be avoided by either retaining the unity of the translocated stone by keeping it in the breakwater or by relocating the stone back to Morro Rock where it would be placed in a unified manner in the waters adjacent to Morro Rock. At one point, the Corps was considering placing displaced stone that could not be placed back in the breakwater, in the nearshore waters closer to PSL. However, having reviewed the environmental and safety constraints and coordinating with the Chumash Tribes, it was determined to be environmentally and culturally preferable to relocate the displaced stone back to Morro Rock where it would be placed in waters between -50 and -65 feet MLLW directly west of Morro Rock.

This culturally driven placement of displaced stone was not addressed in the initial CD and thus this request for modification to the CD is being submitted to provide additional information on the modification to the project and to identify all additional measures the Corps intends to implement for the displaced stone relocation. All other aspects of the project and commitments previously addressed in the February 2021 CD remain unchanged and are incorporated here by reference. This submitted supplement addresses only the displaced stone placement activities.

In some instances, environmental measures that were incorporated in the initial CD or other consultations and authorizations are applicable to the displaced stone placement as well as the work at the PSL Breakwater. As a result, the applicable commitments are summarized in this

document with the stone placement location being added to the description for clarity. In other circumstances measures that are typically incorporated in the project construction plans and specifications have relevance to CZMA consistency. For this reason, these measures are highlighted in this documentation, but are considered project elements as opposed to new conditions as they pertain equally to both the construction that was initially analyzed and stone placement in this supplemental material. In addition, a Supplemental EA is being completed. Consultation has been completed with the National Marine Fisheries Service (NMFS) pursuant to the Magnuson-Stevens Fishery Conservation and Management Act with concurrence on the action as proposed received from NMFS on March 25, 2022. The Corps developed the proposed action in consultation with the yak tityu tityu yak tiłhini - Northern Chumash Tribe and the Northern Chumash Tribal Council. The two consulting Tribes are in support of the proposed action. The Corps also invited the Santa Ynez Band of Chumash Indians; Barbareno/Ventureno Band of Mission Indians; Salinan Tribe of Monterey, San Luis Obispo Counties; Xolon-Salinan Tribe; and the Coastal Band of the Chumash Nation to consult on the proposed action; however, to date, they have declined to consult or have deferred to the two consulting Tribes. The Corps has determined that the proposed project would result in no adverse effect and is in the process of consulting with the State Historic Preservation Officer (SHPO).

The attached documentation provides a summary of the additional work and an analysis of how the added project element of displaced stone placement is consistent with requirements of the Coastal Zone Management Act of 1972 (CZMA) and does not alter the Corps' original conclusion regarding the consistency of the project. For ease of CCC use we have extracted a summary of the environmental commitments applicable to the displaced stone placement in this memorandum.

<u>Summary of Applicable Environmental Commitments</u>:
Environmental commitments previously described for the PSL Breakwater Repair project remain unchanged and can be referenced in Section 5.0 of the 2021 Final EA (USACE 2021) and February 2021 CD. Applicable environmental commitments will be incorporated into the project plans and contract specifications for the proposed project modification, as follows:

1. The Marine Mammal Monitoring Plan for the project work will be expanded to include the construction activities involving placement of the displaced PSL Breakwater stone at the Proposed Placement Area near Morro Rock.
2. All minimization and avoidance measures committed to under the previous Section 7 Consultation and 2021 Final EA (USACE 2021) would apply to the proposed project modification and will be adopted at the Proposed Placement Area and during related construction activities. Specifically:

   An on-site qualified marine mammal monitor will be on-site at all times during stone placement activities at the Proposed Placement Area west of Morro Rock. A 50-meter safety zone for southern sea otters will be established for this project. Should a sea otter come within 50 meters of the construction activities, operations will be halted until the sea otter leaves the designated safety zone.

3. Consistent with the IHA issued by NMFS for construction activities within PSL Harbor the following measures will be adopted at the Proposed Placement Area and during related construction activities:

   A qualified marine mammal monitor will be on-site at all times during stone placement activities at the Proposed Placement Area west of Morro Rock. A 200-meter safety zone for marine mammal species (with the exception of the Southern sea otter) will be established for this project. Should a marine mammal species come within 200 meters of the construction activities, operations will be halted until the marine mammal leaves the designated safety zone.

4. As-built survey requirements for the project will be modified to include requirements for an as-built of the Stone Placement Site off Morro Rock. The as-built survey will document the site elevations and surface topology using interferometric sidescan sonar, or multi-beam sonar technologies. Bathymetric surface data shall be provided at a grid spacing not coarser than 1.5 x 1.5 feet in order to effectively evaluate site topology and elevational relief across the placement site. The “as-built” surveys will also be made available to NMFS, CDFW, Coastal Commission, Morro Bay Harbor Department, USCG, as well as NOAA's Office of Coast Survey for future updates to navigational charts.
5. The Contractor’s Spill Prevention and Response Plan required under the project plans and specifications will be modified to include the construction activities involving placement of the displaced PSL Breakwater stone at the Proposed Placement Area.
6. Marine discharge prohibitions including spills, sewage, ballast water, and other discharges will be incorporated into the Contractor’s Spill Prevention and Response Plan, excepting discharges associated with normal vessel bilge pumping for safe vessel operations, or emergency dewatering of vessels.
7. The project will remain in compliance with the amended Water Quality Certification No. 34021WQ04 issued to the Corps for the PSL Breakwater Repair Project.

The attachment to this memorandum includes Supplemental Information in Support of Request for Modification to the Coastal Consistency Determination for the Port San Luis Breakwater Repair (CD-0002-21), which also includes a Subtidal Habitat Survey report, a Possible Wave and Transport Impact Analysis report, and the NMFS EFH concurrence. The Corps requests concurrence that the additional element to the PSL Breakwater Repair Project to include displaced breakwater stone relocation near Morro Rock remains consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program pursuant to section 307(c) of the Coastal Zone Management Act of 1972, as amended.

Attachment:

1. **Supplemental Information in Support of Request for Modification to the Coastal Consistency Determination for the Port San Luis Breakwater Repair (CD-0002-21)**

Supplemental Information in Support of Request for Modification to the Coastal Consistency Determination for the Port San Luis Breakwater Repair (CD-0002-21)

Operations and Maintenance
Port San Luis Harbor Breakwater Repair Project Modification: Displaced Breakwater Stone Relocation
San Luis Obispo County, California

U.S. Army Corps of Engineers
Los Angeles District

March 2022

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Supplemental Information in Support of Request for Modification to the Coastal Consistency Determination for the Port San Luis Breakwater Repair (CD-0002-21)

Contents

Appendix

List of Figures

Supplemental Information in Support of Request for Modification to the Coastal Consistency Determination for the Port San Luis Breakwater Repair (CD-0002-21)

1 INTRODUCTION AND DETERMINATION

Section 307(c) of the Coastal Zone Management Act of 1972 (CZMA), called the "federal consistency" provision, requires that federal actions, within and outside the coastal zone, which have reasonably foreseeable effects on any coastal use (land or water) or natural resource of the coastal zone be consistent with the enforceable policies of a state's federally approved coastal management program. Federal agency activities must be consistent to the maximum extent practicable with the enforceable policies of a state coastal management program. The term "consistent to the maximum extent practicable" means fully consistent with the enforceable policies of management programs unless full consistency is prohibited by existing law applicableto the Federal agency. 15 C.F.R. 930.32(a)(1). The federal government certified the California Coastal Management Program (CCMP) in 1977. The enforceable policies of that document are Chapter 3 of the California Coastal Act of 1976 (CCA). All consistency documents are reviewed for consistency with these policies.

DETERMINATION: The U.S. Army Corps of Engineers' Los Angeles District (hereinafter the "Corps") has determined the proposed project is consistent to the maximum extent practicable withthe enforceable policies of the CCMP.

2 AUTHORITY FOR PROJECT

The Port San Luis Harbor Breakwater Repair Project was authorized as described in Executive Document # 81 (Senate), 49th congress, 2nd session, 10 February 1887, titled "Reports of Engineers Relative to a Breakwater at Whalers Point, California". Construction of a federal breakwater was authorized by the Rivers and Harbors Act of August 11, 1888 (s. Doc 81, 49th Congress, 2nd Session; USACE, 1969). Federal responsibility for maintenance of the breakwater structure was authorized by the Rivers and Harbors Act of 1899, as amended, and modified by Public Law 99- 62 (House Document 303, 81st Congress, 2nd session) provides for the establishment and maintenance of a breakwater.

3 PROJECT DESCRIPTION

Project Background and Location

3.1 Project Background

The Port San Luis Harbor attached breakwater was constructed between 1889 and 1913 as a rubble-mound breakwater that extended outwards 2,400 feet from the tip of Point San Luis, in a southeasterly direction. Repairs have been performed six times (1894; 1926-1927; 1935; 1983- 1984; 1992; 2005) to remedy the damage inflicted by waves but also, on one occasion, by seismicactivity.

A comprehensive condition survey of the Port San Luis Breakwater was performed in 2015 – 2017 using bathymetric and topographic survey data acquired in 2015, site inspections conducted in 2016, and an assessment of construction and repair records. In addition, the functional effectiveness and structural integrity of the breakwater were assessed in terms of wave overtopping, wave transmission, and armor

stability. Recommendations for repairs were developed from the findings of the comprehensive survey.

In 2021, the Corps prepared a Final Environmental Assessment (FEA), *Final Environmental Assessment for Operations and Maintenance (O&M) Breakwater Repairs Port San Luis Harbor, San Luis Obispo County, California* (USACE 2021), to evaluate effects of repairing damaged sections of the PSL Breakwater. The 2021 FEA evaluated the project's potential impacts to the natural and human environment and potential consequences of a No Action Alternative. On April 16, 2021 the CCC concurred with the Consistency Determination submitted by the USACE for the PSL Breakwater Repairs (CD-0002-21). A contract to conduct the needed repairs was awarded in September 2021. The project will entail repairing the breakwater by resetting, and replacing stone along the approximately 2,400 foot long breakwater. Repair work will focus on the most heavily damaged 1,420 feet of the structure located between Stations 4+00 and 18+20 (Figure 1).

Subsequent to the April 16, 2021 CCC' concurrence and finalization of the 2021 FEA (USACE, 2021) the Corps determined that the breakwater repair may generate up to 10,000 tons of displaced stone, which will be replaced by larger quarry stone. Initially, the Corps investigated placing the displaced stone within one mile of the PSL Breakwater structure; however, the potential large quantity accompanied by the presence of eelgrass, other sensitive habitats, and rocky reef structures led the Corps to evaluate alternative placement locations. Through coordination with tribal groups, resource agencies and others, the Corps is now proposing to transport and place the displaced stone west of Morro Rock, in the nearshore vicinity of Morro Bay Harbor.

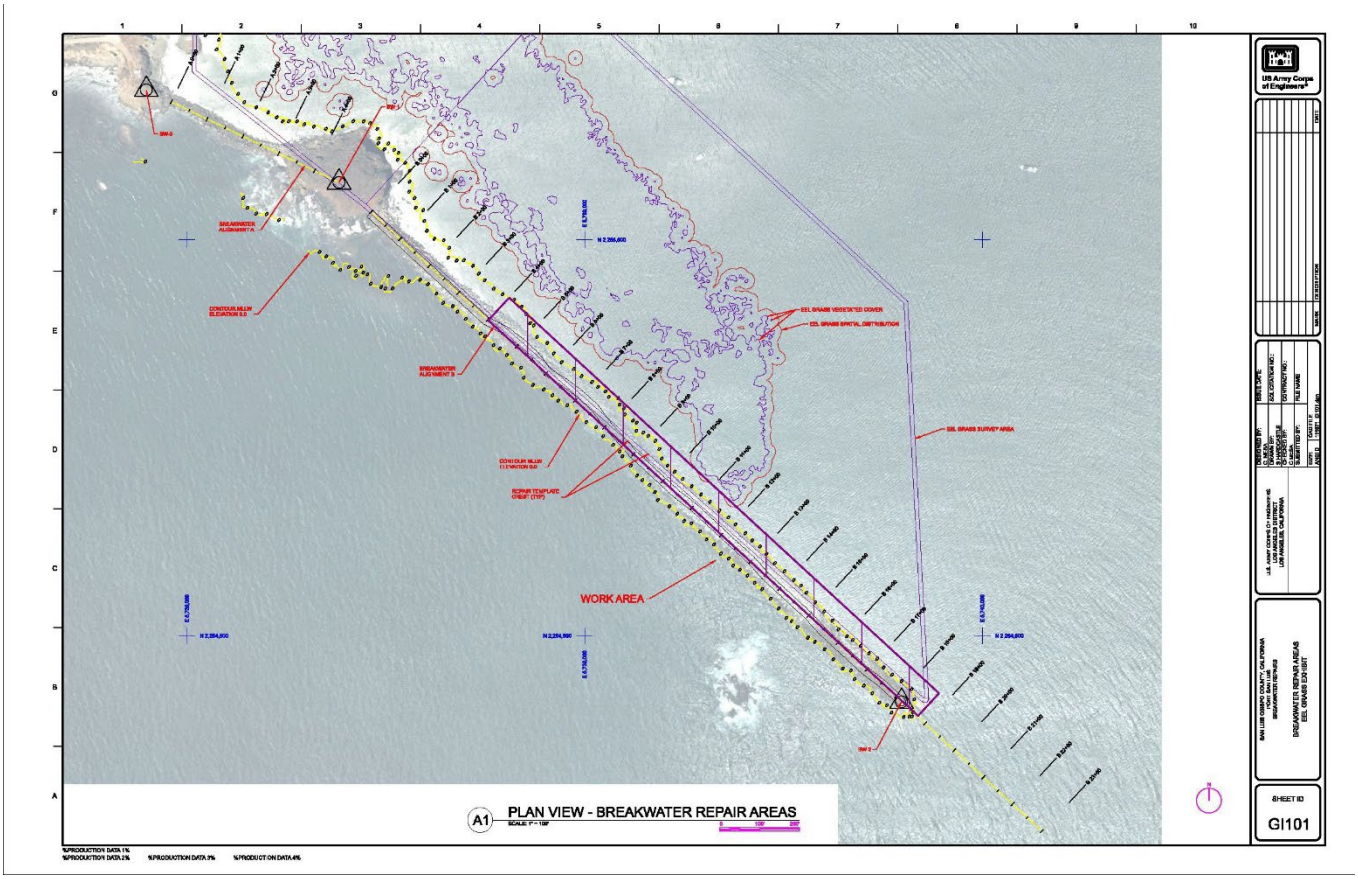

Figure 1. Port San Luis Breakwater Repair Areas.

Project Location

The project site is located along the central California Coast, in San Luis Obispo County (Figure 2). The Proposed Placement Area is approximately 20 miles north of the Port San Luis breakwater, in the nearshore waters approximately 1,500 feet west of Morro Rock (Figure 3).

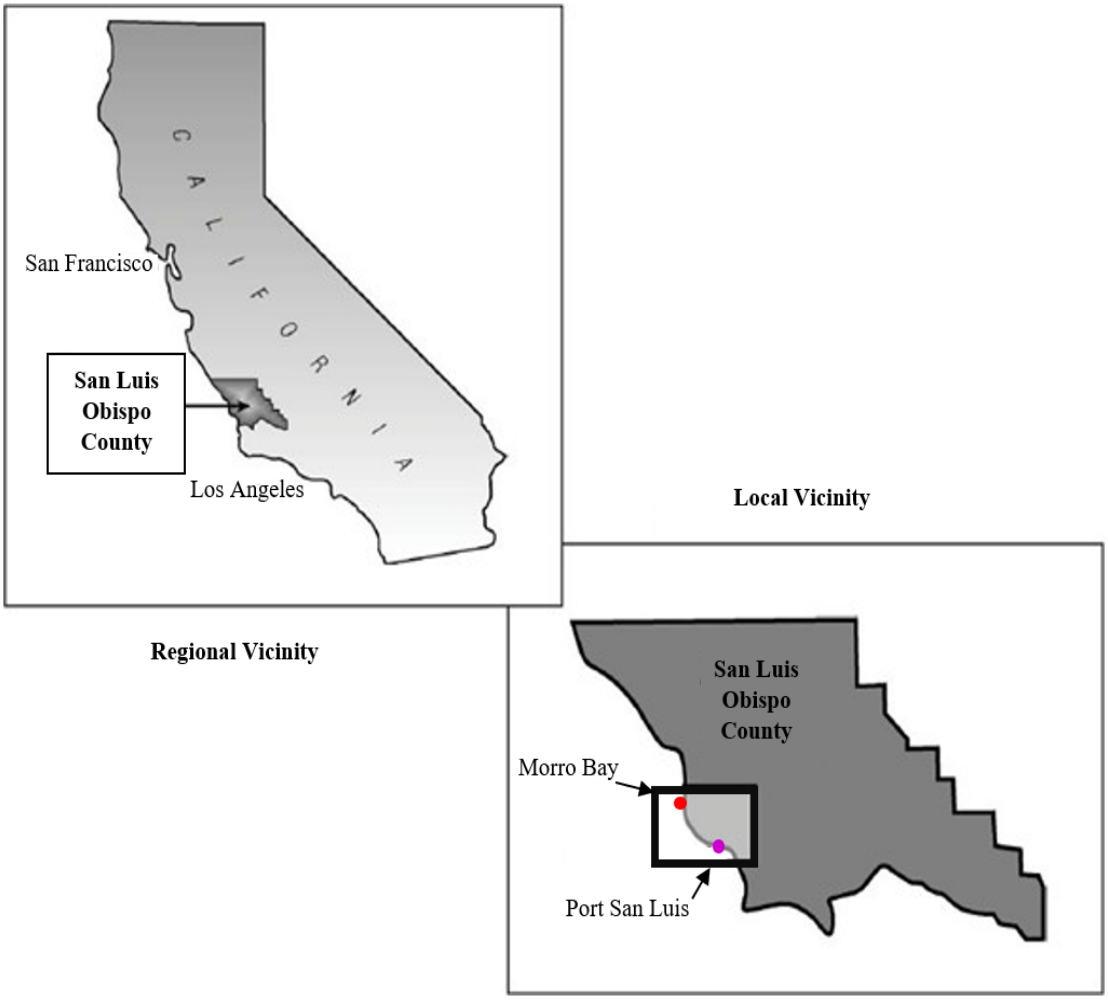

Figure 2. Project Location.

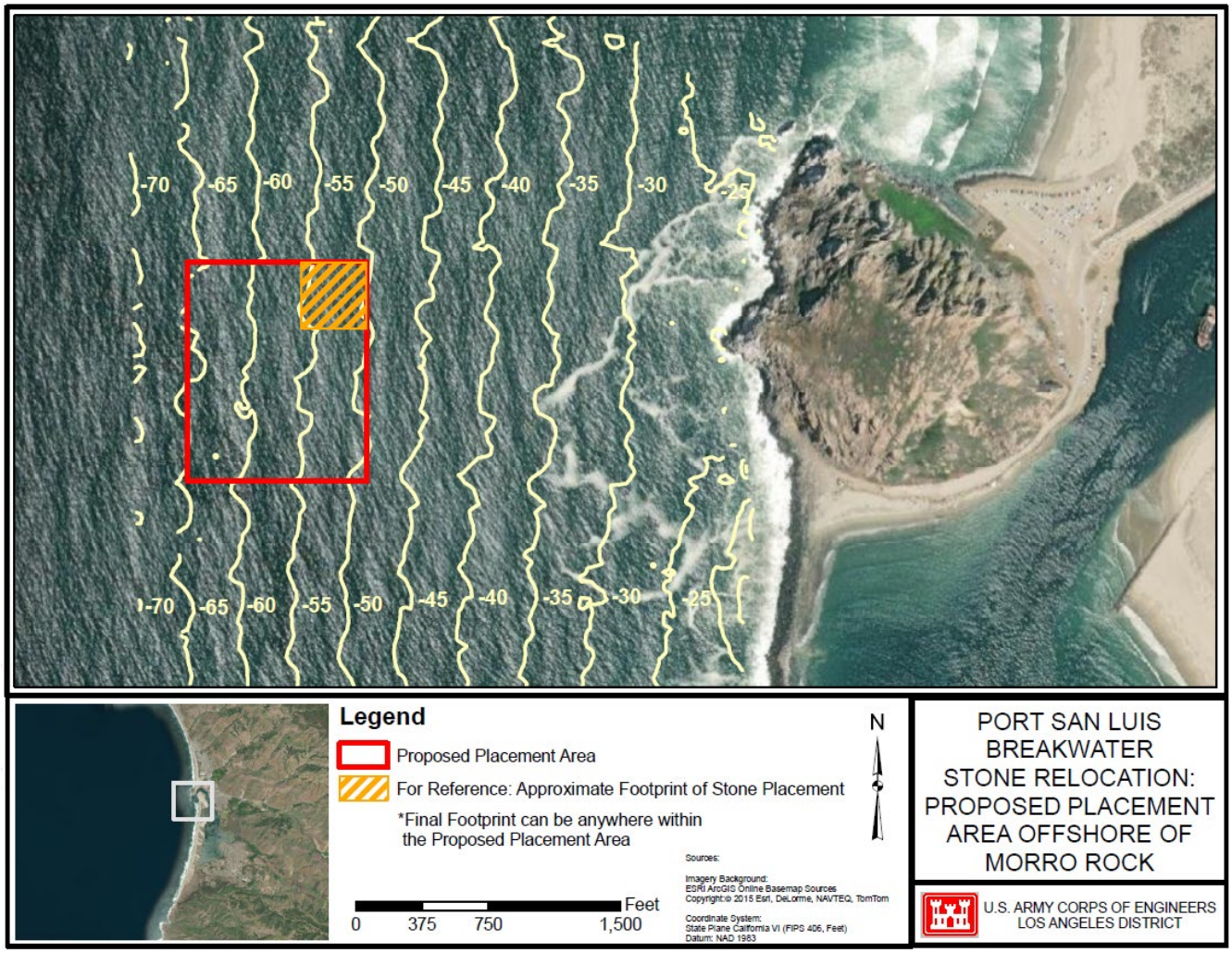

Figure 3. Proposed Placement Area Site Map.

3.2 Project Description

The Corps, as part of its O&M program, is proposing a modification to the Port San LuisBreakwater repair project. The Corps proposes to relocate up to 10,000 tons of existing Port San Luis (PSL) Breakwater stone that may be displaced by repair activities, to the Proposed Placement Area in the nearshore waters located approximately 1,500 feet west of Morro Rock (Figures 2 and 3). The armor stone size required for hydraulic stability while maintaining the breakwater design may result in the displacement of existing breakwater stone. The displaced existing stone from the PSL Breakwater will range in size up to approximately 10 tons. Some of the existing stone may be re-used and retained within the structure. The Corps proposes to barge any displaced stone to the Proposed Placement Area located approximately 20 miles to the north. The footprint of stone placement will encompass up to approximately 3 acres of the sandy ocean bottom at a depth ranging from approximately -50 to -65 feet Mean Lower Low Water. The crest height will be variable from 1-13 feet above the sea floor with an allowable upward tolerance of + 5 feet and a maximum crest elevation of approximately -40 feet MLLW so that the structures exhibit a random low to high vertical relief. Contiguous connected modules will be added based on the volume of stone relocated with additional modules being added in succession. Quarried armor stones (approximately 5 to 7 feet in diameter) will be required to serve as anchors and remain in place permanently as part of each module, it is anticipated two armor stones per module will be required.

The Corps is preparing a Draft Supplemental Environmental Assessment (DSEA) to evaluate the effects of this modification.

Relocation and placement of displaced stone would occur concurrent with breakwater repair activities, generally anticipated to extend from April to October 2022. Work windows and timelines are variable due to weather patterns and other factors such as equipment availability, working performance of the equipment, contractual commitments, and availability of funds.

Displaced stone relocation and placement construction activities would be sea-based, conducted by barges carrying rock/stone, tugboats, small craft support vessels, a track loader, and a crane equipped barge. The displaced stone would be moved to the Proposed Placement Area via barge in approximately 1,000 ton increments and placed in sets of modules to maintain cohesion between all stone placed; each trip will take approximately 3-5 days (travel and placement time). In the event of adverse weather, the contractor will relocate the equipment and seek shelter, mooring within the established Port San Luis Harbor District designated anchorage or within Morro Bay Harbor.

The following is a description of the type of the primary pieces of equipment to be utilized for the relocation and placement of the displaced PSL Breakwater stone.

Crane-equipped Barge. During breakwater repair andconstruction a barge with an attached crane will be outfitted with lifting tongs to reset existing stone and retrieve new quarried stones from the storage barge, and then place those stones on damaged sectionsof the breakwater (Figure 4). The same crane will place the displaced stone onto a storage/rock barge for transport to the Proposed Placement Area. Although unlikely, the crane-equipped barge could be utilized for placement of the stone at the Proposed Placement Area.

Support Vessels. Self-propelled vessels 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, breakwater, Proposed Placement Area, mooring areas, the crane barge, and

storage barges. The compliment of these vessels is usually just one operator unless ferrying other crew members.

Storage/Rock Barge(s). Another floating barge which serves as the stockpile and transport of the displaced stone from PSL Harbor to the Proposed Placement Area. This barge is typically towed in from an offsite quarry location (likely Pebbly Beach Quarryon Santa Catalina Island), and is then anchored next to the crane-equipped barge. The rockbarge is expected to carry approximately 1,000 tons of displaced stone per trip to the Proposed Placement Area. Unused/awaiting barges will be stored within a designated area within Port San Luis Harbor.

Track Loader(s). During placement of displaced stone at the Proposed Placement Area, track loaders would be utilized on the storage/rock barge to place the displaced stone into module configurations through a controlled push off method.

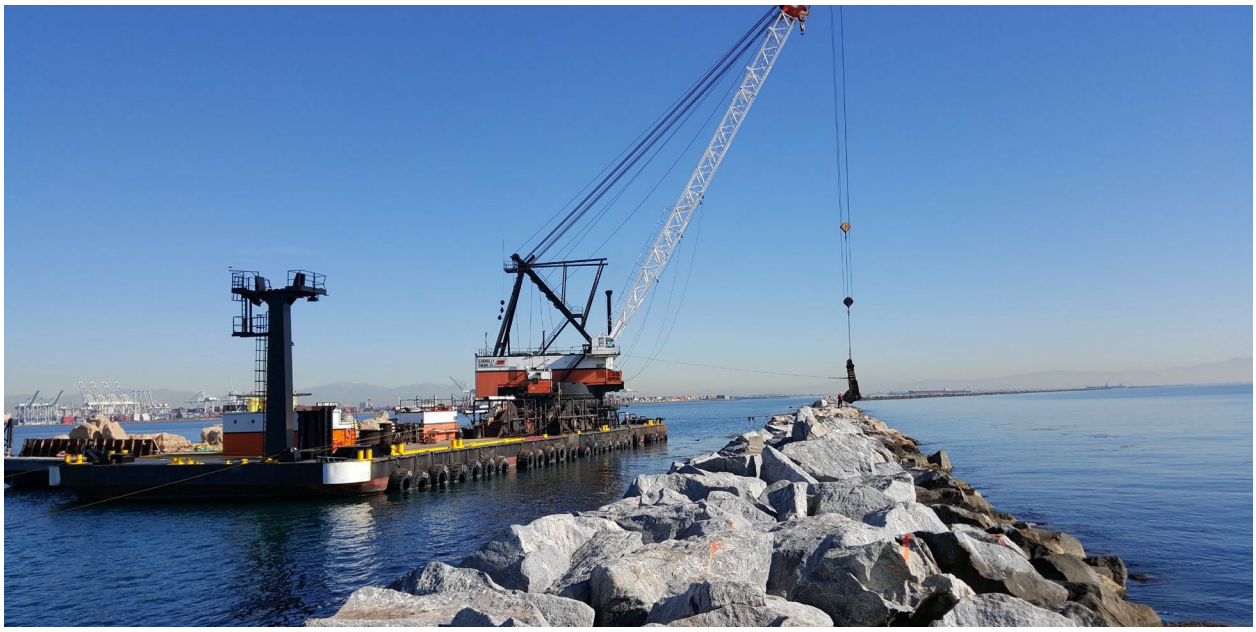

Image Source: Connolly-Pacific Co.

3.3 Purpose and Need for the Project

The PSL Breakwater, serves as protection from offshore waves and currents and therefore facilitates navigability within PSL Harbor. Maintenance repairs on the PSL Breakwater are needed to ensure navigational safety and to prevent degradation of the structural integrity of harbor facilities. The Corps has recently learned that up to 10,000 tons of stone may be displaced during repairs and may not be able to be incorporated back into the breakwater structure. The stone has been deemed too small to meet the current design requirements and placing the stone along the toe of the breakwater or elsewhere in Port San Luis Harbor is not feasible due to potential impacts to biological and cultural resources, navigation safety and existing harbor uses. The Corps needed to identify an alternative location for the displaced stone.

As part of the 2021 FEA (USACE 2021), specifically Section 106 of the National Historic Preservation Act (NHPA), the Corps consulted with the State Historic Preservation Officer (SHPO) and Federally and non-Federally recognized tribes who may attach religious or cultural significance to historic properties near the project area. During consultation, the Corps was informed by two consulting tribes, the yak tityu tityu yak tiłhini - Northern Chumash Tribe and the Northern Chumash Tribal Council, that much of the stone used to build the PSL Breakwater was taken from Morro Rock, a location of great cultural significance to both the Chumash and Salinan Tribes. For the two consulting tribes, the stones maintain their sacredness despite their separation from Morro Rock. In response to tribal input, the Corps had committed to treating the stone in a respectful manner and reincorporating the stone back into the PSL Breakwater where it would maintain proximity to the other stone harvested from Morro Rock. Maintaining the translocated stone as a cohesive unit was very important to both consulting tribes.

The Corps has coordinated further with the two consulting tribes and has identified a location near Morro Rock that would meet their request to reunite the stone with Morro Rock in a manner that does not result in significant adverse effects to marine resources. The Proposed Placement Site also meets the Corps' need for disposition of excess stone in a manner and location that avoids adverse effects to a significant tribal resource.

3.4 Benefits and Environmental Issues

3.4.1 Benefits

The Corps has evaluated the proposed project's impacts and determined impacts to be localized and less than significant to the natural and human environment. Impacts of the proposed project would be outweighed by the long-term benefits of introducing rocky substrate into an area that is predominantly sand, thereby increasing habitat complexity. In addition, the proposed placement location and design has been coordinated with the consulting tribes to ensure that the project avoids adverse effects to a significant tribal resource.

3.4.2 Environmental Issues

The environmental resources of concern with potential to occur within the proposed project area are as follows:

3.4.2.a Marine Biological Resources

- Federally Listed Species
  - Southern Sea Otter - U.S. Fish and Wildlife Service (USFWS)
- Marine Mammals (NMFS)
  - Pinniped and Cetacea species
- Essential Fish Habitat (EFH) – HAPC (Habitat Areas of Particular Concern) (NMFS)
  - Fishery Management Plans (FMPs)

Federally Listed Species

The federally threatened Southern sea otter (*Enhydra lutris nereis*) has the potential to infrequently occur within the PSL Harbor project area. Pursuant to Section 7 of the Endangered Species Act the Corps previously initiated Informal Section 7 Consultation for the Southern sea otter with the US Fish and Wildlife, the agency responsible for managing Southern sea otters. The Corps determined the proposed PSL Harbor Breakwater Repair Project "may affect, but would not likely adversely affect" the Southern sea otter in PSL Harbor, concurrence from the USFWS was received June 3, 2021. All minimization and avoidance measures committed to under the previous Section 7 Consultation and 2021 FEA (USACE 2021) would apply to the proposed project modification construction activities taking place within PSL Harbor and will be adopted at the Proposed Placement Area during construction activities involving the placement of the displaced PSL Breakwater stone. The Corps contacted CDFW sea otter biologist, Mike Harris, to assist in further evaluation of the proposed project modification construction activities in Morro Bay. While Southern sea otters are common inside the Morro Bay Harbor, they occur on a non-regular basis in the Proposed Placement Area located in the nearshore waters approximately 1,500 feet west of Morro Rock and outside the Morro Bay Harbor. The Proposed Placement Area is sandy ocean bottom absent of any rocky reef and kelp beds that are commonly used by Southern sea otters as resting and foraging areas with high site fidelity. In the unlikely event of an occurrence of Southern sea otters within the vicinity of the Proposed Placement Area during stone placement construction activities, the following minimization and avoidance measure would be implemented: *An on-site qualified marine mammal monitor will be on-site at all times during stone placement activities at the Proposed Placement Area west of Morro Rock. A 50-meter safety zone for southern sea otters will be established for this project. Should a sea otter come within 50 meters of the construction activities, operations will be halted until the sea otter leaves the designated safety zone.* The Corps has determined the proposed project modification would have no effect on Southern sea otters.

Marine Mammals

All minimization and avoidance measures concerning marine mammal species committed to under the Incidental Harassment Authorization (IHA) issued to the Corps for the PSL Breakwater Repair Project by the NMFS Office of Protected Resources Division and 2021 FEA (USACE 2021) would apply to the proposed project modification construction activities taking place within PSL Harbor. Pinniped and Cetacea species occur in the waters of San Luis Obispo County and have the potential to infrequently occur in the Proposed Placement Area located in the nearshore waters west of Morro Rock. However, barge movement is slow and fixed position placement poses no substantial risk to marine mammal species should they be present in the Proposed Placement Area. In the unlikely event of an occurrence

of a marine mammal species within the vicinity of the Proposed Placement Area during stone placement construction activities, the following minimization and avoidance measures consistent with the IHA would be implemented: *An on-site qualified marine mammal monitor will be on-site at all times during stone placement activities at the Proposed Placement Area west of Morro Rock. A 200-meter safety zone for marine mammal species (with the exception of the Southern sea otter) will be established for this project. Should a marine mammal species come within 200 meters of the construction activities, operations will be halted until the marine mammal leaves the designated safety zone.*

Essential Fish Habitat (EFH)

Work previously described as occurring at the Port San Luis Breakwater and Harbor remains unchanged and the analysis in the 2021 FEA (USACE 2021) and associated 2021 EFH consultation previously conducted is adequate to cover those activities without modification. As such, the Corps has coordinated with NMFS to initiate a Supplemental EFH Consultation to address the displaced stone placement in the Proposed Placement Area approximately 1,500 feet west of Morro Rock only and are relying on the prior concluded consultation to address the previously evaluated work.

The Corps has determined that the proposed placement of displaced stone offshore of Morro Rock would have adverse but not significant effects to federally managed species under the Coastal Pelagic Species, Pacific Coast Groundfish, Pacific Coast Salmon, and Highly Migratory Species Fishery Management Plans. Specifically, displaced stone will be placed offshore of Morro Rock and can be expected to result in temporary elevation of turbidity as stone passes through the water column to the seafloor. The turbidity is expected to be limited as the stones are derived from the wave washed breakwater and are generally free of sediment. However, they will discharge biogenic particulates from marine growth as well as rock fragments from handling of the stone. The upper water column turbidity is expected to dissipate in a matter of minutes after placement due to particulate settlement, while turbidity at the sea floor may remain slightly elevated for days as material suspended off the stone and settles or disperses. Temporary turbidity issues were previously addressed in the prior consultation; however the proposed action constitutes a new geographic location for the adverse effect. Temporary elevated turbidity may have adverse effects to federally managed species under the Coastal Pelagic Species, Pacific Coast Groundfish, Pacific Coast Salmon, and Highly Migratory Species FMPs.

In addition to temporary turbidity effects, the work may have localized adverse effects to soft bottom species managed under the Pacific Coast Groundfish FMP due to benthic habitat conversion from soft to hard bottom habitat. This would include replacing silty sand soft bottom with rocky bottom with varied low to high relief and structural void spaces within the modules as developed by the stone stacking. The project would not fully eliminate soft bottom as the intended design is to create a complex mosaic of hard bottom units that are physically varied and interconnected with interspersed soft bottom habitat. The stone placement would provide a replacement habitat feature in areas of displaced soft bottom that would be expected to also be used by managed groundfish species. This impact is considered to be adverse but not significant due to the replacement substrate provided.

Adverse effects are considered to be temporary or permanent and insignificant as proposed. Further, the proposed work would not adversely affect any Habitat Area of Particular Concern (HAPC) such as seagrass, canopy kelp, or rocky reef as documented in the *Port San Luis Breakwater Subtidal Habitat Survey Report for Displaced Morro Rock Stone Relocation* (Merkel & Associates, March 2022).

3.4.2.b Oceanographic Resources

The Corps has performed an analysis to assess potential impacts to oceanographic resources and physical processes. The results of the analysis has concluded that for the Proposed Placement Area location and structure there will be no impact on the incidental wave energy, currents, or littoral transport of sediment. See Appendix B, *Proposed Morro Rock Reunification: Possible Wave and Transport Impact Analysis, San Luis Obispo County, California* (USACE 2022).

3.4.2.c Cultural Resources

While the PSL breakwater as a historic structure was determined to be ineligible for listing in the National Register of Historic Places (NRHP), much of the stone used to originally construct the PSL Breakwater was quarried from Morro Rock, a location of great cultural significance to both the Chumash and Salinan Tribes. Morro Rock is considered a significant traditional cultural property (TCP). TCPs are a type of cultural resource that is an aspect of the physical environment which is associated with the cultural practices or beliefs of a living community. These types of resources are afforded the same consideration as other cultural resources.

For the two consulting tribes, the translocated stones maintain their sacredness despite their separation from Morro Rock. In response to tribal input, the Corps had committed to treating the stone in a respectful manner and reincorporating the stone back into the PSL breakwater where it would maintain proximity to the other stone harvested from Morro Rock. Maintaining the translocated stone as a cohesive unit was very important to both consulting tribes.

Because the Corps cannot meet their previous commitment to reincorporate all of the stone, the Corps has coordinated with the two consulting tribes and has identified a location near Morro Rock that would meet their request to reunite the stone with Morro Rock in a manner that does not result in significant adverse effects to marine resources.

3.5 Resource Agency Coordination

Central Coast Regional Water Quality Control Board (CCRWQCB)

On December 1, 2021 Corps had a teleconference with the Central Coast Regional Water Quality Control Board to discuss the proposed project modification and an amendment to the PSL water quality certification, the CCRWQCB concurred. The Corps requested an amendment to Water Quality Certification No. 34021WQ04 on March 9, 2022. A water quality certification, NO. 34021WQ04 First Amendment, pursuant to section 401 of the Clean Water Act was obtained from the Water Board on April 11, 2022.

California Department of Fish & Wildlife (CDFW)

The Corps has coordinated with the CDFW regarding the proposed project modification.

United States Fish & Wildlife Service (USFWS)

The Corps has coordinated with the USFWS regarding the proposed project modification.

National Marine Fisheries Service (NMFS)

Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, as amended, the Corps consulted with the National Marine Fisheries Service (NMFS) regarding the effects of the breakwater repair on essential fish habitat (EFH) and received general concurrence from the NMFS on June 7, 2021 (USACE FEA 2021). Pursuant to the Magnuson-Steven Fishery Conservation and Management Act, as amended, the Corps initiated Supplemental EFH Consultation with the NMFS regarding the proposed project modification. The Corps received general concurrence from the NMFS on March 25, 2022.

Tribal & State Historic Preservation Officer

The Corps has informally discussed the issue of the displaced stone with the two consulting tribes, the yak tityu tityu yak tiłhini - Northern Chumash Tribe and the Northern Chumash Tribal Council. Because the breakwater stone was initially harvested from Morro Rock, a site recognized as sacred by indigenous people, there has been a request to keep the stone together as a unit and repatriate the stone either near the other Morro Rock stone that remains within the Port San Luis Breakwater, or to repatriate the displaced stone back to a site near Morro Rock. Pursuant to Section 106 of the National Historic Preservation Act (NHPA), the Corps is consulting with the State Historic Preservation Officer (SHPO) and Federally and non-Federally recognized tribes regarding the proposed project modification.

4 CONSISTENCY WITH PROVISIONS OF THE CALIFORNIA COASTAL ACT(CCA)

The CCMP contains enforceable policies to meet the requirements of 15 CFR 930.39. The proposed project is consistent to the maximum extent practicable, with supporting data and information, to meet the requirements of 15 CFR 930.39.

4.1 CCA, Chapter 3, Article 1, General, Section 30020

Section 30200 of the CCA provides polices as standards, and resolution of policy conflicts. Thissection provides:

Section 30200: Policies as standards; resolution of policy conflicts
(a) Consistent with the coastal zone values cited in Section 30001 and the basic goals set forth inSection 30001.5, and except as may be otherwise specifically provided in this division, the policies of this chapter shall constitute the standards by which the adequacy of local coastal programs, as provided in Chapter 6 (commencing with Section 30500), and, the permissibility ofproposed developments subject to the provisions of this division are determined. All public agencies carrying out or supporting activities outside the coastal zone that could have a direct impact on resources within the coastal zone shall consider the effect of such actions on coastal zone resources in order to assure that these policies are achieved.

The proposed project is to place displaced breakwater stone on the sandy ocean bottom approximately 1,500 feet west of Morro Rock. It is estimated that up to 10,000 tons of displaced stone would be placed on the ocean bottom. The footprint of the Proposed Placement Area will encompass up to approximately 3 acres at a depth ranging from approximately -50 to -65 feet Mean Lower Low Water. The crest height will be variable from 1-13 feet above the sea floor with an allowable upward tolerance of + 5 feet and a maximum crest elevation of approximately -40 feet MLLW so that the structures exhibit a random low to high vertical relief. The proposed action is a modification to a planned breakwater repair project, which is required to protect Port San Luis Harbor and maintain safe navigability within the port. The methods of construction would not result in significant adverse environmental impacts to the project area and the surrounding environments.

Therefore, the proposed project would have less than significant impacts to the environment within the coastal zone.

The Corps finds that the proposed project is consistent with the general policies of the CCA (Section 30200) and consistent with the coastal zone values (Section 30200(a); Section 30001) andthe basic goals (Section 30001.5).

4.2 CCA, Chapter 3, Article 2, Public Access, Sections 30210-30214

Sections 30210 through 30214 of the CCA require the protection of public access. These sections provide:

Section 30210: Access; recreational opportunities; posting
In carrying out the requirements of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided forall the people consistent with public safety needs and the need to protect public rights, rights of private property owners and natural resource areas from overuse.

Section 30211:
Development shall not interfere with the public's right of access to the sea where acquired throughuse or legislative authorization, including, but not limited to, the use of dry sand and rocky coastalbeaches to the first line of terrestrial vegetation.

Section 30212: New development projects
(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:
(1) it is inconsistent with public safety, military security needs, or the protection of fragilecoastal resources,
(2) adequate access exists nearby.

Section 30212.5: Public facilities, distribution
Wherever appropriate and feasible, public facilities, including parking areas or facilities, shall be distributed throughout an area so as to mitigate against the impacts, social and otherwise, of overcrowding

Section 30213: Lower cost visitor and recreational facilities; encouragement and provision;overnight room rentals
Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.

Construction related activities, would affect only those areas immediately adjacent to the breakwater, and the Proposed Placement Area in the nearshore waters located approximately 1,500 feet west of Morro Rock. Public access to the PSL Breakwater structure is currently limited to the Corps, U.S. Coast Guard, Morro Bay Harbor District, and the Port San Luis Harbor District. The Proposed Placement Area is located in the nearshore waters and is only accessible by boat and not utilized on a regular basis by any parties. To the extent practicable, construction would not interfere with such public access or with public parking/docking in these locations near PSL Harbor and Morro Bay Harbor. Navigational impacts would be minimized during construction by issuing a notice to mariners and properly marking the construction area so that public would safely avoid the immediate project area. The proposed project would neither significantly affect, nor eliminate access or parking/docking, or the public's ability to utilize the general area. The public's right of access to the sea, surrounding areas, and associated recreation facilities would not be interfered with and would not result in a physical encroachment upon such facilities, including public access, public parking/docking, andnavigation to and from shore. Upon completion of the proposed project, public access would returnto pre-project conditions. Therefore, the proposed project would have less than significant impactsto public access.

The Corps finds that the proposed project is consistent with the public access policies of the CCA (Sections 30210 through 30214).

4.3 CCA, Chapter 3, Article 3, Recreation, Sections 30220-30224

Sections 30220 through 30224 of the CCA require the protection of recreation. These sectionsprovide:

Section 30220: Protection of certain water-oriented activities
Coastal areas suited for water-oriented recreational activities that cannot readily be provided atinland water areas shall be protected for such uses.

The area surrounding Morro Rock and the Proposed Placement Area is a popular-use recreational surf spot, cultural landmark, and small craft commercial and recreational harbor. Morro Bay provides important recreational resources for the regional and local area. These recreational and commercial uses include boating, fishing, surfing and beach activities in Morro Bay and on Morro Rock Beach. Typical recreation activities in the project area include beach activities, boating and water sports, kayaking, sport fishing, and surfing. The area immediately adjacent to the Proposed Placement Area is not heavily utilized for recreational activities.

Therefore, construction activities would not likely affect recreational boating, surfing, or fishing near the Proposed Placement Area or affect access to Morro Bay Harbor. Since the stone placement would occur outside of the depth of closure there would be no impacts to recreational surfing. Navigational impacts would be minimized during construction by issuing a notice to mariners and properly marking the construction area so that surfers, kayakers, and boaters could safely avoid the immediate project area. The proposed activities would enhance the cultural values of this area. Upon project completion, recreation would return to pre-project conditions. Impacts would be less than significant.

The Corps finds that the proposed project is consistent with the recreation policies of the CCA(Sections 30220 through 30224 of the CCA).

4.4 CCA, Chapter 3, Article 4, Marine Environment, Sections 30230-30237

Sections 30230 through 30237 of the CCA require the protection of marine environment. Thesesections provide:

Section 30230. Marine resources; maintenance
Marine resources shall be maintained, enhanced, and where feasible, restored. Special protectionshall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231. Biological productivity; water quality
The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection ofhuman health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of groundwater supplies and substantial interference with surface water flow.

Section 30233(a) Diking, filling or dredging; continued movement of sediment and nutrients of theCCA

applies to dredging and filling activities and provides in relevant part:

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shallbe permitted in accordance with other applicable provisions of this division, where there is nofeasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

(5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

Section 30233(b) encourages beach replenishment, requires disposal to occur in a manner protecting sensitive habitat, and provides:

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beachreplenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

The Proposed Placement Area located west of Morro Rock has been surveyed and classified as open sandy bottom marine habitat absent of any Habitat Area of Particular Concern (HAPC) such as seagrass, canopy kelp, or rocky reef. Detailed classification of the Proposed Placement Area can be found in the *San Luis Breakwater Subtidal Habitat Survey Report for Displaced Morro Rock Stone Relocation* (Merkel & Associates, March 2022). From a biological perspective, there is a strong preference for stone placement on sand bottom to avoid rocky reefs, a HAPC under the Pacific Groundfish FMP (Pacific Fisheries Management Council 2020). While placement of the stone on sand would result in localized adverse impacts to soft bottom dwelling marine species, the rocky substrate would be expected to replace this habitat loss with a more structurally diverse and stable environment that is recognized as HAPC, principally to rockfish. Mobile organisms may move away from the construction area, minimizing adverse effects. The footprint of the Proposed Placement Area accounts for less than 1% of the available sandy bottom marine habitat present in the nearshore waters along the Morro Bay coastline. Replacing silty sand soft bottom with rocky bottom with varied low to high relief and structural void spaces within the modules as developed by the stone stacking. The project would not fully eliminate soft bottom as the intended design is to create a complex mosaic of hard bottom units that are physically varied and interconnected with interspersed soft bottom habitat. The stone placement would provide a replacement habitat feature in areas of displaced soft bottom that would be expected to also be used by marine species. Marine organisms would be expected to begin recolonization of the Proposed Placement Area immediately following the completion of construction. The impact of stone placement in the sandy soft bottom Proposed Placement Area is considered to be less than significant due to the replacement substrate provided.

The Corps finds that the proposed project is consistent with the marine environment of the CCA (Sections 30230 through 30237 of the CCA).

4.5 CCA, Chapter 3, Article 5, Land Resources, Sections 30240-30244

Sections 30240 through 30244 of the CCA require the protection of land resources. These sections provide:

Section 30240. Environmentally sensitive habitat areas; adjacent developments
(a) Environmentally sensitive habitat areas shall be protected against any significant disruptionof habitat values, and only uses dependent on those resources shall be allowed within those areas.

Section 30244 Archaeological or paleontological resources
Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall berequired.

Residential and commercial development that has occurred near the coast is typically recreation-service orientated. Primary land use activities in the area are recreational (tourism and sport fishing) and commercial fishing.

Proposed project activities would occur in the open ocean approximately 1,500 feet away from the shore. Crew parking has been identifiedon Port San Luis Harbor District property, parking of construction crew vehicles and assembly of construction crew is authorized in the Port San Luis Harbor District's established paved parking lot. If crew parking is required in Morro Bay, parking of construction crew vehicles will be in an existing and established dirt or paved parking lot.

Some of the original breakwater stone was quarried from Morro Rock, considered sacred to the Chumash Indians. Through consultation with the tribe, the Corps has agreed to treat all existing PSL Breakwater stone in a respectful manner that minimizes breakage, and all stone material, both broken and whole, shall be retained on the breakwater or placed together adjacent to Morro Rock. The translocated stone would be placed as a cohesive unit and in a manner that does not result in significant adverse effects to marine resources.

The Corps finds that the proposed project is consistent with the land resources of the CCA(Sections 30240 through 30244 of the CCA).

4.6 CCA, Chapter 3, Article 6, Development, Sections 30250-30255

Sections 30250 through 30255 of the CCA require the protection from new development. Thesesections provide:

Section 30251 Scenic and visual qualities
The scenic and visual qualities of coastal areas shall be considered and protected as a resourceof public importance.

The aesthetic character, the scenic and visual resources, of Morro Bay and the immediate vicinity is primarily comprised of public, commercial, and recreational developments along with harbor facilities located in a largely natural setting dominated by Morro Rock, Morro Bay Harbor, Morro Bay Breakwater, marina, beach(s), open hillsides and open water vistas. The majority of the surrounding hillsides nearby Morro Bay are open space, agriculture, and some residential areas. The natural resources, low population density, and minimum development provide a visually attractive setting and relaxing atmosphere for residents and tourists.

The presence of construction equipment would temporarily reduce the aesthetic quality in the Pacific Ocean west of Morro Bay during the length of the construction operation. Upon completion of construction, aesthetics would return to pre-construction conditions. Based on the above, impacts would be less than significant impact.

The Corps finds that the proposed project is consistent with development of the CCA (Sections30250 through 30255 of the CCA).

4.7 CCA, Chapter 3, Article 7, Industrial Development, Sections 30260-30265.5

Sections 30260 through 30265.5 of the CCA require the protection from new industrialdevelopment.

The proposed project is not an industrial development, and therefore, is not applicable to theconditions set forth in Sections 30260 through 30265.5 of the CCA.

5 SIMILAR PROJECTS THAT RECEIVED CALIFORNIA COASTAL COMMISSION APPROVAL

5.1 Palos Verdes Reef Restoration Project

The CCC has approved previous rock placement projects, that are similar in nature to the current proposed project. The proposed project is similar inkind to the previous Palos Verdes Reef Restoration project that was analyzed and evaluated in 2017. A Negative Determination (ND), ND No. 793 (February 2017), State Clearinghouse No. 2017021066, for the Palos Verdes Reef Restoration project.

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Appendix A

Port San Luis Breakwater Repair Subtidal Habitat Survey Report for Displaced Morro Rock Stone Relocation

Merkel & Associates, Inc.

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March 9, 2022
M&A# 05-024-42

U.S. Army Corps of Engineers
Attn: Ms. Natalie Martinez-Takeshita XXXXXXXX

Port San Luis Breakwater Repair Subtidal Habitat Survey Report for Displaced Morro Rock Stone Relocation

Dear Ms. Martinez-Takeshita:

PURPOSE AND INTRODUCTION

Merkel & Associates Inc. (M&A) has been retained by the U.S. Army Corps of Engineers, Los Angeles District (USACE) to conduct a focused mapping of subtidal marine habitat and to identify any surface manifestations of anthropogenic features on the seafloor in support the Port San Luis (PSL) Breakwater Repair Project.

Specifically, surveys were conducted in areas within one mile of the Port San Luis Breakwater in waters off Point San Luis, and to the west of Morro Rock (Figure 1). Work was performed to characterize potential locations for placement of displaced jetty stone that has been deemed too small to meet the current requirements of the Port San Luis Breakwater and which would be removed from the breakwater structure. Because the jetty stone was initially harvested from Morro Rock, a site recognized as sacred by indigenous people, there has been a request to keep the rock together as a unit and repatriate the rock either near the other Morro Rock stone that remains within the Port San Luis Breakwater, or to repatriate the displaced stone back to a site near Morro Rock. This calls for maintaining a cohesive aggregation of rock in proximity to either the previously translocated rock within the Port San Luis breakwater, or preferably, transferring the displaced rock back to Morro Rock, approximately 20 coastal miles north of the breakwater repair area.

While the principal objective of the Morro Rock stone placement is for cultural unification purposes, secondary objectives include placing the stone in a location that does not result in significant adverse effects to marine resources and, to the extent practical, enhances marine life habitat features. There are no numeric objectives for habitat performance, however it is expected that the rock should provide increased vertical relief and stable substrate, benefitting fish and invertebrate abundance and diversity over that present within soft bottom environments in the area. To aid in planning rock placement design, the characteristics of two local artificial reefs (Atascadero Artificial Reef and San Luis Obispo County Artificial Reef) were reviewed along with the design of the recently constructed Palos Verdes Restoration Reef that was designed to increase fish productivity.

This document focuses on the distribution and characteristics of habitat features within the survey areas. Recommendations are made regarding the siting and configuration of rock placement to ensure that: 1) the rock achieves a unified configuration in proximity to other stone derived from

Morro Rock or Morro Rock itself; 2) the rock placement is designed to be modular and can be scaled in volume based on the uncertainties as to how much rock is displaced from the breakwater; 3) the rock is placed on soft bottom to avoid impacts to rocky reef habitat; and 4) rock is placed below the depth of closure within the littoral cell to avoid interference with sediment transport or wave influence along the shoreline.

SURVEY AREA LOCATIONS

Point San Luis Survey Area

The Point San Luis habitat survey extended over areas within one mile of the PSL Breakwater between depths of -20 to -50 feet MLLW. The survey area wrapped around the head of the Port San Luis Breakwater and extended along the western face of Point San Luis covering a total area of approximately 369 acres (Figure 1).

Morro Rock Survey Area

The Morro Rock survey area extends along the west side of Morro Rock and the northern Morro Bay Breakwater with the survey area extending between approximately -20 and -70 feet MLLW. The survey area covered a total area of approximately 245 acres (Figure 1).

REGIONAL REEFS FOR DESIGN REFERENCE

While the placement of the stone is intended to serve a cultural repatriation purpose, there is a strong relationship between the Chumash people and the marine resources of the Central California coast. As a result, the Northern Chumash Tribal Council has proposed the Chumash Heritage National Marine Sanctuary and supports the rock repatriation also providing habitat enhancement benefits, as practical. For this reason, prior reefs constructed in the region were considered to aid in the design of the proposed rock relocation.

The survey areas are in proximity to two artificial reefs (CDFG 1989). The Atascadero Artificial Reef is an artificial reef constructed in 1985 approximately 2 miles north of the entrance to Morro Bay entrance at a depth of approximately -55 feet MLLW (Figure 1). The reef consists of two modules that are each approximately 100 feet long by 60 feet wide with a height of 8 feet. The two units are approximately 100 feet apart and are cumulatively comprised of 3,500 tons of quarry rock. The Atascadero Artificial Reef has been noted to support concentrations of adult brown, gopher, and blue rockfish as well as pile and striped surfperch (CDFG 1989).

The second artificial reef is the San Luis Obispo Artificial Reef located between 42 to 52 feet below MLLW approximately 4 miles north of the Point San Luis Survey Area (Figure 1). This reef was also constructed in 1985 within a 13-acre area of the sea floor. It was constructed of 27,000 tons of concrete Tribar and rubble in four modules each occupying a footprint of approximately 0.8 acres each and rising to heights of approximately 10-13 feet off the sea floor. The San Luis Obispo Artificial Reef has been identified as a nursery ground for rockfish with large numbers of adult blue rockfish with algal growth on the reef and bull kelp forest habitat (CDFG 1985).

A third reef was also considered in the design of the project, the Palos Verdes Reef Restoration Project, constructed in 2020 off the Palos Verde Peninsula (Southern California Marine Institute and Vantuna Research Group 2020). This reef is considerably south of the Port San Luis Breakwater; however, it has the benefit of being recently designed with the benefit of considerable insights on fish use of reefs and provides guidance for modular construction to account for uncertainties in the

Regional Locator Map
Port San Luis Breakwater Repair Project
San Luis Obispo County, CA

Figure 1

volume of rock that will be displaced. It also provides guidance on variable reef vertical relief. The Palos Verdes reef occurs in waters from 52 to 69 feet below MLLW and consists of multiple disjunct modules rising from the sea floor to variable heights of up to 14 feet.

Survey Methodology Habitat distribution and anthropogenic debris data were collected using an interferometric sidescan sonar (ISS) operating at 468 kHz scanning out 50 meters on both the starboard and port channels for a 100-m wide swath. The survey was conducted by running parallel tracklines that were spaced to allow for overlap between adjoining sidescan swaths. Parallel tracklines were surveyed until the entirety of the survey area was covered. The ISS is ideally suited to support surveys for both marine habitats and anthropogenic features due to the integrated collection of both high resolution sidescan along with bottom relief data that further enhances detectability and characterization of features with vertical relief elements such as reefs and shipwrecks.

The swath sonographic surveys allowed for mapping and characterization of different habitats present within the survey areas based on differences in backscatter reflectance, rugosity, bottom topology, and acoustic shadow characteristics. In addition to separation of substrate habitat features (e.g., rock and sand bottom), the survey methods also allowed for the mapping of energy influenced sand, based on sand rippling of the bottom. Biotic features that are readily mappable from the sidescan sonar, including eelgrass was mapped during the habitat inventory. Following completion of the survey, interferometric sidescan sonar traces were mosaicked into a spatially rectified image and transferred to geographic information systems (GIS) software to support mapping. Bathymetry was also a derived product of the interferometric swath survey.

Example interferometric sidescan image of the bottom within the Point San Luis Survey Area. The image illustrates rock bottom habitat of low and high relief reef along with sand bottom and energy influenced sand bottom, represented by the sand ripples.

The fall-winter 2021 canopy kelp was mapped using three clear sky satellite image tiles collected on October 28, November 12, and November 27 from European Space Agency's Sentinel-2 satellites. Accepted algorithms for extracting kelp signatures were applied to the images to illuminate the distribution of canopy kelp habitat (Mora-Soto et al. 2020). Subsequent ground-truthing of the mapping was conducted on December 4 and 5 and determined that most of the kelp present within the survey area in fall-winter 2022 was bull kelp (*Nereocystis luetkeana*).

Visual observations of the bottom were made using a towed video camera that relayed imagery back to the survey vessel to be documented in real time. Cameras were not towed throughout the survey area, but rater were used for ground-truthing and benthic characterization, with the primary survey focus being on the sandy bottom that was a prior deemed most suited to rock placement.

SURVEY RESULTS

- ***Point San Luis Survey Area***

Habitat Resources

The Point San Luis Survey Area supports a complex mosaic of rock exposures intermixed with sand bottom habitat extending from -15 feet MLLW to -55 feet MLLW (Figure 2). Within the shallower portions of the soft bottom habitat, and even at some deeper locations where rock outcrops focus swell energy, the bottom exhibits energy influenced sand ripples (Figure 2).

The Point San Luis Survey Area wraps from outside of the breakwater to the lee of the breakwater tip within the mooring field of the Port San Luis Harbor. As a result, the survey area extends just into the Pacific eelgrass beds in the lee of the breakwater. Canopy kelp was not well represented during the survey and fall-winter leading up to the survey. Small patches of kelp were widely distributed over the hard bottom habitat (Figure 2). As noted, bull kelp was the most abundant species within most of the survey area. However, giant kelp (*Macrocystis pyrifera*) was the dominant species in the lee of the breakwater and in more shallow waters against the shoreline of Point San Luis, outside of the survey area. Habitat acreage in the Point San Luis Survey Area is provide in Table 1.

Table 1. Habitats present within the Point San Luis Survey Area

Substrate Features	2022 Area (Acres)
• Rock	131.0
• Sand	191.7
• Energy Influenced Sand	46.2
• **Total Survey Area**	**368.9**
Mapped Biotic Overlays	
• Pacific Eelgrass	0.3
• Canopy Kelp	0.5

While no sub-bottom surveys were done during the present investigations, the mosaic of low relief reef and large boulders intermixed with sand and energy influenced sands within the Point San Luis Survey Area suggest that the surface conditions are reflective of an eroded headland bench that supports a thin veneer of sand over bedrock. This is a common occurrence offshore of prominent headlands. It also suggests that the low relief reef features observed in some areas of the survey area may be intermittently exposed and buried because of very large storms.

One characteristic of the Point San Luis Survey Area is the strong integration of soft and hard bottom habitat. While the arrangement of habitat features would not preclude being able to place the displaced rock purely on sand bottom, as some of the areas of sand flat are several acres in size, the site is somewhat constraining to vessel positioning and anchoring in a manner that may result in some damage to existing reef during rock placement. Further, the present mosaic of rock at Point San Luis already provides a diverse and complex habitat condition with tall boulder outcrops, low relief reef, soft-hard bottom ecotones, and intermittent sparse to heavy kelp canopy that would provide enhanced marine habitat function. In other words, a reef located within this area would

not provide a substantively unique habitat feature and thus would be expected to provide less net functional habitat benefit than a reef located in a less physically complex environment.

Surface Anthropogenic Resources

The Point San Luis site was not found to support any anthropogenic surface features within the survey area. Outside of the survey area within the harbor there are a number of fiberglass boats as well some steel hulled vessels as mooring blocks on the bottom that are believed to all be associated with the Port San Luis mooring field. These are not within the potential rock placement study area.

- ***Morro Rock Survey Area***

Habitat Resources

The Morro Rock Survey Area stands in stark contrast to the Point San Luis Survey Area in that it is dominated by open sandy bottom with the only rocky features represented being the steep western faces of Morro Rock and the northern breakwater for Morro Bay (Figure 3). The survey area extends from the shoreline rock out to a depth of -70 feet MLLW. The shoreline margin of the site is highly energetic due to the near vertical nature of Morro Rock and the breakwater that result in reflective wave energy that builds wave heights locally.

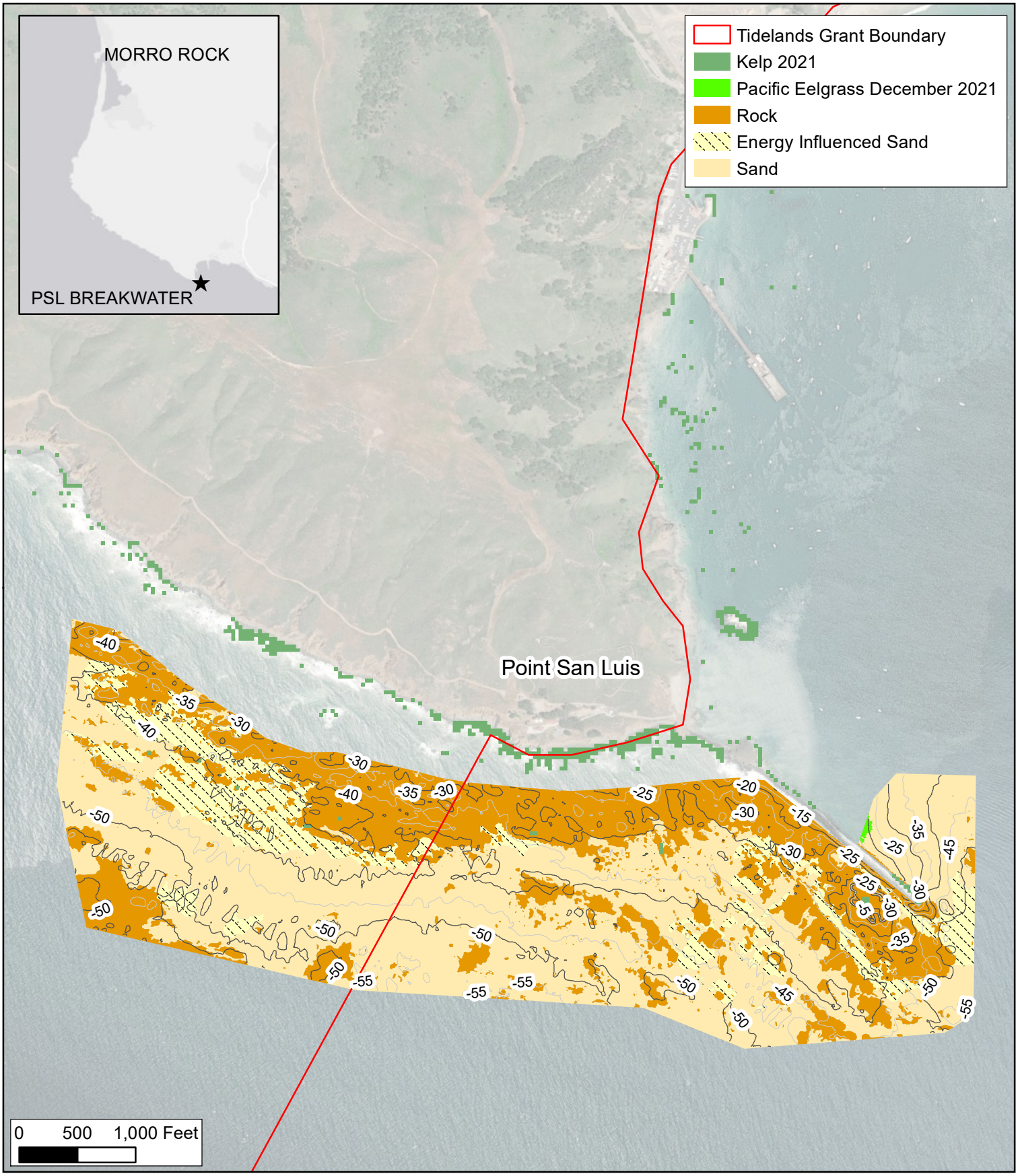
No mappable biotic resources were observed in the Morro Rock Survey Area. Canopy kelp was absent, and no eelgrass occurs in the survey area. Canopy kelp surveys have regularly been performed in portions of the present survey area in association with maintenance dredging activities conducted by the Corps in Morro Bay from 2013-2021 (Merkel & Associates 2013-2021). These surveys, and 1989-2016 data from the CDFW long-term kelp habitat monitoring program (CDFW 2018) have documented an absence of kelp in the survey area. This is likely associated with two factors; a lack of suitable hard bottom habitat at appropriate depths to support kelp, and high reflected wave energy off the steep shoreline rock surfaces.

Habitat acreage in the Morro Rock Survey Area is provide in Table 2.

Table 2. Habitats present within the Morro Rock Survey Area

Substrate Features	2022 Area (Acres)
• Rock	8.3
• Sand	236.6
• Sunken Vessel	0.1
• **Total Survey Area**	**245.0**

The bottom habitat characteristics of the Morro Rock Survey Area is dominated by clean sand in shallower areas to silty sand at the deeper margins of the survey area. The sand does not exhibit characteristic shore parallel ripples as seen in area of the Point San Luis Survey Area. The rock on the outside of the breakwater and west face of Morro Rock receives regular and extreme wave energy influence and thus much of the algal and invertebrate communities at lower elevations are limited to crusts, turfs, and prostrate growth forms. This also differs somewhat from the environment within the Point San Luis Survey Area where the orientation of the shoreline creates some degree of protection from long-fetch northwest swell conditions.



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Point San Luis Survey Area
Port San Luis Breakwater Repair Project
San Luis Obispo County, CA

Figure 2

Surface Anthropogenic Resources

A single sunken vessel occurs within the survey area on the -30-foot contour west of the northern Morro Bay breakwater. The vessel is approximately 80 feet in length and may be split into two parts. It is approximately 1,000 feet from the evaluated area for potential rock placement and shallower than desired for rock placement. As a result, it was not investigated in detail for the present effort. No other anthropogenic debris or vessels were noted within the survey area.

- ***Habitat Characterization for Both Survey Areas***

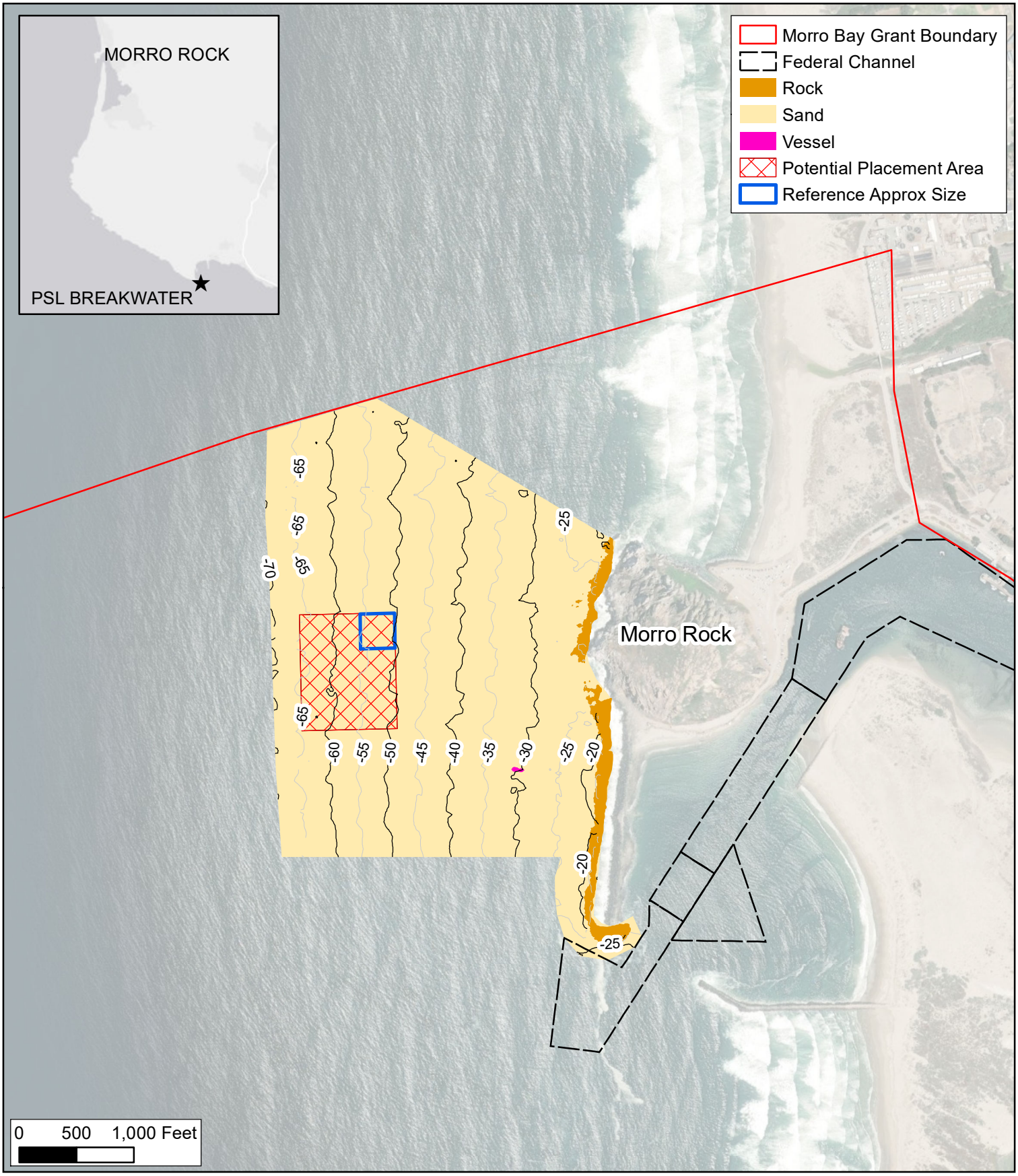
Sand Bottom

Sand bottom within both survey areas is comprised of a gradient of sand texture ranging from clean sand in the shallower portions of the study areas to increasingly silty sand with depth and reduced energy levels. Sand bottom supports abundant sand dollars between -25 and -55 feet at Morro Rock and sparse sand dollars at Point San Luis within depths below -30 feet. Sand dollars are the only organism noted to be abundant in the sand at either site. Other species noted within the area include Moon Snail (*Euspira lewisii*) and purple olive snail (*Olivella biplicata*). At Point San Luis, the ornate tubeworm (*Diopatra ornata*), a species commonly found near rocky outcrops, was common within the sandy environment near the reefs. Clam siphons were occasionally encountered in low numbers within both survey areas and shells from northern razor-clam (*Siliqua patula*) and Pacific gaper (*Tresus nuttallii*) were observed occasionally on the sand surface. Unidentified flatfish were uncommonly encountered at both locations but were never viewed close enough or long-enough to determine species.

Hard Bottom Habitats

Hard bottom substrates support non-canopy macroalgal dominated habitat on surfaces below approximately mean sea level. Both survey areas exhibit rock with limited available primary space, although the vertical structure of the algal and invertebrate communities is very different within the two areas. At Point San Luis, lower prevailing energy environments and considerable low to high relief reef provides for presence of an understory of foliose algae over much of the rocky bottom. Species observed include brown algae of *Cystoseira osmundacea, Dictyopteris* sp.*, Gigartina tepida*, *Desmarestia lingulate, and Laminaria* spp. Canopy kelp included sparse *Nereocystis luetkeana* with an even lesser presence of *Macrocystis pyrifera.* Several coralline algae species were also noted including *Corallina officinalis, Bossiella chiloensis*, *Calliarthron,* and *Lithothamnion* spp. Red turf algae were common on reefs off Point San Luis. The reefs support populations of the corallimorph strawberry anemone, *Corynactis californica*. Bat stars (*Patiria miniata*) and pink short-spined sea stars (*Pisaster brevispinus*) as well as urchins (*Strongylocentrotus purpuratus* and *S. franciscanus*) were noted but were not particularly abundant.

In contrast to the relatively foliose understory on rocky reefs at Point San Luis, the steep and exposed rock surface along the shoreline margin of the Morro Rock Survey Area was dominated by coralline algae crusts including *Corallina spp.*, *Calliarthron spp.*, and *Lithophyllum spp.*, encrusting sponges, and sessile invertebrates including barnacle species, and mussels at the waterline. Sea state conditions did not allow access close enough to the rocky shoreline to inspect the subtidal areas of the rock, but prior observations made on the outer tip of the northern jetty indicate that primary substrate on these rocks is very short statured due to high energy and the abrasive environment derived from waves and suspended sands. Organism noted on the rocky faces included acorn barnacles (*Balanus* spp. and *Chthamalus dalli/fissus*) and mussels (*Mytilus californianus*). Gooseneck barnacles (*Pollicipes polymerus*) were also observed in cracks and cervices as well as under overhangs of the near vertical Morro Rock.



Morro Rock Survey Area
Port San Luis Breakwater Repair Project
San Luis Obispo County, CA

Figure 3

Eelgrass Beds

Pacific eelgrass (*Zostera pacifica*) beds barely extend into the Point San Luis Survey Area and have been well documented in prior surveys for the Port San Luis Breakwater Repair Project. These beds are not within any area considered for rock placement.

Canopy Kelp Beds

Canopy forming kelp beds are limited to areas within the Point San Luis Survey Area and presently include sparse bull kelp and even less well represented giant kelp. Long-term survey data from the Department of Fish & Wildlife reveal that kelp habitat extending over the reef habitat in this survey area varies considerably over time and can be substantial in some years.

DISCUSSION

- ***Breakwater Stone Relocation Configuration***

The relocation of Morro Rock stone would be done with the principal objective of reuniting rock derived from Morro Rock with Morro Rock or ensuring that it remains in proximity and unified with the initial rock displaced to the Port San Luis breakwater from Morro Rock when the breakwater was constructed. As a result, the project is foremost a cultural repatriation project. However, in placing the rock in a unified manner it is desirable to ensure that the work avoids and minimizes harm to high value marine communities, and where practical provides added habitat benefit supporting marine resources and culturally important values of the Native Americans in the region.

Rock placement locations have been coordinated with interested tribes the placement design has been developed to ensure unity of rock being relocated. The more detailed configuration of rock placement has borrowed from examination of artificial reefs in the area, and the well documented Palos Verdes Reef Restoration Project with the intent of providing the best opportunity for the reef to add functionally to the marine ecosystem.

Because the actual total amount of the undersized stone remains unknown and will not be known until the breakwater repair is completed, the design of the cultural reef has been made module, such that each new load of stone placed would add to prior rock in a manner that retains goals for a vertically variable reef configuration, following designs that have contributed to high fishery value, particularly for rockfish species. The contemplated conceptual design of the reef is illustrated in Figure 4.

Each module of the reef consists of two half-modules that are based on a volume reflected by a single scow load of rock. The half modules are made up of sub-modules that are placed as rock mounds of variable height from 1 foot to 15 feet above the seafloor (Figure 4). The submodules are positioned to provide rock to rock contact with adjacent submodules to create a unified reef structure. As additional stone is displaced, it would be placed in adjacent areas of the bottom creating a rock-to-rock contact array that also provides integrated retention of sandy bottom habitat. The elevation of the rocky reef to be developed has been kept in waters between -50 and -65 feet MLLW to ensure that the reef can be safely constructed and that the highest reef crests remain at depths at or below -40 feet to avoid any potential for the reef to interfere with natural wave environments or sediment transport conditions along the shoreline.

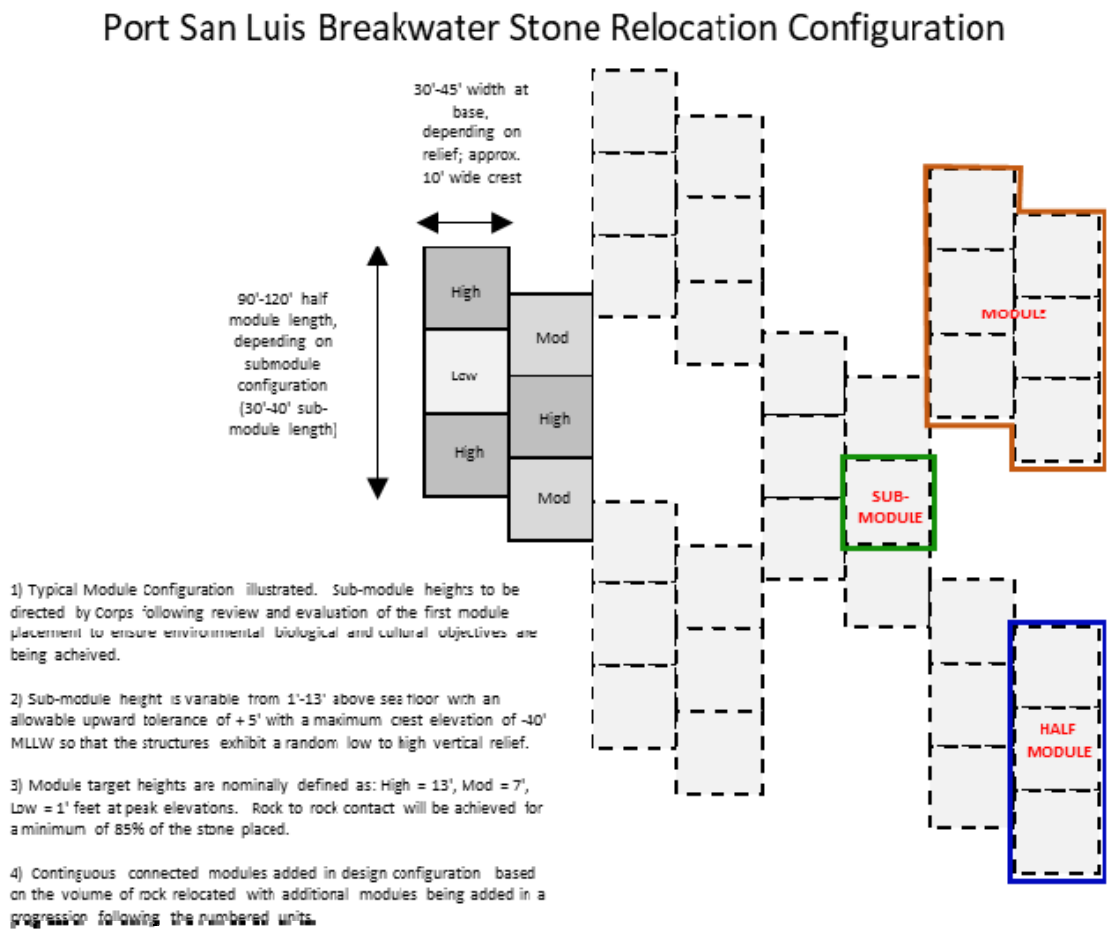


Figure 4. Conceptual layout for cultural repatriation reef

- ***Site Selection Considerations***

The two locations considered for placement of the Morro Rock stone have both similarities and differences. They are regionally located in close proximity with both having a close relationship to Morro Rock. The two locations include waters within tideland grant boundaries to the local municipal agencies (Port San Luis and Morro Bay). Both sites include waters that are deep enough and removed far enough from access into the harbors that sites could avoid navigational conflicts.

Screening of potential conflicts with navigation and mooring areas within Port San Luis have eliminated any potential for reefs on the lee of the breakwater or near the breakwater end. Similarly, at Morro Bay, the Harbor Department has expressed support for the project, but concern about positioning a reef too close to the breakwater where waves build and multiply as it may be difficult to construct and may attract fisherman to close to the area, increasing safety concerns.

From a biological perspective, there is a strong preference for reef placement on sand bottom to avoid rocky reefs, a Habitat Area of Particular Concern (HAPC) under the Pacific Groundfish Fisheries Management Plan (Pacific Fisheries Management Council 2020). While placement of the reefs on sand would result in localized adverse impacts to soft bottom dwelling marine species, the rocky substrate would be expected to replace this habitat loss with a more structurally diverse and

stable environment that is recognized as HAPC for its benefits, principally to rockfish. As a result, the impacts of placement in soft bottom would not be considered significant.

While it is technically feasible to fit the full reef configuration illustrated in Figure 4 within soft bottom of the Point San Luis Study Area, and within the tidelands grant boundary, it is unlikely that a reef could be readily constructed in this area without some potential to damage rocky reef habitat in proximity through anchor placement and cable drags. Such effects may result in significant damage to marine resources, particularly because dragging of anchor cables may be expected to shear many vertical sessile organisms and clear overstory and understory kelp from rock. As a result, should this site be selected additional analysis working in concert with the breakwater contractor would be necessary to determine if potential exists to avoid risk of significant temporary impact to marine resources. Construction of a reef within the open sand bottom of the Morro Rock Study Area does not have similar inherent risk of damage to an HAPC due to the absence of reefs in the area.

Finally, when considering the two study areas and potential for habitat benefit, the Morro Rock site again stands out. While placement of a rocky reef in either site would be expected to result in enhancement of fish and invertebrate communities, such as structure at Point San Luis would not be unique. There are dozens of low to high relief reefs in immediate proximity to the sands suited to support a reef at Point San Luis. Continuing north along the shoreline the trend of many offshore reefs, pinnacles, and boulders continues. As a result, the spatial context of a new reef in this area would suggest that it is nothing unique and thus would not be expected to have the same benefits of adding structural complexity to an already structurally complex bottom. Conversely, at Morro Rock, the bottom is relatively featureless sand and thus any reef feature would create a unique vertical relief and stable substrate condition in the region. Further, even the existing rock present along the shoreline at Morro Rock and the northern breakwater reflect a harshly energetic environment, unsuited to providing significant continuously occupied habitat by some species. A reef set away from shore within deeper water in this location would provide stable and occupiable habitat for species expected to be poorly represented in the immediate area, particularly rockfish.

There remains a question regarding whether a reef off Morro Rock would support persistent or even intermittent kelp habitat. The site is uniquely exposed and generally does not have a history of kelp occupancy. However, as noted, it also lacks suitable substrate. For this reason, whether kelp would occur on the reef if there were a reef remains uncertain. However, it is not believed that the reef need support any particular biological resource to be deemed successful as the principal goal remains repatriation of a culturally important resource and as such, habitat functions are considered an ancillary benefit that is desired, but not required.

If you have any questions regarding these data, please do not hesitate to contact me.

Sincerely,

Keith W. Merkel
Principal Consultant

REFERENCES

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Appendix B

Proposed Morro Rock Reunification: Possible Wave and Transport Impact Analysis

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Proposed Morro Rock Reunification: Possible Wave and Transport Impact Analysis
San Luis Obispo County, California

Prepared By:
John T Goertz
Coastal Engineer
Los Angeles District, USACE

U.S. Army Corps of Engineers
Los Angeles District

March 2021

Proposed Morro Rock Reunification: Possible Wave and Transport Impact Analysis

Purpose

Repairs to the Port San Luis Breakwater during Spring 2022 may result in excess stone originally contained within the structure. As the stone used in the initial construction of the breakwater circa 1900 came from Morro Rock, it is proposed to return this excess to the vicinity of Morro Rock as a cultural resource consideration. This analysis presents the possible impact, or lack thereof, to the local hydrodynamic conditions of the Morro Bay area by the placement of stone at the proposed reunification site.

Location

The proposed location of stone placement for reunification is approximately 1,500 feet west of Morro Rock, as shown in Figure 1. This location was chosen to minimize or eliminate any possible impact on navigation, waves, currents, or littoral transport.

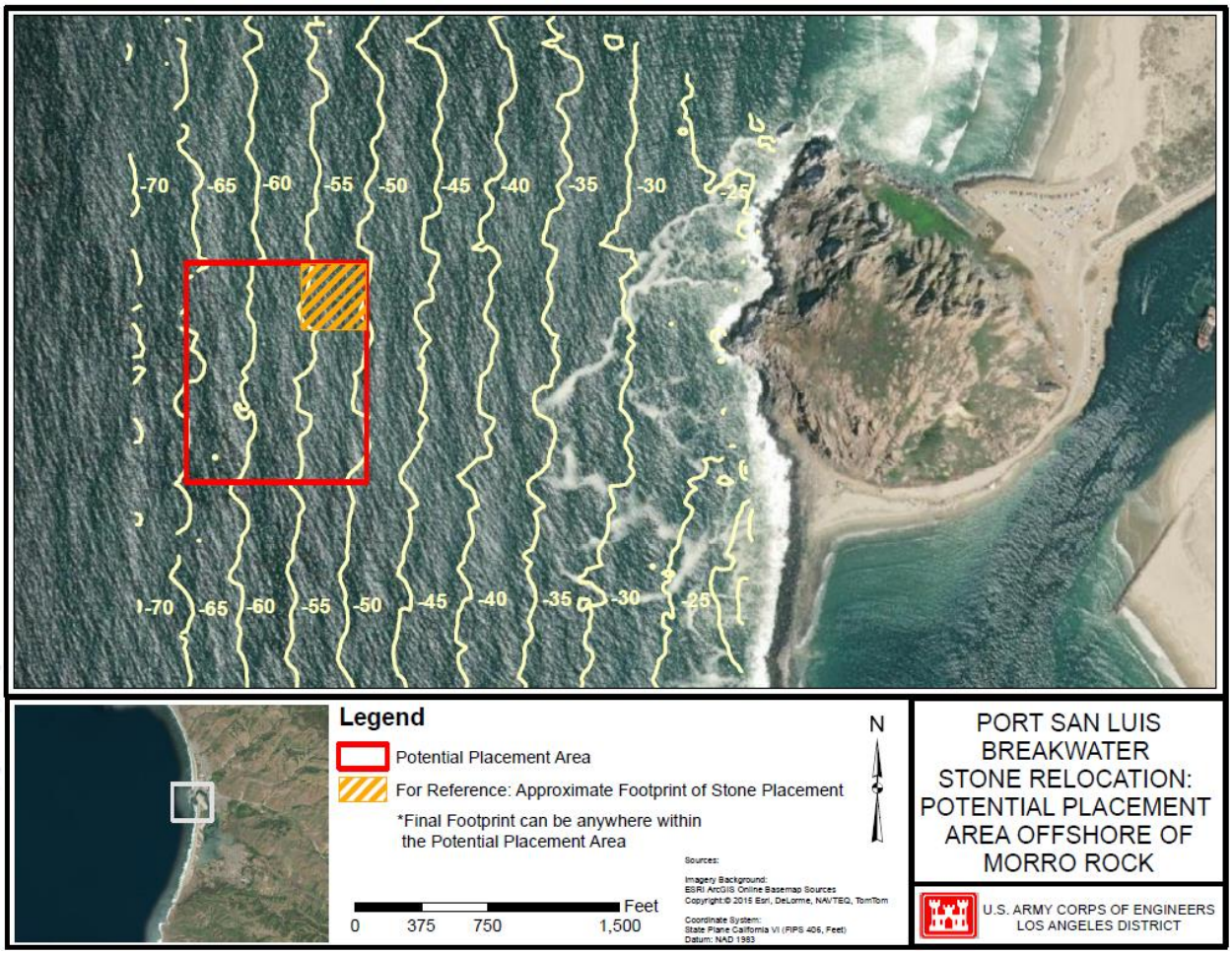

Figure 1 Potential Placement Area of Stone Near Morro Rock

Stone

There may be up to a maximum of 10,000 tons of excess stone during repair of the Port San Luis Breakwater. Stone will range up to 10 tons in weight and will be approximately 2-5 feet in diameter. It will be moved to Morro Rock via barge in 1,000 ton increments and placed in sets of "modules" to maintain cohesion between all stone placed; each trip will take approximately 3-5 days (travel and placement time).

Each barge of stone will cover approximately 4,000 square feet (sf) if placed in a single layer. However, each barge load will be placed with varied relief/heights in multiple modules and submodules. Two anchor stones will be used per module to hold barge position during placement, each approximately 12-15 tons. Depth of placement will vary from -50 to -65 feet Mean Low Low Water (MLLW), with height of the structure varying with depth and submodule. Module crests will not be above approximately -40 feet MLLW. The sediment in this area consists of silty sand and some settlement of placed stones is expected, though this should not exceed a maximum of 1/2 the stone size for the bottom layer of each sub module.

Impact

Wave

Effects on wave energy transmission beyond a structure can be caused by wave overtopping and wave penetration through the structure if it is permeable. For submerged structures a reduction in wave energy can similarly occur due to interactions of the wave energy below the surface. The ratio of transmitted wave height to incident wave height or transmitted wave energy to incident wave energy is represented as the transmission coefficient, C_t. The Coastal Engineering Manual (EM 1110-2-1100) presents a way to calculate the transmission coefficient for several types of coastal structures, including submerged structures, via the van der Meer and d'Angremond (1991) method. However, it makes note that when the crest of the structure is deeply submerged the transmission coefficient approaches one (representing no change in wave energy). This occurs once the ratio of structure crest depth (R_c) to median stone diameter (D_{50}) is beyond negative six ($R_c/D_{50} < -6$).

For the proposed placement location and structure build this ratio will be -10 or lower, and as such we expect that there will be no impact on the incidental wave energy passing over the structure. Additionally, as nearshore currents in this area are driven by wave energy, the resulting lack of impact to the wave environment leads to no expected impacts on nearshore currents.

Sediment

The stone will be placed outside of the depth of closure, defined as the depth beyond which there is little to no net seasonal movement of littoral sand on- or off-shore. Seaward of this depth there is no significant change in bathymetry during a given time interval, while shoreward of this depth seasonal littoral movement of sediment both alongshore and on-/off-shore is common. For Central and Southern California this depth ranges from -30 feet MLLW to -40 feet MLLW, conservatively. As the minimum depth of stone placement will be at -50 feet MLLW we can expect no interference with the littoral transport of sediment.

Appendix C

National Marine Fisheries Service Supplemental Essential Fish Habitat Concurrence

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From:	Bryant Chesney - NOAA Federal
To:	Martinez-Takeshita, Natalie M CIV USARMY CESPL (USA)
Subject:	[URL Verdict: Neutral][Non-DoD Source] Re: Request for Supplemental Essential Fish Habitat Consultation for the Port San Luis Harbor Operations and Maintenance Breakwater Repair Project (NMFS No: WCRO-2021-01276)
Date:	Friday, March 25, 2022 12:07:01 PM

Dear Ms. Natalie Martinez-Takeshita,
NOAA's National Marine Fisheries Service (NMFS) has reviewed your email requesting essential fish habitat (EFH) supplemental consultation, and the referenced report, Port San Luis Breakwater Subtidal Habitat Survey Report for Displaced Morro Rock Stone Relocation. NMFS appreciates your previous coordination regarding the need to address the culturally significant breakwater stone associated with the Chumash sacred site, Morro Rock. NMFS generally concurs with your EFH assessment and the referenced report's conclusions. Therefore, NMFS concurs that no additional EFH conservation recommendations are necessary to address potential adverse effects to EFH. Thank you for consulting with NMFS.
Best regards,
Bryant

On Thu, Mar 24, 2022 at 11:19 AM Martinez-Takeshita, Natalie M CIV USARMY CESPL (USA) <XXXXXXXX> wrote:

> Dear Mr. Bryant Chesney,
>
> The U.S. Army Corps of Engineers (Corps) is planning to commence work on the Port San Luis Harbor Operations and Maintenance Breakwater Repair Project to repair damage to the breakwater. Work is described under the *Final Environmental Assessment for Operations and Maintenance (O&M) Breakwater Repairs Port San Luis Harbor, San Luis Obispo County, California* (USACE July 2021). On June 7, 2021, your agency issued written concurrence with USACE determinations regarding impacts to black abalone through Endangered Species Act (ESA) consultation and impacts to Essential Fish Habitat (EFH) through an EFH consultation. The concurrences were issued within a single combined letter "Endangered Species Act Section 7(a)(2) Concurrence Letter and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Port San Luis Harbor Operations and Maintenance Breakwater Repair Project".
>
> Since the issuance of the concurrence letter, it has been determined that the project description must be modified in order to manage displaced stone that has been deemed to be undersized for the design requirements of the breakwater and thus must be removed from the breakwater prism as part of the construction. This displaced stone is culturally significant as it was initially derived by quarrying the rock from Morro Rock to construct the Port San Luis Breakwater. Morro Rock is recognized by the Chumash as a sacred site and rock that is being removed must be appropriately handled to retain its relationship to Morro Rock, or the breakwater comprised of a large amount of previously dislocated stone. After coordinating with the tribes and evaluating potential placement areas for the material near the Port San Luis Breakwater or Morro Rock, it has been determined that the most culturally appropriate and least impactive, location for placement of the displaced stone is to the west of Morro Rock. It is estimated that up to 10,000 tons of stone may be displaced from the

PSL Breakwater and would be transported approximately 20 miles up the coast from Port San Luis and placed on sand bottom west of Morro Rock in waters between -50 to -70 feet MLLW. The displaced stone is proposed to be placed within modules consisting of high and low relief stone piles that provide contiguous contact from module to module, but which provide stone to stone contact as requested by the tribes. Because the final volume of stone is unknown, the module configuration is to be constructed in a sequencing of units and has been configured to accept all the rock that may be displaced; recognizing that the ultimate configuration may fall short of the maximum. Site conditions and placement configuration for this relocated material has been documented in a letter report *Port San Luis Breakwater Subtidal Habitat Survey Report for Displaced Morro Rock Stone Relocation* (Merkel & Associates, March 9, 2022), previously provided and reviewed via online presentation meeting on March 11, 2022.

The Corps has determined that the proposed addition of the cultural relocation and placement of Morro Rock stone on sandy bottom near Morro Rock constitutes a substantial change in the project with respect to actions subject to EFH consultation but not ESA consultation. As a result, we wish to initiate Supplemental EFH consultation under the Magnuson-Stevens Act (MSA). Work previously described as occurring at the Port San Luis Breakwater remains unchanged and the consultation previously conducted is adequate to cover those activities without modification. As such, we are requesting initiation of Supplemental EFH Consultation to address the new stone placement west of Morro Rock only and we are relying on the prior concluded consultation to address the previously evaluated work.

The Corps believes that the proposed placement of stone offshore of Morro Rock would have adverse but not significant effects to federally managed species under the Coastal Pelagic Species, Pacific Coast Groundfish, Pacific Coast Salmon, and Highly Migratory Species FMPs. Specifically, displaced rock will be placed offshore of Morro Rock and can be expected to result in temporary elevation of turbidity as rock passes through the water column to the seafloor. The turbidity is expected to be limited as the rocks are derived from the wave washed breakwater and are generally free of sediment. However, they will discharge biogenic particulates from marine growth as well as rock fragments from handling of the stone. The upper water column turbidity is expected to dissipate in a matter of minutes after placement due to particulate settlement, while turbidity at the sea floor may remain slightly elevated for days as material suspended off the stone and settles or disperses. Temporary turbidity issues were previously addressed in the prior consultation, however the proposed action constitutes a new geographic location for the adverse effect. Temporary elevated turbidity may have adverse effects to federally managed species under the Coastal Pelagic Species, Pacific Coast Groundfish, Pacific Coast Salmon, and Highly Migratory Species FMPs

In addition to temporary turbidity effects, the work may have localized adverse effects to soft bottom species managed under the Pacific Coast Groundfish FMP due to benthic habitat conversion from soft to hard bottom habitat. This would include replacing silty sand soft bottom with rocky bottom with varied low to high relief and structural void spaces within

the modules as developed by the rock stacking. The project would not fully eliminate soft bottom as the intended design is to create a complex mosaic of hard bottom units that are physically varied and interconnected with interspersed soft bottom habitat. The rock placement would provide a replacement habitat feature in areas of displaced soft bottom that would be expected to also be used by managed groundfish species. This impact is considered to be adverse but not significant due to the replacement substrate provided.

Adverse effects are considered to be temporary or permanent and minor as proposed. Further, the proposed work would not adversely affect any Habitat Area of Particular Concern (HAPC) such as seagrass, canopy kelp, or rocky reef. Temporary impacts have been previously analyzed by type such that only the action area is expanded for turbidity. Therefore, the Corps does not believe additional mitigation measures, BMPs, or conservation recommendations are necessary to avoid, minimize, mitigate, or otherwise offset the work proposed in this requested supplement to the prior EFH consultation.

The Final EA dated July 2021, Appendices of the Final EA, and a signed Finding of No Significant Impact (FONSI) dated August 13, 2021, may be downloaded as PDF documents from the following location:

https://www.spl.usace.army.mil/Media/Public-Notices/Article/2952940/spl-2022-0302-nlh-port-of-san-luis-harbor-om-breakwater-repair/

If you have any questions or would like additional information, please contact me.

Natalie Martinez-Takeshita

Biologist

Ecosystems Planning Section, Planning Division

Los Angeles District US Army Corps of Engineers

(XXXXXXXX)

--

Bryant Chesney

Senior Marine Habitat Resource Specialist, West Coast Region

Protected Resources Division, Long Beach, California

NOAA Fisheries | U.S. Department of Commerce
Office: (562) 980-4037
www.westcoast.fisheries.noaa.gov

APPENDIX J

Amended 401 Water Quality Certification

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April 11, 2022

Eduardo T. Demesa
U.S. Army Corps of Engineers
Los Angeles District
XXXXXXXX

VIA ELECTRONIC MAIL

Reg. Measure ID:
Place ID: 872091

Dear Eduardo T. Demesa:

FIRST AMENDMENT TO CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION AND ORDER FOR THE PORT SAN LUIS HARBOR BREAKWATER REPAIRS PROJECT (CERTIFICATION (WDID) NO. 34021WQ04)

The U.S. Army Corps of Engineers (Permittee) has requested a change to the June 17, 2021 Water Quality Certification No. 34021WQ04 for the Port San Luis Harbor Breakwater Repairs Project (Project) to allow for relocation of up to 10,000 tons of existing Port San Luis Breakwater stone to nearshore waters located approximately 1,500 feet west of Morro Rock. Stone will be placed in contiguous connected modules as described in the amendment request submitted March 9, 2022. With this letter, we are amending Certification No. 34021WQ04. The amended language is shown in underline-strikeout format below.

Project Description (purpose/goal)	*The purpose of this project is to restore a damaged portion of the breakwater needed to ensure navigational safety and prevent degradation of the structural integrity of harbor facilities.* *Central Coast Regional Water Quality Control Board (Central Coast Water Board) staff understands that the project includes the following activities:* *1. Resetting of existing stone and placement of new stone using barges or other construction vessels.* *2. Excavation of shoaled sediment adjacent to the leeward side of the breakwater for vessel access.* *3. Placement of sediment for beneficial reuse as part of construction of a new eelgrass bed.* *4. <u>Relocation of up to 10,000 tons of displaced existing breakwater stone in nearshore waters with sandy bottom approximately 1,500 feet west of Morro Rock in contiguous connected modules</u>.*

Total Maximum Authorized Project Fill/Excavation Quantity									
Aquatic Resource Type	***Temporary Impact***			***Permanent Impact***					
				Physical Loss of Area			***Degradation of Ecological Condition***		
	Acres	***CY[1]***	***LF[1]***	***Acres***	***CY***	***LF***	***Acres***	***CY***	***LF***
Ocean/bay/ estuary	~~*4.39*~~ *7.39*	~~*15,000*~~ *37,500*	~~*1,800*~~ *2,175*						

All other aspects of the project are to remain as originally proposed. These changes should not result in additional impacts to water quality, provided that the Permittee implements the required best management practices and complies with all conditions as described in the Certification, this First Amendment, and all related application and supplemental documents provided in support of the original application and this amendment request.

If you require further assistance, please contact Kathleen Hicks at XXXXXXXX or via e-mail at XXXXXXXX or Diane Kukol at XXXXXXXX. Please mention the above certification file number in all future correspondence pertaining to this project.

Sincerely,

for
Matthew T. Keeling
Executive Officer
Central Coast Regional Water Quality Control Board

cc:

Kirk C. Brus, U.S. Army Corps of Engineers, XXXXXXXX
Gabrielle Dodson, U.S. Army Corps of Engineers, XXXXXXXX Natalie Martinez-Takeshita, U.S. Army Corps of Engineers, XXXXXXXX
Julie Vance, California Department of Fish and Wildlife, XXXXXXXX
Linda Connolly, California Department of Fish and Wildlife, XXXXXXXX
U.S. Environmental Protection Agency, R9cwa401@epa.gov
CWA Section 401 WQC Program, Stateboard401@waterboards.ca.gov
Jackson Welch, Central Coast Water Board, XXXXXXXX
Kathleen Hicks, Central Coast Water Board, XXXXXXXX
Diane Kukol, Central Coast Water Board, XXXXXXXX

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[1] Cubic Yards (CY); Linear Feet (LF)