APPENDICES

Environmental Assessment

Demolish Abandoned Pier
Marine Corps Base Hawaii, Kaneohe Bay, Oahu, Hawaii

Prepared for:
Marine Corps Base Hawaii

Prepared by:
Department of the Navy
Naval Facilities Engineering Command, Pacific
December 2017

Appendices

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Appendix A:

Project Site Photographs

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Appendix A:

Project Site Photographs

T-Pier (ca. 1970)

T-Pier (with added concrete-deck section, undated photo)

T-Pier (from ground level, November 2015 photo)

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Appendix B:

Memorandum For The Record - T-Pier Underwater Site Assessment

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MEMORANDUM FOR THE RECORD

December 12, 2013 reconnaissance of the abandoned T pier adjacent to Waterfront Operations at Marine Corps Base Hawaii

Date: 17 December 2013
Prepared by: Stephen H. Smith Marine Ecologist-Team Leader
Activity: NAVFAC EXWC Scientific Diving Services (SDS)
Telephone: 808-472-1405

Introduction and Background

There is an abandoned T Pier adjacent to Waterfront Operations at Marine Corps Base Hawaii. The remaining portions of the pier include a concrete deck supported by 14 rows of piles, with two piles per row. This remnant of the T pier is parallel to the shore. Additionally, there are seven rows of piles, with two piles per row, perpendicular to the shore which once connected to the pier. Several additional piles are still present on the southern side of row of piles that run perpendicular to the shore.

Removal of the entire T pier complex is being considered. Individuals associated with some of the stakeholder agencies have expressed concern about the presence of certain species of coral on the pier piles. First, the soft snowflake coral (Order Alcyonacea – *Carijoa riisei*) is regarded by many as an alien invasive species. Removal of the pier could result in fragmentation of the snowflake coral colonies and result in snowflake corals becoming more widespread in the Kaneohe Bay. The second potential issue was the possible presence of stony coral species (Order Scleractinia) proposed for listing as threatened under the Endangered Species Act (ESA).

Objectives

The objective of this survey was to conduct a reconnaissance level survey of the piles to determine if snowflake coral specimens and/or stony coral species proposed for ESA listing were present.

Methods

The author completed an 83 minute dive to visually assess each of the 28 piles which supported the concrete deck and the 14 piles oriented perpendicular to the shore line. The author was supported by personnel from Mobile Diving Salvage Unit 1. Each pile was visually inspected, underwater visibility ranged from approximately 5 to 10 feet, laterally. The depth at the mudline ranged from 25 to 27 feet for the concrete deck piles.

Results

General

All the piles were heavily fouled. The fouling community was typical of what the author has observed in Honolulu Harbor, Pearl Harbor, Kaneohe Yacht Club and Hilo Harbor. Thick mats of algal turf were present. As used here, algal turf is defined as a multi-species assemblage of diminutive, generally filamentous algal species with heights of less than 10 cm. Crustose coralline algae and macro algae were also present. The alien invasive macro algae *Gracillaria salicornia* was present on some of the piles. Some of the most obvious fouling invertebrates were: parchment worms (*Chaetopterus sp*.), sea frost (*Salmacina dysteri*), feather duster worms (*Sebellastarte spectabilis*) and the erratic bryozoan (*Schizoporella errata*). Figure 1 below illustrates a typical section of the fouling community at 22 feet.

Figure 1
Typical fouling community at a depth of 22 feet.

Corals

The snowflake coral (*Carijoa riisei*) was observed on only one of the 28 piles supporting the concrete deck portion of the T pier. This snowflake coral complex had a maximum dimension of

1.5 m (4.9 feet) and was located in pier pile row 8 (assuming row 1 began at the northwestern end of the pier. Figure 2 illustrates this complex.

Figure 2
Carijoa riisei in pier pile row 8 of the T pier.

The seven rows of pier piles oriented perpendicular to the shore had snowflake coral on four of the 14 piles. In addition, snowflake coral was observed growing on abandoned lines and chain hanging parallel to the piles. Figure 3 shows snowflake coral on an abandoned cable.

Figure 3
Carijoa riisei on an abandoned cable.

The following species of stony corals (Order Scleractinia) were observed on the pier piles: *Montipora capitata*, *Montipora sp*., *Pocillopora damicornis*, *Leptastrea purpurea*, and *Porites compressa*. The largest colony sighted was a *Montipora capitata* specimen that measured 21 cm in its maximum dimension. The second largest colony sighted was *Pocillopora damicornis* at 20 cm. Fifteen coral colonies were recorded on the outer piles during this reconnaissance. A more detailed investigation would probably reveal additional specimens. None of the Scleractinian corals proposed for Threatened or Endangered status were confirmed to be present on the pier piles or the sea floor under the piles. All of the Scleractinian corals sighted were common Hawaiian species that are abundant in the Main Hawaiian Islands and throughout Kaneohe Bay.

Figure 4
Montipora capitata colony

Figure 5
Typical sea floor section underneath the pier.

Conclusions

The organisms present on the pier piles are typical of those found on similar structures throughout the Main Hawaiian Islands. None of the species observed were unusual, relative to their size, growth forms or total numbers. No proposed species were confirmed to be present. The snowflake coral *Carijoa riisei* is already established at many locations throughout Kaneohe Bay. It is the author's opinion that the removal of the pier piles will not have any significant adverse impacts to the marine natural resources of Kaneohe Bay.

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To:	Bigay, John CIV NAVFAC PAC, EV2
Cc:	Earley, Patrick J CIV SPAWARSYSCEN-PACIFIC, 71750; Carilli, Jessica CIV SPAWARSYSCEN-PACIFIC, 81500
Subject:	MCBH T PIER
Date:	Thursday, January 26, 2017 10:25:11

Dear John:

Per your request, this email is intended to serve as 'record of observations'.

In December 2013 a marine ecological survey was performed at the T-Pier at Marine Corps Base Hawaii. A brief report was provided which characterized the observations made at that time. The survey and report were done by Stephen H. Smith of SPAWAR Scientific Diving Services.

On October 18, 2016 a reconnaissance level survey was completed at the T-Pier by Stephen H. Smith. That survey was done in conjunction with another project being conducted in the vicinity of Waterfront Operations. Smith's professional, subjective opinion was that there were no detectable changes between December 2013 and October 2016 relative to the marine natural resources assessed.

Sincerely,
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Appendix C:

Biological Evaluation and Essential Fish Habitat Assessment

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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Pacific Islands Regional Office
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AUG 0 8 2016

Ms. Karen Sumida
Department of the Navy
Naval Facilities Engineering Command, Pacific
258 Makalapa Drive, Suite 100
Pearl Harbor, Hawaii 96860-3134

Dear Ms. Sumida:

This letter responds to your May 13, 2016 letter, Biological Evaluation and Essential Fish Habitat Assessment (BE), subsequent electronic mail messages, and other correspondence regarding your proposed action to demolish and remove an existing pier at Marine Corps Base Hawaii (MCBH) in Kaneohe Bay, Oahu, Hawaii. In the letter, the Navy, on behalf of MCBH determined that the proposed Removal of the Former Naval Ocean Systems Center (NOSC) Pier Project is not likely to adversely affect (NLAA) endangered or threatened species under our jurisdiction, and requested our concurrence under section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. §1531 *et seq.*), with that determination.

Proposed Action

In summary, MCBH proposes to: 1) demolish and remove an existing section of concrete decking, 2) demolish and remove all existing pier pilings by cutting them just above the sea floor, 3) remove any existing utility lines associated with the pier, and 4) remove and haul away material and/or debris for recycling and/or disposal. The pier is approximately 2,600 square feet (200 feet by 13 feet), which is supported by 28 concrete pilings. A wooden walkway leading to the existing concrete deck was removed in 2011 but 24 concrete pilings that supported the walkway remain. The MCBH will use a barge-based crane, diver-operated saws, and other hand tools to remove all components of the pier and pilings.

The MCBH proposes and will ensure implementation of best management practices (BMPs) listed in their BE, including the use of observers during transit and construction, employment of speed limits on vessels, contingency plans to prevent, control, and contain spills, methods to control turbidity from leaving the source area, and minimize noise impacts to the surrounding environment. As part of their BMPs, the Navy will conduct hydroacoustic monitoring during piling removal. The Navy will record the ambient sound level in the action area. If ambient sound levels are lower than 139.5 dB_{rms}, the Navy may extend the action area and the area of monitoring for marine mammals, depending on the circumstances, to ensure that noises generated by the action are not disturbing listed species beyond the action area. The Navy will also record the amplitude and frequency of the sounds generated by the pneumatic saws during pile removal at 1 meter (source level) and selected distances from the source. This will determine if BMPs to reduce acoustic spreading are necessary, and the appropriate distances that should be monitored to avoid effects to listed species.

Action Area

The action area for this project includes areas affected by noise, turbidity, and human disturbance. This action area also includes all vessel transit routes to and from the work area. The Navy estimated the

aquatic action area to include a 300 meter radius from the Naval Ocean Systems Center (NOSC) pier based on an estimated area that will have elevated noise levels during various stages of demolition and removal of the pier and pilings. As discussed, this action area may change as hydroacoustic monitoring reveals sound pressures before and during pile cutting. The aquatic action area is estimated to be about 45.4 acres and is outlined in figure (1).

Figure (1) – Action area for the NOSC pier at MCBH Kaneohe, Oahu.

Listed Species

The Navy determined that the ESA-listed threatened and endangered species under NMFS jurisdiction listed in Table 1 are known to occur, or could reasonably be expected to occur, in Kaneohe Bay, Oahu, and may be present in the action area.

The action area does not contain designated critical habitat for Hawaiian monk seals because it is within MCBH jurisdiction, which is managed in accordance with the MCBH Integrated Natural Resource Management Plan and excluded under Section 4(a)(3)(B)(i) of the ESA (80 FR 50925).

Table (1) - ESA listed species considered in this consultation.

ESA Species	Listing Status	Listing Date and Federal Register Notice	Critical Habitat Date and Federal Register Notice (if applicable)
Central North Pacific Green sea turtle (*Chelonia mydas*)	Threatened	05/06/2016 81 FR 20057	N/A
Hawksbill sea turtle (*Eretmochelys imbricata*)	Endangered	06/02/1970 35 FR 8491	09/02/1998 63 FR 46693
Hawaiian monk seal (*Neomonachus schauinslandi*)	Endangered	11/23/1976 41 FR 51611	08/21/2015 80 FR 50925 Not in action area

Detailed information about the biology, habitat, and conservation status of sea turtles and monk seals can be found in their status reviews, recovery plans, federal register notices, and other sources at http://www.nmfs.noaa.gov/pr/species/esa/.

Analysis of Effects

In order to determine that a proposed action is NLAA listed species, NMFS must find that the effects of the proposed action are expected to be insignificant, discountable, or beneficial as defined in the joint USFWS-NMFS Endangered Species Consultation Handbook: (1) insignificant effects relate to the size of the impact and should never reach the scale where take occurs; (2) discountable effects are those that are extremely unlikely to occur; and (3) beneficial effects are positive effects without any adverse effects (USFWS & NMFS 1998). This standard, as well as consideration of the probable duration, frequency, and severity of potential interactions, was applied during the analysis of effects of the proposed action on ESA-listed marine species, as is described in detail in the Navy's consultation request.

The MCBH may expose listed species to vessel collision, human disturbance, noise, exposure to waste and discharge, turbidity, and loss of forage habitat.

The MCBH could potentially expose Central North Pacific Distinct Population Segment (DPS) green sea turtles and hawksbill sea turtles (since individuals of both species would be affected equally by stressors described in this action, they are collectively referred to as "sea turtles" henceforth), and Hawaiian monk seals to vessel collisions. The MCBH will implement BMPs that minimize exposure to vessel collisions including reduced vessel speeds in proximity to marine mammals and known sea turtle locations and avoidance of areas where marine mammals and sea turtles are sighted. The speed restrictions are intended to reduce the probability of collisions, and the severity of injuries if one occurs. Hazel et al. (2007) demonstrated greater vessel speed increased the probability that sea turtles would fail to flee from the approaching vessel. Coincidentally, vessel operators have more difficulty detecting sea turtles at higher speeds, especially during choppy or low-visibility conditions. Vanderlin and Taggart (2007) report that the severity of injury to large whales is directly related to speed. They found that the probability of lethal injury increased from 21% for vessels traveling at 8.6 knots, to over 79% for vessels moving at 15 knots or more. We assume collisions at higher speeds would result in more severe injuries for all animals. NMFS (2008) estimated 37.5 sea turtle vessel strike and mortalities per year from an estimated 577,872 trips per year in Hawaii. This calculates to a 0.006% probability of a vessel strike for all vessels and trips, many of who are not reducing speeds or employing lookouts for listed species. Considering the slow

vessel speeds of barges and workboats being used in this action, use of lookouts, and avoidance of areas when listed species are observed, the probabilities are likely even lower. The number of vessel trips from other marinas or other islands to and from the site will be no more than 20, further reducing the likelihood of a vessel collision during this action. We do not have similar information on vessel collisions and Hawaiian monk seals, but because of their lower numbers and wider spatial distributions in the action area, we expect the probability of a vessel collision to be even lower than the probability for sea turtles. We expect effects on listed species from vessel collisions to be discountable.

Divers could potentially disturb listed animals in the action area while they are removing the existing concrete piles. Neritic sea turtles and Hawaiian monk seals are large and agile in water, and capable of swimming away safely from any disturbance that would injure them. Nonetheless, non-consumptive human interactions like recreational diving, viewing, and approaching animals has been demonstrated to negatively affect wildlife by reducing foraging time, reducing survival, reducing breeding success, and other sublethal effects. Hayes et al. (2016) demonstrated that hawksbill sea turtles spent less time eating, investigating, and breathing when approached by SCUBA divers. According to the BMPs, divers will refrain from entering work areas when sea turtles or Hawaiian monk seals are present, halt work when listed animals are within 150 feet of the work area, and avoid interacting with sea turtles or Hawaiian monk seals, which will avoid direct contact with saws and equipment, and minimize effects of human disturbance. The Navy will ensure divers will adhere to BMPs listed above, and we expect human disturbance to have insignificant effects on listed animals.

The MCBH may expose listed species to mechanical noise from vessels and machinery used to remove the structures. The MCBH will use pneumatic saws to cut the concrete piles, which produce sounds that are considered continuous. Similar saws have been recorded with source level amplitudes less than 170 dB (re: 1 µPa) at 1 meter (Anthony et al. 2009). The operation of a barge and crane will generate sounds that may disturb listed species in the action area. Barge loading was recorded to have source level sounds at 167 dB_{rms} and 139.5 dB_{rms} at 100 meters, and sounds from the engines were measured at 166 dB_{rms} at 1 meter and 134 dB_{rms} at 135 meters (Reine et al. 2014). Pinnipeds, including Hawaiian monk seals, have a weighted temporary threshold shift onset threshold of 181 dB cumulative sound exposure level. The amplitudes of the source levels reported in Anthony et al. (2009) and Reine et al. (2014) are too low produce these sound exposure levels and cause temporary or permanent threshold shifts or loss of hearing in Hawaiian monk seals. NOAA Acoustic Guidance has identified a behavioral change threshold for continuous noises at 120 dB_{rms} for marine mammals. Hawaiian monk seals may respond to noises by avoiding, halting their activities, experience reduced hearing by masking, or attraction to source noises. We expect minimal risk to behavioral changes by Hawaiian monk seals exposed to sounds generated by pile removal. Hawaiian monk seals are large and agile, and capable of swimming away safely from any disturbance that would harm them. The MCBH will halt work when Hawaiian monk seals are observed within a minimum of 150 feet of the work sites and monitor larger areas depending on acoustic recordings on site. These measures will minimize their exposure and the sounds generated by the proposed action will have insignificant effects to monk seals.

We have less information on hearing thresholds for sea turtles, but sea turtle hearing ranges are generally limited and they are noted as being less reliant on hearing than marine mammals who regularly communicate by vocalization. Sea turtle ears are also more primitive than that of marine mammals and less capable of detecting sound pressures than marine mammals (Popper et al. 2014). For these reasons, sea turtles are less likely to detect sound pressures that could injure them (PTS and TTS), and less likely to behaviorally respond at far distances. The MCBH will halt work when Hawaiian monk seals are observed within a minimum of 150 feet of the work sites or greater depending on acoustic recordings on site. These measures will minimize their exposure and the sounds generated by the proposed action will have insignificant effects to sea turtles.

The MCBH may expose listed species to waste and discharge associated with the vessels and dredging equipment. The MCBH will avoid exposing listed species by checking all vessels and equipment for leaks and spills prior to work, maintain equipment in proper working condition, and develop and implement a contingency plan to control and contain hazardous chemicals. Fueling of land-based vehicles and equipment will take place at least 50 feet away from the water. Fueling of vessels will be done at approved fueling facilities. The MCBH will strictly adhere to those BMPs, which will reduce the likelihood of a discharge or accidental release of wastes. Discharges and spills could occur but they are expected to be infrequent, small, and quickly cleaned. Based on properly maintaining all vessels and equipment, and adherence to proposed BMPs, we expect waste or discharge from the project activities would have insignificant effects to listed species.

The MCBH may expose listed species to elevated turbidity or sedimentation. Some turbidity is expected to leave the work site but not at levels that would harm listed species. Listed sea turtles and monk seals are highly mobile and capable of avoiding turbid areas. Sea turtles are often observed in turbid waters, and any sea turtle or monk seal that would enter turbid waters in the action area will be there by their choice and are assumed to be unharmed. The MCBH will adhere to BMPs such as halting construction when listed species are in the action area, which would further minimize their exposure. Suspended sediments carried from the site could spread to areas where favorable habitat such as corals and seagrass exist. Living organisms can withstand some level of turbidity and the majority of those favorable habitats are more than 50 feet away from the closest piles reducing the likelihood that it would be exposed to suspended sediments. The MCBH will cut the piles at or above the sediment line, and will have little disturbance to the sediments, which will minimize turbidity. Most suspended sediments is expected to settle close to the source, have minimal effects to listed species in the action area, minimal long-term effects to favorable habitat, and should not degrade the quality or quantity of forage habitat for listed species. We expect effects on listed species from turbidity and sedimentation to be insignificant.

The MCBH may affect listed species by removing some forage from the action area by removing the pilings, which are presently colonized by sponges, algae small colonies of corals, and various invertebrates. The removal of the pilings will reduce some forage from the action area and may have a short-term effect in the quantity of forage for sea turtles. Hawaiian monk seals do not eat these items and will not be directly affected by this loss of forage. This forage on the man-made structures are not limiting in the action area. Living coral reefs are nearly 100 feet from the pier structure and the pilings, and seagrass meadows exist within the base property. Both non-native and native algae are common throughout the action area and all provide ample forage opportunities for sea turtles. Once the pier removal is complete, forage may re-settle the area and we expect no long-term adverse effects to listed animals, and we expect effects of removing growth on existing pilings to be insignificant.

Based on consideration of the record as presented in the information and assessments in the Navy's consultation request and follow-up materials, and the best scientific information available about the biology and expected behaviors of the ESA-listed marine species considered in this consultation, NMFS concurs with 1) the list of ESA-listed species and critical habitat potentially exposed to the effects of the action, 2) the suite of identified stressors, and 3) the Navy's assessment of exposure risk and significance of exposure to those stressors.

Conclusion

NMFS concurs with your determination that conducting the proposed removal of the former NOSC Pier project is not likely to adversely affect Central North Pacific green sea turtle, hawksbill sea turtle, and Hawaiian monk seal. This concludes your consultation responsibilities for this action under the ESA for species under NMFS' jurisdiction. If necessary, consultation pursuant to Essential Fish Habitat would be completed by NMFS' Habitat Conservation Division in separate communication.

ESA Consultation must be reinitiated if: 1) take occurs; 2) new information reveals effects of the action that may affect listed species or designated critical habitat in a manner or to an extent not previously considered; 3) the identified action is subsequently modified in a manner causing effects to listed species or designated critical habitat not previously considered; or 4) a new species is listed or critical habitat designated that may be affected by the identified action.

If you have further questions please contact Joel Moribe on my staff at (808) 725-5142 or joel.moribe@noaa.gov. Thank you for working with NMFS to protect our nation's living marine resources.

Sincerely,

Ann M. Garrett
Assistant Regional Administrator for Protected Resources

cc: Dan Polhemus, Aquatic Ecosystems Conservation, USFWS, Honolulu
Ian Lundgren, NAVFAC Pacific
Lance Bookless, MCBH

NMFS File No. (PCTS): PIR-2016-9901
PIRO Reference No.: I-PI-16-1399-AG

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DEPARTMENT OF THE NAVY
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5090P.1F13B
Ser EV2/00316
June 22, 2016

Mr. Michael Tosatto
Regional Administrator
NOAA Inouye Regional Center
NMFS/PIRO
1845 Wasp Blvd., Building 176
Honolulu, HI 96818

Dear Mr. Tosatto:

Subj: EFFECTS TO PROTECTED SPECIES AND ESSENTIAL FISH HABITAT FROM REMOVAL OF THE FORMER NAVAL OCEAN SYSTEMS CENTER PIER AT MARINE CORPS BASE, HAWAII, KANEOHE

In accordance with the Magnuson-Stevens Fishery Conservation and Management Act (16 USC § 1801 et seq.) and regulations governing conservation of Essential Fish Habitat (EFH), the Navy is providing this letter as a response to the National Marine Fisheries Service (NMFS) June 10, 2016 letter with conservation recommendations for the proposed demolition of the former Naval Ocean Systems Center (NOSC) pier at Marine Corps Base Hawaii (MCBH), Kaneohe Bay. The impacts from the project will be minimized through implementation of Best Management Practices (BMPs) and conservation measures are included in the proposed action. The Navy provides responses to conservation recommendations from NMFS below. As noted in the NMFS letter, the conservation recommendations are pursuant to the EFH provision of the Magnuson-Stevens Fishery Conservation and Management Act (50 C.F.R. §600.905-930) and the Fish and Wildlife Coordination Act (16 U.S.C.§662(a)).

The Navy's responses to the five EFH conservation recommendations offered in your letter received June 10, 2016 pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Fishery Conservation and Management Act are:

NMFS EFH Conservation Recommendation 1: Ensure effective implementation of all mitigation measures as described in the EFH assessment. These mitigation measures are essential for ensuring minimal short- and long-term adverse effects to EFH and the abundant coral reef resources present in the project area. Adaptive management should be utilized throughout the project construction period to control the in-water activity of machinery and equipment to contain turbidity and sedimentation and to avoid loss of coral colonies.

Navy response to Conservation Recommendation 1: The Navy agrees to implement mitigation measures, referred to as Conservation Measures, as described in Section Five of the Biological Evaluation and Essential Fish Habitat Assessment (BE/EFHA) for this project dated May 6, 2016. Additionally, The Navy agrees to implement all Best Management Practices listed in Section 2.1.3 of the BE/EFH which include a variety of adaptive management practices that control the activity of machinery and equipment to limit sedimentation and the loss of coral colonies. Together, the Best Management Practices and the Conservation Measures will ensure minimal short- and long-term adverse effects to EFH.

Subj: EFFECTS TO PROTECTED SPECIES AND ESSENTIAL FISH HABITAT FROM REMOVAL OF THE FORMER NAVAL OCEAN SYSTEMS CENTER PIER AT MARINE CORPS BASE, HAWAII, KANEOHE

NMFS EFH Conservation Recommendation 2: Ensure the barge is anchored only in unconsolidated bottom devoid of corals. Minimize movement of the barge during construction to reduce associated turbidity and sedimentation effects. Ideally, avoid barge relocation entirely.

Navy response to Conservation Recommendation 2: The Navy agrees to secure the barge using spuds or anchors by contacting unconsolidated sediment only, as described in Best Management Practices section, number 20 of the BE/EFHA for this project dated May 6, 2016. "When anchors or spuds are used to position the barge during demolition operations, the anchors and spuds will be placed in soft sediments which are free of vegetation, and care will be taken by the operator to minimize bottom disturbance to the maximum extent possible." When practical, the barge will be secured utilizing remaining portions of the existing pier structure.

NMFS EFH Conservation Recommendation 3: Perform work outside of the main coral spawning season during the summer months of June to August to reduce sedimentation and turbidity effects to coral eggs and larvae in the area.

Navy response to Conservation Recommendation 3: The Navy sought guidance from NMFS on coral spawning in the Best Management Practices section, number 11 of the BE/EFHA for this project dated May 6, 2016. The Navy acknowledges the recommended coral spawning dates, June 1 through 31 August, during which in-water demolition activities should not occur. To the maximum practical extent, these dates will be avoided. If the need should arise to conduct aspects of this project during those dates, NMFS will be consulted for further guidance.

NMFS EFH Conservation Recommendation 4: Conduct work only during calm ocean conditions to prevent uncontrolled movement of construction equipment to avoid abrasion to sessile benthic organisms during construction. A contingency plan should also be in place once construction has started to ensure that the barge is either secured with additional anchors, or relocated out of Kaneohe Bay in the event of a storm event generating high swells.

Navy response to Conservation Recommendation 4: The Navy agrees to conduct operations only during acceptable sea states, as described in Best Management Practices section, numbers 15 and 17 of the BE/EFHA for this project dated May 6, 2016. "Turbidity and siltation from project related work will be minimized and contained... through the curtailment of work during adverse tidal and weather conditions." "A contingency plan will be in place for the removal and adequate securing of equipment in the event of approaching storms, or when the National Weather Service has issued a gale warning for local waters."

NMFS EFH Conservation Recommendation 5: Relocate, to the greatest extent practicable, the few coral colonies growing on the pilings (and on any debris to be removed) to avoid complete loss of these organisms. A receiving site outside of the project footprint and away from the nearby patch reefs may be the area along the shoreline located inshore of the Pier. Since there are only a few coral colonies, relocation efforts can involve simply placing the corals on top of un-colonized hard bottom. Post relocation monitoring would not be expected by NMFS.

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Ser EV2/00316
June 22, 2016

Subj: EFFECTS TO PROTECTED SPECIES AND ESSENTIAL FISH HABITAT FROM REMOVAL OF THE FORMER NAVAL OCEAN SYSTEMS CENTER PIER AT MARINE CORPS BASE, HAWAII, KANEOHE

Navy response to Conservation Recommendation 5: The Navy will allocate one day of effort to move corals suitable for relocation from the pier to a suitable nearby receiving site. Relocated corals may be placed on uncolonized hard bottom rather than being secured, and no post-relocation monitoring will be conducted.

We appreciate the time and careful consideration that went into evaluating the proposed project and providing EFH conservation recommendations. Should you have any questions about the Navy's response, please contact Ian Lundgren of our Environmental Planning and Conservation Division at (808) 472-1426 or ian.f.lundgren@navy.mil.

Sincerely,

KAREN C. SUMIDA
By direction

U.S. DEPARTMENT OF COMMERCE
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Karen Sumida
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Naval Facilities Engineering Command, Pacific
250 Makalapa Drive
Pearl Harbor, Hawaii 96860-3131

June 10, 2016

Dear Ms. Sumida:

The National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) has reviewed the U.S. Department of the Navy's (Navy) May 13, 2016 Essential Fish Habitat (EFH) Assessment for the proposed removal of the former Naval Ocean Systems Center (NOSC) pier located off of the Marine Corps Base Hawaii (MCBH), Kaneohe, Oahu.

The Proposed Action involves demolition and removal of the abandoned NOSC Pier, also called the T-pier, located in Kaneohe Bay off of the waterfront operations at MCBH. The Proposed Action specifically involves: 1) demolition and removal of the existing section of concrete decking (approximately 200 feet (ft) x 13 ft in length); 2) demolition and removal of all 52 existing pier pilings (16.5-inch octagonal piles approximately 28 ft in length) by cutting them just above the sea floor; and 3) removal of any existing utility lines associated with the pier. Removal work will be conducted via a crane operated from an anchored barge (no larger than 150 ft x 50 ft in size). The pilings will be cut by divers using hand-held cutting tools. The duration of the project and timing have not been clarified in the EFH assessment.

NMFS appreciates Navy's efforts to consult with us early on this project and in proposing measures to mitigate adverse effects on EFH. Albeit minimal, we determine that adverse effects to EFH will likely still occur. As such, we offer the following comments in accordance with the EFH provision of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (50 C.F.R. § 600.905 – 930) and the Fish and Wildlife Coordination Act (16 U.S.C. § 662(a)).

Magnuson-Stevens Act

Pursuant to the Magnuson-Stevens Act (MSA), the Secretary of Commerce, through NMFS, is responsible for the conservation and management of fishery resources found off the coasts of the United

States. *See* 16 U.S.C. 1801 *et seq.* Section 1855(b)(2) of the MSA requires federal agencies to consult with NMFS, with respect to "any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any essential fish habitat identified under this Act." The statute defines EFH as "those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity." 16 U.S.C. 1802(10). Adverse effects on EFH are defined further as "any impact that reduces the quality and/or quantity of EFH," and may include "site-specific or habitat-wide impacts, including individual, cumulative or synergistic consequences of actions." 50 C.F.R. § 600.810(a). The consultation process allows NMFS to make a determination of the project's effects on EFH and provide Conservation Recommendations to the lead agency on actions that would adversely affect such habitat. *See* 16 U.S.C. 1855(b)(4)(A).

Essential Fish Habitat

The water column and bottom in Kaneohe Bay have been designated as EFH and may support various life stages for the management unit species (MUS) identified under the Western Pacific Regional Fishery Management Council's Pelagic and Hawaii Archipelago Fishery Ecosystem Plans (FEPs). The MUS and life stages that may be found within Kaneohe Bay include: eggs, larvae, juveniles and adults of Coral Reef Ecosystem MUS (CRE-MUS); eggs, larvae, juveniles and adults of Bottomfish MUS (BMUS); eggs, larvae, juveniles and adults of Crustacean MUS (CMUS); and juveniles and adults of Pelagic MUS (PMUS). NMFS is particularly concerned about reef resources in Kaneohe Bay as it has been classified as a Habitat Area of Particular Concern (HAPC) due to its rare habitat type; susceptibility to human impacts; importance of ecological function; and exposure to stress from development over the last century.

Marine resource surveys of the NOSC/T-Pier have documented heavily fouled pier pilings consisting of thick mats of algal turf, crustose coralline and macro algae. Only a few small coral colonies have been observed to be growing on the pilings. The non-native invasive macro algae *Gracillaria salicornia* was present on some of the pilings, and the non- native invasive soft coral *Carijoa riisei* (snowflake coral) was observed on pilings in 2013 surveys, but not in 2015.

NMFS determines that the Proposed Action will have minimal adverse effect on EFH given the lack of resources of concern on the pilings, and effective implementation of Navy's proposed mitigation measures as identified in sections 2.1.3 and 5.0 in the EFH assessment. We offer the following EFH Conservation Recommendations to ensure that adverse effects to EFH including coral reef resources are fully avoided, minimized and offset.

EFH Conservation Recommendations

1. Ensure effective implementation of all mitigation measures as described in the EFH assessment. These mitigation measures are essential for ensuring minimal short- and long-term adverse effects to EFH and the abundant coral reef resources present in the project area. Adaptive management should be utilized throughout the project construction period to control the in-water activity of machinery and equipment to contain turbidity and sedimentation and to avoid loss of coral colonies.

2. Ensure the barge is anchored only in unconsolidated bottom devoid of corals. Minimize movement of the barge during construction to reduce associated turbidity and sedimentation effects. Ideally, avoid barge relocation entirely.

3. Perform work outside of the main coral spawning season during the summer months of June to August to reduce sedimentation and turbidity effects to coral eggs and larvae in the area.

4. Conduct work only during calm ocean conditions to prevent uncontrolled movement of construction equipment to avoid abrasion to sessile benthic organisms during construction. A contingency plan should also be in place once construction has started to ensure that the barge, is either secured with additional anchors, or relocated out of Kaneohe Bay in the event of a storm event generating high swells.

5. Relocate, to the greatest extent practicable, the few coral colonies growing on the pilings (and on any debris to be removed) to avoid complete loss of these organisms. A receiving site outside of the project footprint and away from the nearby patch reefs may be the area along the shoreline located inshore of the Pier. Since there are only a few coral colonies, relocation efforts can involve simply placing the corals on top of un-colonized hard bottom. Post relocation monitoring would not be expected by NMFS.

Please be advised that regulations (Section 305(b)(4)(B) of the MSA) to implement the EFH provisions of the MSA require that Federal action agencies provide a written response to this letter within 30 days of its receipt and at least 10 days prior to final approval of the action. A preliminary response is acceptable if final action cannot be completed within 30 days. The final response must include a description of measures required to avoid, mitigate, or offset the adverse impacts of the activity. If the response is inconsistent with our EFH Conservation Recommendations, an explanation of the reason for not implementing the recommendations must be provided.

Conclusion

In conclusion, NMFS appreciates Navy's efforts to coordinate with us early on the proposed removal of the NOSC/T-pier and the efforts taken to propose conservation measures to minimize adverse effect to EFH present in the project area. We determine that adverse effect to EFH may still occur, but consider that this will be largely mitigated given effective implementation of Navy's proposed mitigation measures and adoption of our EFH Conservation Recommendations. Please do not hesitate to contact Danielle Jayewardene at 808-725-5088 (danielle.jayewardene@noaa.gov) with any comments, questions or to request further technical assistance.

Sincerely,

Gerry Davis
Assistant Regional Administrator
Habitat Conservation Division

cc by e-mail:
Ian Lundgren, Navy
Lance Bookless, MCBH
Kevin Foster, US FWS
Wendy Wiltse, US EPA
Brian Neilson, HI DAR

C-13

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HAWAII 96860-3134

5090P.1F13B
Ser EV2/0251
May 13, 2016

Michael Tosatto
Regional Administrator
Pacific Islands Regional Office
National Marine Fisheries Service
1845 Wasp Blvd., Building 176
Honolulu, HI 96818

Dear Mr. Tosatto,

Subj: EFFECTS TO PROTECTED SPECIES AND ESSENTIAL FISH HABITAT FROM REMOVAL OF THE FORMER NAVAL OCEAN SYSTEMS CENTER PIER AT MARINE CORPS BASE, HAWAII, KANEOHE BAY

Pursuant to section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 USC § 1531 et seq.), the Navy requests informal consultation with the National Marine Fisheries Service (NMFS) regarding removal of the former Naval Ocean Systems Center (NOSC) pier, located within waters of Kaneohe Bay at Marine Corps Base Hawaii (MCB Hawaii). We have determined that species that could potentially occur in the action area listed under the Endangered Species Act (ESA) are the endangered Hawaiian monk seal (*Neomonachus schauinslandi*), and hawksbill sea turtle (*Eretmochelys imbricata*), and the threatened green turtle (*Chelonia mydas*). This letter also requests your consultation to fulfill Navy's requirements to consider the impacts of its actions on Essential Fish Habitat (EFH) as required by the Magnuson-Stevens Fishery Conservation and Management Act (16 USC § 1801 et seq.).

MCB Hawaii is proposing to demolish Facility 1662, the former NOSC pier located on the base at Kaneohe, Hawaii. The pier to be removed includes concrete decking and support pilings. The existing pier is abandoned, partially demolished, has no access to or from the shoreline. It currently has one isolated section of concrete decking on concrete pilings, and another section consisting only of concrete support pilings extending above the surface. There is no existing requirement for the pier. The existing structures constitute a navigational hazard and a danger to personnel. The proposed action would: (1) demolish and remove the existing section of concrete decking, (2) demolish and remove all existing pier pilings by cutting them just above the sea floor, (3) remove any existing utility lines associated with the pier, and (4) remove and haul away material and/or debris for recycling and/or disposal.

The initial wooden-deck-on-concrete-pilings NOSC Pier (known as the T-pier, due to its original configuration) may have been constructed for the Pacific Missile Range, Kauai, in the early 1970s, for use by their torpedo-recovery boats. NOSC apparently assumed control of the pier area in about 1972, and may have upgraded or added to the original pier in 1975 to support NOSC's research and development mission, which involved the use of watercraft. The concrete-capped extension of the pier was constructed in about 1980. From the end of the NOSC mission at MCB Hawaii Kaneohe in 1993 to 2001, the pier was used for recreational fishing. The

original pier consisted of a wooden walkway from shore, mounted on 24 concrete pilings; the additional concrete-decked wing was mounted on 28 concrete pilings. Due to increased security measures, the pier became off-limits for recreational use. The wooden walkway portion of the pier was removed in 2011, and the remaining concrete-capped portion of the pier has continued to deteriorate. All that remains of the pier are the concrete pilings that supported the wooden walkway, and the now-isolated concrete-deck section (approximately 200 by 13 feet/2,600 square feet), with its supporting pilings.

The pier-demolition methodology proposes to use a crane operated from an anchored barge. The barge anchor points would be located in sandy habitat, which is predominant in this area. The concrete-capped pier section would most likely be removed first, followed by the 28 concrete pilings under that section, and finally, by removal of the 24 concrete pilings which had supported the original wooden-deck pier. The concrete pilings are 16.5-inch octagonals, with an approximate length of 28 feet, from about three feet above the water surface to the bottom of Kaneohe Bay (plus an unknown depth into the substrate). The proposed action includes cutting each piling as close as practicable to bottom by divers using hand-held cutting tools, and lifting the pilings out by crane. No explosives are proposed for use during implementation of the proposed action.

The benthic habitat is classified by Battista et al. (2007) as unconsolidated 90-100% sediment. This was visually confirmed on December 12, 2013, when a qualified Navy Marine Ecologist conducted an underwater condition assessment at the T-pier site. Other qualitative and quantitative surveys by federal partners have contributed to the knowledge of the resources in this area, which are described in detail in Section 4.2 of the enclosure: Biological Evaluation and EFH Assessment for Removal of the Naval Ocean Systems Center Pier at MCB, Hawaii.

Marine resource assessments documented heavily fouled pier pilings, comprised of organisms that are typical of those found on similar structures throughout the main Hawaiian Islands, such as in Honolulu Harbor, Pearl Harbor, Kaneohe Yacht Club, and Hilo Harbor. The fouling community currently present consists of thick mats of algal turf, crustose coralline and macro algae, and very small colonies of common stony and soft corals, non-native soft coral and algal species, and other common fouling organisms. Some of the most obvious fouling invertebrates included parchment worms (*Chaetopterus sp.*), sea frost (*Salmacina dysteri*), feather duster worms (*Sebellastarte spectabilis*) and the erratic bryozoan (*Schizoporella errata*). Stony corals (Order Scleractinia) that were observed on the pier pilings included *Montipora capitata*, *Montipora sp.*, *Pocillopora damicornis*, *Leptastrea purpurea*, and *Porites compressa*. All of the stony corals observed were common Hawaiian species that are abundant in the Main Hawaiian Islands and throughout Kaneohe Bay. The non-native invasive macro algae *Gracillaria salicornia* was present on some of the pilings. The non-native invasive soft coral *Carijoa riisei* (snowflake coral) is established at many locations throughout Kaneohe Bay, and was confirmed to be present on one of the 28 pilings supporting the concrete deck portion of the pier in 2013, but not in 2015.

Regarding ESA species: Impacts to ESA-listed species likely present in the action area, green sea turtle, hawksbill sea turtle, and Hawaiian monk seal, are discussed in the Section 3.5 of the enclosure. None of the stony corals present on the pier pilings and the sea floor nearby are listed under the ESA. The removal of the T-pier structure will remove potential entanglement and collision hazards with ESA listed marine mammals and reptiles. During installation and

operation the sound pressure level where it can be received by sea turtles and monk seals will remain below the level that causes temporary threshold shift in hearing. Additionally, radiant heat, electric and magnetic fields in the demolition area will be minimal, and are unlikely to be detectable or notable for marine mammals or sea turtles. Best Management Practices, including the use of a bubble curtain to reduce sound attenuation, are described in Section 2.1.3 in the enclosure and are designed to reduce the risk of adverse impacts to threatened and endangered species. The Navy requests your concurrence with our determination that the proposed action *may affect but is not likely to adversely affect the ESA species listed above, because the effects, if any, will be discountable*. The removal of this structure will be insignificant in scope and duration and no taking of any listed species is expected. As such, formal consultation will not be required.

Regarding EFH: Adverse effects to EFH in the action area are discussed in the Section 4.4 of the enclosure. The biological organisms growing on the pier structure are of limited quality, although higher quality habitats are present nearby. Best Management Practices, including the use of a full length turbidity curtain, are described in Section 2.1.3 of the enclosure. Conservation Measures described in Section 5.0, are designed to reduce the risk of adverse effects to EFH and to offset unavoidable adverse effects to EFH as a result of this project. Therefore, the Navy requests your concurrence with our determination that *the proposed project may affect EFH, but effects will be minimal and insignificant*.

Thank you for your consideration of our request for your review and concurrence. Should you have any questions or other concerns, please contact Ian Lundgren of my staff at (808) 472-1426 or ian.f.lundgren@navy.mil.

Sincerely,

KAREN SUMIDA
Business Line Manager
Environmental

Enclosures: (1) Biological Evaluation and EFH Assessment for Removal of the Naval Ocean Systems Center Pier at MCB, Hawaii.

Biological Evaluation and EFH Assessment for Removal of the Former Naval Ocean Systems Center Pier at Marine Corps Base, Hawaii, Kaneohe Bay

Prepared by:
Naval Facilities Engineering Command, Pacific
Department of Environmental Planning, Marine Resources
258 Makalapa Dr., Suite 100
Pearl Harbor, HI 96860-3134

May 6, 2016

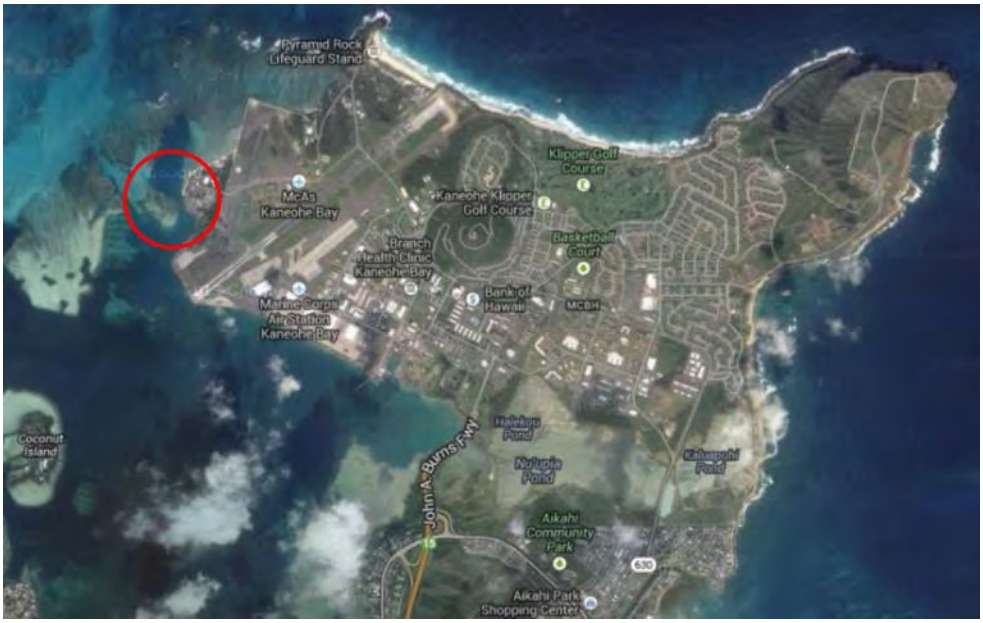
TABLE OF CONTENTS

1.1 BACKGROUND / HISTORY

1.2 Project Overview

U. S. Marine Corps Base Hawaii (hereafter, MCB Hawaii) is proposing to demolish Facility 1662, the former Naval Ocean Systems Center pier (hereafter, the T-pier, due to its most recent configuration) located on the base on Mokapu Peninsula, Kaneohe, Hawaii (Figure 1), in the Waterfront Operations operational area. The proposed project includes removal of concrete decking and support pilings. The existing pier is abandoned, partially demolished, has no access to or from the shoreline, and currently has one isolated section of concrete decking on concrete piles, and another section consisting only of concrete support pilings extending slightly above the surface. There is no existing requirement for the pier. The existing structures constitute a navigational hazard and a danger to personnel. The proposed action would: (1) demolish and remove the existing section of concrete decking, (2) demolish and remove all existing pier pilings by cutting them as close as practical above the sediment bottom, (3) remove any existing utility lines associated with the pier, and (4) remove and haul away material and/or debris for recycling and/or disposal.

Figure 1. Location (red circle) of the NOSC Pier (T-pier)



1.3 Document Purpose

This Biological Evaluation addresses the proposed action in compliance with Section 7(c) of the Endangered Species Act (ESA) of 1973, as amended, for species protected under the jurisdiction of the National Marine Fisheries Service (NMFS). Section 7 of the ESA assures that, through consultation (or conferencing for proposed species) with NMFS and/or the U.S. Fish and Wildlife

Service (USFWS), federal actions do not jeopardize the continued existence of any threatened, endangered, or proposed species, or result in the destruction or adverse modification of critical habitat.

This Biological Evaluation also addresses the Navy's requirements to consider the impacts of its actions on Essential Fish Habitat (EFH) as required by the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA; 16 USC § 1801 et seq.). The MSFCMA requires federal agencies to consult with the Secretary of Commerce for any action or proposed action authorized, funded, or undertaken by the federal agency that may adversely affect Essential Fish Habitat (EFH). National Oceanic and Atmospheric Administration **(**NOAA**),** National Marine Fisheries Service (NMFS) and the Regional Fishery Management Councils are charged with identifying EFH for all species managed under federal fishery management programs.

1.4 Early coordination and pre-consultation

Early coordination and pre-consultation with the National Oceanographic and Atmospheric Administration, National Marine Fisheries Service (NOAA-NMFS) was conducted during a series of meetings and email/mail communications from 2013 through 2015. Early meetings were held in 2008-2009 between MCB Hawaii Environmental (Dr. Diane Drigot), USFWS, DLNR, and NMFS and largely focused on development of Best Management Practices (BMPs), and strategies to deal with infestations of invasive algae and soft coral species on the pilings (see Appendix A). Communication with Mr. Don Hubner of NMFS Protected Resources Division addressed concerns about impacts from noise during demolition activities (see Appendix A). More recently, discussions with consultation partners were re-engaged by NAVFAC Pacific on behalf of MCB Hawaii and the focus shifted to the ESA and EFH consultations.

On 25 August 2015 a meeting was held at the NMFS office at the Inouye Research Center with Dr. Danielle Jayewardene and Mr. Kevin Foster (USFWS) joined by phone. It was agreed that a joint agency site visit would be conducted to reassess findings from 2012 (USGS and USFWS) and 2013 (Navy). On 6 November 2015 a site visit was made by representative from the following agencies:

- NMFS Habitat Conservation Division – Danielle Jayewardene
- NMFS Protected Resources Division - Joel Moribe
- USFWS Aquatic Ecosystems Conservation Program – Kevin Foster
- Hawaii State Division of Aquatic Resources - Brian Neilson

The early communications with MCB Hawaii, prior consultations, and more recent technical assistance from NMFS provided the guidance for the BMPs presented in this document, which will reduce the risk of adverse impacts to protected species under the ESA and EFH as defined under the MSFCMA.

2.1 DESCRIPTION OF THE ACTION AND ACTION AREA

2.2 Project Description

The proposed action is located in the state of Hawaii, at MCB Hawaii (Figure 1). MCB Hawaii encompasses 2951 acres (11.86 sq km) and is located on Oahu's northeastern shore, on Mokapu

Peninsula. Mokapu Peninsula is bounded by the waters of Kaneohe Bay on the west, the Pacific Ocean to the north, Kailua Bay to the east, and residential development to the south. Kailua and Kaneohe are the communities nearest to MCB Hawaii. The T-Pier is located on the western side of Mokapu Peninsula in Kaneohe Bay, north of Davis Point.

2.2.1 Proposed Demolition Footprint

The original T-pier, which was constructed of a wooden deck on concrete piles, was built for the Pacific Missile Range, Kauai, in the early 1970s, for use by their torpedo-recovery boats (Figure 3). NOSC assumed control of the pier area in 1972 and upgraded and added to the original pier in 1975 to support NOSC's research and development mission, which involved the use of watercraft.

Figure 2. Original configuration of the T-pier, early 1970s

The concrete-capped extension of the pier was constructed in about 1980. From the end of the NOSC mission at MCB Hawaii in 1993 to 2001, the pier was used for recreational fishing. The original pier consisted of a wooden walkway from shore, mounted on 24 concrete piles; the additional concrete-decked wing was mounted on 28 concrete piles. Due to increased security measures, the pier became off-limits for recreational use. The deteriorating wooden walkway portion of the pier was deemed unsafe and removed in 2011, and the remaining concrete-capped portion of the pier has continued to deteriorate. All that remains of the pier are the concrete piles that supported the wooden walkway, and the now-isolated concrete-deck section (approximately 200 by 13 feet/2,600 square feet), with its supporting piles (Figure 3).

Figure 3. Present configuration of the T-pier

2.2.2 Removal Methodology

Technical drawings of the T-pier removal plan are found in Appendix B. The pier removal methodology proposes to use a crane operated from an anchored barge (no larger than 150' length with 50' beam). The barge anchor points or spud locations would be pre-located in un-colonized sandy habitat, which is predominant in close proximity to the T-pier (See Section 4.2). The concrete-capped pier section would be removed first, followed by the 28 concrete piles under that section, and finally, removal of the 24 concrete piles which had supported the original wooden-deck pier. The concrete piles are 16.5-inch octagonals, with an approximate length of 28 feet, from about three feet above the water surface to the bottom of Kaneohe Bay (plus an unknown depth into the substrate). The proposed action includes supporting the structures from the barge and cutting each pile approximately just above the sea floor, by divers using hand-held cutting tools. No explosives are proposed for use during implementation of the proposed action.

2.2.3 Best Management Practices

The Navy will employ avoidance and minimization measures including sea turtle monitoring before, during and immediately after demolition activities, and establish safety shut down zones. Best Management Practices (BMPs) were taken from a review of existing NMFS biological opinions and NMFS and USACE permits. The following Best Management Practices (BMPs) will be employed to ensure that no significant impacts to protected species occur.

1. Competent observers will be designated to visually survey the marine areas within and adjacent to the project footprint for protected species.

2. Observers will remain continuously alert for protected species starting 60 minutes prior to commencement of demolition through 30 minutes after shut-down. Resumption of work following a break of 30 minutes or more requires a 60 minute pre-work area visual search.

3. No demolition will be conducted after dark unless that work has proceeded uninterrupted since at least 1 hour prior to sunset, and no protected species have been observed near the 50-yard safety range for that work.

4. No marine mammals or protected species may be within 150 feet of demolition operations. All demolition operations will be postponed or halted until the animals have voluntarily moved beyond 150 feet.

5. Demolition will commence using a ramp-up technique at the start of each work day or following a break of more than 30 minutes or longer. Demolition will commence with slow and deliberate engagement of heavy equipment and underwater tools to alert protected species and allow them an opportunity to vacate the area prior to full-intensity operations.

6. Project related vessel operators will maintain constant vigilance for, and avoid all protected species while piloting their vessels. This must include the tug and barge operators transiting within the inner harbor.

7. When piloting vessels, vessel operators shall alter course to remain at least 300 feet from whales, and at least 150 feet from other protected species. If a vessel is approached by a protected species the engine will be put in neutral until the animal passes.

8. Demolition-related vessels will be operated at a speed of 10 knots or less in areas of known or suspected protected species activity. If practicable, speed of construction related vessel will be reduced to 5 knots or less.

9. Protected species should not be encircled or trapped between multiple vessels or between vessels and the shore.

10. No one on site or associated with this project will attempt to feed, touch, ride, or otherwise intentionally interact with any protected species.

11. Demolition activities that result in sediment/pollutant discharges will cease during the primary coral spawning events each year for stony corals. NMFS PIRO HCD Honolulu Office will be consulted for information on spawning dates.

12. A contingency plan to control and contain toxic spills, including petroleum products, will be developed. Appropriate materials to contain and clean potential spills will be stored and readily available at the work site.

13. All project-related materials and equipment placed in the water will be free of pollutants. The project manager and the heavy equipment operator will perform daily pre-work

equipment inspections for cleanliness and leaks. All heavy equipment operations will be postponed or halted should a leak be detected, and will not proceed until the leak is repaired and equipment cleaned.

14. Fueling of demolition project related vehicles and equipment will take place at least 50 feet away from the water, preferably over an impervious surface. With respect to demolition equipment (e.g., barges) that cannot be fueled out of the water, spill prevention booms will be employed to contain any potential spills. Any fuel spilled will be cleaned up immediately.

15. Turbidity and siltation from project related work will be minimized and contained through the appropriate use of effective turbidity containment devices and the curtailment of work during adverse tidal and weather conditions. Turbidity curtains will completely enclose demolition operations to the maximum extent practicable.

16. A plan will be developed and implemented to prevent debris from entering or remaining in the marine environment during the project.

17. A contingency plan will be in place for the removal and adequate securing of equipment in the event of approaching storms, or when the National Weather Service has issued a gale warning for local waters.

18. A bubble curtain will be used to reduce sound attenuation from cutting operations during demolition.

19. The contractor will ensure that the barge and support vessels (e.g. tug) used during this project will be free of invasive species.

20. When anchors or spuds are used to position the barge during demolition operations, the anchors and spuds will be placed in soft sediments which is free of vegetation, and care will be taken by the operator to minimize bottom disturbance to the maximum extent possible.

2.3 Action Area

The nearshore marine resources that are directly and/or indirectly impacted are included in the action area, (Figure 4). Impacts to essential fish habitat for managed fisheries (hereafter EFH) and ESA-listed protected species (hereafter, protected species) are used to define the boundary of the action area. Direct physical impacts could occur in the demolition footprint and outward approximately 100 feet from the T-pier in all directions, where the barge would operate and where anchor points may be required. Additionally, during barge operation and demolition, sound may propagate, and the bottom sediments may be disturbed causing increased turbidity in areas adjacent to the physically impacted areas. These impacts are considered to be direct impacts, because they result in impacts at some distance from the source (Hereafter, secondary impacts). The extent of the secondary impacts is limited to the distance to which demolition and barge operation generates sound and increased turbidity at harmful levels to protected species, and increased turbidity; and sedimentation that adversely affects EFH. The extent of the secondary impacts for this project is estimated at 300 meters from the T-pier footprint. Indirect impacts occur later in time, but are attributable to the proposed action. For this

project, indirect impacts would not expand the action area beyond the limits of the direct impacts.

The action area is comprised of the demolition footprint, areas where the barge will be secured to the sea floor, and outward to the extent of secondary impacts. The action area has been conservatively estimated at 300 meters (984 feet) from the T-pier footprint.

It is expected that the BMPs (listed in Section 2.1.3) will mitigate adverse direct impacts from demolition to EFH and protected species. Secondary impacts may have insignificant or negligible negative effects to protected species, and some adverse effects to EFH. Conservation Measures (listed in Section 5.0) will be proposed to offset these adverse impacts to EFH.

Figure 4. Action area for the T-pier Demolition Project

3.1 ENDANGERED SPECIES AND CRITICAL HABITAT

3.2 ESA-Listed Species and Critical Habitat in the Action Area

The full list of ESA-listed or "protected" species that occur in Hawaiian waters and those currently proposed can be found in Appendix C. Many protected species in Hawaiian waters have life history or habitat requirements that preclude reasonable expectation that they would be exposed to impacts from the proposed action. The following ESA-listed marine species would normally occur in the action area and therefore could potentially be exposed to impacts due to the proposed action:

- Green sea turtle (*Chelonia mydas*) – threatened
- Hawksbill sea turtle (*Eretmochelys imbricata*) – endangered
- Hawaiian monk seal (*Neomonachus schauinslandi*) – endangered

The green sea turtle, the hawksbill sea turtle, and the Hawaiian monk seal are protected under the Endangered Species Act (ESA). Among the protections afforded these species under that act is protection from being physically harmed and/or harassed. Additionally, Hawaiian monk seals are protected by the Marine Mammal Protection Act (MMPA). Both laws require people to actively avoid interactions with protected species and to maintain distances that do not negatively impact animal behaviors.

3.3 Environmental Baseline for Endangered Species

3.2.1 Green Sea Turtle

Green sea turtles are circumtropical, found around the globe in the tropical and sub-tropical latitudes (approximately between 30° N and 30° S latitude). In 1978, green sea turtles were given protection under the Endangered Species Act (Federal Register, July 28, 1978). In most U.S. jurisdictions, green sea turtles were listed as threatened, except in Florida (and Pacific Mexico), where breeding populations were listed as endangered. In 2015, there was a petition to re-classify green sea turtles found in Hawaii as a distinct population segment (DPS) and to de-list them from ESA protection. Although NMFS determined that Hawaiian green sea turtles did constitute a DPS, they did not find justification to de-list them, and they will remain listed as threatened. Although populations globally are declining (Seminoff 2004), the Hawaiian DPS is closer to recovery than anywhere throughout its range (Balazs and Chaloupka 2004, Chaloupka and Balazs 2007). Another unique feature of the Hawaiian Green sea turtle DPS is that they haul-out onto shorelines to bask (passively increasing body temperature).

The recognition that Hawaiian green sea turtles are a DPS is supported by a number of findings that have implications for conservation and management. The typical life cycle for sea turtles includes a prolonged pelagic juvenile phase, nearshore recruitment to forage areas where they grow and mature, and an adult phase marked by long reproductive migrations to natal beaches, often crossing multiple international jurisdictions. However, most green sea turtles that forage in the Hawaiian Archipelago also nest within the archipelago at French Frigate Shoals (Balazs et al. 1994), and otherwise forage with strong island fidelity (Balazs, 1976, 1980, 1983; Dutton et al. 2008).

At MCB Hawaii, green turtles have been documented near the T-pier swimming and resting, and are observed frequently in the action area (J. Moribe 2015, pers. comm.; Cox et al. 2013). Green

sea turtle haul-outs occur infrequently, and nesting occurs even less frequently, along the western Mokapu Peninsula coastline most notably at Hale Koa beach (L. Bookless 2015 pers. comm.).

Major threats to green sea turtles worldwide are the loss of nesting and foraging habitat, harvest for food, and harvest as bycatch. While understanding how harvest impacts a long-lived and slow to mature species can be easily understood, loss of habitat is more complicated. Nesting habitat may be lost or degraded through erosion control measures (armoring and beach nourishment), and by invasions of non-native vegetation that can restrict access. Additionally, artificial lighting on the coastline may act as a deterrent to nesting females and could lethally disorient hatchlings. Foraging habitat can be degraded through impaired water quality (sedimentation and/or pollution via stormwater runoff), or by direct impact to the physical structure (breakage of limestone features that provide refugia) and biological features (change in community structure effecting food source availability).

3.2.2 Hawksbill Sea Turtle

Hawksbill sea turtles, like green sea turtles, are circumtropical, and found around the globe in the tropical and sub-tropical latitudes (approximately between 30° N and 30° S latitude). In 1970, hawksbill sea turtles were protected under the Endangered Species Act (NMFS and USFWS 1998). Hawksbill sea turtles are listed as endangered throughout its range. In the Pacific hawksbills are rare and nesting is scattered, occurring mostly in locations near Australia and the Indian Ocean. In the main Hawaiian Islands, limited hawksbill sea turtle nesting occurs on Hawaii Island, and to an even lesser extent, on Oahu, Molokai, and Maui. Hawksbills do forage in the Hawaiian Islands, but are observed much less frequently than green sea turtles. Population trends are difficult to determine for hawksbill sea turtles due to lack of information. Despite positive short term trends in some locations, it is believed that populations in Hawaii and overall continue to decline (NMFS and USFWS 2013). Hawksbill turtles face the same threats as green sea turtles, but are also vulnerable due to the commercial value of their shells for trade (Mortimer 1999).

Hawksbill sea turtles have a very similar lifecycle to green sea turtles, hatching at natal beaches, followed by early development in the open ocean, and recruitment as sub-adults onto coastal habitats. However, instead of eating primarily seagrass and algae, hawksbill sea turtles eat primarily sponges, and to a lesser extent other invertebrates coral, and algae. King (2012) reported hawksbill sea turtles in Hawaii having a highly variable diet, including: octopus, algae, fire worms, black sponges, fish roe, and urchins. Once reproductively active, adults make long migrations to natal areas to mate and nest.

Although long migrations are common, Hawksbills in Hawaii are more likely to nest and forage within the archipelago. Both genetic testing (Dutton and Leroux 2008), and satellite tracking (Parker et al. 2009) indicate Hawaiian hawksbills are isolated from other Pacific populations. The extent of nesting in the Northwest Hawaiian Islands (NWHI) is uncertain, but they are known to nest within the Main Hawaiian Islands (MHI). Within the MHI, the vast majority (>90%) of hawksbill nesting occurs on the south and southeast coasts (Kau Coast) of Hawaii Island. Maui and Molokai also have regular nesting, whereas, nesting on Oahu is occasional. Satellite tracking has shown that the northeast coast of Hawaii Island (Hamakua Coast) is commonly used for foraging.

Although present, hawksbill sea turtles are not commonly observed within the action area. Hawksbills utilize the marine habitat for foraging and resting and are infrequently observed near MCB Hawaii. No hawksbill sea turtles have ever been documented nesting at MCB Hawaii.

Hawksbill sea turtles are threatened primarily by habitat loss, both nesting and foraging, as described for green sea turtles. Impacts to hawksbill habitat are occurring globally (Mortimer and Donnelly 2008), and include: coastal development and erosion control, artificial lighting, invasive vegetation, and impaired water quality (NMFS and USFWS 2013). Some bycatch does occur to a lesser extent than for green sea turtles, but direct harvest of eggs and adults for their shells are leading threats.

3.2.3 Hawaiian Monk Seal

The Hawaiian monk seal normally ranges throughout the Hawaiian archipelago, especially the NWHI where main breeding areas are located, but are sometimes observed as far away as Johnson Atoll, Palmyra Atoll, and Wake Island (Ragen and Lavigne 1999). Previously rare in the MHI, sightings have increased and births have been documented on all major islands (Baker and Johanos 2004). In 1976, the Hawaiian monk seal was listed as endangered under the U.S. Endangered Species Act. Recent estimates indicate the entire population includes around 1200 individuals (Littnan et al., 2015), with 90% occurring in the NWHI (NMFS 2009). Although the population has been declining for many decades (4.5%/yr)(NMFS 2009), according to Caretta et al. (2013) the MHI population is increasing (6.5%/yr). Although they are more abundant in NWHI, emergent land there is extremely limited (Ragen and Lavigne 1999).

Hawaiian monk seals are large solitary mammals with long developmental periods. They spend most of their life in the ocean, but also regularly haul-out onto beaches to rest and bask (Westlake and Gilmartin 1990). Hawaiian monk seals depend on coastline habitat for breeding where they give birth between February and August. Seal pups are especially vulnerable during the early stage of life while they are nursing and as they learn to forage as juveniles. Juvenile and adult Hawaiian monk seals forage primarily at depth ranging from 50 – 300 meters, but may forage as deep as 500 meters. Foraging in a variety of habitats with low relief, they eat a wide range of fish and invertebrates, including octopus, wrasses, eels, and crustaceans (Stewart et al. 2006).

Hawaiian monk seals are non-migratory and typically remain near their natal island, although limited inter-island and, to a lesser extent, long-range moments have been observed (NMFS 2009; Littnan et al. 2006). However, migration of individuals from the NWHI to the MHI is rare, and the expectation is that with decreasing populations and limited land availability, the population in the MHI has the potential to become more important for the recovery of the species (NMFS 2007).

Monk seals occasionally haul out at MCB Hawaii. Frequently the same seal is observed repeatedly. For example, a seal known as KC was observed 12 times in 2011, and has been observed every year since 2007, with the exception of 2014. Two seals, in particular, haul out with some regularity at MCB Hawaii Kaneohe Bay beaches. There were 121 haul out events from 2004 – 2015, seven records (5.8%) are for events just north of the action area along the Pali Kilo shoreline. In 1996, a monk seal gave birth on the shoreline of the southern cove near

the Pali kilo beach cottages and remained there for 54 days with its one pup (Bookless pers. comm. 2015). Hawaiian monk seals have periodically hauled out on Hale Koa beach located about 100 meters from the T-pier. The frequency that monk seals have been observed at MCB Hawaii is similar to population trends observed throughout the MHI population.

According to the life history of Hawaiian monk seals both juvenile and adult life stages could be affected by the proposed action when they haul-out to bask or to give birth. The 2007 Recovery Plan (NMFS 2007) lists human interaction, as a serious threat. Other serious threats include disease, aggression from adult male monk seals, fishery interactions, and habitat loss; while serious threats, which disproportionately impact juveniles, include food limitation, entanglement and predation.

Juvenile monk seals often do not have the stamina to forage as efficiently as adults, and may not be able to access deeper forage areas. As a result, food limitation impairs recruitment of juveniles to the adult life stage. Derelict fishing gear is a leading cause of entanglement, especially for juveniles. However, many other types of marine debris can cause mortality or injury to Hawaiian monk seals (NMFS 2007). Predation scars are commonly observed on both juvenile and adult Hawaiian monk seals, mostly likely from tiger and cookie cutter sharks.

Human interaction impacts (not including fishery interactions or possible disease vectors) can manifest in a variety of ways, but can be generally grouped into two types: reduction of habitat through avoidance, and harassment. The coastline of the MHI is largely subject to coastal development and/or recreation at some measureable level. This may cause Hawaiian monk seals to avoid utilizing this potential habitat, which is effectively habitat loss. Additionally, where Hawaiian monk seals are utilizing habitats near humans, they may be harassed by people, causing them to alter their behavior patterns. It is also possible that humans may intentionally kill or injure Hawaiian monk seals (NMFS 2007, 2016).

3.4 Critical Habitat in the Action Area

There is no designated critical habitat for any listed marine species within or adjacent to the action area. Although coastlines on Oahu in general were designated as Hawaiian monk seal critical habitat, MCB Hawaii was determined to be ineligible for this designation as a result of its lands and 500-yard marine buffer area being subject to an Integrated Natural Resource Management Plan [Federal Register Volume 80, Number 162 (Friday, August 21, 2015), Pages 50925-50988]. Likewise, the action area for the project is not adjacent to the Hawaiian Islands Humpback Whale National Marine Sanctuary.

3.5 Effects of the Action on ESA-listed Species

This section analyzes the potential direct and indirect impacts that the proposed demolition of the T-pier is expected to have on ESA-listed species: green sea turtles, hawksbill sea turtles, and Hawaiian monk seals (hereafter, also referred to collectively as “protected species”). Each subsection addresses the individual stressors expected to result from the Project. The analyses are based on demolition design, demolition methods and BMPs, the biology and life history characteristics of the protected species, and on the overlaps between habitats used by the species and the action area.

Potential effects to protected species of implementing the proposed action include: (1) collision with vessels; (2) direct physical impact; (3) disturbance from human activity and equipment operation; (4) exposure to waste and discharge; (5) exposure to elevated turbidity; (6) loss of forage habitat; and (7) exposure to elevated noise levels.

3.5.1 Collision with Vessels

While surfacing to breathe or rest sea turtles are at risk of being stuck by transiting vessels. Boat collision is considered a major threat for green turtles around the main Hawaiian Islands (NMFS and USFWS 1998a). Research suggests that sea turtles may not consistently detect and avoid vessels traveling at speeds over 2 knots (Hazel et al. 2007). Hawaiian monk seals are highly mobile and strikes are not anticipated because they are able to actively avoid vessels, but they will be carried through the analysis to be cautious.

The proposed action includes a barge anchored or positioned with spuds and the use of vessels to support these activities (i.e. tugs and transports). These vessels have the potential to impact protected species while at the project site and while transiting in the surrounding area. Vessel operators will actively watch and avoid protected species and adjust their speed based on lighting, turbidity, and other conditions to allow adequate time to avoid sea turtles. The BMPs summarized in Section 2.1.3 will be followed to avoid collisions with protected species.

Based on the low number of project vessels in the water simultaneously, the limited movement of vessels, and the use of BMPs we consider the risk of collision between protected species and vessels associated with the proposed action to be discountable. The Navy has determined that the vessel traffic from the proposed action may affect, but is not likely to adversely affect green sea turtles, hawksbill sea turtles, and Hawaiian monk seals.

3.5.2 Direct Physical Impact

The proposed action uses heavy equipment that will be submerged below the waterline. The use of heavy equipment has the potential to strike sea turtles in the action area. The type and severity of injury is dependent on several factors including the sea turtle's proximity to the bottom when struck, angle of strike, and body part injured. Direct physical impact with equipment can have severe impacts to sea turtles including death. Hawaiian monk seals are highly mobile and strikes are not anticipated because they are able to actively avoid submerged equipment, but they will be carried through the analysis to be cautious. The BMPs summarized in Section 2.1.3 will be used to avoid direct physical impact to protected species from heavy equipment.

Given that protected species will likely avoid the project area due to the activity occurring on site, that all materials will be lowered in a controlled manner, and the BMPs reduce the potential for direct physical impact we determine that the potential risk for protected species to be impacted is discountable. The Navy has determined that direct physical impacts from the equipment used during the proposed action may affect, but is not likely to adversely affect green sea turtles, hawksbill sea turtles, and Hawaiian monk seals.

3.5.3 Disturbance from Human Activity and Equipment Operation

Protected species in the action area may be exposed directly to human activity and operational equipment, including turbidity curtains and associated ropes (entanglement). Response to these disturbances varies from activities attracting the interest of an individual (investigation of the project area) to an individual becoming injured while attempting to flee an area. Human activity is likely to temporarily deter Hawaiian monk seals and sea turtles from using the shoreline on the edge of the action area for hauling out. Sea turtle nesting may occur in the action area, on beaches along the shoreline, but demolition activities would not occur at night and would not disturb nesting behavior.

Although the proposed action has potential to disturb protected species, they generally avoid human activities. The tendency to avoid human activities and the BMPs summarized in Section 2.1.3 will reduce potential disturbances to protected species. Therefore, The Navy has determined that disturbances from the proposed action will be infrequent and not induce injury resulting in insignificant effects to protected species. The Navy has determined that disturbance from the proposed action may affect, but is not likely to adversely affect green sea turtles, hawksbill sea turtles, and Hawaiian monk seals.

3.5.4 Exposure to Waste and Discharge

Wastes produced at demolition sites, including plastic trash and bags, may be ingested by protected species, potentially causing injury. Additionally, large waste debris could enter and trap or entangle protected species. To reduce the potential for demolition related waste and debris adversely impacting protected species, all debris will be controlled and maintained to prevent debris from entering and remaining in the marine environment.

In addition to debris, spills and discharges from demolition equipment can adversely affect protected species. Spills and discharges, such as petroleum, can expose protected species to toxic substances in the water which can lead to avoidance of the affected area or in severe cases death. Existing federal and local regulations prohibit the intentional discharge of toxic substances and plastics into the water. A contingency plan to control and contain toxic spills will be developed for the proposed action which will detail protective measures for all demolition vehicles and heavy machinery. Petroleum spill containment devices (i.e. absorbent pads, containment booms, etc.) will be available in sufficient quantity and be available for immediate deployment at all times.

Based on the above information and the use of BMPs summarized in Section 2.1.3, including daily inspections of all vehicles and equipment for leaks and fueling of vehicles at least 50 feet away from the water, we expect this stressor to be insignificant to protected species in the action area. The Navy has determined that exposure to waste and discharge from the proposed action may affect, but is not likely to adversely affect green turtles, hawksbill turtles, and Hawaiian monk seals.

3.5.5 Exposure to Elevated Turbidity

Sea turtles and Hawaiian monk seals may occur in turbid marine habitats; however, they likely avoid areas of dense turbidity. Additionally, increased turbidity should not affect respiration or

other biological functions because they are air breathing animals. Weiffen et al. (2006) reported no decrease in forage ability for seal species related to Hawaiian monk seals in highly turbid environments, despite apparent blindness. Additionally, if Hawaiian monk seals are attracted to the demolition activities through curiosity, they are mobile enough to avoid impacts from moving and stationary equipment in the area.

Sediment and turbidity will be minimized and contained through the appropriate use of effective turbidity containment devices. Full-length turbidity curtains will completely surround the pier, installed as close to the pier structure as practicable. However, outside of those curtains, minimal increased turbidity is expected as a result of positioning the barge with anchors and/or spuds.

Based on the above information we expect an insignificant level of temporary avoidance by protected species which will result in insignificant effects to the ESA listed species in the action area. The Navy has determined that exposure to elevated turbidity from the proposed action may affect, but is not likely to adversely affect green turtles, hawksbill turtles, and Hawaiian monk seals.

3.5.6 Loss of Forage Habitat

The T-pier pilings support a biotic community dominated by algae, sponges, and other invertebrates (see Section 4.2). Although this community does not support abundant stony coral species (S. Smith 2013, pers. comm.), the fouling community may be utilized as forage habitat by hawksbill sea turtles and possibly green sea turtles, but not by Hawaiian monk seals. The proposed action may reduce forage habitat by direct damage and removal of these resources. Although this is not expected, positioning the barge with spuds and/or anchors could cause sediments to settle onto nearby invertebrate communities, which could adversely affect those resources and reduce forage for sea turtles. Reduction in forage habitat can cause reduced fitness, lower growth rates, affect reproductive rates, and starvation. These impacts can lead to adverse effects to sea turtle populations if impacts to forage habitat are significant. However, there is substantial habitat for both ecological requirements throughout Kaneohe Bay.

In addition to the native biotic community, the pier pilings have supported an invasive soft coral species known as the snowflake coral, *Caijoa riisei*. This non-native can out-compete native organisms in low-light habitats (e.g. on pilings under piers, under ledges and in caves). The population at the T-pier has fluctuated in abundance over time. In 2013 it was present in substantial numbers (S. Smith 2013, pers. comm.) and then much less in 2015 (D. Jayewardene, pers comm). With respect to this invasive species, removal of the T-pier will have a positive effect on the ecology in Kaneohe Bay, by reducing habitat for snowflake corals and eliminating the pier as a vector for infestations nearby. Additionally, by removing the pier, light penetration to the substrate will increase, which could support improved forage for green sea turtles (i.e. algae and sea grasses). Therefore, it appears that loss of forage habitat on the pilings may be offset by improvements elsewhere. The Navy has determined that the loss of forage habitat from the proposed action may affect, but is not likely to adversely affect forage and refugia habitat for hawksbill sea turtles, green sea turtles, and Hawaiian monk seals.

3.5.7 Exposure to Elevated Noise Levels

The effects of noise on marine animals vary with the frequency, intensity and duration of the source of the sound and the hearing characteristics of the affected animal. The proposed action includes removal of concrete slabs and demolition of concrete pilings from a positioned barge, which will result in increased intermittent noise levels in the marine environment. Mechanical removal of concrete pilings produces a broadband sound disturbance, which is generally short in duration. SCUBA divers will use pneumatic or hydraulic cutoff saws and cutting torches to detach pilings from the sea floor just above the sediment. The intermittent sound frequencies generated by these tools are likely within the hearing range of sea turtle and Hawaiian monk seals, but will not occur in an intensity or duration that would be harmful to protected species within the action area. More specifically, demolition methods will not be as loud as (non-pulse) pile driving operations, which are known to result in take (NOAA 2014, MCCS 2010). Cutting tools and the sounds transmitted through the barge hull from materials being loaded could generate low frequency sounds as well. Elevated noise from the proposed demolition could cause behavioral responses; however, injury is not anticipated due to the nature of the tools and the BMPs utilized.

In-water acoustic impact thresholds in Table 1 are currently used by the NOAA NMFS to assess potential impacts to marine mammals (NOAA 2005, 2015). In the absence of established thresholds for PTS, TTS, and behavioral effects for sea turtles, the NOAA-NMFS currently applies the marine mammal standards (i.e., 160 dBrms threshold for Level B harassment from impulsive sounds) with the expectation that these standards are conservative for sea turtles.

Table 1. In-water Acoustic Impacts Thresholds

	Onset of Injury (Level A) (Permanent Threshold Shift, specifically hearing loss)	Onset of Behavioral Disturbance (Level B) (Temporary Threshold Shift/Aerial Avoidance)
Cetaceans (whales, dolphins)	180 dBrms re 1 µPa	160 dBrms re 1 µPa (for impulsive sound, e.g., impact pile driver) 120 dBrms re 1 µPa (for continuous, nonimpulsive sound, e.g., vibratory drivers or drills)
Pinnipeds (seals)	190 dBrms re 1 µPa	
Sea Turtles	Use same thresholds above	

Note: Sound levels are compared to a reference sound pressure based on the medium, i.e., air or water. The unit of measure is the micro-Pascal (µPa). The reference pressures are 20 µPa and 1 µPa, respectively for air and water. Root mean square (RMS) is the quadratic mean sound pressure over the duration of an impulse. RMS is used to account for both positive and negative values so that they may be accounted for in the summation of pressure levels (Hastings and Popper 2005). RMS is often used in the context of discussing behavioral effects, in part because behavioral effects, which often result from auditory cues, may be better expressed through averaged units rather than by peak pressures. All references to sound level in this discussion of Underwater Noise assume dBrms re 1 µPa.

Source: NOAA National Marine Fisheries Service

Hearing damage is usually categorized as either a temporary or permanent injury. Temporary threshold shifts (TTS) are recoverable injuries to the hearing structure and can vary in intensity and duration. Normal hearing abilities return over time; however, animals often lack the ability

to detect prey and predators and assess their environment during the recovery period. In contrast, permanent threshold shifts (PTS) are permanent loss of hearing through loss of sensory hair cells (Clark 1991). Sea turtles exhibit avoidance reactions to seismic signals at levels between 166-179 dB re 1µPa (Moein et al., 1995; McCauley et al., 2000).

The exposure and effect from elevated sound levels depends on several factors including the source level and transmission loss. Transmission loss (attenuation of sound intensity over distance) varies according to water depth, substrate, surface condition, salinity, the amount of suspended solids in the water, and other factors. Sound energy dissipates through mechanisms such as spreading, scattering, and absorption (Au & Hastings 2008). Sound typically dissipates more rapidly in shallow, turbid water over soft substrates (NMFS 2009 - 74 Federal Register [FR] 18492), all of which are characteristic of the action area.

Sea turtles are thought to be low frequency specialists (0.20 - 0.75 Hz) and do not respond well to sounds above 1 kHz (Ridgway et al. 1969), while Hawaiian monk seals hear sounds in the 2kHz to 48 kHz range, with highest sensitivities between 8kHz and 30 Khz (Thomas et al. 1990). Hearing ranges of all protected species in the action area overlap with frequencies generated from demolition activities. However, impacts from exposure to elevated noise levels from demolition are expected to be insignificant based on the 2010 Navy consultation with NMFS on the Cove Outdoor Recreation Center and Marina Improvements for MCB Hawaii. For that project it was determined that a 60 yards (55 m) is the distance at which protected marine species in the Cove area can be reliably detected. Noise attenuation measures (i.e. a bubble curtain) prevented Level B harassment to protected marine species beyond the 60-yard (55-m) safety radius/exclusion zone. Therefore, the assumptions made in the evaluation of elevated noise impacts from the proposed project are conservative (i.e., err on protection of the species) and based on published data from previous noise studies and similar projects involving pile driving activities and excavation/dredging operations (Illingworth & Rodkin, Inc. 2007; Dickerson et al. 2001).

To decrease the risk of harm to protected species from the proposed project, demolition operations will be halted if protected species are detected within a 150 foot safety radius/exclusion zone. Additionally, a bubble curtain will be used during cutting operations to reduce the attenuation of sound through the water. Soft start ramp-up techniques will be employed during demolition activities to provide an opportunity for undetected protected species to move away from the area. As mentioned previously, Hawaiian monk seals and sea turtles can easily move to adjacent areas where sound attenuation is reduced. Based on the implementation of a 150 foot safety radius/exclusion zone, the use of a bubble curtain, and other BMPs (Section 2.1.3), no protected species would experience sound above the 190 dB re 1 µPa rms SEL5, which is below the injury criteria for sea turtles and Hawaiian monk seals. Consequently, the Navy does not expect that protected species will be exposed to sound levels which are capable of causing physiological harm. The Navy has determined that exposure to noise during the proposed action may affect, but is not likely to adversely affect Hawaiian monk seals, green sea turtles, and hawksbill sea turtles.

3.6 Interrelated and Interdependent Effects of the Action

The proposed T-pier demolition and removal is eliminating a navigational hazard and a danger to personnel, to restore the use of the coastline for typical military operations and recreational

use. Removal of the T-pier does not have any other purpose or impact. As such the proposed demolition will not result in interrelated or interdependent effects.

3.7 Cumulative Effects

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation under section 7 of the ESA. Since this project is located within the 500 yard buffer zone for Marine Corps Base Hawaii, no future tribal, local, or private actions are anticipated.

3.8 Conclusion of impacts to ESA-Listed Species

In this analysis the Navy examined potential impacts from (1) collision with vessels; (2) direct physical impact; (3) disturbance from human activity and equipment operation; (4) exposure to waste and discharge; (5) exposure to elevated turbidity; (6) loss of forage habitat; and (7) exposure to elevated noise levels. Best Management Practices (BMPs) are incorporated into this proposed action in section 2.1.3. These BMPs will be included into the demolition and removal contract RFP and award documentation, and administered via Federal Acquisition Regulations (Title 48, Chapter 1 of the Code of Federal Regulations). The BMPs will directly reduce risk for collisions with vessels, direct physical impact, and exposure to waste and discharge, as well as minimizing impacts from human disturbance and elevated noise levels. The impacts from turbidity are mostly addressed through the use of turbidity containment devices (full length turbidity curtains); however, some turbidity will likely result from positioning the barge with spuds and/or anchors. This impact is expected to be minimal, temporary, and impact very few, if any, individual protected species. The increased turbidity, like the other stressors may cause avoidance by protected species, but is not likely to cause adverse physiological harm or mortality to protected species. The loss of forage habitat for sea turtles is likely to be offset by the beneficial effects of pier removal. Finally, in Section 5.0 a Conservation Measure is presented that will improve habitat conditions for protected species and improve forage habitat for sea turtles.

In conclusion, when the demolition methods, BMPs, the biology and life history characteristics of the protected species, and overlaps between habitats used by the species in the action area were evaluated, the Navy determined that all effects from the proposed action may affect, but are not likely to adversely affect Hawaiian monk seals, green sea turtles, and hawksbill sea turtles. Additionally, the proposed action will have no adverse effect on designated critical habitat under NMFS jurisdiction.

4.1 ESSENTIAL FISH HABITAT ASSESSMENT

4.2 EFH and Federally Managed Fish Species

The Western Pacific Fishery Management Council designated Essential Fish Habitat (EFH) for all the Hawaiian Islands from the intertidal zone to depths of more than 1000 feet, for one or more life stages of one or more species covered in the Hawaii Fishery Ecosystem Plan (FEP) prepared by the Western Pacific Fishery Management Council (WPFMC). Specifically, EFH has been

designated for all of Kaneohe Bay under the WPFMC FEP: subsections on Bottomfish, Crustacean, and Coral Reef Ecosystem for all life states (eggs, larvae, juveniles, and adults). The marine component of EFH is defined as "all waters and substrates (mud, salt, shell, rock, hard bottom, and associated biological communities) from the shoreline to the seaward limit of the Exclusive Economic Zone." Additionally, Kaneohe Bay is designated as a habitat area of particular concern (HAPC; WPFMC 2009).

Table 2. EFH and HAPC Designations Relevant to the T-pier Area

Management Unit (MUS)	Species Complex	Essential Fish Habitat (EFH)	HAPC
Bottomfish and Seamount Groundfish	Shallow-water species (0–50 fm): uku (*Aprion virescens*), thicklip trevally (*Pseudocaranx dentex*), giant trevally (*Caranx ignoblis*), black trevally (*Caranx lugubris*), amberjack (*Seriola dumerili*), taape (*Lutjanus kasmira*)	Eggs and larvae: the water column extending from the shoreline to the outer limit of the EEZ down to a depth of 400 m (200 fm) Juvenile/adults: the water column and all bottom habitat extending from the shoreline to a depth of 400 m (200 fm)	N/A
Bottomfish and Seamount Groundfish	Deep-water species (50–200 fm): ehu (*Etelis carbunculus*), onaga (*Etelis coruscans*), opakapaka (*Pristipomoides filamentosus*), yellowtail kalekale (*P. auricilla*), kalekale (*P. sieboldii*), gindai (*P.zonatus*), hapuupuu (*Epinephelus quernus*), lehi (*Aphareus rutilans*)	Eggs and larvae: the water column extending from the shoreline to the outer limit of the EEZ down to a depth of 400 m (200 fm) Juvenile/adults: the water column and all bottom habitat extending from the shoreline to a depth of 400 m (200 fm)	N/A
Crustaceans	Spiny and slipper lobster complex: Hawaiian spiny lobster (*Panulirus marginatus*),spiny lobster (*P. penicillatus, P.* spp.), ridgeback slipper lobster (*Scyllarides haanii*), Chinese slipper lobster (*Parribacus antarcticus*), Kona crab (*Ranina ranina*)	Eggs and larvae: the water column from the shoreline to the outer limit of the EEZ down to a depth of 150 m (75 fm) Juvenile/adults: all of the bottom habitat from the shoreline to a depth of 100 m (50 fm)	N/A
Coral Reef Ecosystems	All Currently Harvested Coral Reef Taxa All Potentially Harvested Coral Reef Taxa	EFH for the Coral Reef Ecosystem MUS includes the water column and all benthic substrate to a depth of 50 fm from the shoreline to the outer limit of the EEZ	Kaneohe Bay

Source: Fishery Ecosystem Plan for the Hawaii Archipelago (WPRFMC, 2009)
fm – fathoms; EEZ – exclusive economic zone

4.3 Existing Environment

In 2004, surveys were conducted to characterize the marine resources of the MCB Hawaii 500 yard buffer zone. These surveys were conducted by U.S. Fish and Wildlife Service, U.S. Geological Survey, National Oceanic and Atmospheric Administration Fisheries Service, State of Hawaii Department of Land and Natural Resources/Division of Aquatic Resources, University of Hawaii, Bishop Museum (Foster et al. 2008). In 2012, marine habitats of MCB Hawaii 500 yard buffer zone were spatially mapped by partners from U.S. Fish and Wildlife Service, United

States Geological Survey, and Environmental Protection Agency (Cox et al. 2013). In 2013 and 2015, the area specific to the T-pier was visually and qualitatively surveyed by a Navy Marine Ecologist (S. Smith memorandum 2013) and by representatives from multiple federal and state regulatory agencies (NOAA, USFWS, DLNR), respectively (D. Jayewardene 2015, pers. comm.). The information provided by these surveys was used to describe the habitat and fish communities that are relevant to the proposed T-pier demolition.

4.3.1 Habitat in the Project Area

The T-pier sits within Survey Area 9 as described by Foster et al. (2008), which 9 extends along the western facing coast from the approach end of MCAS runway to the northwest corner of West Field, parallel to the runway. Foster et al. (2008) describe this area as having been extensively modified from dredging activities that occurred around the 1930s. The soft bottom substrate is comprised of both calcareous and terrigenous sediment. Hard bottom habitats are found as reef flat, reef slope, and patch reefs. Rugosity in hard bottom habitats provides refugia for mobile reef inhabitants. The primary biological covers included 90%-100% uncolonized and 10% - <50% macroalgae, 50%-<90% macroalgae and 50%-<90% turf algae as delineated by the NOAA 2007 Atlas of Benthic Habitats.

Cox et al. (2013) followed the same survey areas from Foster et al. (2008). This area is large compared to the footprint of the T-pier and includes a complex matrix of habitats: six differing benthic community and habitat types: 1) seagrass, 2) coral, 3) invasive algae, 4) sediment, 5) mix coral and algae, and 6) rubble. In this report Survey Area 9 is further subdivided into three sections. The action area stretches across portions of Sections 1 and 2. Relevant descriptions of typical habitat include the following excerpts from Cox et al. (2013).

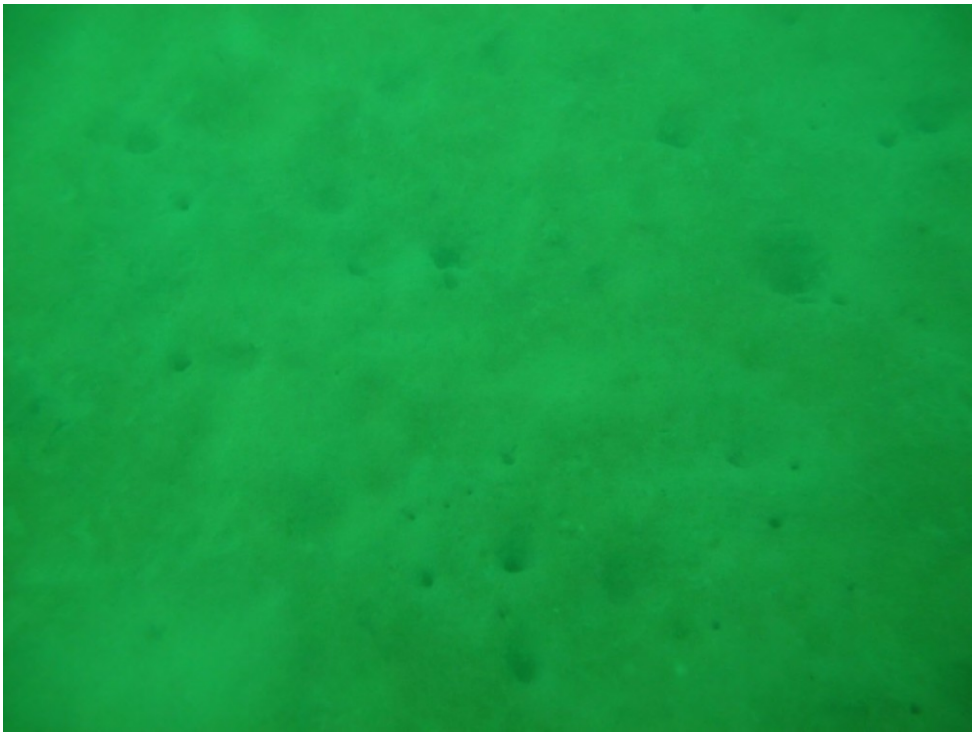
> "Section 1 contains areas of dredged soft sediment often colonized by seagrass (*Halophila decipiens*) and two patch reefs dominated by coral and/or invasive macroalgae."

> "Section 2 is mostly comprised of a large dredged area with soft sediment substrate colonized by seagrass, or in some areas devoid of benthic cover. Coral (*M. capitata* and *P. compressa*) occurred in areas that were not previously dredged."

<u>Seafloor</u>

The depth at the footprint of the T-pier is approximately 22'. The habitat in the immediate vicinity of the pier was surveyed by Navy Marine Biologist, Stephen H. Smith in 2013 (Internal Memorandum, See Appendix D). The benthic habitat in the immediate vicinity of the T-pier was determined to be sandy soft-bottom with infauna. An example photograph of this habitat type is provided in Figure 5.

Figure 5. Typical seafloor habitat underneath the T-pier



Concrete Pilings

Very few Scleractinian (stony) corals grow on the pilings of the T-pier. The qualitative survey conducted in 2015 found that corals larger than 3 or 4 centimeters in diameter were not present (D. Jaywardene 2016, pers. comm.). However, in 2013, Smith observed the following species of stony corals (Order Scleractinia) on the pier piles: *Montipora capitata*, *Montipora sp*., *Pocillopora damicornis*, *Leptastrea purpurea*, and *Porites compressa*. These species are typical of corals present throughout Kaneohe Bay. Additionally, Smith noted the snowflake coral (*Carijoa riisei*) on approximately half of the pilings examined, and growing on abandoned lines and chain hanging parallel to the pilings (Smith 2013). However, in 2015, no snowflake corals were observed (D. Jaywardene 2016, pers. comm.).

The pilings do support a dense community of fouling organisms. In addition to natural populations found on similar man-made structures in Kaneohe Bay, there are a number of invasive species present. Smith (2013) described the fouling community as follows (photos can be found in Appendix D).

> "Thick mats of algal turf were present. As used here, algal turf is defined as a multi-species assemblage of diminutive, generally filamentous algal species with heights of less than 10 cm. Crustose coralline algae and macro algae were also present. The alien invasive macro algae *Gracillaria salicornia* was present on some of the piles. Some of the most obvious fouling invertebrates were: parchment worms (*Chaetopterus sp*.), sea frost (*Salmacina dysteri*), feather duster worms (*Sebellastarte spectabilis*) and the erratic bryozoan (*Schizoporella errata*)."

Adjacent habitats

Cox et al. (2013) show spatially that the action area includes seagrass to the north, south, and west of the T-pier, beyond the dredged sandy bottom that is found in the demolition footprint (see Appendix E). The seagrass beds are dominated by *Halophilia decipiens*. Additionally, habitats along the shoreline to the east and the large patch reef adjacent to the T-pier to the west are dominated by coral and/or invasive algae. Reef fish and macroinvertebrate communities are similar to those found throughout Kaneohe Bay.

Foster et al. 2008 reported survey results from benthic communities representative of those in the action area: coral reef surveys occurred at Stations 9B and 9C, and a seagrass survey was located at Station 9SG-(G) located in the northern extent of the action area (see Appendix D). Another coral reef survey station, 9A, was located just outside the action area but is representative of the marine resources therein and thus will be included. The results are extensively summarized in the Foster et al. (2008) report, and more broadly summarized here.

There were four coral species recorded on transects in Study Area 9: *Montipora capitata*, *Montipora patula*, *Pocillopora damicornis*, and *Porites compressa*. The coral cover at the survey stations ranged from as low as 50% up to 100% coral cover (when error is included). The four coral species recorded in Study Area 9 were from 3 families, just substantially less species rich than the averages (10.7 species from 5.6 families) and medians (12 species from 7 families) for all study areas in the 500 yard buffer zone. *Halophila Hawaiiana* is a short endemic seagrass that forms dense patches up to 40 square feet in seagrass beds (Station 9SG-D), which are otherwise comprised of *Halophila decipiens*. Turf algae and crustose coralline algae were common through the surveys, while 17 species from 15 families of non-coral macro-invertebrates were recorded. The entire species lists for benthic organisms recorded at Stations 9A, 9B, and 9C (combined) are provided in Table 3.

Table 3. Benthic Community at Survey Stations, Study Site 9 (Foster et al. 2008)

Coral	Seagrass
Montipora capitata	*Halophila decipiens*
Pocillopora damicornis	*Halophila hawaiiana*
Porites compressa	
Montipora patula	

Algae	Invertebrates (type)
Caulerpa sertularioides	*Spirastrella vagabunda* (sponge)
Neomeris sp.	*Hamigera* sp (sponge)
Halimeda discoidea	**Mycale armata* (sponge)
Dictyosphaeria cavernosa	*Stylinos* sp (sponge)
Ventricaria ventricosa	*Axinyssa* sp (sponge)
Spyridia filamentosa	*Iotrocha protea* (sponge)
**Gracilaria salicornia* (invasive)	*Callyspongia diffusa* (sponge)
Peyssonelia sp.	*Dysidea* sp (sponge)
**Acanthophora spicifera* (invasive)	(unidentified black sponge)
Turbinaria ornata	(unidentified brown sponge)
Rosenvingia intricata	(unidentified red sponge)
Turf algae	(unidentified tubeworm)
	Sabellastarte sanctijosephi (tubeworm)
	Sabellid sp (tubeworm)
	Trochus intextus (mollusk)
	Serpulorbis sp (worm snail)
	Strombus dentatus (conch)
	Drupa morum (snail)
	Conus ebraeus (snail)
	Plakobranchus ocellatus (sea slug)
	Phestilla melanobrachia (nudibranch)
	Pinctada margaritifera (oyster)
	Ostrea sandvicensis (oyster)
	Percnon sp (crab)
	(unidentified brittle star)
	(unidentified bryozoan - red)
	Echinometra mathaei (boring urchin)
	Opheodesoma spectabilis (sea cucumber)
	Didemnum sp – white (tunicate)
	Phallusia nigra (tunicate)
	Polycarpa sp (ascidian)

* Denotes invasive species

4.3.2 Fishes in the Project Area

The reef fish community is fairly homogenous throughout the MCB Hawaii 500 yard buffer zone. Reef fish observed in Survey Area 9, as described by Foster et al. (2008), is comparable to that of other study areas around Mokapu Peninsula. Sixty-two fish species from 21 families were recorded in Study Area 9, just slightly higher than the averages (59.3 species from 17.4 families)

for all study areas in the 500 yard buffer zone, and closer to the medians (63 species from 18 families). A fish species list is provided in Table 4.

Table 4. Reef Fish Community at Survey Stations, Study Site 9 (Foster et al. 2008)

FAMILY *Genus species*	Common name; Hawaiian name
Synodontidae	
Synodus sp.	Lizardfish
Acanthuridae	
Acanthurus blochii	Ringtail surgeonfish
A. dussumieri	Dussumier's surgeon
A. leucopareius	Whitebar surgeonfish
A. triostegus	Convict tag; Manini
Ctenochaetus strigosus	Goldenring surgeonfish
Zebrasoma flavescens	Yellow tang
Z. veliferum	Sailfin tang
Naso lituratus.	Orangespine unicornfish
Apogonidae	
Apogon sp	cardinal fish
Blenniidae	
Cirripectes vanderbilti	Scarface blenny
Carcharhinidae	
Carcharhinus galapagensis	Galápagos shark
Chaetodontidae	
Chaetodon auriga	Threadfin butterflyfish
C. ephippium	Speckled butterflyfish
C. lineolatus	Lined butterflyfish
C. lunula	Raccoon butterflyfish
C. lunulatus	Oval butterflyfish
C. miliaris	Milletseed butterflyfish
C. ornatissimus	Ornate butterflyfish
Forcipiger flavissimus	Common longnose butterflyfish
F. longirostris	Big longnose butterflyfish
Diodontidae	
Diodon holocanthus	Longspine porcupinefish
D. hystrix	Giant porcupinefish
Gobiidae	
Gobiidae sp.	goby
Asterropteryx semipunctatus	Halfspotted goby
Psilogobius mainland	Hawaiian shrimp goby
Lethrinidae	
Monotaxis grandoculis	Bigeye emperor
Labridae	
Bodianus bilunulatus	hogfish
Coris ballieui	Lined coris
Gomphosus varius	Bird wrasse
Labroides phthirophagus	Hawaiian cleaner wrasse
Macropharyngodon geoffroy	Shortnose wrasse
Oxycheilinus unifasciatus	Ringtail wrasse
Stethojulis balteata	Belted wrasse
Thalosoma ballieui	Old woman wrasse
T. duperrey	Saddle wrasse
T. purpureum	Surge wrasse
T. trilobatum	Christmas wrasse
Lutjanidae	
Lutjanus fulvus	Blacktail snapper

Table 4. (Continued)

FAMILY *Genus species*	Common name; Hawaiian name
Mullidae	
Mulloidichthys flavolineatus	Square-spot goatfish/Yellowstripe goatfish
Parupeneus bifasciatus	Doublebar goatfish
P. cyclostomus	Moana kali
P. multifasciatus	Manybar goatfish
P. porphyreus	White saddle goatfish
Osraciidae	
Ostracion meleagris	Trunkfish
Pomacentridae	
Abudefduf abdominalis	Hawaiian sergeant major damsel
Chromis hanui	Chocolate dip chromis
C. ovalis	Oval chromis
Dascyllus albisella	Hawaiian dascyllus
Plectroglyphidodon johnstonianus	
Stegastes fasciolatus	Pacific gregory
Priacanthidae	
Priacanthus cruentatus	Glasseye
Scaridae	
Chlorurus sordidus	Bullethead parrotfish
Scarus dubius	Regal parrotfish
S. psittacus	Palenose parrotfish
S. rubroviolaceus	Ember parrotfish
Syngnathidae	
Hippocampus kuda	Spotted seahorse
Tetradontidae	
Arothron hispidus	Stripebelly puffer
A. meleagris	Stripebelly puffer
Canthigaster jactator	Hawaiian whitespotted toby
Zanclidae	
Zanclus cornutus	Moorish idol

4.4 Current Impacts

Currently, the near-shore marine resources in this area experience recreational use by boaters, kayakers, snorkelers, and fishers. It is unknown at what frequency these activities occur in the action area, or what impacts these activities may or may not have on the resources. However, there is potential for physical damage to occur to corals and other sensitive organisms in coral reef and seagrass habitats. Foster et al. (2008) reported marine debris in the dredged area of Study Area 9, where the action area is located. However, it is unknown if this debris is still present and/or if new debris has been deposited.

Invasive species continue to be a threat to the native communities in the action area. Foster et al. (2008) and Cox et al. (2013) both report a variety of invasive species from their surveys and general descriptions of the area. *Mycale armata* is an alien sponge that grew in the open spaces of branching corals. The red alga *Acanthophora spicifera* grew nearshore along with *Hypnea musciformis* that occurred in dense patches in very shallow waters. *Acanthophora spicifera* was also the primary colonizer in soft sediment. Another red alga, *Gracilaria salicornia*, occurred densely in shallow water on the patch reef.

Foster et al. (2008) provided the following recommendation for this area in their report.

> "While eradication of these invasive species may not be feasible, regular removal efforts that reduce their biomass are recommended. The thalli of both *Gracilaria salicornia* and *Acanthophora spicifera* break into vegetative fragments that can be transported (via natural and/or human-mediated vectors) to new areas allowing these macro-algae to colonize other sites within the Mōkapu security zone. Reduction of the invasive algae biomass will reduce the pool of potential propagules and curb the spread of these undesirable species and potentially reduce negative impacts to corals, native algae and seagrass."

4.5 Assessment of Potential Impacts to Essential Fish Habitat

The vast majority of potential adverse effects to EFH from aspects of this proposed project have been addressed by the BMPs that are presented as part of this action (See Section 2.1.3). As such, these potential impacts will not be analyzed further. There are two potential adverse effects that might occur despite full BMP implementation: (1) increased sedimentation and turbidity; and (2) spread of invasive species. The summary of potential adverse effects is presented in Table 5.

The barge used for removal of the concrete decking and the concrete pilings will require stability. Spuds and anchors will be used to position the barge during demolition operations. There is potential for adverse effects to EFH from the deployment of spuds and anchors to EFH because they will be placed outside of turbidity curtains. As a result, increased turbidity and sedimentation could adversely affect the water column and adjacent coral reef and seagrass. Turbidity effects would be temporary in nature and not substantially different from similar effects from the anchoring of other vessels in Kaneohe Bay, which is permitted. The extent of these effects is expected to be highly localized, and to be far less acute than the turbidity generated within the full length turbidity curtains that will surround the T-pier structure. Therefore sedimentation will only occur in locations near where the barge is positioned between the T-pier and the large patch reef. Increased sedimentation could occur on the large patch reef and possibly the shoreline to the east of the T-pier. However unlikely, adverse effects from sedimentation would be longterm and potentially permanent, smothering native organisms and providing the opportunity for the substrate to be colonized by the abundant invasive species in this area. Because these adverse effects are expected to be localized, the effects are expected to be minimal.

There is concern that some invasive species could be spread from the T-pier structure during demolition activities as a result of fragmentation and transport through the water column or along the seafloor to adjacent habitats in the action area. The invasive snowflake coral (*Carijoa riisei*), which has been reported on the T-pier pilings in the past, but does not appear to be present currently, requires low-light conditions to colonize hard bottom habitats, and does not appear to be a threat to become established on nearby habitats. However, the invasive algae species (*Acanthophora specifera*, and *Gracillaria salicornia*) could become fragmented and colonize nearby habitats, reducing the overall ability of the habitat to serve as EFH for managed species units. Unlike sediments, which typically settle in close proximity to the disturbance, fragmented alga can live for long periods and move with currents and tides for substantial distances. As a result, adverse effects from fragmentation of invasive alga could be more substantial, long-term, and permanent.

Table 5. Potential impact assessment summary of project activities on Management Unit Species (MUS)

Project Activity	Impact Assessment
Increased Turbidity	Minimal localized temporary impacts to MUS from barge anchors and spuds suspending sediments, making trophic energy transfer more difficult for MUS by making prey more difficult to acquire and by decreasing light penetration.
Increased sedimentation	Minimal localized permanent impacts to from barge anchors and spuds suspending sediments that can smother native benthic species or reduce their fitness; causing a shift of habitats dominated by native species to habitats dominated by invasive species, and lowering overall EFH quality for MUS.
Spread of Invasive Species	Moderate localized permanent effects by causing a shift of habitats dominated by native species to habitats dominated by invasive species, and lowering overall EFH quality for MUS.

4.6 EFH Conclusion

Adverse effects to EFH during demolition of the T-pier will be negligible because BMPs will be fully implemented as binding requirements to the Navy Contractor. Implementation of BMPs will minimize and/or avoid adverse effects to EFH during demolition activities.

Additionally, three Conservation Measures, designed to offset unavoidable potential adverse effects to EFH, are presented in the following section. These measures will: (1) reduce the potential for new invasive species to be introduced to the habitats in the action area, (2) decrease the overall abundance of invasive algae in the action area, providing the opportunity for native species to recolonize areas that had been previously unavailable due to dense colonization by invasive species, and (3) remove marine debris that is harmful to EFH and Management Unit Species.

The aggregate long-term result of BMP implementation and Conservation Measures will be an overall improved environment with more robust habitats that function more efficiently to support Management Unit Species.

5.1 CONSERVATION MEASURES

The MCB Hawaii Integrated Natural Resource Management Plan (INRMP) identifies multiple conservation measures that may confer benefits to all three protected species within the action area and/or their habitat (Sustainable Resources Group Intn'l, Inc., 2011). Beneficial actions include: debris removal, prohibitions against lay nets and gill nets in the 500-yard buffer zone surrounding MCB Hawaii, restrictions on fishing, enforcement of established rules by a Conservation Law Enforcement Officer, interagency cooperation for rehabilitation events, use of established procedures for haul-outs, educational outreach for protected species (including classroom briefs, web page, news articles, brochures, service projects, and on-site signage and monitoring), protected species scouting surveys prior to training exercises along the beach; invasive species removal (*e.g.,* removing invasive mangroves to support native species habitat), ecological assessments in marine resources surveys and inventories, and water quality projects (minimizing erosion and pollution). Three Conservation Measures consistent with the INRMP guidelines are included as part of this proposed action.

1. The Request for Proposals for the demolition of the T-pier that will be used to select the Contractor for the proposed demolition will stipulate that the vessels selected to execute this work by the Contractor will be made available for an inspection by a qualified expert selected by the Navy prior to mobilization to Kaneohe Bay.

2. The State of Hawaii Department of Aquatic Resources "Super-Sucker" will be funded (for one week) to remove invasive algae in coral habitats adjacent to the T-pier footprint in order to offset any potential adverse effects to EFH that could occur through fragmentation spread of these algae as a result of the proposed demolition.

3. The action area will be surveyed by a Navy Marine Ecologist and marine debris will be removed to the maximum extent practicable (excluding unexploded ordinance and/or hazardous wastes).

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APPENDICES

Appendix A: Key Pre-Consultation Documents
Appendix B: T-Pier Architectural and Engineering Schematics
Appendix C: List of ESA-Protected Species for Hawaii (NMFS 2015)
Appendix D: S. Smith, Memorandum for the Record, Dec 12, 2013
(see Appendix C of the Environmental Assessment for this Memorandum)

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Appendix A: Key pre-consultation documents

From:	Drigot CIV Diane C
To:	Okimoto CIV Gary T; Lee LCDR Lance A
Cc:	Hudock Maj David M; Irvin CIV Carolyn E; Geltmacher CIV Daniel S; Tome CIV Steven K; Yamada CIV Ronald M; Russell CIV Todd A; Olayvar CIV Gordon K; Oscik Ens Pawel R; Larson CIV Jeffrey R; Watson CTR John-Carl; Russell CIV Todd A
Subject:	RE:Summary of Mtg with FWS and State Regulators re T-Shaped Pier Demolition Project
Date:	Friday, December 19, 2008 12:22:42

All--Here is a summary of the meeting rationale, results, and next steps.

Recall that I arranged this meeting due to several requirements:

RATIONALE FOR MEETING:
1. Federal Fish and Wildlife Coordination Act requires consultation with US FWS whenever any federal action affecting a water body is about to be undertaken; We have federal laws and Executive Orders that require the federal government to play a leadership role in protection coral reefs and controlling invasive species.
2. US FWS just completed leading a multi-agency, marine resources inventory in our 500-yard buffer zone documenting very unique coral ecosystem resources, native seagrass meadows, and related species in close proximity to this project that could be at risk if best mgt. practices are not followed.
3. We have a known abundance of a highly invasive snowflake coral (Carijoa riisei) species encrusting this pier (confirmed in 2003-State DLNR/aquatic resources exploratory dive we supported), documenting this infestation. It can easily fragment and spread to very pristine areas nearby if the demolition is not done properly.
4. Involving regulators early will help expedite processing of Army COE application for pier demolition; Army COE sends permit application to USFWS and State for review and the regulators will already be familiar with the proposed project;
5. Meeting results provide the feedback needed to complete my comments on the CATEX application.

ATTENDEES:
1. Kevin Foster, Marine Ecologist and Regional Diving Officer, US. Fish and Wildlife Service
2. Nadeira Sukhraj, marine biologist, U.S. Fish and Wildlife Service
3. Tony Montgomery, aquatic biologist, State Dept. of Land and Nat. Resources/Aquatic Resources Division
4. Dr. Diane Drigot, Senior Nat. Resources Mgt. Specialist MCB Hawaii
5. Ron Yamada, NEPA specialist, Environ. Dept., MCB Hawaii'
6. Ensign Pawel Oscik, Officer in Charge, Waterfront Opns, MCB Hawaii
7. Gary Okimoto, Facilities Planner, MCB Hawaii
8. Gordon Olayvar Conservation Law Enforcement Officer, MCB Hawaii
9. John-Carl Watson, Nat. Resources Contractor-Technician, MCB Hawaii

SUMMARY OF CONCERNS:
The meeting productively revealed areas of concern the regulators will be looking to be addressed when the Army COE application is circulated for their review; so that adverse impacts to Hawaii's coral reef ecosystem resources are avoided. The regulator representatives were praiseworthy for how MCB Hawaii involves them early in the process when designing such projects and considers us leaders in this respect. It makes their job

easier to be brought in early to the review process and will expedite the processing of the application.

1. DISPOSAL LOCATION:

The pier pilings to be cut at the base and removed from the water will be encrusted with a complex of not only easily-fragmented invasive snowflake coral, but an assortment of other species of concern: invasive sponges & algaes. To avoid inadvertent spread of fragmented invasives to nearby areas, there must be upland, inland, landfill disposal of the material extracted so it cannot get back into any water body;

2. BOTTOM-ANCHORED SILT CURTAINS:

Prior to the removal process, bottom-anchored floating silt curtains shall be installed around the pier to contain the loose sediments on the sea bottom, confine the turbidty to the enclosed area, and also confine the easily torn-off fragments of invasive species encrusting the pilings while they are being removed. These curtains with bottom chain anchor are readily available from a number of sources. These curtains shall remain in-situ for several days after the project is complete; until water turbidty is gone from the water column. (It was speculated that water quality monitoring MIGHT be required as a permit condition. This is what was required of us when we did Army COE-supervised mangrove removal (no dredging just mangrove removal) at the Nu'upia ponds. The used curtains shall also be disposed of at an upland location when the project is done, and NOT re-used.

3. TIMING OF PROJECT ACTION TO AVOID HIGH TIDES:

Concern was raised about tide-dependent periods of very high water current in this area; Times of extreme high tide shall be avoided when doing this operation (high water movement can make containment or turbidity and invasives more difficult); summer high-tide times to be avoided.

4. BARGE BOTTOM--POTENTIAL TRANSPORTER OF INVASIVE SPECIES:

It is anticipated that a barge will be brought from Pearl Harbor to import the Crane. Wherever the barge comes from, and especially if from Pearl Harbor (which has many invasives in it that are not yet infecting Kane'ohe bay), the bottom hull of the barge must be cleanred just before coming. Upon questioning, State confirmed that barges are often major culprits for being invasive species spreaders, as opposed to recreational vessels. Also, better to have the barge tie up at the pier rather than be anchored. The barge anchor can damage the reefs; extra care needs to be taken if anchors are used to avoid reefs.

5. BARGE DECK--POTENTIAL TRANSPORTER OF INVASIVE SPECIES:

--The barge deck can also be a vector to inadvertently spread fragmented invasives. This can be avoided if the encrusted cut pilings are lifted back into the barge and contained withing a spill containment berm enclosure while being tranported to their destination.

--Any drippings, sediment, and fragmented species that fall onto the deck need also to be contained inside the containment berm system and disposed of upland.

--If at all possible, make that upland disposal destination somewhere nearby (possibly the base landfill?). Ensign Oscik suggested that the barge could off-load the pilings and related disposal material either right there at Waterfront Ops or at the Marine Pier for in-land disposal. If the barge doesn't off-load until it goes back to Pearl Harbor, the containment system on the deck needs to be in place the entire trip so that inadvertent contamination of other waters does not occur.

NEXT STEPS:

A letter will be sent to US FWS, DLNR/DAR and NOAA/NationalMarine Fisheries Service, summarizing the results of this meeting and asking for any additional comments. That correspondence will be packaged with the Army COE application materials so that the Army COE will see we got an early start in the consultation process.

Any additional comments by other attendees (some MCB attendees only attended part of the meeting due to other commitments) are welcomed.

V/R, Diane
Dr. Diane Drigot
Senior Natural Resources Management Specialist
Marine Corps Base Hawaii
Phone: (808) 257-6920 x224
Fax: (808) 257-2794
Mailing Address:
Commanding Officer
ATTN LE (DRIGOT)
Box 63062 (ENVIRONMENTAL)
MCBH Kaneohe Bay HI 96863-3062

-----Original Message-----
From: Okimoto CIV Gary T
Sent: Friday, December 19, 2008 11:04
To: Lee LCDR Lance A
Cc: Hudock Maj David M; Irvin CIV Carolyn E; Geltmacher CIV Daniel S; Tome CIV Steven K; Drigot CIV Diane C; Yamada CIV Ronald M; Russell CIV Todd A; Olayvar CIV Gordon K; Oscik Ens Pawel R
Subject: RE: Dec 19 Mtg with Federal & State Biologists about T-Shaped Pier Demolition Project

Lance,

The following are some issues and concerns that the Seabees need to be aware of in the pile removal/disposal process for the T-pier demolition work.

Assuming that a crane on a barge will be used to lift the four piles out of the water while divers cut the piles at the ocean floor. The barge will require precautions, not to damage the surrounding reefs while anchored, it may be possible to tie up to the existing pier. A total containment curtain surrounding the piles to be removed, anchored to the ocean floor and floated at the surface with floatation devices will be required. The containment curtain will be required to remain in place for a week after the piles are removed, and the curtain disposed of at a landfill. It is recommended that the piles be loaded onto a truck at the Waterfront Operations area then the piles taken to our landfill. This process also includes containment of the excess water from the piles while on the truck. A water quality monitoring

specialist will be required on site to monitor processes and procedures.

Before returning to Pearl Harbor (assuming that is where the barge comes from), the deck of the barge will need to be decontaminated (washed down) to avoid carrying the invasive coral/sponge back across the island.

It was also recommended that the project work be executed during tides with minimal impact in disrupting the containment curtain, avoiding the summer tides.

Please email/call me if you've any questions.

Vr
Gary

-----Original Message-----
From: Lee LCDR Lance A
Sent: Thursday, December 11, 2008 13:20
To: Drigot CIV Diane C; Okimoto CIV Gary T; Yamada CIV Ronald M; Russell CIV Todd A; Olayvar CIV Gordon K; Oscik Ens Pawel R
Cc: Hudock Maj David M; Irvin CIV Carolyn E; Geltmacher CIV Daniel S; Tome CIV Steven K
Subject: RE: Dec 19 Mtg with Federal & State Biologists about T-Shaped Pier Demolition Project

Diane,

I am on leave that day. I've asked Gary to attend.

Thanks,
Lance

-----Original Message-----
From: Drigot CIV Diane C
Sent: Tuesday, December 09, 2008 10:57
To: Lee LCDR Lance A; Okimoto CIV Gary T; Yamada CIV Ronald M; Russell CIV Todd A; Olayvar CIV Gordon K; Oscik Ens Pawel R
Cc: Hudock Maj David M; Irvin CIV Carolyn E; Geltmacher CIV Daniel S; Tome CIV Steven K
Subject: Dec 19 Mtg with Federal & State Biologists about T-Shaped Pier Demolition Project

All--Please attend the meeting described below. Those copied are welcome to attend but FYI otherwise.

If you have a prior commitment or on leave that day, a negative reply is appreciated.

The Federal and State Biologists are meeting us at Bldg. 1360 first, at 9 a.m and we will go over to the pier from here so, will likely be on site by 9:15 a.m.

Date: Friday, Dec 19

Time: 9:15 to 11 a.m.

Place: Environ. Dept. Bldg. 1360, Meet there and proceed to Waterfront Operations, T-Shaped Pier Area, near our office.

Purpose: Early input/advice from federal and state marine biologists on potential adverse impacts and how to mitigate them re MCB Kaneohe Bay's proposed project to demolish the T-Shaped Pier near Waterfront Operations to provide greater maneuverability for their vessels, and to remove a deteriorating structure that is no longer in use..

We know that there is a major infestation of Invasive snowflake coral there, Carijoa riisei., one of the "top" marine invasive species in the state.

There are undoubtedly other invasive biota encrusting the pier as well.

By contrast, we know that the area near the pier is relatively pristine and biologically rich Study Station 9 in the FWS-led Marine Resources interagency survey just completed, led by FWS Kevin Foster, with State and other participants also involved).

The biologists may be interested in performing a snorkeling "look see" on the date of the meeting. However, one of the biologists with the State DLNR is coming, Tony Montgomery, who did an extensive dive and videotaped the infestation several years ago and we have a copy of that tape transferred to CD, so he is familiar with the Carijoa problem.

The Base knows that an Army COE permit is necessary and an EA may be necessary too (CATEX review is in process). We want to get an early start on consulting with the appropriate agency biologists (federal and state) which may influence the final shape of the proposal and the BMPs required for the contractor to use when they perform the demolition to ensure no inadvertent spread of biofouling agents occur that could adversely impact nearby pristine resources.

The Army COE permit requires such consultations anyway.

Thanks so much for confirming your attendance as well as any other associates that may be appropriate from your office.

Thanks, Diane

Dr. Diane Drigot
Senior Natural Resources Management Specialist Marine Corps Base Hawaii
Phone: (808) 257-6920 x224
Fax: (808) 257-2794
Mailing Address:
Commanding Officer
ATTN LE (DRIGOT)
Box 63062 (ENVIRONMENTAL)
MCBH Kaneohe Bay HI 96863-3062

From: Bigay, John CIV NAVFAC PAC, EV2
To: Lundgren, Ian F CIV NAVFAC Pacific, EV
Subject: FW: T-shaped Pier (Building 1662) Demolition/Repair Project at MCBH Kaneohe Bay: NMFS/PRD comments
Date: Thursday, April 28, 2016 15:36:10
Attachments: T-pier NMFS-PRD BMPs.doc

-----Original Message-----
From: Donald Hubner [mailto:Donald.Hubner@noaa.gov]
Sent: Thursday, March 05, 2009 3:24 PM
To: Drigot CIV Diane C
Cc: Steve Kolinski; Kevin B. Foster
Subject: T-shaped Pier (Building 1662) Demolition/Repair Project at MCBH Kaneohe Bay: NMFS/PRD comments

Hello Diane,

According to the BMP discussion, it appears that a crane will be operated from a barge; that the supporting pilings under the section of the pier to be removed will be cut off at the mudline; and the crane will remove the pilings from the water, place them on the barge, and eventually the pilings will be disposed shore-side. Aside from that, little project-specific detail was provided.

Please briefly describe what, and how, work will be done to complete this action, to include, but not necessarily be limited to:

1. How will the pier section to be removed be disassembled/cut up and removed?
2. Describe, measures to be taken to prevent contaminated debris (lead and/or asbestos) from entering the water.
3. Describe the underwater work to cut and remove the pilings, including the number of divers, type of tools (cutters, pneumatic chisel, torch?) estimated start date, and duration of this component.
4. Describe work to be done to "secure the remaining timber pier to an existing concrete pier". Please confirm that no pile-driving is planned (none was discussed).
5. Provide estimated start date and duration for the whole project.

Please confirm application of the attached PRD BMPs, in addition to those described in the material you provided to prevent the spread of the snowflake coral and invasive sponges.

Thank you,

Don

--
Donald M. Hubner
Endangered Species Biologist
NOAA/NMFS Pacific Islands Regional Office
1601 Kapiolani Blvd. Ste 1110
Honolulu, HI 96814
(808) 944-2233

Appendix B: T-pier architectural and engineering schematics

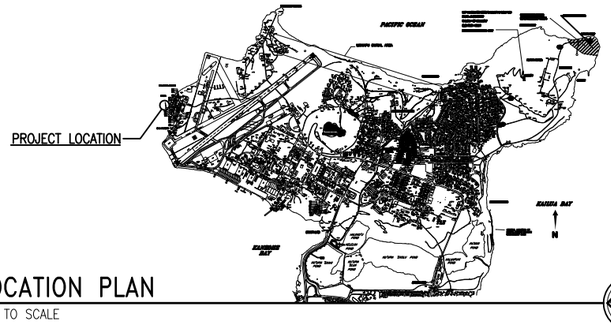
DEMOLISH NOSC PIER
B1662

MARINE CORPS BASE HAWAII, KANEOHE, HAWAII

NAVFAC HAWAII

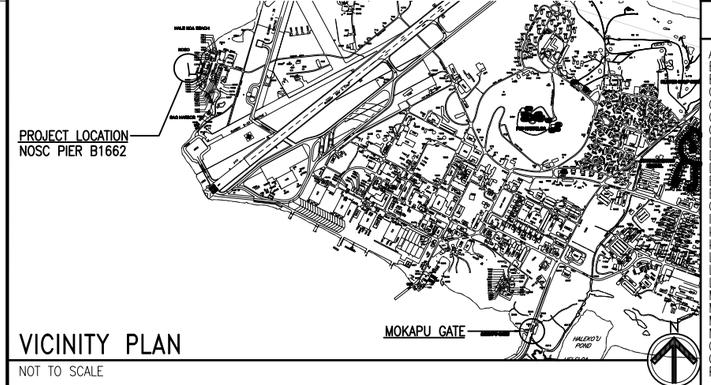
CAPITAL IMPROVEMENTS

MAPS



LOCATION PLAN

NOT TO SCALE



VICINITY PLAN

NOT TO SCALE

SYMBOLS LEGEND

CARET SYMBOLIZES AN ELEVATION

SHADED ARROW SIGNIFIES A SECTION CUT.

B2 / G001 — DETAIL, SECTION, OR ELEVATION NUMBER. NUMBER PREFERENCES GRID PLACEMENT ON SHEET WHICH DETAIL IS DRAWN.

SHEET ON WHICH DETAIL, SECTION, OR ELEVATION IS DRAWN.

DETAIL OR SECTION LINE — B2

SCALE: X/X" = 1'-0" — G001,A001

SHEET ON WHICH DETAIL, SECTION, OR ELEVATION IS CUT.

ABBREVIATIONS

ASS'Y	ASSEMBLY
B/W	BETWEEN
BLDG	BUILDING
CANT	CANTILEVER
CLF	CHAINLINK FENCE
CMU	CONC MASONRY UNIT
CONC	CONCRETE
DIA	DIAMETER
DIM	DIMENSION
DBL	DOUBLE
ELEV	ELEVATION
EXST	EXISTING
GALV	GALVANIZED
INCL	INCLUDED
KIPS	1000 POUNDS
KSI	KIPS PER SQ INCH
LB	POUNDS
LF	LINEAR FEET
LONG	LONGITUDINAL
MAX	MAXIMUM
MIN	MINIMUM
MPH	MILES PER HOUR
NIC	NOT IN CONTRACT
OC	ON CENTER
ORN	ORNAMENTAL
PSF	POUNDS PER SQ FT
PSI	POUNDS PER SQ IN
REINF	REINFORCING, -MENT
SCHED	SCHEDULE
SQ	SQUARE
TYP	TYPICAL
VERT	VERTICAL
W/	WITH

LIST OF SHEETS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK AMONG THE VARIOUS TRADES AS NECESSARY TO AVOID CONFLICTS AND TO INSURE THE INSTALLATION OF ALL WORK WITHIN THE AVAILABLE SPACE.

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APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES XX | DRW XX | REV XX

PM/DM

FIRE PROTECTION

BRANCH MANAGER

CHIEF ENG/ARCH

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND PEARL HARBOR, HAWAII

NAVFAC HAWAII

MCBH — KANEOHE, HAWAII

BLDG/X1662

DEMOLISH NOSC PIER

SHEET TITLE: TITLE SHEET, MAPS AND DRAWING INDEX

SCALE: AS NOTED

EPROJECT NO.: #########

CONSTR. CONTR. NO. ######-##-#-####

NAVFAC DRAWING NO. ##########

SHEET 1 OF 3

G-001

GENERAL NOTES

GENERAL NOTES

1. THE SCOPE OF WORK INVOLVES THE DEMOLITION OF BUILDING 1662 NOSC PIER AT KANEOHE MARINE CORPS BASE HAWAII. THE WORK INCLUDES BUT IS NOT LIMITED TO THE DEMOLITION AND REMOVAL OF THE PIER IN ITS ENTIRETY EXCEPT FOR THE PORTION OF THE PILE BELOW THE MUDLINE, TERMINATION AND REMOVAL OF UTILITIES, REMOVAL OF HAZARDOUS MATERIAL ASSOCIATED WITH THE DEMOLITION AND OTHER INCIDENTAL WORK.
2. CONTRACTOR SHALL VERIFY AND CHECK ALL DIMENSIONS AND DETAILS ON THE DRAWINGS PRIOR TO START OF CONSTRUCTION. DETAILS AND DIMENSIONS ARE TYPICAL UNLESS OTHERWISE NOTED. NOTIFY AND COORDINATE WITH THE CONTRACTING OFFICER ANY MAJOR DEVIATIONS FROM THESE PLANS DUE TO UNFORESEEN OR VARYING FIELD CONDITIONS.
3. ANY CHANGES OR MODIFICATIONS SHALL BE APPROVED BY THE CONTRACTING OFFICER PRIOR TO ACCOMPLISHMENT.
4. REFERENCE DRAWINGS ARE INCLUDED WITH THE CONTRACT DRAWINGS AND SHALL BE CONSIDERED PART OF THIS CONTRACT. REFERENCE DRAWINGS ARE INTENDED ONLY TO SHOW THE GENERAL CONSTRUCTION AND MAY NOT ACCURATELY REPRESENT THE ACTUAL EXISTING CONDITIONS. THESE DRAWINGS DO NOT INDICATE ALTERATIONS, MODIFICATIONS OR REPAIRS PERFORMED AFTER THE CONSTRUCTION OF THE FACILITY. THE CONTRACTOR SHALL VISIT THE JOB SITE TO FAMILIARIZE HIMSELF WITH THE JOB CONDITIONS AND SHALL INCLUDE IN HIS PROPOSAL ALL ITEMS THAT FALL WITHIN THE GENERAL INTENDED SCOPE OF WORK. THE REFERENCE DRAWINGS ARE NOT TO SCALE.
5. THIS PROJECT REQUIRES THE IMPLEMENTATION OF A BEST MANAGEMENT PRACTICES (BMP) PLAN DURING ALL DEMOLITION AND CONSTRUCTION WORK TO PREVENT AND/OR MINIMIZE ENVIRONMENTAL IMPACTS DURING THE CONSTRUCTION ACTIVITY. IF FOREIGN OBJECTS AND/OR MATERIALS ACCIDENTALLY FALL INTO THE WATER, THEY SHALL BE RETRIEVED AND DISPOSED OF AT NO COST TO THE GOVERNMENT. THE BMP PLAN SHALL ADDRESS THE USE OF DUST AND DEBRIS CONTAINMENT AND CATCHMENT DEVICES TO PREVENT ANY FOREIGN MATTER (E.G. CONSTRUCTION MATERIALS, DEBRIS, DUST, ETC.) FROM FALLING INTO THE WATER AND TO MINIMIZE FUGITIVE DUST.
6. THE CONTRACTOR SHALL USE FULL WATER DEPTH SILT CURTAINS TO ENCLOSE THE WORK AREA TO CONTROL TURBIDITY DURING ALL IN-WATER AND OVER-WATER WORK. IF A PLUME IS OBSERVED OUTSIDE OF THE SILT CURTAINS THAT IS CAUSED BY THE CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL STOP THE ACTIVITY AND TAKE CORRECTIVE ACTION IMMEDIATELY. WORK SHALL RESUME AFTER CORRECTION HAS BEEN MADE. CONTRACTOR SHALL MOVE/RELOCATE SILT CURTAINS OR 4 HOURS (2 EACH) TO SUPPORT NAVY OPERATIONS AS REQUIRED BY THE CONTRACTING OFFICER.
7. THE USE OF YELLOW SILT CURTAINS, TARPS, COVERINGS, ETC. IS PROHIBITED.
8. ALL WORK ACCOMPLISHED UNDER THIS TASK ORDER SHALL COMPLY WITH APPLICABLE UNIFIED FACILITIES GUIDE SPECIFICATIONS (UFGS).

SAFETY

1. PROVIDE POSITIVE FALL PROTECTION WHEN WORKING SIX FEET OR MORE ABOVE ADJACENT LEVEL. COORDINATE AND DEVELOP ACCEPTABLE FALL PROTECTION PLAN.
2. OBTAIN HOT WORK/ BURN PERMIT FROM FEDERAL FIRE DEPARTMENT.
3. OBTAIN DAILY GAS FREE TESTING CERTIFICATE AND APPROVAL FROM THE ACTIVITY FIRE CHIEF AND SAFETY OFFICE PRIOR TO COMMENCEMENT OF HOT WORK OPERATIONS.
4. PROVIDE FIRE WATCH AND FLAMEPROOF OR NONCOMBUSTIBLE SHIELDS AT ALL WELDING OR CUTTING OPERATIONS.
5. COMBUSTIBLE MATERIAL SHALL BE REMOVED OR COVERED WITH FLAMEPROOF TARPAULINS.
6. USE PROPER PROTECTIVE EQUIPMENT (I.E. GOGGLES, FACE SHIELD, APPROPRIATE GLOVES, ETC.) DURING CONCRETE CHIPPING, PAINT REMOVAL, CHEMICAL ETCHING, ETC.

DEMOLITION

1. REMOVE AND DISPOSE OF ALL WASTE MATERIAL, RUBBISH AND DEBRIS IN ACCORDANCE WITH ALL FEDERAL, STATE, LOCAL AND NAVY REQUIREMENTS. THE CONTRACTOR SHALL NOT USE GOVERNMENT DUMPSTERS.
2. KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM RUBBISH, DUST, NOISE, EROSION, ETC. THE WORK SHALL BE DONE IN CONFORMANCE WITH THE AIR AND WATER POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.
3. MONITOR AIR FOR LEAD, ASBESTOS AND ARSENIC (AS APPLICABLE) DURING DEMOLITION AND CONTROL EMISSIONS (DUST).
4. CONDUCT A PRE-DEMOLITION SURVEY TO THOROUGHLY INSPECT FACILITIES FOR THE PRESENCE OF LEAD BASED PAINT (LBP) AND ASBESTOS CONTAINING MATERIAL (ACM). INSPECTIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS. SURVEYS SHALL ALSO INCLUDE ASSESSMENT OF DEMOLITION DEBRIS TO CHARACTERIZE IF DEBRIS ARE HAZARDOUS OR NON-HAZARDOUS WASTE.
5. NO BLASTING SHALL BE ALLOWED ON THIS PROJECT.

LEAD PAINT

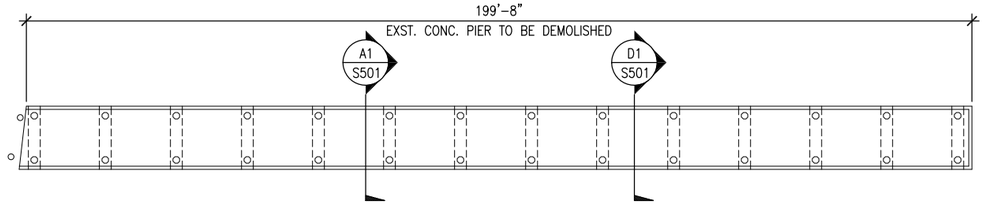
1. LABORATORY RESULSTS BY NAVFAC HAWAII CODE EV1 HAS TESTED PAINT CHIPS SAMPLES FOR LEAD. THESE RESULTS SHALL BE CONSIDERED PART OF THIS CONTRACT.
2. CONTRACTOR IS NOTIFIED THAT THERE IS NO LEAD PAINT PRESENT AT THE PROJECT LOCATION.

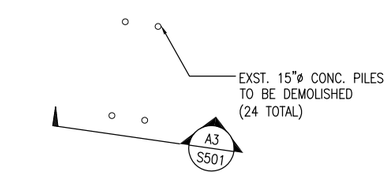
ASBESTOS

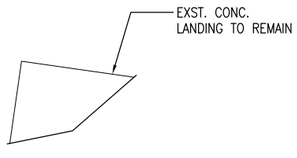
1. LABORATORY RESULSTS BY NAVFAC HAWAII CODE EV1 HAS TESTED CONCRETE SAMPLES FOR ASBESTOS. THESE RESULTS SHALL BE CONSIDERED PART OF THIS CONTRACT.
2. CONTRACTOR IS NOTIFIED THAT THERE IS NO ASBESTOS PRESENT AT THE PROJECT LOCATION.

SUBMITTALS

1. BEST MANAGEMENT PLAN.
2. SOLID WASTE DISPOSAL REPORT.
3. "HOT-WORK" PERMIT.
4. GAS FREE CERTIFICATES.
5. DUST CONTROL PLAN.
6. SITE HEALTH AND SAFETY PLAN.
7. NOTIFICATION FOR DEMOLITION.
8. FALL PROTECTION PLAN.







SITE PLAN

SCALE: 1/4"=1'-0"

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK AMONG THE VARIOUS TRADES AS NECESSARY TO AVOID CONFLICTS AND TO

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FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES | DRW | REV

PM/CM

FIRE PROTECTION

BRANCH MANAGER

CHIEF ENG/ARCH

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
PEARL HARBOR, HAWAII
NAVFAC HAWAII
KANEOHE, HAWAII
MCBH
BLDG 1662
DEMOLISH NOSC PIER
SHEET TITLE
GENERAL NOTES AND SITE PLAN

SCALE: AS NOTED

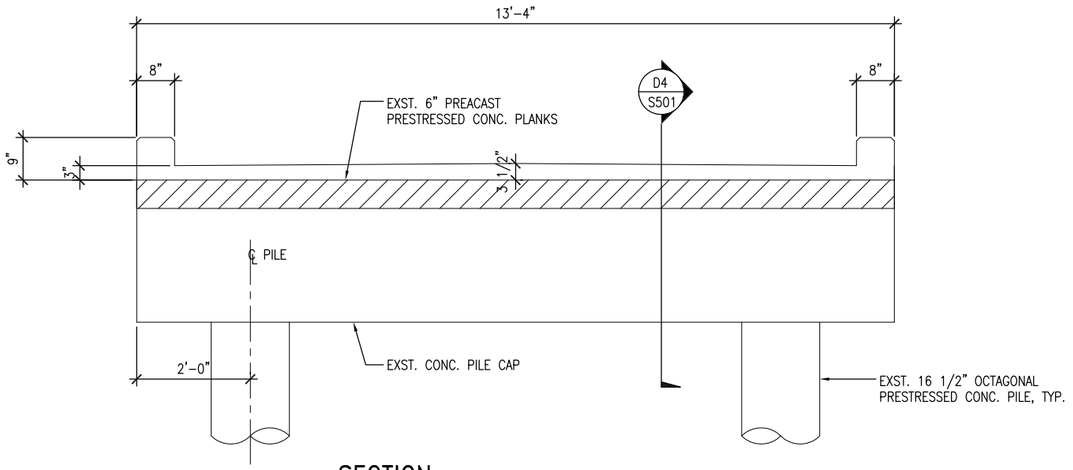
EPROJECT NO.: #########

CONSTR. CONTR. NO. ######-##-#-####

NAVFAC DRAWING NO. ##########

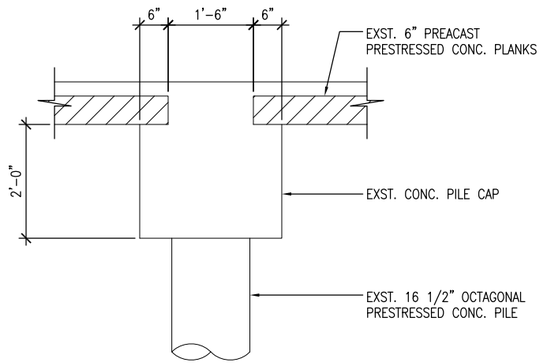
SHEET 2 OF 3

S-001



SECTION

SCALE: 3/4" = 1'-0" S-101 D1



SECTION

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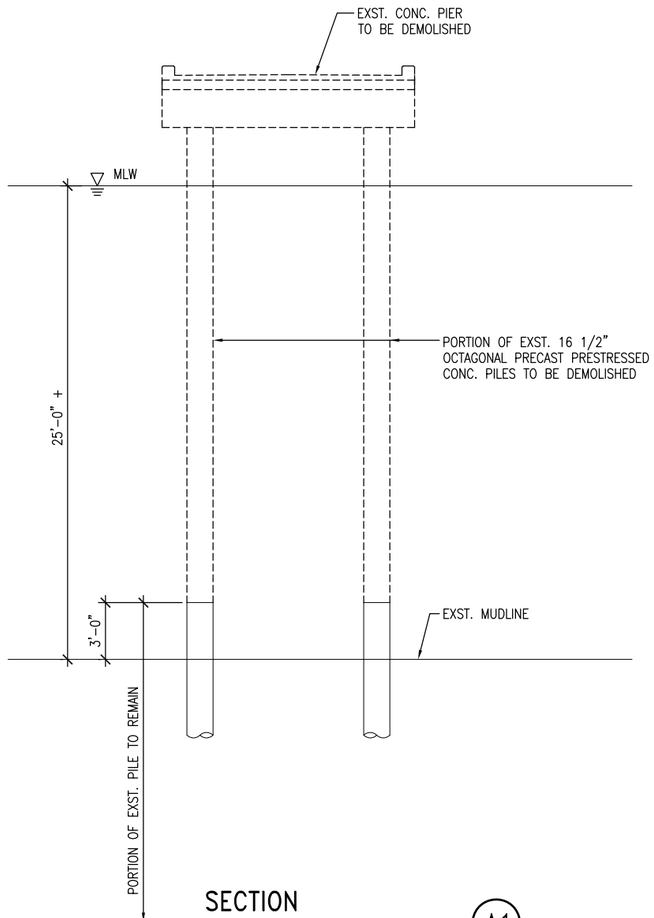
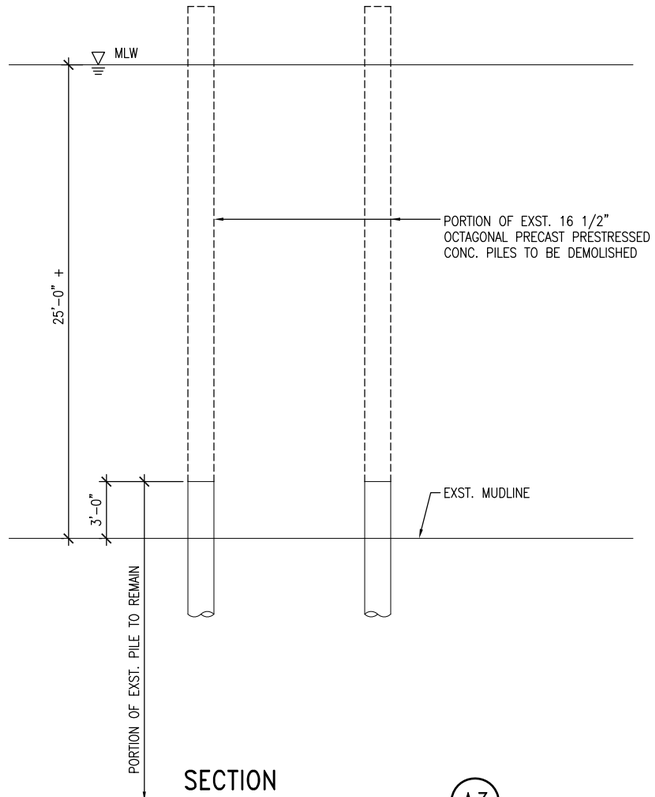


SECTION

SCALE: 1/4" = 1'-0" S-001 A1



SECTION

SCALE: 1/4" = 1'-0" S-001 A3

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APPROVED		
FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO	DATE	
DES [redacted]	DRW [redacted]	REV [redacted]
PM/DM		
FIRE PROTECTION		
BRANCH MANAGER		
CHIEF ENG/ARCH		

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
PEARL HARBOR, HAWAII
NAVFAC HAWAII
MCBH
KANEOHE, HAWAII
BLDG 1662
DEMOLISH NOSC PIER
SHEET TITLE
SECTIONS AND DETAILS

SCALE: AS NOTED
EPROJECT NO.: #########
CONSTR. CONTR. NO. ######-##-#-####
NAVFAC DRAWING NO. ##########
SHEET 3 OF 3

S-501

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK AMONG THE VARIOUS TRADES AS NECESSARY TO AVOID CONFLICTS AND TO

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Appendix C: List of ESA-protected species for Hawaii (NMFS 2015)

MARINE PROTECTED SPECIES of the HAWAIIAN ISLANDS

National Marine Fisheries Service, Pacific Islands Regional Office

MARINE MAMMALS

All marine mammals are protected under the Marine Mammal Protection Act. Those identified under the ESA Listing are also protected under the Endangered Species Act.

Common Name	Scientific Name	ESA Listing
Blue Whale	*Balaenoptera musculus*	Endangered
Blainville's Beaked Whale	*Mesoplodon densirostris*	
Bryde's Whale	*Balaenoptera edeni*	
Cuvier's Beaked Whale	*Ziphius cavirostris*	
Dwarf Sperm Whale	*Kogia simus*	
False Killer Whale – Hawaiian Insular	*Pseudorca crassidens*	Endangered
False Killer Whale – Hawaiian Pelagic	*Pseudorca crassidens*	
Fin Whale	*Balaenoptera physalus*	Endangered
Humpback Whale	*Megaptera novaeangliae*	Endangered
Killer Whale	*Orcinus orca*	
Longman's Beaked Whale	*Indopacetus pacificus*	
Melon-headed Whale	*Peponocephala electra*	
Minke Whale	*Balaenoptera acutorostrata*	
North Pacific Right Whale	*Eubalaena japonica*	Endangered
Pygmy Killer Whale	*Feresa attenuata*	
Pygmy Sperm Whale	*Kogia breviceps*	
Sei Whale	*Balaenoptera borealis*	Endangered
Short-finned Pilot Whale	*Globicephala macrorhynchus*	
Sperm Whale	*Physeter macrocephalus*	Endangered
Bottlenose Dolphin	*Tursiops truncatus*	
Common Dolphin	*Delphinus delphis*	
Fraser's Dolphin	*Lagenodelphis hosei*	
Pantropical Spotted Dolphin	*Stenella attenuata*	
Risso's Dolphin	*Grampus griseus*	
Rough-toothed Dolphin	*Steno bredanensis*	
Spinner Dolphin	*Stenella longirostris*	
Striped Dolphin	*Stenella coeruleoalba*	
Hawaiian Monk Seal	*Monachus schauinslandi*	Endangered
Northern Elephant Seal	*Mirounga angustirostris*	

SEA TURTLES

All sea turtles are protected under the Endangered Species Act.

Common Name	Scientific Name	ESA Listing
Green Turtle	*Chelonia mydas*	Threatened
Hawksbill Turtle	*Eretmochelys imbricata*	Endangered
Leatherback Turtle	*Dermochelys coriacea*	Endangered
North Pacific Loggerhead Turtle	*Caretta caretta*	Endangered
Olive Ridley Turtle	*Lepidochelys olivacea*	Threatened

Last updated January 2015

CORALS

There are currently no known ESA-listed coral species found in the Hawaiian Archipelago.

Appendix D: S. Smith, Memorandum for the Record, December 12, 2013

[provided separately as Appendix B of this Environmental Assessment]

Appendix E: Extracted Figures

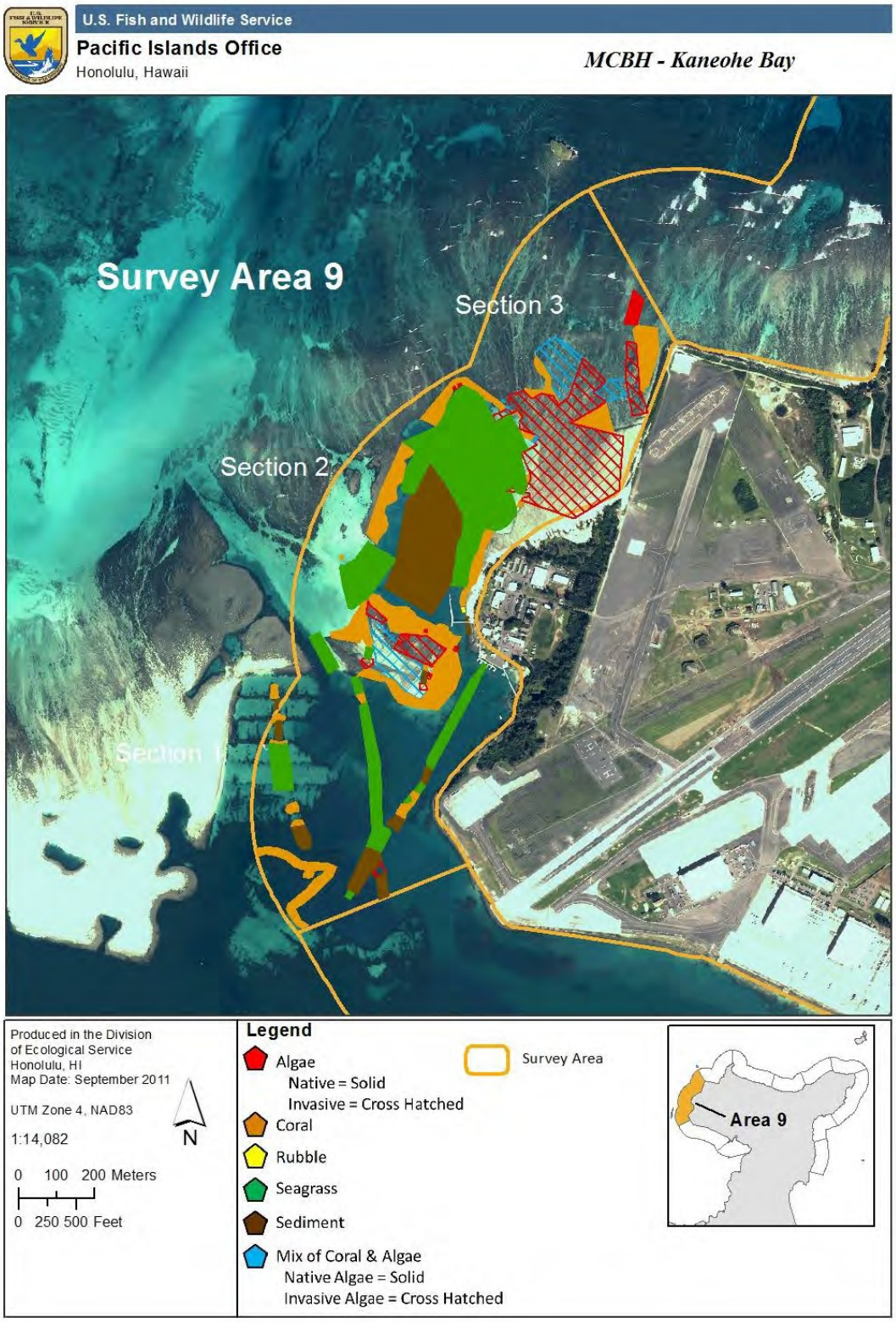
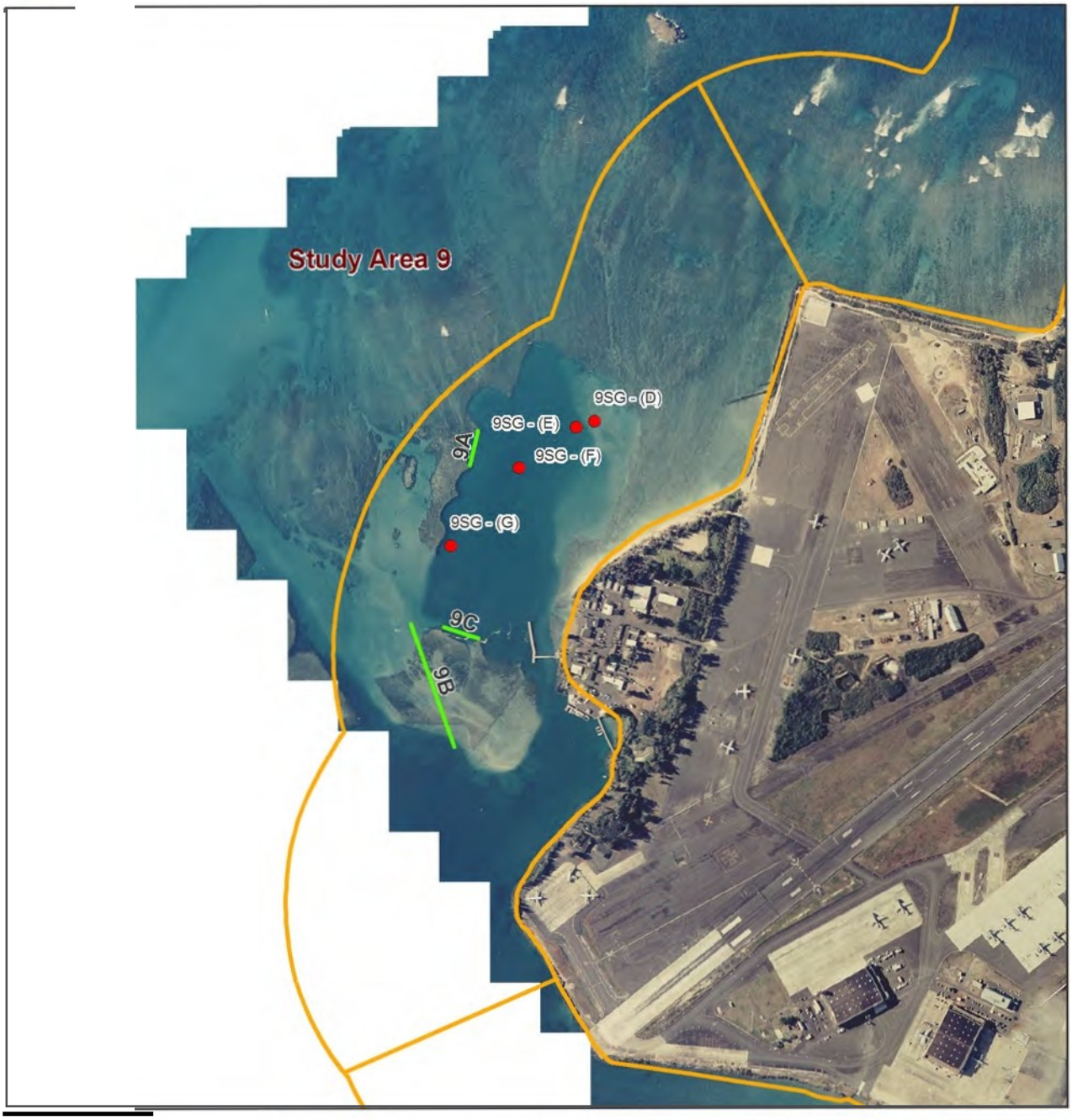


Figure 22. Benthic Community Map of Survey Area 9: Estimated location and area of each community type encountered during survey.

U.S. Fish and Wildlife Service
Pacific Islands Office
Honolulu, Hawaii

Figure 12 MCBH - Kaneohe Bay



Produced in the Division
of Ecological Service
Honolulu, HI
Map Date: March 2007

UTM Zone 4, NAD83

1:12,641

N

0 100 200 Meters

0 250 500 Feet

Seagrass Transects (Sites 9SG D-G)

Transect Lines (Sites 9A, 98, 9C)

Study Area

Appendix D

National Historic Preservation Act Section 106 Correspondence

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DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD, STE 555

April 21, 2016

W.M. Rowley
Major, United States Marine Corps
Director, Environmental Compliance and Protection Department
Marine Corps Base Hawaii
Box 63002, Kāneʻohe Bay, Hawaii 96863-3002

IN REPLY REFER TO:
LOG: 2016.00798
DOC: 1604MB26
"No Historic Properties Affected"

SUBJECT: **National Historic Preservation Act (NHPA) Section 106 Review –**
Request for Concurrence of "No Historic Properties Affected" – 5090 LE/035-16
Demolition of Facility 1662 aboard Marine Corps Base Hawaii
Heʻeia Ahupuaʻa, Koʻolaupoko District, Island of Oʻahu
TMK: (1) 4-4-009:003

Major Rowley:

On April 1, 2016, the State Historic Preservation Division (SHPD) received a submittal from Marine Corps Base Hawaii (MCB Hawaii) requesting the State Historic Preservation Officer's (SHPO) concurrence of "no historic properties affected" for the demolition of Facility 1662, Former Navy Oceans Systems Command (NOSC) Pier within Kāneʻohe Bay.

The Area of Potential Effect (APE) includes NOSC Pier and a 40 ft. buffer around the pier where work will take place (< 1 acre). The undertaking involves demolishing the remaining sections of concrete deck, removing pilings by cutting them right above the bottom of the bay, and removing utility lines associated with the pier. Facility 1662 (NOSC Pier) was constructed in 1975 and MCB Hawaii has determined it is not eligible for inclusion on the National Register of Historic Places. The pier is located in a previously dredged area and is adjacent to fill land.

MCB Hawaii's determination is no historic properties affected. Per to 36 CFR Part 800, SHPD has reviewed the undertaking and the **SHPO concurs** with MCB Hawaii's determination of **no historic properties affected**.

Marine Corps Base Hawaii is the office of record for this undertaking. Please maintain a copy of this letter for your records.

Please contact Susan Lebo, Archaeology Branch Chief, at Susan.A.Lebo@hawaii.gov or at (808) 692-8019 for questions or concerns regarding archaeological resources. Please contact Megan Borthwick, Architectural Historian, at (808) 692-8029 or at Megan.Borthwick@hawaii.gov if you have any questions regarding architectural resources or this letter.

Mahalo,

Alan S. Downer, PhD
Administrator, State Historic Preservation Division
Deputy State Historic Preservation Officer

cc: June.Cleghorn@usmc.mil; Coral.Rasmussen@usmc.mil

UNITED STATES MARINE CORPS
MARINE CORPS BASE HAWAII
BOX 63002 KANEOHE BAY HAWAII 96863-3002

IN REPLY REFER TO:
5090
LE/035-16

MAR 2 8 2016

Dr. Alan Downer
Deputy State Historic Preservation Officer
Department of Land and Natural Resources
Kakuihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, HI 96707

Dear Dr. Downer:

SUBJECT: SECTION 106, MARINE CORPS BASE HAWAII
DEMOLISH FACILITY 1662, FORMER NAVAL OCEAN SYSTEMS COMMAND (NOSC) PIER ABOARD MARINE CORPS BASE HAWAII, DISTRICT OF KO'OLAUPOKO, AHUPUA'A OF HEEIA, ON THE ISLAND OF O'AHU TMK 1-4-4-008:001.

Marine Corps Base (MCB) Hawaii is consulting with your office in compliance with Section 106 of the National Historic Preservation Act (NHPA) regarding the proposed project to demolish Facility 1662, former Naval Ocean Systems Command (NOSC) pier aboard MCB Hawaii. This letter initiates our Section 106 consultation for this project.

PROJECT DESCRIPTION

The proposed project is located in the waters of Kaneohe Bay along the southwestern shore of Mokapu Peninsula [Enclosure 1]. This project proposes to demolish the existing pier, which is in disrepair and no longer accessible from the shoreline [Enclosure 2]. Currently the pier has one isolated section of concrete decking on piles and another section consisting only of concrete support pilings extending above the surface. There is no existing requirement for the pier. The existing structures constitute a navigational hazard and a danger to personnel. The proposed action would: demolish and remove the existing section of concrete decking; demolish and remove all existing pier pilings by cutting them just above the bottom of the bay; and remove any existing utility lines associated with the pier.

IDENTIFICATION OF HISTORIC PROPERTY

The proposed project to demolish the NOSC pier is located in Kaneohe Bay adjacent to land that was filled using dredged marine materials between 1941 and 1945 (Tomonari-Tuggle 2014) [Enclosures 3 to 5]. The project will cut the pier's pilings above the bottom of the bay and remove them from the water. This area is located within the dredged portion of Kaneohe Bay and no archaeological sites or deposits are anticipated [see Enclosure 5].

The NOSC pier (Facility 1662) was constructed in 1975. It has been determined not eligible for listing on the National Register of Historic Places (NRHP) (Mason Architects 2014:B-29).

AREA OF POTENTIAL EFFECT

The area of potential effect (APE) has been determined to include the NOSC pier and an area 40 feet around the pier for the removal equipment to operate.

5090
LE/035-16

DETERMINATION OF AFFECT

MCB Hawaii has determined that the proposed project to remove the NOSC pier will result in no historic properties affected in accordance with the NHPA Section 106 Implementing Regulations at 36 CFR 800.4(d)(1) based on the following: 1) the proposed project area is located adjacent to filled land in an area that was previously dredged; and 2) Facility 1662 (NOSC pier) is not eligible for listing on the National Register of Historic Places.

We request your review and concurrence within 30 days of receipt of this letter. As defined in 36 CFR 800.4(d)(1)(i) we will assume your concurrence if no objection is received from your office within 30 days of receipt of this letter. MCB Hawaii is forwarding a copy of this letter to additional consulting parties listed below as part of the Section 106 consultation process for this proposed undertaking. Thus, MCB Hawaii requests comments from these consulting parties, listed below regarding the aforementioned determinations within 30 days of receipt of this letter. Should you or your staff have any questions or concerns please contact the MCB Hawaii Cultural Resources Management staff, Coral Rasmussen at 257-7134 or via email at coral.rasmussen@usmc.mil or Ms. June Cleghorn at 257-7126 or via email at june.cleghorn@usmc.mil.

Sincerely,

W. M. ROWLEY
Major, U. S. Marine Corps
Director, Environmental Compliance and Protection Department
By direction of the Commanding Officer

Enclosures:

1. Location of the NOSC pier aboard MCB Hawaii.
2. Overview of the NOSC pier.
3. Overview of the southwest portion of Mokapu Peninsula showing the dredge working off the coast.
4. Area of the NOSC pier overlaid onto a 1927 aerial photograph showing that this area was formerly in Kaneohe Bay.
5. Area of the NOSC pier shown in 1959 before construction of the pier.

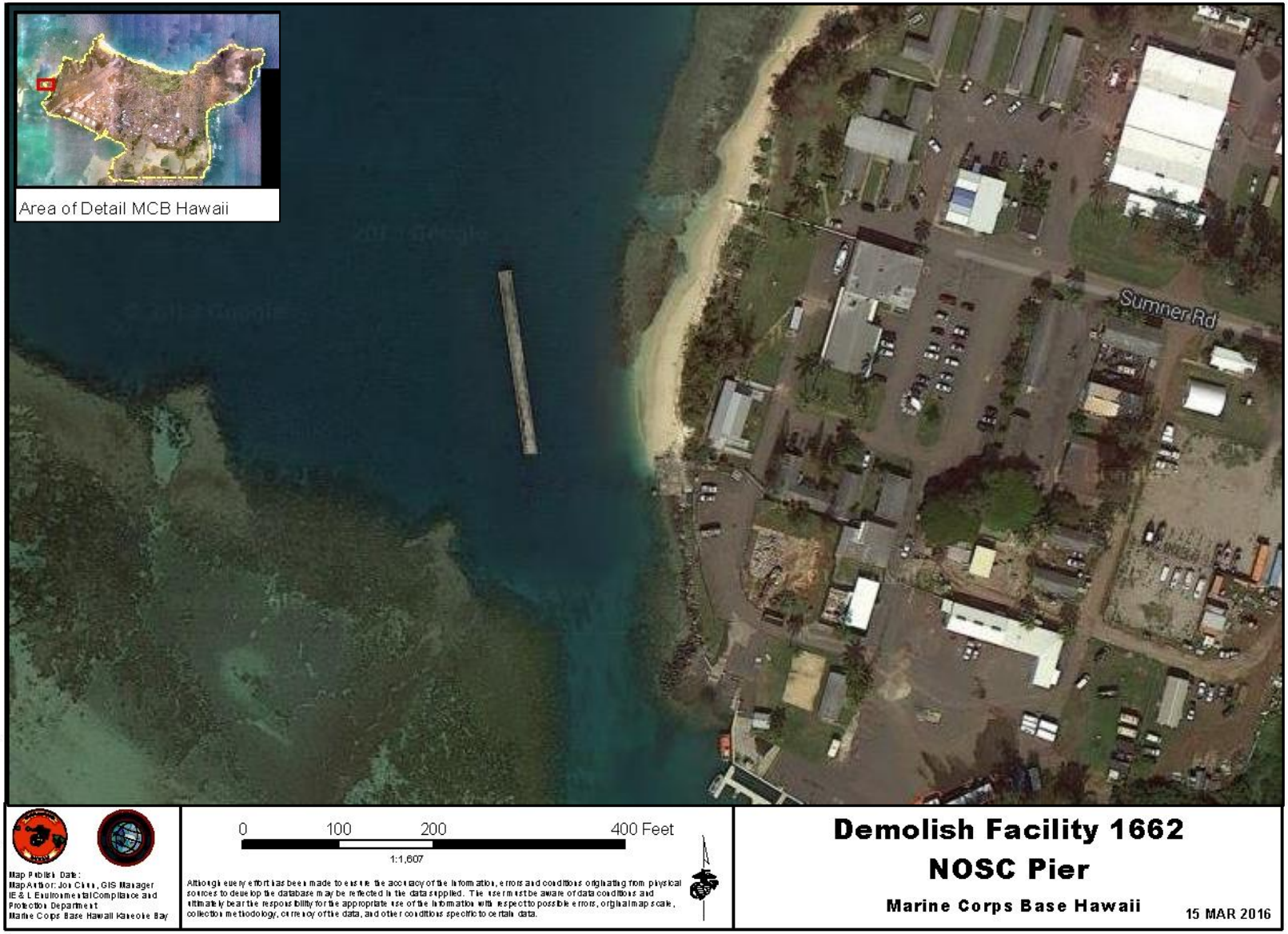
Copy to:

Ms. Ah Lan Diamond; Diamond ʻOhana
Ms. Nalani Olds, Olds ʻOhana
Ms. Delilah Ortiz; Ortiz ʻOhana.
Ms. Emalia Keohokalole, Keohokalole ʻOhana
Ms. Ella Paguyo, Paguyo ʻOhana
Mr. Norman Llamos, Prince Kuhio Hawaiian CC
Ms. Nau Kamalii, Boyd ʻOhana
Ms. Donna Ann Camvel, Paoa Kea Lono ʻOhana
Dr. Kamanaʻopono Crabbe, Office of Hawaiian Affairs
Mr. Cy Harris, Kekumano ʻOhana
Ms. Terrilee Napua Kekoolani Raymond, Kekoolani ʻOhana
Chair, Oahu Island Burial Council
Ms. Cathleen Mattoon, Koolauloa Hawaiian Civic Club
Mr. Clive Cabral, Temple of Lono
Ms. Kaleo Paik
Ms. Paulette Kaanohi Kaleikini, ʻOhana Keaweamahi
Mr. Kalahikiola Keliinoi, ʻOhana Keliinoi
Mr. Kala Waahila Kaleikini, ʻOhana Kaleikini
MR. Kilinahe Keliinoi, ʻOhana Kahekilinuiahumanu
Mr. Kimball Kekaimalino Kaopio, ʻOhana Naihe
Mr. JR Keoneakapu Williams, ʻOhana Kapu
Mr. Norman Caceres, ʻOhana Huihui
Ms. Kiersten Faulkner, Historic Hawaii

References:

Mason Architects
2014 *Historic Context and Building Inventory, Marine Corps Base Hawaii.* Prepared for Naval Facilities Engineering Command, Pacific, Pearl Harbor, Hawaii. Wil Chee - Planning, Inc., Helber Hastert and Fee, Planners, Mason Architects, Inc., Honolulu.

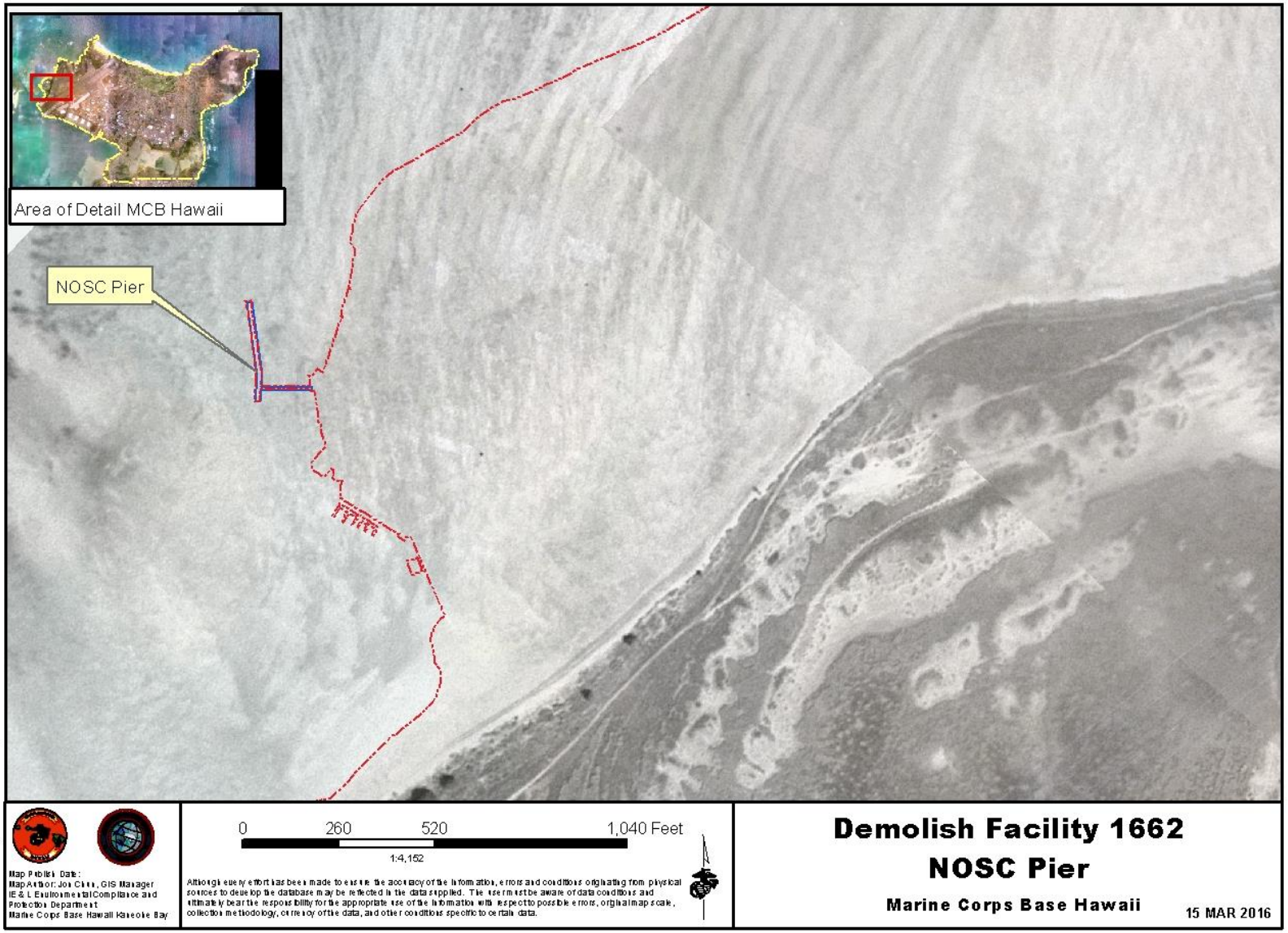
Tomonari-Tuggle, Myra
2014 *The Making of Mōkapu: A Paradise on the Peninsula. Archival and Ethnohistoric Research of Mōkapu Peninsula.* Prepared for Department of the Navy, Naval Facilities Engineering Command, Pacific Division, Pearl Harbor, Hawaii. International Archaeological Research Institute, Inc., Honolulu.



Enclosure 1. Location of the NOSC pier aboard MCB Hawaii.

Enclosure 2. Overview of the NOSC pier, view to northwest.

Enclosure 3. Overview of the southwest portion of Mokapu Peninsula showing the dredge working off the coast. The land where the hangars are located has been filled in; however, the land near the NOSC pier is still shown as water. Photo dated 20 April 1941.



Enclosure 4. Area of the NOSC pier overlaid onto a 1927 aerial photograph showing that this area was formerly in Kaneohe Bay.

Enclosure 5. Area of the NOSC pier shown in 1959 before construction of the pier. The dredged area in Kaneohe Bay is visible as well as the newly fill land east (right) of the pier.

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Appendix E

Navy/Marine Corps De Minimis Activities Under the Coastal Zone Management Act

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From: Nakagawa, John D
To: Bigay, John CIV NAVFAC PAC, EV2
Subject: [Non-DoD Source] RE: CZM DE MINIMIS NOTIFICATION
Date: Tuesday, January 24, 2017 12:49:28

The Hawaii CZM Program acknowledges receipt of the CZMA de minimis list usage notification.

John Nakagawa
Hawaii Coastal Zone Management (CZM) Program
Email: john.d.nakagawa@hawaii.gov
Phone: (808) 587-2878

-----Original Message-----
From: Bigay, John CIV NAVFAC PAC, EV2 [mailto:john.bigay@navy.mil]
Sent: Tuesday, January 24, 2017 12:45 PM
To: Nakagawa, John D <john.d.nakagawa@hawaii.gov>
Subject: CZM DE MINIMIS NOTIFICATION

Mr. Nakagawa,

The Marine Corps is planning to complete demolition and removal an old, partially-demolished/unused pier just offshore of the west side of Marine Corps Base Hawaii, Kaneohe Bay, on the Kaneohe Bay side of the base shoreline. It used to be used by Naval Ocean Systems Command as well as other commands over the years. It serves no purpose, and is a hazard for small-boat operations in the area, so MCBH wishes to demolish the parts that remain, including the pilings below the surface. We have consulted with NMFS/NOAA/FWS and received positive feedback, with a number of Best Management Practices and conservation measures included in the proposed action. The Navy/Marine Corps have determined that de minimis proposed action #11 (demolition) applies.

Navy/Marine Corps De Minimis Activities Under CZMA

***covering areas in Pearl Harbor Naval Complex, Naval Magazine Lualualei, Naval Communications and Telecommunications Area Master Station (NCTAMS) Pacific, Pacific Missile Range Facility (PMRF), Kaneohe Marine Corps Base Hawaii, Camp Smith, and all associated installations/facilities/equipment located outside of these Navy/Marine Corps properties**

No.	Proposed Action	Description	Mitigation / Conditions
1	New Construction	Construction of new facilities and structures wholly within Navy/Marine Corps controlled areas (including land and water) that is similar to present use and, when completed, the use or operation of which complies with existing regulatory requirements.	1, 3, 6, 8, 9, 10, 11, 13, 14, 16
2	Utility Line Activities	Acquisition, installation, operation, construction, maintenance, or repair of utility or communication systems that use rights of way, easements, distribution systems, or facilities on Navy/Marine Corps controlled property. This also includes the associated excavation, backfill, or bedding for the utility lines, provided there is no change in preconstruction contours.	1, 10, 11, 12, 14, 16
3	Repair and Maintenance	Routine repair and maintenance of buildings, ancillary facilities, piers, wharves, dry docks, vessels, or equipment associated with existing operations and activities.	12, 14, 16
4	Aids to Navigation	Includes buoys, beacons, signs, etc. placed within Navy/Marine Corps controlled coasts and navigable waters as guides to mark safe water.	2, 5, 14, 16
5	Structures in Fleeting and Anchorage Areas	The installation of structures, buoys, floats and other devices placed within anchorage or fleeting areas to facilitate moorage of vessels within Navy/Marine Corps controlled property.	2, 5, 14, 16
6	Oil Spill and Hazardous Waste Cleanup	Activities required for the containment, stabilization, removal and cleanup of oil and hazardous or toxic waste materials on Navy/Marine Corps controlled property.	1, 8, 14, 16
7	Maintenance Dredging	Excavation and removal of accumulated sediment for maintenance to previously authorized depths.	2, 3, 4, 5, 7, 8, 9, 13, 14, 16
8	New Dredging	Excavation and removal of material from the ocean floor not to exceed 100 cubic yards below the plane of the ordinary high water mark or the mean high water mark from navigable waters of the US and; excavation and removal of material from the ocean floor within Navy/Marine Corps controlled property. This does not include dredging or degradation through coral reefs.	2, 3, 4, 5, 7, 8, 9, 13, 14, 16
9	Scientific Measuring Devices	The installation of devices which record scientific data (staff gages, tide gages, water recording devices, water quality testing and improvement devices and similar structures) on Navy/Marine Corps controlled property. Devices must not transmit acoustics (certain frequencies) that will adversely affect marine life.	1, 2, 14, 16
10	Studies and Data Collection and Survey Activities	Studies, data and information-gathering, and surveys that involve no permanent physical change to the environment. Includes topographic surveys, wetlands mapping, surveys for evaluating environmental damage, engineering efforts to support environmental analyses, core sampling, soil survey sampling, and historic resources surveys.	2, 3, 6, 8, 9, 11, 12, 13, 14, 16
11	Demolition	Demolition and disposal involving buildings or structures when done in accordance with applicable regulations and within Navy/Marine Corps controlled properties.	1, 11, 12, 14, 16
12	Military Testing and Training	Routine testing and evaluation of military equipment on or over military, or an established range, restricted area or operating area or training conducted on or over military land or water areas in which the impact is not significant.	9, 13, 14, 15, 16
13	Real Estate/Property Transfer	Real estate acquisitions or outleases of land involving new ingrants/outgrants and/or 50 acres or more where existing land use will change.	14, 16

14	Mission Changes	Mission changes, base closures/relocations/consolidations, and deployments that would cause long term population increases or decreases in affected areas.	14, 16
15	Limitation of Access to Property	Permanent closure or limitation of access to any areas that were open previously to public use, such as roads or recreational purposes (provided the access is not required by established agreements with State of Hawaii, private industry, etc.)	14, 16
16	Environmental Management Activities	Environmental management activities within Navy/Marine Corps controlled areas including, but not limited to, activities such as vegetation and mangrove removal, ditch clearing, sediment removal, invasive species removal, construction related to protecting endangered species and wildlife, and actions prescribed by the Integrated Natural Resources Management Plan (INRMP)	2, 13, 14, 16
17	Towers	Installation, operation, and maintenance of towers (such as communication towers, cellular phone antennas, wind-energy towers) within Navy/Marine Corps controlled areas.	1, 2, 6, 8,9 , 12, 13, 14, 16
18	Alternative Energy Research	Installation, operation, replacement, and removal of alternative energy research structures/equipment taking place within Navy/Marine Corps controlled areas.	1, 2, 3, 5, 6, 12, 13, 14, 16
19	Army Corps Nation Wide Permits	Work subject to an Army Corps of Engineers Nationwide permit (which are applicable to Hawaii)	16

Project Mitigation / General Conditions

1) Navy/Marine Corps controlled property refers to land areas, rights of way, easements, roads, safety zones, danger zones, ocean and naval defensive sea areas under active Navy/Marine Corps control.
2) If any listed species enters the area during conduct of construction activities, all activities should cease until the animal(s) voluntarily depart the area.
3) Turbidity and siltation from project related work shall be minimized and contained to within the vicinity of the site through appropriate use of effective silt containment devices and the curtailment of work during adverse tidal and weather conditions.
4) Dredging/filling in the marine/aquatic environment shall be scheduled to avoid coral spawning and recruitment periods.
5) All project-related materials and equipment (dredges, barges, backhoes, etc.) to be placed in the water shall be cleaned of pollutants prior to use.
6) No project-related materials (fill, revetment rock, pipe, etc.) should be stockpiled in the water (intertidal zones, reef flats, stream channels, wetlands, etc.).
7) All debris removed from the marine/aquatic environment shall be disposed of at an upland site or EPA approved ocean disposal site, and Best Management Practices shall be followed.
8) No contamination (trash or debris disposal, alien species introductions, etc.) of adjacent marine/aquatic environments (reef flats, channels, open ocean, stream channels, wetlands, etc.) shall result from project-related activities.
9) Fueling of project-related vehicles and equipment should take place away from the water and a contingency plan to control petroleum products accidentally spilled during the project shall be developed. Absorbent pads and containment booms shall be stored on-site, if appropriate, to facilitate clean-up of accidental petroleum releases.
10) Any under-layer fills used in the project shall be protected from erosion with stones (or core-loc units) as soon after placement as practicable.
11) Any soil exposed near water as part of the project shall be protected from erosion (with plastic sheeting, filter fabric, etc.) after exposure and stabilized as soon as practicable (with vegetation matting, hyrdroseeding, etc.).
12) Section 106, of the National Historic Preservation Act (NHPA), consultation requirements must be met. Also, follow guidelines in the area-specific Integrated Cultural Resources Management Plan (ICRMP) if applicable.
13) Navy/Marine Corps shall evaluate the possible impact of the action on species and habitats protected under the Endangered Species Act (ESA). If the Navy/Marine Corps determines that no such species or habitats will be affected by the action, neither U.S. Fish and Wildlife (FWS) Service nor National Oceanic and Atmospheric Administration (NOAA) concurrence is required. Should it be determined by the Navy/Marine Corps, FWS, or NOAA that the action may affect any such species or habitat, informal or formal consultation will be initiated by the Navy/Marine Corps as required by section 7 (Interagency Cooperation) of the ESA.
14) The National Environmental Policy Act (NEPA) review process will be completed.
15) The training, testing and evaluation will be conducted in accordance with applicable standard operating procedures protective of the environment.
16) Navy or Marine Corps staff shall notify State CZM of de minimis list usage for projects which require an Environmental Assessment (EA). Notification can be sent via email: to JNakagaw@dbedt.hawaii.gov

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