Draft Environmental Assessment

Waterfront Improvements at 45-221 Ka Hanahou Circle, Kāne'ohe, Hawai'i

Prepared for:

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Acronyms and Abbreviations

Acronym	Definition
AMM	avoidance and minimization measures
DAR	Division of Aquatic Resources
BMP	best management practice
CFR	*Code of Federal Regulations*
CZM	Coastal Zone Management
EFH	Essential Fish Habitat
GST	green sea turtle
DLNR	Department of Land and Natural Resources
FEP	Fishery Ecosystem Plan
FESA	Federal Endangered Species Act
FMP	fishery management plan
FR	*Federal Register*
HRS	Hawai'i Revised Statutes
IPac	Information for Planning and Consultation
MLLW	mean lower low water
MMPA	Marine Mammal Protection Act
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NOAA	National Oceanic and Atmospheric Administration
NWHI	Northwestern Hawai'ian Islands
OCCL	Office of Conservation and Coastal Lands
Pac-SLOPES	Standard Local Operating Procedures for Endangered Species in the Central and Western Pacific Region
SE	southeast
SMA	special management area
USACE	U.S. Army Corps of Engineers
USC	*United States Code*

1. Introduction and Background

This Draft Environmental Assessment (DEA) has been prepared for review by the Department of Land and Natural Resources (DLNR), Office of Conservation and Coastal Lands (OCCL) to support issuance of an authorization to construct a fixed dock and gangway within submerged land in the Conservation District. The Proposed Project is located in Kāneʻohe Bay, Hawai'i, and proposes to install a 30 ft by 10 ft fixed dock in shallow waters (above –5 ft mean sea level) within approximately 20 to 25 ft makai of the shoreline. The private dock would serve the residential property located at 45-221 Ka Hanahou Circle and be used for recreational purposes. Included herein is a description of the Proposed Project, including relevant information on the environmental setting, potential impacts, conceptual layout, and general installation and control methodologies that would be implemented to construct the Proposed Project.

1.1. Environmental Review

An action is subject to the environmental review process set forth in Chapter 343, Hawai'i Revised Statutes (HRS), Environmental Impact Statements when it hits one of 13 trigger statements identified in HRS 343-5(a). The Proposed Project meets the criteria in Trigger 1 and 2 for an action that:

1. "Proposes the use of state or county lands…"

2. "Proposes any use within any land classified as a conservation district by the state land use commission under chapter 205."

State Land Use Districts are classified by the State of Hawai'i, Land Use Commission, which defines the Conservation District as including all submerged lands seaward of the shoreline. Because the Proposed Project will be constructed within the Conservation District and the project is not eligible for the general types of actions exempt from environmental review as listed in the statute, an environmental assessment is required.

Based on the preliminary findings in this report, a finding of no significant impact is anticipated.

1.2. Project Site Location

The subject parcel is located on the northeastern side of Oahu Island within the ahupua'a (Hawai'i State District) of Ko'olaupoko (Figure 1-1). The parcel is identified by Tax Map Key #1-4-5-047:051, with a street address of 45-221 Ka Hanahou Circle, Kāne'ohe, Hawai'i 96744 (the Site) and is owned by the Michael Elhoff Living Trust. The 10,468 ft^2 rectangularly shaped parcel is zoned Residential and supports one approximately 2,150 ft^2 single-family dwelling originally built in 1953. The property is bound to the north by an old seawall, which directly abuts the waters of Kāne'ohe Bay. A small, shallow boat slip exists on the east side of the property, and a private boat ramp serves the property along the western property boundary (Figure 1-2). To the east, south, and west are similarly zoned residential properties supporting single-family dwellings. The property is landscaped with coconut trees, grassy lawn, and native and non-native shrubs (Figure 1-3).

Figure 1-1 — Site Vicinity Map

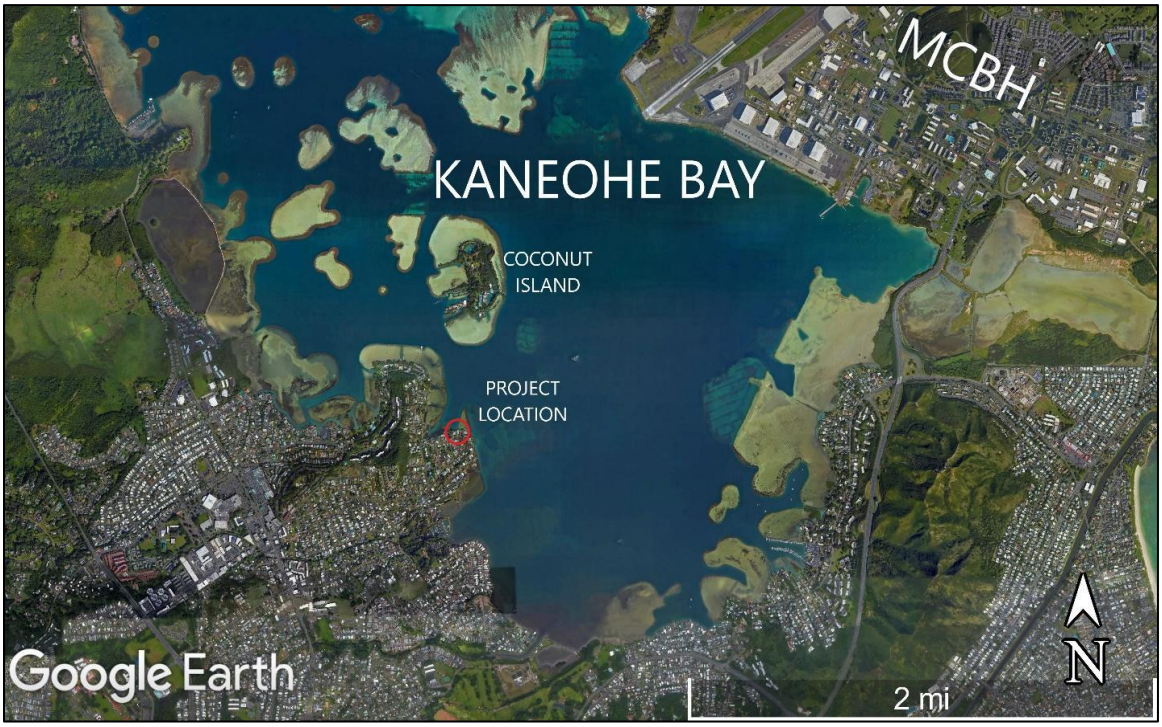


Figure 1-2 — Aerial View of Project Area

1.3. Environmental Setting

Kāneʻohe Bay is about 8 miles long by 2.6 miles wide and has an average depth of about 26 ft. It is the largest estuary in the State of Hawai'i and is valued for its natural beauty, marine resources, and recreational opportunities. The bay is protected from strong offshore swells by a barrier reef that marks the windward margin of the bay. This protection allows extensive coral reef development within the bay, including patch reefs and fringing reefs along most of the shoreline, except in areas where dredging has occurred. The benthic substrate is primarily coral rubble, gray coral mud, and fine coral sands (Jokiel 1991).

In general, the climate in Kāneʻohe is mild and uniform, ranging from 71°F to 77°F with an average temperature of 74°F. Northeasterly trade winds prevail for 80 percent of the time and mean annual precipitation is 83.6 in. per year (Hydrologic Unit 3028, He'eia, DLNR 2020). The nearest freshwater body is 0.45 mile south of the Site, Kea'ahala Stream, with a mean daily flow of 3.4 million gallons per day (State of Hawai'i 1992).

The project Site is in the South Bay just inland from Moku o Lo'e (Coconut Island) at the base of Pu'u Pahu. The nearshore bathymetry fronting the Site was dredged during the late 1940s, allowing deep-water access suitable for a vessel with a draft of up to 5 ft to access the Site. However, isolated coral colonies, some of substantial size, have grown within the navigation channel to elevations greater than –5 ft mean lower low water (MLLW), inhibiting vessel passage in some areas.

1.4. Action Area

The area of disturbance will be limited to approximately 4,200 ft^2 of submerged lands immediately offshore of the Site as outlined in red in Figure 1-3. The limits of the Action Area include the proposed dock and associated structures, as well as areas that may be impacted during construction, such as vessel anchoring locations and turbidity curtain

enclosures. All in-water construction will be conducted from the ocean as described further in Section 2.

Figure 1-3 — Action Area

Conditions within the Action Area were evaluated during a biological survey conducted in 2021 (Appendix A). The survey was conducted along transects of varying lengths within and around the construction area and included an evaluation of coral colonies, including size, color, species, health, benthic cover types, and the number of fish species and rare or invasive species observed.

Depth within the Action Area ranges from 0 to 9 ft MLLW. The near shore benthic floor is characterized primarily by rubble covered in turf and sediment, which transitions to fine sand and silt in the deeper parts of the project area. The seafloor is interrupted by several isolated coral colonies present intermittently along the seafloor with cover

density ranging from 0.7 to 17.3 percent. No rare, endangered, or federally-protected species were observed during the survey. Coral colonies were mostly healthy with no signs of mass paling or bleaching observed. Figure 1-4 is an oblique aerial photograph from 2021 showing the project site along south Kāneʻohe Bay.

Figure 1-4 — Aerial View of Marine Environment

2. Project Description

The following sections describe project details, including objectives, background information, and parameters for work.

2.1. Project Purpose

The purpose of the project is to construct a new, private gangway and dock for recreational use at the 45-221 Ka Hanahou Circle residence for the purposes of berthing a recreational sailboat. The dock should be large enough to support a vessel capable of navigating offshore. Details of the Proposed Project including the technical components of the design, location, and construction methods, are included herein. A discussion of the potential adverse effects and available alternatives are also considered.

2.2. Project Overview

Many of the oceanfront properties constructed in Kāneʻohe Bay, including the subject parcel, were constructed with boat slips, boat ramps, piers, docks, moorings, etc. to support the iconic ocean lifestyle renowned in Hawai'i during the mid to late 1900s. Over the last 70 years, some of these in-water structures and the associated single-family homes have languished into varying states of disrepair. The Michael Elhoff Living Trust purchased the property at 45-221 Ka Hanahou circle in 2021 and has since been repairing and improving the residence to return the property to livable condition. As part of this effort, Mr. Elhoff is seeking to construct a new fixed dock that would support berthing of a boat at the residence.

Construction of a fixed dock and gangway with open grating was identified as the preferred option, as detailed further in Section 3, Alternatives Analysis. The near offshore bathymetry, beyond the 5-ft ocean depth contour, maintains a reasonable

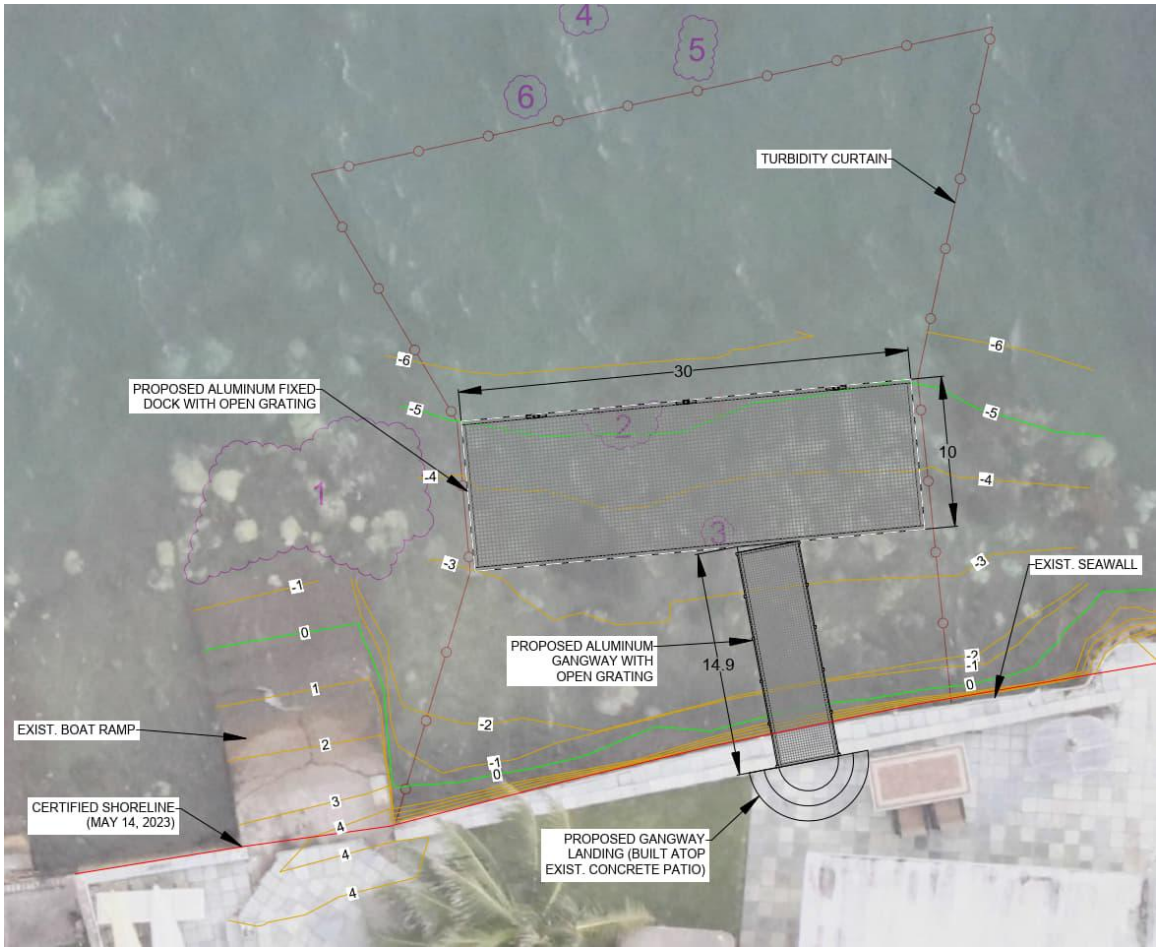
depth for navigation from the subject parcel to the open waters of Kaneohe Bay. The area between the navigation channel and the shoreline has seen limited recolonization by coral, and based on the proposed fixed dock design, would impact only two small areas with live coral (areas D2 and D3 in Appendix A).

2.3. Project Components

The proposed rectangular fixed dock would be 30 ft long by 10 ft wide and be constructed primarily of marine grade aluminum with an open grating deck. The structure would be situated approximately 15- to 25-ft makai of the mean high-water mark (at the base of the existing seawall) along the 5-ft bathymetric contour line (Figure 2-1). Six precast concrete footings measuring approximately 4 ft square would be secured to the ocean floor at evenly spaced intervals beneath the dock, and 12-in.-diameter concrete pilings would also be cast into the footing structures, which will extend vertically out of the water to support the aluminum dock structure. The top surface of the dock would be installed at approximately 5.3 ft above MLLW.

Access to the fixed dock would be provided along a 14.9-ft-long, 4-ft-wide aluminum gangway, which will span the gap between the dock and a concrete gangway landing constructed atop the existing concrete patio mauka of the existing seawall. Permit drawings, including plan and section views, are provided in Appendix B.

Figure 2-1 — Conceptual Site Layout



2.4. Construction

Mobilization of construction activities would include the installation of best management practices (BMPs) and implementation of avoidance and minimization measures (AMMs) as described herein. These controls include, but are not limited to, providing awareness training to the construction crew, establishing the physical limits of disturbance, and conducting laydown and assembly of turbidity curtains. Only once these controls are in place would any disturbance of the seafloor occur.

Construction of the dock and gangway would be completed using a combination of water- and land-based equipment. A barge or similar vessel capable of navigating the

shallow waterways in the project area would be utilized to support the installation of the concrete footings, aluminum dock structure, and Fiber Reinforced Plastic (FRP) grating. The vessel would be outfitted with a crane, excavator, or similar equipment capable of preparing the footing locations, lowering the precast concrete footings into place, and installing their associated anchor system. The dock footings have been designed to eliminate the need to drive footings into the seafloor by impact or vibratory methods. The aluminum dock structure and associated appendages would also be lowered into place atop the concrete pilings using the water-based equipment.

To support the gangway and provide access to the fixed dock, a concrete gangway landing would be constructed atop the existing concrete patio located mauka of the existing seawall. The 14.9-ft long, 4-ft-wide aluminum gangway structure would then be lowered into place using water- and/or land-based equipment, and affixed to brackets installed on the dock and gangway landing. Upon the dock's completion, the construction crew will demobilize, ensuring that all construction material and BMPs have been removed.

2.5. Cost and Schedule

A rough order of magnitude estimate was prepared for the Proposed Project to establish an estimation of the level of effort and cost involved in completing the project. The rough order of magnitude estimate evaluated costs associated with planning, design, engineering, implementation of BMPs and AMMs, materials, labor, and construction oversight. The total rough order of magnitude estimate is $177,500. Prior to construction, all regulatory permits and approvals will be secured. Construction is anticipated to commence in early 2026 and is expected to take less than 1 month to complete.

3. Alternatives Analysis

This section summarizes the alternatives for the project.

3.1. Alternative 1 – No Action

The no-action alternative would leave the subject property in its current condition and there would be no environmental impacts associated with this option. However, this alternative does not achieve the project purpose of providing vessel berthing for a sailboat.

3.2. Alternative 2 – 10 ft x 40 ft fixed dock for 50-ft Catamaran

Alternative 2 represents the owner's original plans for the site, which would involve constructing a larger fixed dock (10 ft by 40 ft) capable of berthing a 50-ft, double hulled, catamaran style sailboat. The larger vessel originally proposed would have required a larger, more robust dock—and several large coral colonies would need to be cleared within the navigation channel and vessel berthing area to accommodate safe access. Several different dock configurations (e.g., fixed dock, floating dock) and sizes were evaluated for this alternative. Due to the risk of destabilizing or damaging aging infrastructure (i.e., the CRM seawall) located at the shoreline, as well as site access constraints that present significant challenges to the mobilization of the type of equipment necessary to drive pilings into the seafloor, this alternative was eliminated from further consideration. The site access constraints include the shallow and narrow navigation channel that leads to the project site from Kāneʻohe Bay, shallow depths within the proposed work area, and landside access limited by a narrow corridor beside the house. Furthermore, driving piles into the seabed in close proximity to nearby structures such as the CRM wall could risk compromising their structural integrity.

Alternative 2 has the greatest overall environmental impacts among the alternatives considered. The overall footprint is larger, extends farther from the shore, and requires

installation methodologies that present a higher risk of physical and environmental impacts. This alternative was ruled out by the owner due to the increased environmental impact.

3.3. Alternative 3 – 10 ft x 30 ft fixed dock (Preferred Alternative)

To overcome the site-specific challenges discussed above in Alternative 2, Alternative 3 proposes a non-traditional design involving precast concrete footings placed on the seafloor to support the dock structure. This alternative includes construction of a fixed 10 ft by 30 ft dock and 14.9 ft by 4 ft gangway, as presented in the project description above. This design would allow for ocean access to the property by a small sailing vessel without expanding the navigation channel and would result in minimal short- and long- term effects to the environment. Due to site-specific constraints that limit construction means and methods for dock installations at this site, this alternative is also believed to be constructible without causing damage to existing shoreline infrastructure. The gangway landing abutment is proposed to be constructed makai of the certified shoreline. This alternative would not require the relocation of large coral colonies that impede vessel navigation and berthing for Alternative 2; rather, only a handful of smaller corals would need to be relocated to make way for the footings.

To minimize short- and long-term physical and environmental impacts resulting from the installation and future presence of the proposed dock, Alternative 3 (the preferred alternative) has been designed with precast concrete footings that are placed on the seafloor and secured in place with ground anchors. This approach avoids the need to drill or drive support piles or guide piles as is typical with most traditional dock designs. The precast concrete footings would be placed on the seafloor, avoiding a variety of environmental impacts associated with installing traditional piles, which involves physically penetrating and/or displacing sediment. Plumes of sediment generated during pre-drilling and/or pile driving activities can settle on benthic organisms and reduce water clarity over a wide area, resulting in temporary impacts to photosynthetic

organisms. Furthermore, traditional pile installation transmits mechanical energy through the ground, which could potentially damage existing structures in the vicinity. The expected physical and environmental impacts associated with the placement of the 4- by 4-ft concrete footings is more predictable and confined to the placement area.

Furthermore, pile driving and drilling activities are known to produce in-air and in-water sound levels capable of injury or adverse behavioral modifications for marine mammals and other marine life (USACE, 2020). These adverse impacts are avoided by utilizing an installation methodology that does not generate harmful levels of noise (i.e., the proposed approach).

To minimize shading of the seafloor and support recolonization of the area by coral and other flora and fauna, the deck has been designed with slatted grating to allow transmission of sunlight to the ocean floor. The proposed concrete footings will provide the largest surface area suitable for the attachment of stony corals and other benthic organisms among the proposed alternatives. The proposed design will also allow for the dock structure to adapt to rising sea levels in the future by raising the dock. Shoring jacks would be placed between the concrete footings and dock flange beams, the beams would be disconnected from the piles, and the dock structure would be jacked upward. Shims would be inserted, and the beams would be reconnected to the piles using threaded couplers or similar. These mitigation and minimization measures as well as other environmental considerations are described in greater detail within this assessment.

In summary, Alternative 3 is the preferred alternative because it offers a balanced and environmentally responsible solution that meets project objectives while minimizing construction-related and long-term impacts. This alternative avoids traditional pile driving and drilling, thereby reducing the risk of noise-related impacts to marine life, avoiding sediment disturbance, and preventing potential damage to nearby infrastructure. It also limits coral relocation to a small number of smaller colonies, compared to Alternative 2, and utilizes slatted decking and concrete footings that promote light penetration and biological recolonization. The proposed design is feasible

given the site-specific constraints, and also offers long-term adaptability to sea level rise, making it the most sustainable and least disruptive option for achieving safe ocean access at the project site.

3.4. Alternative 4 – Restoration of existing features

The existing boat launch ramp and boat basin were built in 1953 and originally provided access to Kāneʻohe Bay for small, powered vessels. The shallow launching ramp, located on the northwest edge of the property, extends approximately 16 ft beyond the certified shoreline to a depth of approximately −1.5 ft MLLW. The concrete ramp has been partially colonized by coral over the last 70 years, with multiple coral colonies now covering the end of the ramp beyond the −1.5 ft MLLW contour line. Improvements to the ramp to regain full usability would require significant coral relocation and would not serve the project purpose of berthing a sailboat at the property.

The boat basin is located on the northeast portion of the property and lies inland of the certified shoreline. This 14- by 10-ft cutout was removed to expand Bay waters into a protected boat basin. The limited depths within the boat basin (less than 3 ft) will only accommodate shallow-draft motorboats, with insufficient depth for sailboat access. Deepening the boat basin would require significant structural improvements that would be cost prohibitive to the project.

This option does not meet the project objectives. The boat basin, even once restored, would not accommodate a sailboat. The ramp would also have similar limitations on vessel size due to clearance restrictions when accessing the launch point from land. Furthermore, restoration of both features would result in the greatest impact to reestablished coral colonies.

3.5. Alternative 5 – Floating Dock

This option would involve installation of a dock with comparable dimensions as Alternative 3, situated in roughly the same location but designed as a floating dock. The

floating dock is expected to have greater environmental impacts when compared to the preferred alternative. To avoid contact with the seabed during extreme low tides, a floating dock would need to be located further makai than a similarly dimensioned fixed dock. Typical approaches to securing a floating dock include “stiff arm” mechanical connections to the adjacent shoreline, elastic mooring cables connected to ground anchors or mooring blocks installed in/on the seabed, and guide piles driven into the seabed. The severity of environmental impacts associated with each of these approaches is driven by their method of installation, as well as their physical size and quantity which scale with the amount of force they are designed to withstand and how each approach transfers these forces between the dock and the shoreline or seabed. Stiff arms would likely experience the highest level of mechanical loading among the three approaches, due to leverage introduced by the necessary distance between the dock and adjacent shoreline. As a result, a suitable design would likely require structural members that are impractically large, and require constructing large concrete deadman anchors within the shoreline setback area. For these reasons, stiff arms are not considered a viable approach.

Guide piles, which must be driven into the ground adjacent to the dock footprint, have also been ruled out due to their associated environmental impacts, previously discussed in Alternative 3.

Given the above considerations, elastic mooring cables anchored to the seabed have been deemed the most appropriate approach to secure the proposed floating dock. Anchorage points for the cables would need to be installed along the seafloor to secure the dock in place and would likely consist of precast concrete blocks of comparable size to Alternative 3, or drilled ground anchors such as helical anchors. Anchoring and mooring systems associated with floating docks are in constant motion, preventing the permanent attachment of stony corals and other benthic organisms. Mooring lines, often consisting of heavy chains, are also prone to drag across the seafloor when slack further preventing benthic colonization over the long term.

While floating docks are attractive for their ease of installation and reduced permitting requirements, these in-water structures have design features that are less desirable from a longevity and maintenance perspective, in addition to the environmental impacts. Floating docks may incur physical damage if water levels exceed design thresholds, such as may be experienced during neap and spring tides, storm surges, and in the case of tsunami. These docks also have a shorter life span than stationary docks and are more difficult to clean as they remain partially submerged at all times.

Floating docks can also create greater levels of ambient noise as they croak and groan while flexing and can generate slapping and splashing noises as they move with the running waves.

3.6. Least Environmentally Impactful Alternative

Alternative 1, No Action, is the least environmentally impactful alternative; however, as described above, this alternative does not achieve the project objectives. Alternative 3 is the Preferred Alternative and is proposed as the design for implementation. This alternative achieves the project purpose and has less environmental impact when compared to the other viable alternatives. The impacts and associated mitigation, minimization, and avoidance measures associated with this alternative are described in greater detail herein.

4. Relevant Plans, Policies, and Controls

The following sections discuss plans, policies, and controls that are relevant to the project.

4.1. Federal Endangered Species Act

The Federal Endangered Species Act (FESA) prohibits the "take" of any wildlife species listed by the National Oceanic and Atmospheric Administration (NOAA) Fisheries or the U.S. Fish and Wildlife Service (collectively referred to as "the Services") as threatened or endangered, including the destruction of habitat that could hinder species recovery. The Services oversee the implementation of FESA (50 Code of Federal Regulations [CFR] § 402.7, Section 305(b)(4)(B)) and have regulatory authority over listed plants, wildlife, and fish. To remain compliant with FESA, federal agencies, such as the U. S. Army Corps of Engineers (USACE), are required to consult with the Services prior to issuance of a permit if a project may adversely affect a federally listed species. As a part of the consultation, the Services must confirm that a project is not likely to destroy or adversely modify critical habitat.

The Action Area was surveyed for regulated species and habitat, of which only three species were identified. These species may experience low level, temporary impacts during the construction period, and no long-term negative impacts are anticipated. The identified species and associated AMMs are described in greater detail in Section 6.

4.2. Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA; 16 United States Code [USC] §§ 1801–1884) was passed in 1976 to conserve and manage U.S. fishery resources, prevent overfishing, rebuild overfished stocks, and facilitate long-term

protection of Essential Fish Habitat (EFH). The MSA (Section 3) defines EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” Under the MSA, EFH includes the associated physical, chemical, and biological properties that are used by fish (50 CFR 600.10), and “adverse effect” means any impact that reduces either the quality or quantity of EFH (50 CFR 600.910(a)). The MSA is implemented by regional Fishery Management Councils that work with NOAA Fisheries to develop and implement fishery management plans (FMPs). In the U.S. Pacific Islands, the Western Pacific Regional Fishery Management Council has jurisdiction and is responsible for identifying the EFH for each fishery under its oversight. Section 305(b) of the MSA directs federal agencies to consult with NOAA Fisheries on all actions or proposed actions that may adversely affect EFH to obtain avoidance and minimization consultation as well as conservation and enhancement recommendations. No EFH areas were identified within the proposed Action Area.

4.3. Hawai’i State Planning Act

All state agencies, including the Office of Planning, are guided by the Hawai’i State Planning Act, which is a broad policy document that sets the framework for all activities, programs, and decisions made by local and state agencies.

The Hawai’i State Planning Act was signed into law in 1978 to “improve the planning process in this state, to increase the effectiveness of government and private actions, to improve coordination among different agencies and levels of government, to provide for wise use of Hawai’i’s resources and to guide the future development of the state” (HRS § 226-1). The Act is codified under HRS Chapter 226.

The Act sets forth the Hawai’i State Plan, which is a long-range comprehensive plan that includes the overall theme, goals, objectives, policies, priority guidelines, and implementation mechanisms for the state. The Hawai’i State Plan is organized into three parts:

1. **Overall Theme, Goals, Objectives, and Policies.** Part I lists the state plan's overall theme and goals. Objectives and policies are listed in Sections 226-5 through 226-27. Objectives and policies focus on general topic areas, including population, economy, physical environment, facility systems, and socio-cultural advancement.
2. **Planning Coordination and Implementation.** Part II of the state plan establishes a statewide planning system to coordinate and guide all major state and county activities and to implement the overall theme, goals, objectives, policies, and priority guidelines. The system implements the state plan through the development of functional plans and county general plans. Functional plans, general plans, and the formulation, administration, and implementation of state programs must be in conformance with the state plan (HRS § 226-59).
3. **Priority Guidelines.** The purpose of this part is to establish overall priority guidelines to address areas of statewide concern (HRS § 226-101). This part lays out the overall direction for the state, as follows: "The state shall strive to improve the quality of life for Hawai'i's present and future population through the pursuit of desirable courses of action in five major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, and quality education" (HRS § 226-102).

4.4. Hawai'i Environmental Rules and Regulations

This section provides an overview of the relevant State rules and regulations that have been considered during the environmental review process.

4.4.1. Hawai'i State Land Use District

The State of Hawai'i Land Use Commission regulates land use and classifies state lands into four districts: Urban, Agriculture, Conservation, and Rural. According to the

State of Hawai'i Land Use Commission, the State Land Use of the subject property is designated as Urban, as is the land in the vicinity of the subject property. The Urban District is characterized by city-like concentrations of people and supporting infrastructure on lot sizes that are primarily smaller than one-half acre. The Action Area, which is entirely within submerged waters of the U.S., is classified as Conservation.

OCCL is responsible for overseeing land in the Conservation District. This includes beach and marine lands out to the seaward extent of the State's jurisdiction. The Proposed Project takes place on State submerged lands, which are considered a land use within the Resource subzone of the Conservation District. Permits are required in the Resource subzone for marine construction (land use identifier D-1), which is defined in HAR 13-5-24 as "dredging, filling, or construction on submerged lands, including construction of harbors, piers, marinas, and artificial reefs". Land uses identified with the letter "D" require a Conservation District Use Area permit approved by the Board of Land and Natural Resources.

4.4.2. Department of Land and Natural Resources, Shoreline Certification

All properties within the State of Hawai'i that border the ocean must have a certified shoreline established for the purposes of implementing the shoreline setback law and other related laws. The purpose of the certification is to establish that the shoreline is as shown on the map as of a certain date. The boundary is usually along the upper limit of debris left by the wash of the waves during high tide. The shoreline for the subject property was established May 14, 2023, by a licensed professional land surveyor (Appendix C) and is the reference line used in the permit drawings included in Appendix B.

4.4.3. Disposition of State Lands

The disposition of State lands is governed primarily by HRS Chapter 171, Public Lands, Management and Disposition, with oversight by the DLNR. Activities in State marine waters require a land disposition, such as a lease, be issued to ensure such activities are in alignment with public interest and do not adversely affect protected resources. As such, the proposed project will require a lease or easement grant for the submerged lands underlying the proposed dock and gangway.

4.4.4. Hawai'i Coastal Zone Management

The entire state of Hawai'i is included in the Coastal Zone Management (CZM) area, per the definition of CZM provided in HRS 205-1. Projects affecting any coastal use or resource must be undertaken in a manner consistent with the state's CZM program, which takes into consideration, among other initiatives, public access rights, coastal hazards, effects of climate change, and Hawai'ian traditions and customs. The proposed action is consistent with the objectives and policies of the State CZM:

- **Recreational Resources.** The proposed action will improve existing recreational resources located in the area, as further discussed in Section 5.8 of this report.
- **Historical Resources.** The proposed action will not affect historical resources, as further discussed in Section 5.7 of this report.
- **Scenic and Open Space Resources.** The proposed action will result in minor impacts to scenic and open space resources, as further discussed in Section 5.9 of this report.
- **Coastal Ecosystems.** Impacts to coastal ecosystems, including threatened and endangered species, EFHs, coral, and live rock, are evaluated in Section 4.4.4 and Section 5.4. Minor, temporary impacts to coastal ecosystems are anticipated during construction and will be mitigated by implementing BMPs and AMMs. Long-term, permanent impacts are not expected.

- **Economic Uses.** Implementation of the Proposed Project will not result in any change to economic uses of Kāne'ohe Bay and surrounding area.
- **Coastal Hazards.** Resilience of the Proposed Project to coastal hazards was considered during selection of the preferred alternative and conceptual design of the dock. See Section 5.6.
- **Managing Development.** The proposed action is consistent with the objective of improving the development review process, communication, and public participation by undertaking the ongoing environmental assessment process.
- **Public Participation.** Consultation with federal, state, and county agencies is ongoing. Also, local representatives, community associations, and cultural and historical groups have been involved in the consultation. For a complete list of entities included in the consultation process, please refer to Section 6 of this report.
- **Beach Protection.** The Proposed Project is not in proximity to sandy beaches and will have no impact on this resource.
- **Marine Resources.** Water quality may be temporarily impacted at low levels during disturbance of the seafloor (setting and anchoring foundations). See Section 5.2.

Within the CZM program is oversight of the Special Management Area (SMA), which is generally restricted to the thin band of land within 40 ft of the shoreline. Regulatory oversight of the SMA lies with the City and County of Honolulu, Office of Planning and Sustainable Development. Any development within the SMA requires an SMA Use Permit. The subject property is within this jurisdictional area; however, the actual area of impact, the Action Area, is entirely makai of the certified shoreline. While there are no disturbances proposed within the SMA, and no SMA Use Permit is required, the project would still need to demonstrate consistency with the CZM objectives and policies, as outlined above. A Coastal Zone Federal Consistency Determination will also be required.

4.4.5. Coral and Live Rock Rules

The Division of Aquatic Resources, a division of DLNR, sets forth rules on coral and live rock. Under HAR 13-95-70 “it is unlawful to take, break or damage, with any implement, any stony coral from the waters of Hawai’i.” This rule also pertains to “live rock,” which is defined as any natural hard substrate to which marine life is visibly attached or affixed. Authorization from the division will be obtained to remove and relocate coral and live rock that may be impacted by construction of the new dock and gangway. These proposed mitigation measures will be summarized in a Coral Transplantation Plan that will be submitted to the DLNR for approval prior to commencement of construction.

4.5. County of Honolulu Plans and Policies

This section provides an overview of the relevant County codes that have been considered during the environmental review process.

4.5.1. O’ahu General Plan

The Revised O’ahu General Plan (General Plan) was adopted by the City and County of Honolulu to establish general social, economic, environmental, and design objectives to be achieved for the general welfare and prosperity of the population (City and County of Honolulu 2021). The General Plan is the first tier of planning for O’ahu, with subsequent community development plans providing more specific objectives consistent with the General Plan. The Proposed Project is aligned with the long-range objectives and broad policies for land use, development, and socioeconomics set forth in the General Plan.

4.5.2. Kane’ohe Bay Master Plan

In conformance with Act 208, Session Laws of Hawai’i 1990, the Kane’ohe Bay Master Plan (State of Hawai’i 1992) was developed to set forth a comprehensive plan for the region. Development of the plan included extensive public participation and resulted in

176 recommendations on a range of topics, including water quality, conservation, commercial and recreational water uses, mooring, and fishing.

Of relevance to the Proposed Project are recommendations No. 129 to 137, which address public mooring and anchoring. The plan recommended exempting vessels moored at private piers from requiring a mooring permit so long as they have an approved Conservation District Use Permit and/or USACE permit for the location. The general position of the plan is to allow existing private moorings associated with Kāne'ohe shoreline residences to be grandfathered and refrain from limiting the mooring of small skiffs in shallow portions of the bay.

The urgent need to address the decline of fisheries and coral reefs was also included in the plan. The Proposed Project will mitigate impacts to coral colonies by preparing and implementing an approved Coral Transplantation Plan for all coral that may be within the footprint of the proposed dock.

4.5.3. Ko'olau Poko Sustainable Communities Plan

The Ko'olau Poko Sustainable Communities Plan (Community Plan) was adopted by the City and County of Honolulu as Ordinance No. 17-042 on August 2017 (City and County of Honolulu 2017). There are seven key elements of the Community Plan:

1. Adapt the Concept of Ahupua'a in Land Use and Natural Resource Management
2. Preserve and Promote Open Space and Agricultural Uses
3. Preserve and Enhance Scenic, Recreational and Cultural Features that Define Ko'olau Poko's Sense of Place
4. Emphasize Alternatives to the Private Passenger Vehicle as Modes for Travel
5. Define and Enhance Residential Character While Adapting to Changing Needs
6. Define and Enhance Existing Commercial and Civic Districts
7. Maintain the Community Growth Boundary to Protect Agricultural, Open Space and Natural Resources.

The Proposed Project conforms with the vision set forth by the Community Plan in so far as it maintains the general character of the Ka Hanahou residential community, which commonly promotes ocean access in the form of slips, docks, and boat ramps along ocean front properties. Improvements to ocean access along the shoreline, as proposed herein, enhance recreational use of the Kāne'ohe Bay, and provide alternate means of travel by boat. Other focuses regarding agricultural and commercial use are not relevant to the Proposed Project.

4.5.4. County Zoning

The Land Use Ordinance of the City and County of Honolulu (Revised Ordinances of Honolulu §4-12) regulates land uses in accordance with the General Plan and Community Plan by establishing zoning designations that determine design standards for the location, such as height, bulk, size of structures, yard areas, and allowed uses. The subject property and surrounding vicinity are zone Residential-10, which is characterized by single-family dwellings with minimum lot areas of 10,000 ft^2. Zoning considerations are not relevant for the Proposed Project as there will be no change in land use or modification to the subject property.

4.5.5. City of Honolulu

Improvements landward of the certified shoreline may require authorization from the City of Honolulu. Prior to implementation of the project, the City will be consulted to identify any required approvals or authorizations for the 4 ft by 4 ft concrete gangway landing.

5. Project Impacts

A comprehensive evaluation of the potential environmental impacts that may be associated with the proposed project and mitigation measures to minimize identified impacts are discussed in detail below.

5.1. Sediment and Geology

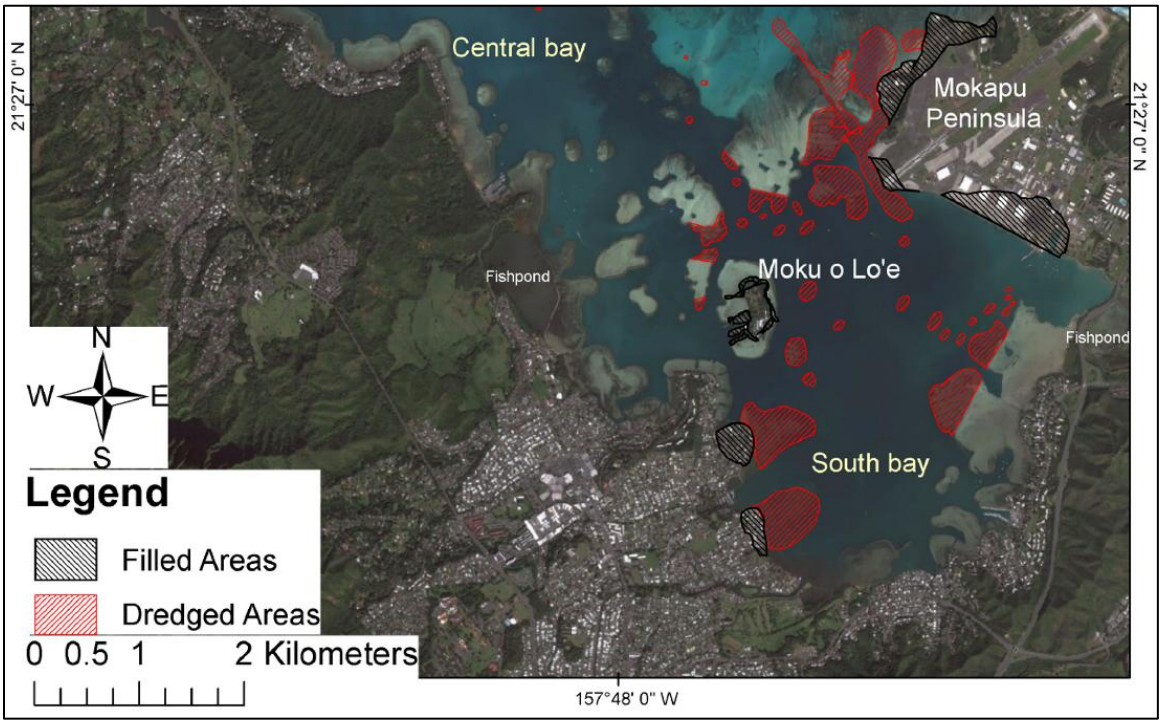
The project site lies within what is considered the Southeast (SE) Inner Bay (Bathen 1968; Smith 1981). This portion of Kāne'ohe Bay has lower salinities than other portions of the bay, due to its semi-enclosed geography, which restricts circulation and the influx of marine waters. Deeper portions of the SE Inner Bay are largely composed of sandy mud, while the nearshore areas are known to have larger concentrations of volcanic soils from land. Moreover, the SE Inner Bay is known to have higher concentrations of terrigenous material deposited from upstream agriculture and urban influence (Jokiel 1991).

The bathymetry within Kāne'ohe Bay and within the Action Area has been significantly modified over the years as a result of historical dredging (Shoreline Science & Engineering 2021):

> Dredging and filling activities have drastically altered the geography and ecology of Kāne'ohe Bay over the years. Prior to 1939, dredging was limited to small areas associated with boat landings and piers. During the development of what was then known as the Kāne'ohe Bay Naval Air Station on Mōkapu peninsula (1939-1945), extensive dredging took place throughout the bay (Figure 5-1). These dredging activities resulted in alterations to 88% of the shoreline in the southern portion of the bay (Hunter et. al. 1993). In addition, nine fishponds were filled for land development between 1946 and 1948 (Bahr et al. 2015). The project property at 45-221 Ka Hanahou Circle is built on one of these historical

fishponds. The Kalokohanahou fishpond was filled during the above period and the Ka Hanahou residential development was built in its place in 1952 (Devaney 1982).

Figure 5-1 — Historical Dredge and Fill Areas in Kāne‘ohe Bay (Bahr et al. 2015)



Aside from the acute square footage lost for piling installment, long-term adverse impacts to sediment and geology of the project area and greater site vicinity are not anticipated. Temporary impacts will primarily stem from minor amounts of turbidity, which would be controlled by the use of turbidity curtains.

5.2. Water Quality

All Kāne’ohe Bay waters are classified as AA by the Hawai’i Department of Health, indicating that these waters are to remain in “pristine state as nearly as possible with an absolute minimum of pollution or alteration of water quality from any human-caused source or actions” (HAR 11-54). Each portion of Kāne’ohe Bay assessed within the

2024 State of Hawai'i Water Quality Monitoring and Assessment Report has been denoted as impaired for multiple water quality parameters and each has a "Low" priority.

Long term adverse surface or groundwater impacts are not anticipated. Temporary impacts will primarily stem from minor amounts of turbidity, which would be maintained through turbidity curtains.

Concerning mitigation measures, effects on water quality will be mitigated via implementation of BMPs throughout construction. These BMPs include the installation of pollution prevention devices such as floating turbidity curtains and adherence to recognized good practices during construction including, but not limited to, proper storage of hazardous materials, proper fueling practices, and proper waste storage/collection. These BMPs will be summarized in the pollution and erosion control plan that will be developed for the project as stipulated by the Department of the Army permit that will be issued by USACE.

Moreover, the construction contractor is responsible for applying the General Conditions of Effects of Implementing Standard Local Operation Procures for Endangered Species in the Central and Western Pacific Region (Pac-SLOPES)(USACE, 2020) during project construction which includes additional practices for the protection of Kāne'ohe Bay waters. General Conditions 12 through 14, pertaining to the protection of Bay waters, are provided in Section 6.3.

5.3. Air Quality

The most recent available State of Hawai'i Annual Summary of Air Quality Data (State of Hawai'i 2022), prepared by the Hawai'i Department of Health, reported Oahu as having met all necessary air quality standards put forth by the National Ambient Air Quality Standards. The air monitoring stations closest to the subject property are Honolulu (1250 Punchbowl Street), Sand Island (1039 Sand Island Parkway), and Pearl City (860 4th Street).

Hawai'i is situated within the northeast trade wind belt and has a consistent presence of east to northeast directional winds (approximately 70 percent of the year). These consistent wind patterns push air contaminants away from the main island and out to the ocean, resulting in reduced residence time for air pollutants.

Temporary and minor impacts to air quality are anticipated during the 1-month construction period. A single diesel boat engine and one small, gas-fired mobile generator would be the sole sources of air emissions during implementation of the Proposed Project. Temporary air quality impacts would be comparable to what might result from a household renovation project. Proper employment of BMPs and AMMs would limit temporary impacts from project activities. No permanent impacts to air quality are anticipated.

5.4. Terrestrial and Marine Biological

A marine biological survey (Appendix A) was conducted by Shoreline Science & Engineering, LLC. in June 2021 to assess marine resources within the Site vicinity. The benthic communities are composed of common fish, coral, and invertebrate species common to nearshore waters of the Hawai'ian Islands. No rare, endemic, endangered, or threatened marine species were observed within the Action Area during the survey.

In addition to the biological survey, the potential presence of listed species were also evaluated by reviewing the following sources:

- NOAA Fisheries Listed Species, Critical Habitat, EFH, and Marine Mammal Protection Act (MMPA) species lists (NMFS 2024a)
- NOAA Fisheries Critical Habitat shapefiles
- NOAA Fisheries EFH shapefiles
- NOAA Fisheries EFH Mapper (NMFS 2024b)
- NOAA Fisheries Environmental Consultation Organizer
- IPaC Information for Planning & Consultation

- Existing literature as cited in the text.

The above-listed resources were queried to identify all federal- and state-listed endangered, threatened, proposed, and candidate species, as well as designated critical habitat (defined as habitats determined to be essential for the survival of that species) and EFH. NOAA Fisheries shapefiles were used to map EFH (Appendix D. Essential Fish Habitat Map) and critical habitat (Appendix E. Critical Habitat Map) within the project site.

5.4.1. Terrestrial and Avian Impacts

The Action Area is fully within the aquatic environment and no impacts to terrestrial ecosystems are anticipated. Regionally occurring special-status terrestrial species are not expected to transit the project site due to a lack of suitable habitat and range overlap (Table 5-1).

Table 5-1 — Upland Special-Status Wildlife Species – No Potential to Occur

Species	FESA Listing	Listing Citation and Date	Habitat Designation
Hawai'ian Hoary Bat *Lasiurus cinereus semotus*	Endangered	35 FR 16047; October 13, 1970	No Critical Habitat
Band-rumped Storm-petrel, Hawai'ian DPS *Hydrobates castro*	Endangered	81 FR 67786; September 30, 2016	No Critical Habitat
Hawai'ian Common Gallinule *Gallinula galeata sandwicensis*	Endangered	32 FR 4001; March 11, 1967	No Critical Habitat
Alae ke'oke'o, Hawai'ian Coot *Fulica alai*	Endangered	35 FR 16047; October 13, 1970	No Critical Habitat
Hawai'ian duck *Anas wyvilliana*	Endangered	32 FR 4001; March 11, 1967	No Critical Habitat
Hawai'ian Petrel *Pterodroma sandwichensis*	Endangered	32 FR 4001; March 11, 1967	No Critical Habitat

Species	FESA Listing	Listing Citation and Date	Habitat Designation
Hawai'ian Stilt *Himantopus mexicanus knudseni*	Endangered	35 FR 16047; October 13, 1970	No Critical Habitat
Newell's Shearwater *Puffinus newelli*	Threatened	40 FR 44149; September 25, 1975	No Critical Habitat
Short-tailed Albatross *Phoebastria albatrus*	Endangered	65 FR 46643; July 31, 2000	No Critical Habitat
Ihi *Portulaca villosa*	Endangered	81 FR 67786; September 30, 2016	No Critical Habitat

No impacts to terrestrial biological resources are anticipated.

5.4.2. Marine Impacts

Potential impacts to the marine environment are evaluated below.

5.4.2.1. Federally Listed Species with No Potential for Occurrence

Because of a lack of suitable habitat and/or lack of range overlap, some of the known regionally occurring special-status species are not expected to occur within the Action Area. The Action Area is limited to the nearshore and shallow water environment, which excludes many of the pelagic, deep-water species (Table 5-2).

The North Pacific right whale calves and mates in coastal waters; however, its presence in Hawai'i is uncommon and is generally understood to be the southern extreme of its typical distribution (Rowntree et al. 1980; Salden and Micklesen 1999; Brownell et al. 2001). Giant manta rays have been documented at shallow depths; however, occurrence in shallow areas is limited to cleaning stations in offshore reefs (O'Shea et al. 2010; Marshall et al. 2011; Rohner et al. 2013). Leatherback, olive Ridley, and loggerhead sea turtles are not known to nest on the Hawai'ian Islands and are rarely observed within Hawai'ian waters (Balazs 1978).

The coral, *Acropora globiceps*, is known to occur in shallow waters. The Action Area has been surveyed for corals and *A. globiceps* were not observed.

Table 5-2 — Special-Status Wildlife Species – No Potential to Occur

Species	FESA Listing	Listing Citation and Date	Habitat Designation	Potential to Occur in the Action Area
Blue Whale *Balaenoptera musculus*	Endangered	35 FR 8491; June 2, 1970	N/A	Not anticipated; pelagic
False Killer Whale – Hawai'ian Insular *Pseudorca crassidens*	Endangered	79 FR 42687; July 23, 2014	None within the AA	Unlikely; Prefer ≥25 fathom depth
Fin Whale *Balaenoptera physalus*	Endangered	35 FR 8491; June 2, 1970	N/A	Not anticipated; pelagic
Sei Whale *Balaenoptera borealis*	Endangered	35 FR 8491; June 2, 1970	N/A	Not anticipated; pelagic
North Pacific Right Whale *Eubalaena japonica*	Endangered	35 FR 8491; June 2, 1970	N/A	Rare in Hawai'ian waters
Sperm Whale *Physeter macrocephalus*	Endangered	35 FR 8491; June 2, 1970	N/A	Not anticipated; pelagic
Leatherback Turtle *Demochelys coriacea*	Endangered	35 FR 8491; June 2, 1970	N/A	Not anticipated; pelagic
North Pacific DPS Loggerhead Turtle *Caretta caretta*	Endangered	76 FR 58868; September 22, 2011	N/A	Not anticipated; pelagic
Olive Ridley Turtle Pacific DPS *Lepidochelys olivacea*	Threatened	79 FR 42687; July 23, 2014	N/A	Not anticipated; pelagic
Giant Manta Ray *Manta birostris*	Threatened	82 FR 2916; January 22, 2018	N/A	Not anticipated; pelagic
Oceanic Whitetip Shark *Carcharhinus longimanus*	Threatened	83 FR 4153; January 30, 2018	N/A	Not anticipated; pelagic
Coral *Acropora globiceps*	Threatened	79 FR 53852; September 10, 2014	N/A	Not found in previous surveys

Notes:

- N/A = Not Applicable

5.4.2.2. Federally Listed Species with Potential for Occurrence

Four regionally known special-status species with protected status have the potential to occur within the Action Area. These species are further discussed in the following sections (Table 5-3).

Table 5-3 — Special-Status Wildlife Species – Potential to Occur

Species	FESA Listing	Listing Citation and Date	Habitat Designation
Honu, Green Sea Turtle *Chelonia mydas*	Threatened	81 FR 20057; April 6, 2016	N/A
Honu'ea, Hawksbill Sea Turtle *Eretmochelys imbricata*	Endangered	35 FR 8491; June 2, 1970	N/A
Koholā, Humpback Whale *Megaptera novaeangliae*	Protected under MMPA	N/A	National Marine Sanctuary (NOAA Fisheries)
ʻĪlio holo i ka uaua, Hawai'ian Monk Seal *Neomonachus schauinslandi*	Endangered	41 FR 51611; November 23, 1976	Critical (Marine, not Terrestrial)

Notes:

- N/A = Not Applicable

The hawksbill sea turtle, humpback whale and monk seal are rarely sighted within waters of the Kāne'ohe Bay, and while these species have the potential to occur within or near the Action Area, it is unlikely. Should these species be observed in proximity of the Proposed Project, work would cease until the animal migrated to a safe distance away. The green sea turtle is frequently observed within the Action Area and the Project ***may affect but is not likely to adversely affect*** this species.

5.4.2.3. Essential Fish Habitat

The project site falls within the EFH, as defined in the MSA. Specifically, the Action Area is managed under two FMPs: the Fishery Ecosystem Plan (FEP) for Pacific Pelagic Fisheries and the FMP for Bottomfish and Seamount Groundfish by the Western Pacific

Regional Fishery Management Council. These FMPs identify coral reefs as habitat that provide shelter and sustenance to marine fish. See Appendix D, Essential Fish Habitat Map for a depiction of EFH throughout the project site and vicinity.

The Proposed Project has the potential to affect EFH for species managed under multiple FMPs. The Proposed Project may affect but is not likely adversely affect EFH, but the effect would not be substantial and is expected to be temporary. These effects would be minimized through onsite coral transplantation and other measures to avoid, minimize, and offset affects to EFH caused by the Proposed Project's in-water activities. The footprint of disturbance during construction will be minimized to the extent practicable, and coral relocation will performed in accordance with DAR guidelines and as specified in the Coral Transplantation Plan (Appendix F).

5.4.2.4. Critical Habitat

The project site exists within designated critical habitat for the Hawai'ian monk seal. Hawai'ian monk seal critical habitat areas surrounding Kauai, Oahu, Maui Nui (including Kahoolawe, Lanai, Maui, Molokai), and Hawai'i are defined in the marine environment from the water's edge (MLLW) seaward to a 200-m depth boundary, including the seafloor and all subsurface waters and marine habitat within 10 m of the seafloor. Seven islets (near Oahu and Maui Nui) and numerous coastal locations (identified as lines in a separate data set) around the Main Hawai'ian Islands have critical habitat designated from the water's edge into the terrestrial environment where the boundary extends inland 5 m (in length) past the certified shoreline boundary. In locations where critical habitat does not extend inland to the terrestrial environment, the designation boundary is the MLLW line.

Currently, the project site is not utilized as habitat for Hawai'ian Monk Seal as the surrounding area does not offer appropriate landing or foraging habitat; therefore, impacts to Hawai'ian Monk Seal critical habitat are not anticipated.

5.4.2.5. Aquatic Invasive Species

The introduction of invasive marine species to a receiving body of water can irreparably disrupt the native ecosystem resulting in harm to the environment, human health, and the economy. Non-native species introduced to a new environment can quickly spread and overtake an ecosystem, displacing existing species entirely. In severe cases, invasive species can spread within marine environments to the extent that they overtake critical marine infrastructure, clogging intakes and tributaries, and render submerged structures unusable. Furthermore, attempts to eradicate invasive species, once widely distributed, are typically unsuccessful and costly.

Of particular concern are the following species: alien invasive algae (*Kappaphycus spp., Eucheuma denticulatum, Gracilaria salicornia, Acanthophora spicifera, Hypnea musciformis* and *Avrainvillea amadelpha*), coral disease (Montipora white syndrome, Porites trematodiasis, Porites tissue loss syndrome, and *Porites* spp. and *Montipora* spp. tumors, *Montipora* spp. growth anomaly), orange keyhole sponge (*Mycale armata/grandis*), and snowflake coral (*Carijoa riisei*).The biological survey (Attachment A) identified one species of invasive algae (*Gracilaria salicornia*) and one species of invasive sponge (*Mycale grandis*) at the project site, both of which are identified as species of particular concern. During implementation of the project, care will be taken to avoid the spread of these harmful organisms to other areas of the project site as well as other receiving water bodies through employment of the mitigation measures set forth in Section 5.4.3.2.

5.4.3. Impacts and Mitigation

The Proposed Project may affect but is not adversely affect the following marine resources:

- Green sea turtle
- Hawai’ian monk seal designated critical habitat

- EFH.

5.4.3.1. Cumulative Impacts to EFH

Kāneʻohe Bay has undergone extensive physical alteration over the past century, including dredging of navigation channels, filling of wetlands and shallow reef areas, and shoreline armoring associated with urban and residential development. These activities have resulted in documented reductions in coral cover and nearshore fish habitat.

The proposed private dock represents a small and localized addition to the built shoreline environment. Dock construction will not require dredging, filling, or shoreline modification and will be pile-supported, maintaining water circulation and minimizing shading. Standard BMPs will be implemented to control turbidity and prevent debris release during construction.

Although cumulative impacts from past activities are acknowledged, the incremental contribution of this project to overall bay-wide habitat loss is expected to be negligible. The project is consistent with similar residential docks previously permitted and will comply with applicable conservation and water quality requirements intended to prevent further degradation. The applicant and project team recognize the importance of continued coordination among agencies to manage the cumulative effects of multiple small projects in Kāneʻohe Bay and support any future programmatic or bay-wide studies that may be initiated by resource agencies.

5.4.3.2. Mitigation Measures

The Project design has been substantially revised to avoid and minimize potential impacts to the surrounding marine environment. The applicant now proposes a single fixed dock to accommodate a smaller vessel, and the dock surface will consist of open grating to reduce shading of benthic habitat. To further minimize impacts to the seafloor, the pier has been designed to be supported by six precast concrete footings, which will

be carefully lowered into place on the seafloor from the work barge/platform and secured into place with screw-in ground anchors. This methodology has been developed as an alternative to typical, more invasive techniques such as vibratory or impact pile driving. Corals located within the pile footprint will be carefully transplanted to suitable nearby habitat under an approved coral transplantation plan, resulting in a net neutral—or negligible—loss of coral cover and habitat function. Based on these design modifications and mitigation measures, the Project is not anticipated to contribute to cumulative adverse effects on the marine ecosystem of Kāneʻohe Bay. Temporary impacts to marine resources will be managed through implementation and adherence to AMMs and BMPs described in Section 6. The vessels, equipment, and processes involved with implementing the proposed project have the potential to mobilize aquatic invasive species within the Bay. To minimize the introduction of harmful species, the following control measures will be followed:

- Equipment will be inspected and disinfected between conducting activities in different areas, to mitigate the spread of disease or parasitic organisms.
- All gear deployed must be visually checked for invasive algae/sponges/other organisms and disinfected with 10 percent bleach solution for 10 minutes before deployment in alternate location between multiple watersheds/distinct reef areas. If gear cannot be bleached, gear must be thoroughly rinsed with fresh water and dried in the sun for 24 hours before deployment in alternate location, sterilized with another viable method, or alternate gear should be utilized.

5.5. Noise

The area immediately inland of the project area is composed of single-family homes and is zoned for residential land use. The existing ambient noise environment is dominated by those sounds expected to be generated during everyday household activities. This may include noise from stereos or radios, televisions, air conditioners, lawn mowers, power tools used during home renovations and demolition, and construction noise from

residential home improvement projects. Non-anthropogenic and anthropogenic noise sources from Kāne'ohe Bay also contribute to ambient sound within the project vicinity and can include wind, surface waves and surface scatter, rainfall, wildlife, propellers and boat engines. The project site is also in proximity to the Kaneohe Marine Corps Base (across the bay) and is subject to higher volumes of noise generated by frequent and routine aircraft training exercises.

5.5.1. Ambient Noise

Elevated levels of ambient noise are anticipated during the 1-month construction period due to sound generated by the barge or shallow draft crane vessel that will be utilized to deliver and install structural components of the proposed dock. Continuous sound will be generated from the boat engine and generator while in active use.

Community noise control is overseen by the Hawai'i Department of Health (HAR 11-46) wherein permissible sound levels are established from excessive noise sources including construction activities. Areas zoned for residential, conservation, preservation, public space and open space land use have a maximum permissible sound level specified for daytime activities (7 a.m. to 10 p.m.) of 55 dB as measured at or beyond the property line.

Typical in-air sound levels for activities that would be conducted during implementation of the Proposed Project are as follows (3M 2015):

- Mobile crane: 88 dB(A)
- Gas generator: 58 dB(A)
- Motorboat (at 50 m): 65 dB(A).

Ambient noise may be temporarily elevated during the 1-month construction window and is not expected to have a substantial adverse effect on the community within the project vicinity.

Long-term ambient noise may be generated during structure-environment interactions. This noise would consist largely of deck creaking or rattling, wave slap, boat hulls bumping fenders or piles, and human activity during recreational use of the proposed dock. These noise sources are both continuous (as in the case of wave action and boat bump) and intermittent (as in the case of human activity). In both cases, the level of noise generated is comparable with sounds expected to be generated from natural wave activity or during everyday household activities as described above and does not require mitigation. However, these low to moderate intensity noises can create a nuisance for immediate neighbors. The project owner has proposed to install plastic lumber edges to ensure no hard surfaces contact the deck (see DocKushion HD) as well as a supplemental dock cushioning system and inflatable buoys (see Taylor Made Tuff-End Buoys) to help silence boat action against the dock.

Noise is also minimized by design. With a fixed dock alternative (Alternative 2 and 3), ambient noise is minimized when compared to a floating dock of similar size (Alternative 5), primarily because it stays still and sits above the water, so chains and floats don't slap, rub, or rattle.

5.5.2. Underwater Noise

Underwater sound would also be generated during construction activities. Continuous, elevated sound levels from the boat engine and generator would be transmitted through the hull and intermittent, repetitive sounds would be generated while screwing anchors for the dock footings.

Elevated levels of underwater noise can adversely affect fish, sea turtles, and marine mammals within the vicinity of the project area. A study conducted by the California Department of Transportation titled Effects of Sound on Fish (Hastings and Popper 2005) found that exposures to underwater sound signals may result in changes in the hearing capabilities of some fish species or damage to the sensory structures of the inner ear. Exposure of marine mammals to elevated sound levels may result in

mortality, temporary or permanent hearing impairment, non-auditory physical or physiological effects, and behavioral disturbances (NMFS 2023).

The level of observable impact to fish and wildlife from elevated levels of underwater noise depends on the intensity and periodicity of the sound generating activity, and attenuation or distance from the source. Furthermore, sounds generated from the Proposed Project must be placed into context with ambient levels of sounds within Kāne'ohe Bay.

Sound impacts are generally characterized based on sound pressure levels on the decibel and hertz frequency scale. Typical noise levels (Horizon 2018) from equipment that may be utilized during implementation of the Proposed Project include:

- Continuous sound sources:
  - Open skiff vessel 150hp at 5 knots: 75 dB(A)
  - Generator: 58 dB(A)
  - Crane, Derrick: 88 dB(A)
  - Excavator mounted rotary drill: 110 dB(A).

Intermittent noise that is short in duration and higher in intensity is not expected to be a source of underwater sound during construction of the Proposed Project.

Marine mammals are not anticipated to be within the vicinity of the project except for the rare occurrence of the monk seal. Therefore, noise impacts to fish and sea turtles are of primary concern. Generally, smaller industrial activities do not meet the noise threshold for harassment or take of marine organisms as defined by the National Marine Fisheries Service, which has established sound thresholds for higher impact activities such as dredging, pile driving, and large-scale drilling operations. The most significant sources of underwater noise expected at the Site are sounds associated with vessel operation and rotary drilling. These activities are expected to be of short duration and frequency. Vessel operations will generate noise daily during transit to and from the Site for a total

of 1 hour and drilling operations are anticipated to occur for 4–6 hours per day for no more than 3 days in total.

Based on the short duration (1 month) of construction and minimal number of days where moderate sound generating activities will occur, the Proposed Project is not expected to have a substantial adverse effect on underwater noise in the project vicinity. Furthermore, the dock footings have been designed to eliminate the need for direct or vibratory pile driving, an activity commonly known to generate noise levels that can affect marine mammals and fish.

To limit exposure to noise and minimize adverse effects on biological receptors, the following noise reduction mitigation measures shall be employed:

- Turn off boat engine when anchored.
- Limit travel speed to less than 6.8 knots.
- Observe Pac-SLOPES mitigation measures and BMPs (Section 6).
- If marine mammals are observed in proximity to the Action Area, stop work.

5.6. Light

Artificial lighting from construction sites can disorient and confuse marine wildlife, such as sea turtles, fish, crabs, and birds. The disruption of their natural rhythms can have long-lasting consequences on their survival and population dynamics. To minimize impacts to marine wildlife, construction activities will be limited to occur during daylight hours.

Permanent outdoor lighting, where used, will be fully shielded and pointed downward. To limit potential impacts of outdoor lighting on marine wildlife, lights will be turned off when not necessary and the use of automatic sensors or timers may be utilized so long as they do not prove to be a nuisance to the property owner and/or neighboring residents.

5.7. Coastal Hazards and Sea Level Rise

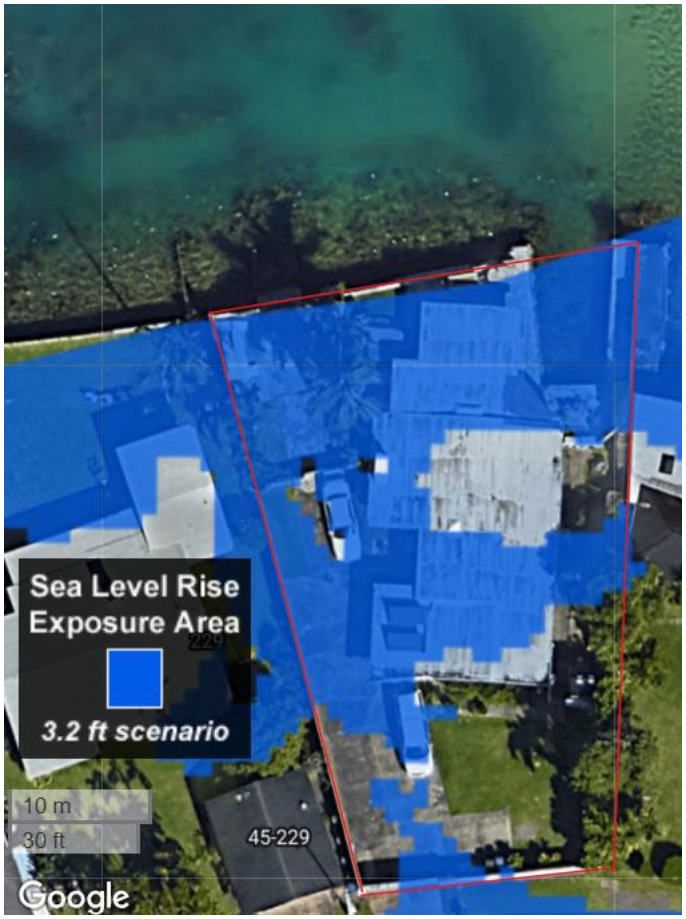
The project site is sheltered by a shallow fringing reef directly to the east and west, and Moku o Lo'e (Coconut Island) directly to the north, which limit the impact of coastal storms that may generate wind waves across Kaneohe Bay. The anchor design for the docks concrete footings will be engineered to withstand anticipated potential storm conditions, by a qualified marine/coastal engineer that is a licensed professional engineer in the state of Hawaii

As opposed to floating docks, the deck elevation of a fixed dock is critical to ensuring safe vessel boarding during both high and low tide conditions. The proposed dock surface elevation is planned to be at approximately +5.3 ft MLLW, which is appropriate for present day tidal ranges. The design of the proposed dock will allow it to be modified/raised to adapt to future sea level rise. The City and County of Honolulu Climate Change Commission has recommended a planning benchmark of 3.2 feet of sea level rise; however, in this case accommodating 3.2 feet of sea level rise at initial construction would detract from the safe and effective use of the dock in present conditions. Ensuring the dock design allows for adaptation to potential future sea levels has been determined to be a more appropriate approach. The proposed design will allow for the dock structure to adapt to rising sea levels in the future by raising the dock. Shoring jacks would be placed between the concrete footings and dock flange beams, the beams would be disconnected from the piles, and the dock structure would be jacked upward. Shims would be inserted, and the beams would be reconnected to the piles using threaded couplers or similar.

Figure 5-2 below shows a screenshot of the Sea Level Rise Exposure Area (SLR-XA) as presented in the State of Hawaii Sea Level Rise Viewer (the Viewer). The SLR-XA exposure area is meant to estimate a comprehensive future coastal hazard exposure zone, combining the potential impact areas of Passive/tidal flooding, Annual High Wave Flooding, and Coastal Erosion. The Viewer does not provide annual high wave flooding and coastal erosion estimates for any shoreline within Kaneohe Bay. Thus, the SLR-XA

shown is equivalent to the estimated hazard area for passive flooding only. The presence of the dock is not expected to exacerbate the SLR-XA, and any hazards presented to the dock itself may be mitigated by modifying/raising the dock.

Figure 5-2 — Exposure Area for a 3.2-ft Sea Level Rise Scenario



5.8. Historic, Archaeological, and Cultural Resources

The area immediately inland from the project site was historically a Hawai'ian fishpond called Kalokohanahou (Figure 5-3), reportedly (Tinker 1939) in use until at least 1939. The pond was eventually filled and developed in the late 1940s during development of the Kaneohe Bay Naval Air Station (see Section 5.1). Remnants of the original fishpond walls are not known to exist within or near the project area and may have been removed or buried when the area was filled. Shallow excavations for footings in the submerged

areas below the proposed dock are not expected to encounter any historic or archaeological resources. There are no other historic, archaeological, or cultural resources known to exist within the project vicinity.

No impacts to historic, archeological, and cultural resources are anticipated.

Figure 5-3 — 1930s Photograph of Kalokohanahou Fishpond (Hawai'i State Archives)

5.9. Recreation

Construction activities within the Action Area are not anticipated to block regular navigation of Kāne'ohe Bay. Transit of work vessels to and from the project site is not expected to impact recreation in the area beyond that which is typical of any transiting vessel.

There is no public shoreline access in proximity to the Site and no public paths along the shoreline in this area. Swimmers and divers may approach the Action Area from the ocean; however, without a dedicated public access point nearby recreational uses of this nature are likely limited to residents of neighboring properties. Impacts to swimmers and divers are not anticipated during construction of the dock.

The new dock will improve recreational use of Kāne'ohe Bay by restoring ocean access at the Site in alignment with planning objectives in the Ko'olau Poko Sustainable Communities Plan. The Community Plan establishes as one of its main policies when considering future land uses and development within the Ko'olau Poko area, the following: "promote access to mountain and shoreline resources for recreational purposes and traditional hunting, fishing, gathering, religious and cultural practices." The Community Plan provides additional support for recreational use of the Bay as a key element of the vision for Ko'olau Poko's future: "preserve and enhance scenic, recreational and cultural features that define Ko'olau Poko's sense of place". Constructing the new dock will enhance recreational access to the Bay from the residential home at 45-221 Ka Hanahou Circle. Private recreational use of the Bay is aligned with Kaneohe's "sense of place" as evidenced by the large number of residences within the area that have similar marine structures The completed dock structure is not expected to have any permanent impact on public recreational use.

5.10. Scenic and Aesthetic Resources

Impacts to scenic and aesthetic resources during construction are expected to be temporary and limited to the work vessels and equipment that are staged in the project area. The completed dock structure, considering its low proposed elevation, will not restrict scenic views of Kāne'ohe Bay for most of surrounding area. The dock, piles, and boat (when docked) may have low visual impacts to properties immediately adjacent to the project site. However, given that the dock is offset from the neighboring properties' view plane (the dock is located immediately in front of the project owner's property), any

obstruction of view would be partial. Furthermore, the aesthetics of the proposed dock structure are expected to be consistent with what is typically seen along the shoreline of other properties in the bay.

5.11. Public Infrastructure and Services

No public infrastructure or services are expected to be impacted by the project. No public utilities are known to exist within the Action Area. Vessels that may be used during construction of the Proposed Project may be launched and hauled out at the He'eia Kea Public Boat Harbor, which is a public facility managed by DLNR. No impacts from launching and hauling out are expected beyond what is typical at the facility.

5.12. Land Use and Ownership

Oahu is divided into eight planning areas, each of which has a Development Plan or Sustainable Communities Plan adopted by City Council ordinance. The Ko'olau Poko Sustainable Communities Plan dated August 2017 designates the project area as "low density residential" land use, projected to have limited future population growth, and experienced an average annual population decline of approximately 0.2 percent between 2000 and 2010 (City and County of Honolulu, 2017). The Proposed Project does not conflict with maintaining a low-density residential neighborhood in that it will only be serving the single property owner.

6. Avoidance and Mitigation Measures

Measures that will be taken to mitigate and minimize adverse impacts described in previous sections are provided below.

6.1. Coral Transplantation Plan

A Coral Transplantation Plan was initially developed for the project based on the marine biological survey conducted in 2021. The project was then delayed while navigating through the State's process for securing an easement for construction on submerged lands. The Coral Transplantation Plan will be revised and updated prior to construction, and will be shared with DAR, USACE, and other relevant resource and regulatory agencies as appropriate. The plan will detail protocols for transplanting coral colonies, monitoring for success, and a detailed description of the methodologies that would be followed to implement the re-location strategy. The objective of the plan is to minimize loss of coral resources and supplement nearby reef areas. Success of the transplantation effort would be measured by percent survivorship of transplanted live coral tissue.

6.2. Applicable Pac-SLOPES Measures

Four federally listed species have the potential to occur onsite or within vicinity of the project: the Humpback whale, Hawai'ian monk seal, green sea turtle, and hawksbill turtle. With implementation of avoidance measures, "take" of these species is not expected to occur. The following AMMs would be followed during implementation of the project:

Relevant AMMs would be implemented from the Effects of Implementing Standard Local Operation Procures for Endangered Species in the Central and Western Pacific

Region (Pac-SLOPES) on ESA-Listed Sea Turtles and Marine Mammals, dated July 2010 (NMFS 2010). Only measures relevant to the project are included below.

6.3. General Conditions

The construction contractor would apply the following set of general conditions during implementation of the project:

1. Each applicable condition, BMP, and conservation measure would be included as an enforceable part of the permit document.
2. USACE will retain the right of reasonable access to projects authorized under Pac-SLOPES to monitor the compliance with and effectiveness of permit conditions.
3. Each permit will contain the requirement that the permittee document and report to the USACE all interactions with listed species, including the disposition of any listed species that are injured or killed. Should an ESA-listed species be adversely affected, all work must stop pending reinitiation of consultation with USACE for that action.
4. Constant vigilance shall be kept for the presence of ESA-listed marine species during all aspects of the proposed action.
5. A responsible party (i.e., permittee/site manager/project supervisor) shall designate a competent observer to survey work sites and the areas adjacent to the proposed action for ESA-listed marine species.
6. Surveys shall be made prior to the start of work each day, including prior to resumption of work following any break of more than one-half hour. Periodic additional surveys throughout the workday are strongly recommended.
7. All in-water work will be postponed or halted when ESA-listed marine species are within 50 yards of the proposed work, and will only begin/resume after the animals have voluntarily departed the area, with the following exception: if ESA-listed marine species are noticed within 50 yards after work has already begun, that work may continue only if, in the best judgment of the responsible party, the

activity is unlikely to disturb or harm the animal(s); for example, divers performing surveys or underwater work (excluding the use of toxic chemicals) is likely safe, whereas the use of heavy machinery is not.

8. No one shall attempt to feed, touch, ride, or otherwise intentionally interact with any protected species.
9. Project footprints must be limited to the minimum area necessary to complete the project.
10. Work located waterward of the mean higher high tide line of a navigable water or waterward of the upward limits of adjacent wetlands must be timed to minimize effects on ESA-listed species and their habitats.
11. Project operations must cease under unusual conditions, such as large tidal events and high surf conditions, except for efforts to avoid or minimize resource damage.
12. A pollution and erosion control plan for the project site and adjacent areas must be prepared and carried out. As a minimum, this plan shall include:
    a. Proper installation and maintenance will occur for silt fences, sausages, equipment diapers, and/or drip pans.
    b. A contingency plan will be prepared to control and clean spilled petroleum products and other toxic materials.
    c. Appropriate materials to contain and clean potential spills will be stored at the work site, and be readily available.
    d. All project-related materials and equipment placed in the water will be free of pollutants.
    e. Daily pre-work inspections of heavy equipment for cleanliness and leaks will occur, with all heavy equipment operations postponed or halted until leaks are repaired and equipment is cleaned.
    f. Fueling of project-related vehicles and equipment will take place at least 50 ft away from the water, preferably over an impervious surface.
    g. A plan will be developed to prevent trash and debris from entering the marine environment during the project.

h. All construction discharge water (e.g., concrete washout, pumping for work area isolation, vehicle wash water, drilling fluids) must be treated before discharge.

13. Erosion controls must be properly installed before any alteration of the area may take place.
14. Drilling and sampling are restricted to uncontaminated areas, and any associated waste or spoils must be completely isolated and disposed of in an upland location.

Additional BMPs shall be employed to prevent and mitigate harm to marine organisms as requested by DAR as follows:

1. Structures and components that create an entanglement hazard will be minimized.
2. All staff working onsite will receive training to recognize the Hawaiian monk seal and sea turtles, as well as learn the necessary procedures to follow if these species are observed.
3. Any interaction between a protected species and the construction and repair activity proposed should be reported to the NOAA Protected Species Division and State of Hawaii DOCARE: NOAA Marine Mammal Response Coordinators (Oahu): (808) 220-7802; NOAA Sea Turtles (Oahu): Monday-Friday, 7:30 a.m.–4 p.m. NOAA National Marine Fisheries Service - PIFSC Marine Turtle Biology and Assessment Program: (808) 725-5730.

6.4. Pac-SLOPES Special Conditions

The Pac-SLOPES biological evaluation also evaluates impacts from specific activities that can be reasonably expected to interact directly or indirectly with ESA-listed species. The following activity-specific BMPs may apply to the project.

6.4.1. Pac-SLOPES BMP 5.1. Collision with Vessels

BMPs for potential impacts to listed species from vessel operation within marine waters are as follows:

1. Vessel operators shall alter course to remain at least 100 yards from whales, and at least 50 yards from other marine mammals and sea turtles.
2. Vessel operators shall reduce vessel speed to 10 knots or less when piloting vessels in the proximity of marine mammals, and to 5 knots or less when piloting vessels in areas of known or suspected turtle activity.
3. If approached by a marine mammal or turtle, the vessel operator shall put the engine in neutral and allow the animal to pass.
4. Vessel operators shall not encircle or trap marine mammals or sea turtles between multiple vessels or between vessels and the shore.

6.4.2. Pac-SLOPES BMP 5.2. Direct Physical Impact

Direct physical impacts to listed species are mitigated through implementation of the following BMPs:

1. Before any equipment, anchor(s), or material enters the water, a responsible party (i.e., permittee/site manager/project supervisor) shall verify that no ESA-listed species are in the area where the equipment, anchor(s), or materials are expected to contact the substrate. If practicable, the use of divers to visually confirm that the area is clear is preferred.
2. Equipment operators shall employ “soft starts” when initiating work that directly impacts the bottom. Buckets and other equipment shall be sent to the bottom in a slow and controlled manner for the first several cycles before achieving full operational impact strength or tempo.
3. All objects lowered to the bottom shall be lowered in a controlled manner. This can be achieved by the use of buoyancy controls such as lift bags, or the use of

cranes, winches, or other equipment that affect positive control over the rate of descent.

4. Equipment, anchor(s), or materials shall not be deployed in areas containing live corals, sea grass beds, or other significant resources.

6.4.3. Pac-SLOPES BMP 5.3. Entanglement

1. BMPs for potential impacts to listed species from entanglement within marine waters are as follows: Mooring systems shall employ the minimum line length necessary to account for expected fluctuations in water depth due to tides and waves.
2. Mooring systems shall be designed to keep the line as tight as possible, with the intent to eliminate the potential for loops to form.
3. Mooring lines shall consist of a single line. No additional lines or material capable of entangling marine life may be attached to the mooring line or to any other part of the deployed system.
4. Mooring systems shall be designed to keep the gear off the bottom, by use of a mid-line float when appropriate, with the intent to eliminate scouring of corals or entanglement of the line on the substrate.
5. Any permanent or long-term deployments shall include an inspection and maintenance program to reduce the likelihood of failures that may result in loose mooring lines lying on the substrate or hanging below a drifting buoy.
6. Mooring systems, including those used for temporary markers, scientific sensor buoys, or vessel moorings, shall be completely removed from the marine environment immediately at the completion of the authorized work or the end of the mooring's service life. The only exceptions to this rule shall be mooring anchors such as eyebolts that are epoxied into the substrate and which pose little or no risk to marine life.

An additional BMP shall be employed to prevent and mitigate entanglement of marine organisms as requested by DAR—namely, in-water structures or components that may

potentially cause entanglement during operations (e.g., loops, holes, slack lines) shall be minimized to the extent feasible.

6.4.4. Pac-SLOPES BMP 5.5. Exposure to Elevated Noise Levels

1. BMPs for potential impacts to listed species from elevated noise levels are as follows: For any equipment used in undertaking the authorized work, the 160 dB and 120 dB isopleths shall not exceed the 50-yard shutdown range for impulsive and continuous sound sources, respectively.
2. Maintenance dredging, in-water excavation, movement of large armor stones, and benthic core sampling shall not be undertaken if any ESA-listed species is within 50 yards of the authorized work, and those operations shall immediately shut down if an ESA-listed species enters within 50 yards of the authorized work.

7. Pre-Consultation with Interested Parties

As required by the Hawai'i Environmental Policy Act process input on the EA was requested from agencies, citizen groups and individuals that might have jurisdiction or expertise with respect to the proposed project. A list of potentially interested parties that have been solicited for input is provided below. Specific comments and responses to comments from each interested party have been included in Appendix G.

1. Regulating Agency- DLNR, Engineering Branch
2. Regulating Agency- DLNR, Oahu District Land Office
3. Regulating Agency- DLNR, Division of Conservation and Resource Enforcement
4. Regulating Agency & Coconut Island Landowner- DLNR, Division of Aquatic Resources
5. Regulating Agency- Department of Business, Economic Development and Tourism, Office of Planning and Sustainable Development, Coastal Zone Management
6. Regulating Agency- Office of Hawaiian Affairs
7. Regulating Agency- Hawai'i Department of Health, Clean Water Branch
8. Regulating Agency - County of Honolulu, Department of Planning and Permitting
9. Neighboring Resident- Ralph and Margaret Kiessling
10. Neighboring Resident- Richard Nishida
11. Coconut Island Lease Holder- Hawai'i Institute of Marine Biology

8. Permits and Approvals

In addition to OCCL approval, the following additional authorizations are anticipated to be required for this project:

- USACE Section 404 Permit
- Section 401 Water Quality Certification
- Conservation District Use Area Permit
- Coastal Zone Management Federal Consistency Determination
- DLNR Division of Aquatic Resources Special Activity Permit
- DLNR Grant of Easement for proposed structures on submerged, state lands.

Applications for these authorizations are currently being prepared and will be submitted to the appropriate governing bodies within the next few months.

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Appendix A

Marine Biological Survey

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MEMORANDUM

To:	U.S. Army Corps of Engineers, Honolulu District
From:	Rob Walker
Date:	July 10, 2024
Subject:	Update to Marine Biological Survey Waterfront Improvements at 45-221 Ka Hanahou Circle (Reduced Scope)
Project No.:	C3967

The proposed Elhoff Waterfront Improvements project (Project) involves the construction of a new fixed dock in Kāneʻohe Bay to provide recreational access to the bay. The original (expanded) scope of the project included additional activities that would have required coral relocation. A Marine Biological Survey was developed in support of the original project.

The purpose of this memorandum is to highlight the relevant findings from the previous Marine Biological Survey (Attachment A) as it pertains to the final Project scope.

PROJECT BACKGROUND

The residential property at 45-221 Ka Hanahou Circle is located on the waterfront in south Kāneʻohe Bay, on the east side of the island of Oʻahu (Attachment A, Figure 1). The property includes a private boat basin, boat launch ramp, and deep-water access to Kāneʻohe Bay.

The original project included improvements to the existing boat basin, rehabilitation of the existing boat launch ramp, and construction of a new floating dock to support a 50-ft catamaran sailboat. The wide beam (width) of the proposed catamaran vessel would have required the relocation of live coral to support vessel navigation and berthing, and proposed improvements at the boat basin and boat launch ramp would have also involved impacts to corals.

REDUCED PROJECT SCOPE

The scope of the Project has been significantly reduced to avoid and minimize environmental impacts. The applicant now proposes to install a 10- by 30-ft fixed dock to support a smaller boat, such as a monohull sailboat, and coral relocations for navigation and berthing the smaller vessel will no longer be required. The aluminum dock would be supported by six precast concrete piles and accessed by a 14.9- by 4-ft aluminum gangway ~~and 4- by 4-ft aluminum gangway landing~~. The dock deck, gangway, and gangway landing would all consist of open grating, thus allowing light to penetrate through these structures to support coral growth below. The Project no longer includes proposed improvements at the boat basin or boat launch ramp.

CORAL RESOURCES PRESENT WITHIN PROJECT AREA (FROM BIOLOGICAL SURVEY)

The biological survey inspected seven focus areas, referred to as donor areas, within the project impact area where corals were colonizing (see Attachment A, Methodology). For each donor area, every coral colony was identified, counted, and sized. Coral bleaching condition was assessed for colonies > 5cm with photographs taken of representative coral species. A summary of coral colony population counts and physical size is provided in Table 2 of the biological survey (Attachment A).

Of the original seven donor areas, only two are now within the proposed project area (D2 and D3). The reduction in Project scope avoids the largest and most populated donor areas, Boat Basin (BB) and Donor Area 1 (D1). Out of a total of 385 coral colonies identified at all donor areas, only 16 remain within the project impact area (15 colonies at location D2 and 1 colony at D3). These corals consist of three species common throughout Kāne‘ohe Bay: *Montipora capitata*, *Porites compressa,* and *Leptastrea purprea*. Table 1 provides a summary of live corals within the project impact area by colony size and species.

Table 1. Number of Live Coral Colonies in Each Size Class (cm) by Donor Area

	Colony Size (cm)						
	<5	=>5–10	>10–20	>20–40	>40–80	>80–160	Total
Donor site 2 (D2)							
Leptastrea purprea		1					1
Montipora capitata			5	6	1	2	14
Total		1	5	6	1	2	**15**
Donor site 3 (D3)							
Montipora capitata						1	1
Total						1	**1**

Source: Adapted from Shoreline Science & Engineering (2021)

The biological survey also evaluated potential shading impacts as a result of the proposed new floating dock and gangway, as well as potential shading from the design catamaran vessel while berthed at the dock. To generate an idea of the quantities and types of organisms within range of potential shading, transects were surveyed via scuba to quantify percent coverage of live corals, algae, invertebrates, and bare substrate.

With the change in project scope from an opaque floating dock and gangway to a fixed (pile-supported) structure with open deck grating, potential shading impacts below the proposed gangway and dock structure are no longer a concern. Potential shading due to vessel berthing is still relevant; however, the reduced beam (width) of a smaller boat will have less impact. Table 2 presents the percent benthic cover by type for survey transects R2 and R3, located parallel to and approximately 5 ft and 10 ft (respectively) makai of the proposed fixed dock, representative of where the vessel would berth. Survey results identified minimal biological resources present within the vessel berthing area, with percent coverage dominated by bare substrate for both transects. Moreover, no endemic, federally listed, or state listed species were observed during surveying.

Table 2. Percent benthic cover by major types

		Live coral		Algae		Inverts		Bare Substrate	
Transect	n	Mean	STD	Mean	STD	Mean	STD	Mean	STD
R2	16	2.6%	10.4%	0.0%	0.0%	0.0%	0.0%	97.4%	10.4%
R3	17	4.5%	10.2%	6.7%	17.1%	0.5%	1.3%	88.3%	23.2%

Source: Adapted from Shoreline Science & Engineering (2021)

CONCLUSION

Given that the project scope has been significantly reduced, no new impacts have been identified beyond those documented within the original evaluation. Impacts to coral resources due to the construction of the dock support piles would be suitably addressed through implementation of a Coral Transplantation Plan that will be prepared and submitted to DLNR for review and approval prior to construction.

REFERENCES

Shoreline Science & Engineering. 2021. Marine Biological Survey 45-221 Ka Hanahou Circle. Haleiwa, HI. Shoreline Science & Engineering, LLC.

ATTACHMENTS

- Attachment A: Marine Biological Survey, 45-221 Ka Hanahou Circle

ATTACHMENT A.

Marine Biological Survey

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Marine Biological Survey
45-221 Ka Hanahou Circle

Kāneʻohe Bay, Kāneʻohe, Hawaiʻi

SHORELINE
SCIENCE & ENGINEERING, LLC

July 2021

Table of Contents

Introduction

The residential property at 45-221 Ka Hanahou Circle is located on the waterfront in south Kāne‘ohe Bay, on the east side of the island of O‘ahu (Figure 1). The property includes a private boat basin, boat launch ramp, and deep-water access to Kāne‘ohe Bay and the Pacific Ocean beyond. The submerged area fronting the property is host to a significant amount of live coral which has effectively blocked or inhibited recreational access and use of the shoreline.

The property owner seeks to ~~restore the existing boat ramp and basin, as well as build~~construct a new ~~floating dock~~fixed pier to support berthing a ~~50 ft catamaran~~ sailboat at the site. This biological survey serves to provide information required to apply for regulatory permitting and to support a coral transplantation plan.

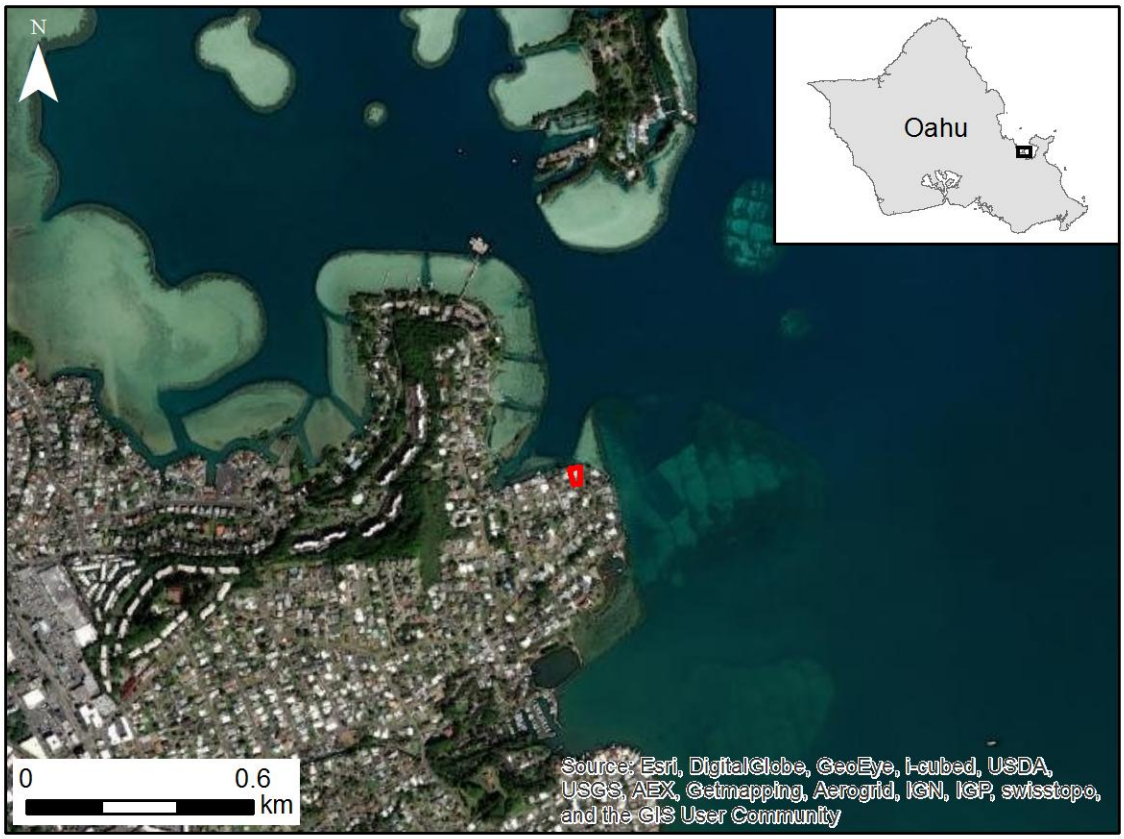


Figure 1. Site location map with property outlined in red, located in south Kāne‘ohe Bay on the island of O‘ahu.

The proposed project has three objectives: 1) restore usability of the existing boat basin, 2) restore usability of the existing boat launch ramp, and 3) restore navigable depths and construct a new floating dock to support a 50-foot sailboat (Figure 2). Coral relocation is necessary to accomplish these modifications and the coral transplantation plan will be largely informed by this marine biological survey. Project activities may have further impacts on coral due to shading from the proposed floating dock and gangway, as well as berthing of the 50 ft sailboat. Installation of support piles for the floating

dock could also have impacts to marine life in terms of increased turbidity. This report describes existing marine biological resources in the project area which will be used to assess the potential effects of the project.

Figure 2. Plan view of the project site at 45-221 Ka Hanahou Circle. Proposed floating dock and access gangway is shown with a white dashed line. **Note- this was the original design. Since the preparation of this draft report the design has been updated to specify a 10-ft by 30-ft fixed dock and 14.9-ft by 4-ft gangway (see memo at the beginning of this report). This Coral Transplantation Plan will be updated to reflect the new design when obtaining a Special Activity Permit from DLNR for the relocation of coral colonies during the implementation of this project**

Background Information

Kāneʻohe Bay is the largest sheltered body of water in the main eight Hawaiian Islands with a total surface area of 41.4 km^2 at average tide levels (Jokiel 1991). The inshore portion of the bay holds numerous patch reefs at depths of less than one meter from the surface and are partially exposed during extreme spring tides (Jokiel 1991). The entire shoreline, except parts of the Mōkapu Peninsula, is ringed by a shallow fringing reef. The deepest portion of the bay is 19 m, and the substrate is primarily coral rubble, gray coral mud, and fine coral sands (Jokiel 1991).

Kāneʻohe Bay has an interesting history of human influence beginning with colonization by Polynesians circa 1250 A.D. (Kittinger et al. 2011). The arrival of Westerners during the eighteenth century initiated

extensive plantation agriculture, land modification, species introductions, and eventually urbanization (Devaney et al. 1982). The bay is currently showing the effects of climate change with several major coral bleaching events beginning in 1996 through today (Bahr et al. 2017).

Dredging and filling activities have drastically altered the geography and ecology of Kāneʻohe Bay over the years. Prior to 1939, dredging was limited to small areas around boat landings and piers. During construction of what was then known as the Kāneʻohe Bay Naval Air Station on Mōkapu peninsula (1939-1945) extensive dredging took place throughout the bay (Figure 3). These dredging activities resulted in alterations to 88% of the shoreline in the south bay (Hunter 1993). Corals in the south bay have not recovered from dredging activities, particularly in areas of soft substrates or areas of high sedimentation (Jokiel 1991). In addition, nine fishponds were filled for land development between 1946 and 1948 (Bahr et al. 2015). The project property at 45-221 Ka Hanahou Circle is built on one of these historical fishponds (Figure 4). The Kalokohanahou fishpond was filled during the above period and the Ka Hanahou residential development was built in its place in 1952 (Devaney et al. 1982).

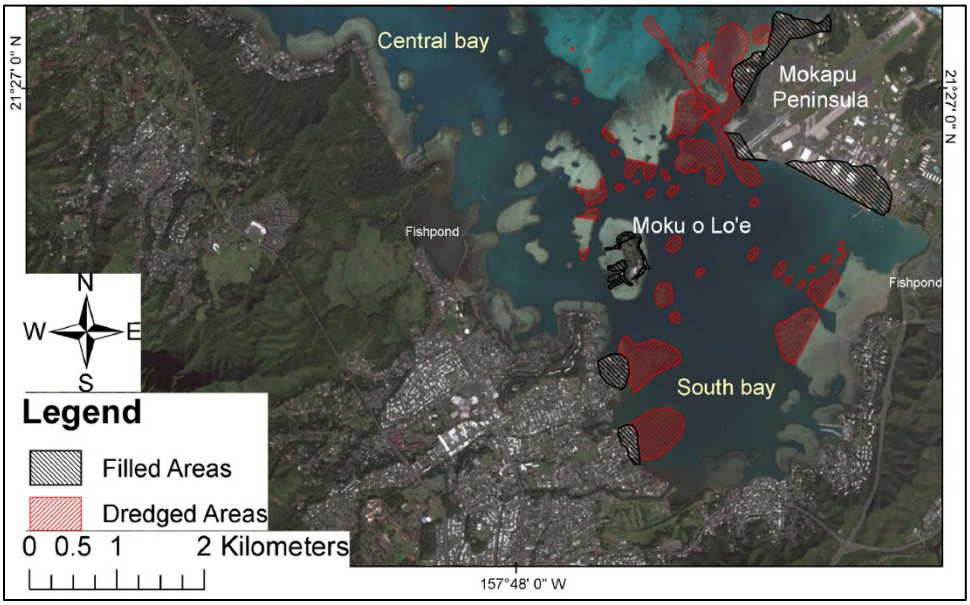


Figure 3. Dredging and filling areas in Kāneʻohe Bay, Oʻahu Hawaiʻi. Dredged areas (red) and filled areas (black) in Kāneʻohe Bay on the island of Oʻahu. Adapted from Bahr et al. (2015).

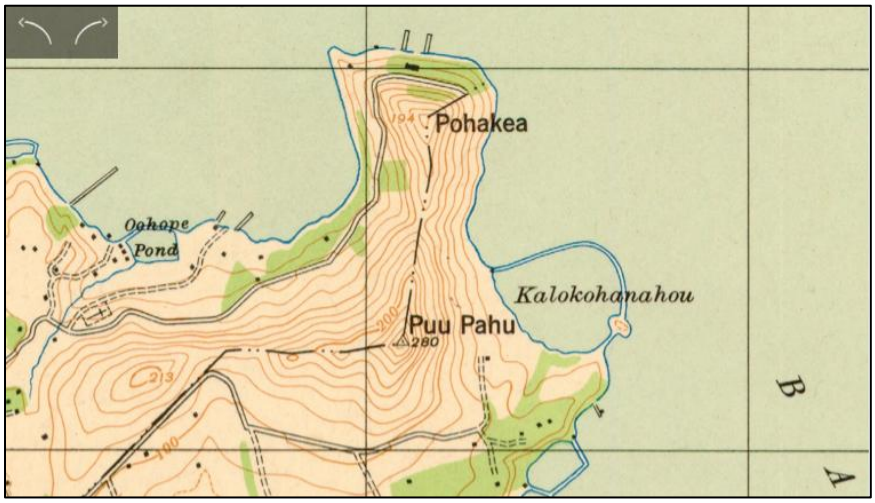


Figure 4. 1936 USGS topographic map of the project area showing the historical fishpond Kalokohanahou where the Ka Hanahou neighborhood is now located. https://evols.library.manoa.hawaii.edu/handle/10524/49310

Methodology

Based on the planned modifications, in several areas of the site coral will need to be relocated, while coral in other areas may be subject to shading impacts from the proposed floating dock and/or vessel. For this reason, survey areas within the site were designated as donor areas (where corals are to be removed), potential translocation or receiving areas (where coral is to be relocated), and potential shading areas (Figure 5). For each donor area, comprehensive inventories were conducted to count, size, identify to species, and determine the health of each coral colony > 5cm. This detailed information is necessary to support a coral transplantation plan. For the potential receiving and shading impact sites, transect-based photo quadrats were conducted to estimate benthic cover of coral species and other substrate types. Detailed methods are as follows.

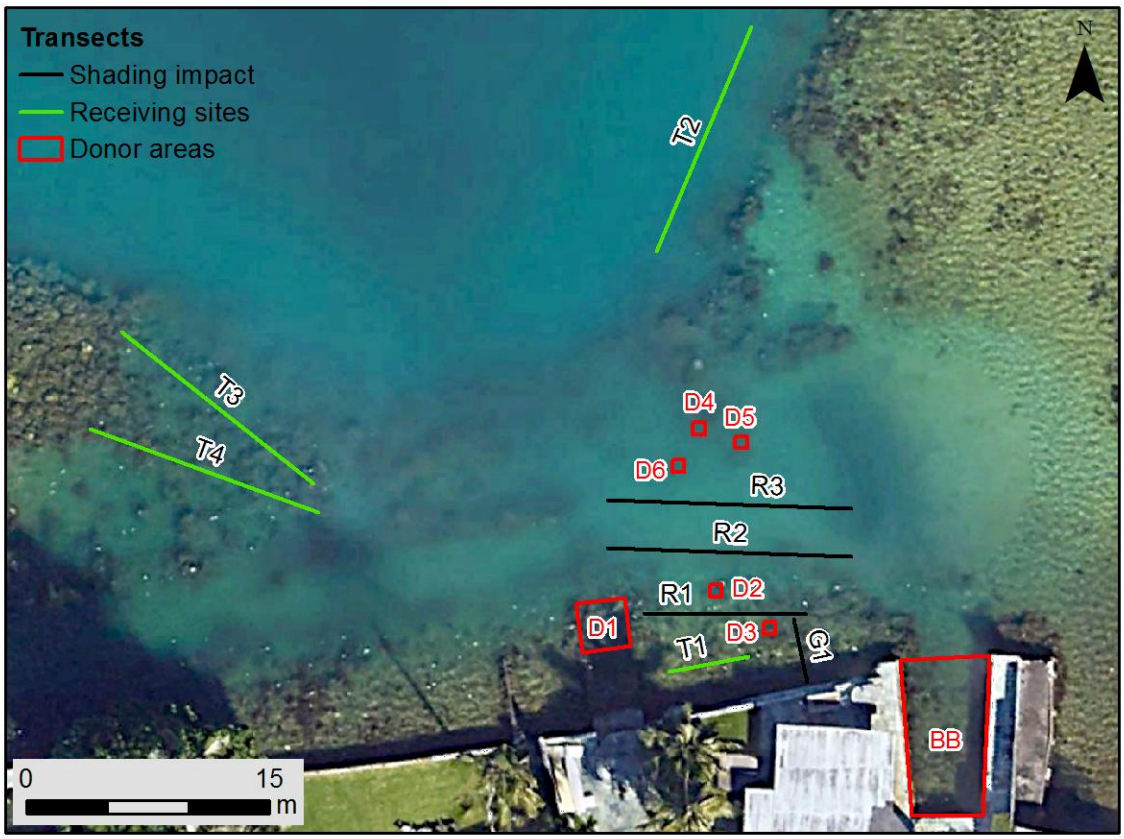


Figure 5. Overview of study site and survey locations. Donor areas are shown in red, potential shading impact transects shown in black, and potential receiving site transects shown in green.

Donor areas – coral inventories

In each pre-designated donor area (Figure 5), every coral colony was identified, counted, sized, and coral bleaching condition was assessed for colonies > 5cm with photographs taken of representative coral species. Coral colonies were sized using a measuring rod into 5cm size bins and bleaching condition was assessed using a Koʻa card, where coral color was matched to colors on the card (Figure 6). Colors on the Hawaiian Koʻa Card have been linked to physiological state and health (e.g., symbiont density, chlorophyll levels, photosynthetic performance) of common coral species in Hawaiʻi due to bleaching (Bahr et al. 2020). In addition, percent cover of major benthic cover types (Coral, Crustose Coralline Algae [CCA], Turf, Sand, Macroalgae, Rock) were visually estimated, rare and/or invasive species were counted, and fish species were documented. For areas greater than one square meter, a transect was deployed and the area was divided into 1m sections. Areas less than one square meter were surveyed as a single quadrat. Depth was measured at each meter along transects or in the center of single quadrats using a hand-held depth finder, Digital Sonar H22PX Handheld Sonar System (by HawkEye).

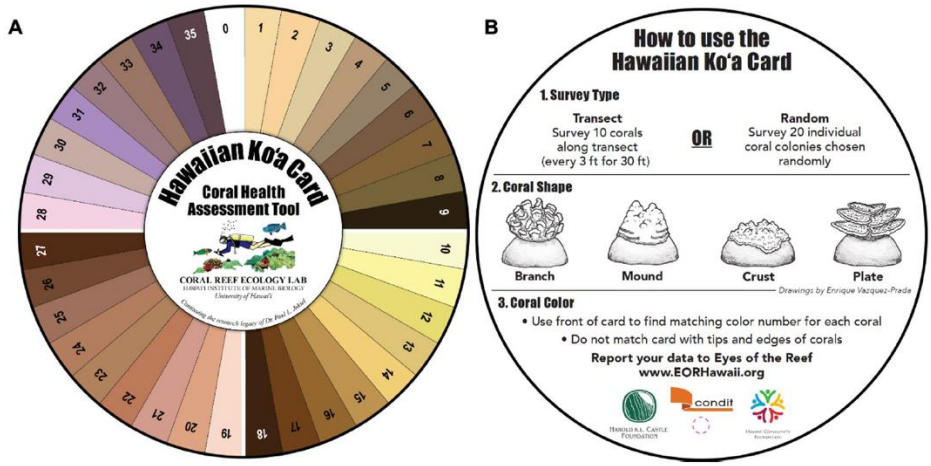


Figure 6. The Hawaiian Ko'a Card Coral Health Assessment Tool front (A) and back (B) Figure not to scale (card diameter = 18.5 cm)

Potential shading and receiving areas – transect based photo quadrats

Potential shading impact areas were determined based on project construction plans and located beneath the proposed floating dock, the dock gangway, and the future vessel berthing location. Potential coral receiving areas were determined based on proximity to the donor sites and similar environmental conditions. In the field, transects of varying lengths were laid out across each potential shading impact and receiving area (Figure 5). Underwater surveys were conducted utilizing SCUBA. All survey methods were noninvasive to the biological community.

To quantify benthic cover and the abundance of corals, photographic images of the seafloor (51 × 66 cm, 0.34 m2) were collected using a camera system with Canon G16 in an underwater housing attached to a monopod. Photographs were taken on the shoreward side of transect at every meter, including 0 m. The number of images taken on each transect depended on the transect length. The monopod was kept perpendicular to the sea floor preventing parallax. The CoralNet benthic analyses program for coral reefs (Beijborn et al. 2015) was used to process images and visually annotate species to generate benthic cover data. The program was parameterized to generate 25 stratified random points on each of the transect images. Substrate types or species under each generated point were visually identified to the lowest taxonomic level possible. Benthic categories included: (a) live coral species, (b) major algal groups, i.e., macroalgae, coralline algae, and turf, (c) macro-invertebrate species, and (d) substrate types. Substrate types were sub-categorized into rubble, pebble, fine sand/silt, dead coral with turf, turf with sediment, and rubble with turf and sediment. Proportions of benthic categories in total benthic composition were calculated for each image. Proportion data were summarized by arithmetic mean and standard deviation by transect and represented as percent cover.

Any rare or invasive species not captured in photo quadrats were noted and all observed fish species were documented. A hand-held depth finder, Digital Sonar H22PX Handheld Sonar System (by HawkEye), was used to measure depths at every meter along each transect.

Results

A total of 16 sites/transects were surveyed during May 27 and 28, 2021. The dimensions and depths of each survey area are listed in Table 1. Refer to Figure 5 for locations of each survey area/ transect.

Table 1. Site dimensions and depths. Area of each donor site and length of each potential shading and receiving site transect is listed in meters. Mean, minimum, maximum, and standard deviation of depth measurements in feet relative to Mean Lower Low Water (MLLW) are listed along with number of depth measurements (n).

				Depth (ft MLLW)			
Type	**Site**	**Size (m)**	**n**	**Mean**	**Min**	**Max**	**SDM**
Donor	BB	10 x 4	3	2.9	2.0	4.0	1.0
	D1	3 x 3	4	1.7	1.7	1.8	0.1
	D2	2 x 2	2	2.2	1.7	2.7	0.7
	D3	1 x 1	2	1.8	1.8	1.8	0.0
	D4	1 x 1	2	4.2	3.2	5.2	1.4
	D5	1 x 1	2	4.1	3.1	5.1	1.4
	D6	1 x 1	2	4.8	3.3	6.3	2.1
Shading	G1	4	7	3.0	2.1	4.1	0.8
	R1	10	9	3.6	3.3	4.4	0.4
	R2	15	12	7.2	6.2	8.3	0.6
	R3	15	10	7.8	6.9	9.0	0.8
Receiving	T1	5	5	3.0	2.1	4.5	1.1
	T2	15	18	5.6	4.0	7.4	0.9
	T3	15	16	4.9	3.1	7.3	1.2
	T4	15	16	4.5	3.3	6.8	1.0

Donor areas

Site descriptions

Boat basin (BB):

The boat basin measures 10m long, 3m wide at the closed (land) side and 5m wide at the open side. It ranges from 2-4 ft deep (MLLW). The first 5m is relatively devoid of live coral, while the second 5m has a mix of live and dead corals, primarily *Montipora capitata* and *Porites compressa*. (Figure 7, 8).

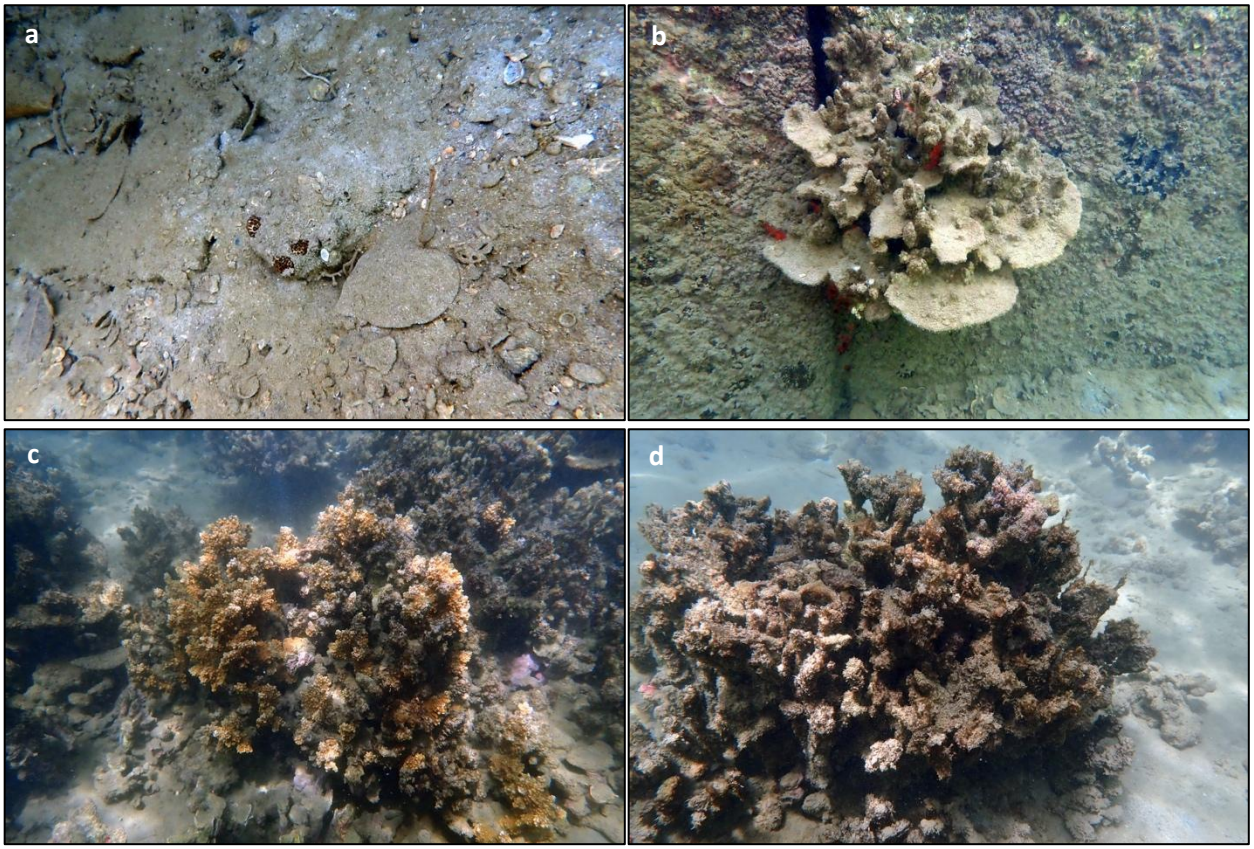


Figure 7. Donor site BB. a) Typical benthic cover for the first 5 m of the boat basin characterized with silt covered debris and small *Leptastrea purpurea* colonies. b) Dead *M. capitata* colonies on the wall for the first 5 m. c) Live *M. capitata* starts to show up around the middle of the basin. d) Dead *M. capitata* colony.

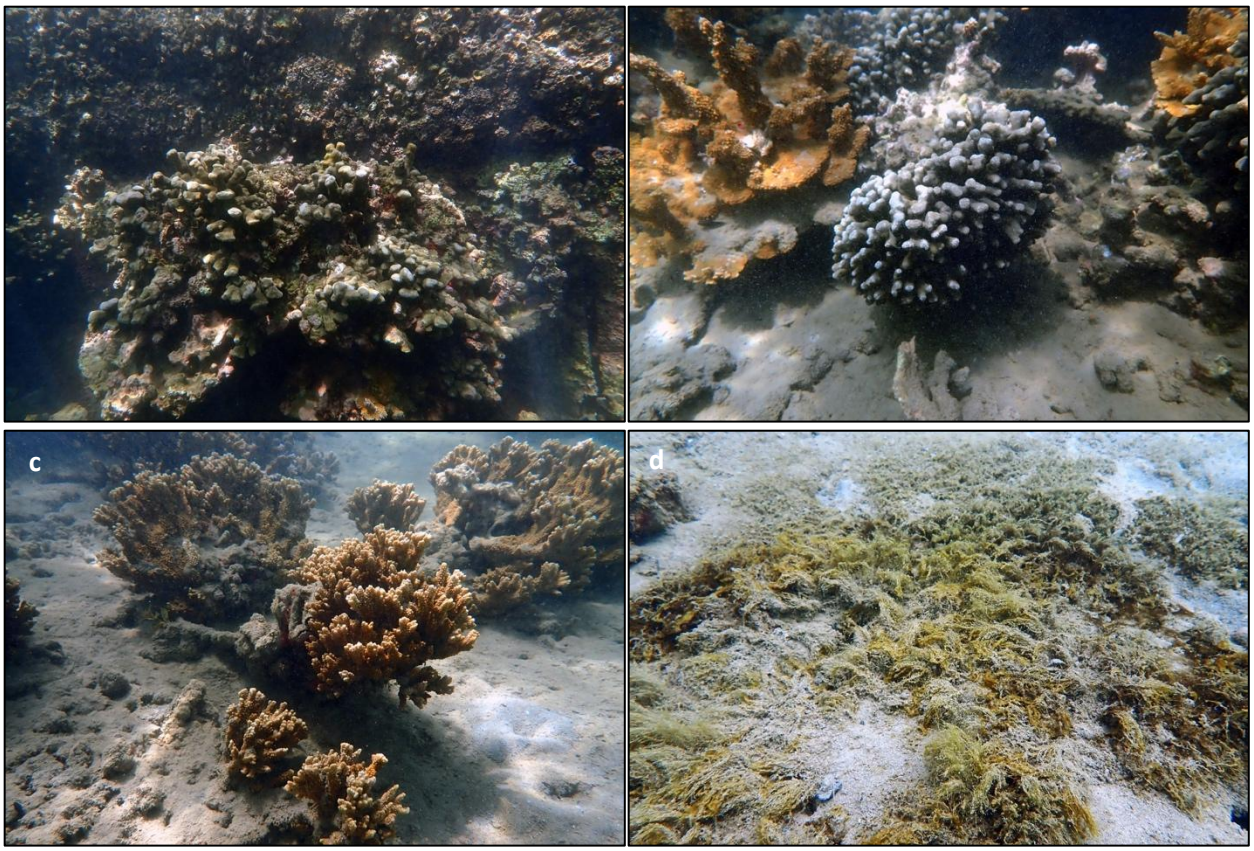


Figure 8. Donor site BB. a) Live *P. compressa* starts to show up just past the midpoint of the boat basin. More corals were found colonizing the surface of the wall as approaching the entrance. b) Live corals with relatively normal condition were found near the entrance. c) *M. capitata* on silt and silt-covered debris. d) A cyanobacterial mat at the entrance to the boat basin.

Donor area 1 (D1):

Located at the base of the existing boat ramp. A 3m x 3m area was surveyed excluding corals located deeper than 5 ft (depth beyond where removal is necessary) with an average depth of 2.0 ft (MLLW). This area is characterized by relatively healthy *P. compressa* colonies interspersed with crustose coralline algae (CCA) (Figure 9). The macroalgae *Dictyospherea versluysii* was also present.

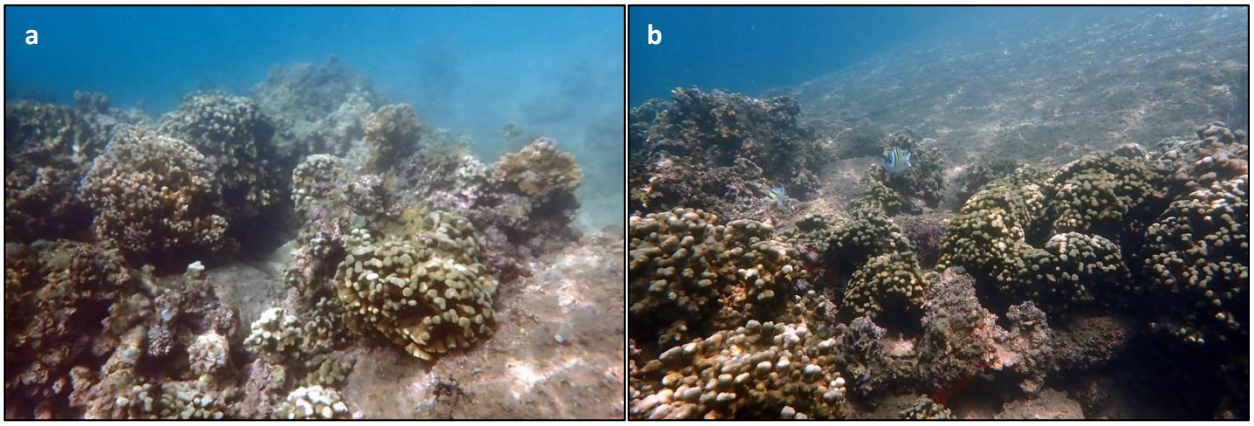


Figure 9. Donor site D1. a) Healthy *P. compressa* colonies interspersed with CCA. b) *P. compressa* colonies interspersed with CCA and damselfish *Abudefduf vaigiensis*.

Donor area 2 (D2):

Near the edge of the reef flat in front of the property. 2m x 2m area with an average depth of 2.2 ft (MLLW). This area encloses a cluster of *M. capitata* colonies on a mix of silt and silt-covered rubble (Figure 10).

Figure 10. Donor site D2 composed of M. capitata colonies on a mix of silt and silt covered rubble.

Donor area 3 (D3):

On the reef flat inshore of D2 at a depth of 1.8 ft (MLLW). A single colony of *M. capitata* close to one meter in diameter (Figure 11).

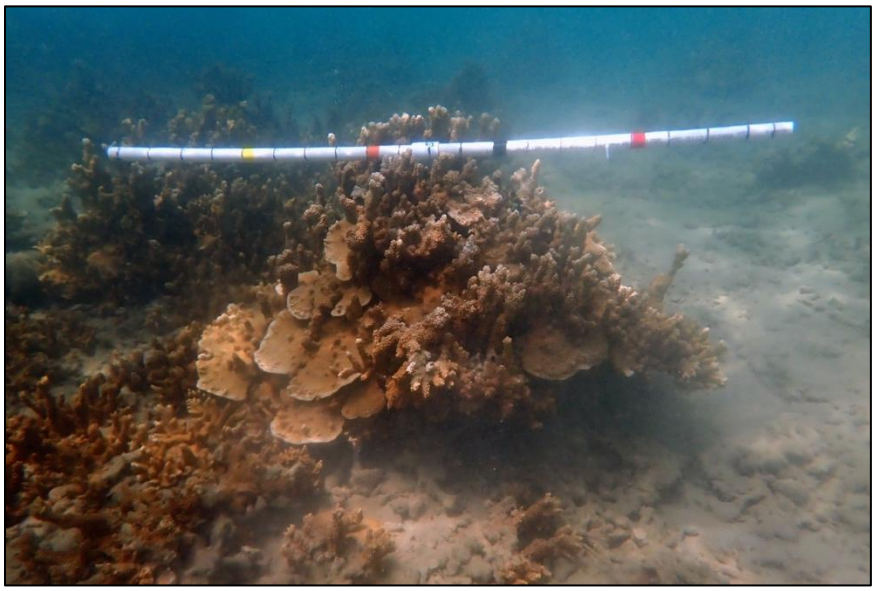


Figure 11. Donor site D3 *M. capitata* colony. Measurement bar is one meter long.

Donor area 4 (D4):

Single colony of *P. compressa* located at the seaward margin of the study area at a depth of 5.2 ft (MLLW) (Figure 12).

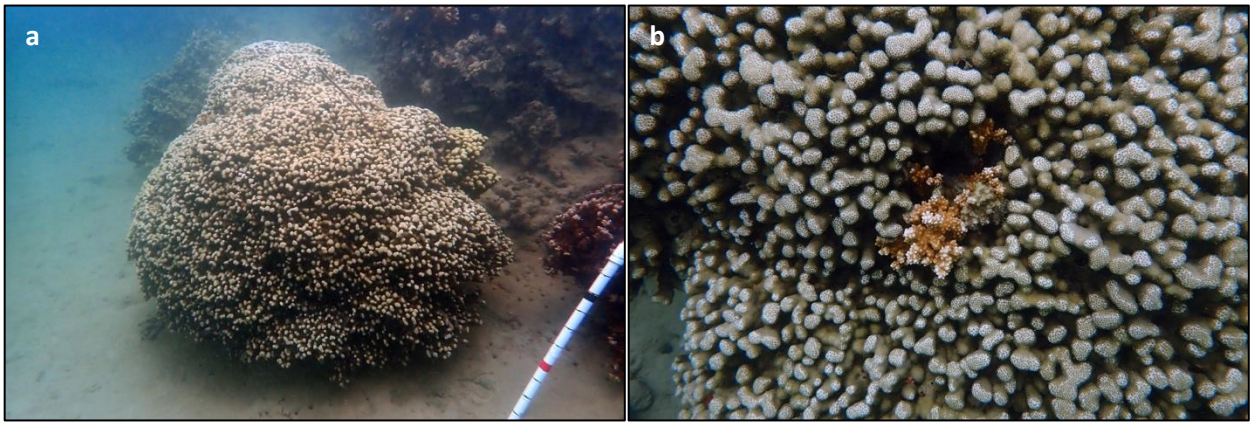


Figure 12. Donor site D4. a) *P. compressa* colony. b) Small M. capitata colony embedded on top of *P. compressa*.

Donor area 5 (D5):

Old, dead coral head located at the seaward margin of the study area at a depth of 5.1 ft (MLLW). Covered with mix of silt, CCA, orange-colored sponge *Mycale grandis*, and the invasive macroalga *Gracilaria salicornia* (Figure 13).

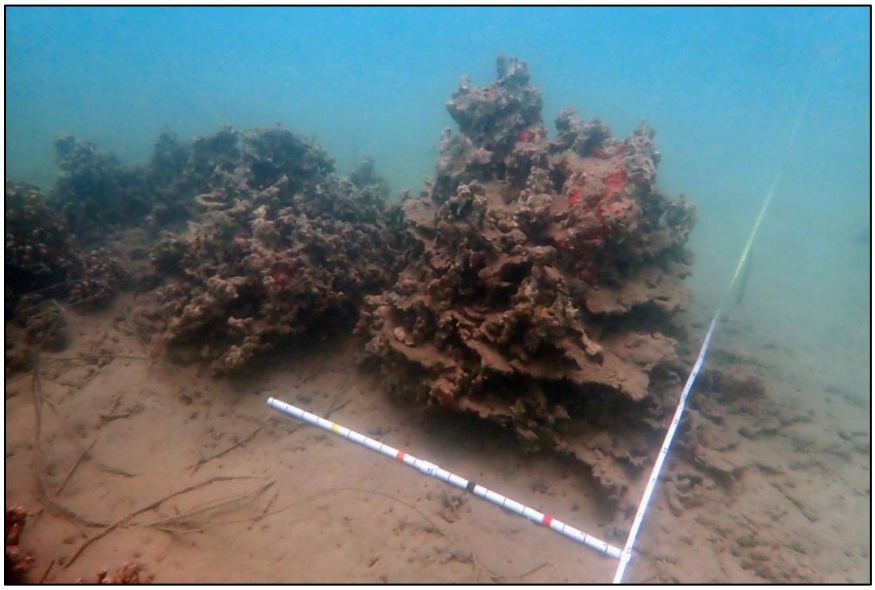


Figure 13. Donor site D5 dead coral head covered with silt, CCA, sponge (*M. grandis*), and macroalga *G. salicornia*.

Donor area 6 (D6):

Large dead coral head adjacent to live *M. capitata* colony near edge of dredged area towards seaward end of the study area at a depth of 6.3 ft (MLLW) (Figure 14).

Figure 14. Donor site D6 dead coral head and live *M. capitata* with D4 *P.compressa* shown in the background.

Coral size distributions and percent cover

Total of 523 colonies were recorded across all six donor areas. No rare and/or endemic corals were observed including *Montipora dilatata and Porites duerdeni*. The majority of live coral colonies were found in the boat basin (BB) and donor site 1 (D1) (Table 2). Most coral colonies ranged between 5 and 20 cm overall (Table 2).

In the boat basin (BB) which is the largest donor area (10 x 4m), 385 colonies including *Montipora capitata* (rice coral), *Porites compressa* (finger coral), *Leptastrea purprea* (crust coral), and *Pocillopora damicornis* (lace coral) were identified and classified into five size-classes (Table 2). The most frequently observed species was *M. capitata* up to 20 cm diameter with 160 of these < 5 cm (Figure 15). Thirteen colonies each of *M. capitata* and *P. compressa* were found in size classes >20 cm, however, two colonies of each species between 40 – 80 cm were found partially dead. There were no live coral colonies > 80 cm at BB. Live coral cover accounted for 10.4% of benthic substrate (Table 3).

At donor area one (D1, 3 x 3m) the most frequently observed species was *P. compressa* ranging from 5 to 40 cm (Figure 16). In addition, there were six colonies of *P. compressa* between 40-80 cm and two *P. compressa* colonies larger than 80 cm (Table 2). There were also 18 colonies of *M. capitata* across a range of sizes as well as 33 *Leptastrea purprea* colonies < 5 cm. Live coral cover was estimated to be 42% at D1 (Table 3).

Donor site two (D2) encompassed 12 colonies of *M. capitata* between 10-80 cm and two colonies larger than 80 cm (Table 2). The live coral cover within the 2 x 2 m area at D2 was approximately 50% while silt and silt-covered rubble represented the remaining cover (Table 3). Donor site three (D3) was a single colony of *M. capitata* and donor site four (D4) was a single colony of *P. compressa* with *M. capitata* settled on top. The estimated percent cover of live coral was thus 100 % for D3 and 99.5% for D4 (Table 3). Donor areas five (D5) and six (D6) were represented by dead coral heads. The dead coral head of D5 was covered with mix of silt, CCA, the orange keyhole sponge *Mycale grandis*, and the invasive macroalga *Gracilaria salicornia* (locally known as gorilla ogo). D6 included a large dead coral and an adjacent live *M. capitata* between 20-40 cm.

Table 2. Number of live coral colonies in each size class (cm) by donor area.

	Colony size (cm)						
	<5	**=>5-10**	**>10- 20**	**>20-40**	**>40-80**	**>80-160**	**Total**
Boat basin (BB)	224	77	58	11	15	0	**385**
Leptastrea purprea	62						62
Montipora capitata	160	66	34	6	5		271
*Montipora capitata**					2		2
Porites compressa		11	24	5	6		46
*Porites compressa**					2		2
Pocillopora damicornis	2						2
Donor site 1 (D1)	38	21	34	16	8	2	**119**
Leptastrea purprea	33						33
Montipora capitata	1	8	5	2	2		18
Pavona varians		1					1
Porites compressa	3	9	29	14	6	2	63
Pocillopora damicornis	1	3					4
Donor site 2 (D2)		1	5	6	1	2	**15**
Leptastrea purprea		1					1
Montipora capitata			5	6	1	2	14
Donor site 3 (D3)							
Montipora capitata						1	1
Donor site 4 (D4)							**2**
Montipora capitata			1				1
Porites compressa						1	1
Donor site 5 (D5)							
(Dead coral head)							
Donor site 6 (D6)							
Montipora capitata				1			1

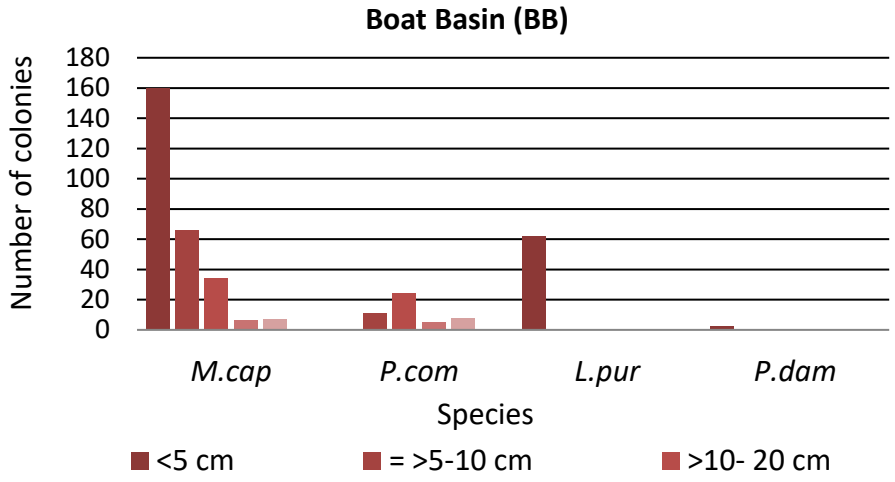


Figure 15. Number of live coral colonies in each size class by species at the boat basin (BB).

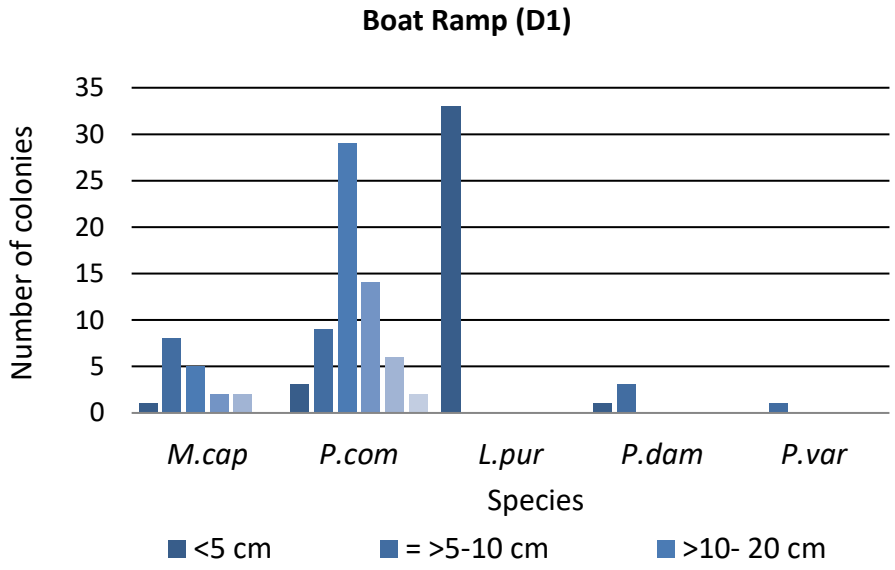


Figure 16. Number of live coral colonies in each size class by species at the boat ramp (D1).

Table 3. Estimated percent cover of major benthic types in each donor area. The category 'Other' includes macro-invertebrates.

Site	Live coral	CCA	Turf	Macroalgae	Rubble	Silt	Other
BB	10.4	0.9	0.8	0.0	16.3	51.1	20.3
D1	41.9	19.4	28.9	0.3	2.1	0.0	7.5
D2	50.0	0.0	0.0	0.0	40.0	10.0	0.0
D3	100.0	0.0	0.0	0.0	0.0	0.0	0.0
D4	99.5	0.0	0.0	0.0	0.0	0.0	0.5
D5*	0.0	1.0	0.0	0.0	10.0	74.0	15.0
D6	5.0	70.0	0.0	0.1	0.0	20.0	4.9

***** A discrete dead coral head covered with mix of silt, CCA, orange sponge spp., and macroalgae.

Coral color and bleaching condition

Representative coral colors were associated with 12 variations on the Ko'a card (Table 4). Identified colors on the Ko'a card were typical for live corals with normal conditons, characterized by dark photosynthetically active areas and white-colored growing tips and margins of the skeletal structure. Representative colors of corals were mostly similar and uniformly distributed within and among colonies for each species. No signs of mass-paling and/or bleaching were observed among colonies across all survey areas. The two most dominant species, *M. capitata* and *P. compressa*, encompassed seven color numbers of the Ko'a card (Figure 17, see Figure 6 for examples of the corresponding colors). Two color numbers, #15 and 16, were the most observed and common between *M. capitata* and *P. compressa.* *Leptastea purprea* was also mainly identified with #16.

Table 4. Number of coral colonies by species and color numbers of Ko'a card in the donor areas/points. *denote partially dead colonies.

	Ko'a card color number											
Species	#4	#5	#7	#12	#15	#16	#17	#20	#21	#23	#24	#26
Leptastrea purprea						95	1					
Montipora capitata			16		103	42	41				22	82
*Montipora capitata**					1							1
Porites compressa	5	3		1	98	3						
*Porites compressa**					2							
Pocillopora damicornis								4	1	1		
Pavona varians												1
Total	5	3	16	1	204	140	42	4	1	1	22	84

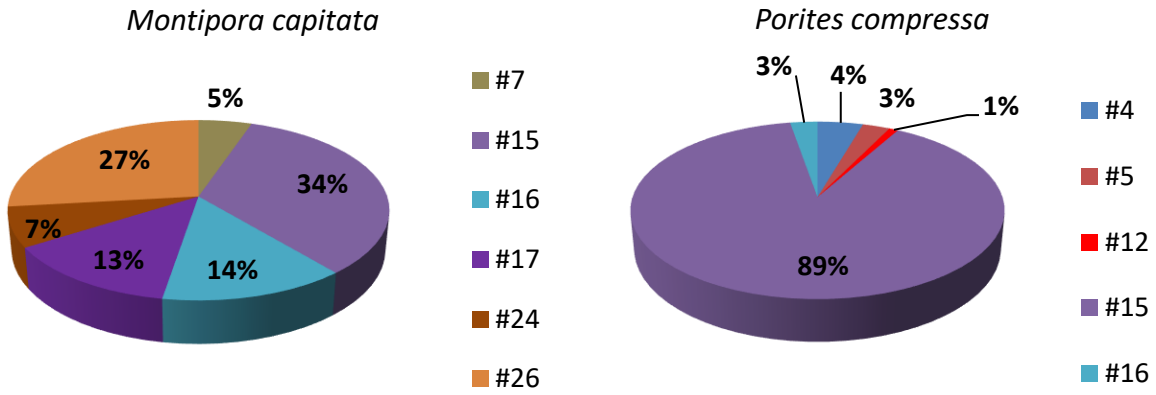


Figure 17. Percentage of Ko'a card color numbers associated with *Montipora capitata* (306) and *Porites compressa* (110) colonies across all donor areas.

Potential shading impact and translocation (receiving) areas

Site descriptions – potential shading impact sites

Proposed gangway (G1):

Four meter transect in the location of the proposed gangway connecting the seawall in front of the residence to the proposed floating dock, average 3.0 ft depth (MLLW). Substrate consists of rubble covered with turf and sediment (Figure 18).

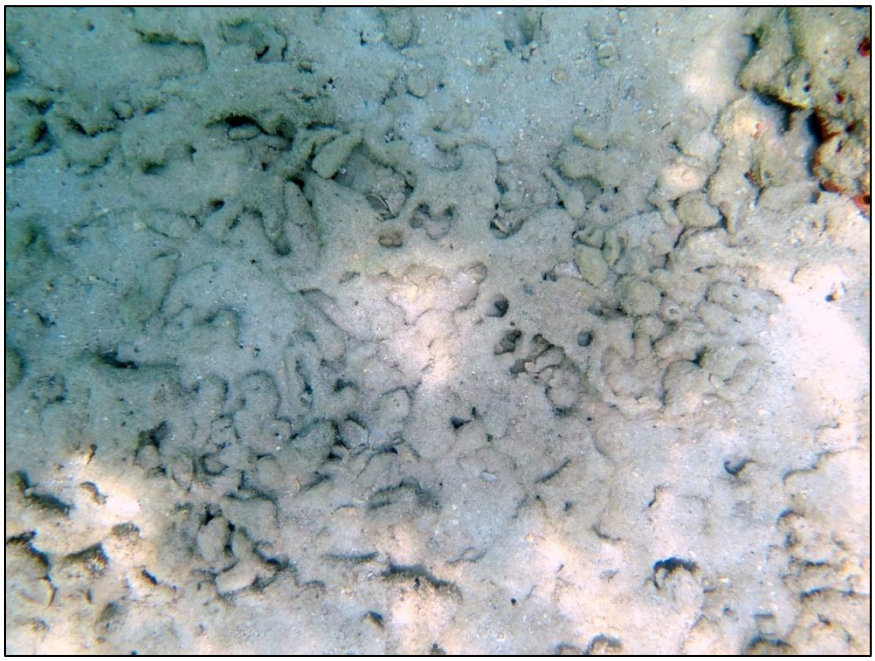


Figure 18. Potential shading impact site G1 benthic composition, rubble covered with fine sand and silt.

Proposed floating dock (R1):

Ten meter transect in the location of the proposed floating dock at an average depth of 3.6 ft (MLLW). The seafloor was characterized primarily by rubble covered in turf and sediment with several live coral colonies present (Figure 19).

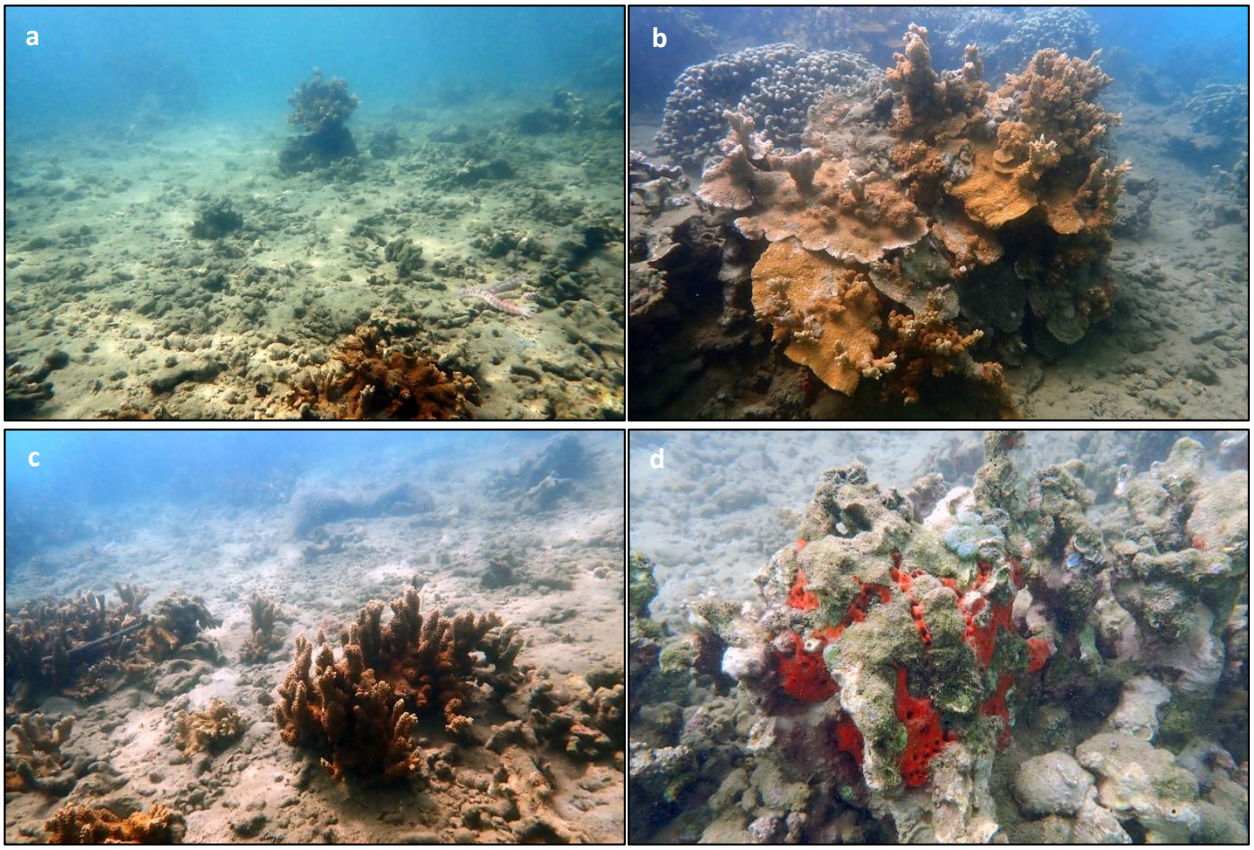


Figure 19. Potential shading impact site R1. a) Seafloor predominately characterized by rubble covered in turf and sediment. b) *M. capitata* located near the start of transect facing towards the boat ramp. c) View towards the reef slope. d) An invasive marine sponge, the orange keyhole sponge (*Mycale grandis*) boring a dead coral. While a macroalga *Dictyospherea versluysii* was present in the image, its abundance was very low at R1

Sailboat berth adjacent to proposed dock (R2)

Fifteen meter transect located adjacent to the proposed floating dock in an average depth of 7.2 ft (MLLW). Seafloor is characterized by fine sand and silt with some live coral located at the very beginning and ends of the transect (Figure 20).

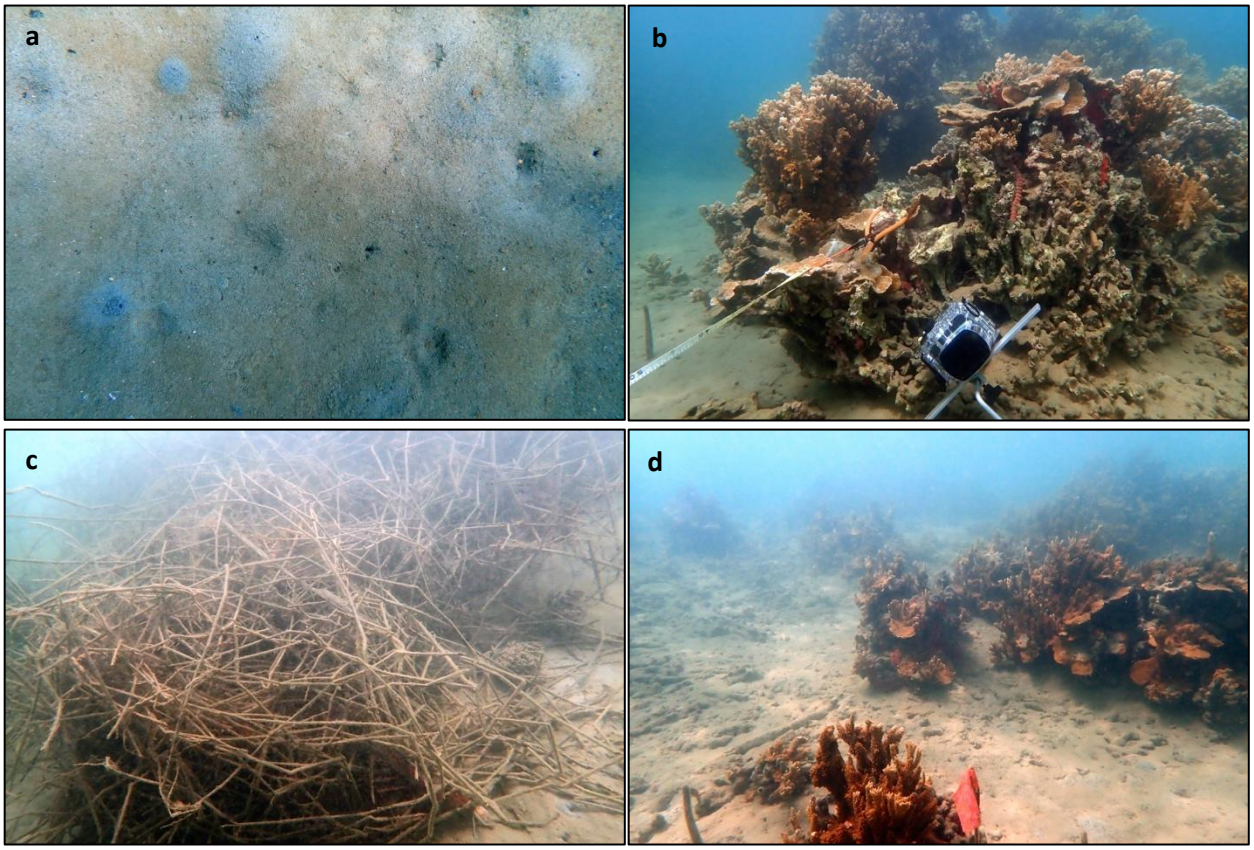


Figure 20. Potential shading impact site R2. a) Typical benthic cover for the transect, sand and silt. b) Dead coral head at the beginning of the transect colonized by *M. capitata*. c) Terrestrial debris (grass) found at the shallower, southeast end of the transect. d) General seascape near the R2 transect at the edge of fine sand/silt-covered seafloor (to the left) and the reef slope (to the right). Observed benthic cover types included *M. capitata*, silt, and silt-covered rubble.

Sailboat berth seaward of proposed dock (R3)

Fifteen meter transect located seaward of proposed floating dock and R2 at an average depth of 7.8 ft (MLLW). Substrate composed primarily of fine sand and silt interspersed and on top of coral rubble with a few small *M. capitata* colonies (Figure 21).

Figure 21. Potential shading impact site R3 a) Representative benthic cover: fine sand/ silt. b) Representative benthic cover: fine sand/silt, coral rubble, small *M. capitata* colonies.

Site descriptions – potential receiving areas

Translocation site 1 (T1):

Four meter transect adjacent and parallel to seawall on reef flat in front of the house with an average depth of 3.0 ft (MLLW). Primarily coral rubble covered in turf and silt with a few isolated coral colonies (Figure 22).

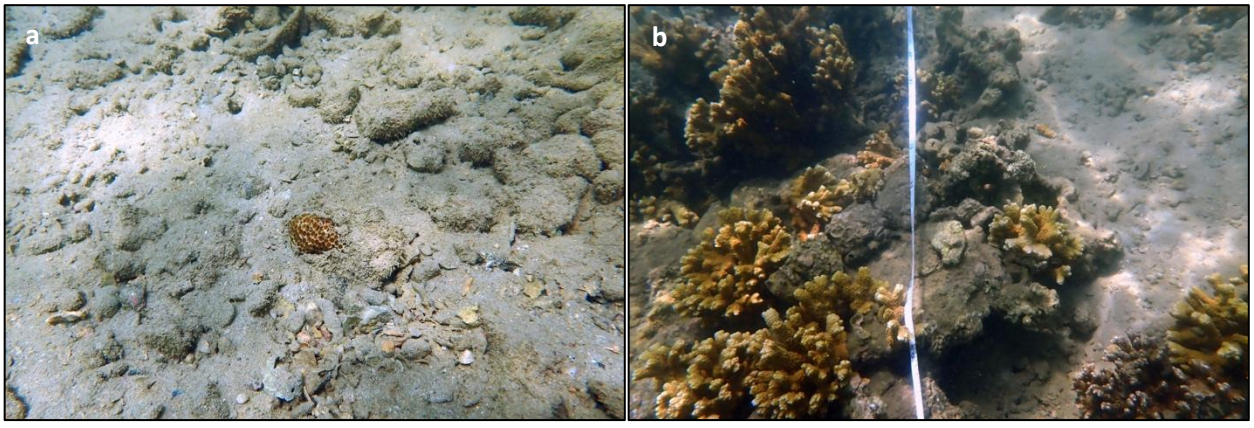


Figure 22. Potential receiving site T1 a) Typical substrate, rubble covered in silt and turf algae with small *L. purpurea* colony. b) M. capitata and rubble covered in sediments.

Translocation site 2 (T2):

Fifteen meter transect located on the reef in front of the property between drop off and shallow soft bottom on the East side of the channel with an average depth of 5.6 ft (MLLW). Near the broken reef marker/post that is west of the large, emerged marker. Benthic cover is characterized by scattered *M. capitata* colonies on fine silt/sand bottom (Figure 23).

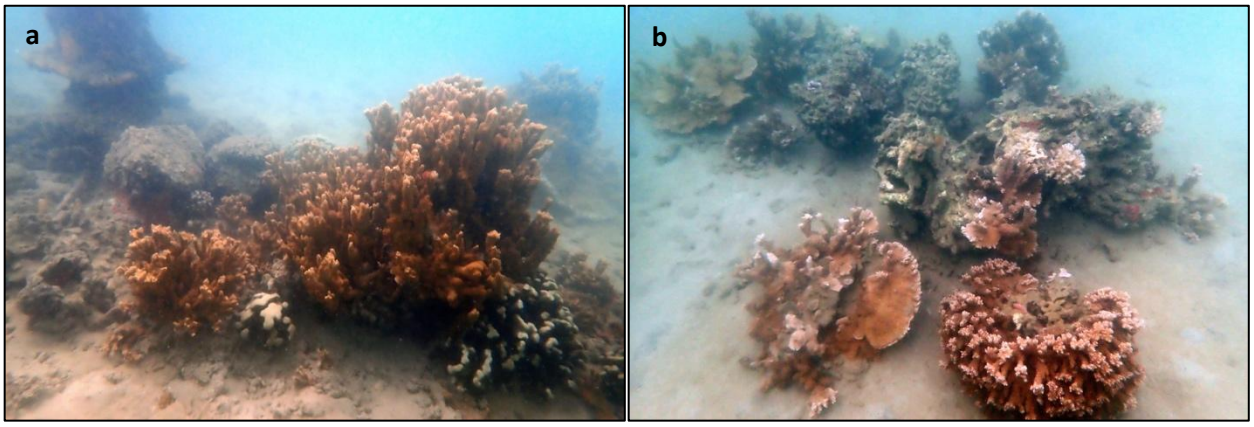
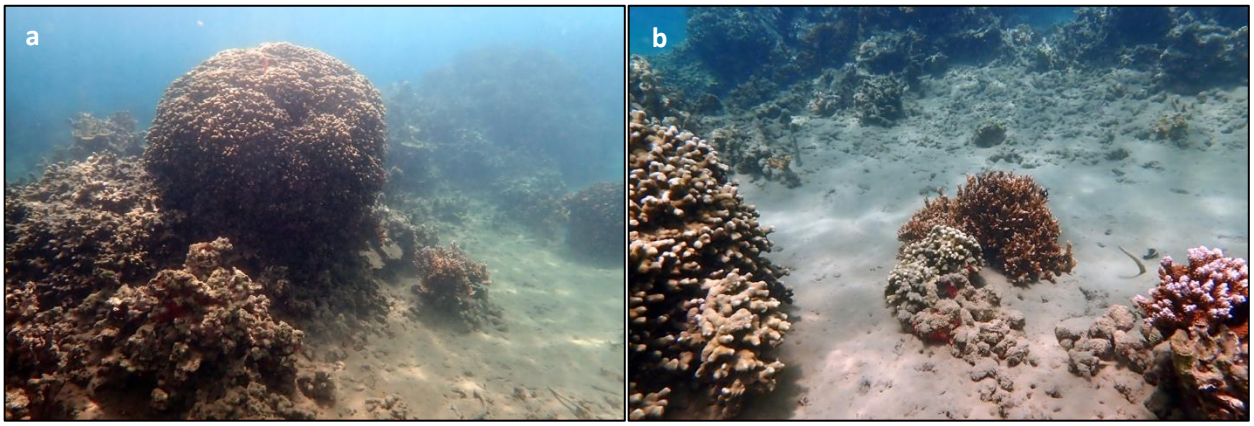


Figure 23. Potential receiving site T2 a) Representative substrate: *M. capitata* with some *P. compressa* on silt, rubble bottom. b) Mix of live and dead coral colonies on fine silt/sand bottom.

Translocation site 3 (T3):

Fifteen meter transect on the reef outside of the neighboring property near the drop off on the West side of the channel with an average depth of 4.9 ft (MLLW). Benthic cover is a mix of soft and hard substrates. Encrusting CCA*, Dictyosphearia versluysii, and Mycale grandis* were common on the hard substrates (Figure 24).



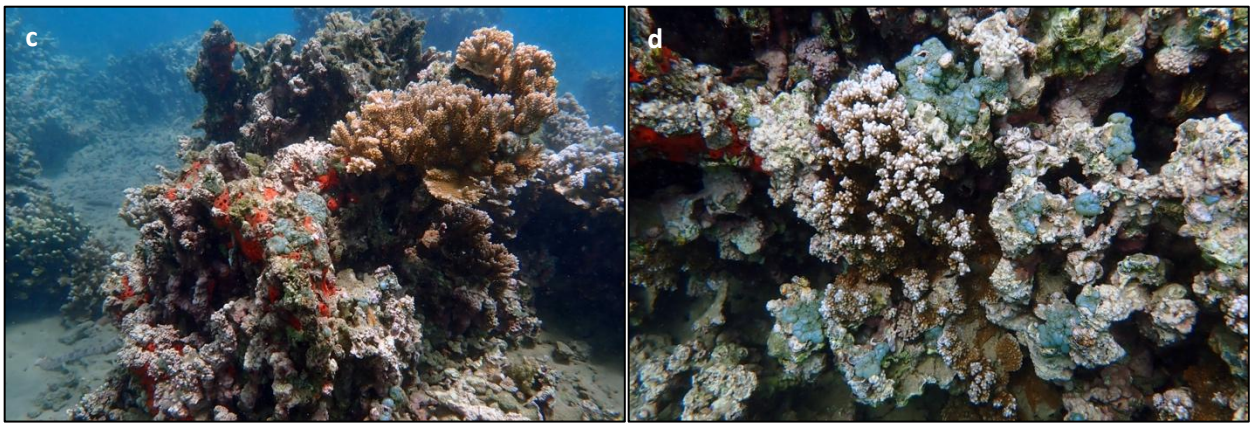


Figure 24. Potential receiving site T3. a) Large *P. compressa* colony. b) *P.compressa* and *M. capitata* colonies interspersed with soft substrate. c) Orange keyhole sponge (*M. grandis*), bubble algae (*D. verslusyii*), M. capitata, and CCA. d) *M.capitata and D.versluysii* colonizing dead coral with CCA.

Translocation site 4 (T4):

Fifteen meter transect located on the reef outside of the of the neighboring property between T3 and the sandy channel inshore with an average depth of 4.5 ft (MLLW). Mix of soft and hard substrate. Encrusting CCA*, D. versluysii, and Mycale grandis* were common on the hard substrate (Figure 25). A ball of *Gracilaria salicornia* was also present on transect.

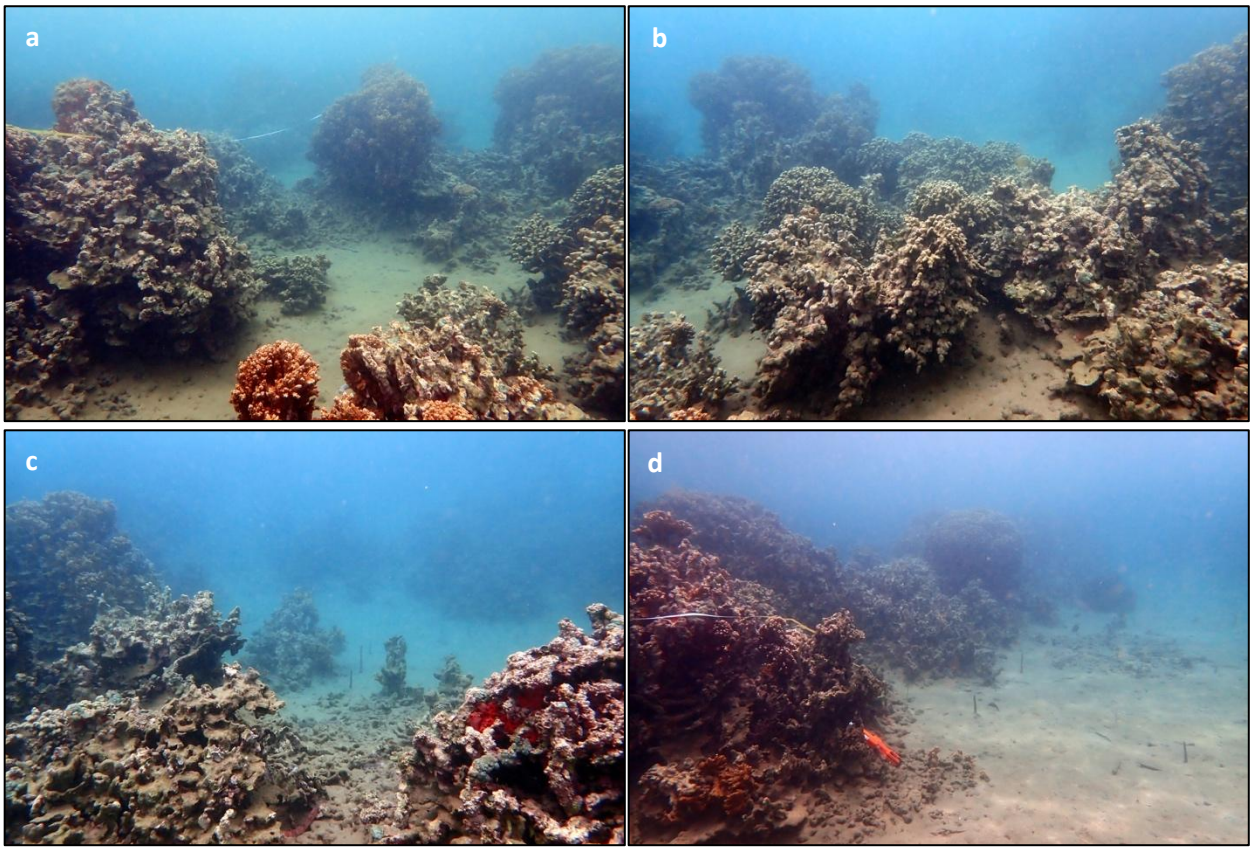


Figure 25. Potential receiving site T4. a) Representative mix of live and dead coral interspersed with soft substrate. b) Mix of dead and live *P. compressa*. c) View toward the sandy inshore channel. d) End of T4 transect at reef edge adjacent to inshore channel.

Coral and benthic composition

Live coral cover ranged from 0.7% to 17.3% with the highest live coral cover found on transect R1, followed by T2 (Table 5, Figure 26). Live coral cover was primarily represented by *Montipora capitata* (rice coral), followed by *Porites compressa* (finger coral), and a few small colonies of *Leptastrea purpurea* (crust coral) (Figure 26). The greatest percentage of benthic cover was comprised of abiotic substrate with turf and sediment deposits, ranging between approximately 61% and 97 % across all transects (Table 5). Of these, rubble with turf and sediment and fine sand/silt represented the majority of benthic substrates across all transects (Figure 27).

Algal cover types included turf, CCA, and macroalgae. Turf had the greatest cover across transects in both potential shading impact and translocation areas except R2 (Figure 28). CCA represented about 15% of overall benthic covers on T3 and T4. Macroalgal percent cover was solely represented by *Dictyospherea versluysii* (hard bubble seaweed). The mean cover of macro-invertebrates was less than one percent represented by the echinoderm *Opheodesoma spectabilis* (conspicuous sea cucumber) although it was commonly observed in habitats with both consolidated and unconconsolidated abiotic substrate types.

Table 5. Overall percent benthic cover by major types. n = number of images analyzed for each transect. STD = standard diviation of the mean.

			Live coral		Algae		Inverts		Substrate	
Area	Transect	n	Mean	STD	Mean	STD	Mean	STD	Mean	STD
Shading		64	8.8%	22.6%	4.9%	14.1%	0.2%	0.9%	86.1%	26.3%
	G1	6	0.7%	1.6%	5.3%	7.0%	0.0%	0.0%	94.0%	7.9%
	R1	9	17.3%	31.1%	4.4%	9.3%	0.0%	0.0%	78.3%	29.7%
	R2	16	2.6%	10.4%	0.0%	0.0%	0.0%	0.0%	97.4%	10.4%
	R3	17	4.5%	10.2%	6.7%	17.1%	0.5%	1.3%	88.3%	23.2%
Translocation		55	7.5%	14.1%	25.2%	28.2%	0.3%	1.3%	67.0%	29.4%
	T1	6	2.0%	4.9%	4.9%	11.9%	0.0%	0.0%	93.1%	11.9%
	T2	16	13.5%	17.2%	17.8%	18.6%	0.0%	0.0%	68.8%	24.9%
	T3	16	6.4%	16.9%	32.2%	30.5%	0.3%	1.0%	61.1%	32.2%
	T4	17	4.8%	7.6%	32.9%	33.4%	0.7%	2.1%	61.6%	31.6%

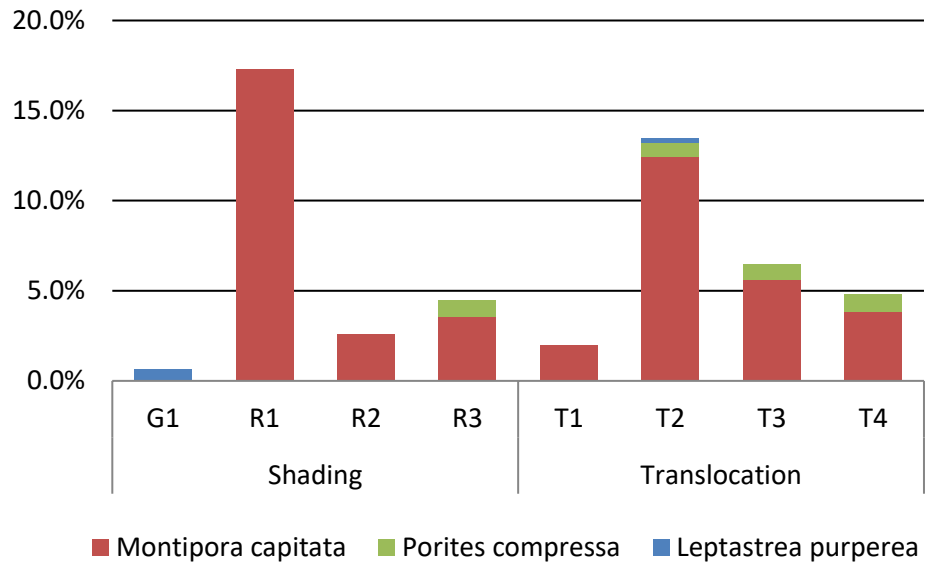


Figure 26. Percent of live coral cover by transect and species.

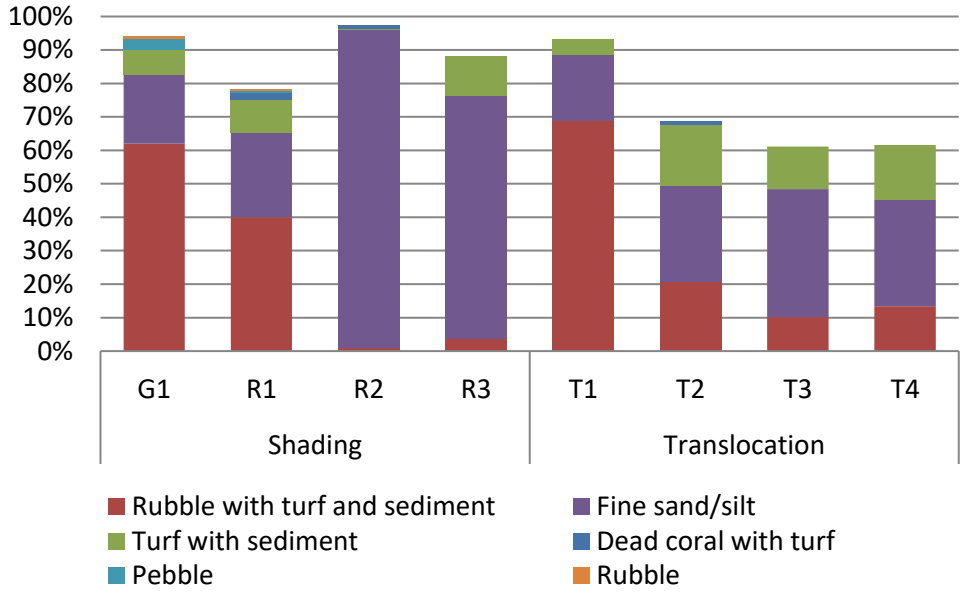


Figure 27. Percent cover of other (non coral) substrate types by transect.

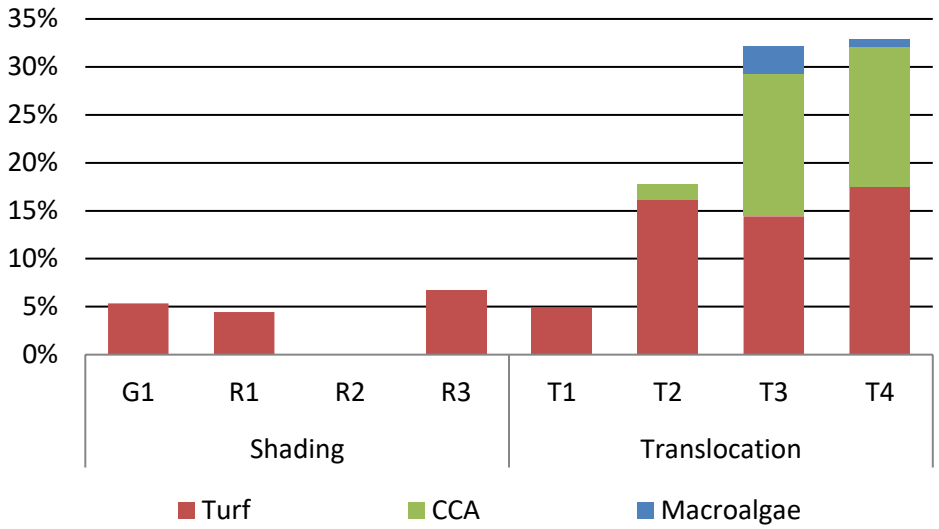


Figure 28. Percent algal cover by type and transect. Macroalgae represented by a single species: *Dictyospheria versluysii*.

Other benthic organisms

No rare and/or endemic benthic organisms were observed including *Lingula reevii*, *Pinctada galtsoffi* (Hawaiian pearl oyster), and/or seagrass species at all survey sites in the donor, potential shading impact, and potential translocation areas. *Mycale grandis*, an invasive marine sponge was commonly observed on dead corals and consolidated reefs (ex. Figure 19d). Old, dead coral colonies at D5 and D6 were encrusted by turf, CCA and *Mycale grandis.* Other burrowing organisms such as polychaete worms, vermetid snails, and brittlestarts were abundant on hard substrates. A red-colored sponge species *Monanchora clathrata* was also recorded at R1. It is found in Kāneʻohe bay and Pearl Harbor but not considered invasive (Vicente, personal comm.) The only and occasionally observed invasive species of macroalgae was *Gracilaria salicornia*. Hard bubble seaweed, *Dictyospherea versluysii* was common on hard substrate at the potential translocation areas. Hawaiian oysters with CCA were common on hard surfaces including vertical concrete surfaces and the existing boat ramp. Barnacle spp. were common at intertidal zone on the existing boat ramp. A cyanobacterial mat was observed on silt bottom (Figure 8d) at the end of 10 m-transect of BB.

Fishes

A total of 24 fish species were observed among all survey sites in areas of the donor, potential shading impact, and potential translocation (Table 6). Fish species observed on site represent species common in Kāneʻohe Bay. The greatest number of fish species was observed at donor site D1 (Table 6). Gobi species (*Psilogobius mainlandi*, *Gnatholepis* spp.) were present at all sites on soft bottom, while *Asterropteriyx semipuncatus* present at most sites (Table 6).

Table 6. List of fish species observed at each survey site.

	Sites	Donor							Shading				Translocation (Receiving)			
Family	**Species**	BB	D1	D2	D3	D4	D5	D6	G1	R1	R2	R3	T1	T2	T3	T4
Synodontidae (Lizardfishes)	*Saurida gracilis*		x													
Lutjanidae (snappers)	*Lutjanus fulvus*										x	x			x	x
Mullidae (Goatfishes)	*Parupeneus multifasciatus*									x						
Kyphosidae (Chubs)	*Kyphosus species*		x													
Chaetodontadae (Butterflyfishes)	*Chaetodon auriga*		x													x
	Chaetodon ephippium		x													
	Chaetodon lunula								x							
	Chaetodon lunulatus		x												x	
Pomacentridae (Damselfishes)	*Abudefduf abdominalis*		x						x	x			x	x		
	Abudefduf sordidus	x	x						x	x						
	Abudefduf vaigiensis		x							x			x			
	Dascyllus albisella									x	x			x	x	
Labridae (Wrasses)	*Stethojulis balteata*								x							
	Thalassoma duperrey													x		
Scaridae (Parrotfishes)	*Chlorurus spilurus*								x				x	x	x	x
	Scarus psittacus								x				x	x		
Gobiidae (Gobies)	*Asterropteryx semipunctatus*	x	x	x	x	x	x	x	x	x	x		x		x	x
	Gobiidae species			x	x	x	x	x			x	x		x	x	x
Acanthuridae (Surgeonfishes)	*Acanthurus blochii*	x	x			x	x	x	x	x		x		x	x	x
	Acanthurus triostegus		x						x	x				x	x	
	Acanthurus xanthopterus									x						
	Zebrasoma flavescens		x							x						
	Zebrasoma veliferum								x	x					x	x
Diodontidae (Porcupinefishes)	*Chilomycterus reticulatus*		x													
Number of species		3	13	2	2	3	3	3	10	11	4	3	5	8	9	7

Discussion

The marine area in front 45-221 Ka Hanahou Circle is colonized by several species of live coral common in Kāneʻohe Bay. Among the proposed donor (removal) sites, the majority of live coral colonies were found in the boat basin and donor site 1 at the base of the existing boat ramp, the largest donor areas. Most coral colonies ranged between 5 and 20 cm overall. While the proposed donor areas contained a mix of live and dead corals, no signs of mass-paling and/or bleaching were observed. This detailed inventory of live coral colonies in the proposed donor areas will support a coral transplantation plan which will be submitted as part of the applicable regulatory agency permitting applications. Receiving sites should have similar environmental conditions to those at the donor sites with respect to depth, light quality, water movement, and community composition (Jokiel et al. 1999). The environment of the potential receiving areas surveyed in this report have similar environmental conditions to the donor areas with respect to depth and community composition. Dominant coral species are *M. capitata* and *P. compressa* at both the donor and potential receiving areas. Light quality and water movement are also similar based on close proximity to the donor areas, meaning that the potential receiving areas surveyed are likely suitable for coral transplantation. Live coral cover in areas corresponding to the proposed gangway and vessel berthing area were low (0.7%-4.5%), while live coral cover in the location of the proposed floating dock was 17.3%. For this reason, the floating dock is a potential source of shading impacts to corals from project activities.

Protected and Listed Species

No state-or federally-listed (endangered or threatened; DLNR 2015, USFWS 2018) marine species were observed in our May 2021 survey. Listed marine species—green sea turtle (*Chelonia mydas*), hawksbill sea turtle (*Eretmochelys imbricata*), and monk seal (*Neomonachus schauinslandi*) could occur in the general vicinity of the project based on the distribution of these species throughout the Hawaiian Islands. *Montipora dilatata* is a stony coral species known to occur in Kāneʻohe Bay which is classified as endangered by the International Union for Conservation of Nature (IUCN) and on the NOAA-NMFS Species of Concern list. No colonies of *M. dilatata* were observed at the project site. Hawaiʻi has one endemic seagrass, *Halophila hawaiiana*, one indigenous seagrass, *Ruppia maritima*, and one non-native seagrass, *Halophila decipiens*. In general, seagrasses thrive in areas with low sedimentation, adequate water flow, and low wave energy and have been observed elsewhere in Kāneʻohe Bay. Seagrass beds are classified as special aquatic sites in the federal Clean Water Act (Subpart E of 40 CFR Part 230). No seagrass was observed at the project site. The State of Hawaiʻi regulates shellfishes and it is prohibited to “catch, take, kill, possess, remove, sell or offer for sale”, without a permit, seven species of shellfishes (DLNR 2014). None of these species were observed at the project site.

While not explicitly protected or listed, *Porites duerdeni* is a rare, endemic species of coral known to occur in Kāneʻohe Bay and also not observed at the project site. The inarticulated brachiopod, *Lingula reevii* Davidson (1880) is a filter-feeding invertebrate that burrows vertically in sandy or mixed sediments. Its only recorded occurrence is from Kāneʻohe Bay, Oʻahu, Hawaiʻi, southern Japan, and Ambon, Indonesia. *Lingula reevii* was not observed at the project site.

Invasive Species

One species of invasive algae (*Gracilaria salicornia*) and one species of invasive sponge (*Mycale grandis*) were observed at the project site. Both of these species are widespread in Kāneʻohe Bay. Other invasive algae species common in Kāneʻohe Bay (*Acanthophora spicifera*, *Kappaphycus alvarezii*, and *Euchema denticulatum*) were not observed at the project site.

Essential Fish Habitat

Essential Fish Habitat (EFH) Regulatory Guidelines (NOAA 2002) set provisions to identify and protect habitats of federally-managed marine fish species. Federal agencies that fund, permit, or carry out activities that could negatively affect EFH must consult with the National Marine Fisheries Service (NMFS).

EFH is defined by Congress as "those waters and substrate necessary to fish[es] for spawning, breeding, feeding, or growth to maturity" (MSFCMA 1996, NOAA 2002). EFH provisions state that species that require fisheries management are subdivided into Management Unit Species (MUS) groups. In Hawaiian waters, there are five MUS groups that are currently managed: pelagics, bottomfish, crustaceans, precious corals, and coral reef ecosystem. In Hawaiian waters, EFH for coral reef ecosystem MUS is defined by the Final Coral Reef Ecosystem Fishery Management Plan (WPRFMC 2001) and subsequent Fishery Ecosystem Plan for the Hawaiian Archipelago (WPRFMC, 2009a, 2009b, 2016). These documents state that EFH for coral reef ecosystem MUS "includes all waters and habitat at depths from the sea surface to 50 fathoms extending from the shoreline (including state and territorial land and waters) to the outer boundary of the Exclusive Economic Zone (EEZ)."

Impacts to EFH may result from modification due to shading of the bottom from the installation of the floating dock. Overwater structures, such as the proposed fixed piers, cause a reduction of light levels below the structure. The shadow cast by such a structure can affect marine flora and fauna below the structure and may reduce prey organism abundance and habitat complexity (Kahler et al. 2000, Haas et al. 2002). Installation of support piles for the floating dock could also have impacts to marine life due to increased turbidity (Fabricius 2005). This report documents the corals and other benthic organisms that may potentially be affected by shading and/or reduced water quality. A detailed impact assessment will consider the final dimensions, materials, and procedures used in construction which are yet to be determined.

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Appendix B

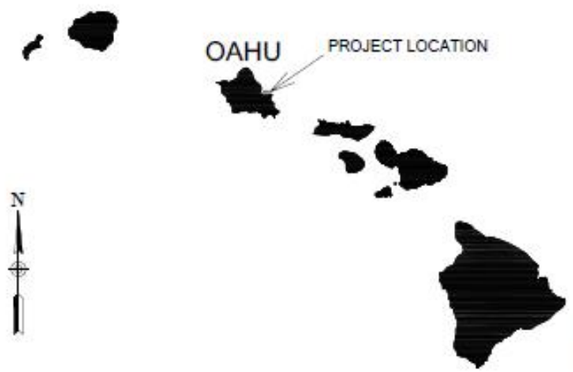
Permit Drawings

JAMES MICHAEL ELHOFF RESIDENCE

NEW FIXED DOCK

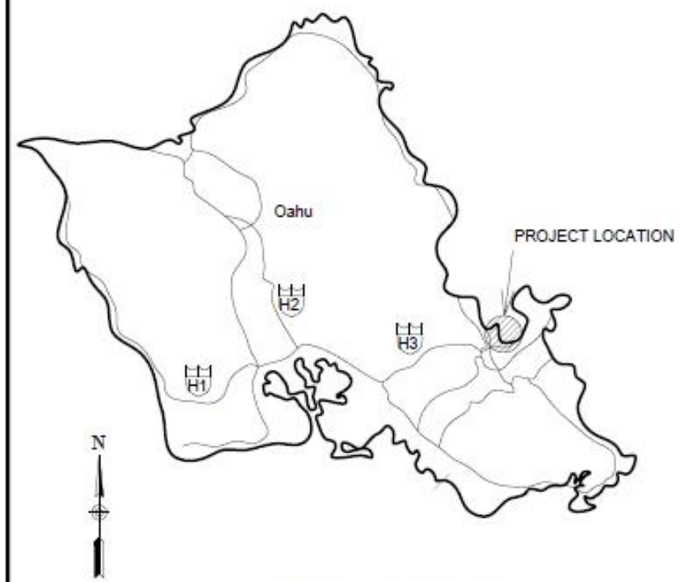
45-221 KA HANAHOU CIRCLE
KANEOHE, HAWAII 96744
TMK:4-5-047-051

SHEET INDEX		
SHEET NO.	DWG NO.	DESCRIPTION
1		COVER, SHEET INDEX, VICINITY MAPS
2	D1	EXISTING CONDITIONS
3	D2	SITE PLAN
4	D3	DOCK DETAILS
5	D4	GANGWAY DETAILS
6	D5	BEST MANAGEMENT PRACTICES DETAILS

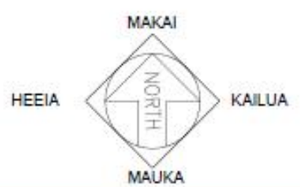


REGIONAL MAP

VICINITY MAP



LOCATION MAP



FOR PERMIT REVIEW
NOT FOR CONSTRUCTION

CONSULTANT:

integral consulting inc.

STRUCTURAL ENGINEER:
ALLSHORE ENGINEERING, LLC

APPROVED:

_____ DATE:_____

JAMES MICHAEL ELHOFF
PROPERTY OWNER

July 16, 2025

ANSI D 34.00" x 22.00"

NOTES:

1. AERIAL PHOTOGRAPH COLLECTED BY RESOURCE MAPPING HAWAII - ROSS WINANS, AUGUST - NOVEMBER 2015.
2. APPROXIMATE CORAL LOCATIONS AS SHOWN SURVEYED BY SHORELINE SCIENCE & ENGINEERING, LLC ON MAY 27 AND 28, 2021.

LEGEND:

CORAL LOCATION –

MAKAI
HEEIA NORTH KAILUA
MAUKA

0 5 10 Feet

integral consulting inc.

NEW FIXED DOCK
45-221 KA HANAHOU CIRCLE
KANEOHE, HAWAII 96744
TMK:4-5-047-051

PERMIT DRAWINGS
NOT FOR CONSTRUCTION

EXISTING CONDITIONS

FIGURE
D1

2 OF 6

ANSI D 34.00" x 22.00"

07/16/2025

NOTES:

1. VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW) AS REFERENCED TO NOS STATION 1612480 (MOKUOLOE) FOR THE 1983-2001 TIDAL EPOCH, IN FEET.
2. HORIZONTAL DATUM: HAWAII STATE PLANE, ZONE 3, NAD 83 FEET.
3. HYDROGRAPHIC SURVEY CONDUCTED BY INTEGRAL CONSULTING, INC ON JULY 2, 2025 AND REPRESENT CONDITIONS AT THAT TIME.
4. AERIAL PHOTOGRAPH COLLECTED BY RESOURCE MAPPING HAWAII - ROSS WINANS, AUGUST - NOVEMBER 2015.
5. APPROXIMATE CORAL LOCATIONS AS SHOWN SURVEYED BY SHORELINE SCIENCE & ENGINEERING, LLC ON MAY 27 AND 28, 2021.

TURBIDITY CURTAIN

PROPOSED ALUMINUM FIXED DOCK WITH OPEN GRATING

30

10

EXIST. SEAWALL

PROPOSED ALUMINUM GANGWAY WITH OPEN GRATING

14.9

EXIST. BOAT RAMP

CERTIFIED SHORELINE (MAY 14, 2023)

PROPOSED GANGWAY LANDING (BUILT ATOP EXIST. CONCRETE PATIO)

LEGEND:

CORAL LOCATION –

CERTIFIED SHORELINE –

TURBIDITY CURTAIN –

MAKAI

HEEIA NORTH KAILUA

MAUKA

0 5 10 Feet

integral consulting inc.

NEW FIXED DOCK
45-221 KA HANAHOU CIRCLE
KANEOHE, HAWAII 96744
TMK:4-5-047-051

PERMIT DRAWINGS
NOT FOR CONSTRUCTION

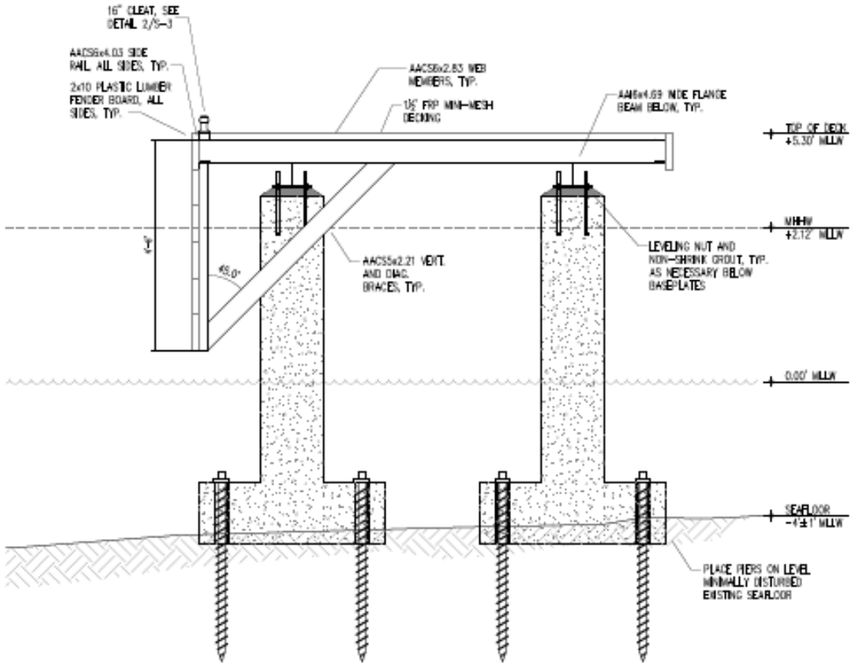
SITE PLAN

FIGURE
D2

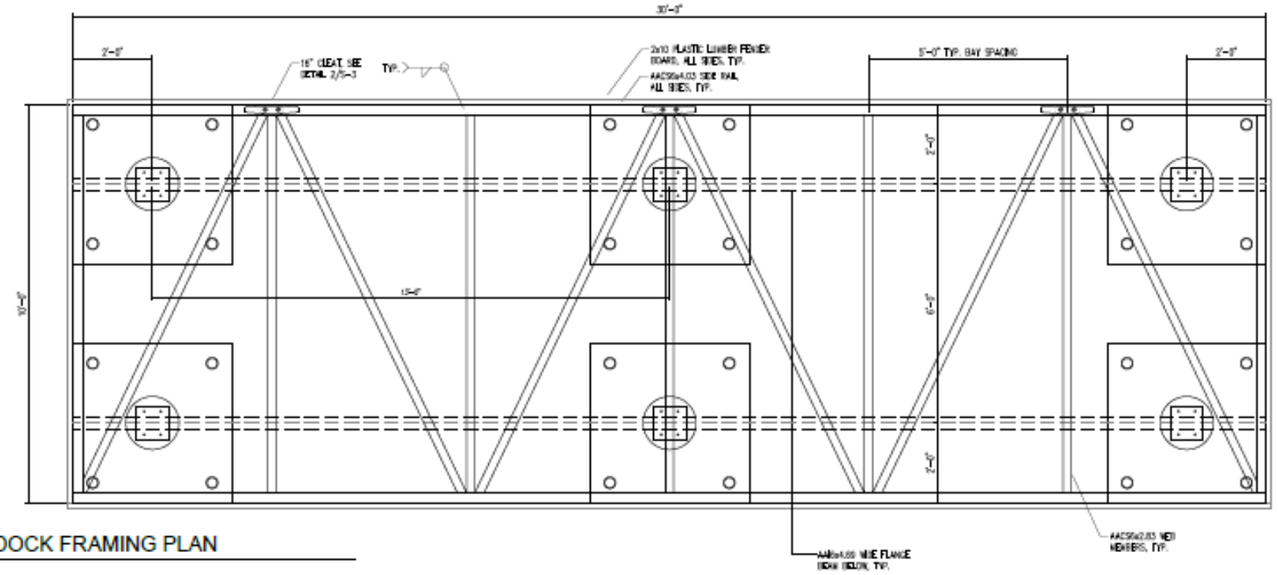
3 OF 6

ANSI D 34.00" x 22.00"

07/16/2025



1 / D3 TYPICAL DOCK SECTION



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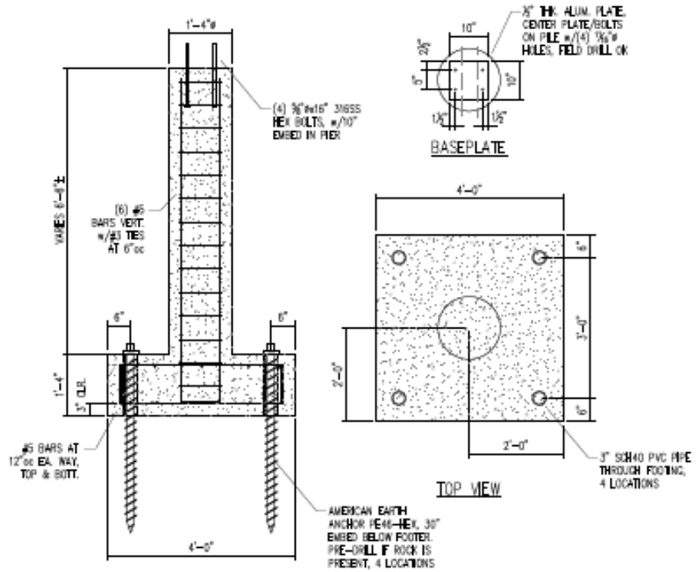

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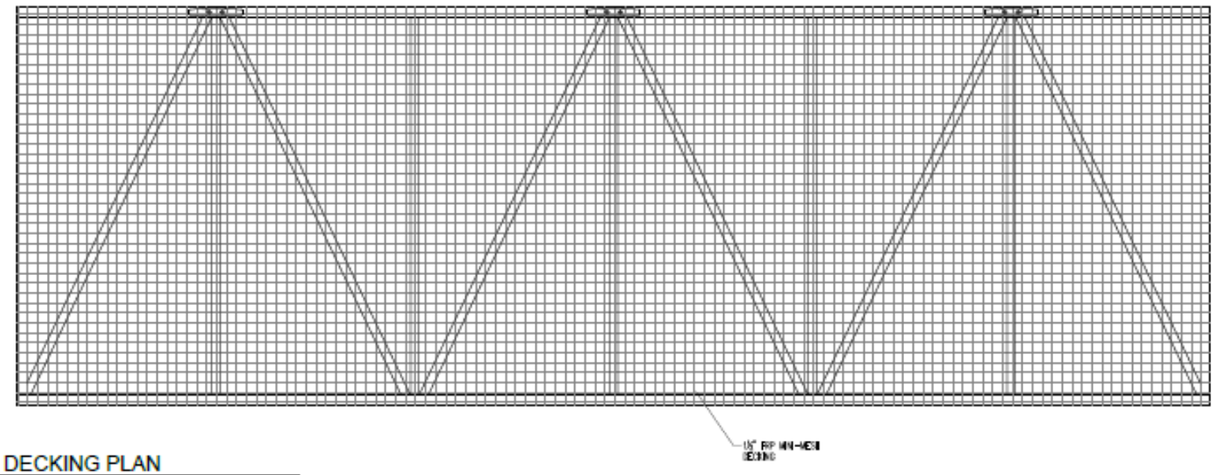
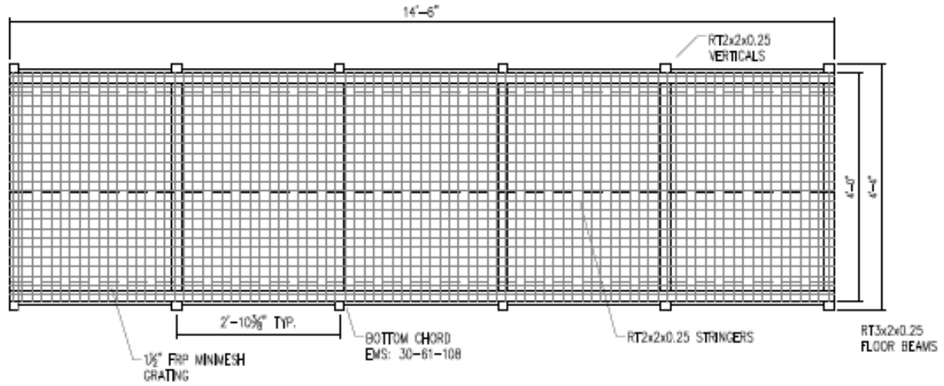


4 / D3 DOCK DECKING PLAN

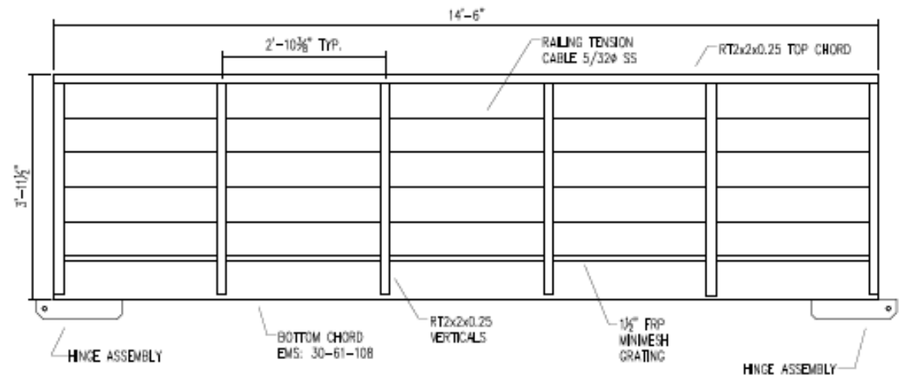
integral consulting inc.	NEW FIXED DOCK 45-221 KA HANAHOU CIRCLE KANEOHE, HAWAII 96744 TMK:4-5-047-051	PERMIT DRAWINGS NOT FOR CONSTRUCTION	DOCK DETAILS	FIGURE D3 4 OF 6

ANSI D 34.00" x 22.00"

07/16/2025



1 / D4 GANGWAY FRAMING PLAN



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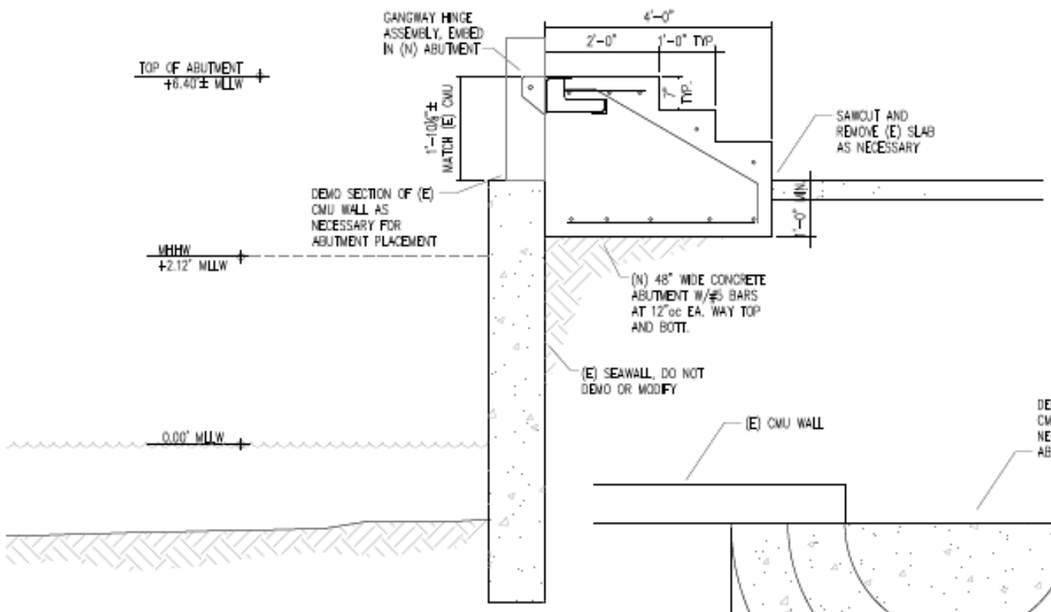

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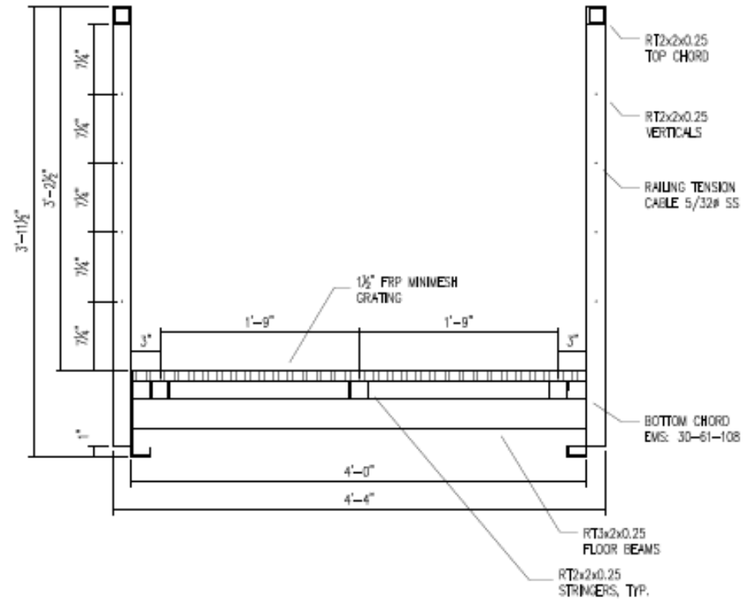

4 / D4 GANGWAY SECTION

integral consulting inc.	NEW FIXED DOCK 45-221 KA HANAHOU CIRCLE KANEOHE, HAWAII 96744 TMK:4-5-047-051	PERMIT DRAWINGS NOT FOR CONSTRUCTION	GANGWAY DETAILS	FIGURE D4 5 OF 6

ANSI D 34.00" x 22.00"

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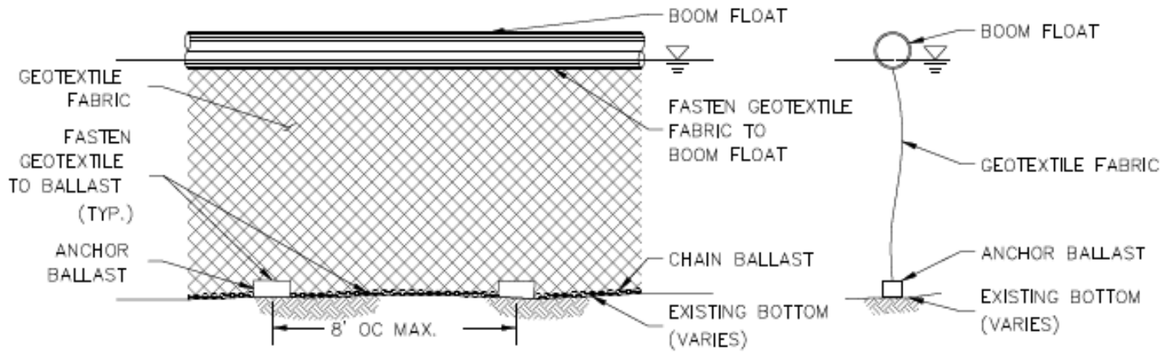


1 TURBIDITY CURTAIN DETAIL

integral consulting inc.	NEW FIXED DOCK 45-221 KA HANAHOU CIRCLE KANEOHE, HAWAII 96744 TMK:4-5-047-051	PERMIT DRAWINGS NOT FOR CONSTRUCTION	BEST MANAGEMENT PRACTICES DETAILS	FIGURE D5 6 OF 6

ANSI D 34.00" x 22.00"

07/16/2025

Appendix C

Shoreline Certification

Kaneohe Bay

Proposed Easement 1

Shoreline follows along the seaward face of seawalls, across concrete boat ramp and boat stall as located on November 17, 2022

Proposed Easement 3

EROSION AREA (76 SQ. FT.)

Conc. Boat Ramp

Proposed Easement 2

262°00'

98.77

54.40

Rock Wall

(2.70)

44.37

Submerged Concrete Footing

nail

P.O.L. "+" cut on tile wall (3.00Ft. to corner)

Rock Wall

78°31'

44.13

Rock Wall

Edge of Seawall Overhang

Tile Wall

Boat Stall

Rock Wall

House

Boundary follows along the seaward face of wall as shown on Map 3.

TRUE NORTH

Scale: 1 inch = 20 feet

165°15'20"

141.00

Land Court Consolidation 29

Lot D-28
(TMK:4-5-047:050)

LOT D-29
10,468 SQ. FT.
(10,392 SQ. FT.)

Lot D-30
(TMK:4-5-047:052)

The shoreline as delineated in red is hereby certified as the shoreline as of

MAY 14 2023

Chairperson, Board of Land and Natural Resources

137.00

3°20'20"

84°17'50" — 55.00

R=175.00

KA-HANAHOU CIRCLE

SHORELINE SURVEY MAP

LOT D-29

as shown on Map 3
of Land Court Consolidation 29
Kaneohe, Koolaupoko, Oahu, Hawaii
Tax Map Key: 4-5-047:051
Scale: 1 inch = 20 feet
Date: November 21, 2022

Owner: Michael Elhoff Trust
45-221 Ka-Hanahou Circle
Kaneohe, Hawaii 96744

JAIME F. ALIMBOYOGUEN
LICENSED PROFESSIONAL LAND SURVEYOR
No. 8216
HAWAII, USA.

Exp. 4/30/24

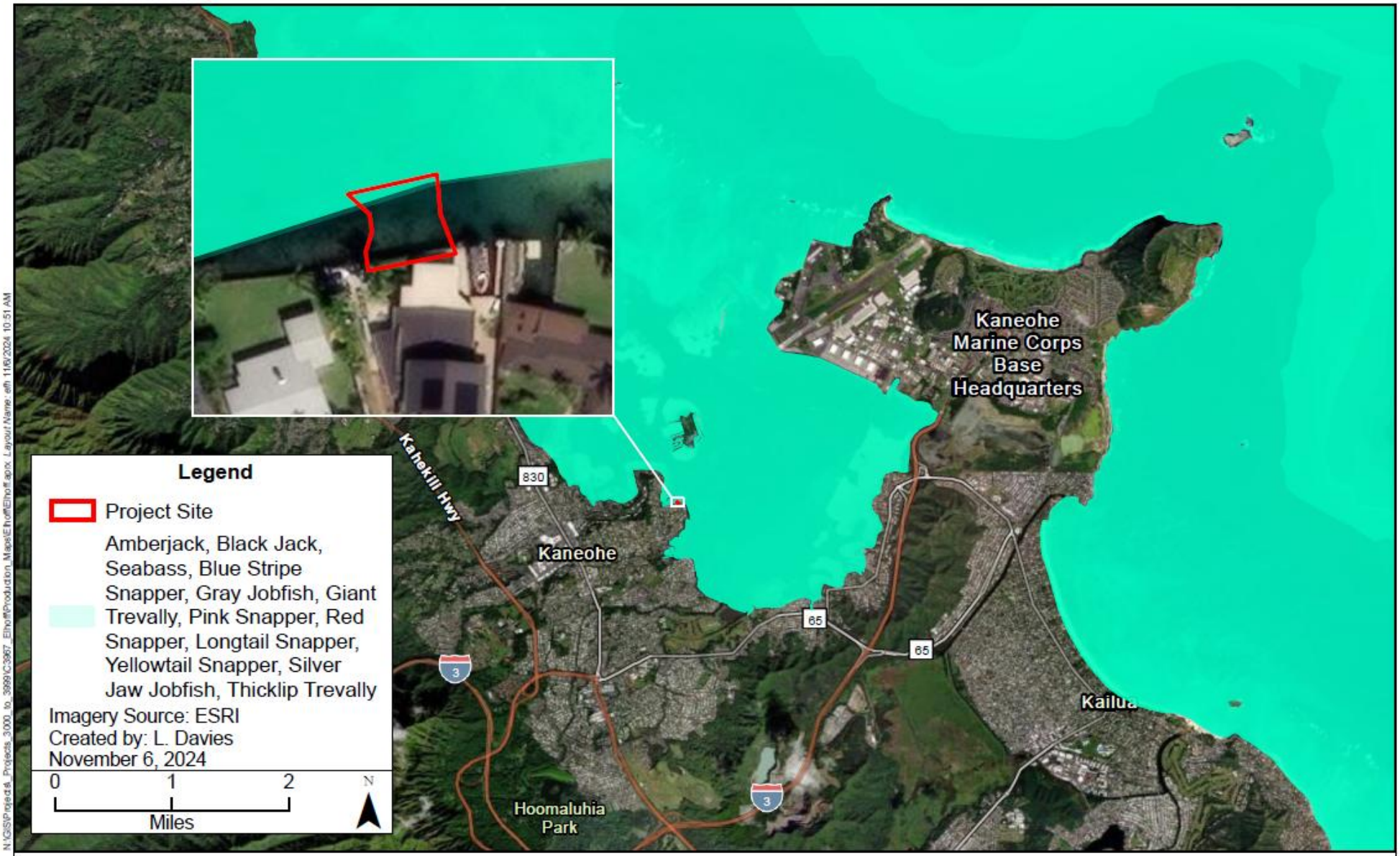
This work was prepared by me or under my direct supervision.

NOTES:

1. Only improvements shown were located.
2. Denotes direction and number of photographs.

Appendix D

Essential Fish Habitat Map



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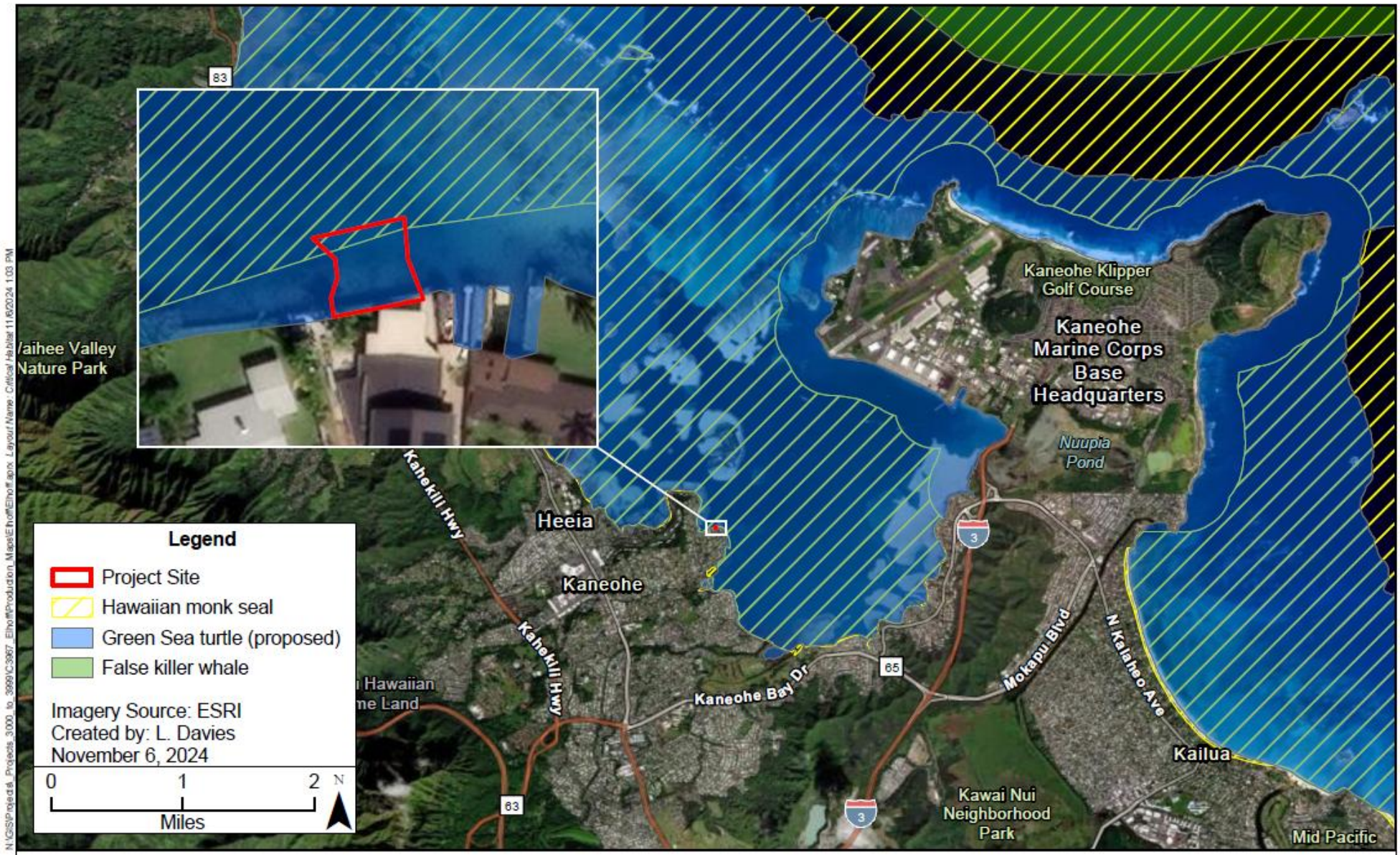
Elhoff Waterfront Improvements Project
Appendix D. Essential Fish Habitat Map

Appendix E

Critical Habitat Map



integral consulting inc.

Elhoff Waterfront Improvements Project

Appendix E. Critical Habitat Map

Appendix F

Coral Transplantation Plan

Coral Transplantation Plan
45-221 Ka Hanahou Circle

Kāneʻohe Bay, Kāneʻohe, Hawaiʻi

DRAFT

SHORELINE
SCIENCE & ENGINEERING, LLC

March 2022

Table of Contents

Introduction

Kāne'ohe Bay is the largest sheltered body of water in the main eight Hawaiian Islands with a total surface area of 41.4 km^2 at average tide levels (Jokiel, 1991). The inshore portion of the bay holds numerous patch reefs at depths of less than one meter from the surface and are partially exposed during extreme spring tides (Jokiel, 1991). The entire shoreline, except parts of the Mōkapu Peninsula, is ringed by a shallow fringing reef. The deepest portion of the bay is 19 m, and the substrate is primarily coral rubble, gray coral mud, and fine coral sands (Jokiel, 1991).

The residential property at 45-221 Ka Hanahou Circle is located on the waterfront in south Kāne'ohe Bay, on the east side of the island of O'ahu (Figure 1). The property includes a private boat basin, boat launch ramp, and deep-water access to Kāne'ohe Bay and the Pacific Ocean beyond. The submerged area fronting the property is host to a significant amount of live and dead coral, a portion of which has effectively blocked or inhibited recreational access and use of the shoreline. The property owner seeks to restore the existing boat ramp, as well as build a new floating dock to support berthing a 50 ft catamaran sailboat at the site. This report details the coral transplantation plan that will be implemented to re-locate corals necessary to achieve project objectives.

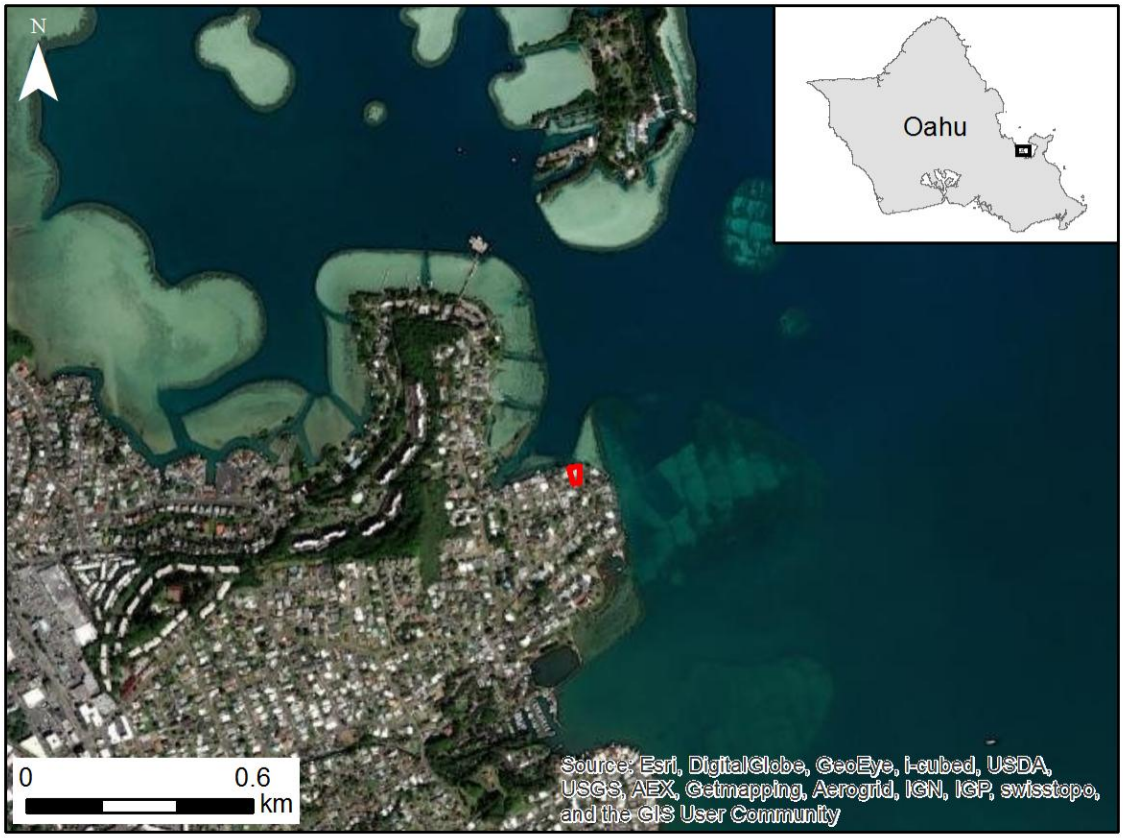


Figure 1. Site location map with property outlined in red, located in south Kāne'ohe Bay on the island of O'ahu.

Transplantation of corals is a recommended mitigation strategy to reduce losses of corals from project impacts (Stuart Goldberg Personal Communication NMFS NOAA 2021). This coral transplantation plan is a key document needed to obtain regulatory approval and will become part of the public record for the project. The transplantation plan is informed primarily by the biological survey of the site conducted by Shoreline Science and Engineering (2021) as well as previous coral transplantation projects in Hawai'i. It details protocols for transplanting coral colonies, monitoring for success, and implementing and managing the process. The objective of this coral transplantation plan is to minimize loss of coral resources and supplement nearby reef areas. Success of the transplantation effort will be measured by percent survivorship of transplanted live coral tissue.

Project Description

The proposed project has two objectives:

1) restore usability of the existing boat launch ramp, and
2) restore navigable depths and construct a new floating dock to support a 50-foot sailboat (Figure 2).

Coral relocation is necessary to accomplish these modifications.

Figure 2. Plan view of the project site at 45-221 Ka Hanahou Circle. Proposed floating dock and access gangway is shown with a white dashed line. **Note- this was the original design. Since the preparation of this draft report the design has been updated to specify a 10-ft by 30-ft fixed dock and 14.9-ft by 4-ft gangway (see memo at the beginning of this report. This Coral Transplantation Plan will be updated to reflect the new design when obtaining a Special Activity Permit from DLNR for the relocation of coral colonies during implementation of this project.**

Candidate Corals

An underwater biological survey was conducted on May 27 and 28, 2021 to determine which coral colonies in the Project area could be candidates for transplantation in advance of the proposed site modifications (Shoreline Science and Engineering, 2021). Six donor areas of various dimensions and coral densities have been identified on the site with most of the candidate colonies located in donor site 1 (Figures 3 and 4). Some of the corals in the existing boat basin (Figure 2) were originally considered as candidates for transplantation and are documented in the biological survey of the site (Shoreline Science and Engineering, 2021). However, subsequent to the biological survey, the property owner has returned the boat basin to vessel moorage and after six months of shading, sedimentation, and water

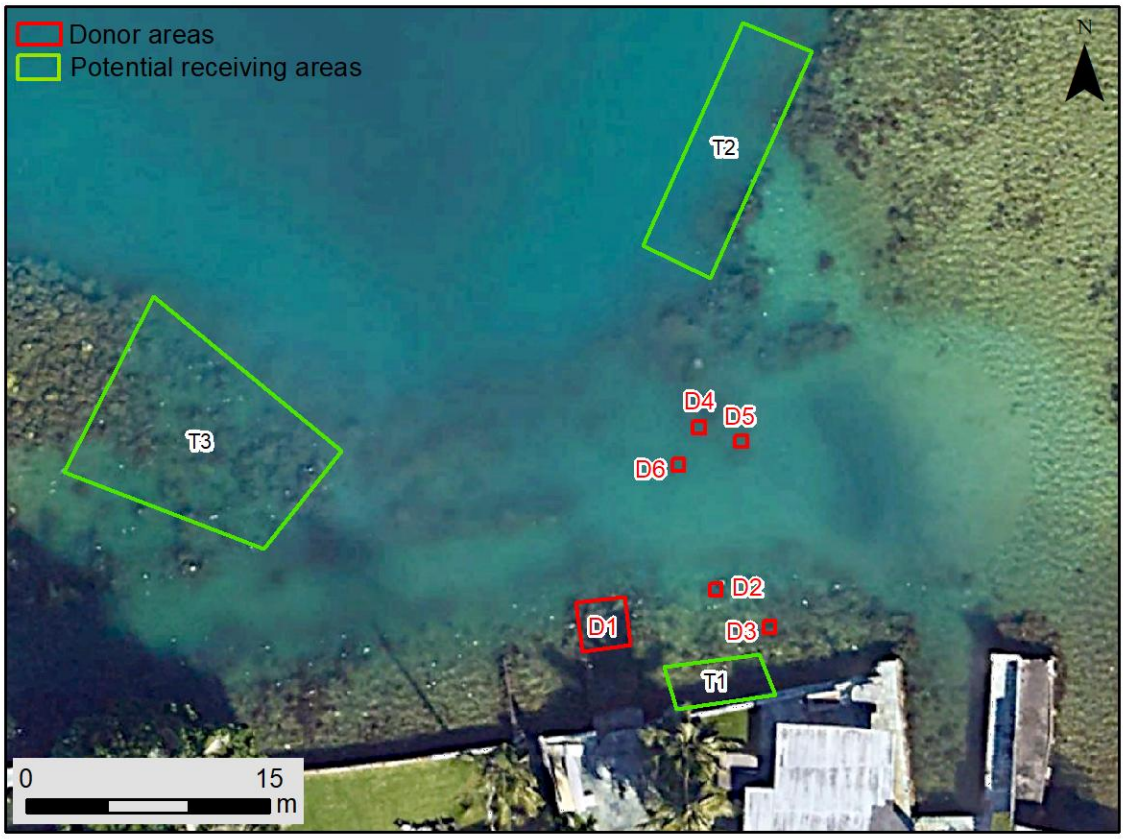


Figure 3: Coral transplantation donor (D1-D6) and receiving areas (T1-T3) at the project site at 45-221 Ka Hanahou Circle, Kaneohe.

turbulence impacts (typical under moored vessels); these corals are no longer considered viable candidates for transplantation. Mitigation options will be considered in discussions with regulatory and natural resource management agencies. Excluding the boat basin, a total of 78 coral colonies greater than 10 cm (4 in) in diameter across all donor areas are deemed candidates for transplantation (Table 1). The removal and reattachment of these corals will be scheduled to avoid peak spawning periods and will follow guidelines detailed in the Coral Transplantation Methods section below.

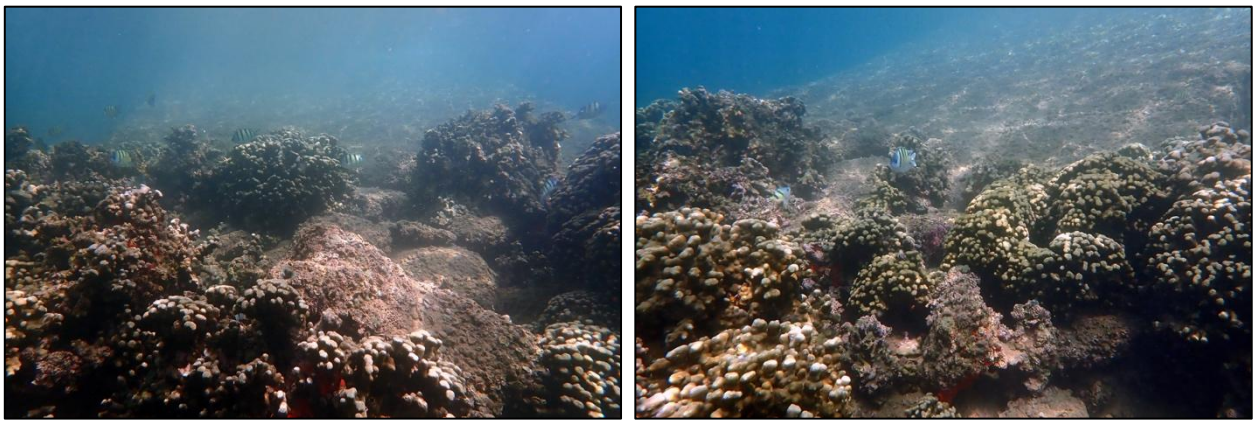


Figure 4. Images of Donor site 1 (D1).

Table 1. Number of live candidate coral colonies by species and size class in each donor area. *Denotes partially dead colonies.

	Colony size (cm)				
	10-20	**20-40**	**40-80**	**80-160**	**Total**
Donor site 1 (D1)	34	16	8	2	**60**
Montipora capitata	5	2	2		9
Porites compressa	29	14	6	2	51
Donor site 2 (D2)	5	6	1	2	**14**
Montipora capitata	5	6	1	2	14
Donor site 3 (D3)				1	**1**
Montipora capitata				1	1
Donor site 4 (D4)	1			1	**2**
Montipora capitata	1				1
Porites compressa				1	1
Donor site 5 (D5)					
(Dead coral head)					
Donor site 6 (D6)		1			**1**
Montipora capitata		1			1
TOTAL	**40**	**23**	**9**	**6**	**78**

Receiving Sites

Potential receiving sites were explored and identified during several preliminary site visits and quantitatively assessed during the June 2021 biological survey (Shoreline Science and Engineering, 2021). Previous experience with coral transplantation in Hawaii identified factors including coral cover, water motion, and sedimentation as important in selecting a receiving site (Jokiel and Naughton, 2001). Sites were further selected based on feasibility of transplantation, appropriate community structure, and water conditions. A location was considered an appropriate coral receiving site if there was a) enough area of relatively flat, bare substrate on which to place corals, b) depth within 10 ft of the donor sites, c) adequate separation from project activities, and d) healthy existing corals of the same species as those being transplanted (without algal overgrowth or visible physical damage). Based on these criteria, three potential receiving sites were selected and assessed (T1-T3, Figure 3). Each receiving site had between 60-95% non-coral substrate, primarily rubble and sand-silt, upon which it would be possible to place transplanted corals (Shoreline Science and Engineering, 2021).

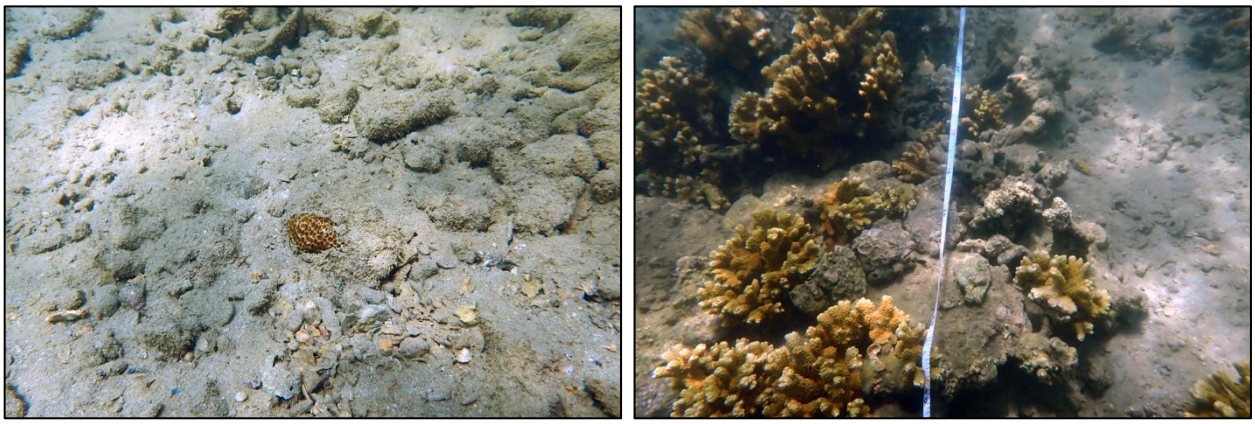


Figure 5. Representative photos of receiving site T1 showing rubble/sandy substrate and existing *M. capitata* coral colonies.

Receiving site T1 (Figures 3 and 5) is located directly in front of the project location. Though it is not in the direct footprint of project activities, it is in close proximity to where these activities will take place. This is also the shallowest receiving site with a mean depth of 3.0 ft (Shoreline Science and Engineering, 2021).

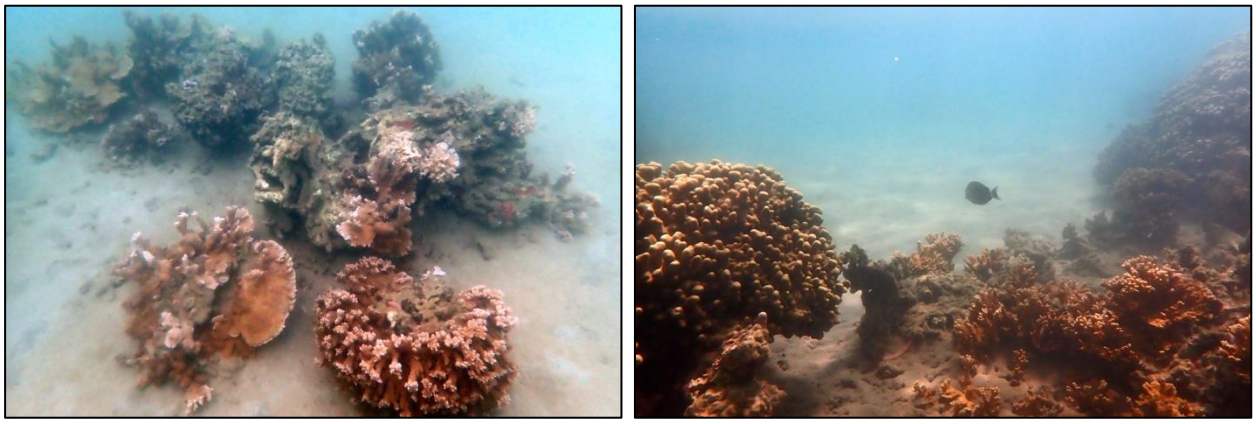


Figure 6. Receiving site T2, showing existing *M. capitata* and *P. compressa* colonies and bare substrate suitable for transplant placement.

Receiving site T2 (Figures 3 and 6) is located offshore of the project location on the edge of a sandy slope leading to deep water. It is the deepest receiving site with a mean depth of 5.6 ft (Shoreline Science and Engineering, 2021).

Figure 7. Receiving site T3, showing existing live coral and flat, open areas suitable for transplant placement.

Receiving site T3 (Figures 3 and 7) is located offshore of the neighboring property between the deep water of the bay and a sandy channel inshore. It features a mix of hard and soft bottom and a large open area suitable for coral placement surrounded by established coral colonies (Figure 7). Compared to the other two receiving sites it is located the farthest away from project activities, is of moderate depth (mean 4.7 ft) and has a higher proportion of crustose coralline algae (Shoreline Science and Engineering, 2021). These attributes make it the most ideal receiving site of the three considered. There is ample flat space for placing transplanted corals where they will be protected from water turbulence and human traffic as well as shaded by existing corals. The presence of crustose coralline algae is indicative of good water movement, important for recovering corals. Receiving site T3 will be the primary coral receiving site for this project.

Coral Transplantation Methods

Methods for the transplantation of corals have been developed and applied around the world (Cooke and Fransham, 2016). The methods presented here are based on a successful coral transplantation effort at a location near the project site in Kāneʻohe Bay (Jokiel et al., 2005). The following protocols also build off those developed by the Florida Keys National Marine Sanctuary as described in the Final Mitigation Plan for Fort San Geronimo, Puerto Rico (Aerostar Environmental Services, Inc. and PBS&J, 2011). These techniques are designed to reduce stress on the live coral colonies during the transplantation process and promote survival following relocation.

Preparation of Donor and Receiving Sites

Donor colonies will be identified prior to movement to the receiving site by attaching numbered metal tags. The diameter (greatest length) shall be measured, the location noted, and a photograph taken. A list of required materials and the location where they are needed (donor site, receiving site, or transport between sites) is provided in Table 2.

Table 2. Materials needed for coral transplantation, task for which they are required, and general location (D – coral donor site, R – coral receiving site, T – transport between donor and receiving sites).

Materials	Task	Location
Numbered metal tags	Mark individual colonies for identification and monitoring	D
Survey flags or flagging tape	Mark coral colonies for removal	D
Weighted buoys or flags	Mark transplant donor and receiving sites	D,R
Gloves	Protect hands from reef and marine epoxy	D,R,T
Chisels	Remove coral colonies	D,R
Hammers	Tap chisel to remove coral colonies; insert nails into substrate	D,R
Chipping hammers	Remove coral colonies and prepare receiving site	D,R
Pry bars (9”)	Remove coral colonies and prepare receiving site	D,R
Transport containers (laundry baskets)	Transport corals from donor to receiving site	T
Wire brushes	Clean attachment site substrate and scuff coral	R
Z-spar® or Splash® marine epoxy	Attach coral fragments to prepared substrate	R
Putty knife	Mix and apply marine epoxy	R
Monofilament line and/or cable ties	Temporarily secure coral colonies in crate or on substrate at receiving site	R,T
Scissors or knife	Cut monofilament line	T,R

Coral Removal

Coral colonies selected for transplantation will be detached carefully from the substrate to avoid or minimize damage. Contact with the coral colonies will be limited to the extent possible to increase survivorship after transplantation. Hammers, chisels, and pry bars will be used to carefully separate the coral colony from the substrate prior to placing in a transport container. If possible, each entire colony will be removed in one piece. In instances where this is not possible, the colony will be partially

removed. Lift bags may be employed to move large coral colonies (> 100cm) if they do not fit in the transport container or are too heavy to move easily. Donor coral colonies will be kept underwater during the entire transport process. Contact with the containers, other corals, and divers will be avoided to the extent possible. Fabric padding may be used to secure colonies in the container prior to transport.

Coral Placement

The donor sites feature several relatively flat, sandy areas where the transplanted corals will be relocated. Due to the protected nature of Kaneohe Bay, nearshore sites are protected from wave impacts. For this reason, placing the transplanted coral colonies upright on the sandy substrate will be the primary method of attachment. This method is most effective for whole coral colonies (Cooke and Fransham, 2016)and has been used successfully in Kaneohe Bay with little to no coral mortality due to the transplantation effort (Jokiel et al., 2005; Rodgers et al., 2017). Despite careful attention, during the removal and transport process it is likely that branches and other fragments will be broken from the coral colonies. These fragments are less likely to survive if placed directly on the soft substrate. Instead, they will be attached directly to an artificial substrate (cinder blocks or similar) placed in the same area for this purpose.

Transplantation should avoid peak coral spawning times to avoid interfering with the reproductive process. Peak spawning of Hawaiian corals occurs during the summer. *Montipora capitata* spawns May to September on the 1st quarter of the new moon, from 20:45 to 22:30. *Porites compressa* spawns June to September on the 3rd quarter of the full moon, from 23:00 to 01:30 (Kolinski and Cox, 2003). Transplanted coral colonies will be arranged in clustered species groups to help differentiate them from corals already at the receiving site and to facilitate monitoring. Within species groups, they will be placed in a way that allows for taking photos from all sides of each colony. Each transplanted colony will be marked with an ID tag with a unique code to enable long-term monitoring. ID tags will be placed near the edge of the colony base or attached separately on the shoreward side of the coral colony. They will not be attached to live tissue or in places that could impact coral growth.

For coral branches and fragments to be attached to the artificial substrate, the base of each coral fragment and the receiving surface will be scrubbed with a wire brush to remove any loose debris. Marine epoxy will be mixed and placed on the receiving location. Marine epoxy should not contact the live coral tissue and personnel mixing the epoxy will change gloves before handling coral fragments. An adequate amount of marine epoxy will be used to firmly secure each coral fragment by placing it first on the cleaned substrate. Coral fragments will be attached by gently lowering or rocking the underside into the epoxy. The epoxy will be placed as close as possible to the edge of the living tissue to reduce the chance for bio-eroding organisms to invade the coral skeleton. If the coral fragments need additional support while the epoxy cures, they can be temporarily secured using cable ties or monofilament line. After the epoxy has cured, these materials will be removed.

Monitoring

Control Coral Selection

Coral colonies previously located at the receiving site near the transplanted corals will be chosen as controls for the monitoring program. Three *M. capitata* and three *P. compressa* coral colonies greater than 15-cm in diameter will be selected and marked with numbered ID tags attached adjacent to each colony.

Long-Term Monitoring

The location of coral transplants and control corals will be documented with GPS coordinates and underwater photographs to serve as a basis for future monitoring. For each transplanted and control coral colony a minimum of two reference photographs will be taken with a reference item for scale. One will show the coral colony and ID tag and the other will show the coral among other colonies or reef features for context. The minimum and maximum diameter of transplant and control colonies will be measured, percent live and dead tissue estimated, Hawaiian Ko'a Card color number recorded, and notes made on coral disease, bio-fouling, and evidence of predation. A detailed map of the transplant and control coral colonies will be created relative to a central marker or float. Transplantation activities will be documented with photographs.

Monitoring will include underwater assessments of the transplanted and control corals conducted by experienced biologists and is necessary to determine the success of the relocation effort. Data on control corals will be compared with transplanted corals to detect differences in coral health and growth. Monitoring will begin with the baseline assessment as described above and continue at intervals of six months, one-, two-, and four-years post-transplantation following the same procedures as the baseline assessment.

While growth can be measured and rough estimates of coral cover made in the field as described above, an alternate, more cost-effective method using photo-mosaic time series could be used instead. Photo-mosaics are assembled by a computer program by combining overlapping photographs covering the area of interest (Pizarro et al., 2017). In this case, species groups (*M. capitata* and *P. compressa*, respectively) of transplanted corals will be documented using a single image mosaic. Measurements of colony size, coral cover, and other attributes will be made directly from the derived image. This method would reduce field time and personnel requirements, provide more accurate data, and produce a permanent record of transplantation success over time.

Reporting

A baseline (post-transplantation) monitoring report will outline the transplantation effort and document the baseline data that will be used for comparison with future monitoring events. Photographs, GPS coordinates, and a map of transplant and control coral colonies will be included in the report to inform future monitoring.

The baseline report will include the following items:

- A map showing the location of all transplanted and control coral colonies.
- Descriptions of each transplant and control coral location to aid in relocating colonies.
- Concerns, issues, and other relevant details of relocation/attachment activities.

Each monitoring report, including the baseline report, will include the following items:

- Photographs and/or photo-mosaics of all transplanted and control coral colonies with ID tags visible.
- Data on each transplanted and control coral colony to include ID code, size measurements, percent live tissue, and general condition.
- Photographs of the surrounding area.
- Any changes or impacts to either the transplanted or control corals, natural or otherwise.
- An estimate of the total area of live coral for both transplants and controls.

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Shoreline Science and Engineering, 2021. Marine Biological Survey 45-221 Ka Hanahou Circle. Haleiwa, HI.

Appendix G

Pre-Consultation

Table 1. Summary of Public Input on Draft EA, Pre-Consultation

Entity Name	Contact	Date of Transmittal	Follow up	Notes	Comments Received
DLNR, Division of Engineering	Dina Lau	8/12/2025	--	Follow up questions received 8/26/25 from Dani Yoo. No further input provided	8/26/2025
DLNR, Oahu District Land Office	Russell Tsuji	8/8/2025	--	no response	--
DLNR, Division of Conservation and Resource Enforcement	Jason Redulla	8/12/2025	--	no response	--
DLNR, Division of Aquatic Resources	Brian Neilson	8/8/2025	--	Complete	9/1/2025
OPSD, Coastal Zone Management	Debra Mendes	8/15/2025	--	Complete. Will not comment on DEA until published in the Environmental Notice	8/19/2025
Office of Hawaiian Affairs	Kaiali'I Kahele	8/8/2025	--	no response	--
DOH- Clean Water Branch	not specified	8/8/2025	--	no response	--
CoH- Department of Planning and Permitting	Dawn Takeuchi Aupuna	8/8/2025	--	no response	--
Ralmar Partners, LLLP	Ralph & Margaret Kiessling	8/8/2025	--	Complete	9/1/2025
Kyle Kodama, Residence	Kyle Kodama	8/8/2025	--	Complete	8/21/2025
Richard Nishida, Residence	Richard Nishida	8/13/2025	--	Complete	8/22/2025
UH, Hawaii Institute of Marine Biology	Andrew Brown	8/12/2025	--	Complete	8/12/2025

Integral Consulting Inc.
66-590 Kamehameha Hwy
Suite 2A
Haleiwa, HI 96712

telephone: 808.374.4440
www.integral-corp.com

August 08, 2025

Project No. C3967

Dina Lau
Acting Chief Engineer
DLNR-Engineering
1151 Punchbowl St. #221
Honolulu, HI 96813

Subject: **Request for Input on Draft Environmental Assessment**
Proposed Private Dock at 45-221 Ka Hanahou Circle, Kaneohe

Dear Ms. Lau:

The property owner of the single-family residence located at 45-221 Ka Hanahou Circle, Kaneohe, Oahu plans to construct a new private fixed dock to support recreational use of Kaneohe Bay. The proposed rectangular dock would be 30 ft long by 10 ft wide and be constructed of aluminum with an open grating deck. The structure would be situated approximately 15-25 ft makai of the existing seawall at the property.

A Draft Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawai'i Revised Statutes, Environmental Impact Statements. An EA is required because the proposed use is within the State of Hawaii Conservation District which includes all submerged lands seaward of the shoreline. The applicant is seeking input from agencies, citizen groups and individuals that might have jurisdiction, expertise, or interest in the proposed action.

Please find the enclosed Draft EA for your review. Should you wish to provide any comments or questions, you may do so via email to Erin Petrosian at epetrosian@integral-corp.com or by mail to the letter head address above. If you do not anticipate providing comment, please let us know at your earliest convenience so that we may note your response in the final Environmental Assessment. We ask that any responses be received by September 1 to allow for the continuation of the permitting process.

Sincerely,

Robert A. Walker, PE
Principal, Coastal Engineering

Erin Petrosian
Permitting Specialist

Enclosure I. Draft Environmental Assessment

Outlook

Re: Draft EA - new dock at 45-221 Ka Hanahou - request for review/comments

From Erin Petrosian <epetrosian@integral-corp.com>
Date Wed 8/27/2025 2:40 PM
To Yoo, Dani <dani.yoo@hawaii.gov>

Hi Dani,
Thanks for the inquiry. In answer to your questions:

1. This is a request for early consultation on the EA. The DEA has not been officially published in the Enviornmental Notice yet.
2. The letter has not been sent to the DLNR Chairperson, but we have issued individual requests for early consultation to the following agencies within DLNR, among other agencies:
    a. Oahu District Land Office
    b. DoCARE
    c. DAR

If you think there are additional divisions within DLNR that would be interested in participating in the early consultation process, please let me know, or feel free to forward my original message to them.
Much Obliged,
Erin

ERIN PETROSIAN
Tel: 808.374.4442 | Cell: 808.989.2823
INTEGRAL CONSULTING INC.

From: Yoo, Dani <dani.yoo@hawaii.gov>
Sent: Tuesday, August 26, 2025 2:34 PM
To: Erin Petrosian <epetrosian@integral-corp.com>
Subject: RE: Draft EA - new dock at 45-221 Ka Hanahou - request for review/comments

Hi Erin,

I'm following up to confirm whether the attached comment request letter was also sent to the DLNR Chairperson's office. Typically, we ask applicants to send these types of letters to the Chairperson so that she can distribute them to the appropriate divisions within DLNR.

Additionally, could you please kindly confirm that this request is for early consultation on the EA, and not for an actual DEA that has already been published?

Thank you,
Dani

Dani Yoo, P.E.
Department of Land and Natural Resources
Engineering Division

1151 Punchbowl Street, Room 221
Honolulu Hawaii 96813
Phone: 808.587.0258
Email: dani.yoo@hawaii.gov

From: Erin Petrosian <epetrosian@integral-corp.com>
Sent: Tuesday, August 12, 2025 3:12 PM
To: DLNR.Engr <dlnr.engr@hawaii.gov>
Cc: Robert Walker <rwalker@integral-corp.com>
Subject: [EXTERNAL] Draft EA - new dock at 45-221 Ka Hanahou - request for review/comments

Aloha,

The property owner of the single-family residence at 45-221 Ka Hanahou Circle in Kāneʻohe is proposing to construct a new fixed dock to support recreational use of the bay. As a neighboring property owner, we would appreciate your review of the attached project information and would welcome any comments you may have.

If possible, please provide your comments by **September 1, 2025**.

Thank you in advance for your time and consideration.

ERIN PETROSIAN | Consultant
Tel: 808.374.4442 | Cell: 808.989.2823 | Kamuela | HI
epetrosian@integral-corp.com

integral INSIGHT FOR AN EVOLVING WORLD

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August 08, 2025

Project No. C3967

Russell Tsuji
Administrator
DLNR-Oahu District Land Office
1151 Punchbowl St. #220
Honolulu, HI 96813

Subject: **Request for Input on Draft Environmental Assessment**
Proposed Private Dock at 45-221 Ka Hanahou Circle, Kaneohe

Dear Mr. Tsuji:

The property owner of the single-family residence located at 45-221 Ka Hanahou Circle, Kaneohe, Oahu plans to construct a new private fixed dock to support recreational use of Kaneohe Bay. The proposed rectangular dock would be 30 ft long by 10 ft wide and be constructed of aluminum with an open grating deck. The structure would be situated approximately 15-25 ft makai of the existing seawall at the property.

A Draft Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawai'i Revised Statutes, Environmental Impact Statements. An EA is required because the proposed use is within the State of Hawaii Conservation District which includes all submerged lands seaward of the shoreline. The applicant is seeking input from agencies, citizen groups and individuals that might have jurisdiction, expertise, or interest in the proposed action.

Please find the enclosed Draft EA for your review. Should you wish to provide any comments or questions, you may do so via email to Erin Petrosian at epetrosian@integral-corp.com or by mail to the letter head address above. If you do not anticipate providing comment, please let us know at your earliest convenience so that we may note your response in the final Environmental Assessment. We ask that any responses be received by September 1 to allow for the continuation of the permitting process.

Sincerely,

Robert A. Walker, PE
Principal, Coastal Engineering

Erin Petrosian
Permitting Specialist

Enclosure I. Draft Environmental Assessment

Integral Consulting Inc.
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Haleiwa, HI 96712

telephone: 808.374.4440
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August 08, 2025 Project No. C3967

Jason Redulla
Enforcement Chief
DLNR-Division of Conservation and Resource Enforcement
1151 Punchbowl St. #311
Honolulu, HI 96813

Subject: **Request for Input on Draft Environmental Assessment**
Proposed Private Dock at 45-221 Ka Hanahou Circle, Kaneohe

Dear Chief Redulla:

The property owner of the single-family residence located at 45-221 Ka Hanahou Circle, Kaneohe, Oahu plans to construct a new private fixed dock to support recreational use of Kaneohe Bay. The proposed rectangular dock would be 30 ft long by 10 ft wide and be constructed of aluminum with an open grating deck. The structure would be situated approximately 15-25 ft makai of the existing seawall at the property.

A Draft Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawai'i Revised Statutes, Environmental Impact Statements. An EA is required because the proposed use is within the State of Hawaii Conservation District which includes all submerged lands seaward of the shoreline. The applicant is seeking input from agencies, citizen groups and individuals that might have jurisdiction, expertise, or interest in the proposed action.

Please find the enclosed Draft EA for your review. Should you wish to provide any comments or questions, you may do so via email to Erin Petrosian at epetrosian@integral-corp.com or by mail to the letter head address above. If you do not anticipate providing comment, please let us know at your earliest convenience so that we may note your response in the final Environmental Assessment. We ask that any responses be received by September 1 to allow for the continuation of the permitting process.

Sincerely,

Robert A. Walker, PE
Principal, Coastal Engineering

Erin Petrosian
Permitting Specialist

Enclosure I. Draft Environmental Assessment

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66-590 Kamehameha Hwy
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Haleiwa, HI 96712

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August 08, 2025 Project No. C3967

Brian Neilson
Administrator
DLNR-Division of Aquatic Resources
1151 Punchbowl St. #330
Honolulu, HI 96813

Subject: **Request for Input on Draft Environmental Assessment**
Proposed Private Dock at 45-221 Ka Hanahou Circle, Kaneohe

Dear Mr. Neilson:

The property owner of the single-family residence located at 45-221 Ka Hanahou Circle, Kaneohe, Oahu plans to construct a new private fixed dock to support recreational use of Kaneohe Bay. The proposed rectangular dock would be 30 ft long by 10 ft wide and be constructed of aluminum with an open grating deck. The structure would be situated approximately 15-25 ft makai of the existing seawall at the property.

A Draft Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawai'i Revised Statutes, Environmental Impact Statements. An EA is required because the proposed use is within the State of Hawaii Conservation District which includes all submerged lands seaward of the shoreline. The applicant is seeking input from agencies, citizen groups and individuals that might have jurisdiction, expertise, or interest in the proposed action.

Please find the enclosed Draft EA for your review. Since DAR is also a nearby land owner, please review the Draft EA from both the perspective of both agency and owner of Coconut Island. Should you wish to provide any comments or questions, you may do so via email to Erin Petrosian at epetrosian@integral-corp.com or by mail to the letter head address above. If you do not anticipate providing comment, please let us know at your earliest convenience so that we may note your response in the final Environmental Assessment. We ask that any responses be received by June 15 to allow for the continuation of the permitting process.

Sincerely,

Robert A. Walker, PE
Principal, Coastal Engineering

Erin Petrosian
Permitting Specialist

Enclosure I. Draft Environmental Assessment

Outlook

Fw: AR6955 Draft_EA_New_dock_at_45-221 Ka Hanahou Circle between State of Hawaii and Brian Neilson is Signed and Filed!

From Tucker, Kendall L <kendall.l.tucker@hawaii.gov>
Date Fri 8/29/2025 3:37 PM
To Erin Petrosian <epetrosian@integral-corp.com>
Cc Weber, Honor N <honor.n.weber@hawaii.gov>

4 attachments (11 MB)

AR6955 Draft_EA_New_dock_at_45-221 Ka Hanahou Circle (part 1) - signed.pdf; AR6955 Draft_EA_New_dock_at_45-221 Ka Hanahou Circle (part 2) - signed.pdf; AR6955 Draft_EA_New_dock_at_45-221 Ka Hanahou Circle (part 3) - signed.pdf; AR6955 Draft_EA_New_dock_at_45-221 Ka Hanahou Circle - audit.pdf;

Aloha Erin,

Attached you will find the Division of Aquatic Resources comments on the construction of a new private dock in Kaneohe Bay. Please let me know if you have any additional questions for DAR, or if you have any problems with accessing the document.

Thank you

Kendall

From: Adobe Sign <adobesign@adobesign.com>
Sent: Friday, August 29, 2025 3:24 PM
To: Neilson, Brian J <brian.j.neilson@hawaii.gov>; Tucker, Kendall L <kendall.l.tucker@hawaii.gov>
Cc: Weber, Honor N <honor.n.weber@hawaii.gov>
Subject: AR6955 Draft_EA_New_dock_at_45-221 Ka Hanahou Circle between State of Hawaii and Brian Neilson is Signed and Filed!

Company Logo Blank Image

Adobe Acrobat Sign Logo Right Stack Plain White bar

Bottom Stack Plain White bar

AR6955 Draft_EA_New_dock_at_45-221 Ka Hanahou Circle between State of Hawaii and Brian Neilson is Signed and Filed!

To: Brian Neilson and Kendall Tucker

Cc: Honor Weber

Attached is a final copy of **AR6955 Draft_EA_New_dock_at_45-221 Ka Hanahou Circle**.

Copies have been automatically sent to all parties to the agreement.

You can view **the document** in your Adobe Acrobat Sign account.

Why use Adobe Acrobat Sign:

- Exchange, Sign, and File Any Document. In Seconds!
- Set-up Reminders. Instantly Share Copies with Others.
- See All of Your Documents, Anytime, Anywhere.

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL
RESOURCES DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

Date: 8/29/2025

DAR # AR6955

MEMORANDUM

TO: Brian J. Neilson
DAR Administrator

FROM: Jesse Boord, Aquatic Biologist

SUBJECT: Draft EA - New Dock at 45-221 Ka Hanahou Circle - Request for Review

Request Submitted by: Robert Walker, P.E. | Principal Coastal Engineering

Location of Project: Waterfront Improvements at 45-221 Ka Hanahou Circle, Kāne'ohe, Hawai'i TMK: 1-4-5-047:051

Brief Description of Project:

The Draft Environmental Assessment requests approval to construct a 10 ft x 30 ft fixed private dock with a gangway at 45-221 Ka Hanahou Circle in Kāneʻohe Bay to berth a small sailboat. The project would use precast concrete footings placed on the seafloor to avoid pile driving, with decking designed to reduce shading. Construction is expected to take about a month, using turbidity curtains, BMPs, and Pac-SLOPES species protection measures. A Coral Transplantation Plan will be implemented for colonies within the footprint. Of the five alternatives analyzed, the preferred option minimizes coral disturbance, avoids dredging, and is designed to reduce long-term environmental impacts, and the applicant anticipates a Finding of No Significant Impact (FONSI).

Comments Attached

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plan, DAR requests the opportunity to review and comment on those changes.

Comments Approved: _____ Date: 08/29/2025

Brian J. Neilson
DAR Administrator

DAR# AR6955

Comments

Water Quality and Turbidity

DAR is concerned about temporary turbidity during construction. Kāneʻohe Bay waters are classified as Class AA, which require protection to remain as close to a pristine state as possible. Even minor sediment plumes can settle on corals and seagrass, reducing photosynthetic capacity and potentially causing localized mortality. The EA mentions use of turbidity curtains and BMPs; DAR requests detailed specifications and monitoring commitments to ensure they are properly installed, maintained, and removed. Turbidity monitoring should be conducted during all in-water construction to ensure compliance with DOH water quality standards. DAR would like to request notification, photo-documentation, and GPS-coordinates for any occurrence where above-average amounts of sediment have entered the water, in order to assess impact, if any.

Impacts to Native Corals

The marine survey documented isolated but healthy coral colonies in the project footprint. Hawaiʻi Administrative Rules (HAR 13-95) prohibit take or damage to corals without authorization. DAR supports the requirement for a Coral Transplantation Plan, but emphasizes the need for: Qualified marine biologists to conduct relocation. Transplant sites selected to ensure comparable depth, light availability, and protection from future disturbance. Post-transplant monitoring to assess survival and report outcomes to DLNR/DAR. Consider educating all personnel on site about the importance of minimizing any impacts to coral.
Note: An SAP permit or state biologist is required to relocate coral and other biospecimens.

Essential Fish Habitat (EFH)

The project area is designated EFH for reef-associated species. While the EA concludes impacts are minor and temporary, DAR notes that even small-scale coral removal and turbidity can cumulatively degrade EFH in Kāneʻohe Bay, where reefs are already stressed by land-based runoff and historical dredging. DAR recommends minimizing the footprint of construction and avoiding coral relocation whenever feasible.

Cumulative Impacts

Kāneʻohe Bay has experienced decades of dredging, filling, and shoreline hardening, with resulting losses in coral cover and fish habitat. While this project is small in scale, DAR emphasizes the importance of evaluating cumulative impacts of additional private docks and piers. Incremental habitat loss may undermine fisheries and nearshore ecosystem health.

DAR# AR6955

Comments

Light Pollution
Artificial lighting from construction sites can disorient and confuse marine wildlife such as sea turtles, fish, crabs, and birds. The disruption of their natural rhythms can have long-lasting consequences on their survival and population dynamics.

DAR recommends that construction activities occur during the daylight hours to the extent possible. All outdoor lighting should be fully shielded and pointed downward. Outdoor lighting should be turned off when not necessary, and automatic sensors are recommended.

Seabird fledgling season occurs during Sept 15th - Dec 15th, and nighttime activity should be halted during this time. Fledglings become easily confused by artificial lighting, which can cause them to crash or land on the ground. Downed fledglings become easy prey for cats, mongoose, or other predators. If downed or injured fledglings are observed in the construction area, they should be reported for rescue.

DAR# AR6955

Comments

Protected Marine Species

In the event that protected species such as the Hawaiian monk seal, other marine mammal, or sea-turtle is observed in close proximity to the construction site, and the activities being conducted may be considered as a "negligent or intentional act which results in disturbing or molesting a marine mammal", contractors should take appropriate action to modify activities in order to avoid disturbance to the regular behavior and activities of the animal. Appropriate action would include but is not limited to ceasing construction activity until the animal leaves the area of its own accord. If a pup is observed in the area, particular caution should be taken including creating a larger buffer between construction and the animals.

All staff working on-site will receive training to recognize the Hawaiian monk seal and sea turtles, as well as learn the necessary procedures to follow if these species are observed.

Any interaction between a protected species and the construction and repair activity proposed should be reported to the NOAA Protected Species Division and State of Hawaii DOCARE:

NOAA Marine Mammal Response Coordinators (Oahu): 808-220-7802

NOAA Sea Turtles (Oahu): Monday-Friday, 7:30am-4pm NOAA National Marine Fisheries Service - PIFSC Marine Turtle Biology and Assessment Program: (808) 725-5730

Entanglement

DAR recommends that the applicant utilize best management practices to eliminate any potential for incidental entanglement of any marine organism. Entanglement prevention practices will include but are not limited to: minimizing the amount of in-water structures or components that may potentially cause entanglement during operations (loops, holes, slack lines).

At the end of each day and upon completion of the construction project, all construction-related debris that could potentially endanger species by causing entanglement shall be cleared from the construction area.

DAR# AR6955

Comments

Invasive Species

The applicant will mitigate the spread of invasive species between areas of activity. Equipment will be inspected and disinfected between conducting activities in different areas, to mitigate the spread of disease or parasitic organisms. All gear deployed must be visually checked for invasive algae/sponges/other organisms and disinfected with 10% bleach solution for 10 minutes before deployment in alternate location if collecting between multiple watersheds/distinct reef areas. If collection gear cannot be bleached, gear must be thoroughly rinsed with fresh water and dried in sun for 24 hours before deployment in alternate location, sterilized with another viable method or alternate sampling gear should be utilized. If sampling disease or anomalous growth specimens, gear should be sterilized between each specimen or new collection gear should be used. The following species remain a concern to the division: Alien invasive algae (Kappaphycus spp., Eucheuma denticulatum, Gracilaria salicornia, Acanthophora spicifera, Hypnea musciformis and Avrainvillea amadelpha), Coral disease (Montipora White Syndrome, Porites trematodiasis, Montipora white syndrome, Porites tissue loss syndrome, and Porites spp. and Montipora spp. tumors, Montipora spp. growth anomaly), Orange keyhole sponge (Mycale armata/grandis), and snowflake coral (Carijoa riisei).

Kāneʻohe Bay: All gear deployed in or adjacent to Kāneʻohe Bay must be visually checked for invasive algae or sponges (Kappaphycus spp., Eucheuma denticulatum, Gracilaria salicornia and Mycale grandis/armata) and disinfected with 10% bleach solution for 10 minutes before deployment in an alternate location other than Kāneʻohe Bay.

Summary

Alternative 3 (10 ft x 30 ft Fixed Dock with open grating): Of the proposed alternatives, this design presents the least risk. It avoids pile driving, reduces shading via grated decking, and minimizes coral relocation. Provided that turbidity controls and coral transplanting are executed carefully, this option is the most balanced between project objectives and resource protection.

DAR recommends that if the project proceeds, Alternative 3 be approved with conditions:Implementation of a DLNR-approved Coral Transplantation Plan.
In-water turbidity monitoring with adaptive management if thresholds are exceeded.
Post-construction biological monitoring of coral transplant survival and water quality.
Strict adherence to Pac-SLOPES mitigation measures for protected species.

DAR requests continued coordination and reporting to ensure that impacts to coral reef ecosystems and fisheries resources in Kāneʻohe Bay are minimized.

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Haleiwa, HI 96712

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November 14, 2025

Project No. C3967

Brian Neilson
Administrator
DLNR – Division of Aquatic Resources
1151 Punchbowl St. #330
Honolulu, HI 96813

Subject: **Response to Comments on the Draft Environmental Assessment Elhoff Waterfront Improvements- Proposed Private Dock at 45-221 Ka Hanahou Circle, Kaneohe**

Dear Mr. Neilson:

We have reviewed your input on the Draft Environmental Assessment (EA) for the Elhoff Waterfront Improvements as detailed in your letter dated 8/29/2025 (DAR File #AR6955). We fully agree with the Division of Aquatic Resources' recommendations and have incorporated or provided explanation for all input as detailed in Enclosure I.

The Draft EA will be submitted to the DLNR Office of Conservation and Coastal Lands (OCCL) as an attachment to the Conservation District Use Application. Once reviewed by OCCL and deemed complete the Draft EA will be published by the Office of Planning and Sustainable Development and available for public comment in the Environmental Notice.

Should you have any additional comments or questions, you may contact Erin Petrosian at epetrosian@integral-corp.com or at the letter head address above.

Sincerely,

Robert A. Walker, PE
Principal, Coastal Engineering

Erin Petrosian
Permitting Specialist

Enclosure I. Response to DAR Comments on Draft EA- Elhoff Waterfront Improvements

Response to DAR Pre-Consultation Input Dated August 29, 2025 (DAR #AR6955)

Reference	Agency Comment	Response
Comments on the DEA		
Water Quality and Turbidity	DAR is concerned about temporary turbidity during construction. Kāne'ohe Bay waters are classified as Class AA, which require protection to remain as close to a pristine state as possible. Even minor sediment plumes can settle on corals and seagrass, reducing photosynthetic capacity and potentially causing localized mortality. The EA mentions use of turbidity curtains and BMPs; DAR requests detailed specifications and monitoring commitments to ensure they are properly installed, maintained, and removed. Turbidity monitoring should be conducted during all in-water construction to ensure compliance with DOH water quality standards. DAR would like to request notification, photo-documentation, and GPS-coordinates for any occurrence where above-average amounts of sediment have entered the water, in order to assess impact, if any.	The PacSLOPES General Conditions, which will be incorporated into the Department of the Army permit under Section 10 of the Rivers and Harbors Act, specifies that a pollution and erosion control plan be prepared and implemented for the project, the contents of which are specified in Section 6.3 of the DEA. We fully understand and share DAR's concern about maintaining the high water quality of Kāne'ohe Bay and will implement all recommended best management practices (BMPs) and monitoring measures. Specifically, we will: • Install, maintain, and remove turbidity curtains in accordance with detailed manufacturer specifications and best practices to ensure proper performance throughout the duration of in-water work. • Conduct turbidity monitoring during all in-water construction activities to ensure compliance with Hawai'i Department of Health (DOH) water quality standards. • Immediately notify DAR of any occurrence of above-average turbidity or sedimentation, including providing photo documentation and GPS coordinates to assist with impact assessment. • Ensure that all contractors are briefed on the importance of minimizing sediment disturbance and maintaining barriers and controls in optimal condition at all times.
Impacts to Native Corals	The marine survey documented isolated but healthy coral colonies in the project footprint. Hawai'i Administrative Rules (HAR 13-95) prohibit take or damage to corals without authorization. DAR supports the requirement for a Coral Transplantation Plan, but emphasizes the need for: Qualified marine biologists to conduct relocation. Transplant sites selected to ensure comparable depth, light availability, and protection from future disturbance. Post-transplant monitoring to assess survival and report outcomes to DLNR/DAR. Consider educating all personnel on site about the importance of minimizing any impacts to coral. Note: An SAP permit or state biologist is required to relocate coral and other biospecimens.	As of May 1, 2025, DAR requires a Special Activity Permit be obtained for Coral Restoration/Relocation efforts within the State of Hawaii. The Project Coral Transplantation Plan will be updated to conform with the Guidelines for Coral Restoration and submitted via the DAR SAP Framework Tool. The SAP will be secured prior to construction commencement.
Essential Fish Habitat	The project area is designated EFH for reef-associated species. While the EA concludes impacts are minor and temporary, DAR notes that even small-scale coral removal and turbidity can cumulatively degrade EFH in Kāne'ohe Bay, where reefs are already stressed by land-based runoff and historical dredging. DAR recommends minimizing the footprint of construction and avoiding coral relocation whenever feasible.	Alternative #3 has been identified as the preferred alternative partially because it minimizes the need to relocate coral colonies when compared to other alternatives. Only two colonies are identified for relocation. No impact to other EFH is anticipated during implementation of the preferred alternative. Additional language has been added to the DEA, Section 5.4.2.3 to specify that the footprint during construction shall be minimized to avoid any additional impacts to corals. Additional measures to minimize the footprint of construction will be implemented as specified in PacSLOPES General Condition #9. (Section 6.3)

Response to DAR Pre-Consultation Input Dated August 29, 2025 (DAR #AR6955)

Reference	Agency Comment	Response
Cumulative Impacts	Kāneʻohe Bay has experienced decades of dredging, filling, and shoreline hardening, with resulting losses in coral cover and fish habitat. While this project is small in scale, DAR emphasizes the importance of evaluating cumulative impacts of additional private docks and piers. Incremental habitat loss may undermine fisheries and nearshore ecosystem health.	For this proposed project, the applicant's intent is to construct a small, single-family private pier and fixed dock, consistent with existing residential structures in the area and designed to comply with all applicable state and federal requirements. Given the limited footprint and absence of dredging, filling, or shoreline hardening, we anticipate no measurable contribution to cumulative habitat loss within the bay. While a quantitative cumulative-effects analysis of all private docks in Kāneʻohe Bay is beyond the scope of this project-specific Environmental Assessment, we have included a qualitative discussion acknowledging past and ongoing pressures in the bay and describing how this project's design, construction methods, and BMPs will avoid or minimize new impacts (Section 5.4.3.1, Cumulative Impacts).
Light Pollution	Artificial lighting from construction sites can disorient and confuse marine wildlife such as sea turtles, fish, crabs, and birds. The disruption of their natural rhythms can have long-lasting consequences on their survival and population dynamics.DAR recommends that construction activities occur during the daylight hours to the extent possible. All outdoor lighting should be fully shielded and pointed downward. Outdoor lighting should be turned off when not necessary, and automatic sensors are recommended. Seabird fledgling season occurs during Sept 15th - Dec 15th, and nighttime activity should be halted during this time. Fledglings become easily confused by artificial lighting, which can cause them to crash or land on the ground. Downed fledglings become easy prey for cats, mongoose, or other predators. If downed or injured fledglings are observed in the construction area, they should be reported for rescue.	Construction activities will be limited to occur during daylight hours only, eliminating impacts to fledgling seabirds from artificial light that may be generated during construction.
Protected Marine Species	In the event that protected species such as the Hawaiian monk seal, other marine mammal, or sea-turtle is observed in close proximity to the construction site, and the activities being conducted may be considered as a "negligent or intentional act which results in disturbing or molesting a marine mammal", contractors should take appropriate action to modify activities in order to avoid disturbance to the regular behavior and activities of the animal. Appropriate action would include but is not limited to ceasing construction activity until the animal leaves the area of its own accord. If a pup is observed in the area, particular caution should be taken including creating a larger buffer between construction and the animals. All staff working on-site will receive training to recognize the Hawaiian monk seal and sea turtles, as well as learn the necessary procedures to follow if these species are observed.Any interaction between a protected species and the construction and repair activity proposed should be reported to the NOAA Protected Species Division and State of Hawaii DOCARE: NOAA Marine Mammal Response Coordinators (Oahu): 808-220-7802; NOAA Sea Turtles (Oahu): Monday-Friday, 7:30am-4pm NOAA National Marine Fisheries Service - PIFSC Marine Turtle Biology and Assessment Program: (808) 725-5730	Implementation of and strict adherence to the PacSLOPES measures specified in Section 6.3 will prevent the inadvertent disturbance or molestation of marine mammals. These measures include ceasing/pausing work if marine mammals are within 50 yards of the proposed work (General Condition #7). Additional BMPs have been added to Section 6.3, General Conditions, specifying that staff working at the site will receive training on Hawaiian monk seal and sea turtles, and that interactions with protected species and the construction activity shall be reported to NOAA as specified in his comment.
Entanglement	DAR recommends that the applicant utilize best management practices to eliminate any potential for incidental entanglement of any marine organism. Entanglement prevention practices will include but are not limited to: minimizing the amount of in-water structures or components that may potentially cause entanglement during operations (loops, holes, slack lines). At the end of each day and upon completion of the construction project, all construction-related debris that could potentially endanger species by causing entanglement shall be cleared from the construction area.	PacSLOPES Special Conditions, BMP 5.3 (Section 5.4.3 of the DEA) specifically addresses BMPs that will be followed to prevent entanglement of marine organisms. An additional BMP has been included to specify that structures and components that create an entanglement hazard be minimized. A plan to prevent trash and debris from entering the marine environment during the project will be developed as per PacSLOPES General Condition 12.g as part of the Pollution and Erosion Control Plan.

Response to DAR Pre-Consultation Input Dated August 29, 2025 (DAR #AR6955)

Reference	Agency Comment	Response
Invasive Species	The applicant will mitigate the spread of invasive species between areas of activity. Equipment will be inspected and disinfected between conducting activities in different areas, to mitigate the spread of disease or parasitic organisms. All gear deployed must be visually checked for invasive algae/sponges/other organisms and disinfected with 10% bleach solution for 10 minutes before deployment in alternate location if collecting between multiple watersheds/distinct reef areas. If collection gear cannot be bleached, gear must be thoroughly rinsed with fresh water and dried in sun for 24 hours before deployment in alternate location, sterilized with another viable method or alternate sampling gear should be utilized. If sampling disease or anomalous growth specimens, gear should be sterilized between each specimen or new collection gear should be used. The following species remain a concern to the division: Alien invasive algae (Kappaphycus spp., Eucheuma denticulatum, Gracilaria salicornia, Acanthophora spicifera, Hypnea musciformis and Avrainvillea amadelpha), Coral disease (Montipora White Syndrome, Porites trematodiasis, Montipora white syndrome, Porites tissue loss syndrome, and Porites spp. and Montipora spp. tumors, Montipora spp. growth anomaly), Orange keyhole sponge (Mycale armata/grandis), and snowflake coral (Carijoa riisei).Kāneʻohe Bay: All gear deployed in or adjacent to Kāneʻohe Bay must be visually checked for invasive algae or sponges (Kappaphycus spp., Eucheuma denticulatum, Gracilaria salicornia and Mycale grandis/armata) and disinfected with 10% bleach solution for 10 minutes before deployment in an alternate location other than Kāneʻohe Bay.	A discussion of aquatic invasive species, the potential environmental impacts of these species, and the identification of alien species of particular concern has been included in Section 5.4.2.5, Aquatic Invasive Species. Mitigation measures to prevent the introduction and spread of these harmful organisms has also been addressed in Section 5.4.3, Impacts and Mitigation.
Summary	Alternative 3 (10 ft x 30 ft Fixed Dock with open grating): Of the proposed alternatives, this design presents the least risk. It avoids pile driving, reduces shading via grated decking, and minimizes coral relocation. Provided that turbidity controls and coral transplanting are executed carefully, this option is the most balanced between project objectives and resource protection. DAR recommends that if the project proceeds, Alternative 3 be approved with conditions:Implementation of a DLNR-approved Coral Transplantation Plan. In-water turbidity monitoring with adaptive management if thresholds are exceeded. Post-construction biological monitoring of coral transplant survival and water quality. Strict adherence to Pac-SLOPES mitigation measures for protected species.DAR requests continued coordination and reporting to ensure that impacts to coral reef ecosystems and fisheries resources in Kāneʻohe Bay are minimized.	

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August 15, 2025 Project No. C3967

Debra Mendes
Coastal Zone Management Program
Office of Planning and Sustainable Development
State of Hawai'i
PO Box 2359
Honolulu, HI 96804-2359

Subject: **Request for Input on Draft Environmental Assessment**
Proposed Private Dock at 45-221 Ka Hanahou Circle, Kaneohe

Dear Ms. Mendes:

The property owner of the single-family residence located at 45-221 Ka Hanahou Circle, Kaneohe, Oahu plans to construct a new private fixed dock to support recreational use of Kaneohe Bay. The proposed rectangular dock would be 30 ft long by 10 ft wide and be constructed of aluminum with an open grating deck. The structure would be situated approximately 15-25 ft makai of the existing seawall at the property.

A Draft Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawai'i Revised Statutes, Environmental Impact Statements. An EA is required because the proposed use is within the State of Hawaii Conservation District which includes all submerged lands seaward of the shoreline. The applicant is seeking input from agencies, citizen groups and individuals that might have jurisdiction, expertise, or interest in the proposed action.

Please find the enclosed Draft EA for your review. Should you wish to provide any comments or questions, you may do so via email to Erin Petrosian at epetrosian@integral-corp.com or by mail to the letter head address above. If you do not anticipate providing comments, please let us know at your earliest convenience so that we may note your response in the final Environmental Assessment. We ask that any responses be received by September 1 to allow for the continuation of the permitting process.

Sincerely,

Robert A. Walker, PE
Principal, Coastal Engineering

Erin Petrosian
Permitting Specialist

Enclosure I. Draft Environmental Assessment

Outlook

Re: Draft EA - new dock at 45-221 Ka Hanahou - request for review/comments

From Erin Petrosian <epetrosian@integral-corp.com>
Date Thu 8/21/2025 5:58 AM
To Mendes, Debra L <debra.l.mendes@hawaii.gov>; Robert Walker <rwalker@integral-corp.com>

Thanks for the response, Debra. We will ensure you receive a request for input when the DEA is published.
-Erin

ERIN PETROSIAN
Tel: 808.374.4442 | Cell: 808.989.2823
INTEGRAL CONSULTING INC.

From: Mendes, Debra L <debra.l.mendes@hawaii.gov>
Sent: Tuesday, August 19, 2025 12:08 PM
To: Erin Petrosian <epetrosian@integral-corp.com>; Robert Walker <rwalker@integral-corp.com>
Subject: Re: Draft EA - new dock at 45-221 Ka Hanahou - request for review/comments

Aloha Erin and Robert,
When the DEA is published then agency (OPSD) will have the opportunity to review and provide comments.

Debra Mendes
Planner | Coastal Zone Management Program
Office of Planning & Sustainable Development

STATE OF HAWAI'I
OFFICE OF PLANNING & SUSTAINABLE DEVELOPMENT
Leiopapa A Kamehameha
235 South Beretania Street, 6th Floor · Honolulu, Hawai'i · 96813
PO Box 2359 · Honolulu, Hawai'i · 96804-2359
Phone (808) 587-2846 · Fax (808) 587-2824

From: Erin Petrosian <epetrosian@integral-corp.com>
Sent: Tuesday, August 19, 2025 11:53 AM
To: Mendes, Debra L <debra.l.mendes@hawaii.gov>; Robert Walker <rwalker@integral-corp.com>
Subject: [EXTERNAL] Re: Draft EA - new dock at 45-221 Ka Hanahou - request for review/comments

Aloha Mrs. Mendes,

I am working with Rob Walker on the DEA for the Elhoff Waterfront Improvements. The DEA has not yet been published. We have submitted a draft to OCCL for initial review and at their request will not be publishing the DEA until we've obtained and incorporated initial comments from interested parties.

Please let me or Rob know if you have any additional questions.
-Erin

Erin Petrosian | Consultant
Tel: 808.374.4442 | Cell: 808.989.2823 | Kamuela | HI
epetrosian@integral-corp.com

integral INSIGHT FOR AN EVOLVING WORLD

From: Mendes, Debra L <debra.l.mendes@hawaii.gov>
Sent: Tuesday, August 19, 2025 10:56 AM
To: Robert Walker <rwalker@integral-corp.com>
Cc: Erin Petrosian <epetrosian@integral-corp.com>
Subject: Re: Draft EA - new dock at 45-221 Ka Hanahou - request for review/comments

Mr. Walker,
What is the publication date of the DEA?

Debra Mendes
Planner | Coastal Zone Management Program
Office of Planning & Sustainable Development

STATE OF HAWAI'I
OFFICE OF PLANNING & SUSTAINABLE DEVELOPMENT
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From: Robert Walker <rwalker@integral-corp.com>
Sent: Friday, August 15, 2025 5:04 PM
To: Mendes, Debra L <debra.l.mendes@hawaii.gov>
Cc: DBEDT OP CZM Program <dbedt.op.czm@hawaii.gov>; Erin Petrosian <epetrosian@integral-corp.com>
Subject: [EXTERNAL] Draft EA - new dock at 45-221 Ka Hanahou - request for review/comments

Aloha,

The property owner of the single-family residence at 45-221 Ka Hanahou Circle in Kāne‘ohe is proposing to construct a new fixed dock to support recreational use of the bay. We would appreciate your agency’s review of the attached project information and welcome any comments you may have.

If possible, please provide your comments by **September 1, 2025**.

Thank you in advance for your time and consideration.

Robert Walker, P.E. | **Principal**
Coastal Engineering
Tel: 808.374.4440 | Cell: 808.202.1920 | Haleiwa | HI
rwalker@integral-corp.com | Bio

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August 08, 2025

Project No. C3967

Kaialiʻi Kahele
Chair
Office of Hawaiian Affairs
560 N. Nimitz Hwy #200
Honolulu, HI 96817

Subject: **Request for Input on Draft Environmental Assessment**
Proposed Private Dock at 45-221 Ka Hanahou Circle, Kaneohe

Dear Chair Kahele:

The property owner of the single-family residence located at 45-221 Ka Hanahou Circle, Kaneohe, Oahu plans to construct a new private fixed dock to support recreational use of Kaneohe Bay. The proposed rectangular dock would be 30 ft long by 10 ft wide and be constructed of aluminum with an open grating deck. The structure would be situated approximately 15-25 ft makai of the existing seawall at the property.

A Draft Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawai'i Revised Statutes, Environmental Impact Statements. An EA is required because the proposed use is within the State of Hawaii Conservation District which includes all submerged lands seaward of the shoreline. The applicant is seeking input from agencies, citizen groups and individuals that might have jurisdiction, expertise, or interest in the proposed action.

Please find the enclosed Draft EA for your review. Should you wish to provide any comments or questions, you may do so via email to Erin Petrosian at epetrosian@integral-corp.com or by mail to the letter head address above. If you do not anticipate providing comment, please let us know at your earliest convenience so that we may note your response in the final Environmental Assessment. We ask that any responses be received

Sincerely,

Robert A. Walker, PE
Principal, Coastal Engineering

Erin Petrosian
Permitting Specialist

Enclosure I. Draft Environmental Assessment

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August 08, 2025 Project No. C3967

Department of Health-CWB
State of Hawaii, Clean Water Beach
2827 Waimano Hone Road #225
Pearl City, HI 96782

Subject: **Request for Input on Draft Environmental Assessment**
Proposed Private Dock at 45-221 Ka Hanahou Circle, Kaneohe

To Whom It May Concern:

The property owner of the single-family residence located at 45-221 Ka Hanahou Circle, Kaneohe, Oahu plans to construct a new private fixed dock to support recreational use of Kaneohe Bay. The proposed rectangular dock would be 30 ft long by 10 ft wide and be constructed of aluminum with an open grating deck. The structure would be situated approximately 15-25 ft makai of the existing seawall at the property.

A Draft Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawai'i Revised Statutes, Environmental Impact Statements. An EA is required because the proposed use is within the State of Hawaii Conservation District which includes all submerged lands seaward of the shoreline. The applicant is seeking input from agencies, citizen groups and individuals that might have jurisdiction, expertise, or interest in the proposed action.

Please find the enclosed Draft EA for your review. Should you wish to provide any comments or questions, you may do so via email to Erin Petrosian at epetrosian@integral-corp.com or by mail to the letter head address above. If you do not anticipate providing comment, please let us know at your earliest convenience so that we may note your response in the final Environmental Assessment. We ask that any responses be received by September 1 to allow for the continuation of the permitting process.

Sincerely,

Robert A. Walker, PE
Principal, Coastal Engineering

Erin Petrosian
Permitting Specialist

Enclosure I. Draft Environmental Assessment

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August 08, 2025 Project No. C3967

Dawn Takeuchi Apuna
Director
County of Honolulu-Department of Planning and Permitting
650 S. King St.
Honolulu, HI 96813

Subject: **Request for Input on Draft Environmental Assessment**
Proposed Private Dock at 45-221 Ka Hanahou Circle, Kaneohe

Dear Director Apuna:

The property owner of the single-family residence located at 45-221 Ka Hanahou Circle, Kaneohe, Oahu plans to construct a new private fixed dock to support recreational use of Kaneohe Bay. The proposed rectangular dock would be 30 ft long by 10 ft wide and be constructed of aluminum with an open grating deck. The structure would be situated approximately 15-25 ft makai of the existing seawall at the property.

A Draft Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawai'i Revised Statutes, Environmental Impact Statements. An EA is required because the proposed use is within the State of Hawaii Conservation District which includes all submerged lands seaward of the shoreline. The applicant is seeking input from agencies, citizen groups and individuals that might have jurisdiction, expertise, or interest in the proposed action.

Please find the enclosed Draft EA for your review. Should you wish to provide any comments or questions, you may do so via email to Erin Petrosian at epetrosian@integral-corp.com or by mail to the letter head address above. If you do not anticipate providing comment, please let us know at your earliest convenience so that we may note your response in the final Environmental Assessment. We ask that any responses be received by September 1 to allow for the continuation of the permitting process.

Sincerely,

Robert A. Walker, PE
Principal, Coastal Engineering

Erin Petrosian
Permitting Specialist

Enclosure I. Draft Environmental Assessment

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August 08, 2025

Project No. C3967

Ralph and Margaret Kiessling
Ralmar Partners, LLP
45-229 Ka Hanahou Circle
Kaneohe, HI 96744

Subject: **Request for Input on Draft Environmental Assessment**
Proposed Private Dock at 45-221 Ka Hanahou Circle, Kaneohe

Dear Mr. and Mrs. Kiessling:

The property owner of the single-family residence located at 45-221 Ka Hanahou Circle, Kaneohe, Oahu plans to construct a new private fixed dock to support recreational use of Kaneohe Bay. The proposed rectangular dock would be 30 ft long by 10 ft wide and be constructed of aluminum with an open grating deck. The structure would be situated approximately 15-25 ft makai of the existing seawall at the property.

A Draft Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawai'i Revised Statutes, Environmental Impact Statements. An EA is required because the proposed use is within the State of Hawaii Conservation District which includes all submerged lands seaward of the shoreline. The applicant is seeking input from agencies, citizen groups and individuals that might have jurisdiction, expertise, or interest in the proposed action.

Please find the enclosed Draft EA for your review. Should you wish to provide any comments or questions, you may do so via email to Erin Petrosian at epetrosian@integral-corp.com or by mail to the letter head address above. If you do not anticipate providing comment, please let us know at your earliest convenience so that we may note your response in the final Environmental Assessment. We ask that any responses be received by September 1 to allow for the continuation of the permitting process.

Sincerely,

Robert A. Walker, PE
Principal, Coastal Engineering

Erin Petrosian
Permitting Specialist

Enclosure I. Draft Environmental Assessment

Outlook

Re: Request for Input on Draft Environmental Assessment Proposed Private Dock at 45-221 Ka Hanahou Circle, Kaneohe (Project No. C3967)

From Ralph <ralmar@hawaii.rr.com>
Date Sat 8/30/2025 8:32 PM
To Erin Petrosian <epetrosian@integral-corp.com>

Dear Mr. Walker and Ms. Petrosian,

Thank you for giving us an opportunity to respond to your draft Environment Assessment (EA) for the proposed private dock at 45-221 Ka Hanahou Circle, Kaneohe. While we support your wish to improve your home and property, we hope that any development you undertake will be made with the least impact to the bay as well as your neighbors' quality of life. The EA draft you sent us is quite long and complex, but here are some of our questions at this time. They are listed according to the sections in your EA.

Section 2.4 Construction - Just to confirm, will the turbidity curtain be removed with all other construction material once the dock is completed?

Section 3 Alternatives – One of your previous alternatives was a floating dock that had a 6' wide by 30' long dock with a 12-foot gangway (see Figure 2 in the Marine Biological Survey, dated July 2021). We understand that your current proposal is not a floating dock, but is it possible to scale your fixed dock to be more like this alternative, i.e., downsize the dock width from 10' to 6' wide and the gangway from 15' to 12' long? This would lessen the structure's surface impact by around 38%. Your preferred design increases both the bulk of the dock as well as its distance out from the property line.

Section 5.5 Noise – Does your EA address additional noise that will come from a boat moored at the fixed dock, especially overnight? It is not as loud as a floating dock, but a boat constantly banging into a fixed dock will create a similar noise.

Section 5.6 Coastal Hazards and Sea Level Rise - The design of the proposed dock will allow it to be modified/raised to adapt to future sea level rise. Will any future change or modification to the dock structure, including changing the dock height or size, be subject to review at that time?

Section 5.8 Recreation - Does the EA address the impact the dock will have on other boaters in the area? Many residences with boats in the area use the navigation channel along the shoreline to access the bay. Will the new dock impact access to the bay for other boaters in the area? After the proposed dock is built, what will the distance be between the reef and your moored boat and the mauka reef? How can the reef be clearly marked so boats using the navigation channel don't run into it or your dock/moored boat when trying to access the bay?

- The proposal states that “the new dock will enhance recreational access to the bay from the residential home” and will not impact public recreational access or use of the bay. Please confirm whether the public will have any public access rights to the dock? Please confirm that the dock or any boat moored to it will not be used for any public or commercial activities. Will multiple boats, perhaps guests of the resident be allowed to moor there? Could two or more boats be docked there at the same time?

Section 5.9 Scenic and Aesthetic Resources - Your EA avers that the “completed dock structure, considering its low proposed elevation, will not restrict scenic views of Kāne’ohe Bay in any way.” Over 356 square feet of dock/gangway secured by six 4x4’ concrete anchors, no matter how close to the water level, will definitely impact the bay’s smooth, scenic serenity and aesthetically calm, natural flow. The dock will be above the waterline, and a 30-foot catamaran would double that space in the water.

Other questions may come to mind, but we sincerely appreciate you reaching out to us for our input and concerns at this time. It would be great to request input from other neighbors along the bay line and in the area, but we are not sure how many you have contacted so far.

Mahalo,

Ralph and Marge Kiessling

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November 14, 2025

Project No. C3967

Ralph and Margaret Kiessling
Ralmar Partners, LLLP
45-229 Ka Hanahou Circle
Kaneohe, HI 96744

Subject: **Response to Comments on the Draft Environmental Assessment Elhoff Waterfront Improvements- Proposed Private Dock at 45-221 Ka Hanahou Circle, Kaneohe**

Dear Mr. and Mrs. Kiessling:

We have reviewed your input on the Draft Environmental Assessment (EA) for the Elhoff Waterfront Improvements as detailed in your email dated 8/30/2025 and have incorporated or provided explanation for all input as detailed in Enclosure I.

The Draft EA will be submitted to the DLNR Office of Conservation and Coastal Lands (OCCL) as an attachment to the Conservation District Use Application. Once reviewed by OCCL and deemed complete the Draft EA will be published by the Office of Planning and Sustainable Development and available for public comment in the Environmental Notice.

Should you have any additional comments or questions, you may contact Erin Petrosian at epetrosian@integral-corp.com or at the letter head address above.

Sincerely,

Robert A. Walker, PE
Principal, Coastal Engineering

Erin Petrosian
Permitting Specialist

Enclosure I. Response to DAR Comments on Draft EA- Elhoff Waterfront Improvements

Response to Kiessling Pre-Consultation Input Dated August 30, 2025

Reference	Comment	Response
Comments on the DEA		
Section 2.4 Construction	Just to confirm, will the turbidity curtain be removed with all other construction material once the dock is completed?	Confirmed, turbidity curtains will be removed once construction activities are complete.
Section 3 Alternatives	One of your previous alternatives was a floating dock that had a 6' wide by 30' long dock with a 12-foot gangway (see Figure 2 in the Marine Biological Survey, dated July 2021).We understand that your current proposal is not a floating dock, but is it possible to scale your fixed dock to be more like this alternative, i.e., downsize the dock width from 10' to 6' wide and the gangway from 15' to 12' long? This would lessen the structure's surface impact by around 38%. Your preferred design increases both the bulk of the dock as well as its distance out from the property line.	A handful of different design iterations have been considered since the original design presented in the Marine Biological Survey completed in 2021. The design presented in Alternative #3 has incorporated a number of restrictions and limitations, including prevention of structural deterioration of existing marine structures (i.e., the existing seawall), addressing sea level rise and impacts from extreme storm events, minimizing impacts to existing coral colonies, berthing and navigability, constructability, installation techniques, and other environmental factors. We acknowledge that the dock presented in the preferred alternative has a larger footprint than what was considered in 2021. However, we believe that the design in Alternative #3 balances these variables in a more optimal way as described in Section 3.3 of the DEA.
Section 5.5 Noise	Does your EA address additional noise that will come from a boat moored at the fixed dock, especially overnight? It is not as loud as a floating dock, but a boat constantly banging into a fixed dock will create a similar noise.	Section 5.5.1 has been updated to include an evaluation of long-term ambient noise. Noise from structural interactions with the environment (waves, wind, etc.) and from human activity (use of the dock and boating facility) are comparable in frequency and intensity to everyday household activities and generally do not require mitigation. However, the owner has proposed to install plastic lumber edges and a dock cushioning system to minimize nuisance levels of noise that may be generated by the proposed dock.
Section 5.6 Coastal Hazards and Sea Level Rise	The design of the proposed dock will allow it to be modified/raised to adapt to future sea level rise. Will any future change or modification to the dock structure, including changing the dock height or size, be subject to review at that time?	Future modifications to the proposed dock will likely be permitted under a U.S. Army Corps Nationwide Permit. This process generally does not include a public review period.

Response to Kiessling Pre-Consultation Input Dated August 30, 2025

Reference	Comment	Response
Section 5.8 Recreation	Does the EA address the impact the dock will have on other boaters in the area? Many residences with boats in the area use the navigation channel along the shoreline to access the bay. Will the new dock impact access to the bay for other boaters in the area? After the proposed dock is built, what will the distance be between the reef and your moored boat and the mauka reef? How can the reef be clearly marked so boats using the navigation channel don't run into it or your dock/moored boat when trying to access the bay? The proposal states that “the new dock will enhance recreational access to the bay from the residential home” and will not impact public recreational access or use of the bay. Please confirm whether the public will have any public access rights to the dock? Please confirm that the dock or any boat moored to it will not be used for any public or commercial activities. Will multiple boats, perhaps guests of the resident be allowed to moor there? Could two or more boats be docked there at the same time?	The proposed dock in not anticipated to have any impacts on other boaters in the area. The only neighbor that accesses the areais the neighbor to the south who has an existing boat slip that is used on a routine basis. The angle at which they approach their boat slip is well outside the footprint of the proposed dock and the boat that may be moored there. Other than the immediate neighbor(s), this area is not frequented by other boaters. Regarding reef markers, it is generally the boaters responsibility to successfully navigate marine obstacles. Given that this area is only frequented by the neighboring property owner(s), who are familiar with the nearshore bathymetery, we do not believe channel markers are warranted. We confirm that the dock will be for private, residential use only and that the dock is not designed to accomodate more than one, small sailing vessel.
Section 5.9 Scenic and Aesthetic Resources	Your EA avers that the “completed dock structure, considering its low proposed elevation, will not restrict scenic views of Kāne’ohe Bay in any way.” Over 356 square feet of dock/gangway secured by six 4x4’ concrete anchors, no matter how close to the water level, will definitely impact the bay’s smooth, scenic serenity and aesthetically calm, natural flow. The dock will be above the waterline, and a 30-foot catamaran would double that space in the water.	The EA has been updated to specify that scenic views to neighboring properties may be partially impacted by the proposed project. These impacts are estimated to be low to moderate and only partial, given that the dock is offset from the neighboring properties' view plane (Section 5.10). Also, the property owner has proposed to build a dock capable of berthing a small sailing vessel (Alternative #3), rather than a larger catamaranstyle vessel as proposed in Alternative #2, which will further minimize scenic impacts.

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August 08, 2025

Project No. C3967

Kyle Kodama
45-210 Ka Hanahou Circle
Kaneohe, HI 96744

Subject: **Request for Input on Draft Environmental Assessment**
Proposed Private Dock at 45-221 Ka Hanahou Circle, Kaneohe

Dear Mr. Kodama:

The property owner of the single-family residence located at 45-221 Ka Hanahou Circle, Kaneohe, Oahu plans to construct a new private fixed dock to support recreational use of Kaneohe Bay. The proposed rectangular dock would be 30 ft long by 10 ft wide and be constructed of aluminum with an open grating deck. The structure would be situated approximately 15-25 ft makai of the existing seawall at the property.

A Draft Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawai'i Revised Statutes, Environmental Impact Statements. An EA is required because the proposed use is within the State of Hawaii Conservation District which includes all submerged lands seaward of the shoreline. The applicant is seeking input from agencies, citizen groups and individuals that might have jurisdiction, expertise, or interest in the proposed action.

Please find the enclosed Draft EA for your review. Should you wish to provide any comments or questions, you may do so via email to Erin Petrosian at epetrosian@integral-corp.com or by mail to the letter head address above. If you do not anticipate providing comment, please let us know at your earliest convenience so that we may note your response in the final Environmental Assessment. We ask that any responses be received by September 1 to allow for the continuation of the permitting process.

Sincerely,

Robert A. Walker, PE
Principal, Coastal Engineering

Erin Petrosian
Permitting Specialist

Enclosure I. Draft Environmental Assessment

Outlook

Re: Draft EA - new dock at 45-221 Ka Hanahou - request for review/comments

From Kyle Kodama <kylekodama@gmail.com>
Date Thu 8/21/2025 12:03 AM
To Robert Walker <rwalker@integral-corp.com>
Cc Erin Petrosian <epetrosian@integral-corp.com>

Dear Mr. Walker and Mrs. Petrosian,
I have reviewed the Draft Environmental Assessment for the Elhoff Waterfront Improvements at 45-221 Ka Hanahou Circle and would like to express my written support for the project. The proposed recreational pier would enhance property values, conforms to the general aesthetic in our neighborhood and supports the ocean lifestyle prevalent within our community. I am deeply supportive of maintaining recreational boat access along Kaneohe Bay; it is part of what has attracted me and my neighbors to this area. Environmental impacts associated with construction of the pier are minor in nature and the proposed mitigation measures appear to be more than adequate.

I have no further comment on the Draft Environmental Assessment and encourage the department to approve the project for construction. Feel free to call me if you have any questions. (808)551-5953

Sincerely,
Kyle Kodama

> On Aug 8, 2025, at 8:08 PM, Robert Walker <rwalker@integral-corp.com> wrote:
>
> Aloha,
>
> The property owner of the single-family residence at 45-221 Ka Hanahou Circle in Kāneʻohe is proposing to construct a new fixed dock to support recreational use of the bay. As a neighboring property owner, we would appreciate your review of the attached project information and would welcome any comments you may have.
>
> If possible, please provide your comments by **September 1, 2025**.
>
> Thank you in advance for your time and consideration.

ROBERT WALKER, P.E. | **Principal**
Coastal Engineering
Tel: 808.374.4440 | Cell: 808.202.1920 | Haleiwa | HI
rwalker@integral-corp.com | Bio

<integral_1a04a855-2877-4c4f-bd98-b89de3950d0f.png>

<Draft_EA_New_dock_at_45-221 Ka Hanahou Circle.pdf>
<Letter_RequestForInputOnDEA_NPO_Across.pdf>

Integral Consulting Inc.
66-590 Kamehameha Hwy
Suite 2A
Haleiwa, HI 96712

telephone: 808.374.4440
www.integral-corp.com

August 12, 2025

Project No. C3967

Richard Nishida
45-247A Ka Hanahou Circle
Kaneohe, HI 96744

Subject: **Request for Input on Draft Environmental Assessment**
Proposed Private Dock at 45-221 Ka Hanahou Circle, Kaneohe

To Whom It May Concern:

The property owner of the single-family residence located at 45-221 Ka Hanahou Circle, Kaneohe, Oahu plans to construct a new private fixed dock to support recreational use of Kaneohe Bay. The proposed rectangular dock would be 30 ft long by 10 ft wide and be constructed of aluminum with an open grating deck. The structure would be situated approximately 15-25 ft makai of the existing seawall at the property.

A Draft Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawai'i Revised Statutes, Environmental Impact Statements. An EA is required because the proposed use is within the State of Hawaii Conservation District which includes all submerged lands seaward of the shoreline. The applicant is seeking input from agencies, citizen groups and individuals that might have jurisdiction, expertise, or interest in the proposed action.

Please find the enclosed Draft EA for your review. Should you wish to provide any comments or questions, you may do so via email to Erin Petrosian at epetrosian@integral-corp.com or by mail to the letter head address above. If you do not anticipate providing comments, please let us know at your earliest convenience so that we may note your response in the final Environmental Assessment. We ask that any responses be received by September 1 to allow for the continuation of the permitting process.

Sincerely,

Robert A. Walker, PE
Principal, Coastal Engineering

Erin Petrosian
Permitting Specialist

Enclosure I. Draft Environmental Assessment

Outlook

Re: Draft EA - new dock at 45-221 Ka Hanahou - request for review/comments

From Erin Petrosian <epetrosian@integral-corp.com>
Date Fri 8/22/2025 8:19 AM
To Richard Nishida <richardnishida@yahoo.com>

Good Morning Richard,
Thank you very much for such an eloquently written letter of support! I have filed your email and will incorporate your statement into the draft EA.
Have a wonderful day!
-Erin

ERIN PETROSIAN
Tel: 808.374.4442 | Cell: 808.989.2823
INTEGRAL CONSULTING INC.

From: Richard Nishida <richardnishida@yahoo.com>
Sent: Thursday, August 21, 2025 7:02 PM
To: Erin Petrosian <epetrosian@integral-corp.com>
Subject: Re: Draft EA - new dock at 45-221 Ka Hanahou - request for review/comments

Richard Nishida
808-306-1272
8/15/25

To Whom It May Concern,

I am writing to express my full support for my neighbor, Mike Elhoff, in their application to construct a permanent dock on their waterfront property located at 45-221 Ka Hanahou Circle.
They have consistently demonstrated a deep respect for our shared environment and a commitment to maintaining the natural beauty and integrity of our community. Their proposed dock project reflects this same thoughtful approach.

The addition of a permanent dock would not only enhance the functionality and safety of their property, but also contribute positively to the neighborhood by promoting responsible water access and recreational use. Importantly, it would help reduce the need for boats to anchor directly on the reef—a practice that can cause significant damage to fragile marine ecosystems. By providing a designated, stable access point, the dock would help preserve the health of our reef system while still allowing for responsible enjoyment of the water.

I understand that Mike Elhoff has taken steps to ensure the design complies with all relevant environmental and zoning regulations, and I trust that the construction will be carried out with minimal disruption to the surrounding ecosystem.
In a coastal community like ours, access to the water is a cherished part of our lifestyle. Supporting well-planned infrastructure like this dock helps preserve that access while encouraging stewardship and care

for our natural resources.

I respectfully urge the relevant authorities to approve this application and allow Mike Elhoff to proceed with their plans. Please feel free to contact me if further input or clarification is needed.

Thank you for your time and consideration.

Warm regards,
Richard Nishida

On Wednesday, August 13, 2025 at 09:06:18 AM HST, Erin Petrosian <epetrosian@integral-corp.com> wrote:

Aloha,

The property owner of the single-family residence at 45-221 Ka Hanahou Circle in Kāneʻohe is proposing to construct a new fixed dock to support recreational use of the bay. As a neighboring property owner, we would appreciate your review of the attached project information and would welcome any comments you may have.

If possible, please provide your comments by **September 1, 2025**.

Thank you in advance for your time and consideration

ERIN PETROSIAN | Consultant
Tel: 808.374.4442 | Cell: 808.989.2823 | Kamuela | HI
epetrosian@integral-corp.com

integral INSIGHT FOR AN EVOLVING WORLD

Integral Consulting Inc.
66-590 Kamehameha Hwy
Suite 2A
Haleiwa, HI 96712

telephone: 808.374.4440
www.integral-corp.com

August 08, 2025

Project No. C3967

Andrew Brown
Auxiliary and Facilities Services Officer
P.O Box 1346
Kaneohe, HI 96744

Subject: **Request for Input on Draft Environmental Assessment**
Proposed Private Dock at 45-221 Ka Hanahou Circle, Kaneohe

Dear Mr. Brown:

The property owner of the single-family residence located at 45-221 Ka Hanahou Circle, Kaneohe, Oahu plans to construct a new private fixed dock to support recreational use of Kaneohe Bay. The proposed rectangular dock would be 30 ft long by 10 ft wide and be constructed of aluminum with an open grating deck. The structure would be situated approximately 15-25 ft makai of the existing seawall at the property.

A Draft Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawai'i Revised Statutes, Environmental Impact Statements. An EA is required because the proposed use is within the State of Hawaii Conservation District which includes all submerged lands seaward of the shoreline. The applicant is seeking input from agencies, citizen groups and individuals that might have jurisdiction, expertise, or interest in the proposed action.

Please find the enclosed Draft EA for your review as Hawai'i Institute of Marine Biology, lease holder of Coconut Island. Should you wish to provide any comments or questions, you may do so via email to Erin Petrosian at epetrosian@integral-corp.com or by mail to the letter head address above. If you do not anticipate providing comment, please let us know at your earliest convenience so that we may note your response in the final Environmental Assessment. We ask that any responses be received by September 1 to allow for the continuation of the permitting process.

Sincerely,

Robert A. Walker, PE
Principal, Coastal Engineering

Erin Petrosian
Permitting Specialist

Enclosure I. Draft Environmental Assessment

Outlook

Re: Draft EA - new dock at 45-221 Ka Hanahou - request for review/comments

From Erin Petrosian <epetrosian@integral-corp.com>
Date Wed 8/13/2025 6:48 AM
To Andrew Brown <abrown4@hawaii.edu>
Cc Robert Walker <rwalker@integral-corp.com>

Good Morning, Drew,
Thank you very much for the prompt reply! We appreciate your support of the project. Mike Elhoff or a representative from Integral Consulting, Inc (likely Rob Walker, cc'd here, or myself) will be in touch as the project progresses to keep you informed.
Have a beautiful Wednesday morning!
-Erin

ERIN PETROSIAN
Tel: 808.374.4442 | Cell: 808.989.2823
INTEGRAL CONSULTING INC.

From: Andrew Brown <abrown4@hawaii.edu>
Sent: Wednesday, August 13, 2025 2:26 PM
To: Erin Petrosian <epetrosian@integral-corp.com>
Cc: Robert Walker <rwalker@integral-corp.com>
Subject: Re: Draft EA - new dock at 45-221 Ka Hanahou - request for review/comments

Good Morning Erin.
I have reviewed the environmental assessment draft and request for input. I see no issues with the request or installation of the dock at this location, If anything the Installation of the dock will provide much needed habitat for some of the local fish populations, this is a good thing as Kaneohe bay stocks are at a low.

Many Thanks.
Any questions please contact me directly.
Drew

I have reviewed the
Andrew Brown
Hawaii Institute of Marine Biology
Auxiliary and Facilities Services Officer
808-489-7749
abrown4@hawaii.edu
P.O Box 1346
Kaneohe, HI96744

On Tue, Aug 12, 2025 at 3:39 PM Erin Petrosian <epetrosian@integral-corp.com> wrote:

> Aloha,
>
> The property owner of the single-family residence at 45-221 Ka Hanahou Circle in Kāneʻohe is proposing to construct a new fixed dock to support recreational use of the bay. As a neighboring property owner, we would appreciate your review of the attached project information and would welcome any comments you may have.
>
> If possible, please provide your comments by **September 1, 2025**.
>
> Thank you in advance for your time and consideration.
>
> **ERIN PETROSIAN | Consultant**
> Tel: 808.374.4442 | Cell: 808.989.2823 | Kamuela | HI
> epetrosian@integral-corp.com
>
> integral INSIGHT FOR AN EVOLVING WORLD