



CONSERVATION DISTRICT USE APPLICATION (CDUA)

All permit applications shall be prepared pursuant to HAR 13-5-31

File No.:

Acceptance Date:

180-Day Expiration Date:

Assigned Planner:

for DLNR Use

PROJECT NAME Kamehameha Highway at Kaaawa Erosion Mitigation

Conservation District Subzone: Resource

Identified Land Use: P-15 (D-1)

(Identified Land Uses are found in Hawai'i Administrative Rules (HAR) §13-5-22 through §13-5-25)

Project Address: Kaaawa, Oahu, Hawaii

Tax Map Key(s): (1) 5-1-002:025

Ahupua'a: Kaaawa

District: 4

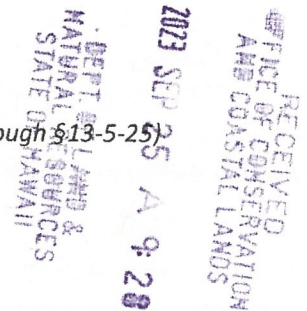
County: Honolulu

Island: Oahu

Proposed Commencement Date: Fall 2023

Proposed Completion Date: Spring 2024

Estimated Project Cost: \$2,000,000



TYPE OF PERMIT SOUGHT ☒ Board Permit ☐ Departmental Permit

ATTACHMENTS

\$ _____ Application Fee. 2.5% of project cost for Board Permits, but no less than \$250, up to a maximum of \$2500; \$250 for Departmental Permits (ref §13-5-32 through 34).

\$ 250 Public Hearing Fee (\$250 plus publication costs; ref §13-5-40)

- ☐ 20 copies of CDUA (5 hard + 15 hard or digital copies)
- ☒ Draft / Final Environmental Assessment (EA) or Draft / Final Environmental Impact Statement (EIS) or Statement of Exemption
- ☒ State Historic Preservation Division HRS 6E Submittal Form (dlnr.hawaii.gov/shpd/review-compliance/forms)
- ☐ Management Plan or Comprehensive Management Plan (ref §13-5-39) if required
- ☐ Special Management Area Determination (ref Hawai'i Revised Statutes 205A)
- ☒ Shoreline Certification (ref §13-5-31(a)(8)) if land use is subject to coastal hazards.
- ☐ Kuleana documentation (ref §13-5-31(f)) if applying for a non-conforming kuleana use.
- ☐ Boundary Determination (ref §13-5-17) if land use lies within 50 feet of a subzone boundary.

REQUIRED SIGNATURES

Applicant

Name: Sergio George G. Abcede
Title; Agency: Highways Administrator, Hawaii Department of Transportation
Mailing Address: 869 Punchbowl Street
Honolulu, HI 96813
Contact Person & Title: Sergio George G. Abcede, Highways Administrator
Phone: (808) 587-2220
Email: george.abcede@hawaii.gov
Interest in Property: HDOT

Signature:  Date: 04/03/23

Signed by an authorized officer if for a Corporation, Partnership, Agency or Organization

Landowner (if different than the applicant)

Name: Laura H. Thielen
Title; Agency: Director, Department of Parks and Recreation, City and County of Honolulu
Mailing Address: 1000 Uluohia Street, Suite 309
Kapolei, HI 96707
Phone: (808) 768-3003
Email: parks@honolulu.gov

Signature:  Date: 6/29/23

For State and public lands, the State of Hawai'i or government entity with management control over the parcel shall sign as landowner.

Agent or Consultant

Agency: Sea Engineering, Inc.
Contact Person & Title: Scott Sullivan, Vice President
Mailing Address: 41-350 Kalaniana'ole Highway
Waimanalo, Hawaii 97795
Phone: (808) 460-3437
Email: ssullivan@seaengineering.com

Signature:  Date: 07/06/23

For DLNR Managed Lands

State of Hawai'i

Chairperson, Board of Land and Natural Resources
State of Hawai'i
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawai'i 96809-0621

Signature:  Date: Sep 21, 2023

PROPOSED USE

Total size/area of proposed use (indicate in acres or sq. ft.): The total area of the overall project is 0.43 acres (18,730 sq. ft.), which includes the rock revetment structure (0.25 acres/10,660 sq. ft.) and road shoulder maintenance.

Please provide a detailed description of the proposed land use(s) in its entirety. Information should describe what the proposed use is; the need and purpose for the proposed use; the size of the proposed use (provide dimensions and quantities of materials); and how the work for the proposed use will be done (methodology). If there are multiple components to a project, please answer the above for each component. Also include information regarding secondary improvements including, but not limited to, grading and grubbing, placement of accessory equipment, installation of utilities, roads, driveways, fences, landscaping, etc.

Attach any and all associated plans such as a location map, site plan, floor plan, elevations, and landscaping plans drawn to scale (*ref §13-5-31*).

A 400-foot -long section of Kamehameha Highway passing through Kaaawa in the vicinity of the elementary school has become undermined due to chronic and episodic coastal erosion. The undermining extends up to 10 feet inland from the eroded bank, extending as far inshore as the makai travel way stripe. This section of road is in danger of failure and collapse. Kamehameha Highway is the only roadway providing access to windward communities from the south, and if this section of road fails, transportation services, emergency services, and commuter lines will be significantly impaired. The Hawaii Department of Transportation proposes to construct a rock revetment to mitigate the shoreline erosion and protect the highway.

The proposed action is to construct an engineered rock revetment along the 400-foot length of the threatened project shoreline. The construction design is to place a stone armor layer, sized according to the design wave height and other oceanographic design criteria, over stone underlayer and geotextile filter fabric. The goal of this design is to prevent progressive erosion and scour from undermining and destabilizing the northbound lane of Kamehameha Hwy. Porous rock revetments absorb a significant fraction of incoming wave energy and would prevent the downward motion of reflected wave energy from the currently vertical erosion scarp. This downward motion of reflected wave energy results in scour of the natural sediment at the base of the scarp.

The armor stone would be basalt rock with a weight of 1,300 to 2,200 lbs, placed over 130 to 220 lb underlayer stone and geotextile filter fabric. The design crest elevation is +8 ft MSL, equivalent to the highway elevation, with a width of 6.6 feet, and a front slope of 1:1.5 (vertical-to-horizontal). A rock toe scour apron extends another 4.4 ft seaward. In its completed form, the new revetment will be approximately 22 feet wide as measured from the landward edge of the crest across to the seaward edge of the toe, and with a length of approximately 450 feet measured end to end.

The road shoulder is narrow at the project site, and construction access is anticipated to be limited. Closure of the northbound (makai) lane will likely be required during active construction. There is a small area at the north end of the site adjacent to Kaaawa Beach Park, which could serve as the primary staging area, and this is where construction would be initiated. Revetment construction will start at the north end (adjacent to Kaaawa Beach Park) and work south. Work will proceed in approximately 25 ft increments,

with clearing, excavating, filling, grading, stockpiling of salvaged material, slope preparation, geotextile filter fabric placement, underlayer stone placement, and finally armor stone placement. Underlayer or core stone placement shall not advance more than 25 feet ahead of cover stone installation in order to mitigate unforeseen environmental situations such as sudden increases in nearshore wave heights or heavy rains. Excavated beach sand from the foundation and toe trench shall be stockpiled on the beach above the mean higher high-water line (+1.1 feet) to the north (updrift) side of the advancing revetment construction.

The revetment footprint (shoreline surface area covered) will be approximately 0.25 acre (10,660 sq. ft.), virtually all of which will be located seaward of the Certified Shoreline, and thus in the Conservation District. Only a very small portion of the north end landward terminous will extend landward of the Certified Shoreline and into the City & County SMA.

The project's approximate design life is 25 years, which is considered to be a short-term to a medium-term solution with respect to typical infrastructure lifespans. No secondary improvements are proposed. Global climate change and sea level rise are affecting Hawaii's coastlines—from now into the future—and will necessitate long-term planning for the future, which may entail significant changes from current coastal land use and activities. Long term planning for Kamehameha Highway along the Windward Oahu coast will determine the ultimate disposition of this mid-term highway protection - incorporation into a long term solution, replacement by a different plan for maintaining the highway, or implementation of a plan for which protection of the existing highway is no longer necessary and the revetment can be removed if desired.

A site location and vicinity map, and typical revetment cross section and plan layout are shown on the attached figures.

EXISTING CONDITIONS

Please describe the following, and attach maps, site plans, topo maps, colored photos, and biological or archaeological surveys as appropriate:

Existing access to site:

The project site is an approximately 450-foot length of roadside shoreline along Hawaii State Route 83 (HI-83), known as Kamehameha Highway. Kamehameha Highway extends from Kaneohe, near the east end of the island, and runs along the northeast (windward) coast up to and around Kahuku Point in the north. It then turns back west to the town of Haleiwa. It is the only highway connecting the coastal communities of Kaneohe, Kahaluu, Kaaawa, Punaluu, Hauula, and Laie, and is the primary access for police, fire, and emergency medical services. The Hawaii Department of Transportation-Highways Division (HDOT-H) records the Annual Average Daily Traffic count as 13,000 vehicles per day. Many portions of the highway directly follow the coastline and are within feet of the water line in places and only a few feet above it. Coastal erosion and shoreline recession are an increasing threat to the highway. The project site is located on the makai side of the highway, in the community of Kaaawa, and is located directly seaward of Kaaawa Elementary School. It is easily accessible as it is located along a main trafficway.

For more information regarding site access, please refer to Section 1 of the Environmental Assessment (EA).

Existing buildings/structures:

The specific area of interest is located between Kaaawa Beach Park to the north and a concrete seawall made from horizontal square piles fronting Kaaawa Elementary School to the south. The project site's shoreline is a narrow strand of sandy beach, with the mean higher high water (MHHW) waterline located between 25 to 50 feet seaward from the edge of the roadway. To the north of the site, at Kaaawa Beach Park, the highway is increasingly further from the shoreline, while to the south of the site, the shoreline is partially protected by a vertical concrete block seawall.

For more information related to existing buildings/structures, please refer to Section 1 of the EA.

Existing utilities (electrical, communication, gas, drainage, water & wastewater):

Electrical service to the Kaaawa region is provided by Hawaiian Electric (HECO). Hawaiian Telecom and Spectrum provide internet, telephone, and cable services to residents in the area. Telecommunication and power lines are located mauka of the highway and would not be affected by the proposed project. One power pole guy wire pole is located on the makai side within the project footprint, and temporary stabilization of the power pole will be required during construction. The existing guy wire configuration will be replaced following the completion of construction.

The Honolulu Board of Water Supply (BWS) is responsible for Oahu's municipal water system, an integrated, island-wide system with interconnections between water sources and service areas. No BWS pipelines or other facilities are present on the makai side of the highway or in the construction area.

Physiography (geology, topography, & soils):

Kaaawa, including the project site, lies on a narrow strip of relatively flat land between the ocean and the steep Koolau Mountains. A large portion of this strip of land rests on ancient beach material deposited

during times of higher sea levels. This land is now capped by a stratum of organic material and clays. Soil types within the project area were identified by using data from the U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS); formerly known as the Soil Conservation Service, and Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii, (August 1972). According to the USDA NRCS Soils Map, the site consists of five main categories of soils. Starting from the shoreline and moving mauka, Kaaawa soils range as follows: Jaucas sand with slopes no greater than 15 percent; Mokuleia loam ; Waialua stony silty clay with slopes between 3 and 8 percent; Waialua stony silty clay with slopes between 12 and 30 percent (labeled as hqig); and Rock outcrop.

Jaucas sand areas are mainly comprised of light-colored calcareous sands derived from coral and broken shell material from marine invertebrates. Inland areas are mixed-use and include residential and rural use such as farming and ranching, whereas the beach areas have no farming value. The project site lies entirely within the Jaucas sands classification.

For more information regarding site physiography, please refer to Section 3.2 of the EA.

Hydrology (surface water, groundwater, coastal waters, & wetlands):

The project coastline is characterized by a wide and shallow fringing limestone reef flat stretching 1,000 to 3,000 feet offshore. The fringing reef is divided with deep channels and depressions at numerous locations with abundant sand patches. The fringing reef's shallow crest and broad profile typically provide significant protection to the shoreline from direct wave action. The project site is directly exposed to the prevailing tradewind generated waves, and partially exposed to large winter season north swell. There is significant wave energy approaching the site year round. During high tides and larger wave events a significant amount of energy reaches the shore creating a very dynamic shoreline.

Flora & fauna (indicate if rare or endangered plants and/or animals are present):

Flora: The only flora listed by U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) website and database for the general project vicinity is the flowering plant known as Kauila (*Colubrina oppositifolia*), which is listed as endangered. Kauila is a native Hawaiian tree that grows to a height of 15 to 30 ft and is hardy enough to tolerate the briny soils and salty air of nearshore terrain. It is one of the hardest of all native woods and is in fact so dense it will sink in water. Its wood is prized by woodworkers due to its rarity and difficulty to acquire. No Kauila would be affected by the proposed project. Several coconut palms and milo trees are located within the footprint of the proposed revetment, and these would require removal.

Marine Fauna: The project area is fronted by a wide, shallow reef flat. Green sea turtles are not commonly seen foraging in the nearshore waters or nesting in the area. Turtles would be expected to move away from the construction activities, and as the impact area is very small and primarily on sandy bottom construction would not significantly affect turtle foraging area. Hawaiian monk seals are also not commonly observed in the project vicinity. Construction of the revetment will not involve in-water work, such as pile driving, which could be expected to result in significant underwater sound that would adversely affect marine creatures. Endangered Humpback whales can regularly be seen in Hawaiian waters during the winter; however, the shallow nearshore waters prevent them from coming close to shore. The project area has not been designated as critical habitat by the Federal Government or the State of Hawaii for endangered species.

A biological survey of the nearshore project site was conducted in January 2021 (Marine Research Consultants, Inc., 2021), which covered the entire shoreline area fronting the project area and included the reef flat out to 50 m from the shoreline. The complete survey results are provided in Appendix A of the Environmental Assessment. Results of the biological survey indicate that the marine habitat was essentially unchanging from the shoreline to the outer limits of the survey and consisted of a flat sand/rubble surface with little vertical relief. Several piles of large stones or boulders were interspersed over the area. The most abundant benthic biota were various species of algae. The most common were *Acanthophora specifera*, *Halimeda* spp., *Caulerpa* spp. and *Padina* spp. Corals were relatively rare and consisted primarily of small, isolated colonies of typical Hawaiian reef species of *Porites* and *Pocillopora*. Fish communities were notably lacking in numbers of individuals and variety of species. The few fish observed during the survey were all small in size. The lack of fish and the overall small size of individuals is likely a response to heavy fishing pressure in the area, in turn owing to the proximity to the shoreline and major roadway.

The marine water column from the surface to a depth of 1,000 meters from the shoreline to the outer boundary of the Exclusive Economic Zone (EEZ) (370 kilometers/200 nautical miles/ 230 miles), and the seafloor from the shoreline out to a depth of 700 m around each of the Hawaiian Islands, have been designated as Essential Fish Habitat (EFH). As such, the water column in the proposed project area is designated as EFH and supports various life stages for the management unit species (MUS) identified under the Western Pacific Regional Fishery Management Council's Pelagic and Hawaii Archipelago Fishery Management Plan. There are no areas within the project area that have been designated as Habitat Areas of Particular Concern (HAPC) under the EFH regulations, and no portion of the proposed project area would qualify as an HAPC. The project area is located on a highly utilized shoreline for fishing, swimming, and other nearshore recreation and is immediately adjacent to a beach park. Consequently, the project area is subject to chronic anthropogenic impacts from human use.

Coral species are protected under Hawaii State law, which prohibits "breaking or damaging, with any implement, any stony coral from the waters of Hawaii, including any reef or mushroom coral" (HAR §13-95-70, DLNR, 2010). It is also unlawful to take, break or damage with any implement, any rock or coral to which marine life of any type is visibly attached (HAR §13-95-71, DLNR, 2002). No coral would be directly impacted by the project.

No listed endangered or threatened marine species (USFWS, 2013) were observed during the January 2021 marine surveys. State protected species, such as hermatypic corals, were not observed at the project site.

Terrestrial Fauna: The Hawaiian hoary bat roosts in both exotic and native woody vegetation and, while foraging, will leave young unattended in "nursery" trees and shrubs when they forage. If trees or shrubs suitable for bat roosting are cleared during the breeding season, there is a risk that young bats could inadvertently be harmed or killed since they are too young to fly or may not move away. To minimize impacts to the endangered Hawaiian hoary bat, woody plants greater than 15-feet (4.6 meters) tall should not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15). Site clearing would be timed to avoid disturbance to Hawaiian hoary bats in the project area.

Several bird species, including wetland, forest, and sea birds are listed for the general project vicinity. A summary of these bird species and their endangered status is provided in Table 3-10 of the EA. Two species of sea birds were listed, the Band-rumped Storm-petrel and the Short-tailed albatross. Sea birds fly at night and are attracted to artificially lighted areas which can result in disorientation and subsequent fallout due to exhaustion or collision with objects such as utility lines, guy wires, and towers that protrude above the vegetation layer. Once grounded, they are vulnerable to predators or

often struck by vehicles along roadways. Any increase in the use of night-time lighting, particularly during each year's peak fallout period (September 15 through December 15), could result in additional seabird injury or mortality. Project construction would not involve nighttime work or any new/additional lighting.

Best management practices will be strictly adhered to during project construction. For more details, please refer to Section 3.6 and 3.7 and Appendix B of the EA.

Natural hazards (erosion, flooding, tsunami, seismic, etc.):

The National Flood Insurance Program (NFIP), administered by FEMA (the Federal Emergency Management Agency), produces maps identifying flood hazards and associated zones of risk, known as Flood Insurance Rate Maps or FIRMs. The FEMA flood hazard map indicates that the parcel of land that the project site is on is rated as Flood Zone VE (EL 10) over the north half and changes to Zone AE (EL 10) over the southern portion. Zone VE indicates a coastal flood zone with a velocity hazard, along with a base flood elevation (BFE) value of 10 feet. For the southern half of the property, a Zone AE designation means that a BFE has been calculated for these areas; however, without an additional velocity hazard. A BFE value represents the water surface elevation for a 1% annual chance flood (in this case, based on the 100-yr tsunami inundation limits). The BFE can also be defined as the elevation—expressed as a height above mean sea level—that floodwaters are estimated to have a 1 percent chance of reaching or exceeding in any given year. The BFE value for the northern and southern portions of the property are equivalent, at 10 ft above MSL. Roughly 400 to 500 feet inland from the site, the designation turns to Zone X, which is an area that is determined to be outside of the 0.2% chance (500-year) flood plain, due to the steeply rising terrain.

It is reported that 10 of the 26 tsunamis with flood elevations greater than 3.3 feet (1 m) that have made landfall in the Hawaiian Islands during recorded history have had “significant damaging effects on Oahu.” This means that, on average, one damaging tsunami reaches Oahu every 19 years. The recent record (1946 to the present) has seen four tsunami cause damage on Oahu, a rate that is very close to the longer-term average.

Hurricane Iwa in 1982 passing near the island of Kauai, Iniki in 1992 passing over the island of Kauai, and Hurricane Iselle in 2014 passing over the island of Hawaii. These storms caused extremely high surf and wave damage on multiple shores of the islands. Hurricane Douglas in July 2020 passed north of Oahu, and waves overtopped the shoreline in the project area and deposited waves and debris on the highway. The Windward Oahu Hurricane Vulnerability Study (Sea Engineering, 1990) indicates that a theoretical model hurricane passing over the island from the south/southwest could result in deep-water waves 44.2 feet high with periods of 14.6 seconds for Oahu North and East shores.

For greater detail involving the potential coastal hazards associated with the project site, please see Section 3.5 of the EA.

Historic & cultural resources:

International Archaeology, LLC (IA) conducted a review of historic documents pertaining to the project area to support the permit and approval process and consultation with agencies such as the State Historic Preservation Division. The following discussion is taken from the IA study report.

The literal translation of Kaaawa is “the yellow wrasse”, which is a common Hawaiian reef food fish. An alternate interpretation refers to the broad reef passage (awa) that exposes the shoreline to northern

swells. A traditional Hawaiian 'olelo no'eau notes the dynamic geomorphology of Kaaawa's coastal landscape: "He kai 'a'ao ko Ka'a'awa" (Kaaawa has a sea that wears away the land – which seems apt given the documented erosion of the shoreline). The ahupua'a of Kaaawa is mentioned in numerous legends beginning as early as the 1300's AD. Unfortunately, early (pre-western contact) settlement of the area is poorly documented. Missionary records from the 1830s indicate that several hundred people lived in Kaaawa, and less than 3,000 in the entire district of Koolauloa. The mid-19th century Mahele, which divided the land among the king, chiefs, and the government, introduced private land ownership to Hawaii. The majority of Kaaawa Valley was purchased by Dr. Gerrit P. Judd in 1870 and became Oahu Plantation and later Kualoa Ranch Ltd. in 1927. Also, in 1927 the Kaaawa Military Reservation was established to support the Jungle Warfare Center in Kahana Valley. This was located approximately where Swanzy Beach Park is today. The reservation land was returned to the Territory of Hawaii in 1953. Kaaawa Elementary School, directly landward of the project site was founded in 1904 and is one of the longest continuously operating public elementary schools in the state.

Kamehameha Highway, as a modern paved automobile roadway, was constructed along the Ko'olauloa coastline during the late 1920s. The modern road was constructed on top of the 19th century coastal government road known as the Alanui Aupuni, which in turn followed the same path as a pre-Contact trail documented in the earliest historical records. The highway in Kaaawa was severely damaged by a tsunami in 1946.

Only a relatively small number of archaeological investigations have been conducted in the Kaaawa area, which is attributable to the limited development of this rural area. Many of the archaeological investigations have been in response to inadvertent discoveries of human skeletal remains, and others are small archaeological inventory surveys and monitoring projects, all of which were close to the coast. No large landscape-scale archaeological inventory surveys have been completed in Kaaawa and knowledge about the archaeological record of the mauka area is lacking.

McAllister (1933) included Kaaawa in his island-wide reconnaissance survey, which was primarily focused on monument features (e.g., heiau) and traditional sites in oral history. However, McAllister did document human remains eroding out of the beach berm south of the project site. More recently numerous inadvertent burials have been documented, at least 20 traditional Hawaiian burials (or fragmentary remains) have been documented along the coastline of Kaaawa Ahupua'a. Investigation of one burial site between 1991 and 2017 has shown not only traditional Hawaiian materials and burials but also a small amount of post-Contact material has been found in the deposit. This suggests that this paleosurface was used spanning Contact, or that materials from more recent times have been introduced down into the deposit by mechanical, erosional, or other means. Radiocarbon dates place the age of this deposit sometime between the early 1800s and the first half of the 1900s.

International Archaeology, LLC (IA) completed an archaeological inventory survey (AIS) for the Ka'a'awa Erosion Mitigation Project, Ka'a'awa Ahupua'a, Ko'olauloa District, O'ahu, Hawai'i (TMK: [1] 5-1-002:025 [portion]). A total of six test units were excavated at four locations along the makai right-of-way of Kamehameha Highway.

Testing resulted in the documentation of a traditional to early historical deposit (Layer VI) and feature designated as a component of Site 50-80-06-7122. This deposit contains midden, charcoal, FCR, and a low

density of artifacts. A radiocarbon determination obtained from a combustion feature originating from the base of the deposit, indicates human activities began sometime between the 13th to early 15th centuries. A continuation of activity into the historical period is suggested based on the recovery of a single *Pinctada* sp. button recovered from the upper margin of the deposit.

Site 50-80-06-7122 was originally documented by Groza and Hammatt (2010) and is evaluated as significant per HAR §13-284-6 under criterion d (it has produced information important for research on prehistory or history) and criterion e (have an important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts--these associations being important to the group's history and cultural identity). The results of this AIS are generally consistent and bolster the previous interpretation of Site 50-80-06-7122.

Construction would involve a small amount of excavation in a dynamic and already heavily altered sand and sediment shoreline bank. An archaeological monitor would be on-site during construction of the project should archaeological remains be discovered.

EVALUATION CRITERIA

The Department or Board will evaluate the merits of a proposed land use based upon the following eight criteria (*ref §13-5-30(c)*)

1. The purpose of the Conservation District is to conserve, protect, and preserve the important natural and cultural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare. (*ref §13-5-1*) How is the proposed land use consistent with the purpose of the conservation district?

The proposed erosion mitigation strategy is consistent with the purpose of the conservation district. Hawaii's coastlines are narrowing at an alarming rate due to past shoreline mismanagement, sea level rise, and overdevelopment. The intent of this project is to provide much needed erosion mitigation along the shoreline for a limited stretch of Kamehameha Highway. Kamehameha Highway extends from Kaneohe near the east end of the island along the northeast (Windward) coast to the North Shore town of Haleiwa. It is the only highway connecting the coastal communities of Kaneohe, Kahaluu, Kaaawa, Punaluu, Hauula, Laie, and Kahuku. The HDOT records the Annual Average Daily Vehicle Traffic count as 13,000 vehicles. It is the primary access for police, fire, and emergency medical vehicles. If the ongoing erosion forces closure of the highway at the project site all vehicles would have to detour through narrow backshore residential streets to bypass the closure, including trucks, busses, emergency vehicles, and commuters going to work. The proposed project would eliminate this possible significant impact on transportation in Kaaawa and the greater windward side of Oahu. HAR 13-5-22 (P-15, p 5-26) provides for the use of shoreline erosion control revetments for "(3) public facilities (e.g. public roads) critical to public health, safety, and welfare would be severely damaged or destroyed without a shoreline erosion control structure, and there are no reasonable alternatives (e.g. relocation)"

2. How is the proposed use consistent with the objectives of the subzone of the land on which the land use will occur? (*ref §13-5-11 through §13-5-15*)

The objective of the Resource Subzone is to "ensure, with proper management, the sustainable use of the natural resources of those areas." The proposed restorative revetment is a mid-term solution for the protection of the critical roadway, with a design life expectancy of 25 years. The structure size has been minimized to the extent possible while still meeting the project needs. The project will protect the highway while longer term planning for the windward coastline can be accomplished.

3. Describe how the proposed land use complies with the provisions and guidelines contained in chapter 205A, HRS, entitled "Coastal Zone Management" (*see 205A objectives on p. 9*).

Recreational Resources:

The relatively calm shoreline conditions and narrow sand beach make Kaaawa Beach Park and project vicinity an ideal location for coastal recreation, and the shoreline is heavily utilized by the local community. The broad offshore reef helps dissipate wave energy allowing for year-round use by shoreline fisherman, snorkelers, swimmers, paddlers, sailors, surfers, and spearfishermen. On weekends the park and adjacent shoreline are crowded with people. The proposed project would result in temporary shoreline recreation impacts during construction but would not result in long-term recreation impacts. The project site shoreline is in a very degraded and unsafe condition, with numerous rocks and boulders undermined/overhanging road shoulder. The shoreline revetment is not expected to significantly alter the existing recreational resource.

During project construction work hours, public access would be managed to promote the safety and

welfare of the public and construction crews. During construction, water quality best management practices will be used to minimize sources of pollution to the adjacent marine environment.

Historic Resources:

A traditional Hawaiian 'olelo no'eau notes the dynamic geomorphology of Kaaawa's coastal landscape: "He kai 'a'ao ko Ka'a'awa" (Kaaawa has a sea that wears away the land – which seems apt given the documented erosion of the shoreline). The ahupua'a of Kaaawa is mentioned in numerous legends beginning as early as the 1300's AD. Unfortunately, early (pre-western contact) settlement of the area is poorly documented. Missionary records from the 1830s indicate that several hundred people lived in Kaaawa, and less than 3,000 in the entire district of Koolauloa. The mid-19th century Mahele, which divided the land among the king, chiefs, and the government, introduced private land ownership to Hawaii. The majority of Kaaawa Valley was purchased by Dr. Gerrit P. Judd in 1870 and became Oahu Plantation and later Kualoa Ranch Ltd. in 1927. Also, in 1927 the Kaaawa Military Reservation was established to support the Jungle Warfare Center in Kahana Valley. This was located approximately where Swanzy Beach Park is today. The reservation land was returned to the Territory of Hawaii in 1953. Kaaawa Elementary School, directly landward of the project site was founded in 1904 and is one of the longest continuously operating public elementary schools in the state.

Only a relatively small number of archaeological investigations have been conducted in the Kaaawa area, which is attributable to the limited development of this rural area. No large landscape-scale archaeological inventory surveys have been completed in Kaaawa and knowledge about the archaeological record of the mauka area is lacking. McAllister (1933) included Kaaawa in his island-wide reconnaissance survey, which was primarily focused on monument features (e.g., heiau) and traditional sites in oral history. However, McAllister did document human remains eroding out of the beach berm south of the project site. More recently numerous inadvertent burials have been documented, at least 20 traditional Hawaiian burials (or fragmentary remains) have been documented along the coastline of Kaaawa Ahupua'a. Investigation of one burial site between 1991 and 2017 has shown not only traditional Hawaiian materials and burials but also a small amount of post-Contact material has been found in the deposit. This suggests that this paleosurface was used spanning Contact, or that materials from more recent times have been introduced down into the deposit by mechanical, erosional, or other means. Radiocarbon dates place the age of this deposit sometime between the early 1800s and the first half of the 1900s.

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Testing resulted in the documentation of a traditional to early historical deposit (Layer VI) and feature designated as a component of Site 50-80-06-7122. This deposit contains midden, charcoal, FCR, and a low density of artifacts. A radiocarbon determination obtained from a combustion feature originating from the base of the deposit, indicates human activities began sometime between the 13th to early 15th centuries. A continuation of activity into the historical period is suggested based on the recovery of a single *Pinctada* sp. button recovered from the upper margin of the deposit.

Site 50-80-06-7122 was originally documented by Groza and Hammatt (2010) and is evaluated as significant per HAR §13-284-6 under criterion d (it has produced information important for research on prehistory or history) and criterion e (have an important value to the native Hawaiian people or to another

ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts--these associations being important to the group's history and cultural identity). The results of this AIS are generally consistent and bolster the previous interpretation of Site 50-80-06-7122.

Construction would involve a small amount of excavation in a dynamic and already heavily altered sand and sediment shoreline bank. An archaeological monitor would be on-site during construction of the project should archaeological remains be discovered.

Scenic and open space resources:

The coastal highway along the Windward coast of Oahu is a very scenic drive, with the ocean view only occasionally obstructed by homes. The proposed revetment crest would be the same as the highway elevation, so it would not obstruct the view. While the revetment would have an obvious man-made look to it, it would be constructed of native basalt rock and would not look unlike much of the rocky windward coast. Numerous locations on the Windward coast have rock revetment protection for the highway, and this project would look the same.

Coastal ecosystems:

The total footprint of the revetment (shoreline surface area covered) will be approximately 0.25 acre/10,660 sf, and which will be almost entirely landward of the mean higher high water line (+1.1 feet), i.e. out of the water. Only a small portion of the toe scour apron will extend seaward of mean higher high water, with a footprint of 0.01 acre/435 sf. This footprint area is also a shifting sand shoreline, with limited marine life. Thus, the project impacts on the surrounding coastal ecosystems are not considered significant.

The only potential negative effect to the marine environment that could arise from the proposed project could be temporary increases in turbidity. Results of the marine survey conducted for this project indicate that the marine habitats fronting the project site do not represent fragile or unique areas that would be susceptible to such temporary impacts. As the area is subjected to persistent longshore currents, any increase in turbidity would be temporary in nature, and would not likely settle on the bottom. The paucity of corals in the area indicates it is not an ideal habitat for reef development. The present lack of fish indicates that there is little potential for any effect on the existing populations from temporary increases in turbidity. Best Management Practices including environmental protection and turbidity containment barriers around active construction will be implemented to protect the coastal ecosystem.

Recommendations of the U.S. Fish and Wildlife Service and NOAA-National Marine Fisheries Service, will be followed for the protection of threatened and endangered species, such as the green sea turtle and Hawaiian monk seal.

Economic uses:

The proposed revetment along the Kamehameha Highway in Kaaawa would sustain the State's economy by eliminating the possible significant impact on the highway that further shoreline erosion poses. Protection of the highway in the project area is essential to maintaining accessibility to not just Kaaawa, but the entire windward coast that relies on Kamehameha Highway for transportation access.

Coastal hazards:

Flood Insurance Rate Maps (FIRMs) indicate that the Kaaawa is located in a flood zone, and is exposed

to potential tsunamis and hurricanes like much of Hawaii's coastal communities. The proposed project is not expected to affect the project area exposure to coastal hazards. The proposed erosion mitigation would, however, help protect the highway during coastal hazard conditions.

Managing development:

The project requires the following primary Federal and State permits and approvals.

- Department of the Army (DA) permit for work in navigable waters of the U.S. A DA Nationwide Permit #3 (Maintenance) for the project was issued on November 23, 2021.
- An Environmental Assessment in accordance with HRS Chapter 343. The FEA-FONSI was published in the Environmental Notice on June 23, 2022.
- A Conservation District Use Permit pursuant to HAR Title 13 Chapter 5.

A Right-of-Entry from the DLNR Land Division will be required for construction access.

The Kaaawa Community Association has been consulted and a virtual meeting held, and they have submitted a letter of support for the project.

Public participation:

A Draft EA has been circulated for public review and comment, including to the Koolauloa Neighborhood Board and the Kaaawa Community Association. A virtual meeting was held with the Kaaawa Community Association to discuss the project. A public meeting will be held during processing of the State Conservation District Use Application.

Beach protection:

The nearshore coastal processes are primarily driven by the prevailing trade wind waves and the nearshore bathymetry. As previously stated, the extensive shallow reef shelf and adjacent deep channel combine to create the prevailing nearshore circulation pattern and longshore sand transport in the project area. There is a steady shore-parallel (longshore) current that flows along the beach in a north-to-south direction. This longshore current is generated by the mass flow of water-driven over the shallow reef by a persistent, short period, breaking waves from the prevailing trade winds. This relatively vigorous current terminates south of the project site as it flows off the shallow reef and into a small, slightly deeper (8-10 ft) basin just north of the cobble stream mouth deposit. Here, the current makes a U-turn as it empties into and flows back out through the submerged Kaaawa Stream channel. This current does not reverse direction but simply varies in intensity by increasing in velocity with increases in the offshore wave height. This longshore current is strongest during periods of large winter season north swell wave events. The narrow strand beach along the shore varies in width seasonally and depending on the strength of the longshore current. The project is located on a shoreline parcel and adjacent to Kaaawa Beach Park. The project will impact recreational activities and public access to the shoreline during construction, but post-construction the project is not expected significantly alter the existing shoreline activities.

Marine and coastal resources:

No significant long-term impacts to marine resources are anticipated to result from the proposed project. Environmental construction specifications and Best Management Practices (BMPs) will be formulated to protect marine resources, including water quality, benthic flora and fauna, corals, fishes, and endangered species. The project will be coordinated with marine resource agencies,

including the NOAA National Marine Fisheries Service, the U.S. Fish & Wildlife Service, the U.S. Environmental Protection Agency, and the U.S. Army Corps of Engineers. The proposed erosion mitigation project is anticipated to have a positive impact on the Kaaawa shoreline and protect critical infrastructure, providing both an environmental and economic benefit.

4. Describe how the proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community or region.

The proposed project mitigates the impacts of coastal erosion and high water levels, which are increasing with sea level rise, by providing a solution that protects a section of Kamehameha Highway along the Kaaawa shoreline, an essential trafficway for the public, police, fire, and emergency medical services. The proposed revetment would be in a shifting sand shoreline location, with limited marine life, and is not anticipated to have any significant impact to existing natural resources or the surrounding marine biological environment. All construction activities will follow the BMP plan developed for this specific project, designed to ensure that adequate protective measures are followed. The BMP plan should prevent, if possible, or minimize, adverse impacts to the environment during construction.

To learn more about the impacts regarding natural resources in the surrounding area, please see Section 3 of the EA.

5. Describe how the proposed land use, including buildings, structures and facilities, is compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels.

The rock revetment does not include the construction of any buildings or facilities. The proposed project does include the construction of an erosion mitigation structure along 400 ft of the makai side of the Kamehameha Highway in Kaaawa. The shoreline both north and south of the project site has existing rock revetment protection for the highway. The proposed revetment crest would be the same as the highway elevation, so it would not obstruct the view. While the revetment would have an obvious man-made look to it, it would be constructed of native basalt rock and would not look unlike much of the rocky windward coast. Numerous locations on the Windward coast have rock revetment protection for the highway, and this project would look the same.

6. Describe how the existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon.

While the proposed revetment would have an obvious man-made look to it, it would be constructed of native basalt rock and would not look unlike much of the rocky windward coast. Numerous locations on the Windward coast have rock revetment protection for the highway, and this project would look the same.

7. If applicable, describe how subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District.

No subdivision of land is proposed with this project.

8. Describe how the proposed land use will not be materially detrimental to the public health, safety and welfare.

Kamehameha Highway extends from Kaneohe near the east end of the island along the northeast (Windward) coast to the North Shore town of Haleiwa. It is the only highway connecting the coastal communities of Kaneohe, Kahaluu, Kaaawa, Punaluu, Hauula, Laie, and Kahuku. The HDOT records the Annual Average Daily Vehicle Traffic count as 13,000 vehicles. It is the primary access for police, fire, and emergency medical vehicles. If the ongoing erosion forces closure of the highway at the project site all vehicles would have to detour through narrow backshore residential streets to bypass the closure, including trucks, busses, emergency vehicles, and commuters going to work. The proposed project would eliminate this possible significant impact on public safety and welfare.

CULTURAL IMPACTS

Articles IX and XII of the State Constitution, other state laws, and the courts of the State, require government agencies to promote and preserve cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups.

Please provide the identity and scope of cultural, historical, and natural resources in which traditional and customary native Hawaiian rights are exercised in the area.

International Archaeology, LLC (IA) conducted a review of historic documents pertaining to the project area to support the permit and approval process and consultation with agencies such as the State Historic Preservation Division. The following discussion is taken from the IA study report.

The literal translation of Kaaawa is “the yellow wrasse”, which is a common Hawaiian reef food fish. An alternate interpretation refers to the broad reef passage (awa) that exposes the shoreline to northern swells. A traditional Hawaiian ‘olelo no’eau notes the dynamic geomorphology of Kaaawa’s coastal landscape: “He kai ‘a’ao ko Ka’a’awa” (Kaaawa has a sea that wears away the land – which seems apt given the documented erosion of the shoreline). The ahupua’a of Kaaawa is mentioned in numerous legends beginning as early as the 1300’s AD. Unfortunately, early (pre-western contact) settlement of the area is poorly documented. Missionary records from the 1830s indicate that several hundred people lived in Kaaawa, and less than 3,000 in the entire district of Koolauloa. The mid-19th century Mahele, which divided the land among the king, chiefs, and the government, introduced private land ownership to Hawaii. The majority of Kaaawa Valley was purchased by Dr. Gerrit P. Judd in 1870 and became Oahu Plantation and later Kualoa Ranch Ltd. in 1927. Also, in 1927 the Kaaawa Military Reservation was established to support the Jungle Warfare Center in Kahana Valley. This was located approximately where Swanzy Beach Park is today. The reservation land was returned to the Territory of Hawaii in 1953. Kaaawa Elementary School, directly landward of the project site was founded in 1904 and is one of the longest continuously operating public elementary schools in the state.

Only a relatively small number of archaeological investigations have been conducted in the Kaaawa area, which is attributable to the limited development of this rural area. Many of the archaeological investigations have been in response to inadvertent discoveries of human skeletal remains, and others are small archaeological inventory surveys and monitoring projects, all of which were close to the coast. No large landscape-scale archaeological inventory surveys have been completed in Kaaawa and knowledge about the archaeological record of the mauka area is lacking.

McAllister (1933) included Kaaawa in his island-wide reconnaissance survey, which was primarily focused on monument features (e.g., heiau) and traditional sites in oral history. However, McAllister did document human remains eroding out of the beach berm south of the project site. More recently numerous inadvertent burials have been documented, at least 20 traditional Hawaiian burials (or fragmentary remains) have been documented along the coastline of Kaaawa Ahupua’a. Investigation of one burial site between 1991 and 2017 has shown not only traditional Hawaiian materials and burials but also a small amount of post-Contact material has been found in the deposit. This suggests that this paleosurface was used spanning Contact, or that materials from more recent times have been introduced down into the

deposit by mechanical, erosional, or other means. Radiocarbon dates place the age of this deposit sometime between the early 1800s and the first half of the 1900s.

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Testing resulted in the documentation of a traditional to early historical deposit (Layer VI) and feature designated as a component of Site 50-80-06-7122. This deposit contains midden, charcoal, FCR, and a low density of artifacts. A radiocarbon determination obtained from a combustion feature originating from the base of the deposit, indicates human activities began sometime between the 13th to early 15th centuries. A continuation of activity into the historical period is suggested based on the recovery of a single *Pinctada* sp. button recovered from the upper margin of the deposit.

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Construction would involve a small amount of excavation in a dynamic and already heavily altered sand and sediment shoreline bank. An archaeological monitor would be on-site during construction of the project should archaeological remains be discovered.

Identify the extent to which those resources, including traditional and customary Native Hawaiian rights, will be affected or impaired by the proposed action.

No known traditional and customary Native Hawaiian rights would be adversely affected by the proposed project. During construction activities such as fishing, diving, swimming, paddling, gathering, contemplation, worship, and surfing will be intermittently affected by construction activities. The project would not result in any long term or permanent change in traditional use of the shoreline.

What feasible action, if any, could be taken by the Board of Land and Natural Resources in regards to your application to reasonably protect Native Hawai'i rights?

No action is recommended by the Board of Land and Natural Resources as the proposed project is not anticipated to affect any traditional or customary Native Hawaiian rights or practices. We are unaware of any explicit Native Hawaiian cultural or traditional rights or practices that take place on or within the immediate vicinity of the project area.

OTHER IMPACTS

Does the proposed land use have an effect (positive/negative) on public access to and along the shoreline or along any public trail?

Prior to the undermining of the highway shoulder, the public was allowed to park along the road shoulder and access the shoreline. Since the severe undermining has occurred the shoulder has been blocked off to public use. Construction of the proposed project will not negatively affect shoreline access in this area, but rather improve accessibility and safety with its implementation.

Does the proposed use have an effect (positive/negative) on beach processes?

The proposed project area has been affected by chronic erosion with an estimated long-term shoreline recession rate of 0.5-1 ft per year. The rock revetment would have a positive affect on erosion and shoreline recession. The proposed project will not alter the nearshore bathymetry and will not significantly alter the topography. The revetment will directly abut the existing shoreline bank and will change a near vertical eroding earthen and boulder scarp into a stable sloping porous rock face. It will not alter longshore current or longshore sand transport patterns. The porous revetment will dissipate more wave energy and be less reflective than the existing shoreline, particularly during high wave conditions.

The shoreline is very dynamic, the width and area of the narrow sand beach along the project shoreline is highly variable, and is directly influenced by the prevailing wave height and wave-induced alongshore current. The low-lying beach is also subject to high tide inundation. These factors directly affect the recreational useability of the beach and its ability to provide lateral access along the shore. During periods of reduced beach area, and high waves and high tides, the proposed revetment may also affect lateral shoreline access.

Coastal currents and alongshore sand transport are primarily driven by the prevailing incident wave energy, which generates a steady shore-parallel current that flows along the beach in a north to south direction. Given this north to south flow the shoreline to the north (updrift) of the project will be unaffected. Thus the project will have no impact on the Kaaawa Beach Park comfort station or the residential homes to the north. The revetment will tie into the existing stacked concrete pile wall on its south end. This concrete wall provides hard erosion protection for the highway. The tie-in will not adversely affect the existing wall.

For more information about impacts to beach processes, please refer to Section 3.1 and 3.6 of the EA.

Will the proposed use cause increased sedimentation?

The project should not permanently degrade water quality nor impact marine flora and fauna. As the area is subjected to persistent longshore currents, any increase in turbidity would be temporary in nature, and would not likely settle on the bottom. The present lack of fish indicates that there is little potential for any effect on the existing populations from temporary increases in turbidity. Silt curtains would be deployed around areas of active construction to contain and control potential turbidity.

The revetment will prevent erosion of the backshore, thereby reducing sedimentation in coastal waters from erosion of terrigenous material in the coastal plain.

Revetments, like that proposed, generally tend to better facilitate sand deposition than do vertical earthen embankments like the existing condition. Reduced return wave energy from the revetment would decrease natural nearshore turbidity generated during wave and swell events and could

promote beach accretion. Lateral access to the beach is expected to improve following the installment of the revetment due to the absorptive and permeable nature of rock revetments, allowing for greater use of the shoreline.

For more information about impacts to water quality, please refer to Section 3.8 of the EA.

Will the proposed use cause any visual impact on any individual or community?

The coastal highway along the Windward coast of Oahu is a very scenic drive, with the ocean view only occasionally obstructed by homes. The proposed revetment crest would be the same as the highway elevation, so it would not obstruct the view. While the revetment would have an obvious man-made look to it, it would be constructed of native basalt rock and would not look unlike much of the rocky windward coast. Numerous locations on the Windward coast have rock revetment protection for the highway, and this project would look the same. The proposed rock revetment would be visually and environmentally consistent with much of the neighboring shoreline.

For more information about visual impacts, please see Section 3.13 of the Environmental Assessment.

Please describe any sustainable design elements that will be incorporated into the proposed land use (*e.g. the use of efficient ventilation and cooling systems; renewable energy generation; sustainable building materials; permeable paving materials; efficient energy and water systems; efficient waste management systems; etc.*).

Not applicable.

If the project involves landscaping, please describe how the landscaping is appropriate to the Conservation District (*e.g. use of indigenous and endemic species; xeriscaping in dry areas; minimizing ground disturbance; maintenance or restoration of the canopy; removal of invasive species; habitat preservation and restoration; etc.*)

Not applicable.

Please describe Best Management Practices that will be used during construction and implementation of the proposed land use.

BMPs for construction operations would be implemented to minimize adverse effects to the noise, air and water quality, endangered species, and the surrounding marine environment in the proposed project area. The project specifications would require the Construction Contractor to adhere to strict environmental protection measures, and that work is performed in a manner that minimizes environmental pollution and damage as a result of operations. Environmental resources within project boundaries and those affected outside the limits of permanent work would be protected throughout the entire duration of the construction period. Public safety practices would also be implemented.

For detailed information regarding BMPs, please refer to the Appendix B of the EA.

Please describe the measures that will be taken to mitigate the proposed land use's environmental and cultural impacts.

Please see the following Environmental Assessment sections:

3.6 - Marine Biological Environment

3.7 - Protected species

3.8 - Water Quality

3.10 - Historic, Cultural, and Archaeological Resources

Appendix B - Best Management Practices Plan

CHAPTER 205A – COASTAL ZONE MANAGEMENT

Land uses are required to comply with the provisions and guidelines contained in Chapter 205A, Hawai'i Revised Statutes (HRS), entitled "Coastal Zone Management," as described below:

- **Recreational resources:** Provide coastal recreational opportunities accessible to the public.
- **Historic resources:** Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.
- **Scenic and open space resources:** Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.
- **Coastal ecosystems:** Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.
- **Economic uses:** Provide public or private facilities and improvements important to the State's economy in suitable locations.
- **Coastal hazards:** Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.
- **Managing development:** Improve the development review process, communication, and public participation in the management of coastal resources and hazards.
- **Public participation:** Stimulate public awareness, education, and participation in coastal management.
- **Beach protection:** Protect beaches for public use and recreation.
- **Marine resources:** Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

CERTIFICATION

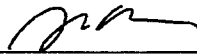
I hereby certify that I have read this completed application and that, to the best of my knowledge, the information in this application and all attachments and exhibits is complete and correct. I understand that the failure to provide any requested information or misstatements submitted in support of the application shall be grounds for either refusing to accept this application, for denying the permit, or for suspending or revoking a permit issued on the basis of such misrepresentations, or for seeking of such further relief as may seem proper to the Land Board.

I hereby authorize representatives of the Department of Land and Natural Resources to conduct site inspections on my property. Unless arranged otherwise, these site inspections shall take place between the hours of 8:00 a.m. and 4:30 p.m.

Signature of authorized agent(s) or if no agent, signature of applicant

AUTHORIZATION OF AGENT

I hereby authorize _____ Sea Engineering, Inc. _____ to act as my representative and to bind me in all matters concerning this application.



Signature of applicant(s)

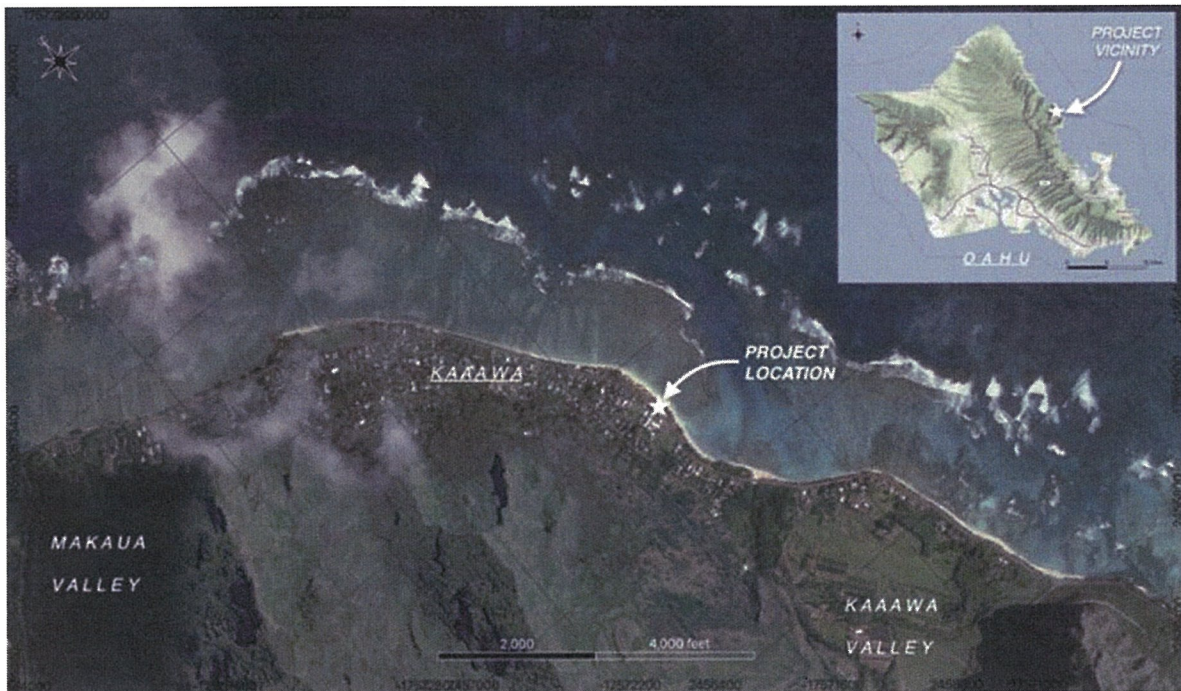


Figure 1. Project location map



Figure 2. Project vicinity map



Figure 3. Proposed project relative to Kaaawa Beach Park TMK










DOT - CDUP application at Kaawa

Final Audit Report

2023-09-21

Created:	2023-09-21 (Hawaii-Aleutian Standard Time)
By:	Barry Cheung (barry.w.cheung@hawaii.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAApzbhSLZ7te5QDuJY1f4e9piYX4SFOM-1
Number of Documents:	1
Document page count:	4
Number of supporting files:	0
Supporting files page count:	0

"DOT - CDUP application at Kaawa" History

-  Document created by Barry Cheung (barry.w.cheung@hawaii.gov)
2023-09-21 - 3:36:41 PM HST
-  Document emailed to Kevin Moore (kevin.e.moore@hawaii.gov) for approval
2023-09-21 - 3:37:27 PM HST
-  Email viewed by Kevin Moore (kevin.e.moore@hawaii.gov)
2023-09-21 - 6:01:19 PM HST
-  Agreement viewed by Kevin Moore (kevin.e.moore@hawaii.gov)
2023-09-21 - 6:01:21 PM HST
-  Document approved by Kevin Moore (kevin.e.moore@hawaii.gov)
Approval Date: 2023-09-21 - 6:02:26 PM HST - Time Source: server
-  Document emailed to Russell Tsuji (Russell.Y.Tsuji@hawaii.gov) for signature
2023-09-21 - 6:02:28 PM HST
-  Email viewed by Russell Tsuji (Russell.Y.Tsuji@hawaii.gov)
2023-09-21 - 6:06:49 PM HST
-  Agreement viewed by Russell Tsuji (Russell.Y.Tsuji@hawaii.gov)
2023-09-21 - 6:08:03 PM HST
-  Document e-signed by Russell Tsuji (Russell.Y.Tsuji@hawaii.gov)
Signature Date: 2023-09-21 - 6:08:40 PM HST - Time Source: server

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2023-09-21 - 6:08:40 PM HST