

**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
HONOLULU, HAWAII**

October 26, 2018

**BOARD OF LAND AND
NATURAL RESOURCES
STATE OF HAWAII
HONOLULU, HAWAII**

REGARDING: Conservation District Use Application (CDUA) OA-3807 for the Proposed South Kahana Stream Bridge Replacement Project

APPLICANT: State of Hawaii, Department of Transportation

LANDOWNER(S): State of Hawaii, Department of Land and Natural Resources, State Parks & Land Division

LOCATION: Kahana, Ko'olauloa District, Island of O'ahu

TMK: (1) 5-2-002:001; 5-2-005:001; 5-2-005:022 & 023

AREA OF PARCELS: 5,240 Acres

AREA OF USE: 6.5 Acres total (5.3 outside DOT ROW)

SUBZONE: Resource

DESCRIPTION OF AREA AND CURRENT USE:

The proposed *South Kahana Stream Bridge Replacement* project site is located on the southern edge of Kahana Valley on the windward (eastern) side of the Island of Oahu (**Exhibit 1**); the bridge provides access across South Kahana Stream on Kamehameha Highway (**Exhibit 2**). Originally constructed in 1927, the existing South Kahana Stream Bridge is a reinforced concrete slab bridge, similar to other bridges built along the windward coast of Oahu. South Kahana Stream Bridge is located at mile marker 26.44 on Kamehameha Highway, 9 miles north of Kahalu'u and 0.32 miles east of the entrance to *Ahupua'a 'O Kahana State Park*. South Kahana Stream Bridge provides the sole means for vehicles traveling on Kamehameha Highway to cross South Kahana Stream.

In the vicinity of the bridge, *Ahupua'a 'O Kahana State Park* (Park) occupies most of the lands on both sides of a 50-foot wide Hawaii Department of Transportation (HDOT) right-of-way (ROW) (**Exhibit 3**). The majority of the area adjacent to the project site is under the regulatory authority of the Department of Land and Natural Resources (DLNR) Division of State Parks (SP), with the remainder under the regulatory authority of the DLNR – Land Division. The proposed area of use of the Park is approximately 0.96 acres, which constitutes a minor portion of the overall 5,240-acre Park. Most of the SP parcels contained no occupied structures, however, two (2) of the parcels

(TMK: (1) 5-2-005:022 and 5-2-005:023) are lease parcels located makai (seaward) of the highway, both of which contain existing residential structures.

The area under the authority of the DLNR – Land Division contains a bus stop shelter located at the edge of the west bound travel lane (**Exhibit 4**) and includes approximately 12,000 sq. ft. of land. Additionally, seven (7) construction parcels to be used for the proposed project are also included, and were approved as set-asides parcels or were granted Right of Entry permits via DLNR – Land Division. The total Area of Potential Effect (APE), which includes the construction areas, temporary laydown areas, temporary bridge, and other associated construction sites, is 6.5 acres and includes about 1.2 acres of the 22-foot wide travel way of Kamehameha Highway where no construction activities will occur

Environment:

The coastal area of Kahana Valley lies within the Coastal Plain province of Oahu and is to the northeast of the Ko'olau Mountain range. As a result, much of the generally flat land in this area is underlain by unconsolidated coastal sediments, with lenses of hard, cemented sand dunes, and coral/limestone rock formations. Subsurface condition along the project site were explored via drilling and sampling borings that extended to a depth of approximately 158-feet below the existing ground (i.e., bridge surface). The borings showed that the surface 'fill' layer consisted of loose to dense silty sand, and hard silty clay. The lagoonal deposits are comprised of very loose to medium dense gravel and sand with some silt or clay. Recent alluvium consists of very soft to stiff silt and clays.

Ground water was encountered at about 3 to 11 feet of depth below the ground or bridge elevation; ground water levels encountered generally correspond to approximately -2.5 to +4 feet mean sea level. Due to the proximity of the project site to the Pacific Ocean, ground water levels are expected to vary with tidal fluctuations, seasonal rainfall, or other factors.

In the lower part of Kahana Valley, the Kahana Stream forms an estuary (i.e., tidal wetlands) with a mostly sandy shoreline which is derived from bay sediments. The banks of the river support dense stands of Hau and red mangrove. North of the highway on the east approach the vegetation includes a large tropical almond tree near the bus stop. Ground cover is mostly herbaceous growth with a mix of Hilo and Bermuda grass which transitions to seashore paspalum, hau, and wedelia growing along the water's edge. None of this vegetation is considered a listed species by either the US Fish and Wildlife Service or the State DLNR.

The seven (7) acre Huilua Fishpond is located in the east side of the Bay and receives subterranean flow from the Kahana Watershed (**Exhibit 5**); this fishpond is currently being restored. It was stated by the applicant that this fishpond is home to salt and freshwater fish species and is an integral part of the Ahupua'a 'O Kahana State Park. Silt predominates the bottom substrate makai (seaward) of the Kahana Stream mouth with numerous invertebrate burrows in evidence.

Faunal Resources:

The replacement bridge project includes work that will be completed in and over Kahana Stream and has the potential to impact the following Endangered Species Act (ESA) listed species that occur in the vicinity of the proposed project: green sea turtle, hawksbill turtle, and the Hawaiian monk seal. The applicant states that No green sea turtles were observed in the area of the proposed

project during previous surveys conducted in 2006 and 2014, although it is noted that preferred foraging species occur in the area. No hawksbill turtle nesting has been documented in the area of the proposed project however, the applicant states that data are insufficient to estimate hawksbill density in Hawaiian waters and within the project area. It should be noted that hawksbill sea turtles are much less common than green sea turtles. One monk seal sighting has been reported at Kahana Bay between the years 2005 – 2014; this single sighting occurred in September 2013 at Kahana Beach Park, and the seal was identified as an adult male monk seal. Staff notes that the terrestrial critical habitat for pupping, nursing, and hauling does not include the area for the proposed bridge replacement project.

In addition to the information regarding the South Kahana Stream and Kahana Bay, in December 2012, a biological survey was conducted on the land area for 100 m (328 feet) in all directions from the center of the proposed project site to determine the presence of listed water birds, and signs of their nesting activity. The survey concluded that no listed water bird species were detected, nor were any nests observed near the proposed project site. It appears that the habitat present along the stream banks within the surveyed area is not suitable for nesting by any of the three (3) endangered water bird species (i.e., Hawaiian stilt, Hawaiian coot, and Common Gallinule. A possible exception is a small area of grass and weedy material along the east side of the stream approximately 150-feet northeast of the existing bridge.

Cultural and Historical Resources:

Originally constructed in 1927, the existing South Kahana Stream Bridge is one of a number of similar reinforced concrete slab bridges built along the windward coast of Oahu (**Exhibit 6**). In 2013, as part of the update to the HDOT's Hawaii State Historic Bridge Inventory and Evaluation, the existing South Kahana Stream Bridge was determined to be eligible for listing on the *National Register of Historic Places* under *Criterion C* for its association with early developments in concrete bridge construction in Hawaii.

The applicant states that based on available documents and research, no known historic properties have been identified within the Area of Potential Effect (APE) – other than the bridge itself. The east side of the mouth of Kahana Valley, is, however, relatively rich in archeological sites (**Exhibit 7**). Huilua Fishpond located nearby the project site has been declared a National Historic Landmark, and there have been burial finds on the *makai* side of Kamehameha Highway to the north east.

A lo'i kalo has been used by the Kahana Community for number of years to grow taro and to teach the public and school children about growing taro (**Exhibit 8**). The lo'i is irrigated by a spring, and 'auwai (i.e., ditch) that leads into the lo'i from the hillside above. The replacement bridge project has been designed to avoid any improvements or changes which would affect or disrupt the lo'i.

Since it was determined by SHPD the HDOT is removing what is considered a National Register eligible historic resource, a Memorandum of Agreement (MOA) was prepared; it was agreed that the project "*will have an adverse effect on historic properties*" (i.e., the bridge). The MOA will document that the project will be implemented in accordance with stipulations to take into account the effect of the project on the historic bridge. In addition, the MOA will include that documentation will be required of the existing bridge in accordance to *Historic American Engineering Record* (HAER) standards.

PROPOSED USE/ NEED AND PURPOSE:

The State of Hawaii, Department of Transportation (HDOT), using funding provided by the Federal Highway Administration (FHWA) is proposing to replace the existing South Kahana Stream Bridge, as well as realigning both approaches to the replacement bridge (**Exhibit 9**).

The purpose of the *South Kahana Stream Bridge Replacement project* is to replace the existing bridge with a new structure that meets current HDOT design guidelines for use and safety. The existing bridge, together with the east approach, have been rated as functionally obsolete as the existing bridge exhibits deficiencies related to roadway width, hydraulic capacity, structural capacity, and seismic standards. The applicant states the proposed project is necessary to provide the public with a bridge that will allow continued and safe public access along the windward coast of Oahu.

Temporary Bypass:

A pre-fabricated temporary bypass bridge would be constructed first so that, once completed, traffic can be diverted onto it to maintain traffic flow without interruption while the existing bridge is removed, and the replacement bridge can be constructed. Once the pre-fabricated temporary bypass bridge has been completed, the stream channel would be dredged and then the existing bridge would be removed, including the cutting of existing piers at the mudline. The pre-fabricated temporary bypass bridge would be located outside of the existing ROW, at about 80-feet north of the replacement bridge location (**Exhibit 10**). The pre-fabricated bridge would be approximately 30-feet wide with a total length of about 400-feet consisting of three (3) spans supported by 60, 24-inch diameter steel pipes driven into place within the stream.

Replacement Bridge:

The replacement bridge is designed to be a multiple span bridge with a concrete plank deck and cast-in-place topping. The bridge will be 43-feet wide and would be a total length of about 396 feet with a stream opening of approximately 170-feet; this is an increase of 80-feet from the existing stream opening. The replacement bridge will be supported by a total of 27, 4-foot diameter concrete drilled shafts with evenly spaced cast-in-place pile caps. The widened stream channel would be dredged to match the existing sub-surface conditions at the current elevation found near the center of the channel. Un-grouted rip-rap consisting of armor stone will be placed in the channel and on the bank for stabilization purposes. The replacement bridge vertical clearance will be approximately 5.5-feet at mid-span.

The existing bridge and highway approaches will be used as the land base and staging area for the majority of the construction work (**Exhibit 11, 11a**). Designated storage areas located adjacent to the south side (*mauka*) of the highway would be used to store materials, supplies, and equipment. Designated storage areas will also have gravel ingress/egress pads to prevent vehicles and equipment from tracking debris into adjacent areas. Best management practices to minimize soil loss and erosion into nearby waterways will be employed such as silt fences or mulching of slopes.

The applicant states that no construction material or equipment will be staged or stored in the stream channel or Kahana Bay as the bay and stream area are too shallow to utilize large boats, barges or floating platforms. Only a small "work boat" will be used for minor in water actions such as the placement of a floating boom for turbidity control.

Temporary Residence:

A portion of the pre-fabricated temporary bypass bridge is designed to be located less than 5 feet from the corner of an existing 1,200 square foot residential unit. Due to the location of the proposed work a temporary residential structure will be constructed for use by the resident who will need to relocate during the entire construction period (approximately 2 years) (**Exhibit 12**). The temporary residential unit will be located adjacent to the existing residence *makai* of the highway on DLNR – Division of State Parks land (i.e., TMK: (1) 5-2-005:001). A temporary driveway access will be provided to the highway for the temporary residence as well as a connection to the relocated 2-inch waterline for water use. The temporary residential unit would be connected to the existing individual wastewater system located adjacent to the existing residence; electrical and cable television service will also be provided to the temporary residence.

Once construction of the replacement bridge has been completed, the temporary bypass bridge, the equipment/material storage and use, and the temporary residential unit will all be removed completely, and the sites will be returned to a natural condition and restored for Park use.

SUMMARY OF COMMENTS:

The application was referred to the following agencies for review and comment; The Department of Land and Natural Resources (DLNR): Oahu District Land Office (ODLO), the State Historic Preservation Division (SHPD), Engineering Division, Division of State Parks (SP), the Commission on Water Resource Management (CWRM), and the Division of Forestry and Wildlife (DOFAW). Additionally, the application was sent to the State Department of Health (DOH) – Clean Water Branch (CWB), the Hawaii Department of Transportation (HDOT), the City and County of Honolulu - Department of Planning and Permitting (CCH-DPP), and CCH – Board of Water Supply (BWS) along with the Kaneohe Public Library and the Ko’olauloa Neighborhood Board (#28) in order to make this information readily available to those who may wish to review it.

A summary of the comments received by OCCL is listed below:

DLNR - Division of State Parks (SP):

Division of State Parks previewed the project and received community feedback. Two (2) issues need to be addressed: 1) to provide a ‘vegetative buffer’ around the Nuhi lo’i (located alongside Kamehameha Highway, near Trout Farm Rd., and across Ronald Johnson’s residence) area that a Kahana resident is currently farming, and 2) to utilize the proposed staging area as the main staging equipment site for the project.

Can the applicant provide a response to the following two (2) issues?

1. The current discussion regarding the vegetative buffer around Nuhi l’oi is to thin the Hau bush to create an access road for the Trout Farm residents. In speaking with Kahana resident Ronal Johnson, he has shared some concerns that the Hau bush remain, in fact more vegetation and a visual/protective barrier should be created to provide safety and privacy from squatters and unwanted solicitation from the public; and
2. With the recent removal of abandoned vehicles and rubbish on the mauka side of the Kamehameha Highway between the north and south Kahana Bridge spans, SP is requesting

that construction contractors use this site as a staging area. This area is adjacent to the construction site and would be more feasible to use this area for staging than the previous suggested sites. Best Management Practices (BMPS) to restore the area back to the original state or better will be required, with consultation and guidance provided by SP staff.

Applicant Response: This replies to your response sent to the Office of Conservation and Coastal Lands (OCCL) on CDUA: OA-3807. In April 2018 the OCCL forwarded the SP letter regarding comments on the proposed project. It should be noted that these comments had been reviewed by the contractor previously, and as such, the CDUA was updated and resubmitted to address the comments provided by SP. The staging areas have been modified to include SP comments. Comment #2, regarding landscape planting, is a condition set forth from NOAA and was addressed in the updated CDUA submitted to OCCL.

DLNR – Engineering (ENG)

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone Designation for the project. Flood Hazard Zones are designated on FEMA's *Flood Insurance Rate Maps (FIRM)*, which can be viewed on our *Flood Hazard Assessment Tool (FHAT)*.

Applicant Response: This replies to your response sent to the OCCL on CDUA: OA-3807. The South Kahana Stream Bridge is located within the flood hazard zone as set forth in the Federal Emergency Management Agency (FEMA) *Flood Insurance Rate Maps (FIRM)* for this area of South Kahana Stream. The project is funded in part by the Federal Highway Administration which requires a FEMA "No Rise Certification". This certification has been completed and will be submitted to the City and County of Honolulu Department of Planning and Permitting as set forth in your letter.

DLNR – Commission on Water Resource Management (CWRM)

Pursuant to Act 218, Session Laws of Hawaii 2012, the subject project is exempt from Chapter 174C, Hawaii Revised Statutes, State Water Code, and thus exempt from Stream Channel Alteration Permit requirements.

DLNR – State Historic Preservation Division (SHPD)

The submittal indicates that the State of Hawaii HDOT project titled South Kahana Stream Bridge Replacement Project is subject to HRS 6E historic preservation review and, due to the use of federal funds, is also an undertaking as defined in 36 CFR 800.16(y). Federal funds provided by the Federal Highways Administration (FHWA) will be used to replace the existing bridge and to realign both approaches to the bridge. The new bridge will be designed to meet current HDOT standards and guidelines.

The SHPD concurred with the 6.5-acre area of potential effect (APE) in a letter dated August 18, 2016. The APE includes a small portion of Ahupua'a 'O Kahana State Park. Additionally, the undertaking will affect navigable waters, and, this, requires U.S., Army Corps of Engineers permit. HDOT informed SHPD on August 4, 2016 the USACOE NHPA Section 106 consultation was ongoing.

The FHWA rendered a project effect determination of adverse effect pursuant to 36 CFR 800.5. The FHWA, the State Historic Preservation Officer (SHPO), and HDOT signed a Memorandum of

Agreement (MOA). The MOA identifies the process of documenting the mitigation measures for the existing South Kahana Bridge and appropriate treatment of potential effect to unidentified historic properties. Per the MOA, Stipulation 1. Documentation, states: *the HDOT will conduct a Historic American Engineering Record (HAER) documentation in accordance with its standards and specification as a form of mitigation for the adverse effect determination to the South Kahana Stream Bridge, the only identified historic property. In addition, HDOT will submit photographs of the existing bridge to SHPD upon completion of the HAER documentation.*

Based on the information provided, the SHPO requests that issuance of CDUA OA-3807 be postponed until the following requirements have been met:

1. SHPD has received from HDOT for review the HAER documentation specified in MOA Stipulation I. Documentation; and
2. SHPD has received from HDOT or OCCL, a submittal including all information specified in HAR 13-275-3, including a request for the SHPD's concurrence with HDOT's or OCCL's HRS 6E project effect determination.

Applicant Response: *The following are our responses to the SHPD letter:*

1. *The May 2018 CDUA pg. 16 states that in August 2006, the HDOT met with SHPD at which time they requested HDOT prepare photographic documentation of the existing South Kahana Stream Bridge in compliance with the National Park Service Standards for Photographic Reproduction Historic American Engineering Record (HAER). In May 2007, the HDOT submitted the HAER photographs to SHPD; and*
2. *The May 2018 CDUA pg. 17 states the South Kahana Stream Bridge Replacement project is included in SB 3010, SD 2, HD1 signed by the Governor on July 5, 2012, Act 2018 which exempted this bridge replacement project from the requirements of various provisions of the Hawaii Revised Statutes, including Chapter 6E, Historic Preservation. Please note, SB 1016, HD1, SD1 extended the provisions of SB 3010.*

No other comments were received by any agency or the public.

ANALYSIS:

Following review and acceptance for processing, the Applicant's Agent was notified, by letter dated May 30, 2018 that:

- The proposed construction of a new bridge, a pre-fabricated bypass bridge, temporary residence and associated development is considered an identified land use in the Conservation District Resource Subzone pursuant to Hawaii Administrative Rules (HAR) §13-5-22, P-6 **PUBLIC PURPOSE USE (D-1)** *Not for profit land uses undertaken in support of a public service by an agency of the county, state, or federal government, or by an independent nongovernmental entity, except that an independent non-governmental regulated public utility may be considered to be engaged in a public purpose use. Examples of public purpose uses may include but are not limited to public roads, marinas, harbors, airports, trails, water systems, and other utilities, energy generation from renewable resources, communication systems, flood or erosion control projects, recreational facilities,*

community centers, and other public purpose uses, intended to benefit the public in accordance with public policy and the purpose of the conservation district for a Board permit;

- The proposed subdivision of a Conservation District parcel is considered an identified land use in the Conservation District Resource Subzone pursuant to HAR §13-5-22, P-10 **SUBDIVISION OR CONSOLIDATION OF PROPERTY (D-1) Subdivision of property into two or more legal lots of record that serves a public purpose and is consistent with the objectives of the subzone;**
- **Under the Legislative Regular Session 2012, Act 218, and Legislative Regular Session 2017, S.B. No. 1016, the proposed improvements are exempt from Hawaii Revised Statutes (HRS), Chapter 343 *Environmental Impact Statement*; and HRS, Chapter 205A, *Coastal Zone laws*;**
- Pursuant to HAR §13-5-40, a public hearing *will not* be required for this project; and

The OCCL submitted a copy of Conservation District Use Application (CDUA) OA-3807 for publication in the June 8, 2018 edition of the Office of Environmental Quality Control's (OEQC) Environmental Notice.

§13-5-30 CRITERIA:

The following discussion evaluates the merits of the proposed land use by applying the criteria established in HAR §13-5-30.

- 1) *The proposed use is consistent with the purpose of the Conservation District. The objective of the Conservation District is to conserve, protect and preserve the important natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety and welfare.*

The applicant states that the replacement bridge has been designed to minimize the use of lands outside of the existing 50-foot right-of-way (ROW). The bridge replacement project also includes a realignment of the east approach, which along with the existing bridge, have been rated as functionally obsolete. Realignment of the approach would provide a smoother transition for drivers who cross the stream on the road thus enhancing public health, safety and welfare. Additionally, based on available documents and research, no known historic properties have been identified within the Area of Potential Effect (APE), other than the bridge itself.

The applicant believes that based on the statements above, the replacement bridge project will preserve the natural and cultural resources of the area surrounding the highway and bridge. Further, minimal use of lands outside the ROW will be consistent with the purpose of the conservation district.

OCCL staff notes that the proposed replacement of a functionally obsolete bridge along a main highway linking Oahu is a necessary and required project that ultimately aims to

improve public health, safety, and welfare. Staff notes that the design has worked to minimize impacts to surrounding resources while providing a functional design for the replacement bridge.

- 2) *The proposed land use is consistent with the objectives of the Subzone of the land on which the use will occur. The proposed project is located in the Resource Subzone of the Conservation District, pursuant to HAR §13-5-13, the objective of the Resource Subzone is to ensure, with proper management, the sustainable use of the natural resources of the area.*

The applicant states that the proposed use of adjacent SP and Land Division lands is necessary to provide a replacement bridge which meets HDOT current design guidelines, this also includes the realignment of the east approach curve with a larger radius curve to provide a smoother transition. The existing bridge exhibits deficiencies related to roadway width, hydraulic capacity, structural capacity, and seismic standards. Thus, the replacement bridge will benefit the public by providing a replacement bridge, which will improve traffic flow through this area. Additionally, the replacement bridge stream opening will be increased from 90-feet to 170-feet which will improve stream flow, possibly improving the habitat and reducing flooding potential for upstream residents.

The applicant believes that the temporary bypass bridge is needed to maintain traffic flow without interruption during the entire construction period. Once the replacement bridge is completed, the temporary bypass bridge will be removed, including cutting the temporary steel pipe piles at the mudline. OCCL staff notes that the necessity of leaving a portion of the steel pipes in the substrate stems from safety requirements for the temporary bridge to accommodate all the current traffic in this area (e.g., large trucks, busses). The temporary bridge will be in place for two (2) years and therefore is required to be stable and safe. The steel piles will be emplaced approximately 80-feet below the current substrate such that removal would require an inordinate amount of dredging or other construction activities that would be detrimental to the surrounding coastal waters. Additionally, the applicant has stated that the US Army Corps of Engineers (USACOE) approved this design which calls for cutting the steel piles at the mudline. Staff notes that this method for the removal of temporary bridge or other over-water structure is typical, and is not out of character for this type of development.

OCCL staff notes that this proposed replacement bridge project is similar to the North Kahana Stream replacement project that was completed in 2007, and included improvements to approaches, guardrails, and an improved hydraulic interface. Additionally, as a bridge has been on this site for over 80+ years, it is unlikely the new bridge will alter current resource levels, attributes and use in this area.

- 3) *The proposed land use complies with the provisions and guidelines contained in Chapter 205A, HRS entitled "Coastal Zone Management", where applicable. The Coastal Zone Management Program recognizes a number of objectives and policies to monitor when determining potential impacts to the coastal zone area. While not all of the objectives and policies are relevant to each project, some objectives have the potential to be influenced by the proposed project.*

Recreational resources: The applicant states that there are no SP facilities or improvements adjacent to either side of the highway in the vicinity of the replacement bridge. There is an open grassy area makai of the east approach to the bridge. This open grassy area can be used to access the stream and estuary.

South Kahana stream and the estuary have been used for fishing, laying net, crabbing, and other subsistence and recreational uses. Pole fishermen cast off from the separated wooden walkway attached to the mauka side for the existing bridge. The applicant states that the replacement bridge will have two (2) 8-foot wide shoulders for emergency use, however, the replacement bridge does not have a separated walkway. It should be noted that after construction, the estuary will still be accessible for subsistence and recreation.

Historic Resources: The proposed project will incorporate a small portion of Ahupua'a 'O Kahana State Park as part of the HDOT ROW for realignment of the roadway approaches to the replacement bridge.

Originally constructed in 1927, the existing Kahana Stream Bridge is one a number of similar reinforced concrete slab bridges built along the windward coast of Oahu. In May 2007, the HDOT prepared photo documentation of the existing South Kahana Stream Bridge in compliance with National Park Service Standards for Photographic Reproduction Historic American Engineering Record (HAER). In 2013, the existing South Kahana Stream Bridge was determined to be eligible for listing on National Register of Historic Places under Criterion C for its association with early developments in concrete bridge construction in Hawaii. A MOA has been created to ensure the proposed project will be implemented in accordance with stipulations that take into account the effect of the project on the historic bridge.

Scenic and open space resources: The applicant stated that the proposed bridge replacement project will leave scenic and open space views largely unaffected. The replacement bridge solid concrete railings will be 42 inches high to meet HDOT design guidelines for vehicle and bicycle travel. The applicant notes that the dimensions of the bridge railings and the guardrail (the only elements that will be above ground) are established by design and safety guidelines; staff believes these above ground structures are minimal and necessary and should not negatively impact open space or scenic resources.

Coastal Ecosystems: In this area the ecosystems include the estuary, nearshore environment and stream resources. The existing bridge and highway approaches will be used as the land base/staging area for the majority of the construction work. Kahana Bay and the stream channel are too shallow to stage construction using large bopats, barges, or floating platforms. Only small work boats will be used for certain work tasks.

The applicant states that a land-based crane or equivalent piece of equipment will be used to remove material to widen the stream channel, to dredge the channel, and to construct the drilled shafts and pile caps, as well as for placing concrete decking and pouring the cast-in-place concrete. A small construction boar will be used to lay a floating boom with weighted silt curtain around the in-water work area to control sedimentation and debris. While the floating boom will be repositioned during construction, all remaining stream areas will be

kept open to allow for the passage of fish. Land side silt fencing will be used to control run-off and a floating or fixed platform will be placed below the bridge deck to catch any debris before entering the water.

OCCL staff believes that these measures will help to protect the coastal ecosystem, including the estuary and stream, from adverse impacts during the construction period.

Economic uses: Kamehameha Highway, including the replacement bridge, is a public facility which provides the sole means of public access along this portion of the windward coast of Oahu. The proposed bridge replacement project will be a public facility used for public purposes and travel along this coast is integral to the State's economy and resiliency.

Coastal hazards: The applicant states that flooding at the project area is caused by sand dunes obstructing the bridges, which outlet the flow of the stream into the ocean. Further upstream, flooding occurs in the overbank areas due to inadequate capacity of the existing channel section to convey flow. The replacement bridge opening will be about 70-feet compared to the existing 90-feet which will increase the hydraulic capacity of the stream, thus reducing flooding hazards in this area, and upstream of the project site.

Managing Development and Public Participation: The applicant states that there have been two (2) public meetings regarding the proposed project in order to notify the public about the project and to discuss the need for the project, including alternative to the temporary bridge and new bridge alignment. At both meetings, attendees provided questions and comments and the HDOT responded during the meeting. One of the main points of discussion was the siting of the temporary bypass bridge and its effect on nearby residents.

In addition to the public meetings, the proposed project will be considered a federal action and undertaking, as defined by Section 106 of the NHPA. Notifications to a number of local and Hawaiian-centric groups were provided regarding the proposed project. HDOT has also worked with the SHPD to ensure compliance with state and county laws and plans.

Beach Protection/Marine Resources: The proposed Bridge Replacement project is located on South Kahana Stream. The closest beach area is located about 800-feet north of the project APE, and 700-feet north of the temporary bypass bridge. The applicant states that the proposed project will not affect beaches for public use or recreation. OCCL staff notes that the use of land-based construction equipment will aim to minimize impacts associated with bridge construction over Kahana Stream.

- 4) *The proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community or region.*

The applicant states that proposed construction measures are designed to minimize the use of lands outside of the existing highway ROW and will ensure that the bridge replacement project will not cause substantial adverse impacts to existing natural resources within the surrounding area. OCCL staff notes that the increase in hydraulic capacity will have a positive effect on the resources (e.g., stream, estuary) in this area.

- 5) *The proposed land use, including buildings, structures and facilities, shall be compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels.*

The applicant states that this section of Kamehameha Highway is classified as a rural principal arterial, one of the several roadway classifications established by the FHWA which sets guidelines for highways and bridges.

The replacement bridge railings will be 42-inches high to meet design guidelines for bicycle travel on a highway such as this. These bridge railings will be the only above ground structures associated with the replacement project. The bridge, bridge railings, and bridge guardrails, while necessary, will be appropriate to the rural setting of the proposed replacement bridge.

Staff notes that the project appears to be consistent with the rural and existing development located in this area; the structure has also been existing for over 80 years and is now part of this coastal area.

- 6) *The existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, whichever is applicable.*

The project has been designed and sited to minimize impacts to land area outside the existing 50-foot ROW for Kamehameha Highway. OCCL staff believes that the use of previous staging areas, as well as the existing ROW, will help to minimize impacts to the resources of the site by minimizing impacts outside the developed ROW.

- 7) *Subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District.*

The applicant states that the area of use outside the ROW will not be subdivided; HDOT will use areas outside the existing ROW under an easement agreement and incorporate them into the highway ROW for future use.

- 8) *The proposed land use will not be materially detrimental to the public health, safety and welfare.*

The replacement bridge will be 3'-6" high to meet design standards for vehicle and bicycle traffic on a rural principal arterial highway. The new guardrail on the makai side of the east approach will be W-beam metal guardrail and will be 28-5/8 inches high. The dimensions of the bridge railings and the guardrail are established by design guidelines, which have been designed to protect the safety of drivers, bicyclists and pedestrians using the highway and the bridge. OCCL staff believes the proposed project will improve the public health, welfare, and safety by improving the bridge and bridge approaches.

CULTURAL AND HISTORICAL IMPACT REVIEW:

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

An Area of Potential Effect (APE) was assessed for this project as required by Section 106 of the National Historic Preservation Act of 1966. The APE for this project will occupy a total of 6.5 acres in two (2) separated areas and includes about 1.2 acres of the 22-foot wide ROW of Kamehameha Highway. The proposed project will incorporate a small portion of Ahupua'a 'O Kahana State Park as part of the HDOT ROW for realignment of the roadway approaches to the replacement bridge.

The applicant states that based on available documents and research, no known historic properties have been identified within the APE (other than the bridge as discussed previously). The east side of the mouth of Kahana Valley is, however, rich in archeological sites. Huilua Fishpond (SIHP # 50-80-06-0301), approximately 650-feet to the northeast of the project APE, has been declared a National Historic Landmark. The applicant notes that there have been burial finds on the makai side of Kamehameha Highway to the northeast.

A lo'i kalo is located on the mauka side of the Kamehameha Highway on the east approach. The lo'i kalo has been used by the Kahala community for a number of years. The lo'i is irrigated by a spring and 'auwai that leads into the lo'i from the hillside above. The bridge replacement project has been designed to avoid any improvement or changes which would impact or disrupt the lo'i. OCCL staff notes that HDOT, OCCL, and the contractor met on site with the caretaker of the lo'i to ensure the preservation and protection of the lo'i kalo which included increasing the vegetation buffer, and additional notification to residents for project components.

Originally constructed in 1927, the existing South Kahana Stream Bridge is one of a number of similar reinforced concrete slab bridges built along the windward coast of Oahu around that time. The existing South Kahana Stream Bridge was determined to be eligible to listing on National Register of Historic Places under Criterion C for its association with early development in concrete bridge construction in Hawaii.

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

The applicant states that the realigned east approach to the replacement bridge would remove the grassy open area to provide a smooth transition to the bridge. A guardrail will be constructed on the makai side of the east approach to meet design guidelines. Although the estuary adjacent to the grassy area is so shallow such that under low tide conditions the area becomes exposed, the grassy area has been used for fishing and other subsistence and recreation uses. Rip-rap consisting of armor stone will be placed along this section of the stream/estuary to protect the stream bank and the replacement bridge. After construction the estuary will still be accessible for subsistence and recreational uses.

A lo'i kalo is located on the mauka side of the Kamehameha Highway on the east approach. The bridge replacement project has been designed to avoid and improvements, changes, impacts or activities that would affect or disrupt the current level of lo'i kalo farming in this area.

OCCL staff notes that the construction of a new bridge, the use of a temporary bridge, the realignment of the road, and the establishment of a temporary residence will impact native practitioners and residents in this area; however, the impacts will be short-term, and will be mitigated by the applicant to ensure the project area returns to its original (or improved) state after

the completion of construction. While there may be a disruption in the daily life of residents and visitors to this area, it will be short-term, with impacts mitigated by established plans.

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

OCCL staff notes that the effect on Native Hawaii rights and uses of the area will be impacted by the proposed project, they will be short-term. OCCL staff believes the applicant has accommodated all the potential impacts either through mitigation efforts, modification of plans, or outreach to the community members located near the project APE. Additionally, as the objective of the proposed project is to improve public health, safety and access along a heavily used highway segment, staff believes the BLNR does not need to take additional actions to protect or preserve native uses in this area.

DISCUSSION:

This Conservation District Use Application (CDUA) OA-3807 is being pursued in order to approve the replacement of the existing *South Kahana Stream Bridge* that was built in 1927. The South Kahana Stream Bridge was constructed over 80 years ago and no longer meets the current *American Association of State Highway Transportation Officials* and *Hawaii Department of Transportation* (HDOT) structural and design standard, and the Bridge is now considered to be structurally deficient and functionally obsolete.

The proposed project is located in an around the *Ahupua'a 'O Kahana State Park*, and as such park areas are being utilized for the proposed construction staging and storage of equipment. Project components include: the construction of a temporary bypass bridge to accommodate traffic during construction, the removal of material from the channel to allow for greater hydraulic capacity under the replacement bridge, the placement of a temporary residential structure and driveway to accommodate an existing residence that is within 5-feet of the proposed construction, the construction of a new replacement bridge, improved bridge approaches, and new guardrails and railings to improve safety and access. Once construction has been completed, the temporary bypass bridge, staging areas, temporary residence, and driveway will all be removed, and the land will be returned to its natural or current state.

OCCL staff believes that the proposed replacement of a functionally obsolete bridge is a necessary and required public infrastructure project. As this structure is considered 'historic' due to its style and year to construction, a review and recordation of the bridge was required and completed. However, to not allow the proposed bridge replacement could impact future use of the Kamehameha Highway along the windward coast. Additionally, since the hydraulic capacity will be increased under the bridge, staff believes this will aim to improve the stream resources and potentially reduce flooding up-stream of the bridge.

Therefore, OCCL staff believes that this proposed land use, along with planned mitigation efforts and established BMPs for construction activities, is consistent with Conservation District objectives based on the above discussion, review, and information received.

Staff, therefore, recommends as follows:

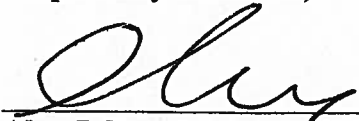
RECOMMENDATION:

Staff recommends that the Board of Land and Natural Resources **APPROVE** this Conservation District Use Application (CDUA) for the proposed *South Kahana Stream Bridge Replacement Project* located in Kahana, Ko'olaupoko District, Island of Oahu, on *Tax Map Keys: (1) 5-2-002:001; 5-2-005:001, 023, & 024, and (1) submerged lands* and subject to the following conditions pursuant to HAR §13-5-42:

1. The permittee shall comply with all applicable statutes, ordinances, rules, and regulations of the federal, state, and county governments, and applicable parts of this chapter;
2. The permittee shall comply with all applicable department of health administrative rules;
3. **The single family residence shall not be used for rental or any other commercial purposes unless approved by the board. Transient rentals are prohibited, with the exception of wilderness camps approved by the board;**
4. Before proceeding with any work authorized by the department or the board, the permittee shall submit four copies of the construction plans and specifications to the chairperson or an authorized representative for approval for consistency with the conditions of the permit and the declarations set forth in the permit application. Three of the copies will be returned to the permittee. Plan approval by the chairperson does not constitute approval required from other agencies;
5. Unless otherwise authorized, any work or construction to be done on the land shall be **initiated within two (2) years** of the approval of such use, in accordance with construction plans that have been signed by the chairperson and shall be **completed within five (5) years** of the approval of such use. The permittee shall notify the department in writing when construction activity is initiated and when it is completed;
6. The permittee understands and agrees that the permit does not convey any vested right(s) or exclusive privilege;
7. In issuing the permit, the department and board have relied on the information and data that the permittee has provided in connection with the permit application. If, subsequent to the issuance of the permit such information and data prove to be false, incomplete, or inaccurate, this permit may be modified, suspended, or revoked, in whole or in part, and the department may, in addition, institute appropriate legal proceedings;
8. **When provided or required, potable water supply and sanitation facilities shall have the approval of the department of health and the county department of water supply;**
9. **Provisions for access, parking, drainage, fire protection, safety, signs, lighting, and changes on the landscape shall be provided;**

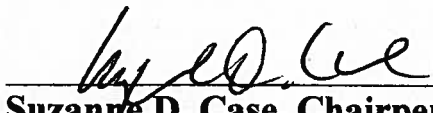
10. Where any interference, nuisance, or harm may be caused, or hazard established by the use, the permittee shall be required to take measures to minimize or eliminate the interference, nuisance, harm, or hazard;
11. **Obstruction of public roads, trails, lateral shoreline access, and pathways shall be avoided or minimized. If obstruction is unavoidable, the permittee shall provide alternative roads, trails, lateral beach access, or pathways acceptable to the department;**
12. Except in case of public highways, access roads shall be limited to a maximum of two lanes;
13. During construction, appropriate mitigation measures shall be implemented to minimize impacts to off-site roadways, utilities, and public facilities;
14. Cleared areas shall be revegetated, in accordance with landscaping guidelines provided in this chapter, within thirty days unless otherwise provided for in a plan on file with and approved by the department;
15. Use of the area shall conform with the program of appropriate soil and water conservation district or plan approved by and on file with the department, where applicable;
16. The permittee shall obtain a county building or grading permit or both for the use prior to final construction plan approval by the department;
17. For all landscaped areas, landscaping and irrigation shall be contained and maintained within the property, and shall under no circumstances extend seaward of the shoreline as defined in section 205A-1, HRS;
18. Artificial light from exterior lighting fixtures, including but not limited to floodlights, uplights, or spotlights used for decorative or aesthetic purposes, shall be prohibited if the light directly illuminates or is directed to project across property boundaries toward the shoreline and ocean waters, except as may be permitted pursuant to section 205A-71, HRS. All exterior lighting shall be shielded to protect the night sky;
19. The permittee acknowledges that the approved work shall not hamper, impede, or otherwise limit the exercise of traditional, customary, or religious practices of native Hawaiians in the immediate area, to the extent the practices are provided for by the Constitution of the State of Hawaii, and by Hawaii statutory and case law; and
20. Other terms and conditions as prescribed by the chairperson.

Respectfully submitted,

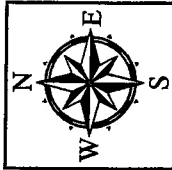


Alex J. Roy, M.Sc., Staff Planner
Office of Conservation and Coastal Lands

Approved for submittal:



Suzanne D. Case, Chairperson
Board of Land and Natural Resources



Proposed Project Site
Kahana Stream

Legend

SLU Districts

LUD CODE

AG	CON	RURAL	URBAN
[Green Box]	[Yellow Box]	[Blue Box]	[Grey Box]

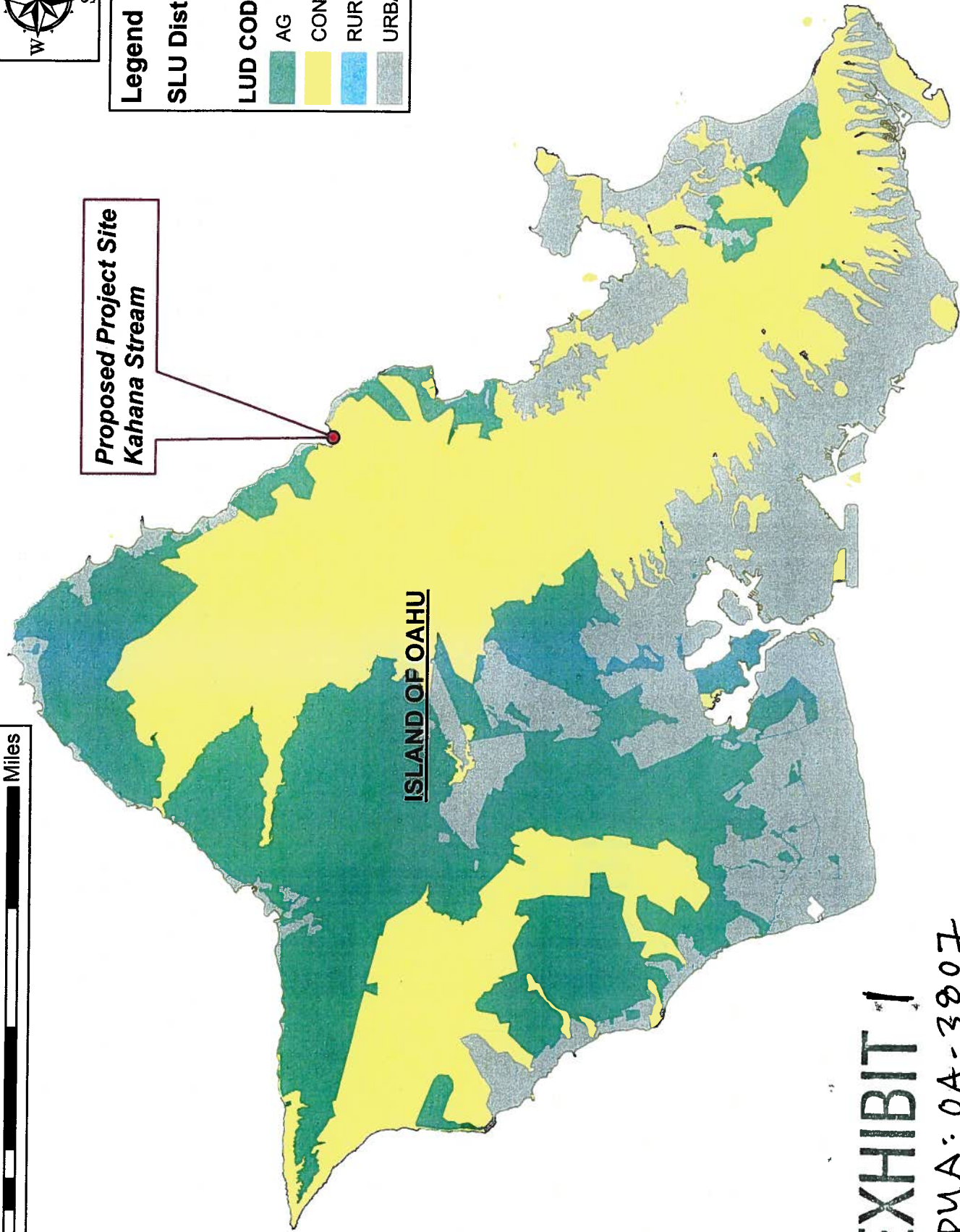






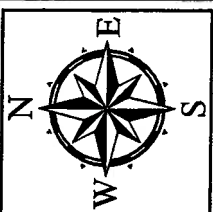
EXHIBIT 1
CDUA: OA-3807

Legend

SLU Districts

LUD CODE

- | | | | |
|---|---|---|---|
| AG | CON | RURAL | URBAN |
|  |  |  |  |



Kahana Bay

EXHIBIT 2
CDUA: OA-3807

Huilua Fishpond

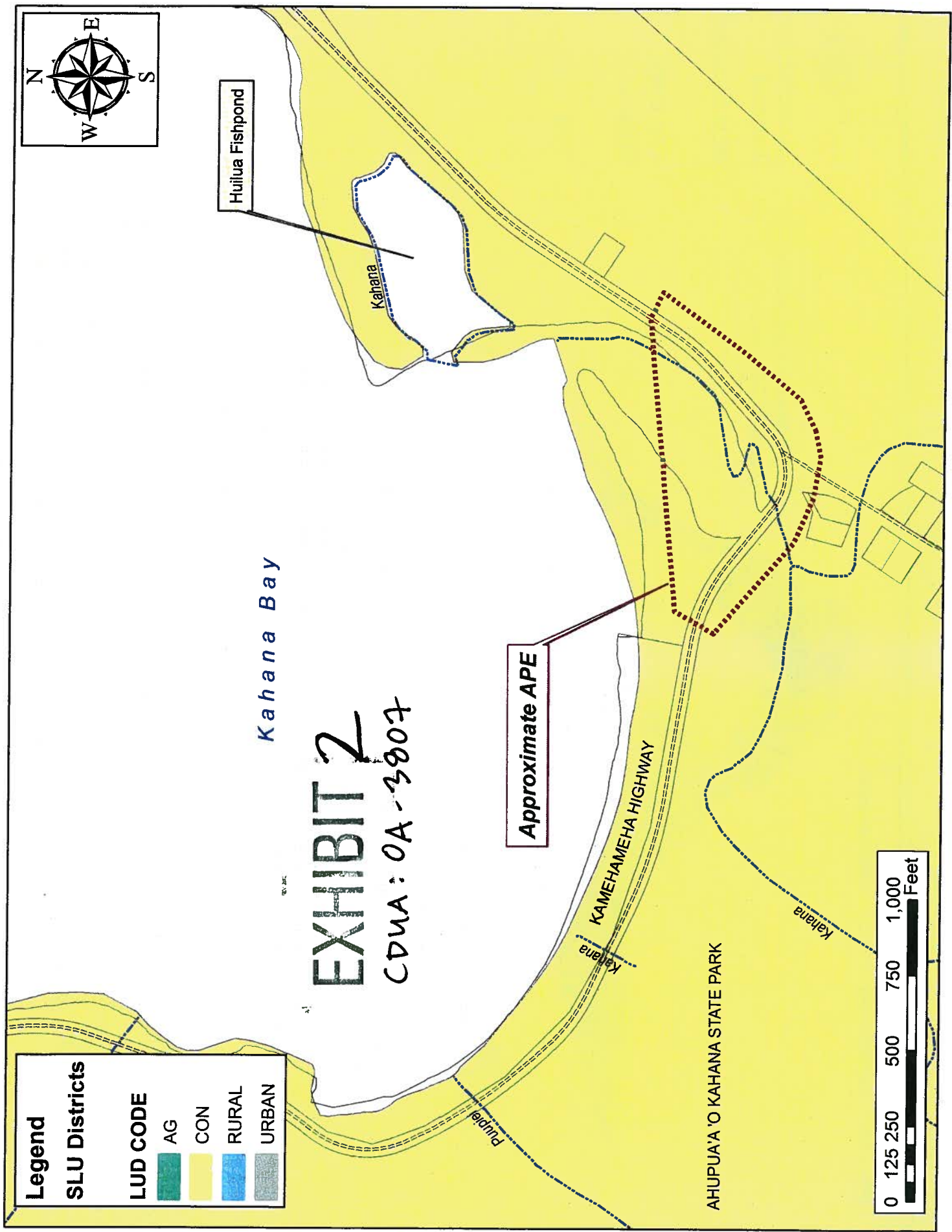
Kahana

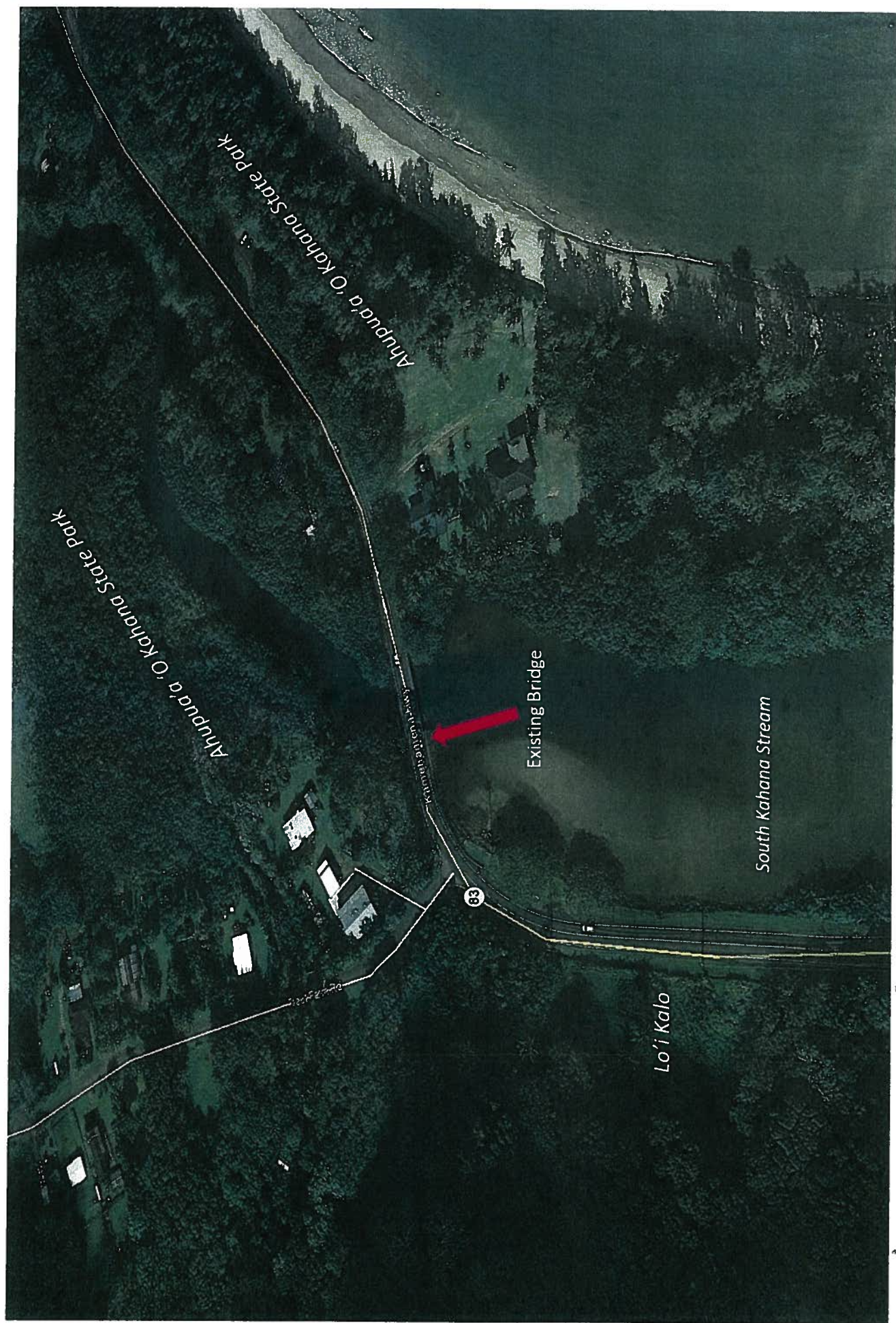
Approximate APE

KAMEHAMEHA HIGHWAY

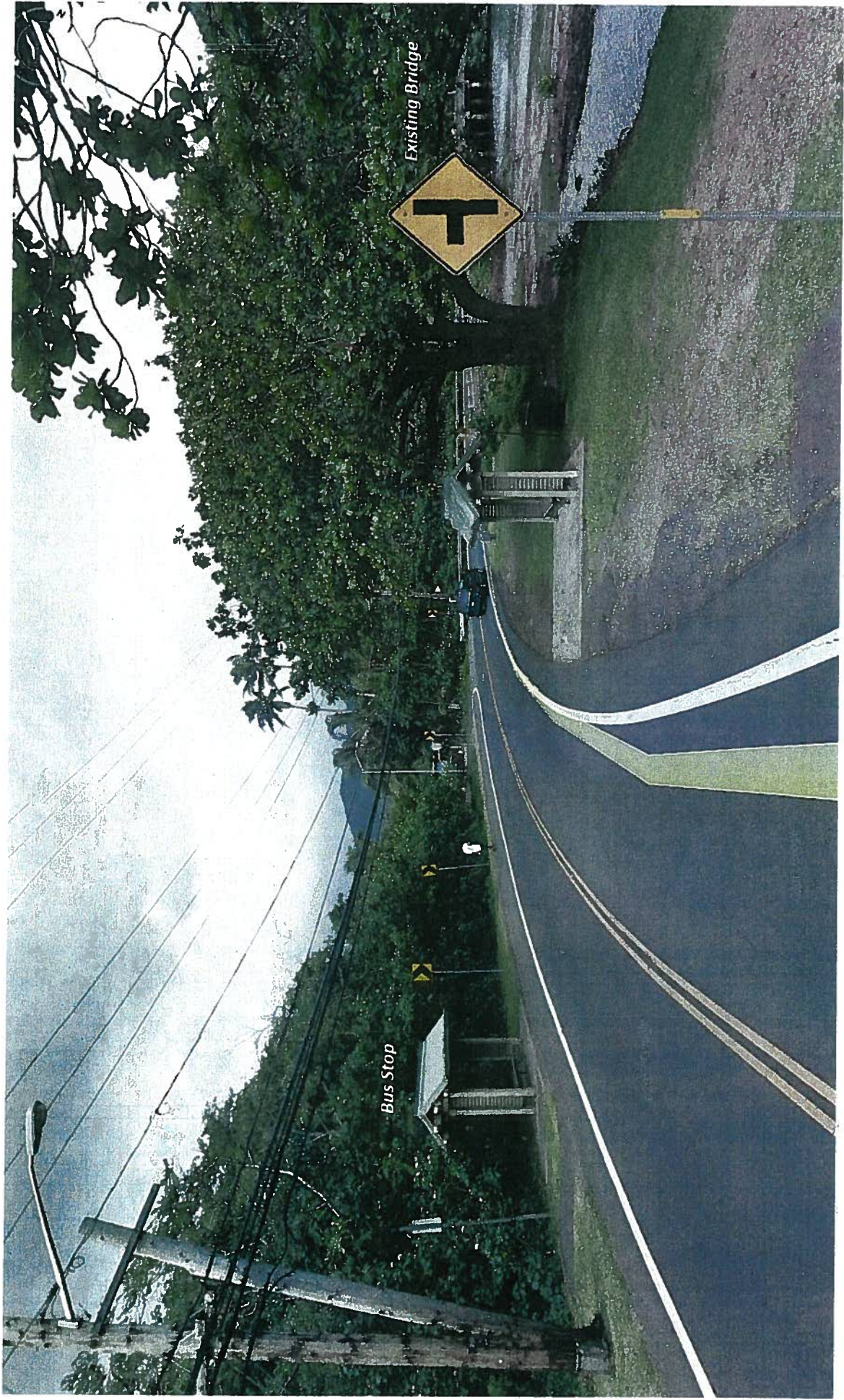
AHUPUA'A O KAHANA STATE PARK

Kahana





CDWA: 0A-3907



Bus Stop

Existing Bridge

EXHIBIT 4

CDUA: OA-3807

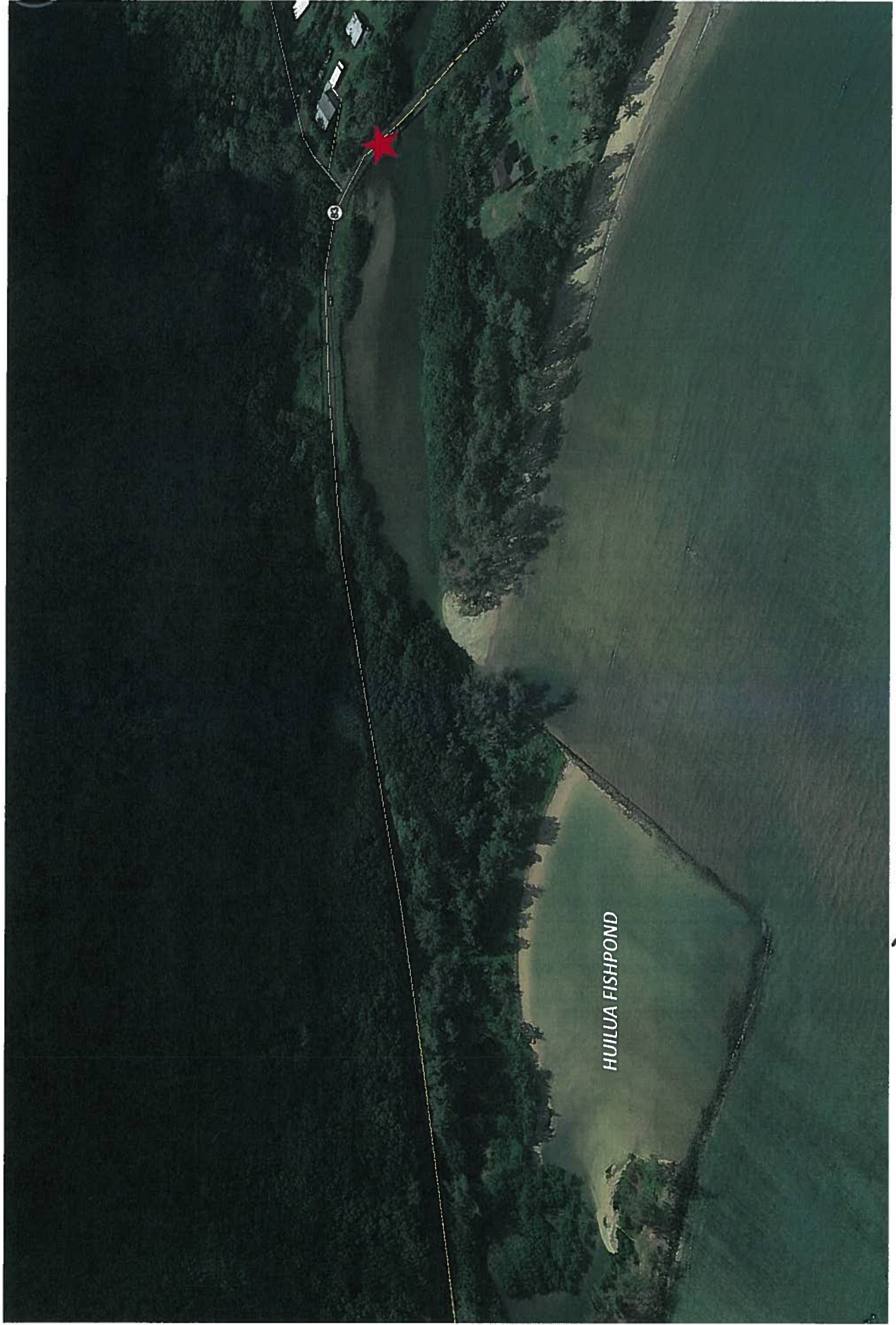


EXHIBIT 5

CDUA: OA-3807

EXHIBIT 6

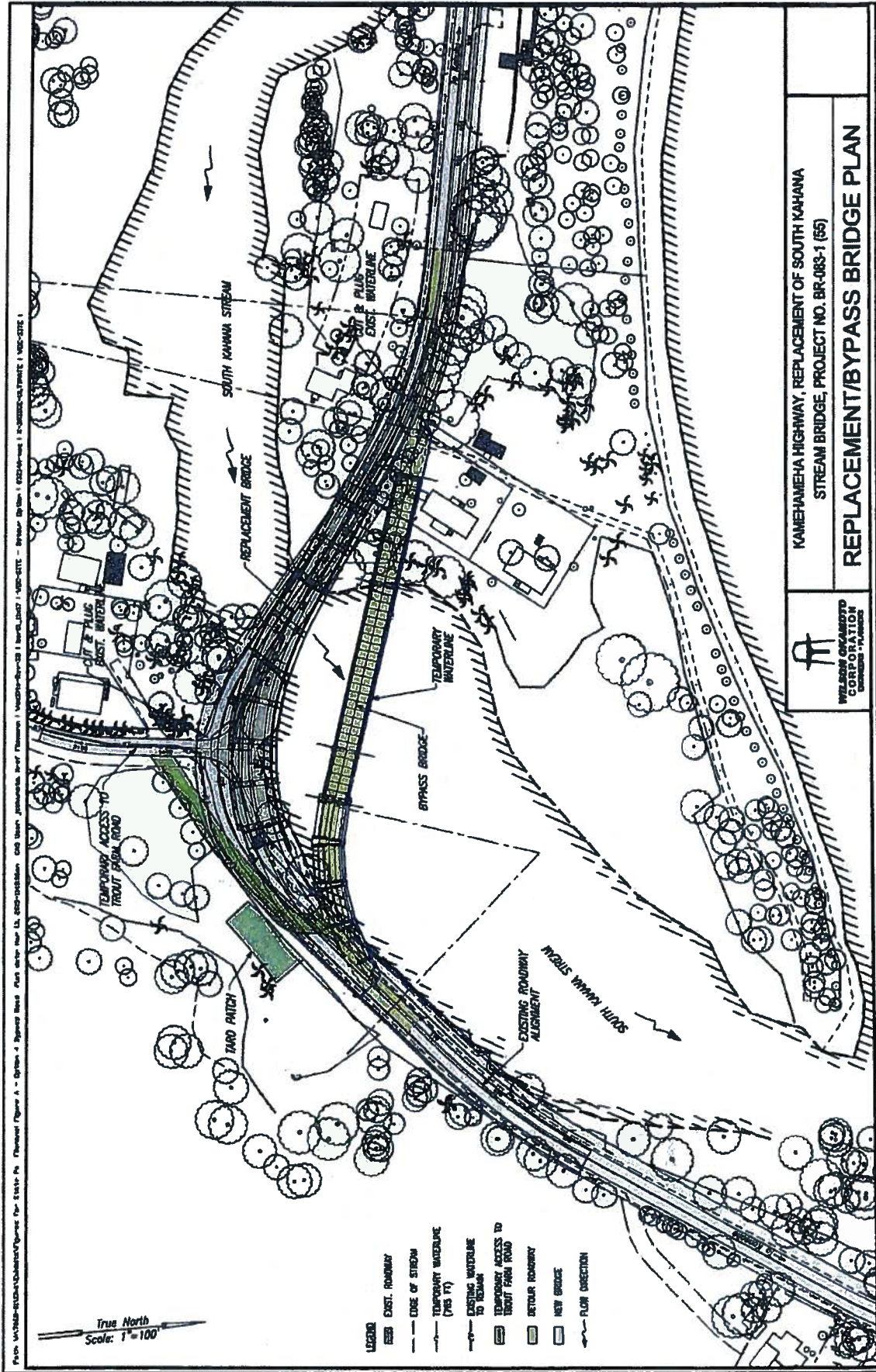
CDUA: OA-3807





EXHIBIT 8

CDUA: OA-3807



Map showing proposed temporary bypass road and bridge at South Kahana Stream

EXHIBIT 9 CDUA: 0A-3807

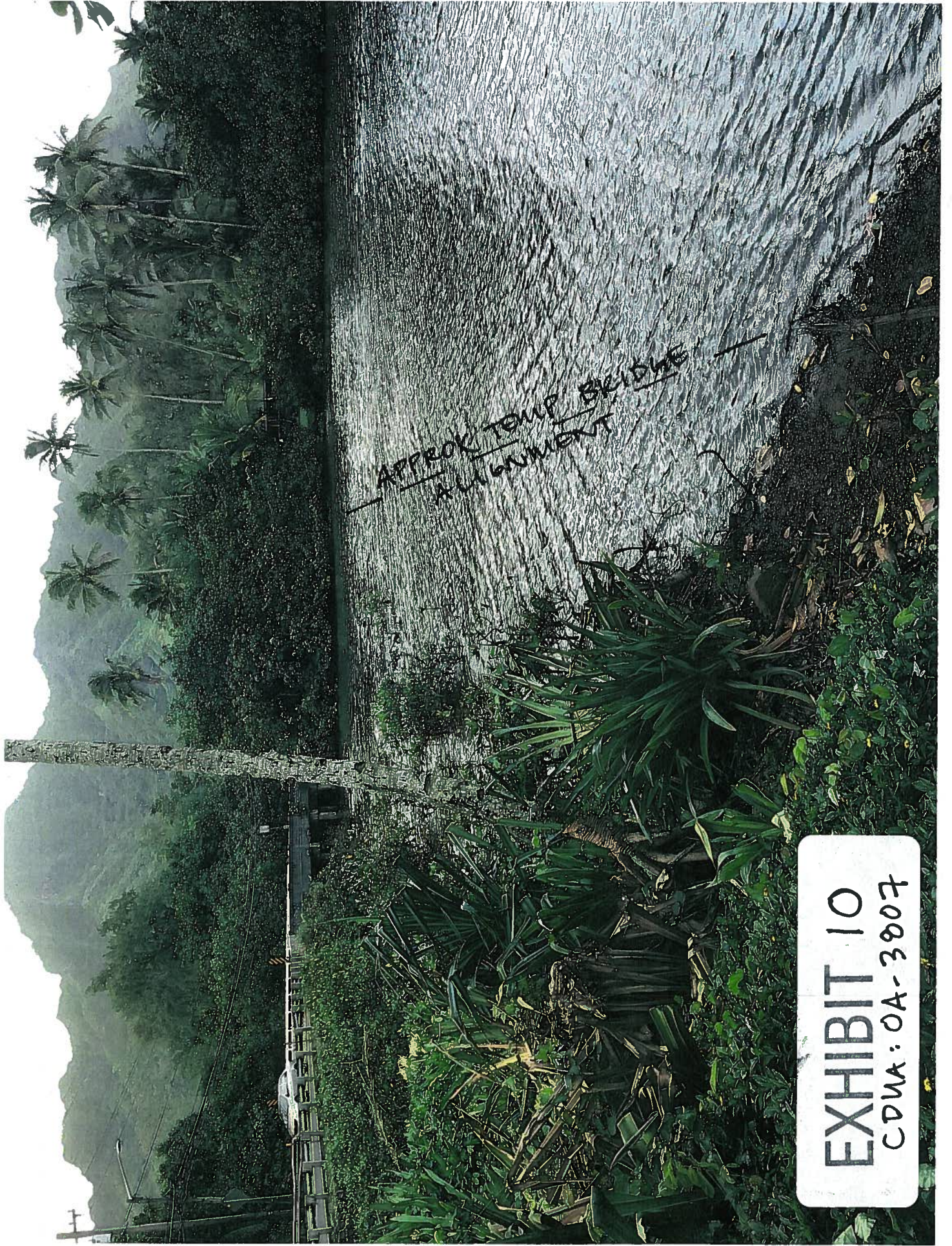


EXHIBIT 10
CDWA: OA-3807



Scale

0 75 150 Meters

0 250 500 Feet

Cultural Suncys Hawaii, Inc.

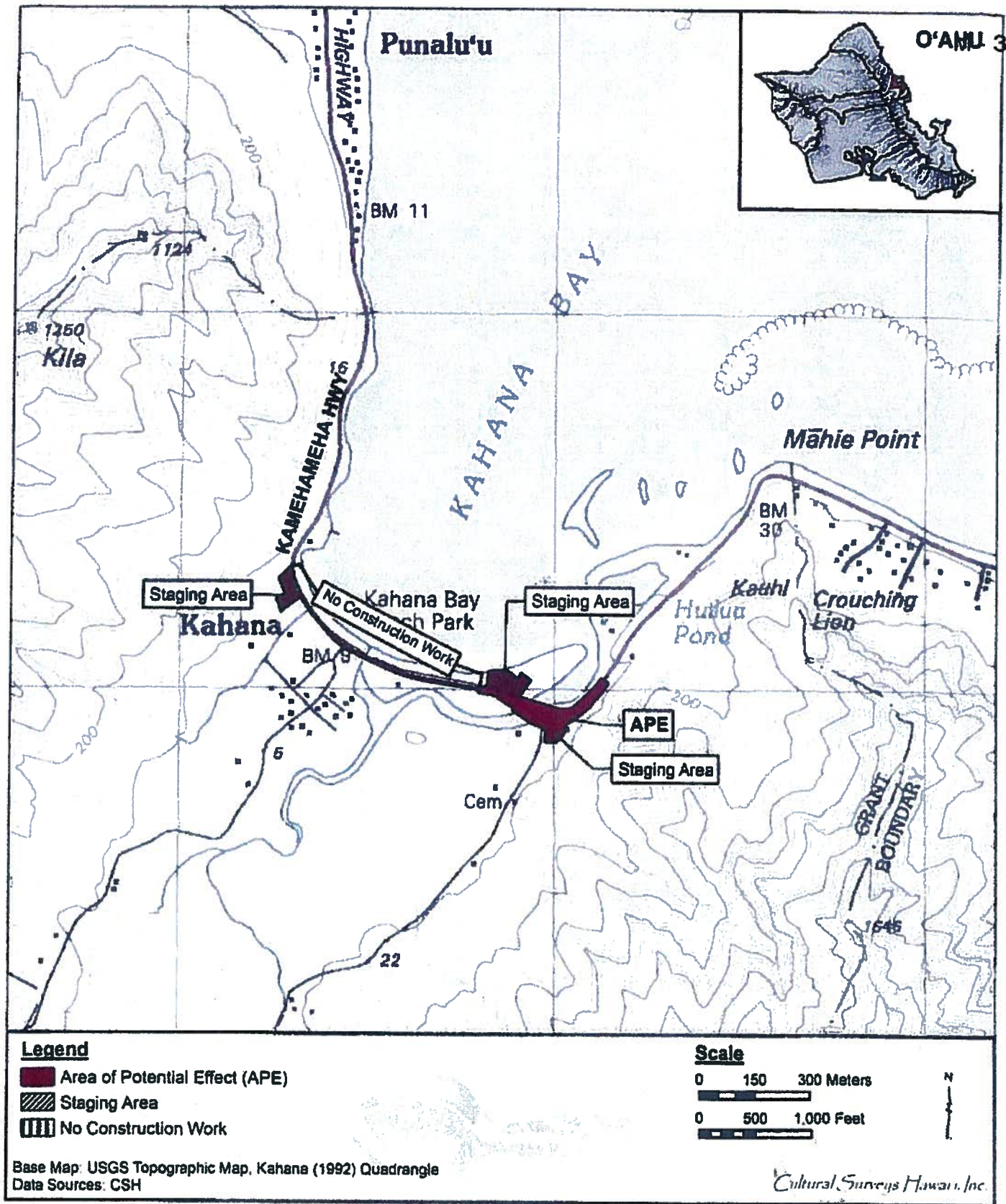


EXHIBIT 11A

CDUA: 0A-3807



EXHIBIT 12 CDWA: 0A-3007