Section 2 –

Nationwide Permit Pre-Construction Notification (PCN) Supplemental Information

4. Description of the Proposed Activity

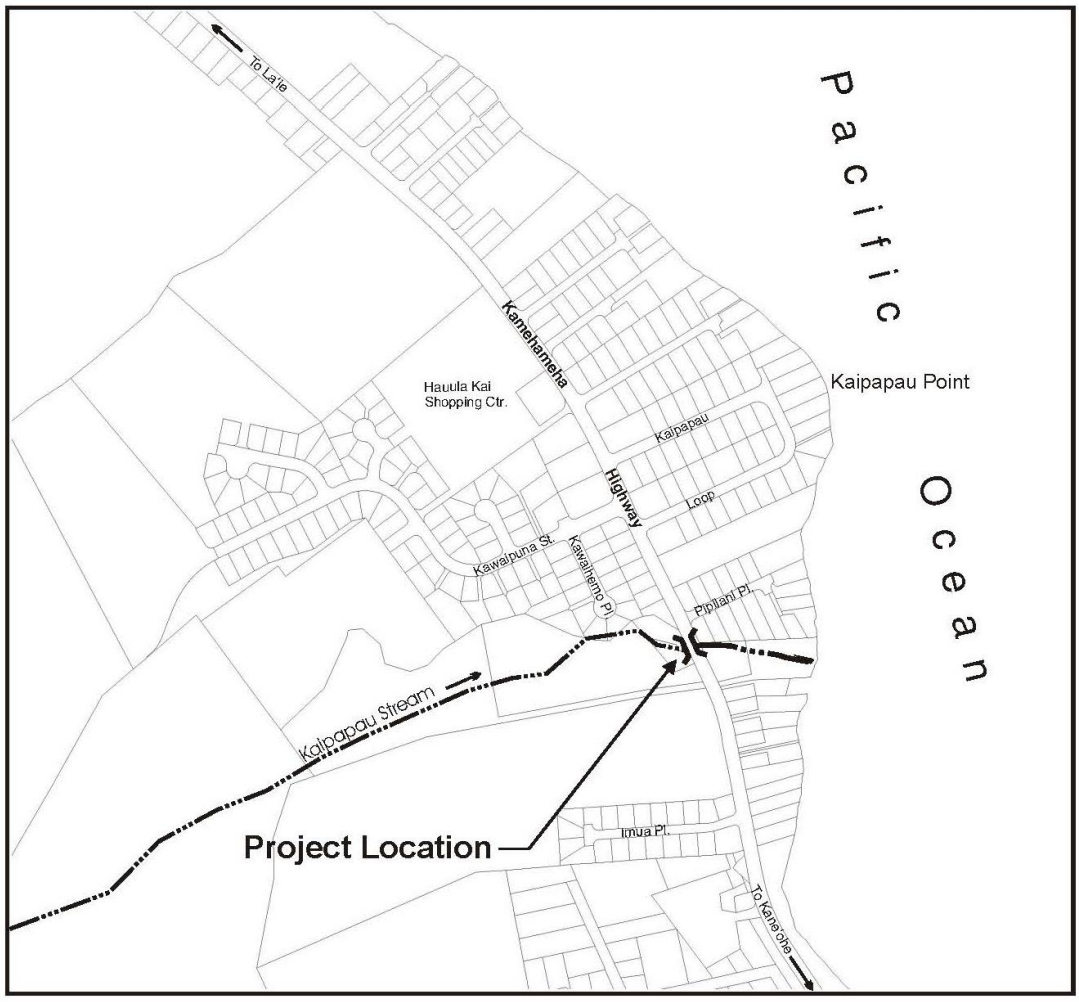
4a. Complete description of the Proposed Activity:

The State of Hawai‘i, Department of Transportation, Highways Division (HDOT), is proposing the Kaipapa‘u Stream Bridge Replacement project. The project is located along Kamehameha Highway (State Route 83) near Milepost 21 in the Hau‘ula, Island of O‘ahu, Hawai‘i, and includes replacing the existing Kaipapa‘u Stream Bridge with a new bridge, maintenance dredging and bank stabilization surrounding the Kaipapa‘u Stream (**Figure 1**). A U. S. Army Corps of Engineers (USACE) permit (POH-2005-00342) was obtained on March 17, 2012 and a revised permit verification obtained on September 19, 2014 for the inclusion of a temporary detour bridge (please note that no nourished beach is associated with this project, as is stated in special condition No. 4 in the permit approval letter dated September 19, 2014 - **Attachment F**). The permit expired on March 18, 2017.

Kaipapa‘u Stream Bridge is located approximately 0.3 miles north of Hau'ula Beach Park. The bridge serves northbound traffic (toward Kahuku) and southbound traffic (toward Kane‘ohe) on Kamehameha Highway. The bridge structure has two 40-foot spans and is constructed from reinforced concrete with a wooden pedestrian walkway attached to the mauka (west) side of the bridge. The bridge crosses Kaipapa‘u Stream approximately 300 feet upstream from coastal marine waters. Beneath and makai of the Kaipapa‘u Stream Bridge the stream is tidally influenced. Lands surrounding the bridge are single family residential and commercial in character and are privately owned. Parcels immediately surrounding Kaipapa‘u Stream Bridge are single family residential.

Kaipapa‘u Stream is classified as an interrupted perennial stream. The lower reaches have intermittent flows during the dry season. Stream flow at the project site occurs along the southern bank of the stream/bridge as there are accumulated sediment/soils, rocks and debris on the northern portion of the stream channel directly under the bridge. At the project site, Kaipapa‘u Steam is mostly fresh water. Portions of the project site beneath and downstream of the bridge are tidally influenced as shown in **Attachment A, Jurisdictional Boundary Maps**.

The existing Kaipapa‘u Stream Bridge is deficient due to age and dilapidation, and requires demolition and replacement. The project area required for construction would be approximately 1.6 acres (see **Attachment B, Construction Drawings**). The project’s scope of work includes installation of erosion controls, clearing, grubbing, grading, temporary placement of sandbags to redirect the stream during construction, relocation and installation of waterlines and electrical lines, construction and use of a temporary detour roadway and Acrow bridge, demolition of the existing bridge and construction of a new bridge, partial demolition and reconstruction of the abutments, removal of the existing center pier wall, excavation & construction of eight new drilled shafts outside the stream channel, maintenance dredging, and bank stabilization with shotcrete and dumped rip-rap. All excavated material (soils & dewatering effluent) will be placed in a temporary retention area for treatment and disposal. No excavated material will discharge to the stream.



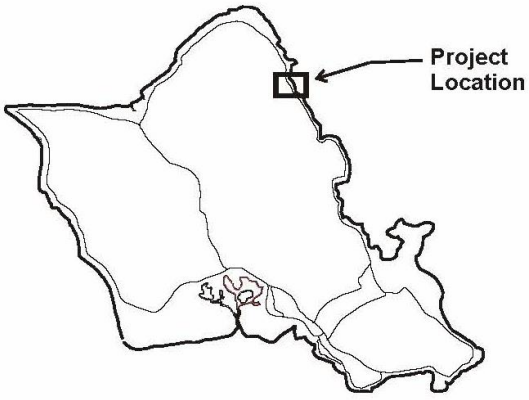


FIGURE 1
PROJECT LOCATION
Kaipapaʻu Stream Bridge Replacement
Koʻolauloa District, Oʻahu, Hawaiʻi

0 1000 Feet 2000

R. M. TOWILL CORPORATION November 2009

Figure 1. Project Location Map

The replacement of the Kaipapa‘u Stream Bridge and maintenance work will be completed through phased construction and demolition. Silt fences will be installed on down slope portions of the project site. A staging area, temporary dewatering basin, temporary concrete wash-out basin, and stabilized construction entrances will be prepared.

Sandbags will be used to divert normal-stream flow around the work area. The temporary placement of sandbags to redirect the stream during construction of the temporary detour road (sandbag diversion approximately 610 feet long) and new bridge (sandbag diversion approximately 600 feet long) and will be designed based on the Contractor's means and methods. It is assumed that 7 sandbags (1-foot-wide each) will be placed at the base (4 sandbags on the side of the channel closer to the work area, and 3 sandbags on the other side of the temporary channel). Placement of the temporary sandbag diversion will require approximately 25 cubic yards (CY) of temporary fill placed within the Mean Higher High Water (MHHW) and 5 CY of temporary fill placed within the Ordinary High Water Mark (OHWM).

A temporary construction entrance ramp will be constructed on the mauka and makai portions of the stream comprised of dumped rip-rap. There will be no interruption of stream flow. In-stream work will be completed during the low rainfall season (August to October), and during fair weather conditions.

Approximately 270 CY of maintenance dredging will be performed to remove accumulated sediment and debris from under and around the bridge partially within the MHHW. Approximately 5 CY is located within the MHHW of Kaipapa‘u Stream. The excavated spoils and demolition debris will not be discharged into the stream. Spoils will be dewatered in a detention basin and dried debris will be disposed of off-site at a County-approved landfill. Removed material will be contained in a temporary stockpile site with implemented BMPs to contain and prevent material from comingling with storm water runoff and entering into State waters. A solid waste disclosure form will be submitted to the Department of Health (DOH) Solid Waste Branch.

The temporary Acrow bridge will be 90 feet long by 42 feet wide, or approximately 3,780 square feet, and constructed with pre-cast concrete pier columns supporting the steel deck. The bridge will be comprised of two lanes and a pedestrian walkway on the makai side of the Kaipapa‘u Stream Bridge to mitigate traffic impacts during construction. The Acrow bridge will be constructed and installed in two 45-foot spans and supported by five pre-cast concrete piers, one of which is located within the MHHW. Placement of the one pier in the MHHW will require 1 CY of temporary fill below the MHHW. Temporary dumped rip-rap will be placed around the Acrow bridge pier within the MHHW and be sized approximately 54 feet long by 15 feet wide by 2 feet deep, or 810 square feet, with a volume of 50 CY. A 6-foot temporary layer of filter rock will be placed under the rip-rap with a volume of approximately 13 CY. Upon completion of the bridge replacement, the Acrow bridge and piers will be removed and disturbed areas restored to their pre-construction condition.

Demolition of the existing Kaipapa‘u Stream Bridge will include the removal of the existing concrete center pier wall, of which approximately 5 CY is located within the MHHW (26 feet long by 4 feet wide or approximately 104 square feet).

The new replacement bridge will be 110 feet long by 57 feet wide, or approximately 6,270 square feet, and include two 12-foot travel lanes plus two 8.5-foot shoulders, two 5-foot pedestrian walkways/bicycle lanes, reinforced guardrails, and drainage features. The new bridge will be constructed using prestressed concrete planks and cast-in-place bridge decks. The new right-of-way (ROW) will be 66 feet wide. The project will involve partial demolition and reconstruction of the abutments requiring excavation and construction of eight new 4-foot drilled shafts outside of the OHWM and MHHW. All work proposed for the reconstruction of the Kaipapaʻu Stream Bridge would be completed above and along the outer banks of the streams and no work is proposed within the stream. The new bridge would accommodate utilities currently attached to the existing bridge. No debris would be allowed to fall into or enter the stream.

The north bank makai of the bridge will be stabilized with dumped rip-rap outside of the MHHW. In addition to stabilization, the dumped rip-rap will provide construction access to the stream for mechanical equipment.

A section of the existing wall running along the northern bank mauka of the bridge collapsed during a major storm in 2008. Emergency repairs were conducted to create a wall of sandbags. The existing sandbag wall, located outside the OHWM, will be stabilized with the placement of basalt boulders at the toe of the sandbags. The existing sandbags will then be covered with shotcrete. Work for the stabilization of the wall will be performed above the OHWM. No debris would be allowed to fall into or enter the stream. See **Attachment A, Jurisdictional Boundary Maps**.

Portions of an existing 12-inch diameter waterline beneath Kaipapaʻu Stream will be repaired. The portions of the 12-inch waterline to be replaced are located outside the stream (see **Attachment B, Construction Drawings, C-20, C-28**) and will be repaired via open trench (approximately 85 linear feet). The existing 12-inch waterline under the stream will be temporarily removed from service during the repairs and then reconnected and placed back into service following completion of the 12-inch waterline work. During repairs a temporary 12-inch 125-foot-long or 125 square foot waterline will be placed on the existing pedestrian bridge.

The replacement of an existing 16-inch diameter will require the removal of the existing waterline, placement of a temporary waterline, and installation of the new 16-inch diameter waterline over the stream. The temporary 16-inch diameter 250-foot-long or 333 square foot waterline will be placed on the temporary detour bridge during construction. The new permanent 16-inch diameter 155 feet long or 207 square feet waterline will be installed over the stream within the new bridge 3.2-foot-wide concrete bridge encasement. Following the installation of the 16-inch permanent waterline the temporary waterline will be removed.

Above the MHHW and OHWM, the project will also include the reconstruction of the 6-foot-high concrete wall with wood fence panels on the northern side of the bridge, replacement of fencing, acquisition of two properties (Tax Map Keys (TMKs) 5-4-18: 3 and 5-4-11: 20), removal of an existing septic system and leaching field on TMK: 5-4-11: 20, and demolition of two buildings on TMK 5-4-18: 3 and one building on TMK 5-4-11: 20. Acquisition of property and demolition of structures is required for construction access and for the installation of waterlines to be supported on the outside edges of the new bridge.

In-water work would only be required for the minor maintenance dredging, removal of the existing bridge center pier wall, temporary placement of sandbags to divert the steam around the open work area, and temporary placement of one Acrow bridge pier within Kaipapa‘u Stream.

Project Phasing

The sequencing of construction activity is as follows:

- Install best management practices (BMPs)/erosion control measures (see **Attachment B, Construction Drawings, Sheet C-17**).
- Install temporary 12” water line and relocate existing 12” water line (see **Attachment B, Construction Drawings, Sheets C-20, C-28,** and **C-29**).
- Relocate electrical utilities.
- Construct trial and load test drilled shafts and perform load test.
- Construct detour roadway and temporary Acrow bridge.
- Demolish existing Kaipapa‘u Stream Bridge. Expose existing 16” water line jacket and concrete support system.
- Construct Phase 1 of new Kaipapa‘u Stream Bridge (see **Attachment B, Construction Drawings, Sheets S0.7, S0.7A, S0.7B**).
- Partially remove detour roadway and temporary bridge. Construct temporary pavement transitions, signing and pavement markings.
- Construct Phase 2 of new Kaipapa‘u Stream Bridge (see **Attachment B, Construction Drawings, Sheets S0.8, S0.8A, S0.8B**).
- Remove remainder of detour roadway and temporary bridge.
- Construct sandbags and shotcrete lining along north bank above stream, upstream of Kaipapa‘u Stream Bridge (see **Attachment B, Construction Drawings, Sheet C-18**).
- Construct dumped riprap along north and south bank above stream, downstream of Kaipapa‘u Stream Bridge (see **Attachment B, Construction Drawings, Sheets C-16** and **C-18**).
- Construct AC pavement (see **Attachment B, Construction Drawings, Sheet C-16**).
- Construct final signing and pavement markings.
- Remove temporary BMPs.

Equipment

Equipment may include, but is not limited to: bulldozers, excavators, drilling rig, loaders, grader, compaction rollers, backhoe, cranes, trucks delivering supplies, pneumatic hand-operated tools, dewatering pumps, asphaltic rock products and fill material, and related construction materials which will include the following:

- Concrete and shotcrete
- Asphaltic Concrete
- Precast structures
- Pipes
- Paints (enamel and latex)
- Cleaning solvents

- Rebar
- Wood
- Tar
- Masonry block
- Steel sheet piles
- Rocks/boulders
- Sandbags
- Soil fill material
- Acrow steel bridge deck

Construction Schedule

The estimated scheduled start time for construction is January 2021. The overall duration of the project is expected to be approximately three years. A detailed schedule of construction activity will be completed when a contractor is selected for the project.

Regulatory

The HDOT issued a Final Environmental Assessment (FEA) and Finding of No Significant Impact (FONSI) pursuant to its Chapter 343, Hawaii Revised Statutes, on February 23, 2007. A copy of the Final EA and FONSI can be found on the Office of Environmental Quality Control (OEQC) website at http://oeqc2.doh.hawaii.gov/EA_EIS_Library/2007-02-DD-OA-FEA-Kaipapau-Stream-Bridge-Replacement.pdf.

Senate Bill 1016 SD1 HD1 (expires June 30, 2022) exempts the HDOT from various State requirements for the subject project, including but not limited to:

- Section 401 Water Quality Certification (WQC)
- Stream Channel Alteration Permit
- Environmental Assessment

Other permits/consultations that have been obtained for the subject project but have no expiration date include:

- Special Management Permit
- Section 9, Rivers and Harbors Act (RHA) U. S. Coast Guard Clearance
- Section 106, National Historic Preservation Act, Consultation
- Section 7, Endangered Species Act, Consultation
- Section 4(f) Department of Transportation Act, Consultation

HDOT requests help in identifying if a new Coastal Zone Management (CZM) Federal Consistency Concurrence (prior obtained November 10, 2008) is required for the subject project. Please see **Attachment E** for copies of prior permits/consultations completed for the project.

4c. Direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure:

Physical Environment

Lands surrounding the Kaipapaʻu Stream Bridge are single family residential and commercial in character and are privately owned. Several blocks to the north of the site is the Hauʻula Shopping Center, a strip mall with retail space and a parking lot. Parcels immediately surrounding the bridge are single family residential. There are no known uses along this section of Kaipapaʻu Stream.

Kaipapaʻu Stream originates in the northern section of the Koʻolau Mountain range and descends from an elevation of around 2,600 ft (792 m), flows under Kamehameha Highway and discharges at the shoreline between Kaipapaʻu Point and Hauʻula Beach Park. In the vicinity of Kamehameha Highway, Kaipapaʻu Stream is channelized and the banks are hardened in most places. Upstream from the bridge, the southern (Kāneʻohe-side) bank of the stream is hardened and yards of neighboring houses abut the wall. The northern (Kahuku-side) upstream bank is an eroding soil bank where a concrete wall collapsed in late 2008. Further upstream, the boulder-bottom stream narrows as it climbs up into the valley. Immediately upstream from the bridge, the stream widens as it flows nearly parallel to the bridge. The stream currently flows under the southern (Kāneʻohe-side) side of the bridge because the northern underpass is clogged with soil, rocks and debris. Downstream of the bridge, the stream becomes shallow and widens as it flows to the ocean. This downstream section of the stream has been channelized as it flows between houses with large yards and sections of the banks that are hardened.

Just upstream of the bridge, the stream has been shown to be tidally influenced to 1.50' MSL. Upstream of that, the OHWM of the stream runs along the northern bank where the proposed reconstruction of the toe of the sandbag wall is proposed. See **Attachment A, Jurisdictional Boundary Maps** for documentation of the OHWM. Kaipapaʻu Stream is classified as an interrupted perennial stream. The lower reaches can have intermittent flows during the dry season. Stream flow at the project site occurs along the southern bank of the stream/bridge as there are accumulated sediment/soils, rocks and debris on the northern portion of the stream channel directly under the bridge.

The soils at the site fall under four soil series: Jaucas, Kawaihapai, Lolekaa, and Waikane. No significant impacts to soils are anticipated as a result of this project. Soil erosion will be minimized through the installation of erosion and sediment control measures, and construction BMPs proposed for this project.

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) identifies the Kaipapaʻu Stream Bridge project site as lying within Zone AE areas within

the 100-year flood inundation zone in which base flood elevations are between 10 and 14 feet.

The caprock aquifer beneath the area is composed of coral, sand, silt, lithified dunes, and clay. Sedimentary materials such as clay strata and limestone within the caprock interfere with the movement of groundwater. Groundwater within the cap rock moves toward the ocean, however, local variations may affect the flow direction. This underlying groundwater is not considered a drinking water source. Only clean uncontaminated fill material will be used for the project. The majority of the fill material will consist of concrete and rip-rap. No permanent stream channelization or discharge of dredged or fill material into WOUS is proposed. No stream bank stabilization within the MHHW or OHWM are proposed.

The present air quality in the vicinity of the project is good, due to the prevailing northeasterly trade winds and absence of "heavy" industries. Short-term impacts to air quality include fugitive dust during the demolition and construction, and exhaust from equipment and vehicles. The project is not anticipated to adversely affect long term air quality.

At a distance of 15 feet from the edge-of-pavement of Kamehameha Highway, the existing noise levels range from approximately 70dBA during the daytime hours to approximately 60 dBA at night. Short term effects are limited to noise from construction activity occurring on the project site. After construction is completed, it is expected that noise levels will return to pre-construction conditions.

No wetlands or critical habitat are located within or near the project site. The proposed project is not expected to result in the loss of wetlands, other special aquatic sites, and other waters.

Potential Effects on Physical Environment

No adverse effects to the physical environment are expected. Proposed bridge and maintenance dredging will be designed and constructed to ensure that flows within these streams are unimpeded during normal flow and flood conditions.

Biological Environment

Flora

A Biological Resources Study was performed on March 3, 2004 by Char & Associates. The vegetation at the proposed project site is dominated by introduced species such as Elephant Grass and Guinea grass. See the **Attachment G, Final Environmental Assessment, Appendix B.** No species surveyed was listed as threatened or endangered.

Within the approach area along the right-of-way, there are asphalt-covered walkways and grassy mowed lawns. The grassy strips along the highway are primarily Bermuda grass or manienie (*Cynodon dactylon*) with smaller mats of wiregrass (*Eleusine indica*) and Hilo grass (*Paspalum conjugatum*). Landscaping on the residential lots fronting the highway consists of an assortment of ornamental species which include spider lily (*Pancratium maritimum*), beach naupaka or naupaka kahakai (*Scaevola sericea*), false kamani (*Terminalia catappa*), croton (Codiaeum variegatum), Hibiscus cultivars, coconut trees (*Cocos nucifera*), etc.

Upstream (mauka side) of the bridge, the stream banks are lined with dense elephant or Napier grass (*Pennisetum purpureum*), 7 to 8 feet tall. On the top banks, it is largely Guinea grass with a few scattered koa haole (*Leucaena leucocephala*) shrubs. On the downstream (*makai*) side of the bridge, the vegetation is open with patches of elephant grass and a few tall false kamani trees border the house lots. The stream bottom is rocky in this area.

A few weedy patches are interspersed throughout the site and include mostly annual, herbaceous species such as white-flowered beggar's tick (*Bidens alba*), sensitive plant or puahilahila (*Mimosa pudica*), nutgrass (*Cyperus rotundus*), field bindweed (I*pomoea alba*), Chinese violet (*Asystasia gangetica*), Guinea grass (*Panicum maximum*), broad-leaved plantain (*Plantago major*), and false mallow (*Malvastrum coromandelianum*).

The U. S. Department of the Interior – Fish and Wildlife Service (USFWS) and State Department of Land and Natural Resources (DLNR), Division of Forestry and Wildlife (DOFAW), were consulted for the proposed project, who confirmed that no federally listed or proposed threatened or endangered species or candidate species, or proposed or designated critical habitats occur within the project area (**Attachment E**):

Potential Effects to Flora

No adverse effects to flora are expected. No threatened or endangered plant species, or critical habitat were observed in the vicinity of the project.

Fauna

A Water Quality and Biological Reconnaissance Survey was performed for the by AECOS, Inc. on May 14, 2004. See the **Attachment G, Final Environmental Assessment, Appendix D.** No species surveyed was listed as threatened or endangered.

See the table below for a list of aquatic biota surveyed by AECOS, Inc. on May 14, 2004 and published on October 1, 2004.

Scientific Name and Reference	Local Name	Status	Observed?	Abundance
	INVERTEBRATES			
MOLLUSCA, GASTROPODA	(mollusks)			
NERITIDAE				
Neritina vespertina Sowerby	*hapawai* (adults & eggs)	Endemic	Observed	U
ARTHROPODA,CRUSTACEA	(crustaceans)			
PALIEMONIDAE				
Macrobranchium grandimanus (Randall)	*ʻopae ʻoeha ʻa*	Endemic	Observed	U
	VERTEBRATES			
VERTEBRATA, PISCES	(fishes)			
CICHLIDAE				
Sarotherodon sp.	tilapia	Naturalized	Observed	C
GOBIIDAE				
Awaous guamensis (Valenciennes)	*ʻo ʻopu nakea*	Indigenous	Observed	O
Stenogobius hawaiiensis Watson	*ʻo ʻopu naniha*	Endemic	Observed	C
Sicypoterus stimpsoni (Gill)	*ʻo ʻopu nopili*	Endemic	Observed	R
KUHLIIDAE				
Kuhlia sandvicensis (Steindachner)	*aholehole*	Endemic	Observed	C
MUGILIDAE				
Mugil cephalus L.	*ʻama ʻama*	Indigenous	Observed	C
POECILIIDAE				
Gambusia affinis (Baird & Girard)	mosquitofish	Naturalized	Observed	U
Poecilia mexicana (Steindachner)	Mexican molly	Naturalized	Observed	O

Abundance Categories: R – Rare – only one or two individuals seen. U – Uncommon – several to a dozen individuals observed. O – Occasional – regularly encountered, but in small numbers. C – Common – Seen everywhere, although generally not in large numbers. A – Abundant – found in large numbers and widely distributed.

The stream will not be interrupted during construction, only diverted around the work areas, to permit the passage of native animals potentially found at the site including the ʻopae ʻoeha ʻa, ʻoʻopu nopili, and other gobies.

No protected or endangered species have been observed on or in proximity to the site. If a protected or endangered species is spotted, construction activity will cease until the animal has departed. Consultation with the National Oceanic and Atmospheric Administration

(NOAA) – National Marine Fisheries Services (NMFS) and USFWS was undertaken during the Section 4(f) and Section 7 federal consultation processes. Consultation determined that while the mouth of the Kaipapa‘u Stream is known as a haul-out for Hawaiian Monk Seals (*Monachus schauinslandi*), it is unlikely that marine mammals will travel 300 feet upstream to the project site. The Hawaiian monk seal was the only animal species identified by either agency. For a copy of the consultation record see **Attachment E**.

Potential Effects to Fauna

No adverse effects to fauna are expected. The proposed project will be constructed during daylight hours with no night work planned. Additionally, no permanent lighting or vertical man-made structures are proposed; therefore, no impacts to seabirds are expected.

No adverse impacts to Essential Fish Habitat (EFH) and management unit species (MUS) are expected. The project will follow NMFS EFH conservation recommendations identified in **Section 4d** below.

Based on information obtained from the USFWS and NOAA and information contained in the biological assessment conducted for the project, no designated critical habitat is located within the vicinity of the project area. While it is unlikely that the species would travel up the stream to the project site the project will follow *NMFS Best Management Practices (BMP) for General In-Water Work Including Boat and Driver Operations (October 2018)* (**Attachment D**). No other federally listed or proposed threatened or endangered species or candidate species occur within the project area (**Attachment E**).

Chemical Environment

Analyses of the water quality data collected from Kaipapa‘u Stream on August 28, 2006 show normal temperature and pH values, with relatively low percent saturation of dissolved oxygen. Phosphorous and ammonia, nitrate and nitrite concentrations were high. The latter concentrations may account for a majority of total nitrogen content observed at the site. Additional sampling performed in April and June of 2012 yielded similar pH values and slightly higher percent saturation of dissolved oxygen. See table below.

Monitoring Station	Temperature (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)	pH (ppt)	Salinity
Station #1	No water	-	-	-	-
Station #2	22.7	5.25	61	7.02	<1
Station #3	22.6	5.00	58	7.02	<1
Station #4	23.4	7.34	86	6.84	<1

Monitoring Station	Turbidity (NTU)	Total Susp. Solids (mg/L)	Nitrate+Nitrite (ug/L)	Total Nitrogen (ug/L)
Station #1	No water	-	-	-
Station #2	1.41	1.1	802	1110
Station #3	1.49	1.5	825	1130
Station #4	2.10	2.2	745	1170

Potential Effects on Chemical Environment

Potential for pollutant discharge into Kaipapa'u Stream during construction would primarily result from release of silt and suspended sediments during excavation and grading activities or during extreme storm conditions. Dewatering activities are anticipated during the installation of drilled shafts within the stream channel. Additionally, debris dropped during demolition of the existing bridge is a potential source of discharge pollution. All activities that may have a potential to affect water quality will be handled through the use of BMPs and in accordance with County, State and Federal rules and regulations.

4d. Description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity:

Best Management Practices (BMPs) Plan

Provided below are the proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity. Specific measures are included for listed and protected species, critical habitats, and waters of the United States that occur within the vicinity of the project area. Additionally, HDOT's pre-approved measures for construction BMPs) and Standard Operating Procedures (SOPs) (**Attachment D**) are provided for use by the Contractor to implement. Selection of appropriate BMPs by the Contractor will be based on the most effective means and methods to ensure the protection of the environment and waters of the United States to the maximum extent practicable at the project site.

Consultation determined that while the mouth of the Kaipapa'u Stream is known as a haul-out for Hawaiian Monk Seals (*Monachus schauinslandi*), it is unlikely that marine mammals will travel 300 feet upstream to the project site. The project will follow *NMFS Best Management Practices (BMP) for General In-Water Work Including Boat and Driver Operations (October 2018)* (**Attachment D**) and comply the with Pacific Standard Local Operating Procedure for Endangered Species (Pac-SLOPES) general conditions, special conditions, and activity-specific BMPs to avoid effects to threatened or endangered marine species.

No loss of aquatic habitat or waters of the United States would be required for the proposed action and no long-term impacts are expected. While no EFH has been designated within the project area, the project will implement the NMFS EFH conservation recommendations provided below (pursuant to sections 305(b)(2)(B) of the Magnuson-Stevens Act):

- Conservation Recommendation 1: The contractor(s) should conduct work during dry season when possible; stop work during storms or heavy rains.
- Conservation Recommendation 2: The contractor(s) should inspect all equipment prior to beginning work each day to ensure the equipment is in good working condition, and there is no contaminant (oil, fuel, etc.) leaks.
- Conservation Recommendation 3: The contractor(s) should ensure that all equipment found to be leaking contaminants is removed from service until repaired.
- Conservation Recommendation 4: The contractor(s) should ensure that all fueling and repairs to equipment is done in a location that prevents the introduction of contaminants to EFH.
- Conservation Recommendation 5. The contractor(s) should prevent the discharge of chemicals and other fluids dissimilar from seawater into the water column.
- Conservation Recommendation 6: The contractor(s) should prevent trash and debris from entering the marine environment through the use of nets or barriers.
- Conservation Recommendation 7: The contractor(s) should use materials that are nontoxic to aquatic organisms, such as untreated wood, concrete, or steel (avoid pressure-treated lumber).

- Conservation Recommendation 8: The contractor(s) should ensure that all construction equipment used for in-water work does not pose a risk of introducing new invasive species and will not increase abundance of those invasive species present at the project location.
- Conservation Recommendation 9: The contractor(s) should ensure that appropriate BMPs are developed and implemented to minimize erosion and stormwater runoff during all proposed project activities (e.g., bridge replacement and maintenance dredging) to minimize adverse effects from turbidity and sedimentation.

No wetlands are located within the project area. No impacts to listed species, EFH, MUS, waters of the United States, wetlands, or critical habitat are expected.

The project will adhere to the U.S. Army Corps of Engineers General and Regional Nationwide Permit Conditions, and the State of Hawaii's DOH National Pollution Discharge Elimination System (NPDES) guidelines, and a Site-Specific Construction Storm Water BMP Plan.

General Construction Best Management Practices (BMPs)

The USACE and DOH-CWB provisionally approved the HDOT and Federal Highway Administration-Central Federal Lands Highway Division (FHWA-CFLHD) to use the Streamlined 404/Water Quality Certification (WQC) process and Provisional Approval of SOPs for Streamlined WQC Process (WQC SOP File No. 20160930.DOTHWYS dated September 28, 2016). This Streamlined application process, hereinafter called Streamlined 404/WQC process, attempts to streamline the required submittals to the USACE and DOH-CWB by using the following tools:

1. An Integrated Storm Water Management Approach and a Summary of Clear Water Diversion and Isolation Best Management Practices for Use in the State of Hawai‘i, by the Federal Highway Administration and Hawai‘i Department of Transportation Practitioners Guide (Practitioners Guide) (**Attachment E**)

2. Storm Water Pollution Prevention Plan and In-Water Pollution Prevention Plan (SWPPP/IWPPP)

The Practitioners Guide details DOH-CWB pre-approved SOPs for use when submitting a WQC application. The SOPs include BMPs/Clear Water Diversions. The Contractor will implement their Means and Methods (including installation of BMPs/Clear Water Diversions) following the pre-approved BMP practices in the Practitioners Guide. Projects covered under the pre-approved SOPs do not require water quality monitoring; BMP submittals; Applicable Monitoring and Assessment Plan (AMAP) submittals; antidegradation analysis submittals; public notice; or public hearing.

The SWPPP/IWPPP is similar to the SWPPP used in NPDES Form C permits. It is a site-specific, written document that, among other things:

1. Identifies potential sources of storm water pollution at the construction site;

2. Describes storm water control measures to reduce or eliminate pollutants in storm water discharges from the construction site; and

3. Identifies procedures the permittee shall implement to comply with the terms and conditions of the Section 404 NWP and the WQC.

Potential exists for short-term impacts from construction activities on the water quality of the stream environment. Potential for pollutants of concern will be limited to the following:

1. Dredged spoils
2. Imported soils
3. Soil erosion from the disturbed areas
4. Petroleum products
5. Leaking fluids from vehicles and construction machinery
6. Vehicle wash water
7. Dewatering effluent
8. Hydrotesting effluent
9. Concrete
10. Demolition Debris

All pollution prevention measures (silt fences, basins, etc.) will be constructed and/or implemented prior to the start of construction activities. These measures will be maintained throughout the entire construction period.

Dredged material (i.e. accumulated soil, rocks and debris) will be removed incrementally during the construction period. Erosion and sediment control measures (i.e. sandbags, silt fences, etc.) will be installed prior to any ground disturbance. Removed material will be contained in a temporary stockpile site with implemented BMPs to contain and prevent material from comingling with storm water runoff and entering into State waters. The dredged material will be disposed of at a County-approved waste facility.

Materials and supplies, including imported fill, will be brought onto the project site on an "as needed" basis. Fill materials will be comprised of excess excavated soils and/or clean imported fill. All materials used will be in accordance with specifications for construction of such facilities by the State and County. No materials containing contaminated soils or other hazardous wastes will be permitted for use. Any material that is stored for longer periods will be covered with PVC sheeting or similar material to prevent contact with storm water runoff at the site and any excess material disposed of at a County-approved facility.

Earthwork activities shall be sequenced to minimize the exposure time of exposed surface areas. Soil erosion will be minimized through the installation of erosion and sediment control measures in compliance with State and County regulations. Stabilized construction access will be provided and adjacent roadways/paved surfaces will be regularly cleaned to remove any excess dirt, mud and/or debris resulting from construction activities.

In-stream activities will only be done when fair weather conditions are expected and following the temporary diversion of the stream away from the active work area. Stream diversion and work area isolation will be accomplished using sandbags wrapped with an impervious liner. Sandbag fill material will be clean, imported sand. As much as possible

the sand will be of similar color and grain size to the existing sand downstream of the site. Stream flow shall be maintained throughout the entire duration of the project.

Measures will be taken to prevent loose soil and debris from falling into the stream. Following removal of the temporary structures, the site will be immediately stabilized and appropriate erosion control measures implemented to minimize/eliminate erosion impacts.

All erosion control measures shall be checked and repaired as necessary, e.g., weekly, in dry periods and within 24 hours after any rainfall event of 0.5 inches or greater within a 24-hour period. During prolonged rainfall, daily checking will be required. The owner shall maintain records of checks and repairs to structural controls. Should large storm events occur, all equipment will be removed from within the stream channel and the site secured to prevent adverse impacts from flood waters.

Storage of petroleum-based products shall be prohibited on-site, unless they are stored in tightly-sealed containers with proper labeling and under a roof.

All materials while stored on-site shall be kept in a neat, orderly manner in their appropriate containers and as required, under a roof or other enclosure. Clean up material for petroleum, oils, and lubricant-associated products will be retained on-site in the event of accidental spills. The clean-up materials will be either stored in a covered shelter or on construction vehicles. Lidded containers will be used to contain spilled material to prevent mixing with storm water. Contained spill material will be disposed of at a County-approved facility.

Leaking fluids from vehicles and construction machinery will be handled as follows:

> Leaking or poorly-maintained construction equipment and machinery will not be permitted on site. Any equipment or machinery found to be faulty will be immediately repaired or replaced.
>
> Refueling and maintenance of construction equipment and machinery will be at designated areas with measures to contain accidental spills.

Vehicle wash water will be handled as follows:

> Wash water will not be permitted to be discharged into State waters.
>
> Vehicle washing may only be permitted in designated areas with control measures designed to contain wash water and capture pollutants (sediments). Wash water will be allowed to infiltrate/evaporate. Sediments resulting from vehicle washing will be disposed of in compliance with State and County regulations governing disposal of construction wastes.

Dewatering effluent will be in accordance with the NPDES NOI Form G dewatering permit that will be filed with DOH-CWB for this project.

Treated hydrotesting water will be used on site for irrigation and dust control and discharged into State waters only if necessary. The discharge of hydrotesting effluent into State waters will be done in accordance with the NPDES NOI Form F permit that will be filed for this project.

Water for dust control will only be sprayed onto active work areas and only in amounts sufficient to dampen the soil without causing runoff.

In order to prevent or reduce the discharge of pollutants to storm water from concrete waste, the following BMPs will be implemented:

Accidentally spilled concrete material will be cleaned up immediately.

Mixing of excess concrete will be avoided.

Disposed concrete will be contained in a lidded container to prevent mixing with storm water in the event of rainfall.

Wash-out of concrete trucks shall be done at a specified location with proper measures to contain effluent.

To prevent demolition debris from entering the stream, netting material will be suspended under the bridge structure to catch falling debris resulting from demolition activities. Plastic sheets or similar material will be laid on top of the netting material to capture smaller debris. Demolition activities will not be allowed during rainfall events or during times when the stream is experiencing high flow.

Additional measures may be implemented once the project contractor has been selected and allowed to assess site conditions. Any proposed revisions to the SWPPP/IWPPP resulting in increased effectiveness of erosion control measures will be submitted to DOH-CWB for review and approval prior to the start of construction activities.

Following construction, all areas disturbed as a result of the construction activities will be restored and/or stabilized (landscaped, grassed and/or paved). Additionally, all equipment no longer necessary to the site will be removed. Construction debris and refuse will be disposed of at a County-approved facility by the contractor.

8. Historic Properties

8a. For non-Federal permittees: Is there a known historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places within or near the project area?

There are no known archaeological sites within the proposed bridge replacement project site. The Kaipapa'u Stream Bridge, constructed in 1932, has a National Bridge Inventory (#0033000830302099) rating of 37. It is not listed on the State of Hawai'i Draft Historic Bridge Inventory and Evaluation (May 1996). The *1983 Historic Bridge Inventory, Island of O'ahu* identified the Kaipapa'u Stream Bridge as having poor aesthetics and poor integrity. However, the inventory identified the bridge as significant because it served as a transportation linkage to Windward communities and its association with one of Honolulu's prominent builders, L. L. McCandless. Burials have been encountered immediately to the north and south of the bridge site (i.e., State Site # 50-80-06-4795 (approximately 350 ft. south of the bridge) and State Site# 50-80-06-4796 (approximately 120 ft. north of the bridge) (**Figure 2**). The burial sites are located outside of the project's Area of Potential Effect.

A Section 106 Consultation was undertaken for the proposed project. See **Attachment E** and **Attachment G, Final Environmental Assessment, Appendix E**. A list of individuals and organizations contacted during the Section 106 process is also included in **Attachment G, Final Environmental Assessment, Appendix E**.

The State Historic Preservation Office concluded that the proposed project will have no adverse effect with the condition that the bridge is photographed before demolition and that archaeological monitoring be conducted, in association with planned ground disturbance within the project area.

Photo documentation of the Kaipapa'u Stream Bridge acceptable to the SHPD will be performed prior to the start of construction in accordance with the requirements of the Historic American Engineering Record (HAER).

The Archaeological Monitoring Plan for the Kaipapa'u Stream Bridge Replacement Project was received and accepted by SHPD on January 22, 2010. Archaeological monitoring of the bridge replacement work shall be conducted during ground disturbing activities in accordance with the SHPD accepted Archaeological Monitoring Plan. The Archaeological Monitoring Plan was inclusive of the area makai of the bridge where the detour road is to be constructed. A Cultural Impact Assessment was also performed to further mitigate the removal of the bridge. In the unlikely event that archaeologically significant remains are encountered, work will cease in the immediate area and the DLNR, SHPD would be notified at (808) 692-8015 to determine significance and treatment of any findings.

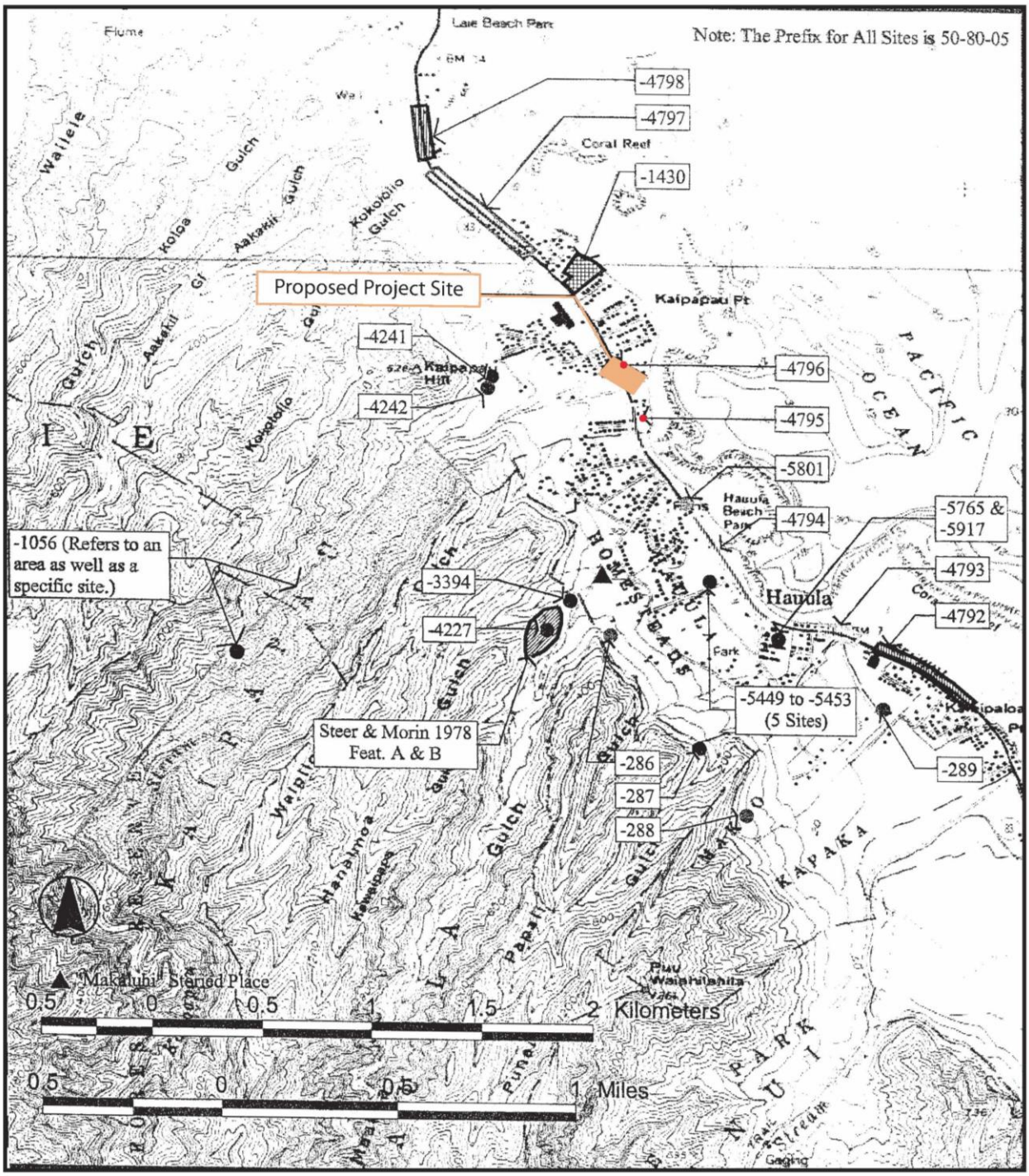


Figure 2. Historic Sites

Attachments

Attachment A – Jurisdictional Boundary Maps

Attachment B – Construction Drawings

Attachment C – An Integrated Storm Water Management Approach and a Summary of Clear Water Diversion and Isolation Best Management Practices for Use in the State of Hawai‘i, by the Federal Highway Administration and Hawai‘i Department of Transportation Practitioners Guide

Attachment D – NMFS Best Management Practices (BMP) for General In-Water Work Including Boat and Driver Operations (October 2018)

Attachment E – Consultation and Environmental Entitlements Obtained Previously

- **Attachment 1 Senate Bill 1016 SD1 HD1 – Exemption**
- **Attachment 2 CZM Federal Consistency Review Determination (November 10, 2008)**
- **Attachment 3 Stream Channel Alteration Permit Approval (February 18, 2009, provided for reference – no longer required per SB 3010)**
- **Attachment 4 Section 4(f) Coastal Zone Management**
- **Attachment 5 Endangered Species Act Section 7**
- **Attachment 6 Rivers and Harbors Act Section 9**
- **Attachment 7 National Historic Preservation Act Section 106**
- **Attachment 8 Special Management Area Approval (Resolution 278-CD1)**
- **Attachment 9 Categorical Exclusion Approval**

Attachment F – USACE Revised Nationwide Permit Verification for Kaipapa‘u Stream Bridge Replacement Project – POH-2005-00342

Attachment G – Final Environmental Assessment (see enclosed CD)

- **Appendix A Traditional Cultural Practices Assessment**
- **Appendix B Botanical Resources Study**
- **Appendix C Noise Impact Assessment**
- **Appendix D Water Quality and Biological Reconnaissance Surveys of Lower Kaipapa‘u Stream**
- **Appendix E SHPD Correspondence**
- **Appendix F Public Consultation**