

**Section 401 Water Quality Certification (WQC) Compliance Submittal**  
**Department of Health File No. WQC1017/E-Permitting Submission No. HNP-CZ24-RB1A6**  
**Updated Best Management Practices (BMPs) Plan**  
**Leeward Bikeway Project: Philippine Sea Road to Waipahu Depot Street**  
**Waipahu, Ewa District, Island of O‘ahu, Hawai‘i**  
**Tax Map Key: (Portions) (1) 9-1-17: 003, 008, 044, 045; 9-1-64: 116; 9-1-69: 002, 003, 010;**  
**9-1-126: 008, 013; 9-3-01: 006, 021; 9-3-02: 029; 9-4-01: 002, 011; and 9-4-11: 011, 104**  
**Federal-Aid Project No. STP-BW-0300(8)**

**July 2019**

The State of Hawai‘i, Department of Transportation, Highways Division (DOT-HWY), is providing this compliance submittal for the proposed updates to the BMPs plan for the Leeward Bikeway Project: Philippine Sea Road to Waipahu Depot Street in Waipahu, Ewa District, Island of O‘ahu, Hawai‘i (WQC1017).

Proposed BMPs Plan updates for Section 401 WQC1017 include: (1) the addition of approximately 46 cubic yards of dumped riprap in front of the bridge abutments along the east and west banks of Kapakahi Stream (23 cubic yards along each bank) to protect against scour along the side slopes and upstream and downstream corners of the bridge abutments, and (2) increased dredge quantities to account for the placement of the rock riprap. The addition of the dumped riprap is necessary to prevent against flow separation and formation of vertical vortices resulting in erosion of the approach embankment and downstream corners of the bridge abutments. The areas identified for the dredging and placement of riprap are shown on Figure 1.

The dumped riprap will be placed by equipment in a reasonably homogeneous manner with the larger rocks uniformly distributed and firmly in contact with one another. Smaller rocks and spalls will be used to fill the voids between the larger rocks. During installation, displacement of the underlying soil will be avoided as much as possible. Some hand placing may be required to provide a neat and uniform surface. Following installation, the dumped riprap will be pervious and will not harden the stream channel. This is expected to be an environmentally sensitive stabilization technique as the riprap would only be placed where necessary along the bridge abutments and the stream would remain in a somewhat “natural” state. The contractor will ensure that the rock riprap is free from dirt, clay, sand, rock fines, and other materials. The proposed riprap quantities and dimensions to be placed below the Mean Higher-High Water Mark (MHHW) of Kapakahi Stream are provided in the table below (Figure 2 shows the MHHW mark in relationship to the riprap work):

Impacted Water Name	Impacted Water Type (T-Tributary, W-Wetland, N-Navigable water)	Fill Activity (e.g. sandbag berm, temp access, bank stabilization, etc.)	Fill Dimensions in Waters of the U.S. Note: Only record fill placed below Ordinary High Water Mark (OHWM) for Stream/Tributary, Wetland Boundary or High Tide Line (HTL) for Navigable Waters				Impact Duration (T-Temporary, P-Permanent, L-Loss)	Fill Material Type
			Length (ft)	Width (ft)	Area (sq ft)	Volume (cy)		
Kapakahi Stream (East Bank)	N	Dumped riprap to prevent against scour	40	10 (varies)	329	23	P	Rock riprap
Kapakahi Stream (West Bank)	N	Dumped riprap to prevent against scour	40	10 (varies)	332	23	P	Rock riprap

Maintenance dredging along the banks of Kapakahi Stream is needed to restore the stream bed to historic depths. Additionally, in order to install the rock riprap flush along the stream banks supplemental dredging will be required. A total of approximately 52 cubic yards of sediment would be dredged using a single-scoop method of excavation with the equipment staged in uplands above the MHHW. The table below provides the total new dredge quantities (original maintenance dredging quantities plus the additional dredge quantities required for the installation of riprap):

Impacted Water Name	Impacted Water Type (T-Tributary, W-Wetland, N-Navigable water)	Dredge/Removal Dimensions in Navigable Waters				Impact Duration (T-Temporary, P-Permanent, L-Loss)	Dredged Material Type
		Dredged Area Length (ft)	Dredged Area Width (ft)	Dredged Area (sq ft)	Dredged Area Volume (cy)		
Kapakahi Stream (East Bank)	N	40	11 (varies)	329	26 (3+23)	T	Sediment
Kapakahi Stream (West Bank)	N	40	11 (varies)	332	26 (3+23)	T	Sediment

The dredging and riprap installation work will be phased to complete only one side of the stream bank at a time. BMPs during dredging operations and placement of the riprap will include the use of temporary turbidity curtains placed around the work areas. See Figures 3 and 4 for the proposed locations of the turbidity curtain BMPs.

BMPs for the construction of the Leeward Bikeway project will also include the use of upland site isolation with stabilized construction entrances, silt fences, compost filter socks, inlet/outlet protection, and designated work staging areas. At the Kapakahi and Waialeale Stream Bridge replacement sites additional BMPs will include the use of lined concrete wash-out basins and lined drying basins and the use of a temporary turbidity curtain within the Kapakahi Stream channel. No stockpiling will be required for the project.

In accordance with Hawai'i Revised Statutes Appendix C, 5.1.2 where a 50-foot undisturbed natural buffer from a State Waters cannot be maintained (i.e., where the bridge work is proposed at the Kapakahi and Waialeale Stream crossings), the sediment control will be doubled and spaced 5 feet apart. Sediment controls near the Kapakahi and Waialeale Streams will include the use of BMPs spaced 5 feet apart around the work area. Temporary excavated material and sediment at the bridge removal sites will be placed in lined drying basins and hauled off-site for disposal. No excavated material will be allowed to enter Kapakahi Stream. During the construction of the new bridges, all excess concrete and concrete washout slurries from the concrete mixer trucks and chutes will be discharged into the washout basin/area and hauled off-site for disposal at the PVT Landfill, or designated construction waste disposal site. A temporary turbidity curtain will be placed within the Kapakahi Stream around the open dredge areas to prevent sediment from migrating downstream beyond the open work areas.

To further avoid and minimize potential adverse effects from the proposed project the contractor will implement the following measures:

- Prepare contingency plan for altering or suspending operations during storms or heavy rains.
- 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.
- Ensure that all equipment found to be leaking contaminants is removed from service until repaired.
- Ensure that all fueling and repairs to equipment is done in a location that prevents the introduction of contaminants.
- Prevent the discharge of chemicals and other fluids dissimilar from the water column.
- Prevent debris, trash and other waste from entering the water column.
- Use materials that are nontoxic to aquatic organisms.
- 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.
- Ensure that appropriate BMPs are developed and implemented to minimize erosion and stormwater runoff during all proposed project activities.

The U. S. Army Corps of Engineers (USACE) and Department of Health-Clean Water Branch (DOH-CWB) provisionally approved the DOT-HWY to use the Streamlined 404/WQC process and Provisional Approval of Standard Operating Procedures (SOPs) for Streamlined WQC Process (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:

- 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).
- In-Water Pollution Prevention Plan (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 IWPPP is similar to the Storm Water Pollution Prevention Plan (SWPPP) used in National Pollutant Discharge Elimination System (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 Nationwide Permit (NWP) and the WQC.

A Section 402, Clean Water Act, NPDES permit for construction storm water will be prepared for the project and submitted to the DOH-CWB.