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# Applicable Monitoring and Assessment Plan for Clean Water Act Section 401 Water Quality Certification for Maunalua Bay Boat Ramp Loading Dock Repair Honolulu, O‘ahu, Hawai‘i

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## Introduction

The Division of Boating and Ocean Recreation (DOBOR), under the Hawai‘i Department of Land and Natural Resources (DLNR), is applying for a Section 401 Water Quality Certification (WQC) to repair a loading dock in Maunalua Bay (herein known as “Project”). An Applicable Monitoring and Assessment Plan (AMAP) regarding the photographic and visual monitoring of the proposed Project will accompany the application for WQC.

Per the AMAP, throughout preconstruction, construction and post construction of the Project, photographic monitoring and visual inspections will be used to assess the adequacy of Best Management Practices (BMPs) and monitor for potential Project impacts on State waters. In the event that the in-water BMPs require amending, the construction contractor will redesign the BMPs, submit them to the DOBOR for approval from the Hawai‘i Department of Health (HDOH, Clean Water Branch (CWB)).

The AMAP was prepared in accordance with water quality regulations promulgated in Hawai‘i Administrative Rules (HAR) Chapter 11-54 (HDOH, 2014), the General Monitoring Guideline for Section 401 Water Quality Certification Projects (HDOH, 2000), data quality objectives (USEPA, 2006), and AMAP Guidelines (DQO format) Version 1 (HDOH, 2015).

## Project Description

The Maunalua Bay Boat Launching Ramp Facility is owned by the State of Hawai'i and is located in the Hawai'i Kai area of Honolulu (Figure 1). The loading dock collapsed in January 2019 due to broken struts and was removed in March, 2019. The proposed Project will demolish and remove the existing concrete pile cap and damaged landside concrete landing. New reinforcing steel will be installed and a new pile cap and landside concrete landing ramp will be constructed. The Project will include a 46-ft long pre-engineered aluminum dock (M&A, 2019).

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Figure 1. Project location in Maunalua Bay, O'ahu.

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Best Management Practices (BMPs) to protect water quality will include a full-depth turbidity curtain surrounding Project in-water operations to minimize turbidity discharge during demolition and construction operations. The turbidity curtain at the ramp entrance will also minimize movement of water with any increased pH values—due to contact with new Project concrete—to outside coastal waters. The turbidity curtain will be constructed of reinforced vinyl polyester fabric and anchored to the bottom. Filter socks will be land-based around the upper portion of the Project to prevent landside sediment migration. An inflatable cofferdam will be used during demolition and construction of the concrete landing to maintain a dry work environment.

## Maunalua Bay Waters and Maunalua Boat Ramp

The coastal waters of Maunalua Bay waters in the vicinity of the Project are classified as 'Class A Marine Waters' (HDOH, 2014). Class A Marine Waters are to be protected for recreational purposes and aesthetic enjoyment. Other uses are permitted only when compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. Class A waters cannot act as receiving waters for any discharge which has not received the best degree of treatment or control. No new industrial discharges are permitted, with exception of acceptable non-contact thermal and drydock or marine railway discharges, storm water discharges, and discharges covered by a NPDES general permit approved by the U.S. Environmental Protection Agency (USEPA).

Maunalua Bay waters (Water ID: HI00016) appear on the HDOH 2018 list of impaired waters prepared under Clean Water Act §303(d) (HDOH, 2018). The listings indicate that these waters do not meet water quality standards for nitrate+nitrite, ammonium, total nitrogen, and turbidity during dry criteria conditions. Maunalua Bay is listed as open coastal waters in State of Hawai'i water quality standards (HDOH, 2014). The boat ramp basin, however, is considered a harbor which falls under State embayment water quality standards (HDOH, 2014).

## Data Quality Objectives and Criteria for Measurement Data

Data quality objectives (DQOs) are qualitative and quantitative statements developed through a seven-step process based on USEPA guidance for developing DQOs (USEPA, 2006). The Project-specific DQOs below follow each step and how it pertains to the monitoring and assessment of water quality during this Project.

### **Step 1: State the problem**

The loading dock at the Maunalua Bay Boat Ramp has been closed due to structural failure. The State of Hawai'i Department of Land and Natural Resources (DLNR) Division of Boating and Ocean Recreation (DOBOR) proposes to demolish the damaged landside concrete landing and to construct a new landing (DLNR-DOBOR, 2019). Demolition and construction operations could increase turbidity and use of concrete could increase pH in the Project work area.

Best management practices (BMPs) to protect water quality will isolate the Project work area during demolition and construction operations. In order to confirm that BMPs are containing potential Project-related impacts to turbidity and pH, photographic and visual monitoring will be conducted.

### **Step 2: *Identify goals of the study***

The AMAP is designed to monitor potential impacts from demolition and construction activity to marine waters near the Project site during construction and post construction periods. The goals of this AMAP are to: (1) ascertain that BMPs for the Project are adequate to comply with State water quality standards; (2) promptly determine if BMPs are failing so that repair or modification of the BMPs can be implemented in a timely manner to bring the activity into compliance; (3) serve as a basis for self-compliance, so that activities associated with the proposed action can proceed within the parameters required by State water quality standards; and (4) determine if there are long-term impacts to water quality from the Project work.

### **Step 3: *Identify the information inputs***

#### **Photographic Monitoring**

Photograph monitoring and visual inspections will be conducted before (preconstruction), during construction, and post construction at Maunalua Bay Boat Ramp.

Preconstruction monitoring photographs and visual inspections will be conducted once at the proposed turbidity curtain site prior to construction. At a minimum seven photographs will be taken as shown in Figure 3.

3 times per week on Monday, Wednesday, and Friday

During construction, photographs and visual monitoring will be conducted ~~daily~~ in the installed turbidity curtain area and in-water work area (Figure 3). Event reports will be submitted daily to HDLNR-DOBOR to be submitted to HDOH-CWB within 24 hours or close of business the next business day.

Following construction completion and removal of BMPs from the Project, post construction monitoring will consist of photographs and visual inspections taken once per week for two weeks.

#### **Narrative of site conditions**

Field technicians will record notes on Project activity, unusual site conditions, and condition of BMPs at the time of data collection. Field technicians will perform visual inspections and record these observations on inspection forms. Observations will include, but not limited to, date, time, water depth, and weather conditions. Field technicians will provide a description of Project

activity, condition of BMPs, and any other observed activities, related or unrelated to the Project, which may affect water quality and/or beneficial uses. Photograph submittals will include a date (DD/MM/YY) and time (24-hour) stamp and a descriptive narrative of each photograph and be accompanied by map or diagram depicting the location and orientation of photographs taken. Completed visual forms and photographs will be submitted daily to HDLNR-DOBOR.

**Construction Schedule**

Working hours for the Project will be Monday through Friday (0800 to 1630 hours), excluding State holidays. No night work will be permitted. Total estimated Project duration is two months following the issuance of the notice to proceed. Actual in-water construction operations are expected to take one month.

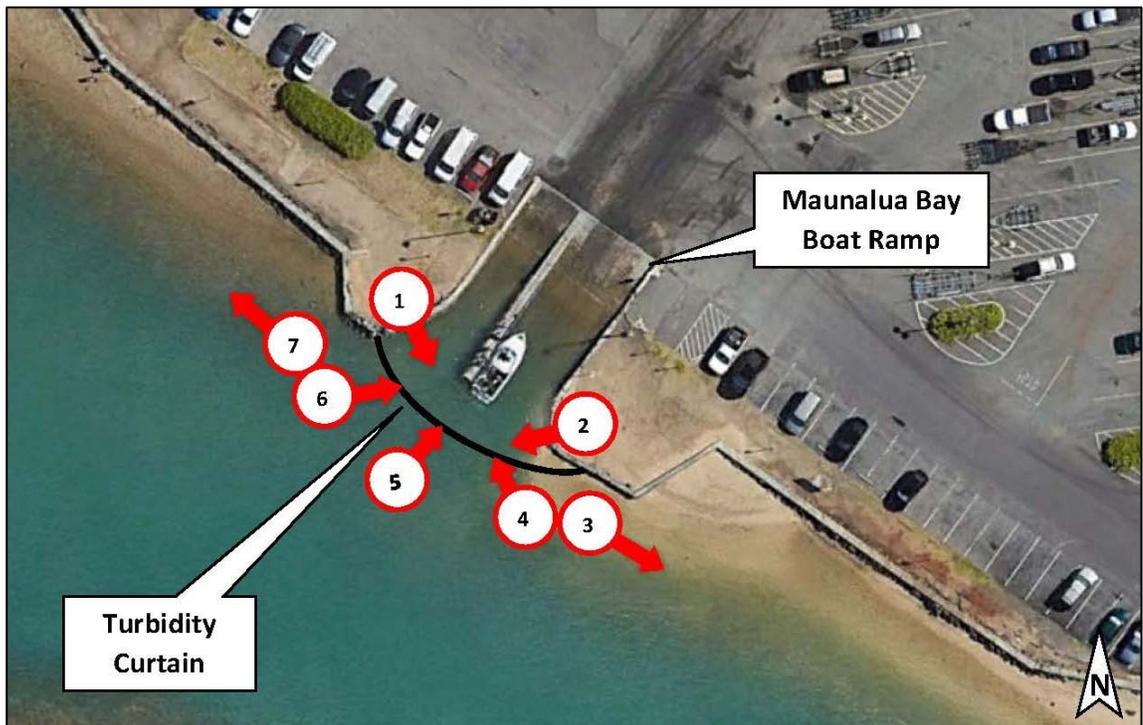


Figure 3. Stations and direction for photographic view (additional photographs may be included).

**Personnel**

Table 1 provides the names or titles, responsibilities and qualifications of the personnel involved with this monitoring plan.

Table 1. Summary of responsibilities and qualifications.

Name	Responsibility	Qualification
Water Quality Monitoring Contractor To be determined	Project Manager	Project management, laboratory, and field monitoring experience in 401 WQC and monitoring.
Field Technicians To be determined	Take photos at each DU. Take and submit field notes and photographs (with date/time stamp) with narrative of water quality DUs and BMP's. Report exceedances to on-site foreman and Project manager. Compile preconstruction summary and post construction assessment.	Qualified monitors who actively practice environmental science, or have formal training in sampling theory, practices and techniques. Monitors must have thorough knowledge of all aspects of all photographic and reporting requirements.
Construction Monitoring Contractor To be determined	Make daily visual observations of BMPs and construction activity to be logged in a notebook (SM, 1998). Take photographs (with date/time stamp and description) and provide notebook and photographs to monitoring entity to be used as part of the assessment process. Investigate any water quality exceedances, take corrective actions, and report findings to authorized representative.	Knowledge of construction activities as they relate to 401 WQC requirements. Familiar with coastal environments. Knowledge of WQC monitoring requirements for this Project.

Department of Land and Natural Resources, Division of Boating and Ocean Recreation	Notify monitoring contractor and HDOH-CWB when in-water construction will start with enough time to collect 401 WQC preconstruction monitoring prior to starting work. Request acceptance from HDOH-CWB for any changes to BMPs or AMAP. Report monitoring data to HDOH-CWB.	Knowledge of construction activities as they relate to 401 WQC requirements. Familiar with coastal environments. Knowledge of WQC monitoring requirements for this Project.
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#### ***Step 4: Define the study boundaries***

Data collection will be limited both spatially and temporally. Spatially, Project photographic monitoring will be limited to the in-water work areas.

Temporally, photographic monitoring will be limited to one day prior to actual construction (preconstruction), the duration of construction work (approximately 2 weeks), and two weeks following completion of in-water work.

#### ***Step 5: Develop the analytical approach***

If it is determined that Project activities are causing a turbidity plume, then the construction activity responsible will cease until the problem is corrected or BMPs are adjusted to contain the plume. HDOH-CWB will be notified immediately.

The results of monitoring will be evaluated by comparing during and post construction photographs and field notes of the work area and BMPs to preconstruction monitoring report. These comparisons will be used to determine if there were any apparent changes in water quality resulting from construction operations.

#### ***Step 6: Specify Performance/Acceptance Criteria***

The Project will have little temporary and no long-term adverse effects on nearshore marine waters. Thus, photographic monitoring will be implemented for the Project. Visual inspections and photographing the Project BMPs and work areas will be adequate to assess the effectiveness of Project BMPs.

#### ***Step 7: Develop the plan for obtaining data***

This monitoring program may be modified based on photographs, visual inspections, changes in Project activities, changes in environmental conditions, and other information that may become available. Optimization of the design, if necessary, will improve monitoring and assessment of construction impacts, if present, on marine waters

Construction monitoring data will be transmitted by email or facsimile to HDOH-CWB (cleanwaterbranch@doh.hawaii.gov or 808-586-4352) as they become available (following sampling or within 24 hrs/next business day). A final water quality assessment report by the monitoring entity will be submitted to HDOH-CWB within 60 days following completion of post construction photographic monitoring and inspection results. The final report will identify the methods and procedures for monitoring and include photographs taken and data collected by activity phase (preconstruction, construction, post construction). This report will also assess whether water quality was impacted by the construction activity and changes made, if any, to the contractor's BMPs.

## References

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