Mitigation Monitoring Program (MMP)
for Project Management Oversight of Environmental and Related Commitments in the Final Environmental Impact Statement (Final EIS), Record of Decision (ROD), and Section 106 Programmatic Agreement (PA)

Honolulu Rail Transit Project

July 17, 2012

Prepared for:
Honolulu Authority for Rapid Transportation

HONOLULU AUTHORITY for RAPID TRANSPORTATION

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Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
City	City and County of Honolulu
CMS	Contract Management System
CPE	Chief Planner and Environmental Compliance Manager
CRE	Contract Resident Engineer
DB	Design-Build
DBB	Design-Bid-Build
DBOM	Design-Build-Operate-Maintain
DM	Design Manager
DTS	City and County of Honolulu Department of Transportation Services
ECD	Environmental Compliance Manager for Design
ECM	Environmental Compliance Manager for Construction
ECP	Environmental Compliance Plan
EIS	Environmental Impact Statement
EPD	Environmental Planning Director
FTA	Federal Transit Administration
GEC	General Engineering Consultant
HART	Honolulu Authority for Rapid Transit
HHCTCP	Honolulu High-Capacity Transit Corridor Project
HRTP	Honolulu Rail Transit Project
LPA	Locally Preferred Alternative
MMids	Mitigation Monitoring Identifiers
MMP	Mitigation Monitoring Program
MMPA	Mitigation Monitoring Program Administrator
NEPA	National Environmental Policy Act
PA	Section 106 Programmatic Agreement
PMOC	Project Management Oversight Consultant
PM Team	Project Management Team
Project	20-mile section of Honolulu Rail Transit Project
ROD	Record of Decision
ROW Team	Right-of-Way Team
SEM	Section Environmental Monitor
SHPD	State Historic Preservation Division
SOEP	System Operation and Emergency Procedures
SSCP	Safety and Security Certification Plan
SSM	Safety and Security Manager

1.0 Introduction

This Mitigation Monitoring Program (MMP) describes the environmental management oversight program for the Honolulu Authority for Rapid Transit (HART) for the 20-mile portion of the Honolulu Rail Transit Project (HRTP), which is the "Project" described in the Final Environmental Impact Statement (Final EIS) published June 2010. The Project includes construction and operation of an elevated fixed guideway rail system from East Kapolei through Downtown Honolulu to Ala Moana Center.

The MMP identifies the monitoring and coordination necessary to limit potential impacts to the environment and to protected resources and communities within and adjacent to the project area.

The objectives of the MMP are as follows:

- Confirm that environmental commitments and mitigation measures stipulated within the June 2010 Final EIS, the January 18, 2011 Record of Decision (ROD), and Section 106 of the National Historic Preservation Act Programmatic Agreement (PA) executed January 18, 2011, are incorporated into the Project's plans and specifications and identified in applicable contract documents
- Identify methods to monitor the environmental requirements within the project area that require compliance with Federal, State, and Local regulatory permit conditions
- Define responsibilities and actions to manage compliance with environmental and PA requirements during design and construction
- Effectively respond to problem situations concerning design and construction or to address agency and public concerns
- Establish procedures for communication, documentation, and review of environmental and PA compliance activities for each design and construction contract
- Describe the process to monitor mitigation commitments for protected resources within the project area
- Check and ensure that contractor submittals include means and methods to avoid or minimize impacts to the environment in accordance with construction contract documents

Each contractor will be required to prepare an Environmental Compliance Plan (ECP) that addresses relevant environmental regulations and permit conditions, and other environmental compliance requirements specified in contract specifications and reports, including the Final EIS, ROD, and PA. For the purposes of discussion of environmental commitments in this MMP, the PA stipulations are incorporated into the ROD and specifically discussed in Section 6.0 of this MMP. HART will represent the interests of the Federal Transit Administration (FTA) to ensure environmental compliance by its contractors.

The mitigation measures that will be implemented as part of the Project are briefly described in ROD Attachment A: Mitigation Monitoring Program to Ensure Fulfillment of All Environmental and Related Commitments in the Final EIS and Section 106 Programmatic Agreement, which also describes the monitoring enforcement program that is detailed in this MMP. The mitigation measures described in this MMP are detailed in the Final EIS and PA, and will be implemented prior to and during Final Design and construction. The ROD summarizes the potential effects of the Project, the commitment to mitigate those effects, the monitoring action, and the condition of approval required to check that the measures are implemented. The ROD also identifies the parties responsible for implementation and key milestones for implementation.

The FTA requires that HART establish a mitigation monitoring program to verify compliance of mitigation and design commitments by the teams working on Final Design and construction, and to provide a means for HART and FTA to track the progress in accomplishing the mitigation commitments. FTA will require, as a condition of any grant or grant agreement with HART, that all committed mitigation measures in the Final EIS be implemented unless FTA approves of a change in writing and after an appropriate National Environmental Policy Act (NEPA) review. FTA will monitor implementation of mitigation measures through monthly updates and quarterly reports during design and construction or other appropriate means.

This MMP contains two appendices: Appendix A: Mitigation Monitoring Program (MMP) for Project Management Oversight of Environmental and Related Commitments in the Final Environmental Impact Statement (Final EIS), the Record of Decision (ROD), and the Section 106 Programmatic Agreement (PA). This document serves as the framework for the mitigation monitoring program by type of resource and topic.

Appendix B: Environmental Compliance Monitoring Manual for Design and Construction describes the compliance strategy developed to document the specific mitigation required for each specific design, construction and/or design-build contract in the form of an individual design or construction manual. These manuals are intended for GEC use during design and construction oversight to guide environmental compliance and will also be used to provide the final design consultant and construction contractors on the compliance expectations for each individual contract section and station grouping. In addition, the manuals illustrate the communication protocols between HART, the GEC, and the Contractor.

As mitigation commitments are implemented or completed, the status will be updated in the Contract Management System (CMS) database (see Section 4.1) and reported quarterly to FTA.

Management of the mitigation monitoring process requires close coordination between the Honolulu Authority for Rail Transit (HART), the General Engineering Consultant (GEC), and State and Federal regulatory/resource agencies. One of the responsibilities of the GEC is to monitor the implementation of environmental

mitigation during design and construction. The specific GEC and HART processes and documentation format for the Project will be established during the design phase for the different contracting methods. The management process will define the procedures that will be followed to check that mitigation measures identified in the environmental documents are actually incorporated into the design and/or construction plans and specifications.

The process of environmental compliance began with the Project Management Team (PM Team) identifying and integrating environmental commitments from the Final EIS, ROD, and PA into contract specifications and plans during design. The environmental compliance process also includes activities to verify that permitting and construction planning and staging have incorporated environmental controls and mitigation measures into Final Design.

Management of the mitigation monitoring process will continue through completion of construction to verify that mitigation measures are incorporated into the construction documents and implemented.

This MMP may be updated as design and construction progresses and if new environmental issues are identified. Periodic reviews of the plan and procedures will be performed, and the MMP will be updated based on its effectiveness.

Because the Project will involve DB contracts, DBB contracts, and design-build-operate-maintain (DBOM) contracts, the MMP is intended to be flexible to match variable design and construction activities. The MMP provides a general framework for methods that will be employed to avoid or reduce environmental impacts from construction activities. Specific environmental requirements and controls will be guided by the design and construction manual and used to track the various design and construction contracts and specifications.

Management of the MMP will be achieved by using the following management approaches:

- Maintain on-going interface and communication between the PM Team, FTA, and other agencies
- Use the Project's quality control procedures for design and construction to verify compliance
- Review project design for environmental elements and mitigation measures that are project-wide and/or location specific
- Procure and involve environmental consultants with technical expertise and problem-solving capability as required
- Perform site environmental compliance inspections and/or verify that construction procedures comply with mitigation measures
- Contribute to HART's development of CMS and maintain the database that documents project commitments
- Provide regular reporting from the CMS database and other sources on environmental compliance status, issues, and recommended actions for resolution

2.0 Project Information

The Project is being planned and designed under FTA's New Starts Program. The Locally Preferred Alternative (LPA), as identified by the City Council at the conclusion of the Alternatives Analysis process, is a step required under FTA's discretionary New Starts Program. It represents the City's long-range plan for the rail system, which includes the Project (as defined below) and four potential extensions.

The NEPA Preferred Alternative, referred to in the Final EIS as the Project, is a 20-mile portion of the LPA for which FTA may provide Federal funding. FTA and the City identified this alternative as preferred for meeting the Purpose and Need over other alternatives studied, including the No Build Alternative. The Project includes the construction and operation of an elevated fixed guideway rail system. It is a portion of the LPA that begins at the University of Hawai'i at West O'ahu (near the future Kroc Center) and proceeds via Farrington Highway and Kamehameha Highway (adjacent to Pearl Harbor) to Aolele Street serving the Airport, to Dillingham Boulevard, to Nimitz Highway, to Halekauwila Street, and ending at Ala Moana Center. Since the ROD was published in the *Federal Register* on January 24, 2011, HART received in December 2011permission to enter the Final Design stage of the New Starts Program.

2.1 Procurement Packaging Contract Summary

Environmental commitments will be tracked according to the procurement contracts that are identified in the *Project Contract Packaging Plan.* The contract packages, packaging method, and dates for start and completion of construction are subject to change as the Project proceeds from Preliminary Engineering to Final Design and construction. Current contract packaging assumptions are described below.

Section 1 (West O'ahu/Farrington Highway) is planned to begin construction at the western end of the alignment between East Kapolei and Pearl Highlands. This guideway section and the Maintenance and Storage Facility are planned to be constructed using the DB delivery method.

Section 2 (Kamehameha) from Pearl Highlands to Aloha Stadium along Kamehameha Highway is planned to be delivered using the DB delivery method.

Section 3 (Airport) from Aloha Stadium to the Middle Street Transit Center Station past Honolulu International Airport and Pearl Harbor is planned to be delivered using the DBB delivery method.

Section 4 (City Center) from the Middle Street Transit Center Station to the Ala Moana Center Station is planned to be delivered using the DBB delivery method.

The stations are being designed and constructed using the DBB method of delivery. The stations will be contracted for design and construction in groups of three stations. The parking structure and ramp from the H-2 Freeway will be

contracted separately from the Pearl Highlands Station, and HART will procure the services of a landscape architect for the entire project using the DBB delivery method. Vehicles and systems elements are planned to be manufactured, delivered, and installed to meet the specific needs of each phase of the Project. All vehicles, train control, communications, fare collection equipment, and traction power will be part of one contract procured as a DBOM contract.

HART will procure Service Contracts for Program Management, GEC, and Construction Engineering and Inspection.

3.0 Roles and Responsibilities of HART and GEC

Original lead agencies for the Project were DTS and FTA. DTS was the responsible local agency, the designated recipient of project funds, and a co-lead agency with FTA. RTD was a division of DTS that was the entity tasked with development and implementation of the Project. On July 1, 2011, the Honolulu Authority for Rapid Transportation (HART) a semi-autonomous department within the City and County of Honolulu, took effect replacing RTD/DTS as the lead local agency for the Project.

The GEC will be responsible for implementing the MMP and ensuring contractor compliance with its requirements through design and construction oversight and periodic reviews of contractor documents.

The Project will follow the policies of FTA and HART. The roles and responsibilities of the PM Team, as well as the contractors, are described in the *Project Management Plan.* Outlined in Section 3.1 are the roles and responsibilities related to environmental mitigation monitoring. See Section 6.0 for additional details related to the PA and Appendix A for the specifics related to the Section 106 PA Project Manager (Kakoʻo).

3.1 The Project Management Team (PM Team)

The PM Team is comprised of both HART and its GEC staff with management, environmental, planning, finance, public involvement, procurement, contracting, engineering, and construction management experience. Work will be advanced by a unified team consisting of representatives from both organizations. While the two organizations have formed an integrated team to manage the Project, HART serves as the lead agency in administration of the Project. Throughout the MMP where references are made to the PM Team as the entity responsible for supporting the development of the Project, it should be noted that such references represent the multi-disciplinary project management team.

The GEC provides day-to-day project oversight. The GEC is responsible for checking that the Final Design and construction by contractors reflect compliance with the Final EIS mitigation measures and ROD requirements, as well as for developing additional mitigation options as needed to address unforeseen environmental issues during the design and construction stages.

The GEC will document mitigation commitment status and ultimate closeout of each mitigation commitment in CMS. Interim completion of the environmental commitments made in the Final EIS and ROD will be achieved when mitigation commitments are incorporated into design plans. Final completion will be documented as part of construction final acceptance. CMS will be used for the PM Team's reporting responsibilities to FTA and FTA's Project Management Oversight Consultant (PMOC) on the status of mitigation commitments during design, construction, and operation. See Figure 1 for environmental compliance organizational structure.

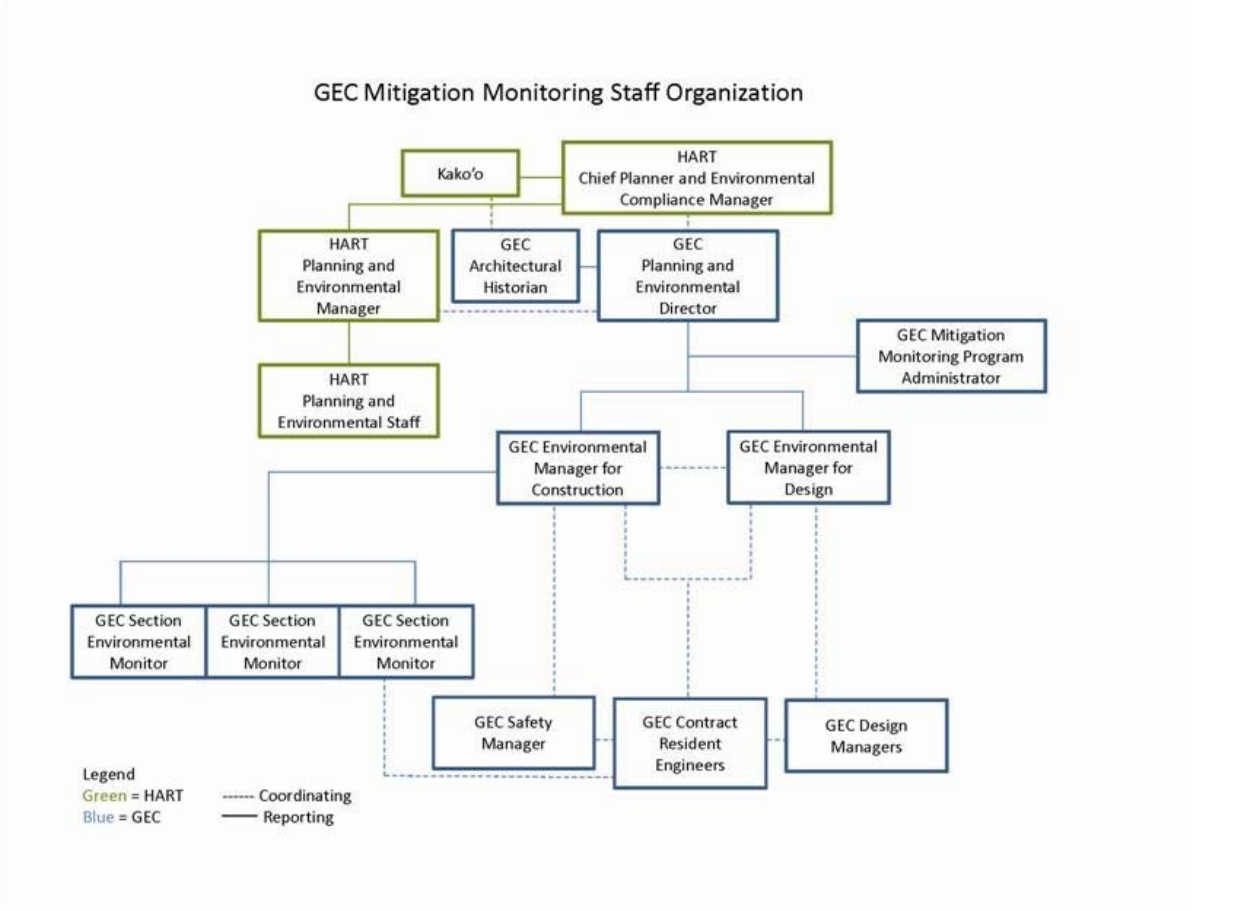

Figure 1. Environmental Compliance Organization Chart

3.2 GEC Environmental Planning Director (GEC EPD)

The GEC EPD has the following responsibilities:

- Oversees project-wide environmental compliance during design and construction including all phases (assessment, planning, permit application, construction, mitigation monitoring and operation) of all environmental compliance activities for the Project.

- Performs periodic review of documents entered in CMS by GEC and contractors
- Supports the GEC Environmental Compliance Manager (GEC ECM) with resolution of issues and agency coordination
- Interfaces with Archaeological Historian and Kakoʻo for implementation and is the responsible party for monitoring mitigation of all PA stipulations

3.3 HART Chief, Planner and Environmental Compliance Manager (HART CPE)

The HART CPE and/or designated staff has the following responsibilities:

- Oversees program-wide environmental compliance
- Performs periodic review of documents entered in CMS by GEC and contractors
- Collaborates with GEC MMPA to prepare and/or review reports and submits required reports to FTA.
- Accepts GEC ECM/ECD final approval of mitigation measures closeout
- Interfaces with GEC EPD and Kakoʻo for implementation of PA stipulations

3.4 GEC Mitigation Monitoring Program Administrator (GEC MMPA)

The GEC MMPA serves as the MMP report author and will manage the compliance database for environmental compliance for all guideway sections, stations, and maintenance facility activities related to environmental compliance and commitments and has the following responsibilities:

- Documents environmental compliance activities for all active Mitigation Monitoring Identifiers (MMids) for PMOC monthly and quarterly reports, see Section 4.1 for more detail
- Verifies information from environmental compliance activity reports from GEC SEMs and reports and documents through CMS and other monthly reporting tools
- Supports GEC EPD, ECM and ECD for issue tracking and milestone reporting on the MMP
- Updates the MMP as needed
- Provides MMP training to GEC and HART staff as needed

3.5 GEC Environmental Compliance Manager for Construction (GEC ECM)

The GEC ECM serves as a senior technical authority for environmental planning and compliance, as well as the GEC contact for Federal, State, and Local regulatory agencies related to environmental issues during design and construction. The GEC ECM oversees all guideway sections, station, and maintenance facility activities related to environmental compliance and commitments, and have the following responsibilities:

- Oversees all environmental compliance activities for construction of the Project
- Reviews and comments on environmental studies, reports, plans, designs, contract documents, and permit applications submitted by the GEC and individual contractors
- Reviews and verifies that the construction contractor's work complies with the MMP, permits and other regulatory requirements
- Serves as coordinator for construction mitigation measure compliance requiring engineer approval
- Supervises GEC Segment Environmental Monitor (SEM) activities and ensures SEM responsibilities are met
- Coordinates hazardous materials inspection reports and environmental site investigation reports as necessary with GEC environmental staff
- Reviews monthly reports prepared by the Mitigation Monitoring Program Administrator (MMPA)

3.5.1 GEC Segment Environmental Monitor (GEC SEM)

The GEC SEM serves as the environmental compliance monitoring lead for one or more of the designated guideway sections, stations, and/or maintenance facility contracts for the Project. The GEC SEM reports to the GEC ECM and is responsible for the daily contract-specific environmental monitoring activities, as defined in the Environmental Compliance Manual. The GEC SEM serves as the direct contact for the GEC Field Engineering staff and Contractor ECM. The GEC SEM oversees activities related to environmental compliance and commitments, including the following responsibilities:

- On-site monitoring of environmental compliance activities
- Review of daily inspection reports for environmental compliance concerns
- Reporting and documenting environmental compliance milestones or issues through CMS and MMPA monthly reporting
- Reviews and comments on environmental studies, reports, plans, designs, contract documents, and permits as submitted by HART or the contractor

3.6 GEC Environmental Compliance Manager for Design (GEC ECD)

The GEC ECD has the responsibility for verifying that design submittals for Design-Build contracts and reviewing the Final Design prepared by the Design contractor for Design-Bid-Build contracts. This environmental compliance focused review may also serve to identify any design changes that may require further environmental analysis. The GEC ECD will direct the review team and Environmental Planner(s) to support the compliance reviews. In addition, specialists such as a certified arborist, engineers, and construction monitors will provide the interdisciplinary analysis of the purpose, impacts and mitigation measures associated with the potential change.

The GEC ECD serves as a senior technical authority for environmental design elements as part of Project planning and compliance, as well as the GEC contact

for Federal, State, and Local regulatory agencies related to environmental issues during design and construction.

In addition the GEC ECD has the following responsibilities:

- Review all design drawings including guideway sections, station, and maintenance facility for compliance with environmental and related commitments made in the Final EIS, ROD, and Section 106 PA
- Review monthly reports prepared by the Mitigation Monitoring Program Administrator (MMPA)

3.7 GEC Design Manager (GEC DM)

The GEC DM is responsible for the design of specific construction contracts. They are responsible for the preparation of designs, and design calculations for each of the subsequent construction packages. The GEC DM is responsible for performing review of design submittals for environmental commitments. The GEC DM will provide technical support to the GEC ECD for mitigation monitoring.

3.8 GEC Contract Resident Engineer (GEC CRE)

The GEC CRE is responsible for verifying implementation and compliance of the procedures for processing and managing contractor submittals specific to the contract method. The GEC CRE is responsible for performing construction support services. These services include review of design submittals, addressing requests for information, change order support, site visits, and construction inspection. The GEC CRE is also responsible for the GEC review of bid documents, design reports, construction cost estimates, construction schedules and acceptance of Final Design and construction closeout.

3.9 GEC and HART Safety and Security Managers (SSM)

The GEC and HART SSM are responsible for the day-to-day management and implementation of the Safety and Security Certification Plan (SSCP) throughout the entire lifecycle of the Project. HART has established the Safety and Security Oversight and Review Committee and the Safety and Security Certification Review Committee as forums for facilitating SSCP activities.

4.0 Environmental Compliance Tracking, Database, and Reporting

This section presents the specific procedures to track compliance with mitigation requirements. Also included in this section are the methods by which the compliance documentation will be reported to FTA.

4.1 Environmental Compliance Tracking, Database, and Reports

The GEC MMPA will maintain a comprehensive and up-to-date record of compliance with the environmental commitments and permit conditions within CMS. CMS is the software through which commitments will be recorded and reported. The environmental database will serve as a tool for monthly updates and quarterly reporting of the status of environmental commitments to the FTA. Because these commitments may be repetitive across a variety of contracts affecting various Federal, State, and Local agencies or utilities, the database will be expandable to track commitment, responsible party, and status per contract. The database will provide information on the contract or contracts affected by the commitment, the responsible party, monitoring action, status, and closure of the environmental commitment. The database will be configured to print reports, such as commitments applicable to a specific contract, or all commitments associated with a particular permit, agency, or environmental analysis area.

During design and construction, it may be necessary to seek changes to certain environmental commitments. Changes may be warranted if the Project has changed or because new information is required about environmental conditions. Changes to environmental commitments may require additional coordination with the agencies that granted the environmental approvals for the Project and review by FTA.

The GEC EPD, GEC ECM or GEC ECD will prepare documentation, and HART will notify FTA of changes to the impacts of the Project as described in the Final EIS and ROD. This information will be included in monthly updates and quarterly reports to FTA. The GEC will coordinate with the contractors, agencies, the PM Team, and FTA to verify compliance with commitments or changes to commitments that may be undertaken. The PM Team will provide quarterly environmental compliance reports for submission to FTA that identify the status of environmental commitments.

4.2 Environmental Contract Documents

The PM Team will incorporate the Final EIS, ROD, and PA mitigation commitments and permit requirements and approvals as applicable in construction contracting documents for all design and construction contracts (Note: may be incorporated by reference).

4.3 Environmental Review during Design and Construction

4.3.1 Design

During Final Design, the GEC will review plans, specifications, and contract documents in accordance with the *HHCTCP Policies and Procedures Submittal Processing* document No. 6.CM-01 (issued May 7, 2010). The GEC will review design for compliance with the contract. The GEC ECD will provide the GEC

reviewers with the list of applicable mitigation commitments to support their review efforts.

The GEC ECM may provide lists of applicable mitigation commitments to the contractors to assist them in developing their processes. However, the designers are responsible for identifying applicable mitigation commitments in the Final EIS, ROD, PA, and permit conditions.

In addition, during the design phase, the GEC ECD will verify the procedures used by the designers to incorporate environmental commitments into the design. Verification will occur in accordance with the procedures outlined in the Project's *Design Quality Management Plan*. The GEC ECD will review/audit the environmental compliance documentation prepared by the designer to confirm that the environmental commitments are included in the design. The findings will be reported through surveillance reports and/or observation reports in accordance with the Project's quality procedures. The frequency of the reviews/audits will be a function of the performance of the designer; reviews/audits will be more frequent if the initial observation shows substantial need for improvement. At a minimum, reviews/audits of design procedures will be performed in accordance with the Project's quality procedures.

4.3.2 Construction

Prior to the start of construction, construction work plans will be prepared by each contractor to cover specific portions of the Project. These plans will identify key construction activities, staging sequence, schedules, and work locations within specific work sites. Construction planning and environmental compliance with mitigation measures will be performed by each contractor as defined in their respective ECP. The GEC ECM will verify the procedures used by the contractors for compliance with the ECP and work plans. The GEC ECM will review and comment on work plans prior to commencement of construction. The contractor will incorporate mitigation measures to particular work site locations as required and as defined in their ECP.

During construction, each contractor will perform daily inspections and monitoring of work activities to confirm compliance with environmental requirements. The contractor will be requested to participate during any environmental compliance inspections performed by outside agencies. He or she also will be invited to participate during spot checks for environmental compliance as performed by the GEC ECM. This joint-inspection process will be used to enhance communication and verify compliance with mitigation commitments and permit requirements.

The GEC ECM and GEC staff will monitor and audit construction activities to verify compliance with environmental commitments. Similar to design review audits, environmental construction audits of the contractor's construction monitoring procedures will be performed to verify that environmental commitments are being met. These audits will include surveillance inspections and observation reporting following the Project's quality procedures.

4.4 Environmental Mitigation Measures Closeout

Mitigation closeout measures are defined in Appendix A for each mitigation commitment. Section 5.2 of this MMP describes some criteria for mitigation completion for unique resource topics. The GEC ECM will review the Project documentation and coordinate with the GEC ECD, designers, construction managers, technical resource specialists, and the PM Team as applicable to determine whether the environmental mitigation measure is complete. The GEC ECM will document closeout of each commitment described in the Final EIS and ROD as detailed in Appendix A. The GEC ECM/GEC ECD will coordinate with the GEC CRE to document acceptance of Final Design and construction closeout. The GEC MMPA is responsible for documenting closeout of environmental mitigation measures. The GEC MMPA will use CMS to prepare monthly updates and quarterly reports for HART review and submittal to FTA/PMOC. HART will review and accept the reports prior to distribution to FTA.

5.0 Environmental Mitigation Monitoring

5.1 Elements of Monitoring Plan by Subject Area

Appendix A groups mitigation measures and commitments into 18 subject areas and describes monitoring under the following column headings. The bulleted list below explains each column heading from left to right:

- **ROD ID**—The name of the specific mitigation effort. The ID is the subject area acronym plus a unique identifier number
- **Final EIS Sections or PA Stipulation**—References the sections in the Final EIS or PA where this mitigation was discussed
- **Mitigation Measure (ROD)**—The mitigation action, plan, or process to ameliorate the impact
- **Project-wide (in all contracts) or Contract-specific (if contract-specific, which contract)**—References the specific contract for the mitigation
- **Responsible Party for Implementing Mitigation**—The entity who is accountable for conducting the mitigation
- **Timing of Mitigation Measure (Design, Construction, Operation)**—Initial timing and consequent implementation times of mitigation
- **Monitoring Action**—References how compliance of the mitigation measure will be conducted
- **Responsible Party for Monitoring Mitigation**—The entity who is accountable for monitoring
- **Criteria for Completing Mitigation**—The process or action(s) that must be met for mitigation to be verified and signed off as complete

Appendix A has the following subject area elements and each is assigned a unique MMid number for tracking purposes:

- Property Acquisition and Displacement (A)
- Community Facilities (CF)

- Visual (V)
- Landscaping (T) and (IS)
- Natural Resources (NR)
- Pedestrian and Bicycle Facilities (PB)
- Other Transportation Facilities (OT)
- Public Involvement (PI)
- Noise and Vibration (NV)
- Contaminated Property and Hazardous Materials (HMW)
- Water Resources (W)
- Section 4(f) (4F)
- Permits (PM)
- Stormwater Management and Floodplains (SM)
- Construction Effects (CON)
- Safety and Security (SS)
- Parking (P)
- Historic Preservation (HP)

5.2 Criteria for Mitigation Completion

Documentation of mitigation closeout will be entered into the CMS environmental compliance tracking database. Compliance will be noted on Final Design plans or construction closeout documents, and will be approved by the GEC DM, GEC CM, GEC CRE, and other technical experts, as appropriate. The GEC ECM/GEC ECD will review all necessary documentation to determine whether the criteria for completing the mitigation have been met. The last column heading in Appendix A provides the closeout criteria details for each mitigation measure. The detail in the following four instances describe unique criteria for mitigation completion.

5.2.1 Mitigation Measures that Require System Operation Planning Documents

During design and construction, the GEC/HART will be responsible for developing system operation and emergency procedures (SOEP). The CORE Systems DBOM contractor will be tasked with preparing these procedures, and the GEC/HART working group will work with the contractor to help develop them. The CORE Systems team and GEC/HART will coordinate with other City and State departments as procedures are developed.

The procedures will include a process to evaluate the effectiveness of the operating and emergency procedures. The GEC/HART will provide final approval on the CORE Systems SOEP plan. Approval of the operating plan will be the interim documentation that the environmental commitment for safety is satisfied. Documentation that the SOEP plan has been reviewed by GEC/HART will be entered into CMS. The environmental mitigation measure closeout process is complete when the GEC SSM provides documentation that the Project has met the planned safety requirements for two years after the system began operation.

5.2.2 Mitigation Measures Related to Impacts from Acquisitions and Displacements

HART is responsible for right-of-way acquisition and will use agreement/acquisition procedures, following all applicable guidelines and regulations. The right-of way Team (ROW Team) will manage the right-of-way process in accordance with the guidance established in the Project's *Real Estate Acquisition Management Plan* as approved by FTA. The ROW Team will use the *Real Estate Acquisition Database* to track and store the right-of-way activities.

In an effort to streamline and reduce duplication with established reporting processes all the Property Acquisition and Displacement MMids (A) and some Community Facilities MMids (CF) are reported through the Right-of –Way acquisition Program.

5.2.3 Mitigation Measures Related to Noise Impacts Addressed during Design

The CORE Systems DBOM contractor will be responsible for procurement of transit vehicles. The GEC/HART will review the vehicle specifications and document the anticipated noise generated from the vehicles.

For noise mitigation measures related to guideway design, including parapet walls and sound-absorbing insulation, the GEC will review the contractor's designs to verify that these requirements are included in the guideway design. Environmental mitigation closeout is completed for noise mitigation during design and construction of the parapet walls.

5.2.4 Mitigation Measures Related to Noise Impacts Addressed during Operation

The GEC ECM will coordinate the preparation of a transit operation noise monitoring plan and perform noise monitoring in accordance with the plan. The plan will describe the FTA noise impact thresholds and the process for monitoring and reporting. Noise monitoring results will be compared with the criteria in the plan. The GEC ECM will document that required noise measurements were taken and analyzed against FTA noise impact levels. The GEC ECM will develop additional mitigation measures if the measured noise levels exceed FTA acceptable noise impact levels. The noise monitoring plan will become part of the project operation plan. Environmental mitigation closeout is completed once the plan is approved by HART and monitoring from the operation phase of all sections is complete.

6.0 Section 106 Programmatic Agreement

HART will represent the interests of the FTA and implement the stipulations identified in the PA. The FTA will ensure that the terms of the PA are carried out and will require, as a condition of any approval of Federal funding for the undertaking, adherence to the stipulations in it.

6.1 Mitigation Measures Related to Impacts to Historic Properties, Archaeological Resources, and Cultural Resources

All the terms and conditions of the Section 106 PA will be adhered to and will be included in the Final Design, as appropriate. Appendix A describes the mitigation monitoring plan for implementation of the stipulations in the PA that were included in the ROD. Construction inspection reports will show construction contractor compliance with plans and specifications that include the mitigation commitments included in the ROD regarding the Section 106 PA. The GEC ECM will maintain a comprehensive and up-to-date record of compliance with the Section 106 PA stipulations identified in the ROD within CMS.

6.1.1 FTA Responsibilities

In compliance with its responsibilities under the National Historic Preservation Act, and as a condition of its funding award to HART under 49 USC §5309 and any other subsequently identified FTA funding of the undertaking, FTA will ensure that HART carries out the stipulated provisions of the PA in accordance with any applicable policy statements and guidelines from the Advisory Council on Historic Preservation (ACHP).

6.1.2 State Historic Preservation Division (SHPD) Responsibilities

The SHPD will specifically review and provide comments for work products completed as part of the PA as indicated in Appendix A.

6.1.3 ACHP Responsibilities

The Advisory Council on Historic Preservation (ACHP) will provide oversight and advice on disputes.

6.1.4 HART Responsibilities

HART will represent the interests of FTA and coordinate all activities described in the PA to carry out the stipulations in the PA. HART will consult with the SHPD and other agency staff, as appropriate, in planning and implementing the stipulations of the PA. HART will submit all plans and documents required by the PA in a timely and accurate manner to the SHPD and other consulting parties, as stipulated, for review. HART will also ensure that all treatment measures developed by HART and as a result of consultation are compliant with government-wide policies and regulations.

6.1.5 PA Project Manager (Kakoʻo)

HART is funding an independent PA Project Manager (Kakoʻo) to provide oversight, review of deliverables, and reporting required under the terms of the PA on behalf of the signatories and consulting parties. The Kakoʻo will coordinate with HART, GEC and consult with the SHPD and consulting parties, as required, to verify HART's compliance with the PA's stipulations.

6.1.6 Architectural Historian Role

On behalf of HART, the GEC Architectural Historian will be responsible for day-to-day PA compliance activities, including reporting, tracking, and reviewing deliverables stipulated in the PA. This position will coordinate with the GEC EPD, GEC ECM, HART CPE, and other members of the PM Team and consult with the SHPD and consulting parties, as appropriate, to verify compliance with the PA's stipulations.

6.1.7 O'ahu Island Burial Council (OIBC) Role

OIBC has responsibility and jurisdiction to determine the treatment of previously identified Native Hawaiian burial sites pursuant to HAR Chapter 13-300, Rules of Practice and Procedure Relating to Burial Sites and Human Remains. Any iwi kupuna (Native Hawaiian burials) discovered during the Archaeological Inventory Survey (AIS) shall be treated as previously identified burial sites.

Appendix A

Mitigation Monitoring Program (MMP) for Project Management Oversight of Environmental and Related Commitments in the Final Environmental Impact Statement (Final EIS), the Record of Decision (ROD), and the Section 106 Programmatic Agreement (PA)

Honolulu Rail Transit Project

July 17, 2012

Prepared for:
Honolulu Authority for Rapid Transportation

HONOLULU AUTHORITY for RAPID TRANSPORTATION

Note: This is a summary of the mitigation measure commitments described in the Final EIS, ROD, and PA and does not represent the complete description of these commitments. This summary should not be used as the sole source of information and should be used along with the Final EIS, ROD, and PA; referenced documents; and permits.

ROD ID (MMP tracking)	Final EIS Section(s) or Programmatic Agreement (PA) Stipulation	Mitigation Measure (ROD)	Project-wide (in all contracts) or Contract-specific (if contract-specific which contract)	Responsible Party for Implementing Mitigation	Timing of Mitigation Measure (Design, Construction, Operation)	Monitoring Action	Responsible Party for Monitoring Mitigation	Criteria for Completing Mitigation
Property Acquisition and Displacements								
A01	4.4.3 4.7.3 Appendix C	Where relocations will occur, HART will compensate the affected property owners, businesses, and residents in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (49 CFR part 24), as amended.	Project-wide	Honolulu Authority for Rapid Transportation (HART) Right-of-Way Team (ROW Team)	Design and ROW acquisition	HART is responsible for right-of-way (ROW) acquisition and relocation and will use agreement/acquisition procedures, following all applicable guidelines and regulations. The ROW Team will manage the right-of-way process in full compliance with the Uniform Act and in accordance with the guidance established in the Project's Real Estate Acquisition Management Plan (RAMP) as approved by FTA. Relocation status is the point in time of the relocation process to include interviews, relocations, and properties on hold, which is a reporting status given when a property has been purchased but is being leased back to the owner to give adequate time for relocation. Specific details about properties in the process of acquisition and relocation are to be identified by the ROW Team.	HART ROW Team	This MMID has been reassigned to the HART ROW Team. General Monthly Progress Reports include ROW and are stored in CMS and on the project website at: www.honolulutransit.org. No further tracking will be provided on this form.
A02	4.4.3	HART will assist all persons and businesses displaced by the Project in locating suitable replacement housing and business sites within an individual's or business's financial means.	Project-wide	HART ROW Team	Design and ROW acquisition	HART is responsible for the right-of-way (ROW) acquisition and relocation and will use agreement/acquisition procedures, following all applicable guidelines and regulations. The ROW Team will manage the right-of-way process in full compliance with the Uniform Act. Relocation status is the point in time of the relocation process to include interviews, relocations and properties on hold, which is a reporting status given when a property has been purchased but is being leased back to the owner to give adequate time for relocation. Specific details about properties in the process of acquisition and relocation are to be directed ~~to~~ by the ROW Team.	HART ROW Team	This MMID has been reassigned to the HART ROW Team. General Monthly Progress Reports include ROW and are stored in CMS and on the project website at: www.honolulutransit.org. No further tracking will be provided on this form.
A03	4.4.3	HART will acquire any real property or real property rights needed for the Project in accordance with Uniform Relocation Assistance and Real Property Acquisition Policies Act (49 CFR part 24), as amended. The Real Estate Acquisition Management Plan (RAMP) approved by FTA will be used to monitor compliance parcel by parcel.	Project-wide	HART ROW Team	Design and ROW acquisition	HART is responsible for the right-of-way (ROW) acquisition and relocation and will use agreement/acquisition procedures, following all applicable guidelines and regulations. The ROW Team will manage the right-of-way process in full compliance with the Uniform Act. The RAMP has been submitted and is updated as appropriate.	HART ROW Team	This MMID has been reassigned to the HART ROW Team. The current version of the RAMP is located in CMS under AP00 Baseline reports.
A04	4.4.3	HART will provide relocation services to all displaced business and residential property owners and tenants without discrimination; persons, businesses, and organizations displaced as a result of the Project will be treated fairly and equitably.	Project-wide	HART ROW Team	Design and ROW acquisition	The ROW Team will manage the right-of-way process in full compliance with the Uniform Act. Relocation status is the point in time of the relocation process to include interviews, relocations and properties on hold, which is a reporting status given when a property has been purchased but is being leased back to the owner to give adequate time for relocation. Specific details about properties in the process of acquisition and relocation are to be directed to the ROW Team.	HART ROW Team	This MMID has been reassigned to the HART ROW Team. General Monthly Progress Reports include ROW and are stored in CMS and on the project website at: www.honolulutransit.org. No further tracking will be provided on this form.

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A05	4.4.3 4.5.3	Where landscaping, sidewalks, or driveway access will be affected by the Project, coordination will occur with the landowner, and these property features will be replaced, or the property owner will be compensated in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (49 CFR part 24), as amended.	Project-wide	HART ROW Team with GEC and design and construction contractors	Design, ROW acquisition and construction	The HART ROW Team will manage the right-of-way process in full compliance with the Uniform Act. The GEC's ECD and MMPA will coordinate with the HART ROW Team on property feature replacement if identified as mitigation. Information regarding full or partial acquisition and the need for relocation will be provided. The acquisition status will also be provided for GEC ECD review. Acquisition status is the stage of the full or partial acquisition process to include on-going discussions, appraisals, stage of consent use and occupancy agreements, and offers made. Specific details about properties in the process of acquisition are to be directed by the ROW Team.	GEC ECD Environmental Compliance Manager for Construction (ECM) GEC MMPA ROW Team	This MMID has been reassigned to the HART ROW Team. General Monthly Progress Reports include ROW and are stored in CMS and on the project website at: www.honolulutransit.org. No further tracking will be provided on this form. The current protocol for implementation of this MMID has been to provide compensation in lieu of the need for contractor coordination.
A06	4.4.3	For ceded lands within the Project ROW, ownership of these lands will not change. HART will obtain the appropriate permissions from the State for any ceded lands needed for the Project.	Project-wide	HART ~~with the~~ ROW Team	Design and ROW acquisition	If ceded lands are involved, information regarding full or partial acquisition and the need for relocation will be provided. The property use agreement status needed from the State of Hawaii for ceded lands will also be provided for GEC ECD review. Specific details about properties in the process of acquisition are to be directed by the ROW Team.	GEC ECD GEC MMPA ROW Team	This MMID has been reassigned to the HART ROW Team. General Monthly Progress Reports include ROW and are stored in CMS and on the project website at: www.honolulutransit.org. No further tracking will be provided on this form.
A07	4.5.3 Table 4-1	To the extent that the Banana Patch community so desires, it will be relocated as a community to a location where its unique lifestyle can be maintained. This mitigation exceeds the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act, as amended, and is needed to comply with Executive Order 12898.	Section 1 West O'ahu Farrington Highway (WOFH) Contract	HART ROW Team	Design and ROW acquisition	HART is responsible for the right-of-way (ROW) acquisition and relocation and will use agreement/acquisition procedures, following all applicable guidelines and regulations. The ROW Team will manage the right-of-way process in full compliance with the Uniform Act. Relocation status is the point in time of the relocation process to include interviews, relocations and properties on hold, which is a reporting status given when a property has been purchased but is being leased back to the owner to give adequate time for relocation. Specific details about properties in the process of acquisition and relocation are to be directed by the ROW Team.	ROW Team	This MMID has been reassigned to the HART ROW Team. General Monthly Progress Reports include ROW and are stored in CMS and on the project website at: www.honolulutransit.org. No further tracking will be provided on this form. In consultation with the HART ROW Team, individual residents in the Banana Patch were not interested in being relocated as a community. Residents were treated with "EJ" level relocation support, with 60 months of benefits rather than 42 months.

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Community Facilities								
CF01	4.5.3 Table 4-6	HART will negotiate partial acquisition or a property use agreement with the University of Hawai`i System. HART will replace light posts that are removed at Honolulu Community College.	Section 4 City Center Contract	HART Planning Staff and ROW Team and Section 4 design or build contractor, as appropriate	Design, construction, and ROW acquisition	Information regarding full or partial acquisition and the need for relocation will be provided. Specific details about properties in the process of acquisition are to be directed by the HART ROW Team. Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Verify replacement through review of construction monitoring reports.	GEC ECM GEC ECD GEC MMPA ROW Team	Tracking will be provided in the General Monthly Progress Reports that include ROW and are stored in CMS and on the project website at: www.honolulutransit.org. Interim compliance noted on Final Design plans and signed off by GEC DM and CRE as needed. Environmental mitigation measure closeout will be documented by the ROW Team provided to the GEC ECD and noted by GEC ECM review and acceptance of construction closeout report.
CF02	4.5.3 Table 4-6	HART will replace or relocate on school property the affected portable buildings at Waipahu High School. HART will construct a retaining wall and a new access road to the football field.	Section 1 WOFH Contract	HART and Section 1 design-build contractor	Design and construction	Information regarding full or partial acquisition and the need for relocation will be provided. The partial acquisition status or property use agreement status will also be provided for GEC ECD review. Specific details about properties in the process of acquisition are to be directed to the ROW Team. Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Verify replacement or relocation and construction of retaining wall and access road through review of construction monitoring reports.	GEC ECD GEC MMPA GEC ECM ROW Team	Tracking will be provided in the General Monthly Progress Reports that include ROW and are stored in CMS and on the project website at: www.honolulutransit.org. Interim compliance noted on Final Design plans and signed off by GEC DM and CRE as needed. Environmental mitigation measure closeout will be documented by the ROW Team provided to the GEC ECD and noted by GEC ECM review and acceptance of construction closeout report.
CF03	4.5.3 3.4.4 Table 4-6	HART will relocate the portable administration buildings and parking spaces at Leeward Community College. HART will negotiate partial acquisition or a property use agreement with the University of Hawai`i system for the needed land under its control.	Section 1 WOFH Contract	HART Planning staff and ROW Team and Section 1 design-build contractor	Design, ROW acquisition and construction	Information regarding full or partial acquisition and the need for relocation will be provided. The partial acquisition status or property use agreement status will also be provided for GEC ECD review. Specific details about properties in the process of acquisition are to be directed by the HART ROW Team. Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Verify restoration through review of construction monitoring reports.	GEC CRE GEC ECD GEC MMPA GEC ECM ROW Team	Tracking will be provided in the General Monthly Progress Reports that include ROW and are stored in CMS and on the project website at: www.honolulutransit.org. Interim compliance noted on Final Design plans and signed off by GEC DM and CRE as needed. Environmental mitigation measure closeout will be documented by the ROW Team provided to the GEC ECD and noted by GEC ECM review and acceptance of construction closeout report.

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CF04	4.5	For the land needed at the UH Mānoa Urban Garden Research Center, HART will negotiate partial acquisition or a property use agreement with the University of Hawai`i system.	Section 2 Kamehameha Contract	HART ROW Team with the Section 2 design-build contractor	Design, construction, and ROW acquisition	Information regarding full or partial acquisition and the need for relocation will be provided. The partial acquisition status or property use agreement status will also be provided for GEC ECD review. Specific details about properties in the process of acquisition are to be directed by the ROW Team.	HART ROW Team	Tracking will be provided in the General Monthly Progress Reports that include ROW and are stored in CMS and on the project website at: www.honolulutransit.org. No further tracking will be provided on this form.
CF05	4.5.3 Table 4-6	HART will negotiate a partial acquisition or a property use agreement with the Federal government for the following properties: • Nimitz Field • Pearl City Post Office • Honolulu Post Office • Prince Kūhiō Kalaniana‘ole Federal Building/Courthouse • Pearl Harbor Complex	Section 2 Kamehameha Contract Section 3 Airport Contract Section 4 City Center Contract	HART Planning Staff and ROW Team with GEC	Design and ROW acquisition	Information regarding full or partial acquisition and the need for relocation will be provided. The partial acquisition status or property use agreement status will also be provided for GEC ECM review. Specific details about properties in the process of acquisition are to be directed by the ROW Team.	GEC ECM HART ROW Team	Tracking will be provided in the General Monthly Progress Reports that include ROW and are stored in CMS and on the project website at: www.honolulutransit.org. Agreements will be stored in CMS. No further tracking will be provided on this form.
CF06	4.5.3 Table 4-6	HART will negotiate a partial acquisition or a property use agreement with the State for the following: • O‘ahu Correctional Facility • Honolulu International Airport	Section 3 Airport and Section 4 City Center Contracts	HART Planning Staff and ROW Team with GEC	Design and ROW acquisition	Information regarding full or partial acquisition and the need for relocation will be provided. The partial acquisition status or property use agreement status will also be provided for GEC ECM review. Specific details about properties in the process of acquisition are to be directed by the ROW Team.	GEC ECM ROW Team	Tracking will be provided in the General Monthly Progress Reports that include ROW and are stored in CMS and on the project website at: www.honolulutransit.org. Agreements will be stored in CMS. No further tracking will be provided on this form.
CF07	4.5.3	HART will coordinate with other agencies and stakeholders on the design of the streetscape affected by the Project.	Project-wide	HART with design and construction contractors	Design and construction	Verify the process used by the designer, architect, and landscape architect to incorporate mitigation commitments into the design through review of design quality procedures.	GEC ECD GEC CRE GEC ECM	Compliance noted on Final Design plans and signed off by GEC ECD, GEC DM and CRE as needed. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
CF08	4.17	HART shall require the design of the vehicle storage and maintenance facility to achieve a LEED certification at the “Silver” level.	Maintenance and Storage Facility (MSF) Design-Build Contract	HART with design-build contractor	Design and construction	Verify the process used by the designers to incorporate LEED “Silver” level certification into the design through review of designer procedures and sustainability plan.	GEC ECD GEC CRE GEC ECM	Compliance noted on Final Design plans and signed off by GEC CRE as needed. Final compliance noted by GEC ECD review and GEC ECM acceptance of construction closeout report.

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Visual								
V01A	4.8.3	HART shall develop and apply design guidelines that will establish a consistent design framework for the Project with consideration of local context.	Project-wide	HART with design contractors	Design and construction	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 10, Architecture (Sections 10.2.1, 10.2.2, and 10.3.2) and Chapter 11 Landscape Architecture (Sections 11.1 through 11.6). Review the design plans against the list from the Compendium of Design Criteria to verify a consistent design framework with consideration of local context. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC architects. Final compliance noted by GEC ECD review and acceptance of approval by GEC architect.
V01B	4.8	HART will ensure that the Project's design guidelines require that guideway materials and surface textures be selected in accordance with generally accepted architectural principles to achieve integration between the guideway and its surrounding environment.	Project-wide	HART with design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 10, Architecture (Sections 10.1.2 and 10.8). Review the design plans against the list from the Compendium of Design Criteria to verify that the selected guideway materials and surface textures are in accordance with generally accepted architectural principles to achieve integration between the guideway and its surrounding environment. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC architect.
V01C	4.8	HART will ensure that the Project's design guidelines require that stations and park-and-ride facilities be designed in a manner that is compatible with the surroundings and are well integrated into the existing urban fabric.	Project-wide	HART with station design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 10, Architecture (Sections 10.2.1, 10.2.2, 10.2.7, and 10.3.2) and Chapter 11 Landscape Architecture (Sections 11.1 through 11.6). Review the design plans against the list from the Compendium of Design Criteria to verify that stations and park-and-ride facilities are designed in a manner that is compatible with the surroundings and are well integrated into the existing urban fabric. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC Architect	Compliance noted on Final Design plans and signed off by GEC architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC architect.
V01D	4.8	HART will ensure that the Project's design guidelines require that the Project's lighting fixtures incorporate directional shielding where needed to avoid the intrusion of light into sensitive land uses.	Project-wide For all Sections, including guideway and stations	HART with design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 10, Architecture (Section 10.12). Review the design plans against the list from the Compendium of Design Criteria to verify that lighting fixtures incorporate directional shielding where needed to avoid the intrusion of light into sensitive land uses.	GEC ECD GEC CRE GEC Architect	Compliance noted on Final Design plans and signed off by GEC architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC architect.

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V01E	4.8	HART will ensure that the Project's design guidelines require that landscaping is used to screen traction power substations in sensitive areas such as residential areas.	Project-wide	HART with station design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 11, Landscape Architecture (Section 11.3.5). Review the design plans against the list from the Compendium of Design Criteria to verify that landscaping will screen traction power substations in sensitive areas such as residential areas	GEC ECD GEC CRE GEC Architect GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC architects and landscape architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE architect and landscape GEC architect.
V01F	4.8	HART will ensure that the Project's design guidelines require that traction power substations be integrated into larger structures in the central business district, to the extent possible.	Section 4 City Center Contracts	HART with station design and construction contractors	Design	Review the design plans to verify that traction power substations are integrated into larger structures in the central business district, to the extent possible.	GEC ECD GEC CRE GEC Architect	Compliance noted on Final Design plans and signed off by GEC architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC architect.
V01G	4.8	HART will ensure that the Project's design guidelines require that the Project's signage, materials, street furniture, landscaping, and other detailed design elements enhance the visual environment to the extent possible.	Project-wide	HART with station design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 10, Architecture (Sections 10.2.2, 10.3.2, 10.8, 10.10, and 10.13) and Chapter 11 Landscape Architecture (Sections 11.1 through 11.6). Review the design plans against the list from the Compendium of Design Criteria to verify that signage, materials, street furniture, landscaping, and other detailed design elements enhance the visual environment to the extent possible.	GEC ECD GEC CRE GEC Architect GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC architects and landscape architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC architect.
V01H	4.8	HART will ensure that the Project's design guidelines require that the physical form of the Project stations and support facilities embody Honolulu's and Hawai'i's rich cultural heritage.	Project-wide	HART with station design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 10, Architecture (Sections 10.2.1, 10.2.2, and 10.3.2) and Chapter 11 Landscape Architecture (Sections 11.1 through 11.6). Review the design plans against the list from the Compendium of Design Criteria to verify the physical form of the stations and support facilities embody Honolulu's and Hawai'i's rich cultural heritage. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect	Compliance noted on Final Design plans and signed off by GEC architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC architect.
V01I	4.8	HART will ensure that the Project's design guidelines require that the station designs be context-sensitive and that each station be functionally integrated with its surroundings and culturally expressive of its location.	Project-wide	HART with station design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 10, Architecture (Sections 10.2.1, 10.2.2, and 10.3.2) and Chapter 11 Landscape Architecture (Sections 11.1 through 11.6). Review the design plans against the list from the Compendium of Design Criteria to verify the station designs are context-sensitive and that each station is functionally integrated with its surroundings and culturally expressive of its location. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC architect.

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V01J	4.8	HART will ensure that the Project's design guidelines require that the lighting design at stations influence the attractiveness of the stations.	Project-wide	HART with station design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 10, Architecture (Section 10.12). Review the design plans against the list from the Compendium of Design Criteria to verify that lighting designs compliment the stations. The GEC ECD will meet with the GEC CRE and Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect	Compliance noted on Final Design plans and signed off by GEC architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC architect.
V01K	4.8	HART will ensure that the Project's design guidelines require that glare and light spill from transit station lights and reflective surfaces be minimized.	Project-wide	HART with station design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 10, Architecture (Section 10.12). Review the design plans against the list from the Compendium of Design Criteria to verify that glare and light spill from transit station lights and reflective surfaces is minimized. The GEC ECD will meet with the GEC CRE and Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect	Compliance noted on Final Design plans and signed off by GEC architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC architect.
V01L	4.8	HART will ensure that the Project's design guidelines require that the Project use full cut-off luminaries (fixture and lamp design) and low-reflective surfaces.	Project-wide For all sections, including guideway and stations	HART with design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 10, Architecture (Section 10.12). Review the design plans against the list from the Compendium of Design Criteria to verify that the Project uses full cut-off luminaries (fixture and lamp design) and low-reflective surfaces. The GEC ECD will meet with the GEC CRE and Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect	Compliance noted on Final Design plans and signed off by GEC architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC architect.
V01M	4.8	HART will ensure that the Project's design guidelines require that light sources in the Project's parking structures not be visible from outside the structure, including the lights on the top decks.	East Kapolei, West O`ahu, Pearl Highlands, and Aloha Stadium parking facilities	HART with design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 10, Architecture (Section 10.12). Review the design plans against the list from the Compendium of Design Criteria to verify that light sources in the Project's parking structures are visible from outside the structure, including the lights on the top decks. The GEC ECD will meet with the GEC CRE and Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect	Compliance noted on Final Design plans and signed off by GEC architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC architect.
V01N	4.8	HART will ensure that the Project's design guidelines require that the Project's place in Hawai'i be defined by creating an inspired ground plane with landscape planting, paving, and furniture.	Project-wide	HART with design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 10, Architecture (Sections 10.2.2, 10.3.2) and Chapter 11 Landscape Architecture (Sections 11.1 through 11.6). Review the design plans against the list from the Compendium of Design Criteria to verify landscaping, and other detailed design elements enhance the visual environment to the extent possible. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC Architect GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC architect and landscape architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC architect and GEC landscape architect.

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V01O	4.8	HART will ensure that the Project's design guidelines require that architectural design components unify the guideway and stations over the entire project. To achieve this unity, HART will ensure that the Project's design guidelines require that design elements be repeated in all stations, though certain materials may be varied based on the community context.	Project-wide	HART with design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 10, Architecture (Sections 10.2.1, 10.2.2, and 10.3.2) and Chapter 11 Landscape Architecture (Sections 11.1 through 11.6). Review the design plans against the list from the Compendium of Design Criteria to verify the station designs are context-sensitive and that design elements are repeated in all stations and materials are varied based on the community context. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect	Compliance noted on Final Design plans and signed off by GEC architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC architect.
V01P	4.8	HART will ensure that the Project's design guidelines require that the Kapālama Station have a special planting of true kamani trees.	Section 4 City Center Contracts - Kapālama Station	HART with station design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 11 Landscape Architecture (Sections 11.1, 11,2, 11.3.2, and 11.5). Review the design plans against the list from the Compendium of Design Criteria to verify that the Kapālama Station has a special planting of true kamani trees. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC architect and landscape architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC architect and GEC landscape architect.
V01Q	4.8	HART will ensure that the Project's design guidelines require that trees displaced by the Project be transplanted to other areas if possible, and that the wood from trees that are not transplanted be repurposed.	Project-wide	HART with design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 11 Landscape Architecture (Sections 11.1, 11,2, and 11.5). Review the design plans against the list from the Compendium of Design Criteria to verify that trees displaced by the Project are transplanted to other areas if possible, and that the wood from trees that are not transplanted are repurposed. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC architects And landscape architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE, GEC architect, and GEC landscape architect.
V01R	4.8	HART will ensure that the Project's design guidelines require: that street tree plantings or transplantings occur adjacent to stations and along the alignment wherever the existing streetscape is affected by the Project; that these tree plantings be placed every 50 feet in residential areas and every 40 feet in commercial areas; and that trees be planted a minimum of 3 feet from curbs and 2 feet from the edge of sidewalks.	Project-wide	HART with design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 11 Landscape Architecture (Sections 11.1, 11,2, 11.3.1,11.3.2, and 11.5). Review the design plans against the list from the Compendium of Design Criteria to verify that street tree plantings or transplantings occur adjacent to stations and along the alignment wherever the exiting streetscape is affected by the Project; that these tree plantings are placed every 50 feet in residential areas and every 40 feet in commercial areas; and that trees are planted a minimum of 3 feet from curbs and 2 feet from the edge of sidewalks. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC architect and landscape architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC architect and GEC landscape architect.

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V01S	4.8	HART will ensure that the Project's design guidelines require that planting and paving design play a pivotal role in increasing station identity and direct patrons to the station entrance.	Project-wide	HART with station design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 11 Landscape Architecture (Sections 11.4 and 11.5). Review the design plans against the list from the Compendium of Design Criteria to verify that planting and paving design play a pivotal role in increasing station identity and direct patrons to the station entrance. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC architect and landscape architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC architect and GEC landscape architect.
V01T	4.8	HART will ensure that the Project's design guidelines require that station approaches link entry plazas with drop-off lanes and public walkways in ways that allow for pedestrian circulation and seating.	Project-wide	HART with station design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 10, Architecture (Sections 10.2, 10.3 and 10.4). Review the design plans against the list from the Compendium of Design Criteria to verify that station approaches link entry plazas with drop-off lanes and public walkways in ways that allow for pedestrian circulation and seating. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC architect.
V01U	4.8	HART will ensure that the Project's design guidelines require that tall vertical plantings or native vines be used to minimize the visibility of traction power substations.	Project-wide	HART with station design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 11, Landscape Architecture (Section 11.3.5). Review the design plans against the list from the Compendium of Design Criteria to verify that tall vertical plantings or native vines are used to minimize the visibility of traction power substations. The GEC ECM will meet with the GEC ECD, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect GEC Landscape Architect GEC ECM	Compliance noted on Final Design plans and signed off by GEC architect and landscape architect. Final compliance noted by ECD review and acceptance of approval by GEC CRE, GEC architect, and GEC landscape architect.
V01V	4.8	HART will ensure that the Project's design guidelines require that a minimum of 5-foot walkways be provided around all traction power substations that are near stations.	Project-wide	HART with station design and construction contractors	Design	Review the design plans to verify that a minimum of 5-foot walkways is provided around all traction power substations that are near stations. The GEC ECD will meet with the GEC CRE and Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect	Compliance noted on Final Design plans and signed off by GEC architects. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC architect.
V01W	4.8	HART will ensure that the Project's design guidelines require that the guideway columns be softened in appearance in specified areas through measures such as native plantings, incised column designs or textured column surfaces, and protected from graffiti through the use of graffiti resistant finishes.	Project-wide; for all Sections, including guideway and stations	HART with design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 11, Landscape Architecture (Section 11.3) and Chapter 10, Architecture (Section 10.8). Review the design plans against the list from the Compendium of Design Criteria to verify softening techniques in specific areas. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC architect and GEC landscape architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE, GEC architect, and GEC landscape architect.

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V01X	4.8	HART will ensure that the Project's design guidelines require that the plant material be used to provide human-scale impressions of the Project.	Project-wide; for all sections, including guideway and stations	HART with design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 11 Landscape Architecture (Sections 11.1 through 11.6). Review the design plans against the list from the Compendium of Design Criteria to verify that plant material is used to provide human-scale impressions of the Project. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC landscape architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC landscape architect.
V01Y	4.8	HART will ensure that the Project's design guidelines require that the guideway columns be softened by plantings in specified areas.	Project-wide; for all sections, including guideway and stations	HART with design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 11 Landscape Architecture (Sections 11.1 through 11.6). The GEC ECD will meet with HART and the design team to identify specific areas of concern. Review the design plans against the list from the Compendium of Design Criteria to verify that guideway columns are softened by plantings in specified areas. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC landscape architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC landscape architect.
V01Z	4.8.3 4.15.3	HART will ensure that the Project's design guidelines require that station designs provide for tree relocations in the station area.	Project-wide; for all sections, including guideway and stations	HART with design and construction contractors	Design	Review the design plans to verify that station designs provide for tree relocations in the station area. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC landscape architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC landscape architect.
V02	4.8	HART will ensure that a certified arborist will decide which trees should be transplanted, where they should be transplanted, where new trees should be planted and to advise on all other Project matters related to trees.	Project-wide; for all sections, including guideway and stations	HART with design and construction contractors	Design	The GEC ECM and Landscape Architect will meet with the certified arborist to decide which trees should be transplanted, where they should be transplanted, and where new trees should be planted and to advise on all other Project matters related to trees. The GEC ECD, ECM, CRE and Landscape Architect will review the design plans against the arborist's recommendations to verify that conditions are met.	GEC ECD GEC CRE GEC Landscape Architect GEC ECM	Compliance noted on Final Design plans and signed off by GEC landscape architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC landscape architect.
V03	4.8	HART will ensure that the Project's design guidelines require that the certified arborist for the Project decide which existing trees should be protected in place.	Project-wide; for all sections, including guideway and stations	HART with design and construction contractors	Design	The GEC ECM and Landscape Architect will meet with the certified arborist to decide which existing trees should be protected in place. The GEC ECD, ECM, CRE and Landscape Architect will review the design plans against the arborist's recommendations to verify that conditions are met.	GEC ECD GEC CRE GEC Landscape Architect GEC ECM	Compliance noted on Final Design plans and signed off by GEC landscape architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC landscape architect.

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V04	4.8	HART will ensure that the materials used in station construction are consistent with the cultural and historic guidance and recommendations set forth in the Design Language Pattern Book.	Project-wide	HART with station design and construction contractors	Design	Review community workshop documentation by GEC ECD with evidence that the opportunity for community input has been provided for station designs. Consider comments and incorporate comments, as appropriate. Confirm that plans are prepared following the design principles identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 10, Architecture (Sections 10.2.1, 10.2.2, and 10.3.2) and Chapter 11 Landscape Architecture (Sections 11.1 through 11.6). Review the design plans against the list from the Compendium of Design Criteria to verify that the materials used are consistent with the cultural and historic guidance and recommendations. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Architect GEC Architectural Historian	Document meetings including comments and how comments were addressed in design. Compliance noted on Final Design plans and signed off by GEC architect. Final compliance noted by GEC ECM review and acceptance of approval by GEC CRE and GEC architect.
V05	4.8.3 PA page 4	HART shall coordinate Project design with planning for Transit Oriented Development (TOD) by HART and the Department of Planning and Permitting (DPP).	Project-wide	HART with design contractors for all sections, including guideway and stations	Design	Review meeting minutes for TOD coordination. Check Final Design documents for mitigation measures specific to TOD are incorporated into the design and construction plans and specifications; Confirm that plans are prepared following the design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 10, Architecture (Sections 10.2.1, 10.2.2, 10.2.7, and 10.3.2) and Chapter 11 Landscape Architecture (Sections 11.1 through 11.6).	GEC CRE GEC Architect GEC ECD	Compliance noted on Final Design plans and signed off by GEC architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC architect.
V06	4.8.3 8.7	HART shall consult with the communities surrounding each station for input on station design elements through a series of well-advertized station design workshops that solicit community input and ideas about the interface between each station and the surrounding community.	Project-wide	HART with station design contractors for all stations	Design	Review community workshop documentation by GEC ECD with evidence that the opportunity for community input has been provided for station designs.	GEC ECD GEC CRE GEC Architect	Compliance noted on Final Design plans and signed off by GEC architect. Final compliance noted by GEC ECM review and acceptance of approval by GEC CRE and GEC architect.
V07	4.8	HART will ensure that the Project's street-level visual impacts are mitigated by landscape and streetscape improvements.	Project-wide For all sections, including guideway and stations	HART with design and construction contractors	Design	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o) - Chapter 11 Landscape Architecture (Sections 11.1 through 11.6). Review the design plans against the list from the Compendium of Design Criteria to verify that street-level visual impacts are mitigated by landscape and streetscape improvements. The GEC ECD will meet with the GEC CRE, Architect and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC landscape architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC landscape architect.
V08	4.8	HART shall engage a qualified landscape architect to prepare plans for landscape and streetscape improvements, including new plantings, to mitigate the visual impacts of the Project.	Project-wide	HART with design and construction contractors for all sections, including guideway and stations	Design	The GEC ECM and HART will confirm that a qualified landscape architect is preparing plans for landscape and streetscape improvements, including new plantings, to mitigate the visual impacts of the Project. The GEC ECD will meet with the GEC CRE, and Landscape Architect monthly to review the design review process.	GEC ECD GEC CRE GEC Landscape Architect	Compliance noted on Final Design plans and signed off by GEC landscape architect. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC landscape architect.

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V09	4.8.3 Appendix H	HART will implement Design Standard requirements as set forth in Stipulation IV of the Section 106 Programmatic Agreement (PA), including the completion of neighborhood design workshops and the review of preliminary designs by the PA signatories and concurring parties.	Project-wide	HART with design contractors for all sections, including guideway and stations	Design	Review of community workshop documentation by GEC ECD with evidence that the opportunity for community input has been provided for station designs. Consider comments and incorporate comments, as appropriate, in the design and construction plans.	GEC ECD GEC CRE GEC Architect	Compliance noted on Final Design plans and signed off by GEC architects Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE and GEC architect.
Landscaping								
T01	4.15	HART shall ensure that existing trees affected by the Project are transplanted to areas as close to their original locations as feasible or are replaced with new trees.	Project-wide; for all sections, including guideway and stations	HART with designer and construction contractors	Design and construction	Compliance documented by GEC/HART landscape architects' review of design contractor landscaping plans to verify that trees removed or transplanted are replaced with new trees and transplanted as close to original locations as feasible.	GEC CRE GEC Landscape Architect GEC ECM	Compliance noted on Final Design plans and signed off by GEC landscape architect. Final compliance noted by GEC ECM review and acceptance of approval by GEC CRE and GEC landscape architect.
T02	4.1 4.15.3	HART will ensure that, if planting a new tree does not offer comparable vegetation to the older mature tree that was removed, additional young trees will be planted that will shortly develop benefits similar to those of the mature tree removed.	Project-wide; for all sections, including guideway and stations	HART with designer and construction contractors	Design and construction	Compliance documented by GEC/HART landscape architects' review of landscaping plans to verify that relocation of trees, transplanting of existing trees, and planting of new trees complies with the landscape architecture design criteria.	GEC CRE GEC Landscape Architect GEC ECM	Compliance noted on final landscaping design plans and signed off by GEC landscape architects. Final compliance noted by GEC ECM review and acceptance of approval by GEC landscape architect.
T03	4.1	HART shall ensure that street tree pruning, removal, and planting complies with local ordinances and is supervised by a certified arborist engaged in the Project.	Project-wide; for all sections, including guideway and stations	HART with designer and construction contractors	Design and construction	Compliance documented by GEC/HART landscape architects' review of landscaping plans to verify that relocation of trees, transplanting of existing trees, and planting of new trees complies with the landscape architecture design criteria.	GEC CRE GEC ECM GEC Landscape Architect	Compliance noted on final landscaping design plans and signed off by GEC project landscape architects. Final compliance noted by GEC ECM review and acceptance of approval by GEC landscape architect.
T04	4.1	HART shall ensure that the locations of transplanted plants are specified by the certified arborist engaged for the Project and that the certified arborist uses the criteria presented on page 4-175 of the Final EIS in determining transplant locations.	Project-wide; for all sections, including guideway and stations	HART with designer and construction contractors	Design and construction	Compliance documented by GEC/HART landscape architects' review of landscaping plans to verify that relocation of trees, transplanting of existing trees, and planting of new trees complies with the landscape architecture design criteria.	GEC CRE GEC ECM GEC Landscape Architect	Compliance noted on final landscaping design plans and signed off by GEC project landscape architects. Final compliance noted by GEC ECM review and acceptance of approval by GEC landscape architect.
T05	4.15.3	HART shall require trees suitable for transplanting displaced by construction to be relocated to a tree nursery until they can be transplanted to another part of the Project area.	Project-wide; for all sections, including guideway and stations	HART with designer and construction contractors	Design and construction	Compliance documented by GEC/HART landscape architects' review of the landscaping plans to verify that relocation of trees, transplanting of existing trees, and planting of new trees complies with the landscape architecture design criteria.	GEC CRE GEC ECM GEC Landscape Architect	Compliance noted on final landscaping design plans and signed off by GEC project landscape architects. Final compliance noted by GEC ECM review and acceptance of approval by GEC landscape architect.

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T06	4.15.3 4.18.8	Wherever the Project requires the removal of trees, HART shall require that a landscaping plan with new plantings that provide similar advantages to the community is developed and implemented.	Project-wide; for all sections, including guideway and stations	HART with designer and construction contractors	Design and construction	Compliance documented by GEC/HART landscape architects' review of the landscaping plans to verify that relocation of trees, transplanting of existing trees, and planting of new trees complies with the landscape architecture design criteria.	GEC CRE GEC ECM GEC Landscape Architect	Compliance noted on final landscaping design plans and signed off by GEC project landscape architects. Final compliance noted by GEC ECM review and acceptance of approval by GEC landscape architect.
IS01	2.5	HART shall ensure that all new plantings be non-invasive plants as defined by the Hawai'i Chapter of the American Society of Landscape Architects, and that native plants be used wherever appropriate.	Project-wide; for all sections, including guideway and stations	HART with designer and construction contractors	Design and construction	Compliance documented by GEC landscape architects' review of the landscaping plans to verify that relocation of trees, transplanting of existing trees, and planting of new trees complies with the landscape architecture design criteria.	GEC CRE GEC ECM GEC Landscape Architect	Compliance noted on final landscaping design plans and signed off by GEC project landscape architects. Final compliance noted by GEC ECM review and acceptance of approval by GEC landscape architect.
Natural Resources								
NR01	4.13.3	HART will secure a Certificate of Inclusion for the State Department of Transportation's (HDOT) Incidental Take Permit for activities within HDOT's existing Habitat Conservation Plan (HCP) for koʻoloaʻula and will follow all the measures and requirements in the existing HCP. If a new HCP is needed, or if the existing HCP needs to be amended for any reason, HART will implement the measures outlined by the State Department of Natural Resources (DLNR) in the new or amended HCP. Section 7 coordination with the USFWS may be required if changes to the state HCP are identified.	Section 1 WOFH Contract	HART will secure the Certificate of Inclusion	Design and construction	Compliance documented by GEC ECM after review of the clearing and grubbing plan. Review construction inspection reports and field verify that conservation of an on-site contingency reserve population of the Kapolei plants are not impacted by the Project during construction and operation. The guideway and construction contractors in the area will develop a fire prevention plan.	GEC ECM	A Memorandum of Agreement (MOA) between HART, Hawai'i Department of Transportation and Hawai'i Department of Land and Natural Resources will outline compliance and coordination requirements.
NR02	ROD	HART will monitor the requirements of the koʻoloaʻula HCP applicable to this Project, in compliance with the MOA with HDOT and DLNR.	Section 1 WOFH Contract, East Kapolei and UH West Oʻahu Stations	HART with the guideway and station design and construction contractors	Design and construction	Compliance documented by GEC ECM through monitoring of guideway and station contractors' Environmental Compliance Plans in Section 1. HART will coordinate with HDOT and DLNR per the MOA during design and construction. Field compliance will be noted by the guideway and station design and construction contractors through the procedures established in their Environmental Compliance Plans. The Environmental Compliance Plans will include the requirements of the koʻoloaʻula HCP applicable to this Project to protect the reserve area from invasive species and fire. GEC ECM and EM will coordinate with HART, HDOT and DLNR as appropriate.	GEC ECM GEC ECD	GEC ECM review of construction closeout reports and notifications as identified in the MOA.
Pedestrian and Bicycle Facilities								
PB01	ROD	HART will design and build all sidewalks created or modified by the project to ADA requirements.	Project-wide	HART with the guideway and station design and construction contractors	Design and construction	Review design plans against list for ADA requirements. Review construction inspection reports showing construction contractor compliance with plans and specifications.	GEC ECD GEC CRE GEC ECM	Compliance noted on Final Design plans and construction inspection reports signed off by GEC CRE. Final compliance noted by GEC ECM review and acceptance of approval by GEC CRE.

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PB02	ROD	HART will widen the curb lane where possible on Kamehameha Highway to 13 feet to facilitate its designation as a bike route.	Section 2 Kamehameha Contract	HART with the guideway and station design and construction contractors	Design and construction	Review design plans against list for the widened curb lane. Coordinate with HDOT regarding allowance for potential bike route on Kamehameha Highway. Review construction inspection reports showing construction contractor compliance with plans and specifications.	GEC ECD GEC CRE GEC ECM	Compliance noted on Final Design plans and construction inspection reports signed off by GEC CRE. Final compliance noted by GEC ECM review and acceptance of approval by GEC CRE.
PB03	ROD	In accordance with Table 3-25 of the Final EIS, HART will provide sidewalks of the width specified in the table when building or modifying sidewalks on Farrington Highway, Dillingham Boulevard, and Kamehameha Highway.	Project-wide in specific locations noted in Table 3-25 of Final EIS	HART with the guideway and station design and construction contractors	Design and construction	Compile a list of the design criteria intended to address the mitigation measure from relevant design principals identified in the applicable chapter of the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (City 2009o.) Review design plans against list for the sidewalk width standards. HART will seek design exceptions if necessary. Review construction inspection reports showing construction contractor compliance with plans and specifications.	GEC ECD GEC CRE GEC ECM	Compliance noted on Final Design plans and construction inspection reports signed off by GEC CRE. Final compliance noted by GEC ECM review and acceptance of approval by GEC CRE.
PB04	ROD	HART will connect the rail station at the airport to the overseas and interisland terminals with ground-level pedestrian walkways.	Section 3 Airport Contract	HART with the guideway and station design and construction contractors	Design and construction	Review design plans against list for the pedestrian walkways on plans. Review construction inspection reports showing construction contractor compliance with plans and specifications.	GEC ECD GEC CRE GEC ECM	Compliance noted on Final Design plans and construction inspection reports signed off by GEC CRE. Final compliance noted by GEC ECM review and acceptance of approval by GEC CRE.
Other Transportation Facilities								
OT01	3.4	HART will coordinate with the Federal Aviation Administration, the Airports Division of HDOT, and the U.S. Postal Service regarding the design of the guideway and station at the Airport.	Section 3 Airport and Airport Station Contracts	HART with the guideway and station design and construction contractors	Design	HART will coordinate with FAA, HDOT- Airports, and the U.S. Postal Service during Preliminary Engineering prior to completing Final Design. The meeting notes will be reviewed by the GEC ECD and summarized in quarterly reports to FTA.	GEC CRE GEC ECD	Documentation of compliance through correspondence and coordination with Federal Aviation Administration, the Airports Division of HDOT, and the U.S. Postal Service. Compliance noted on Final Design plans and signed off by GEC CRE. Final compliance noted by GEC ECD review and acceptance of approval by GEC CRE.
OT02	3.4 Edit from FAA ROD published in Federal Register May 26, 2011	HART will file an FAA form 7460-1- *Notice of Proposed Construction or Alteration* prior to any construction work near and on the airport. Notice to be filed at least 30-days before whichever comes first: construction, or permits for construction are filed.	Section 3 Airport Contract	HART	Design prior to construction	The GEC ECD will meet with the GEC CRE to obtain updates on the notification. Coordination with FAA will be documented in quarterly reports to FTA.	GEC CRE GEC ECD	Complete notification.
OT03	3.4.3 3.4.7	HART shall modify the following roadway intersections as specified in Section 3.4 of the Final EIS: • North-South Road and East-West Connector Road • North-South Road and Future Road B • Kamehameha Highway at Waihona Street	Project-wide in specific locations noted in Section 3.4 of the Final EIS	HART with the guideway and station design and construction contractors	Design and construction	Review design plans against list for the restriping and ensure restriping occurs before increased traffic at merge occurs. Review construction inspection reports showing construction contractor compliance with plans and specifications.	GEC CRE GEC ECD GEC ECM	Compliance noted on Final Design plans and signed off by GEC CRE. Final compliance noted by GEC ECM review and acceptance of construction closeout report.

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		• Farrington Highway and Waiawa Road • Kamehameha Highway and Kuala Street • Kona Street and Ke'eaumoku Street • H-2 northbound on-ramp and merge area at Kamehameha Highway						
OT04	4.4	HART shall control spillover parking at stations with one or more mitigation strategies as needed, including, but not limited to, parking restrictions or issuance of parking permits.	Project-wide	HART	Start-up operations	Review of parking control plans for mitigation measure.	GEC CRE GEC ECD GEC ECM	Compliance noted on Final Design plans and signed off by GEC CRE. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
OT05	3.4 and 3.5	HART shall establish temporary loading zones during construction and permanent loading zones for freight and passengers as specified in Chapter 3 of the Final EIS.	Project-wide	HART with the construction contractor	Construction, start-up operations	Review of appropriate plans for mitigation measure, including MOT and business access plans prepared by construction contractor.	GEC CRE GEC ECM	HART/HDOT approves the locations of the temporary and permanent loading zones. Construction inspection reports show construction contractor compliance with plans and specifications that included the mitigation measures. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
Public Involvement								
PI01	8.7 3.5.7	HART will continue public involvement activities throughout the Final design and construction periods. The Project website will be the primary information source for up-to-date Project information. In addition, a Project hotline, news releases, instant messaging and emails, and flyers will be used to provide information to the public.	Project-wide	HART with contractors	Design and construction	Each contractor will be required to prepare a Public Awareness and Community Relations Program. This written program will outline notification procedures that meet or exceed the Table of Notifications in Special Provision contract documents. Public involvement activities during construction will be the responsibility of HART and contractors. Oversight is the responsibility of the GEC PI staff. The GEC ECM will meet monthly with the GEC PI staff to review and document that these activities are being implemented.	HART Public Information Officer GEC ECM /HART	Final compliance noted by GEC ECM review and acceptance of Public Awareness and Community Relations Program closeout report.
PI02	4.6	HART will coordinate with each neighborhood where a station is located to design measures that will enhance the interface between the transit system and the surrounding community.	Project-wide	HART with contractors	Design	The GEC Architect will conduct station design workshops and invite the Section 106 Consulting Parties to participate. Feedback from previous workshops held prior to the execution of the PA is being considered. The feedback from these workshops included discussion of the transit stations and enhancement of the surrounding community. The GEC MMPA will document the results of the meetings in the quarterly report to FTA on this MMP.	GEC/HART Architect GEC ECM GEC MMPA GEC ECD HART with contractors	Document meetings, including comments and how comments were addressed in design.

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Noise and Vibration								
NV01	4.10.3	City is committed to achieve an equivalent reduction in pass-by SEL noise levels generated by the Project's vehicles of 3 dBA relative to the FTA reference level for rail transit vehicles included in Table 5-1 of the 2006 Transit Noise and Vibration Impact Assessment Manual through combined vehicle and wayside technical mitigation measures.	Project-wide	HART and CORE Systems design-build-operator	Design and construction	Document that the prescribed mitigation measure has been added to the vehicle design and contractor specifications.	GEC CRE GEC ECD GEC ECM	CORE Systems design-build-operate-maintain contractor will prepare vehicle specifications to include noise abatement equipment. GEC/HART will review and comment on specifications and inspect vehicles prior to acceptance. Interim compliance noted on Final Design plans and signed off by GEC CRE. Final compliance noted by GEC ECM review and acceptance of HART approval of vehicles.
NV02	4.1 4.10.3	HART will install sound-absorptive materials within the guideway structure in the vicinity of Project noise impacts predicted at three locations. Eight-hundred feet of sound-absorptive material will be installed from Pupukahi Street to Pupupuhi Street. For the building at 860 Halekauwila Street, sound-absorptive material will be required from 200 feet 'Ewa of Kamani Street to 100 feet Koko Head of Kamani Street for a total of 300 feet. The building at 1133 Waimanu Street will require sound-absorptive material to be installed between Kamake'e Street and Waimanu Street for a total of 920 feet.	Section 1 WOFH and Section 4 City Center Contracts	HART and guideway contractors	Design and construction	Document that the prescribed mitigation measure has been added to the guideway design and contractor specifications.	GEC CRE GEC ECD GEC ECM	CORE Systems design-build-operate-maintain contractor will prepare track specifications to include noise abatement equipment. GEC/HART will review and comment on specifications and inspect equipment prior to acceptance. Interim compliance noted on Final Design plans and signed off by GEC ECD, GEC DM and GEC CRE as needed. Final compliance noted by GEC ECM review and acceptance of HART approval of noise abatement equipment.
NV03	4.10.3	Once the Project is operating, field measurements for noise will be conducted at representative sites. Should the Project's noise impacts exceed the FTA noise impact levels, further mitigation may be implemented on the receivers with the authorization of the property owner.	Project-wide at these specific locations: West Loch to Waipahu Transit Center (2), Waipahu Transit Center to Leeward Community College, Aloha Stadium to Pearl Harbor Navel Base (2), Downtown to Civic Center, Civic Center to Kaka'ako, Kaka'ako to Ala Moana Center	GEC prepares the plan. The CORE Systems design-build-operator will implement the plan once the Project is operating	Start-up of operations	Field measurements will be conducted at representative sites where moderate noise levels are anticipated and a determination will be made whether any measurements show a noise impact when compared to FTA noise impact levels. If so, further mitigation may need to be implemented and coordination with individual property owners will need to occur.	GEC ECM	GEC prepares transit operation noise monitoring plan and performs monitoring during operation of the first phase of each section of the Project. Noise monitoring will be included in the project operation plan. Final compliance noted by GEC ECM review and acceptance of noise monitoring report.

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NV04	4.10.3	HART will design the elevated guideway to include a parapet wall on both sides of the guideway that extends 3 feet above the top of the rail.	Project-wide	HART and guideway designer and contractor	Design and construction	Document that the prescribed mitigation measure has been added to the guideway design and contractor specifications.	GEC CRE GEC ECD GEC ECM	Guideway designer will adhere to guideway specifications to include a parapet wall on both sides of the guideway that extends 3 feet above the top of the rail. GEC will review and comment on specifications and inspect equipment prior to acceptance. Interim compliance noted on Final Design plans and signed off by GEC ECD, GEC DM and GEC CRE as needed. Final compliance noted by GEC ECM review and acceptance of HART approval of noise-abatement equipment.
NV05	4.10.3	In the specifications for all traction power substations for the Project HART shall state that the noise generated by the substation measured at the nearest property line must be an hourly Leq of 45 dBA or less in areas with single-family residential uses and an hourly Leq of 50 dBA or less in areas with multifamily residential uses in accordance with State law (HAR 11-46).	Project-wide	HART with CORE Systems	Design and operation	Document that the prescribed mitigation measure has been added to the guideway design and contractor specifications. Once the Project is operational, adequate noise measurements must be taken to verify that noise levels are not higher than the thresholds stated as part of the mitigation commitment.	GEC CRE GEC ECD GEC ECM	CORE Systems design-build-operate-maintain contractor will prepare traction power substation specifications to include noise-abatement equipment. GEC/HART will review and comment on specifications and inspect equipment prior to acceptance. Interim compliance noted on Final Design plans and signed off by GEC ECD, DM and GEC CRE as needed. Final compliance noted by GEC ECM review and acceptance of HART approval of noise-abatement equipment.
NV06	4.10.3	HART will construct the two curved tracks in the maintenance and storage yard that are nearest the main building of Leeward Community College with automatic track lubrication devices installed to eliminate any wheel squeal on those curves.	MSF Design-Build Contract	HART with the contractor	Design and construction	Document that the prescribed mitigation measure has been added to maintenance and storage yard facilities design and contractor specifications.	GEC CRE GEC ECD GEC ECM	Maintenance and storage yard facilities design-build- contractor will prepare track specifications to include noise-abatement equipment. GEC/HART will review and comment on specifications and inspect equipment prior to acceptance. Interim compliance noted on Final Design plans and signed off by GEC ECD, DM and GEC CRE as needed. Final compliance noted by GEC ECM review and acceptance of HART approval of noise abatement equipment.

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Contaminated Property and Hazardous Materials								
HMW01	4.1 4.12.3	HART will perform a Phase I Environmental Site Assessment (ESA), in accordance with the procedures of the American Society for Testing Materials (ASTM), of every property that will be wholly or partially acquired for the Project and will use a contractor qualified to perform such ESAs. If recommended by the contractor performing the Phase 1 ESA, HART will perform a Phase II ESA (including collecting and analyzing samples). Refer to Final EIS pages 4-129 and 4-130 (329-330) for the potentially contaminated properties that may be acquired.	Project-wide	HART with GEC and contractor	ROW acquisition and design	Coordination between GEC ECM and ROW will be on-going during preparation of ESAs. The GEC will document that the Phase I and Phase II ESAs (in locations recommended in the Final EIS and technical reports) have been completed by the contractor. Whenever possible ESAs will be conducted prior to ROW acquisition.	GEC ECD GEC ECM	Final compliance noted by GEC ECM review and acceptance of ESA reports.
HMW02	4.12	If contaminated soils, groundwater, or structures are found on a property to be acquired, HART will consult with the Hazard Evaluation and Emergency Response Office of the Hawai'i Department of Health (HEERO-DOH) on the appropriate remediation for the contamination found that considers the proposed transit use of the property.	Project-wide	HART	ROW acquisition and design	Document that consultation occurred between HART and HEERO-DOH regarding the appropriate remediation.	GEC ECD GEC ECM	Acceptance of remediation plan by HEERO-DOH.
HMW03	4.12	HART shall ensure that each contaminated property acquired or soon to be acquired for the Project is remediated in accordance with HEERO-DOH requirements, Such remediation may be performed by a potentially responsible party, such as the previous owner responsible for the contamination, or, if such outside party cannot be made to pay for remediation, HART will perform the remediation as part of the Project.	Project-wide	HART	ROW acquisition and design	Document that property acquired or soon to be acquired for the Project is remediated in accordance with HEERO-DOH requirements. Require that all remediation plans have a quality assurance action plan that can be independently checked during cleanup. Monitor the remediation during cleanup if performed by the potentially responsible party to ensure that the quality assurance action plan is being adhered to. Review and confirm ROW reports for compliance.	GEC ECD GEC ECM	Final compliance noted by GEC GEC ECD review and acceptance of Remediation Reports.
HMW04	4.12	Regarding the remediation of contaminated right-of-way owned by HDOT, HART will coordinate with HDOT regarding the work within HDOT's ROW.	Project-wide	HART	ROW acquisition and design	Document that coordination occurred between HART and HDOT through meeting minutes and other correspondence. Review and confirm ROW reports for compliance.	GEC ECD GEC ECM	Final compliance noted by GEC ECD review of documentation and acceptance of Remediation Reports.
HMW05	4.12	HART shall require that all contractors working on any aspect of the Project comply with all applicable requirements of the Construction Health and Safety Plan.	Project-wide	HART with the contractors	Construction	Document the completion of appropriate employee training and perform field monitoring to ensure that the safe use and management practices as part of the Health and Safety Plan that were taught during the training are implemented during construction. Review and confirm training schedule documentation for compliance.	GEC ECM	Compliance noted by GEC ECM review of documentation and acceptance of Health and Safety Plan, review of training schedules, and onsite monitoring of construction activities.

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HMW06	4.18.2 4.18.7 4.18.8	HART shall prepare and execute the following plans to mitigate construction impacts related to wastes and their potential impact to communities and neighborhoods: • Construction Safety and Security Plan • Construction Health and Safety Plan Construction Contaminant Management Plan • Construction Contingency Plan • Solid Waste Management Plan	Project-wide	HART and design-build contractor	Design and construction	Plans prepared by the contractor will be reviewed and documented by the GEC ECM. Contractor will prepare a Construction Safety and Security Plan, Construction Health and Safety Plan, and a Hazardous and Contaminated Materials Health and Safety Plan (referred to as Construction Contaminant Management Plan in the MMID). The Solid Waste Management Plan is an appendix to the ECP. The Construction Contingency Plan is a chapter within the Hazardous and Contaminated Materials Health and Safety Plan. This Plan may also be referred to as the Hazardous Substances Health and Safety Plan. Document that the prescribed mitigation measure has been incorporated into the Project's Hazardous and Contaminated Materials Health and Safety Plan. Review the Solid Waste Management Plans and have field monitors check compliance with these plans at the site. GEC field monitors will follow the solid waste management plan and evaluate the amount of wastes that are recycled and determine if it is possible to further recycle non-recycled wastes. See design- and contractor-specific ECPs and Sustainability Plans.	GEC CRE GEC ECD GEC ECM	Compliance noted on final construction plans (all of the five listed in the Mitigation Measure) and signed off by GEC CRE. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
Water Resources								
W01	4.14.3	HART shall mitigate the impacts on water resources at the Waiawa Stream mitigation site and shall include the following: enhancement of the stream to restore and improve ecological and aquatic function: establishment of water quality basins; enhancement of floodway capacity conveyance to achieve zero rise in flood zone by removal of fill and an increase in stream area; extension of existing culvert to Waiawa Stream to correct existing ponding situation; and ecological restoration with native Hawaiian plantings and non-invasive species.	Section 2 Kamehameha Contract	HART with design contractor	Design and construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures; specifically check the mitigation plan for impacts to waters of the U.S. in the area of Pearl Highlands Station as prepared by the GEC landscape architect, GEC biologist, and GEC hydraulic engineers with input from guideway contractors. Document that the prescribed mitigation measure has been incorporated into the Project's final design and construction. Verify restoration through review of construction monitoring reports. Field reviews to be conducted according to the terms of the permit.	GEC CRE GEC ECD GEC ECM	Compliance noted on Final Design plans and signed off by GEC ECD, DM and GEC CRE as needed. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
W02	4.14	HART shall coordinate with the U.S. Army Corps of Engineers, the Hawai'i Department of Health, and the Hawai'i Commission on Water Resource Management throughout the design and construction of the Project.	Project-wide	HART with the contractors	Design and construction	Apply for CWA Section 404-Department of the Army permit, various nationwide permits, and/or Section 10 of the Rivers and Harbors Act permit. Meeting notes, electronic mail messages, and other documentation of communication between HART and each agency will be compiled and be made available for review. HART will follow all timing and notification conditions as required for each permit.	GEC CRE GEC ECM	Permits granted. Permit conditions incorporated into the Environmental Compliance Plan. Permit coordination files maintained through construction and through any post-construction restoration monitoring as required by the permit.
W03	ROD	HART shall monitor the requirements of permits related to water resources through the design and construction quality process to verify that the design and construction contractors are in compliance.	Project-wide	HART	Design and construction	Verify contractor compliance with permit requirements throughout design and construction. Verify permit conditions are incorporated into the construction contractor's Environmental Compliance Plan. Ensure compliance with permit conditions by monitoring during construction. Verify construction inspection reports show construction contractor compliance with plans and specifications that included the permit conditions.	GEC CRE GEC ECM	All construction activity related to the permits is completed and all post-construction reporting to the permitting agencies is completed.

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W04	4.14	HART shall require the that the Project's elevated guideway clear-span all streams except those indicated in the Final EIS as needing a column within the stream channel.	Project-wide	HART with the contractors	Design and construction	Verify contractor compliance with clear-span requirements throughout design and construction. GEC will verify during design review that these streams are clear-spanned.	GEC CRE GEC ECD GEC ECM	Design reviews showing that clean-spanning of streams are included in the Project design. Construction inspection reports showing construction contractor compliance with plans and specifications that include the permit conditions.
W05	4.14 and ROD	If the U.S. Army Corps of Engineers agrees that a Section 404 Nationwide Permit is appropriate to any phase of the Project, HART shall add the requirements of that particular Nationwide Permit to this monitoring program.	Project-wide	HART	Design and construction	Requirements of Nationwide Permit will be added to this monitoring program once HART receives the Section 404 permit. HART will transmit the permit to the design and construction contractors. The contactors will describe how they will ensure that there is no impact to Waters of the U.S. beyond what is in the permit. The contractor's ECP will outline the procedures for compliance with these permit conditions. The contractor will provide progress reports to the GEC ECM.	GEC CRE GEC ECM	Documentation of Nationwide Permit conditions added to this monitoring program (if needed) provided to FTA in a monthly report following the time period the Nationwide Permit is added.
W06	4.14	HART shall ensure that any contractor-proposed change to an issued permit is reviewed and approved by the issuing agency before the contractor is allowed to proceed with the change.	Project-wide	HART with the design and construction contractors	Design and construction	Requirement that any contractor-proposed change to an issued permit is reviewed and approved by the issuing agency before the contractor is allowed to proceed with the change will be coordinated by the ECM and CRE.	GEC CRE GEC ECM	Results and changes to issued permits will be documented in the monitoring program.
Section 4(f)								
4F01	5.7	Pearl Harbor Bike Path: The section of the bike path temporarily occupied during construction will be fully restored by HART. HART will provide a temporary crossing over the trench to maintain bikeway continuity during construction. HART will repave the bicycle path in the affected area and will restore surrounding plantings disturbed by construction.	MSF Design-Build Contract	HART with the contractors	Design and construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Review design plans to verify that the design includes a temporary crossing, repaving, and restoration of plantings. Field review of construction activities to document that the restoration activities have been completed.	GEC CRE GEC ECD GEC ECM	Compliance noted on Final Design plans and signed off by GEC ECD, DM and GEC CRE as needed. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
4F02	5.7	Future Middle Loch Park: The land set aside for a future park will be temporarily occupied during construction. HART will restore the land to its condition before construction and vacate when outfall construction has been completed. HART will restore plantings disturbed by construction.	MSF Design-Build Contract	HART with the contractors	Design and construction	Continue coordination with the agencies having jurisdiction over Section 4(f) properties and prepare and maintain documentation of this continuing coordination. Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Review design plans to verify that the design includes restoration of plantings. Field review of construction activities to document that the temporary occupancy is limited to the area specified in the Final EIS and that all restoration activities have been completed.	GEC CRE GEC ECD GEC ECM	Compliance noted on Final Design plans and signed off by GEC ECD, DM and GEC CRE as needed. Final compliance noted by GEC ECM review and acceptance of construction closeout report.

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4F03	5.5	Aloha Stadium: As specified in the Final EIS, HART will locate the guideway as close to Kamehameha Highway as possible; HART will coordinate with DAGS on the design of the station and parking lots.	Section 3 Airport Contract	HART with the contractors	Design and construction	Continue coordination with the agencies having jurisdiction over Section 4(f) properties and prepare and maintain documentation of this continuing coordination. Verify the process used by the designers to incorporate mitigation commitments, including locating the Project as close to Kamehameha Highway as possible, into the design through review of design quality procedures. Field review of construction activities to document that the guideway design has been implemented.	GEC CRE GEC ECD GEC ECM	Compliance noted on Final Design plans and signed off by GEC ECD, DM and GEC CRE as needed. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
4F04	5.5	Ke‘ehi Lagoon Beach Park: As specified in the Final EIS, HART will locate the guideway as close to the northern border of the park as possible, with a curve radius that minimizes the use of parkland other than the already paved-over parking area. HART will restore the tennis courts and add lighting for their nighttime use. HART will landscape the affected areas of the park, including trees, shrubs, grass, and picnic tables, according to a landscaping plan developed in consultation with the Department of Parks and Recreation.	Section 3 Airport Contract	HART with the contractors	Design and construction	Continue coordination with the agencies having jurisdiction over Section 4(f) properties and prepare and maintain documentation of this continuing coordination. Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. This will include locating the guideway as close to the northern border of the park as possible, with a curve radius that minimizes the use of parkland other than the already paved-over parking area. Verify compliance during construction by monitoring contractor performance to ensure that the tennis courts are relocated prior to initiating guideway construction in Ke`ehi Lagoon Beach Park.	GEC CRE GEC ECD GEC ECM	Compliance noted on Final Design plans and signed off by GEC ECD, DM and GEC CRE as needed. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
4F05	5.5 and ROD	Pacific War Memorial: As specified in the Final EIS or in the ROD, HART will locate the guideway as close to the northern border of the memorial land as possible. HART will landscape and fence the area affected by the Project according to a landscaping plan developed in consultation with the Ke‘ehi Memorial Organization and the Hawai‘i Disabled American Veterans.	Section 3 Airport Contract	HART with the contractors	Design and construction	Continue coordination with the agencies having jurisdiction over Section 4(f) properties and prepare and maintain documentation of this continuing coordination. Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. This will include locating the guideway as close to the northern border of the memorial land as possible. Verify compliance during construction by monitoring contractor performance to ensure that landscaping and fencing meet the landscaping plan.	GEC CRE GEC ECD GEC ECM	Compliance noted on Final Design plans and signed off by GEC ECD, DM and GEC CRE as needed. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
4F06	5.5 and PA	Afuso House, Higa Four-Plex, and Teixeira House: Following the procedure specified in the PA, HART will document these buildings prior to their demolition.	Section 4 City Center Contract	HART with the contractors	Pre-construction and pre-demolition	Review the documentation process and verify coordination efforts with SHPD and consulting parties per the PA.	GEC CRE GEC ECM Kako‘o	Compliance noted on Final Design plans and signed off per PA process. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
4F09	5.5 and PA	Lava Rock Curbs: HART shall ensure that all lava rock curbs affected by the Project are marked prior to their removal, are removed with minimal damage and stored securely, are reinstalled at their approximate original location, and that any stone that is damaged during this process is replaced with in-kind material.	Section 4 City Center Contract	HART with the contractors	Design and construction	Verify that lava rock curbstones are marked on design plan sheets and are field checked during design review. Verify that lava rock curbstones are marked prior to removal, stored securely, and replaced at their approximate original mile point locations. Verify that damaged stones are replaced with in-kind materials.	GEC CRE GEC ECD GEC ECM GEC Architectural Historian	Compliance noted on Final Design plans and signed off per PA process. Construction closeout documenting handling and treatment of lava rock curbstones.

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4F11	5.5 and PA	Kapālama Canal Bridge: HART will maintain the existing bridge rails or will replace the bridge rails with new ones that match the appearance of the historic rails in accordance with the Secretary of the Interior's Standards for Treatment of Historic Properties.	Section 4 City Center Contract	HART with the contractors	Design and construction	If bridge rails on the Kapālama Canal Bridge will be replaced, verify that the design matches the appearance of the historic rails and that existing views to and from the bridge will be maintained.	GEC CRE GEC ECD GEC ECM GEC Architectural Historian	Compliance noted on Final Design plans and signed off per PA process. Acceptance of Final Design and construction closeout.
4F12	5.5 and PA	Six Quonset Huts: Following the procedure specified in the PA, HART will prepare a Cultural Landscape Report for the Dillingham Boulevard corridor that includes the Quonset Huts, prior to construction.	Section 4 City Center Contract and Kapālama Station Contract.	HART with the contractors	Design and construction	Verify the documentation process and coordination efforts per the Cultural Landscape Report (CLR) and the PA for the Dillingham Boulevard corridor and that it includes the Quonset Huts. Document final CLR is prepared and distributed per PA stipulation.	GEC CRE GEC ECD GEC ECM GEC Architectural Historian	Acceptance of final documentation.
4F13	5.5 and PA	True Kamani Trees: HART will develop a plan to transplant the trees to a location as close as feasible to the current location of the trees to be removed and will replace any affected trees that cannot be successfully transplanted.	Section 4 City Center Contract	HART with the contractors	Design and construction	Verify that true kamani trees are marked on design plan sheets and relocation plan has been developed. Field verify that true kamani trees within the corridor are replaced as close as feasible to the current location of the group of 28 true kamani trees on the makai side of Dillingham Boulevard. Consult with the SHPD and consulting parties per the PA during landscape plan final design.	GEC CRE GEC ECD GEC ECM GEC Architectural Historian	Compliance noted on Final Design plans and signed off per PA process. Acceptance of Final Design and construction closeout.
4F14	5.5 and PA	O'ahu Railway and Land Company Buildings: HART shall ensure that these buildings are not physically altered for the Project.	Section 4 City Center Contract	HART with the contractors	Design and construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Verify compliance during construction by monitoring contractor performance to ensure that construction activities are not physically altered.	GEC CRE GEC ECD GEC ECM GEC Architectural Historian	Compliance noted on Final Design plans and signed off per PA process. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
4F15	5.5 and PA	O'ahu Railway and Land Company basalt paving blocks: HART shall ensure that the guideway completely spans and does not touch the paving blocks and does not physically alter the former filling station on the site.	Section 4 City Center Contract	HART with the contractors	Design and construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Verify compliance during construction by monitoring contractor performance to ensure that construction activities are not disturbed or physically altered.	GEC CRE GEC ECD GEC ECM GEC Architectural Historian	Compliance noted on Final Design plans and signed off per PA process. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
4F16	5.5 and PA	Chinatown Historic District: HART shall ensure that stations in the district are designed with deference to the Secretary of the Interior's Standards for the Treatment of Historic Properties, and that the Section 106 consulting parties are given an opportunity to comment on the designs.	Section 4 City Center Contract	HART with the design contractors	Design and construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures.	GEC CRE GEC ECD GEC ECM GEC Architectural Historian Kako'o	Compliance noted on Final Design plans and signed off per PA process.
4F17A	5.5 and PA	Dillingham Transportation Building: HART shall ensure that the station is offset from the building so that the station itself does not block the building's façade, although the guideway will.	Section 4 City Center Contract	HART with the contractors	Design and construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures.	GEC CRE GEC ECD GEC ECM GEC Architectural Historian Kako'o	Compliance noted on Final Design plans and signed off per PA process.

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4F17B	5.5 and PA	Dillingham Transportation Building: HART shall ensure that the building is not altered, and is recorded prior to construction in accordance with the PA.	Section 4 City Center Contract	HART with the contractors	Design and pre-construction	Verify compliance during construction by monitoring contractor performance to ensure that construction activities are not physically altered.	GEC CRE GEC ECD GEC ECM GEC Architectural Historian Kakoʻo	Compliance noted on Final Design plans and signed off per PA process.
4F17C	5.5, PA and ROD	Dillingham Transportation Building: HART shall ensure that entrance to the station is designed to fit carefully within the existing historic environment, minimizing the effect on the plaza outside the building.	Section 4 City Center Contract	HART with the contractors	Design and construction	Verify the process used by the designers to incorporate PA commitments into the design through review of design quality procedures.	GEC CRE GEC ECD GEC ECM GEC Architectural Historian Kakoʻo	Compliance noted on Final Design plans and signed off per PA process.
4F17D	5.5, PA and ROD	Dillingham Transportation Building: HART shall work with the Pacific Guardian Center, the manager of the building and plaza, to create a logical pathway for transit users that minimizes the effect on the plaza and arcade.	Section 4 City Center Contract	HART with the contractors	Design	Verify the process used by the designers to incorporate PA commitments into the design through review of design quality procedures. Review coordination notes from meetings with Pacific Guardian manager.	GEC CRE GEC ECD GEC ECM GEC Architectural Historian Kakoʻo	Compliance noted on Final Design plans and signed off per PA process.
4F18	5.5 and PA	HECO Downtown Plant and Leslie A. Hicks Building: HART shall ensure that the Project only requires demolition of an extension of the Plant building. HART shall ensure that prior to demolition of the extension, the buildings are recorded in accordance with the PA and the historic context study covering the history of Honolulu infrastructure is completed in accordance with the PA.	Section 4 City Center Contract	HART with the contractors	Design and construction	Verify documentation according to PA stipulations. Monitor demolition permits and coordinate according to PA stipulations.	GEC CRE GEC ECD GEC ECM GEC Architectural Historian Kakoʻo	Compliance noted on Final Design plans and signed off per PA process.
Permits								
PM01	4.21 Table 4-40 3.5.1	Table 4-40 of the Final EIS summarizes permits, certificates, and approvals anticipated to be required for implementation of the Project. Required permits, approvals, and agreements shall be obtained prior to commencing the activity that triggers the permit, approval, or agreement. HART will be responsible for obtaining all permits, approvals, and agreements. HART shall monitor the requirements of all permits obtained for the Project through the design and construction quality processes to verify that the design and construction contractors are in compliance.	Project-wide	HART with the GEC	Design and construction Refer to Table 4-40 prior to construction	Apply for permits and obtain agency approvals. Verify that permit conditions are incorporated into the Project-wide Environmental Compliance Plan. Ensure compliance with permit conditions monitored during construction. Review construction inspection reports showing construction contractor compliance with plans and specifications included in the permit conditions.	GEC ECM	Permits granted. Interim compliance is noted by GEC ECM as design plans are accepted by GEC DM and GEC CRE. Compliance with permit conditions monitored during construction. Final compliance noted by GEC ECM review and acceptance of construction closeout report.

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PM02	3.4.3	There are six locations where the Project will either cross or enter interstate freeway airspace, including freeway mainline and access ramps. HART will apply for, and obtain from FHWA, the necessary permits and approvals related to Interstate freeway airspace. HART will ensure that all conditions and mitigations specified in the FHWA permits or approvals are added to this Mitigation Monitoring Program.	Section 3 Airport Contract	HART with the GEC	Design	Apply for permit and obtain agency approvals. Verify that permit conditions are incorporated into the Environmental Compliance Plan. Ensure compliance with permit conditions monitored during construction. Document compliance with FHWA regulations and requirements related to airspace through correspondence and reporting to FHWA. Review construction inspection reports showing construction contractor compliance with plans and specifications included in the permit conditions.	GEC CRE	Permits granted. Interim compliance is noted by GEC ECM as design plans are accepted by GEC DM and GEC CRE. Compliance with permit conditions monitored during construction. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
PM03	4.14.3	HART will obtain a Section 404 (Clean Water Act) permit from the U.S. Army Corps of Engineers for each phase of the Project. FTA expects nationwide permits to apply. In any case, all conditions and mitigations in each Section 404 permit, whether nationwide or individual, shall be incorporated into this Mitigation Monitoring Program.	Project-wide	HART with the GEC	Design and construction	Apply for CWA Section 404-Department of the Army permit, various nationwide permits, and/or Section 10 of the Rivers and Harbors Act permit.	GEC ECM	Permits granted. Documentation of Nationwide Permit conditions added to this monitoring program (if needed). Permit conditions incorporated into the Environmental Compliance Plan. Compliance with permit conditions monitored during construction. Construction inspection reports showing construction contractor compliance with plans and specifications that included the permit conditions.
PM04	Ch. 4 and ROD	HART shall take whatever actions are necessary to obtain a determination by the State that the Project is consistent with the Coastal Zone Management (CZM) Plan. All mitigation actions required by the State's consistency determination shall be added to this Mitigation Monitoring Program.	Project-wide	HART	Design and construction	Apply for permit from the State Department of Land and Natural Resources.	GEC ECM	Permits granted. Documentation of CZM Permit conditions added to this monitoring program (if needed). Permit conditions incorporated into the Environmental Compliance Plan. Compliance with permit conditions monitored during construction. Construction inspection reports showing construction contractor compliance with plans and specifications that included the permit conditions.
Stormwater Management and Floodplains								
SM01	4.14	HART shall require that the stormwater management system at the maintenance and storage facility be designed so that the stormwater discharged into Pearl Harbor meets or exceeds the water quality requirements for the estuary.	MSF Design-Build Contract	HART with contractors	Design and construction	Review design plans against permit conditions and document that design for the MSF include permanent BMPs on the stormwater outfall structures associated with the Project.	GEC ECD GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications that included the mitigation measures. Final compliance noted by GEC ECM review and acceptance of construction closeout report.

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SM02	4.14	HART shall require that the stormwater management system at the maintenance and storage facility be designed with on-site catch basins and connecting underground pipes that drain into a detention basin. Stormwater from the detention basin will be piped through an underground pipe and concrete box culvert into Middle Loch of Pearl Harbor. The system will include permanent oil-water-sand separators.	MSF Design-Build Contract	HART with contractors	Design and construction	Document that on-site catch basins and connecting underground pipes that drain into a detention basin are included in construction plans and specifications and that they have been implemented according to the ROD.	GEC ECD GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications that included the ROD. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
SM03	4.14 and ROD	HART shall monitor the requirements of the Storm Water Management Plan through the design and construction quality assurance process to verify that the construction contractors are in compliance.	Project-wide	HART	Design and construction	Document that stormwater BMPs are included in construction plans and specifications and that they have been implemented.	GEC ECD GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications that included the NPDES Stormwater Discharge permit conditions. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
SM04	4.14	HART shall require that the Project be designed so that its elements and facilities do not encroach significantly on the 100-year floodplain anywhere.	Project-wide	HART with contractors	Design	Document that 100-year floodplains are not significantly encroached upon in construction plans and specifications.	GEC ECD GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
SM05	4.14	HART shall require that the Project be designed so that its elements and facilities comply with all applicable State and Local flood zone regulations.	Project-wide	HART with contractors	Design	Document that design specifications for the Project, including elements and facilities, comply with all State and Local flood zone regulations.	GEC ECD GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
SM06	4.14 and ROD	HART shall require that permanent best management practices (BMPs) for stormwater be included in the design of the maintenance and storage facility and the park-and-ride lots. HART shall specify these BMPs in detail and add them to this monitoring program.	MSF Design-Build Contract	HART with contractors	Design and construction	Document that design specifications for the maintenance and storage facility include permanent BMPs for the maintenance and storage facility and park-and-ride lots associated with the Project. Add specific BMPs to this monitoring program.	GEC ECD GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications, including specific BMPs to be added to this monitoring plan. Final compliance noted by GEC ECM review and acceptance of construction closeout report.

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SM07	4.14 and ROD	HART shall require that permanent BMPs for stormwater be included in the design of the Project's guideway wherever it crosses a water body. HART shall specify these BMPs in detail and add them to this monitoring program.	Project-wide	HART with contractors	Design and construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Document that design specifications include permanent BMPs whenever the Project crosses a water body. Add specific BMPs to this monitoring program.	GEC ECD GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications, including specific BMPs to be added to this monitoring plan. Final compliance noted by ECM review and acceptance of construction closeout report.
SM08	4.14	HART will ensure that stormwater runoff from the Project is filtered through landscaped areas and sedimentation collars wherever possible.	Project-wide	HART with contractors	Design and construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Document design specifications for stormwater runoff to be filtered through landscaped areas and sedimentation collars.	GEC ECD GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications, including specific BMPs to be added to this monitoring plan. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
SM09	4.14	HART will ensure that stormwater runoff from the Project is filtered through specially designed bioinfiltration units near water bodies. In locations where space does not allow for this approach, HART will install downspout filters on drains near impaired waters.	Project-wide	HART with contractors	Design and construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Document design specifications for stormwater runoff from the Project to be filtered through biofiltration units if space allows or use of downspout filters on drains near waterbodies.	GEC ECD GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications, including specific BMPs to be added to this monitoring plan. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
SM10	4.14 and ROD	HART will ensure that permanent BMPs are installed as part of the Project to address stormwater quality before the stormwater from the Project is discharged into streams or storm drains. These BMPs shall promote a natural, low-maintenance, sustainable approach to managing stormwater quality upon its discharge. HART shall specify these BMPs in detail and add them to this monitoring program.	Project-wide	HART with contractors	Design and construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Document design specifications to improve quality before discharge into streams or storm drains for permanent BMPs for stormwater runoff from the Project.	GEC ECD GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications, including specific BMPs to be added to this monitoring plan. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
SM11	4.14	HART will ensure that all stormwater downspouts from the guideway include erosion controls and energy dissipation devices to prevent any scour of receiving land.	Project-wide	HART with contractors	Design and construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Document design specifications for stormwater downspouts from the guideway include erosion controls and energy dissipation devices.	GEC ECD GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications, including specific BMPs to be added to this monitoring plan. Final compliance noted by GEC ECM review and acceptance of construction closeout report.

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SM12	4.14	HART shall ensure that bioretention areas, vegetated buffer strips, dry swales, water quality basins, and oil-water separators are considered for the Project's maintenance and storage facility and park-and-ride lots if needed to achieve the water quality commitment.	Project-wide	HART with contractors	Design and construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Document design specifications for achieving water quality commitments.	GEC ECD GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications, including specific BMPs to be added to this monitoring plan. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
SM13	4.14	HART will ensure that the stormwater management system directs stormwater runoff into the ground to recharge the groundwater system as needed to sustain the existing aquifer system. Oil-water separators will be installed wherever needed to protect groundwater quality.	Project-wide	HART with contractors	Design and construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Document design specifications for directing stormwater runoff into the ground to recharge the groundwater system and for oil-water separators being installed wherever needed to protect groundwater quality.	GEC ECD GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications, including specific BMPs to be added to this monitoring plan. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
SM14	4.14 and ROD	HART will ensure that construction BMPs are used and are sufficient to protect groundwater quality during construction. HART shall specify these BMPs in detail and add them to this monitoring program.	Project-wide	HART with contractors	Construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Document design specifications for construction BMPs.	GEC ECD GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications, including specific BMPs to be added to this monitoring plan. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
SM15	4.14	HART will ensure that any guideway column that must be placed in a stream channel aligns with an existing column of other structures in the channel.	Project-wide	HART with contractors	Design and construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Document design specifications for guideway columns in streams.	GEC ECD GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
SM16	4.14	HART will ensure that the mitigation of impacts on Waiawa Stream includes, but is not limited to, the restoration of portions of the stream bank and riparian zone previously covered with fill material, and natural landscaping of all riparian areas along the stream affected by the Project.	Project-wide	HART with Contractors	Design and construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Verify restoration through review of construction monitoring reports.	GEC CRE GEC ECD GEC ECM	Compliance noted on Final Design plans and signed off by GEC DM and GEC CRE as needed. Final compliance noted by GEC ECM review and acceptance of construction closeout report.

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Construction Effects								
CON01	4.18	During construction, HART shall maintain all landscaped areas within the construction limits to HDOT standards using HDOT maintenance specifications, including mowing; edging; trimming; weeding; pruning; care of shrubs and trees; fertilizing; application of pesticides and herbicides; clearing gutters, swales, and ditches; removal of invasive plants; and removal and disposal of rubbish and debris.	Project-wide	HART with contractors	Construction	The GEC ECM will review and comment on work plans as necessary prior to commencement of any major construction activity. GEC will conduct field reviews to document that HDOT maintenance specifications have been implemented for all landscaped areas within the construction limits.	HART with contractors	Construction inspection reports show construction contractor compliance with plans and specifications that include the mitigation measures. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
CON02	3.5 4.18	HART shall require that construction staging occur on properties needed for the guideway, the stations (including park-and-ride lots), and the maintenance and storage facility. FTA shall be informed if any contractor requires additional staging areas, in which case an appropriate environmental review will be performed.	Project-wide	HART with contractors	Construction	The GEC ECM will review and comment on work plans as necessary prior to commencement of any major construction activity. GEC will conduct field review to document that only approved construction staging areas are being used, as specified in the Mitigation Measures. GEC will verify that the contractor informs FTA if any additional staging areas are needed.	HART with contractors	Construction inspection reports show construction contractor compliance with plans and specifications that include the mitigation measures. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
CON03	3.5.7 8.6.10	HART shall develop a Maintenance of Traffic (MOT) Plan and a Transit Mitigation Program (TMP). The MOT will include site-specific traffic-control measures and will be developed in consultation with HDOT. Both the MOT and TMP will be shared with the public through the Project website.	Project-wide	HART with the designers and contractors	During Final Design and prior to construction	GEC ECM will review the contractors' procedures for compliance with the ECP and work plans. The GEC ECM will review and comment on work plans as necessary prior to commencement of any major design or construction activity. GEC will conduct field reviews to document that the mitigation measures prescribed in the MOT and TMP have been put in place and executed.	GEC ECM	HART/HDOT approve the MOT and TMP, which are shared with the public. MOT and TMP become part of construction contract documents. Construction inspection reports show construction contractor compliance with construction contract documents that included the mitigation measures. GEC ECM will note compliance by reviewing documenting compliance checked by HART and HDOT.
CON04	3.5.7	HART shall formulate Work Zone Traffic Control Plans, including detour plans, during Final Design in cooperation with HDOT and other affected jurisdictions.	Project-wide	HART with the designers and contractors	Prior to construction	Field review to document that the mitigation measures prescribed in the traffic control plan have been put in place and executed.	GEC ECM	HART/HDOT approve the plan and affected jurisdictions are notified. Construction inspection reports show construction contractor compliance with plans and specifications that included the mitigation measures. Final compliance noted by GEC ECM review and acceptance of construction closeout report.

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CON05	4.18	HART will employ a dedicated environmental compliance manager to oversee construction contractor compliance with all stormwater Best Management Practices (BMPs), construction noise mitigation measures, utility coordination, business access requirements, and any mitigation plans prepared for the Project, including those presented in permit conditions and the MOT Plan. HART shall monitor the requirements of the Storm Water Management Plan through the design and construction quality process to verify that the construction contractors are in compliance.	Project-wide	HART with the GEC	Design and construction	Field review to document that the mitigation measures prescribed in the Final EIS and permit conditions have been put in place and executed.	GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications that included the mitigation measures. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
CON06	4.18.2 8.6.10	HART shall maintain access to businesses in the Project area throughout construction, although there may be temporary changes to access and traffic movement during construction.	Project-wide	HART with the construction contractors	Construction	Field review to document that access to businesses has been maintained or accommodations for temporary changes to access and traffic movement have been implemented. Draft Construction Transportation Management Plan, Page 3: “Local access to driveways will be maintained. For curb-lane closures, local access will be provided to adjacent businesses.”	GEC ECM	Businesses are notified in advance of possible changes in access, and disruptions are minimized. Construction inspection reports show construction contractor compliance with plans and specifications that included the mitigation measures. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
CON07	4.18.2	Utility service to abutting properties may be temporarily interrupted for short periods during construction. HART shall contact property owners and tenants prior to any interruption of utility services. HART shall ensure that replacements for existing utilities provide utility companies the capacity equal to that offered before the replacement. HART shall coordinate with emergency services and utility companies to ensure that utility relocations meet their needs and that sufficient clearance is provided between project elements and utilities.	Project-wide	HART with the construction contractors	Construction	The GEC ECM will document that property owners were notified prior to utility relocation in locations where there may be an interruption of utility service. The GEC ECM will document coordination with emergency service providers and utility companies during utility relocation design and construction. The GEC ECM will review meeting notes and meet with the GEC CRE monthly to document coordination efforts. The GEC CRE will verify that the utility capacity will not be reduced by reviewing design plans for utility replacement	GEC CRE GEC ECM	Property owners, administrators of affected schools, parklands, or recreational resources are notified in advance of possible disruptions. Construction inspection reports show construction contractor compliance with plans and specifications that included the mitigation measures. Final compliance noted by GEC ECM review and acceptance of construction closeout report.

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CON08	4.18.3	HART will require all contractors to incorporate construction management practices to minimize visual impacts during construction, including the following: • Remove visibly obtrusive erosion-control devices, such as silt fences, plastic ground cover, and straw bales, as soon as an area is stabilized • Locate stockpile areas in less visibly sensitive areas whenever possible so they are not visible from the road or to residents and businesses • Shield temporary lighting and direct it downward to the extent possible • Limit the times construction lighting can be used in residential areas • Replace removed street trees and other vegetation with appropriately sized vegetation as soon as practical after construction is completed in the same location or another location in accordance with City and State requirements	Project-wide	HART with the contractors	Construction contracting and construction	Conduct field reviews to document that the construction management practices listed in the Mitigation Measure have been implemented. Review the contractor's Environmental Compliance Plan to verify that it includes construction management practices to minimize visual impact during construction.	GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications that included the mitigation measures. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
CON09	4.18.4	HART will require contractors to takes appropriate actions to comply with fugitive dust requirements. Contractors must make use of the following control measures whenever needed to reduce fugitive dust: • Minimize land disturbance • Use watering trucks to moisten disturbed soil • Use low emission equipment when feasible • Cover loads when hauling dirt • Cover soil stockpiles if exposed for long periods • Use windbreaks to prevent accidental dust pollution • Limit the number of vehicular paths and stabilize temporary roads • Maintain stabilized construction area ingress/egress areas • Wash or clean trucks prior to leaving construction sites • Minimize unnecessary vehicular activities	Project-wide	HART with the contractors	Construction contracting and construction	Field review to document that the measures (listed in the Mitigation Measure) to reduce fugitive dust have been implemented.	GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications that included the mitigation measures. Final compliance noted by GEC ECM review and acceptance of construction closeout report.

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CON10	4.18.10	Temporary structures may be placed in, or on the banks of, Kaloʻi Gulch, Waiawa Stream, Waiawa Springs, Moanalua Stream, Kapālama Canal Stream, and Nuʻuanu Stream during construction. HART will require that appropriate permits for these structures are obtained from Federal and State agencies by the contractors. HART shall add to this mitigation monitoring program all conditions and mitigations specified in these permits, including but not limited to, the removal of temporary structures, the restoration of riparian areas affected by the structures, and BMPs developed to mitigate impacts caused by the placement of fill.	Section 1 WOFH and Section 3 Airport, and Section 4 City Center Contracts	HART with the GEC	Construction	Document that BMPs to mitigate potential impacts to streams are included in construction plans and specifications and that they have been implemented.	GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications that included the permit conditions for working within regulated waters. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
CON11	4.18	HART shall use BMPs to mitigate potential impacts to streams during construction, such as the following: • Isolating the construction area from the water with cofferdams, sandbags, or other temporary water-diversion structures • Prohibiting the fueling of equipment in the stream channel • Preventing wet or green concrete from contact with flowing water • Maintaining fish passage and avoiding work in streams during fish spawning seasons • Minimizing the removal of riparian vegetation • Implementing the other BMPs listed on page 4-210 of the Final EIS.	Project-wide	HART with contractors	Construction contracting and construction	Document that BMPs to mitigate potential impacts to streams are included in construction plans and specifications and that they have been implemented.	GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications that included the permit conditions for working within regulated waters. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
CON12	4.18.10	HART shall prohibit the contractors from entering any wetlands during construction. HART will ensure that wetlands are designated as no-work areas on the Final Design plan sheets and that the contractor installs fencing around wetland areas to designate the no-work area. HART shall have the fencing inspected regularly to ensure that it is maintained.	Project-wide	HART with contractors	Construction contracting and construction	Field review to document that orange fencing around wetlands has been installed. Inspect routinely to ensure that it is maintained.	GEC ECM	Confirm that wetlands are designated as a no-work area on the Final Design plan sheets. Construction inspection reports show construction contractor compliance with plans and specifications that included the mitigation measures. Final compliance noted by GEC ECM review and acceptance of construction closeout report.

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CON13	4.18.10	Excessive or differential settlement due to drilled shaft dewatering and the resultant depression of the groundwater surface can cause cracking and other damage to structures. HART shall require contractors to monitor groundwater levels and settlements wherever dewatering is performed.	Project-wide	HART with contractors	Construction contracting and construction	Monitor all drilled shafts by inspecting for drawdown and observe for settlement activities. Notify GEC ECM of any drawdown greater than 5 feet, excessive ground settlements, or cracking and other damage to structures that may be related to dewatering.	GEC ECM	HART and HDOT review and comment on the plans and specifications related to geotechnical stability. Construction inspection reports show construction contractor compliance with plans and specifications that included the mitigation measures for geotechnical stability. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
CON14	4.18.10	HART shall not allow uncontrolled releases of drilling fluids and shall require contractors to collect and treat displaced fluids in accordance with permit requirements.	Project-wide	HART with contractors	Construction contracting and construction	Inspect drilling locations and observe handling of drilling fluids; maintain record of all fluid disposals.	GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications that included the mitigation measures for handling and disposing of drilling fluids. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
CON15	4.18.10	HART shall require construction contractors to use stormwater BMPs that include, but are not limited to, the following: • Minimize land disturbance • Stabilize or cover the surface of soil piles • Revegetate all cleaned and grubbed areas to the extent possible • Maintain stabilized construction area ingress/egress areas • Wash or clean trucks prior to leaving the construction site • Install silt fences and storm drain inlet filters • Prevent off-site stormwater from entering the construction site • Implement other stormwater management techniques	Project-wide	HART with contractors	Construction contracting and construction	Document that BMPs are included in construction plans and specifications and that they have been implemented.	GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications that included the NPDES Stormwater Discharge permit conditions. Final compliance noted by GEC ECM review and acceptance of construction closeout report.

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CON16	3.4.7 3.5.7	HART shall temporarily relocate passenger loading zones on Halekauwila Street near South Street and on Halekauwila Street near Kamani Street and a freight loading zone on Ka'aahi Street to nearby locations for the duration of construction.	Section 4 City Center Contract	HART with contractors	Design	Inspect passenger loading zones after they have been relocated and before construction begins.	GEC ECD GEC ECM	Documentation that temporary changes to loading zones have been included in the plans and specifications. Construction inspection reports show construction contractor compliance with plans and specifications that included the mitigation measure. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
CON17	4.18	HART will keep the public aware of upcoming work locations, will post information on the Project website about parking disruptions and alternatives, and will post street signs directing people to nearby locations with available parking. HART will coordinate with property owners regarding the timing of construction and other issues to minimize disruption to off-street parking.	Project-wide	HART with contractors	Pre-construction and construction	Document that the Public Awareness and Community Relations Program applications have been implemented, including maintaining and updating the Project website.	GEC ECM GEC Public Involvement Manager	Final compliance noted by GEC ECM review and acceptance of Public Awareness and Community Relations Program closeout report.
CON18	4.18	HART shall ensure the following: • Access to existing bicycle and pedestrian facilities will be maintained during all phases of construction as safety allows • Warning or notification signs will be provided • Pedestrian detours will be reviewed to ensure they are reasonable for all pedestrians and meet ADA regulations • Proper deterrents, such as barriers or fencing, will be placed to prevent access through the construction area • Pedestrian flow will be channelized in areas where sidewalks are near construction • Alternative pedestrian routes will be provided to avoid hazardous areas.	Project-wide	HART with contractors	Construction	Field review to document that the mitigation measure has been implemented.	GEC ECM	HART and HDOT review and comment on the pedestrian circulation and control plan, and affected jurisdictions are notified. Construction inspection reports show construction contractor compliance with plans and specifications that included the mitigation measures of the pedestrian circulation and control plan. Final compliance noted by GEC ECM review and acceptance of construction closeout report.

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CON19	3.5.7	During construction, HART will provide local travelers with information about traffic disruptions and bus route changes through the Project website, a telephone hotline, and media outlets.	Project-wide	HART with the GEC	Design prior to construction and implement ITS during construction	Document that the ITS applications have been implemented.	GEC ECM	HART and HDOT review and comment on the traffic control plan, and affected jurisdictions are notified. Construction inspection reports show construction contractor compliance with plans and specifications that included the mitigation measures of the traffic control plan. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
CON20	4.18.5	For buildings closer than 75 feet to construction activities that generate ground vibrations, HART will require contractors to perform a video survey of the immediate area prior to the start of any construction activity where vibration levels may be high enough to affect surrounding structures.	Project-wide	HART with contractors	Construction contracting and construction	Review of contractor mitigation plan; on-site monitoring during pile driving activities.	GEC ECM	Construction inspection reports show construction contractor compliance with noise and vibration monitoring plans and specifications that included the mitigation measures. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
CON21	4.18.5	Prior to construction, HART shall obtain a Community Noise Variance from the Hawai'i Department of Health (HDOH) for the Project. HART will obtain noise permits prior to the construction of each phase of the Project. The permits will regulate construction times and activities and include mitigation commitments.	Project-wide	HART with the GEC	Prior to construction	Review and approval of the noise variance by HDOH.	GEC ECM	Construction times and activities are regulated and construction noise managed in conformance with the noise variance. Construction inspection reports show construction contractor compliance with requirements of Community Noise Variance and noise permits. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
CON22	4.18.8	Prior to clearing and grubbing in the HCP and near the ko'oloa'ula contingency reserve, HART will have the area surveyed by a qualified horticulturist approved by the Department of Land and Natural Resources (DLNR). If any ko'oloa'ula are found, HART will follow the procedures outlined in the MOA and have the horticulturist remove the plants and transplant them to the contingency reserve or other DLNR-approved location.	Section 1 WOFH Contract	HART with the GEC	Prior to clearing and grubbing or construction activities	Field review and verify that conditions of the HCP have been met.	GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications that included the mitigation measures related to ko'oloa'ula. Final compliance noted by GEC ECM review and acceptance of construction closeout report.

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CON23	4.18.8 7.3.1	HART will survey all large canopy trees to be pruned prior to construction to ensure that no trees have white tern chicks. If any chicks are found, HART will delay the pruning until the chicks fledge.	Section 4 City Center Contract	HART with the GEC	Prior to construction	Survey all large canopy trees for the presence of white tern chicks and street trees that will not be affected by system operation.	GEC ECM	Construction inspection reports show construction contractor compliance with plans and specifications that included the mitigation measures related to large canopy trees. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
CON24	NEW FAA ROD published in Federal Register May 26, 2011	HART shall temporarily relocate and provide signage to economy parking lot and lei stands at airport in coordination with HDOT-A with FAA approval to nearby locations for the duration of construction.	Section 3 Airport Contract	HART with contractors	Design	ECD review of design plans and temporary relocation plans. Inspect parking lot and lei stands after they have been relocated and or relocated business signage installation before construction begins.	GEC ECD GEC CRE GEC ECM	Construction inspection reports show construction contractor compliance with temporary relocation agreement with HDOT-A. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
Health and Safety								
HS01	4.18.7	HART will require contractors to develop a Construction Health and Safety Management Plan that meets the requirements of 29 CFR 1910 and 1926 and all other applicable Federal, State, and Local regulations and requirements related to construction health and safety. The plan will also include provisions for identifying asbestos and lead-based paint that will be disturbed by the Project.	Project-wide	HART with the construction contractors	Prior to construction and during construction	Verify compliance by having construction contractors submit Construction Health and Safety Management Plan and review it against the requirements of 29 CFR 1910 and 1926 and technical specifications.	GEC CRE GEC ECM GEC Health and Safety Manager	This MMID has been reassigned to the HART Safety and Security Team. General Monthly Progress Reports include reporting on Safety and Security and are stored in CMS and on the project website at: www.honolulutransit.org. No further tracking will be provided on this form.
Safety and Security								
SS01	2.5.4 4.6.3 4.18.7	HART will develop a project-specific Safety and Security Management Plan and submit it to FTA for approval. The plan will define the activities and methods for identifying, evaluating, and resolving potential safety hazards and security vulnerabilities and will establish responsibilities and accountabilities for safety and security during the Final Design, construction, and start-up phases of the Project.	Project-wide	HART with the GEC and other contractors	Final Design	Compliance checked by separate review and documentation in SSCP per Safety and Security Special Provisions. HART has established the Safety and Security Oversight and Review Committee and the Safety and Security Certification Review Committee as forums for facilitating SSCP activities. The HART Safety and Security Managers (SSM) will assist the GEC ECM in complying with mitigation measures stipulated in the Final EIS and ROD that are associated with safety and security.	GEC Safety and Security Manager (SSM) HART SSM	This MMID has been reassigned to the HART Safety and Security Team. General Monthly Progress Reports include reporting on Safety and Security and are stored in CMS and on the project website at: www.honolulutransit.org. No further tracking will be provided on this form.
SS02	2.5.4 4.6.3 4.18.7	HART shall require all contractors to participate in the Project Safety and Security Certification Program for the duration of the Project contract. This program will require, at a minimum, that the contractor develop and follow a Safety and Security Certification Plan in conformance with the Project Safety and Security Management Plan and the FTA Handbook for Transit Safety and Security Certification.	Project-wide	HART with contractors	Prior to construction and during construction	Compliance checked by separate review and documentation in SSCP per Safety and Security Special Provisions. HART has established the Safety and Security Oversight and Review Committee and the Safety and Security Certification Review Committee as forums for facilitating SSCP activities. The HART Safety and Security Managers (SSM) will assist the GEC ECM in complying with mitigation measures stipulated in the Final EIS and ROD that are associated with safety and security.	GEC SSM HART SSM	This MMID has been reassigned to the HART Safety and Security Team. General Monthly Progress Reports include reporting on Safety and Security and are stored in CSM and on the project website at: www.honolulutransit.org. No further tracking will be provided on this form.

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SS03	2.5.4	HART shall implement the measures presented in the *Threat and Vulnerability Assessment* review by the General Services Administration (GSA) for the Federal building.	Specific locations along the entire transit corridor, such as near the Federal Courthouse on Halekauwila Street	HART with the designers and contractors	Design and construction	Compliance checked by separate, review and documentation in Safety and Security Certification Program per Safety and Security Special Provisions.	GEC CRE GEC ECM	Design and construction completed in sensitive locations. Design compliance noted on Final Design plans and signed off by GEC ECD, DM and CRE as needed. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
SS04	ROD	HART shall implement the design changes made for clearance distance from the Federal building, as reviewed by GSA.	The Federal Courthouse on Halekauwila Street	HART with the designers and contractors	Design and construction	Compliance checked by separate, review and documentation in Safety and Security Certification Program per Safety and Security Special Provisions.	GEC CRE GEC ECM	Design and construction completed in sensitive locations. Design compliance noted on Final Design plans and signed off by GEC ECD, DM and GEC CRE as needed. Final compliance noted by GEC ECM review and acceptance of construction closeout report.
SS05	4.5.3	HART shall implement the following safety and security measures: • Require Project designs and architectural details that enhance safety • Incorporate close circuit television cameras and lighting into station designs • Prior to opening for revenue operation, develop and conduct public educational programs to enhance public awareness of safety and security issues associated with the Project	Project -wide	HART with the designers and contractors	Design and construction	Compliance checked by separate review and documentation in SSCP per Safety and Security Special Provisions. The GEC ECM will audit the processes of the SSMP to demonstrate compliance of safety and security. HART has established the Safety and Security Oversight and Review Committee and the Safety and Security Certification Review Committee as forums for facilitating SSCP activities. The HART Safety and Security Managers (SSM) will assist the GEC ECM in complying with mitigation measures stipulated in the Final EIS and ROD that are associated with safety and security.	GEC SSM HART SSM GEC ECM	The SSMP will include a process for the Safety and Security Certification Program to audit the effectiveness of the operating and emergency procedures. GEC ECM will note compliance by reviewing documenting compliance checked by the GEC and HART SSM.
SS06	NEW FAA ROD Published in Federal Register May 26, 2011 Page 7	HART shall coordinate with HDOT-A and FAA to follow the amendment to the airport certification manual pursuant to 14 CFR Part 139 to maintain aviation and airfield safety during construction, and, as required, to the airport security plan pursuant to 14 CFR Part 107.	Section 3 Airport Contract	HART with the GEC	Design and construction	Compliance checked by separate review and documentation in SSCP per Safety and Security Special Provisions that will follow the amendment to the airport certification manual pursuant to 14 CFR Part 139 to maintain aviation and airfield safety during construction, and, as required, to the airport security plan pursuant to 14 CFR Part 107 as coordinated with HDOT-A and FAA. The GEC ECM will audit the processes of the SSMP in Section 3 Airport to demonstrate compliance of safety and security.	GEC SSM HART SSM GEC ECM	The SSCP will include a process for the Safety and Security Certification Program to audit the effectiveness of the operating and emergency procedures. GEC ECM will note compliance by reviewing and documenting compliance checked by the GEC and HART SSM.

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Parking								
P01	3.4.7	HART will conduct parking surveys prior to starting construction of each station to determine the need for control of overflow parking. Control strategies include, but are not limited to, the following: • Parking restrictions (where parked cars cause safety or congestion problems) • Parking regulation (e.g., meters, time limits, or other methods to encourage turnover) • Permit parking (e.g., resident or employee parking) • Shared parking arrangements (at locations where parking is available but dedicated to another purpose, such as retail centers, office uses, or places of worship)	Project-wide in neighborhoods around station locations	HART with the GEC	Prior to the start of station construction	Compliance checked by separate review of survey methodology and survey results. Documentation of this review will be kept in project files. Conduct a follow up survey to determine if the selected mitigation was appropriate.	GEC ECM	GEC/HART will prepare parking survey plan. Final compliance noted by GEC ECM review and acceptance of parking survey report. HART will share the results of the parking survey with DPP as needed.
P02	3.4.4 3.4.7 7.3.1 8.6.11	Off-street privately owned parking spaces needed to construct the guideway or stations will be acquired by HART in accordance with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act, as amended.	Project-wide	HART and the ROW Team	Prior to the start of construction	Check reports and communicate with HART ROW Team as needed prior to monthly updates and quarterly reports. Review documentation of the following with ROW Team: (1) That all acquisitions are performed in accordance with the requirements of the U.S. Uniform Relocation Assistance and Real Property Acquisition Policies Act, as amended. (2) That all land owners were paid fair-market value for the land, including the value of the parking spaces (3) That land owners were able to replace parking spaces as appropriate.	HART	HART will review documentation, including use agreement/ acquisition or replacement procedures, following all applicable guidelines and regulations. Right-of way coordinators will provide compliance documentation per the RAMP, which will be monitored separately from this MMP.
P03	3.4.7	HART shall provide for passenger loading zones through measures such as the following: • The passenger loading zone used for a day-care facility on Halekauwila Street between ʻĀhui and Kamani Streets will be relocated nearby on Ilaniwai Street from Cooke Street to Kamani Street. As a result, some of the existing on-street parking on Ilaniwai Street will be converted to passenger loading zones during the A.M. and P.M. peak periods. • A new passenger loading zone on Halekauwila Street between Punchbowl and South Streets will be installed in the same general location after construction is completed.	Section 4 City Center Contract	HART with the contractors	Prior to the start of construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Verify mitigation during construction through review of construction monitoring reports.	GEC CRE GEC ECD GEC ECM	Review design plans for compliance, as noted on Final Design plans, and signed off by GEC ECD, DM and GEC CRE as needed. Compliance verification given by GEC ECM after GEC ECD coordinates with the GEC CRE to document acceptance of Final Design and construction closeout.

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P04	3.4.7	HART will relocate the freight loading zone on Ka'aahi Street nearby.	Section 4 City Center Contract	HART with the contractors	Prior to the start of construction	Verify compliance that permanent relocation of loading zone to a new location is included in design. Verify restoration through review of construction monitoring reports.	GEC CRE GEC ECD GEC ECM	Review design plans for compliance, as noted on Final Design plans, and signed off by GEC ECD, DM and GEC CRE as needed. Compliance verification given by GEC ECM after review and acceptance of construction closeout report.
P05	3.4.7	HART will replace the lost parking at Leeward Community College at an alternate location on campus. HART will coordinate with Leeward Community College during Final Design to relocate the parking.	Section 1 WOFH Contract	HART with the contractors	Design and construction	Verify the process used by the designers to incorporate mitigation commitments into the design through review of design quality procedures. Verify relocation through review of construction monitoring reports.	GEC CRE GEC ECD GEC ECM	Review design plans for compliance, as noted on Final Design plans, and signed off by GEC ECD, DM and GEC CRE as needed. Compliance verification given by GEC ECM after review and acceptance of construction closeout report.
Historic Preservation								
HP01	HP01 Sec. 106 PA XIV.A	HART shall develop a schedule for implementation of PA stipulations and send to consulting parties and post on Project website.	Project-wide	HART GEC Architectural Historian	60 days after execution of PA	Document schedule submittal to signatories. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kako'o, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC Environmental Planning Director (EPD)	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kako'o. Document that schedule is prepared and submitted on or within PA timeframe.
HP02	HP02 Sec. 106 PA Stipulation XIV.E	HART shall hold quarterly meetings with consulting parties and report on implementation of the PA. After the first 24 months, HART shall hold annual meetings with the consulting parties to report on implementation of the PA.	Project-wide	HART GEC Architectural Historian	Effective immediately upon execution of PA Quarterly and annual meetings	HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kako'o, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring Document schedule of quarterly meetings with review of meeting notes.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kako'o. Document that activities and/or documents submitted are on or within PA timeframe.
HP03	HP03 Sec. 106 PA Stipulation 1.H	HART shall hire an independent project manager (the *Kako'o*) to assist with the coordination of all reviews and deliverables required under the terms of the PA. HART shall follow hiring process specified in the PA for this hiring.	Project-wide	HART	Within 6 months of executing the PA	Verify and document hiring, procurement, and written notification to signatory and consulting parties. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kako'o, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kako'o. Document that activities and/or documents submitted are on or within PA timeframe.

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HP04	HP04 Sec. 106 PA Stipulation II	HART shall undertake additional studies on Traditional Cultural Properties (TCP) using a contractor experienced in ethnographic studies and following the process set forth in the PA, including consultation with consulting parties and Native Hawaiian Organizations.	Project-wide	HART GEC Architectural Historian	Within the first six(6) months of executing the PA; pre-construction	Verify and document TCP study progress. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD GEC TCP specialist	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document completion of TCP Study and evaluation for NRHP eligibility in accordance with Act 50, Session Laws of Hawaiʻi 2000 and guidance in National Register Bulletin 38.
HP05	HP05 Sec. 106 PA Stipulation II	If the TCP study finds any unexpected TCP in an area potentially adversely affected by the Project, FTA and HART will complete determination of eligibility for listing on the NRHP and effect in accordance with the Section 106 and the PA.	Project-wide	HART GEC Architectural Historian	Complete prior to construction for each phase	Verify and document SHPD concurrence on eligibility and effects determinations. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD GEC TCP specialist	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP06	HP06 Sec. 106 PA Stipulation II	If the TCP study finds any unexpected TCP in an area potentially adversely affected by the Project, HART will, in accordance with the PA, prepare documentation of that TCP needed to nominate it to the National Register, and submit that documentation to the SHPD. HART will complete all fieldwork, eligibility and effects determination and consultation to develop treatment measures related to TCPs prior to the start of construction.	Project-wide	HART GEC Architectural Historian, GEC Archaeologist, and other cultural resource professionals	Complete prior to construction for each phase	Verify and document SHPD concurrence on eligibility and effects determinations. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP07	HP07 Sec. 106 PA Stipulation III	Following the procedures set forth in the PA, HART shall develop and carry out an Archaeological Inventory Survey (AIS) Plan for each construction phase of the Project. The AIS will be completed in advance of Final Design for each construction phase. For Construction Phase 4, HART will initiate consultation for the AIS Plan within 60 days of execution of the PA and include a broader list of consulting parties, including the OIBC, in the AIS Plan development. The AIS Plan for construction Phase 4 shall be submitted to the SHPD within four months of execution of the PA. The AIS shall be completed prior to Final Design for construction of Phase 4. HART shall inform OIBC of the status of AIS and continue to meet regularly with the OIBC.	Project-wide	HART GEC Architectural Historian GEC Archaeologist	Complete prior to Final Design for each construction phase	Verify and document AIS plans are complete prior to Final Design for each construction phase. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe. Implementation of PA documented.

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HP08	HP08 Sec. 106 PA Stipulation III Edit from FAA ROD published in Federal Register May 26, 2011	If any of the AISs find Native Hawaiian burials or archaeological resources, HART shall follow the terms in the PA. Any finds on Airport property will be reported to HDOT-A and FAA to initiate data protection and NAGPRA required coordination.	Project-wide	HART GEC Architectural Historian GEC TCP specialist	Complete prior to Final Design for each construction phase	Verify and document proceeding in accordance with the protocol once it is approved by FTA. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP09	HP09 Sec. 106 PA Stipulation III.B.4	Following the procedures set forth in the PA, HART, in coordination with the OIBC, lineal and cultural descendents, Native Hawaiian Organizations, and other interested parties that are identified in discussion with OIBC, shall develop a protocol for consultation regarding the treatment of any *ʻiwi kupuna* identified during the AIS.	Project-wide	HART GEC Architectural Historian GEC Archaeologist	Draft protocol will be provided to OIBC for review within 6 months of the execution of the PA Protocol shall be completed prior to initiation of AIS for Phase 4	Verify and document proceeding in accordance with the protocol once it is approved by FTA. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD GEC TCP specialist	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP10	HP10 Sec. 106 PA Stipulation III.D	Following the procedures in the PA, HART shall develop and implement a specific treatment plan to avoid, minimize, or mitigate adverse effects on historic properties for each construction phase based on the results of AIS fieldwork and consultation with the SHPD.	Project-wide	HART GEC Architectural Historian GEC Archaeologist	Complete prior to Final Design for each construction phase	Verify and document treatment plans completed, approved by SHPD, and implemented, as required, for each construction phase. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD GEC TCP specialist	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP11	HP11 Sec. 106 PA Stipulation III.E	Following the procedures in the PA, subsequent to the archaeological fieldwork and development of the treatment plan, HART, in consultation with the SHPD, shall develop mitigation plans as appropriate. These plans may include an archaeological monitoring plan and monitoring reports, or a data recovery program.	Project-wide	HART GEC Architectural Historian GEC Archaeologist	Deadlines vary See PA for time frame commitments.	Verify and document mitigation plans completed and implemented prior to each construction phase. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD GEC TCP specialist	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP12	HP12 Sec. 106 PA Stipulation III.F	Following the procedures in the PA, HART will curate any recovered materials in accordance with applicable laws, such as HAR Chapter 13-278 and 36 C.F.R. 79.	Project-wide	HART GEC Architectural Historian GEC Archaeologist	Complete curation upon completion of archaeological fieldwork	Verify and document recovered materials are managed in accordance with federal and state regulations. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD GEC TCP specialist	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe. Recovered materials are managed in accordance with Federal and State regulations. Recovered archaeological materials may be incorporated into stations.

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HP13	HP13 Sec. 106 PA Stipulation IV	Following the procedures in the PA, HART shall develop standards for and maintain and update the Project's *Design Language Pattern Book* for use in all Project elements. This pattern book shall be available electronically and shall comply with the *Secretary of Interior's Standards for the Treatment of Historic Properties* for stations within the boundary or adjacent to an eligible or listed historic property.	Project-wide	HART GEC Architectural Historian GEC Archaeologist	Prior to Final Design	Verify and document that comments from the community and consulting parties are considered in Final Design. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP14	HP14 Sec. 106 PA Stipulation IV	For each phase of the Project, HART shall conduct a minimum of two neighborhood workshops on the design of the stations in that phase.	Project-wide	HART GEC Architectural Historian GEC Archaeologist	Prior to Final Design	Verify and document station design workshops, including notification and meeting notes. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP15	HP15 Sec. 106 PA Stipulation IV	Following the procedures set forth in the PA, HART shall provide the consulting parties with the Preliminary Engineering design plans for built components of the Project, provide an opportunity to comment on the design plans, and consider comments on those plans. For stations within boundaries or directly adjacent to listed or eligible historic properties, HART shall also provide design plans during the Final Design phase to consulting parties and provide the opportunity for them to comments on design plans. HART shall consider comments on those plans.	Project-wide	HART	Distribute preliminary engineering plans prior to Final Design For stations within or adjacent to historic properties, distribute prior to Final Design	Verify and document preliminary plans are distributed prior to Final Design. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD GEC TCP specialist	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP16	HP16 Sec. 106 PA Stipulation V.A	Following the procedures set forth in the PA, HART shall conduct historic context studies, in consultation with the consulting parties and the SHPD, related to historic themes in the Project area and distribute the resulting historic context reports as specified in the PA. HART shall distribute the historic context studies per the terms in the PA.	Project-wide	HART	Within 90 days of the execution of the PA, HART shall complete a draft study Initial field work and photography shall be completed prior to construction commencement in that area	Verify and document context studies development and coordination. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.

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HP17	HP17 Sec. 106 PA Stipulation V.B	Following the procedures set forth in the PA, HART shall conduct cultural landscape studies related to historic landscapes in the Project area, in consultation with the consulting parties and the SHPD, and distribute the resulting cultural landscape historic reports as specified in the PA.	Project-wide	HART GEC Architectural Historian	Within 90 days of the execution of the PA, HART shall complete a draft study Initial field work and photography shall be completed prior to construction commencement in that area	Verify and document cultural landscape studies development and coordination meet PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP18	HP18 Sec. 106 PA Stipulation V.C	Following the procedures set forth in the PA, HART shall document certain historic properties specified by the National Park Service and located in the Project area for incorporation into the Historic American Building Survey, the Historic American Engineering Record, or the Historic American Landscape Survey, whichever is appropriate.	Section 3 Airport Contract	HART	HART shall ensure that final HHH documentation is completed for a property and accepted by NPS prior to commencement of activities that could impact the historic property and/or its integrity	Verify and document HABS development and coordination meet PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP19	HP19 Sec. 106 PA Stipulation V.D	Following the procedures set forth in the PA, HART shall complete archival photography to NRHP standards for all resources that received adverse effect determinations that are not subject to HHH documentation under Stipulation V.C. The SHPD will review this documentation upon completion.	Project-wide	HART	Complete prior to Final Design for each construction phase	Verify and document archival photography plan development and coordination meets PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP20	HP20 Sec. 106 PA Stipulation V.E	Following the procedures set forth in the PA, HART shall have digital photographs taken by a professional photographer, in conjunction with the input of a supervising architectural historian, to document select resources and viewsheds within the APE. Approximately 150 views will be submitted These photographs will be submitted to the SHPD. HART will use these materials for items such as interpretive materials and publications.	Project-wide	HART GEC Architectural Historian	Complete prior to Final Design for each construction phase	Verify and document archival photography plan development and coordination meets PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP21	HP21 Sec. 106 PA Stipulation V.F	Following the procedures set forth in the PA, HART shall produce a comprehensive video of the Project corridor prior to construction commencement.	Project-wide	HART Professional Videographer	Prior to construction	Verify and document comprehensive video plan development and coordination meets PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.

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HP22	HP22 Sec. 106 PA Stipulation VI.A	Following the procedures set forth in the PA, HART shall complete a NRHP Multiple Property Documentation (MPD) for Modern/Recent Past historic properties dating from 1939-1979, and HART shall complete a single Multiple Property Submission (MPS), including all appropriate accompanying documentation. HART shall consult with consulting parties, the SHPD, and NPS in developing this documentation.	Project-wide	HART GEC Architectural Historian	Submit final NRHP forms prior to beginning revenue service operations for the Project	Verify and document MDP development and coordination meets PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP23	HP23 Sec. 106 PA Stipulation VI.B	Following the procedures set forth in the PA, HART shall update the nominations of Pearl Harbor and CINCPAQ to be designated as National Historic Landmarks.	Section 3 Airport Contract	HART GEC Architectural Historian	Submit final NRHP forms prior to beginning revenue service operations for the Project	Verify and document comprehensive video plan development and coordination meets PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe. Document completed NHL nominations update.
HP24	HP24 Sec. 106 PA Stipulation VI.C	Following the procedures set forth in the PA, HART shall produce or update the nominations to the National Register for the 31 historic properties adversely affected. In addition, HART shall prepare nomination documentation for the Little Makalapa Housing District.	Section 3 Airport Contract	HART GEC Historical Architect .	HART shall complete nomination forms for Little Makalapa and Big Makalapa Housing Districts prior to the second Pearl Harbor design workshop The nomination forms for the remainder of the properties shall be submitted to the NPS prior to revenue service operation for the Project	Verify and document NRHP nomination forms for 31 of 33 affected properties and potential Little Makalapa Navy Housing District meet PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe. Document completed NRHP nomination forms.
HP25	HP25 Sec. 106 PA Stipulation VI.F	Following the procedures set forth in the PA, HART shall produce a searchable database of historic properties, in consultation with the SHPD, and provide it to an interested historic preservation or educational organization.	Project-wide	HART GEC Architectural Historian GEC Historical Architect	HART shall initiate database development prior to construction commencement and will update and maintain the database during the duration of the PA.	Verify and document development and maintenance of searchable database for the duration of the PA. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.

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HP26	HP26 Sec. 106 PA Stipulation VII.A	Following the procedures set forth in the PA, HART shall complete an interpretive plan for the Project area and install signage and distribute the educational materials and programs. HART shall submit drafts to consulting parties for review and comment per Stipulation VII.H.	Project-wide	HART GEC Historical Architect	HART shall complete prior to beginning revenue service operation of the Project	Verify and document preparation of educational and interpretive programs, materials, and signage meet PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe. Final educational and interpretive programs, materials, and signage meet PA stipulation.
HP27	HP27 Sec. 106 PA Stipulation VII.B	Following the procedures set forth in the PA, HART shall complete a color brochure describing the history of the area along the transit line, make 1,000 copies, and make available electronically. HART shall submit drafts to consulting parties for review and comment per Stipulation VII.H.	Project-wide	HART	HART shall complete prior to beginning revenue service operation of the Project	Verify and document dissemination of brochures meet PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP28	HP28 Sec. 106 PA Stipulation VII.C	Following the procedures set forth in the PA, HART shall prepare materials for children that would educate them about relevant local history. HART shall submit drafts to consulting parties for review and comment per Stipulation VII.H.	Project-wide	HART GEC Architectural Historian Professional Illustrator	HART shall complete prior to beginning revenue service operation of the Project	Verify and document dissemination of educational materials meet PA stipulation, including education materials included on Project website. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP29	HP29 Sec. 106 PA Stipulation VII.D	Following the procedures set forth in the PA, HART shall establish a Humanities Program that will explore human histories, cultures, and values. HART shall develop this program's goals in consultation with consulting parties. HART will provide $100,000 to fund this program.	Project-wide	HART Architectural Historian	HART shall complete prior to beginning revenue service operation of the Project or when all designated funds are exhausted, whichever occurs later	Verify and document establishment of a Humanities Program with funding and subcommittees per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP30	HP30 Sec. 106 PA Stipulation VII.E	Following the procedures set forth in the PA, HART shall develop and implement an educational program and an effort designed to encourage the rehabilitation of historic properties in the Project area. HART shall submit drafts to consulting parties for review and comment per Stipulation VII.H.	Project-wide	HART GEC Architectural Historian	HART shall complete prior to beginning revenue service operation of the Project	Verify and document development and implementation of an educational effort program and preparation of a summary report per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.

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HP31	HP31 Sec. 106 PA Stipulation VII.F	Following the procedures set forth in the PA, HART will develop an educational field guide to historic properties and districts along the transit route. HART shall submit drafts to consulting parties for review and comment per Stipulation VII.H.	Project-wide	HART GEC Architectural Historian	HART shall complete prior to beginning revenue service operation of the Project	Verify and document development of a field guide per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP32	HP32 Sec. 106 PA Stipulation VII.G	Following the procedures set forth in the PA, HART shall invite consulting parties to a kick-off meeting to develop a work plan for all materials described in Stipulation VII.	Project-wide	HART GEC Architectural Historian	HART shall complete prior to beginning revenue service operation of the Project	Verify and document kick-off meeting plan for consulting parties per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP33	HP33 Sec. 106 PA Stipulation VIII.A	Following the procedures set forth in the PA, HART shall mark, store securely, and replace all lava rock curbstones.	Section 4 City Center Contract	HART GEC Architectural Historian GEC CRE	Construction	Verify and document plan for lava rock curbstones meets PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. City, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring. Verify and document construction closeout reports the handling and treatment of lava rock curbstones meets PA stipulation.	GEC EPD GEC ECM	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP34	HP34 Sec. 106 PA Stipulation VIII.B	Following the procedures set forth in the PA, HART shall maintain or replace the guardrails on the Kapālama Canal Bridge to match the historic appearance. HART shall consider the Secretary of the Interior's Standards for the Treatment of Historic Properties in developing draft plans to provide to SHPD for review per Stipulation IV.	Section 4 City Center Contract	HART GEC Architectural Historian GEC CRE	Prior to Final Design and during construction	Verify and document bridge rails are replaced per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring. Verify and document acceptance of Final Design and construction closeout meets PA stipulation.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP35	HP35 Sec. 106 PA Stipulation VIII.C	Following the procedures set forth in the PA, HART shall replace each true kamani tree in its original location or as close to it as possible.	Section 4 City Center Contract	HART GEC Architectural Historian GEC CRE GEC DM	Construction	Verify and document true kamani tree replacement plan per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring. Verify and document acceptance of Final Design and construction closeout meet PA stipulation.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.

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HP36	HP36 Sec. 106 PA Stipulation VIII.D	Following the procedures set forth in the PA, HART shall plan and implement improvements to historic parks adversely affected by the Project. Project funds in the sum of $750,000 shall be budgeted for implementation of the parks improvement plan. HART shall invite consulting parties to a kickoff meeting to discuss the parks plan.	Project-wide	HART GEC Architectural Historian GEC CRE GEC DM	HART shall complete prior to beginning revenue service operation of the Project	Verify and document kick-off meeting, draft plan, and improvement plan for property owners and stakeholders per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring. Verify and document acceptance of Final Design and construction closeout meet PA stipulation.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP37	HP37 Sec. 106 PA Stipulation I. G and IX.A	Following the procedures set forth in the PA, HART shall create and staff a position for a qualified architectural historian whose primary responsibility will be to fulfill the requirements of the PA.	Project-wide	HART	Within 6 months of execution of the PA	Verify and document hiring of staff per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring. Verify and document hiring of staff meets PA stipulation.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP38	HP38 Sec. 106 PA Stipulation IX.B	Following the procedures set forth in the PA, HART shall establish a Historic Preservation Committee for the Project, specify its purpose and functions, and initiate its first meeting.	Project-wide Funding of HCP	HART GEC Architectural Historian	Within 3 months of execution of the PA	Verify and document HPC development per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring. Verify and document establishment of HPC meets PA stipulation.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP39	HP39 Sec. 106 PA Stipulation IX.C	Following the procedures set forth in the PA, HART shall report to the consulting parties on all applications for building demolition and on all City-generated construction projects within certain specified areas of the Project, and shall perform an analysis of the frequency of these activities from the recent past up to the present.	Project-wide	HART GEC Architectural Historian	Continuously until PA expires	Verify and document demolition permits per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring. Verify and document demolition completed in compliance with Federal and State laws per PA stipulation.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP40	HP40 Sec. 106 PA Stipulation IX	HART shall follow Stipulation IX.E for handling unanticipated cumulative adverse effects in the Chinatown and Merchant Street Historic Districts.	Section 4 City Center Contract	HART	Continuously until the PA expires	Verify and document coordination meetings, per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring. Verify and document acceptance of fulfilling PA stipulation.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.

ROD ID (MMP tracking)	Final EIS Section(s) or Programmatic Agreement (PA) Stipulation	Mitigation Measure (ROD)	Project-wide (in all contracts) or Contract-specific (if contract-specific which contract)	Responsible Party for Implementing Mitigation	Timing of Mitigation Measure (Design, Construction, Operation)	Monitoring Action	Responsible Party for Monitoring Mitigation	Criteria for Completing Mitigation
HP41	HP41 Sec. 106 PA Stipulation X	The Construction Mitigation Plan for the Project developed by HART shall include provisions for protecting historic properties from construction noise and vibration impacts, and shall be implemented by HART through the construction contracts, according to the procedures set forth in the PA.	Project-wide	HART GEC Architectural Historian	Prior to construction of each phase	Verify and document approval of CMP per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring. Verify and document approved CMP meets PA stipulation.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP42	HP42 Sec. 106 PA Stipulation X.C	Following the procedures set forth in the PA, HART will monitor Project construction to ensure measures in the CMP are implemented and shall provide a record of monitoring activities in progress reports pursuant to Stipulation XIV.E.	Project-wide	HART	Construction	Verify and document measures in CMP are implemented per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring. Verify and document monitoring activities in progress reports meet PA stipulation.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP43	HP43 Sec. 106 PA Stipulation X.D	Following the procedures set forth in the PA, HART shall monitor transit noise at the Pearl Harbor National Historic Landmark.	Section 3 Airport Contract	HART	Within 1 year of the start of revenue operation	Verify and document noise monitoring per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring. Verify and document results of the post-construction noise monitoring acceptance meet PA stipulation.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP44	HP44 Sec. 106 PA Stipulation XI	Following the procedures set forth in the PA, HART shall develop and conduct a training program for construction contractors and employees regarding appropriate sensitivity to historic resources.	Project-wide	HART GEC Architectural Historian CEC CRE	Prior to construction of each phase	Verify and document contractor training per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring. Verify and document PA stipulations in contracts and contractor Environmental Compliance Plans.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP45	HP45 Sec. 106 PA Stipulation XIII	Following the procedures set forth in the PA, HART shall write semi-annual progress reports detailing progress in implementing the PA and shall post those reports on the Project website.	Project-wide	HART GEC Architectural Historian	Semi-annually	Verify and document semi-annual progress reports are written and detail progress in implementing the PA per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring. Verify and document semi-annual progress reports are written and uploaded on to Project website.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.

ROD ID (MMP tracking)	Final EIS Section(s) or Programmatic Agreement (PA) Stipulation	Mitigation Measure (ROD)	Project-wide (in all contracts) or Contract-specific (if contract-specific which contract)	Responsible Party for Implementing Mitigation	Timing of Mitigation Measure (Design, Construction, Operation)	Monitoring Action	Responsible Party for Monitoring Mitigation	Criteria for Completing Mitigation
HP46	HP46 Sec. 106 PA Stipulation XIII	Following the procedures set forth in the PA, HART shall keep the public informed through semi-annual progress reports and will post them on the Project website.	Project-wide	HART GEC Public Involvement Manager	Continuously until the PA expires.	Verify and document updates are posted on Project website per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring. Verify and document reports are prepared and posted per PA stipulation.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.
HP47	HP47 Sec. 106 PA Stipulation XIV.E	Following the procedures set forth in the PA, HART shall provide all signatories to this PA a summary report detailing the work undertaken pursuant to its terms.	Project-wide	HART GEC Architectural Historian	Continuously until the PA expires (every 6-months) .	Verify and document summary report delivered to signatories per PA stipulation. HART is responsible for the PA and all of its stipulations and will follow all applicable guidelines and regulations therein. HART, Kakoʻo, and GEC Architectural Historian will meet with and provide compliance documentation to the GEC EPD for monitoring.	GEC EPD	The GEC EPD verifies completion through review of the monthly reports on PA milestones, and coordination with GEC Architectural Historian and Kakoʻo. Document that activities and/or documents submitted are on or within PA timeframe.

Appendix B
Mitigation Monitoring Program (MMP) Design and Construction Manual

Honolulu Rail Transit Project

July 17, 2012

Prepared for:
Honolulu Authority for Rapid Transportation

HONOLULU AUTHORITY for RAPID TRANSPORTATION

0.0 INTRODUCTION

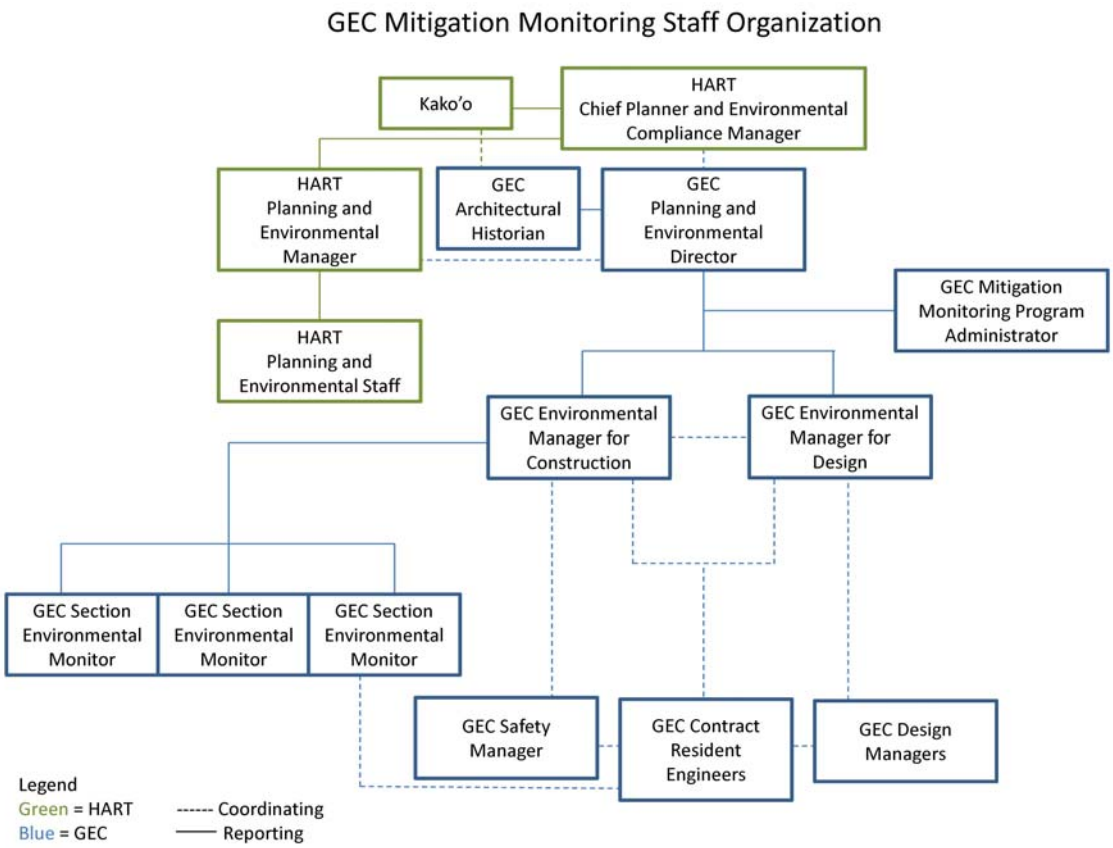
Environmental impacts of the Honolulu Rail Transit Project (the Project) were disclosed in a Final Environmental Impact Statement (FEIS), in June of 2010. Resulting mitigation commitments are documented in several legally binding sources:

1. Project Record of Decision (Jan 2011)
2. Federal Aviation Administration's Record of Decision (May 2011- specific to the Airport Section contract)
3. Section 106 Programmatic Agreement (Jan 2011)
4. Permit conditions (various and on-going)

As required by the Federal Transit Administration's (FTA) New Starts program, a mitigation monitoring program (MMP) must be implemented as part of the ROD. In addition, the Project Management Oversight Consultant (PMOC) hired by FTA to review and provide assurance to FTA that all New Starts requirements are being met, requires a detailed methodology for how the mitigation monitoring compliance will be conducted. This manual details how the MMP is implemented and provides a detailed methodology for monitoring the design and construction phases of the project for both design-build (DB) and design-bid-build (DBB) contracts.

The General Engineering Consultant (GEC) environmental compliance team is responsible for the oversight of the design and construction in accordance with the environmental conditions set forth in the documents above and any future conditions identified through permits or other environmental documentation. The GEC has compiled guidance to govern the clearance for post-ROD design changes, tracking mitigation compliance, and overseeing mitigation enforcement through design and construction.

A compliance strategy was developed that documents the specific mitigation required for each specific design, construction and/or design-build contract in the form of an individual manual. These manuals are intended for GEC use during design and construction oversight to guide environmental compliance and will also be used to provide the final design consultant and construction contractors on the compliance expectations for each individual contract section and station grouping. In addition, the manuals illustrate the communication protocols between HART, the GEC, and the Contractor. The chart below indicates the organization and reporting relationships between HART and the GEC. All contractor issues are handled by the GEC Contract Resident Engineers.



This manual is organized into four main sections:

1. A general overview of the compliance approach for design and construction
2. Design compliance approach
3. Construction compliance approach
4. Contract-specific appendices

0.1 DESIGN COMPLIANCE

The Design Manuals describe GEC's oversight role for communicating and ensuring environmental compliance for 1) post-ROD/PA design changes, 2) delivering Owner-acquired permits, 3) a process to integrate all permits, and 4) design reviews to ensure the incorporation of all mitigation commitments.

Design-Build Design Compliance Manual

There are three DB contracts (Figure 1): West Oahu Farrington Highway (WOFH), Kamehameha (KHG), and Maintenance Storage Facility (MSF). The DB Design Compliance Manual describes GEC roles and responsibilities interfacing with HART, the DB Contractor's design team and Environmental Compliance Manager for Design (ECD) and schedulers. Contract specific attachments including standard specifications and any contract specific requirements related to environmental mitigation accompanies the DB manuals. Incessant

Design-Bid-Build (DBB) Design Compliance Manual

There are ten final design contracts for the DBB sections and stations (Figure 1):

- Farrington Highway Stations

- West Oahu Stations
- Pearl Highlands Garage and H2 Ramps
- Kamehameha Stations
- Airport Utility and Guideway
- Airport Stations
- City Center Utility, Guideway and Ala Moana Station
- Dillingham Stations
- City Center Stations
- Kaka'ako Stations

The DBB Design Compliance Manual describes GEC's role in overseeing federal and state clearances for post-ROD design changes, Owner permitting and design reviews to ensure the incorporation of all mitigation commitments. The DBB Design Manual will describe GEC roles and responsibilities interfacing with HART, the Designer's ECD and schedulers. Contract specific attachments accompany the DBB manuals. In addition, there will be some investigatory field work completed during the final design phase. This will require coordination with the ECM to ensure all field procedures are in place before the field work begins.

0.2 CONSTRUCTION COMPLIANCE

Construction Compliance Manual

The construction manual describes the GEC's role in performing oversight and verification that the Contractor ECM and field crew are complying with the pertinent ROD, PA commitments and permit conditions. The GEC will review and comment on contractor requests and submittals and perform compliance oversight audits.

The manual is tailored for each section and station grouping contract by the GEC ECM for construction and Section Environmental Monitor (SEM) in consultation with the Contract Resident Engineer. In addition, the overall process for field verification will be the same for construction of DB and DBB contracts; however, the communication between the GEC Environmental Compliance Manager for Design (ECD) and ECM will differ and will be specified in each individual manual. The GEC ECM is responsible for ensuring project consistency, providing solutions to contract related items, and is responsible for overall project wide compliance, monitoring and documentation.

Figure 1: Honolulu Rail Transit Project Contracts

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- GEC Field Oversight Engineer (FOE) responsibilities
- Notification tree for general issues

Attachment C2 - Unexpected Events and Unanticipated Discovery Flow Charts

- Miscellaneous Unexpected Events (e.g. noise)
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ACRONYMS AND ABBREVIATIONS

BMPs	Best Management Practices
CFR	Code of Federal Regulations
CMS	Contract Management System
Contractor ECM	Environmental Compliance Manager
Contractor ECP	Environmental Compliance Plan
CSH	Cultural Surveys Hawaii
DB	Design-Build
DBB	Design-Bid-Build
DOCARE	Division of Conservation and Resources Enforcement
FEIS	Final Environmental Impact Statement
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GEC CRE	General Engineering Consultant Contract Resident Engineer
GEC ECM	General Engineering Consultant Environmental Compliance Manager for Construction
GEC ECD	General Engineering Consultant Environmental Compliance Manager for Design
GEC Lead FOE	General Engineering Consultant Lead Field Oversight Engineer
GEC FOE	General Engineering Consultant Field Oversight Engineer
GEC SEM	General Engineering Consultant Section Environmental Monitor
HAR	Hawaii Administrative Rules
HART	Honolulu Authority for Rapid Transportation
HRS	Hawaii Revised Statutes
KHG	Kamehameha Highway Guideway
MMP	Mitigation Monitoring Program

MMPA	Mitigation Monitoring Program Administrator
MSF	Maintenance and Storage Facility
NEPA	National Environmental Policy Act
PA	Programmatic Agreement
PMOC	Project Management Oversight Consultant
RFC	Request for Change
RFI	Request for Information
ROD	Record of Decision
SHPD	State Historic Preservation Division
SP	Special Provision
WOFH	West Oahu Farrington Highway

ENVIRONMENTAL COMPLIANCE MONITORING MANUAL

FOR DESIGN

HONOLULU RAIL TRANSIT PROJECT

HONOLULU AUTHORITY for RAPID TRANSPORTATION

DESIGN ENVIRONMENTAL COMPLIANCE MONITORING MANUAL

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0.0 INTRODUCTION

This Environmental Compliance Monitoring Manual for Design provides GEC's general processes governing its roles in the environmental component of the Honolulu Rail Transit Project design. It provides roles and responsibilities regarding the evaluation Contractor's design for environmental compliance, including

- changes since the Record of Decision (ROD)
- a mitigation and design approval process
- GEC's permitting process and distribution process
- staffing relationships and between documents
- standard forms (5.0) and provisions for making changes to these processes.

1.0 DESIGN SUBMITTAL REVIEWS (ATT D1)

GEC will review design submittals for conformance with environmental mitigation commitments. All design packages that need environmental review will be provided to EMD for compliance review via Review Manager. Reviews will be an iterative process which may require new environmental study. GEC will review Definitive Design, Advanced Interim Design and Final Design stages, and may review design in an "over the shoulder" review prior to submittal.

1. Submittals will include form DQP 2.11; proof of the Contractor's internal environmental QA/QC which should identify each applicable mitigation measure. The project's MMP will be compared to the mitigation listed in the submittal to ensure the form includes all mitigation measures applicable to the contract. Project-wide measures may also be applicable. This form must be complete. Most mitigation measures require notes or plans in Final Design.
2. Each submittal will include a Basis of Design (BOD) which should be reviewed for design exceptions and notes to reviewers. Exceptions may affect mitigation measures (e.g. sidewalk widths or lane configuration). Notes may provide information on design elements not included or complete for review (e.g. retaining wall locations may be identified but subject to change).
3. Each submittal will include plans and profiles as necessary. They will be reviewed for consistency with mitigation measures. Common topics include staying within right-of-way as identified in the FEIS Appendix C, avoidance of resource areas (e.g. wetlands), and notes regarding coordination with other agencies.

Review may determine that additional environmental study is necessary. RFI or RFC may trigger new or additional environmental study as well. In these cases GEC should follow the environmental process below (Section 2.0).

2.0 ENVIRONMENTAL REVIEW (ATT D2)

All projects are cleared with environmental documents during the design phase. For the Honolulu Rail Transit Project, commitments are made in its ROD and PA, an FAA ROD and an FHWA CatEx. These documents provide clearance for the project based upon information developed during the preliminary

design phase. Since conditions frequently change through the final design and construction stages, updated environmental review may be needed. Changes may include taking additional right-of-way, changes that may alter visual impacts or changes that may affect permit conditions (i.e. larger impacts at a stream crossing, even within right-of-way). All changes to the footprint provided in the ROD require review. In addition, changes to specific elements within the footprint may require re-evaluation. Review may result from Contractor-provided changes or HART provided changes.

2.1 Contractor Provided Changes

Contractor provided changes will be received by the GEC ECD on by PS2 and Review Manager. Reviews may be distributed by Sharepoint to other reviewers, and returned to the Contractor's ECS via PS2 Review Manager. All final documentation will be stored on Sharepoint.

Each reviewed document requires a description of the change (what is the change, and how does it differ from the EIS?), what is the purpose of the change (why not stay with the original plan?), and adequate maps and illustrations depicting the change. Change memos will be reviewed for sufficiency by pursuant to NEPA, HRS 343 and permit conditions. Where there are environmental impacts, memos must include a discussion of appropriate mitigation, and summaries of agency consultation.

2.2 HART Provided Changes

HART provided changes will be developed by GEC. A template is provided in Attachment D5. Although the form will stay the same, the level of effort will vary as described below.

2.2.1 Minor Memo

When proposed changes are small and have no involvement of historic properties, 4(f) properties, Waters of the U.S. (WOUS), T & E or special status species, air quality, or visual impact, minor memos are appropriate. For example, changing elements of structures or buildings within the right-of-way-needs identified in Appendix C of the FEIS typically does not have environmental impact. Minor Memos are provided to the ECD for review, who may pass the memo to specialists. In consultation with HART, the ECD may return minor memos to the originator for escalation to a higher level of evaluation. Once approved, the ECD will provide a recommendation to HART for acceptance. Attachment D5 includes a form that the Contractor may use.

2.2.2 Major Memo

The project may propose post-ROD changes that are subject to 23 CFR 771.130(c):

> *"Where the Administration is uncertain of the significance of the new impacts, the applicant will develop appropriate environmental studies or, if the Administration deems appropriate, an EA to assess the impacts of the changes, new information, or new circumstances. If, based upon the studies, the Administration determines that a supplemental EIS is not necessary, the Administration shall so indicate in the project file."*

Also consider the potential impacts of the proposed change under Chapter 343, Hawaii Revised Statues (HRS) and Chapter 11-200, Hawaiian Administrative Rules (HAR 11-200-26 General Provisions).

When changes may include limited impacts to historic properties, 4(f) properties, waters of the U.S. (i.e. changes within Nationwide Permit), T & E or candidate species, air quality and visual resources, a major memo is appropriate. For example, use of an existing operating facility for a contractor yard probably doesn't create a change with an impact, assuming all site permit conditions are met. All major memos are approved by the ECD who may pass them to specialists for review, and then HART (subsequently not concurrently). Major memos will be reviewed within 14 days. At the ECD or HART's discretion, major memos may be returned to originator for escalation. All major memos must provide written documentation of concurrence and coordination with appropriate regulatory agencies as required. Once approved, the ECD will provide a recommendation to HART for acceptance

2.2.3 Formal Re-Evaluation

Re-evaluations are for significant changes that cause a significant change to the impacts originally identified. They will generally affect multiple resources studied in the EIS. Re-evaluations will be provided to the ECD, who may distribute the document to specialists, and to HART. Once approved, re-evaluations must also be approved by FTA. The ECD/HART review will be completed within 21 days. FTA review will require at least 30 additional days.

3.0 PERMITS (ATT D3)

3.1 Permit Applications

GEC permit lead will identify permits in the project's ROD and Section 106 PA, the FAA ROD, and the MMP. The permit lead will consult the project schedule to identify permit timing.

GEC permit lead will prepare draft permit application in coordination with HART's permitting staff. Final permit application is officially submitted to HART in hard copy and via CMS for signature. HART will provide the permit application to the appropriate agency(s) for review.

If the application is returned with agency comment it will be received by HART and distributed to GEC permit lead, via CMS. GEC permit lead will make required revisions and distribute as above. Upon each submission to agency, GEC planning and environmental lead will receive cc from HART.

3.2 Permit dissemination (ATT D4)

Permits will be received by HART and posted to CMS. HART will notify GEC document control, with cc's to GEC permit lead, ECM, MMPA and ECD. The GEC permit coordinator will copy the permit and its final application to Sharepoint. GEC permit coordinator will extract salient permit conditions and send annotated summaries of the permit to SEMs and the MMPA. The coordinator will post the complete permit to Sharepoint and Phoenix, and alert the MMPA, ECM, ECD and appropriate contract SEM.

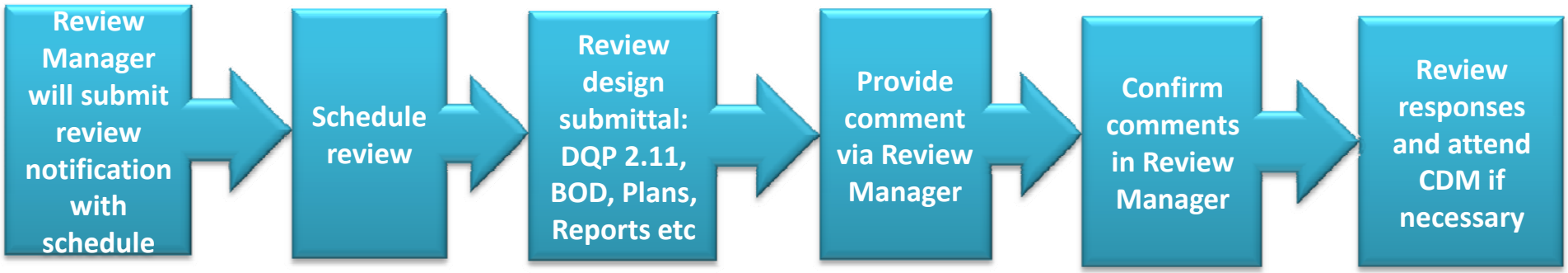
3.3 Scheduling with contractor

GEC permit coordinator will review the construction schedule on a weekly basis to identify permit needs. The coordinator will check CMS for necessary permits and alert contract SEM if permits are absent.

ATTACHMENTS D1-D4

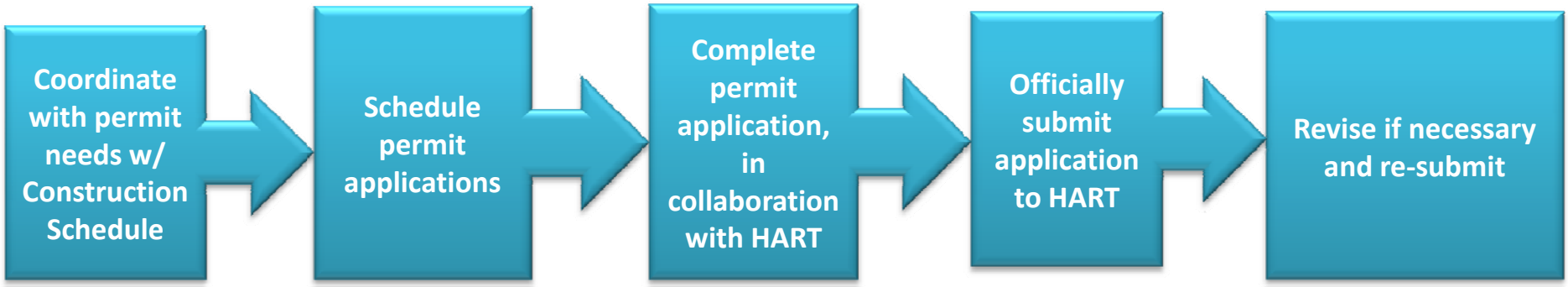
DESIGN MANUAL FLOWCHARTS

Design Review Process (ATT D1)

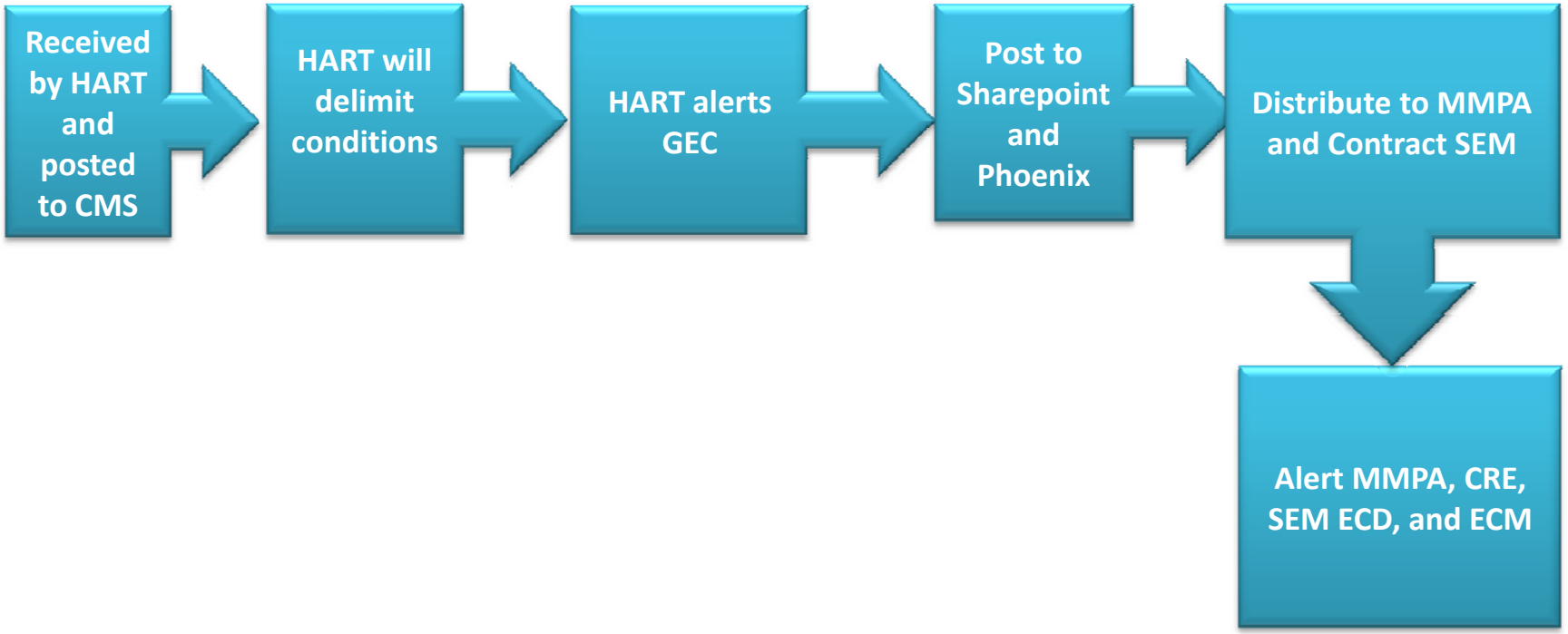


Environmental Review Process (ATT D2)

Permit Application Process (ATT D3)



Permit Dissemination Process (ATT D4)



ATTACHMENT D5

ENVIRONMENTAL DOCUMENTATION

TEMPLATE

ENVIRONMENTAL DOCUMENTATION–HONOLULU RAIL TRANSIT PROJECT

1.0 INTRODUCTION

In June 2010, a Final Environmental Impact Statement (FEIS) and Section 4(f) Evaluation for the Honolulu Rail Transit Project (the Project), was completed and approved through the issuance of a Record of Decision (ROD) in January of 2011 from the Federal Transit Administration. After the ROD was issued, the Honolulu Authority for Rapid Transit (HART) revised the design of _____ based on more detailed engineering studies and additional coordination with stakeholders. Details of the revised design and environmental analyses are provided in this letter.

This documentation is provided to satisfy requirements under 23 CFR 771.130(c), which says:

"Where the Administration is uncertain of the significance of the new impacts, the applicant will develop appropriate environmental studies or, if the Administration deems appropriate, an EA to assess the impacts of the changes, new information, or new circumstances. If, based upon the studies, the Administration determines that a supplemental EIS is not necessary, the Administration shall so indicate in the project file."

The EIS identifies four specific goals, to which all changes will be compared:

1. Improve corridor mobility,
2. Improve corridor travel reliability,
3. Improve access to planned development to support City policy to develop a second urban center, and
4. Improve transportation equity

2.0 THE PROPOSED CHANGE

Describe:

1. The project as described in the FEIS.
2. The proposed change (what is the change, and how does it differ from FEIS).
3. What is the purpose of the change? State whether the change is intended as mitigation for another project element.
4. Provide adequate maps and illustrations depicting both the EIS project and the proposed change.

3.0 STUDY AREA

Describe the limits of the study the same way an environmental document would. From X street to Y street, Z feet on either side. Provide a clear figure.

4.0 ENVIRONMENTAL STUDY

Table 1 summarizes potential for impact to the same resources studied in the FEIS. Additional documentation is provided in Attachment A. Further discussion of some resources is provided below.

(Always provide comment regarding Cultural, 4(f), T and E, wetlands/waters of the U.S. and visual, even if it states no resources are within the study area. Use other comments if necessary.)

Table 1. Potential Impacts from the proposed change

Environmental Resource	Changed from FEIS?		Comments
	Yes	No	
Land Use			
Economic Activity			
Acquisitions, Displacements and Relocations			
Community Services and Facilities			
Neighborhoods			
Environmental Justice			
Visual and Aesthetic Conditions			
Air Quality			
Noise and Vibration			
Energy and Electric and magnetic Fields			
Hazardous Waste and Materials			
Ecosystems			
Water			
Street Trees			
Archaeological, Cultural and Historic Resources			
Maintenance and Storage Facilities			
Construction Phase Effects			
Indirect and Cumulative Effects			
Section 4(f) Resources			

(Discuss in detail resources that may be important. Refer to resource specific studies in attachments)

5.0 CONCLUSION

Through this evaluation, HART has determined that the design changes to the project would not affect the ability of the Selected Alternative described in the FEIS to meet the project's stated purpose. Additionally, HART has determined that the impacts of these changes are not individually or cumulatively significant or significantly different from those described in the FEIS and ROD. For these

reasons, HART has determined that the proposed design changes would have no effect on the ultimate decision documented in the ROD.

HRS 343 Significance Criteria

HART has also considered the potential impacts of the proposed change under Chapter 343, Hawaii Revised Statues (HRS) and Chapter 11-200, Hawaiian Administrative Rules (HAR 11-200-26 General Provisions).

In determining whether the proposed change may have a significant effect on the environment, HART considered every phase of the proposed change, the expected consequences, both primary and secondary, and the cumulative as well as the short-term and long-term effects of the change. Table 2 summarizes the evaluation.

Table 2. Evaluation of HRS Significance Criteria

Significance Criteria	Changed from EIS?		Comments
	Yes	No	
Involves an irrevocable commitment to loss or destruction of any natural or cultural resource			
Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions			
Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders			
Curtails the range of beneficial uses of the environment			
Substantially affects the economic welfare, social welfare, and cultural practices of the community or State			
Substantially affects public health			

Significance Criteria	Changed from EIS?		Comments
	Yes	No	
Involves substantial secondary impacts, such as population changes or effects on public facilities			
Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions			
Substantially affects a rare, threatened, or endangered species, or its habitat			
Detrimentally affects air or water quality or ambient noise levels			
Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters			
Substantially affects scenic vistas and viewplanes identified in county or state plans or studies			
Requires substantial energy consumption			

(Discuss in detail resources that may be important)

Through this evaluation, HART has determined that the design changes to the project would not meet or exceed the HRS 343 Significance Criteria, and do not require evaluation through an EIS.

Environmental Compliance Monitoring Manual

For

Construction

Honolulu Rail Transit Project

HONOLULU AUTHORITY for RAPID TRANSPORTATION

CONSTRUCTION ENVIRONMENTAL COMPLIANCE MONITORING MANUAL

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Attachment C5 - Mitigation Monitoring Program Example Report

Attachment C6 - Noise and Vibration Mitigation Plan

Attachment C7 - Contract and Special Provisions

Attachment C8 - Permit Conditions

0.0 INTRODUCTION

The Honolulu Rail Transit Project comprises Design-Build (DB) contracts and Design-Bid-Build (DBB) contracts. This document addresses the general construction environmental monitoring processes for both DB and DBB contracts where construction mitigation monitoring, implementation, and reporting are contractor responsibility. The Contractor Environmental Compliance Manager (ECM) has the responsibility for ensuring that the pertinent Record of Decision (ROD) and Programmatic Agreement (PA) commitments and permit conditions are met during construction.

The GEC's role is to perform oversight and verify that the Contractor ECM and field crew are complying with the pertinent ROD and PA commitments and permit conditions. The GEC staff will not direct the Contractor ECM construction activities; the GEC will review and comment on contractor requests and submittals and perform compliance oversight audits.

The GEC CRE will be the lead for all contract related notification and decisions. The SEM reports to the CRE for contract related items and to the GEC ECM for Project items. The GEC ECM is responsible for ensuring project consistency, providing solutions to contract related items, and is responsible for overall project wide compliance, monitoring and documentation. The GEC ECM has the ability, through the GEC CRE, to direct stop work order for non-compliance.

This manual is the guidance manual for mitigation monitoring during construction. Documents within the manual have been tailored by the GEC ECM and SEM in consultation with the CRE for this contract.

The intended users of this manual are the GEC ECM, GEC SEM, and GEC FOEs. An informational copy will be provided to the contractor for their understanding of the GEC monitoring processes. The responsibilities defined in this document for the Contractor are items that are included in their contract-specific Environmental Compliance Plan (ECP). This document does not direct Contractor activities.

This manual will also be used during investigatory field work during design contracts for DBB projects. The GEC will ensure proper procedures are followed for environmental resources during investigatory work, especially for *iwi kupuna* and hazardous materials. The following sections below are applicable to field work during the design phase:

- 1.2.1 – Contractor Document Review
- 2.1.2 – Construction Site Observation
- 2.2.2 – Field Reports
- 2.2.2 – Field Reports, GECSEM/ECM Report and Meetings; MMPA reporting
- 3.1 – 3.2 – Unexpected Events and Inadvertent Discoveries, Contractor/GEC SEM

1.0 PRE-CONSTRUCTION ACTIVITIES

1.1 Roles and Responsibilities (RR) Meeting

Prior to ground disturbance (includes investigatory work) on each contract, there will be a roles and responsibilities meeting between the Contractor ECM and GEC CRE (or designee), ECM, SEM, and FOEs to review the following:

1. Latest version of the ECP
2. Construction schedule
3. Environmental constraints
4. Environmental commitments
5. Monitoring and inspection
6. Standard reporting procedures
7. Non-compliance or unanticipated impact procedures
8. Permits

1.2 GEC CRE, ECM, and SEM Responsibilities - Pre-RR meeting

As stated above, the GEC CRE will be the lead for all contract related notification and decisions. The GEC ECM will coordinate with Project staff and Contractor staff to ensure project consistency, provide solutions to contract related items, and is responsible for project wide compliance, monitoring and documentation.

1. **Contractor Document Review** - Review and submit comments on the ECP and related updates submitted by the Contractor ECM, constraint maps, and other environmental mitigation measure documentation.
2. **Mitigation Tracking and Permit Conditions Table** - GEC SEM will be the lead and will work with the GEC CRE, GEC ECM, and MMPA on creating a contract-specific mitigation tracking table, using the template found in Attachment C3. All mitigation measures for the specific contract will be included in the table. In addition, as HART obtains permits, they will delimit the permit conditions and send to the SEMs for use in the field.
3. **Noise and Vibration Mitigation Plan -** Work with GEC Noise and Vibration specialist to complete the contract-specific portion of the Noise and Vibration Mitigation Plan (Attachment C6). This plan is required by the PA and outlines required noise and vibration mitigation measures for each contract.
4. **Contract Management System** - GEC ECM will ensure GEC SEM has received instructions on how to upload issues in CMS and overall CMS training.
5. **Field Oversight Engineer Training** - GEC ECM will support and coordinate with the CRE to ensure all GEC FOEs have received training per Attachment C4. The purpose of the training is to inform FOEs about environmental resources that may not be included in their normal inspection routine (such as for BMPs) but occur within their assigned section. The

training guide will list all specific resources that are found within their section and will include the environmental constraint maps created by the Contractor. These resources include: community facilities, historic, archaeological and cultural resources, hazardous materials, Section 4(f) properties, noise and vibration, water resources, and ecosystems.

2.0 CONSTRUCTION ACTIVITIES

2.1 Monitoring, Oversight, and Verification

This section outlines the procedures for the oversight and regular verification of construction activities. Monitoring frequency and responsibilities are described in detail.

2.1.1 Contractor Responsibilities

Daily QA/QC and Monitoring - Contractor ECM will confirm compliance with the ECP and all specified mitigation requirements and permit conditions.

Environmentally Sensitive Work Sites - Notification to GEC CRE and SEM prior to construction in environmentally sensitive work sites (e.g. work in historic properties, Section 4(f) properties or waters of the U.S.)

CMS Compliance - As documents or permits are completed and/or approved for mitigation compliance, Contractor ECM will upload to CMS and notify the GEC CRE and SEM.

2.1.2 GEC SEM

Upcoming Construction Review - At the end of each week, the GEC SEM will review the construction schedule for the following week and document the environmental constraints for the upcoming work. The SEM will make sure the GEC Lead FOE is aware of all upcoming environmental constraints.

Construction Site Observation - Conduct verification level inspections and/or audits of construction sites at a minimum once a week. Frequency of inspections will be conducted based on the phase and location of construction. GEC SEM will establish an appropriate monitoring schedule based on construction activities and associated permits with GEC CRE and ECM prior to construction and will document field visit in the GEC SEM Field Observation Form in Attachment C3. When work will occur near an environmentally sensitive area, the GEC SEM will conduct a site visit to verify compliance with applicable mitigation measures and permit conditions.

CMS Review - GEC SEM will review CMS once a week to ensure all documents related to mitigation compliance have been uploaded by the Contractor.

On-site Environmental Logbook and Daily Inspection Form Review - Conduct periodic audits (bi-weekly at the beginning of construction) of the on-site environmental logbook used for mitigation tracking, permits, and the daily inspection forms completed by the Contractor.

Environmentally Sensitive Area Inspection and Training - Prior to the beginning of construction on each phase, GEC SEM will verify all environmentally sensitive areas based on the Contractor's environmental constraint mapping are properly delineated in the field by the contractor. In addition, the

GEC SEM will meet with the GEC CRE and FOEs at the beginning of each phase to ensure they are aware of sensitive environmental resources and areas.

Third-Party Field Observation - GEC SEM will accompany Contractor ECM on scheduled third-party field observation visits, for example, HDOT.

2.1.3 GEC Lead FOE

Oversight and Verification - In addition to the responsibilities listed under GEC FOE below, the GEC Lead FOE serves as the main contact for the GEC SEM.

Permit Review - The GEC Lead FOE is responsible for reviewing all owner and Contractor-obtained permits as they are received.

2.1.4 GEC FOEs

GEC CRE and FOEs are responsible for oversight of contractor mitigation monitoring. Responsibilities include:

1. documenting if the Contractor ECM is on-site,
2. report any issues they encounter in the field, verify BMPs,
3. verify the Contractor has all appropriate mitigation documentation on-site, mitigation measures are implemented successfully,
4. QA/QC of environmental program is operating effectively, etc. as required in the SPs and additional contractual documents, and
5. reviewing Contractor daily inspection reports.

2.2 Reporting and Coordination

2.2.1 Contractor

Field Reports - Complete field inspection reports and quality checklist per contract.

Compliance Summary Reports - Submit regular report detailing field compliance inspections, issues, and corrective actions. A due date for reports will be established in the Environmental Compliance Special Provision.

Permit and Documentation Alerts - Upon receipt of a permit or completion of mitigation documentation, the permit and documentation will be uploaded to CMS and the GEC SEM will be notified.

2.2.2 GEC SEM

Field Reports - Complete GEC SEM Field Observation Form (Attachment C3) when their field observation and verification occur. Report will include date, time, location, and if any issues were discovered.

Task Force and Progress Meetings - Attend appropriate weekly contract-specific contractor task force and progress meetings. Applicable meetings may include environmental task force, right-of-way task force, and permitting task force.

GEC Lead FOE Meeting - Communicate weekly with GEC Lead FOE to inform them of the environmental constraints for the next week of construction.

GEC SEM/ECM Report and Meetings - Submit a weekly report to both the Deputy CRE and GEC ECM and have weekly meetings with the GEC ECM to discuss status of construction, mitigation compliance, and issues. Template for SEM reports to the ECM can be found in Attachment C3.

GEC CRE Meetings - Have bi-weekly meetings with the GEC CRE (or designee). The GEC CRE will have responsibility for the approval of documentation for certain mitigation measures. The GEC SEM will be responsible for ensuring that the proper documentation is uploaded to CMS and associated with the appropriate mitigation measure.

Mitigation Status Office Meetings - Through coordination with the GEC CRE, the GEC ECM and SEM will meet with Contractor ECM at a minimum on a monthly basis to discuss mitigation measure status and potential upcoming items of interest.

Mitigation Status Office Meeting Report - Send a summary of the monthly mitigation status office meeting to the GEC ECM within 48 hours of the meeting.

MMP Reporting - If any issues arise in the field, CMS will be updated with the details and the MMPA will be notified for inclusion in the monthly compliance report required as a deliverable for HART. All construction-related mitigation measures for which there was action the previous month must be reported on. Supporting documentation may include FOE field reports, SEM field reports, permits, memos, etc. and is defined in the mitigation measures tracking table. An example of proper MMP reporting can be found in Attachment C5.

Coordination with other GEC Staff - The GEC CRE, GEC Public Information Officer, etc. will have responsibility for compliance with certain related mitigation measures, as defined in the MMP table. The GEC SEM is responsible for coordinating with these staff to ensure the SEM is aware of the status of each measure and has obtained all associated documentation to upload to CMS for the mitigation measure.

2.2.3 GEC Lead FOEs

Communication with GEC SEM - The GEC Lead FOE will be the first point of contact for the GEC FOEs for field issues. If there are unanticipated impacts in the field, such as the discovery of hazardous materials, the GEC FOE will contact the GEC Lead FOE, who will initiate the communication chain per the flow charts in Attachment C2.

Permit Conditions Review with FOEs - Once a permit review is complete, the GEC Lead FOE is responsible for informing the FOEs of all permit conditions applicable for field work.

Daily Reports - When construction activities occur, prepare daily field report in CMS. If any general issues arise in the field (separate from unanticipated impacts, such as BMPs), call the GEC SEM and

others as identified on the GEC notification tree the same day and notify the SEM that the issue will appear in the daily report on CMS.

2.2.4 GEC FOEs

Daily Reports - When construction activities occur, prepare daily field report in CMS. If any general issues arise in the field (separate from unanticipated impacts, such as BMPs), call the GEC Lead FOE, who will initiate the call tree. If the GEC Lead FOE is not available, contact the GEC SEM.

2.2.5 GEC ECM

GEC Environmental & Planning Director and HART Reporting - GEC ECM will prepare a monthly report for the GEC Environmental and Planning Director and the HART Planning and Environmental Manager regarding the status of all environmental construction issues for the contract. This report will be based on the weekly GEC SEM reports submitted to the GEC ECM.

GEC ECD Meetings - GEC ECM will meet with the GEC ECD on a bi-weekly basis, or as needed, to coordinate design compliance and construction compliance. Compliance information will be distributed to the CRE for contract-related impacts.

2.2.6 Additional Monitors

HART Right-of-Way, HART Safety and Security, and GEC Health and Safety staff will have monitoring responsibility for numerous mitigation measures, such as those related to public notification, traffic and safety plans, etc. (specific monitoring responsibilities are defined in the Construction Mitigation Tracking table, the template is in Attachment C3). It is their responsibility to report to FTA on their mitigation measures.

3.0 UNEXPECTED EVENTS AND INADVERTENT DISCOVERIES

3.1 Contractor

Notification - Notification of GEC CRE and SEM will occur as soon as possible (no more than 24 hours) regarding concerns and potential unexpected events and prepare corrective action documentation per the ECP. If it is an emergency, notification will occur based on the contract requirements and Construction Safety and Security Plan. If there is an inadvertent discovery (i.e. *iwi kupuna*), the GEC SEM should be notified as soon as possible. Always ensure worker and site safety first.

Flow Chart and Action Review - Flow charts in Attachment C2 of this document will be reviewed in the case of unexpected events to the following resources:

1. Miscellaneous Resource (e.g. noise)
2. Cultural Resources (Inadvertent Discoveries)
3. Historic Properties
4. Hazardous Materials
5. Water Resources
6. Ecological

3.2 GEC SEM

In the event of notification of an unexpected environmental event, GEC SEM will notify GEC CRE and ECM and follow procedures according to Attachment C2.

If an unexpected environmental event is discovered during a routine GEC SEM inspection, GEC SEM will notify the Contractor ECM immediately and proceed with appropriate measures to ensure compliance.

3.3 GEC Lead FOE and FOEs

In the event of notification by the Contractor of an unexpected environmental event, GEC FOE will notify the GEC Lead FOE, who will notify the GEC SEM immediately.

If an unexpected environmental event is discovered by the GEC FOE during a daily inspection, GEC FOE will notify the Contractor ECM and GEC SEM immediately and proceed with appropriate measures to ensure compliance.

ATTACHMENT C1

RESPONSIBILITY CHARTS AND CONTACT INFORMATION

Environmental Compliance Monitoring Procedures for GEC Section Environmental Monitor (SEM)

Pre-Utility Relocation

Oversight and Verification (minimum requirements)

Weekly Responsibilities
1. Review upcoming construction areas for constraints- notify Lead FOE
2. Construction site observation
3. CMS review

Bi-weekly Responsibilities
1. On-site environmental logbook and inspection form review

As-Needed Responsibilities
1. Review permits for environmental conditions- add to tracking in CMS.
2. Environmentally sensitive area inspection.
3. Meeting with CRE/FOEs before construction on each phase.
4. Accompany Contractor on third-party site visits.

Reporting and Coordination

Weekly Responsibilities
1. Complete field report(s)
2. Attend task force meetings
3. Inform GEC Lead FOE of upcoming constraints
4. Complete GEC ECM/CRE report
5. Meet with GEC ECM

Bi-Weekly Responsibilities
1. Meet with GEC CRE or designee

Monthly Responsibilities
1. Meet with Contractor ECM – Mitigation status office meeting
2. Send mitigation status meeting summary to GEC ECM
3. MMP reporting

As-Needed Responsibilities
1. Document field issues in CMS for MMPA

Unexpected Events
SEE ATTACHMENT C2

Environmental Compliance Monitoring Procedures for GEC Lead Field Oversight Engineer (FOE) and GEC FOE

Pre-Utility Relocation

Oversight and Verification (minimum requirements)

Daily Responsibilities

1. Conduct oversight of Contractor mitigation monitoring, including:
   - Verify if Contractor ECM is on-site
   - Verify BMPs
   - Verify Contractor has appropriate documentation on-site
   - Overall QA/QC of contract and SP requirements
2. Review Contractor daily inspection reports

As-Needed Responsibilities

1. GEC Lead FOE to review permits as they are received

Reporting and Coordination

Daily Responsibilities

1. Prepare daily field reports in CMS

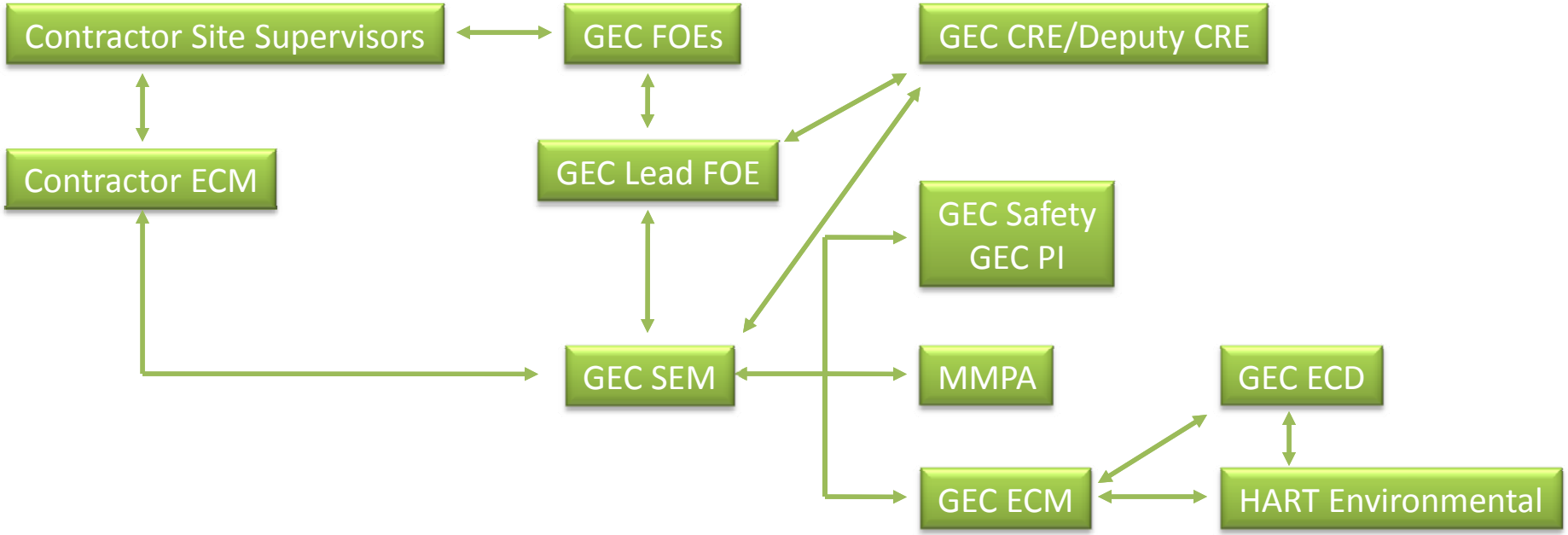
As-Needed Responsibilities

1. GEC Lead FOE to inform FOEs of permit conditions
2. GEC FOEs to notify GEC Lead FOE if issues arise in field
3. GEC Lead FOE to notify GEC SEM if issues arise in field

Unexpected Events

SEE ATTACHMENT C2

Construction Compliance Communication Tree



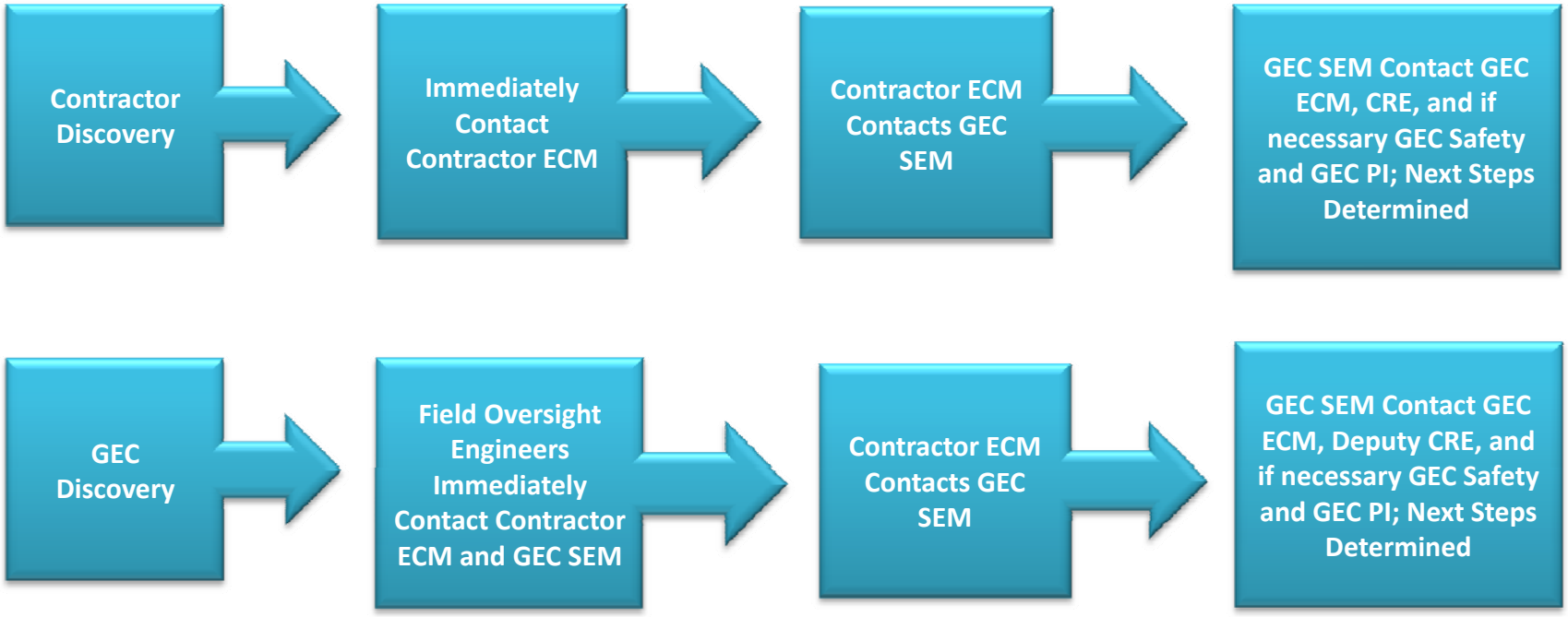
Contact Information

GEC Contract Resident Engineer (CRE) –
GEC Environmental Compliance Manager for Design (ECD) –
GEC Environmental Compliance Manager for Construction (ECM) –
GEC Section Environmental Monitor (SEM) –
Mitigation Monitoring Program Administrator (MMPA) –
GEC Lead Field Oversight Engineer (FOE) –
GEC Field Oversight Engineers (FOE) –
GEC Pubic Information (PI) –
GEC Safety –
Contractor Environmental Compliance Manager (ECM) –
Contractor Site Supervisors –

ATTACHMENT C2

UNEXPECTED EVENT FLOW CHARTS

Process for Unexpected Events:
Air Quality, Noise, Vibration, Parks, Community Facilities, Trees

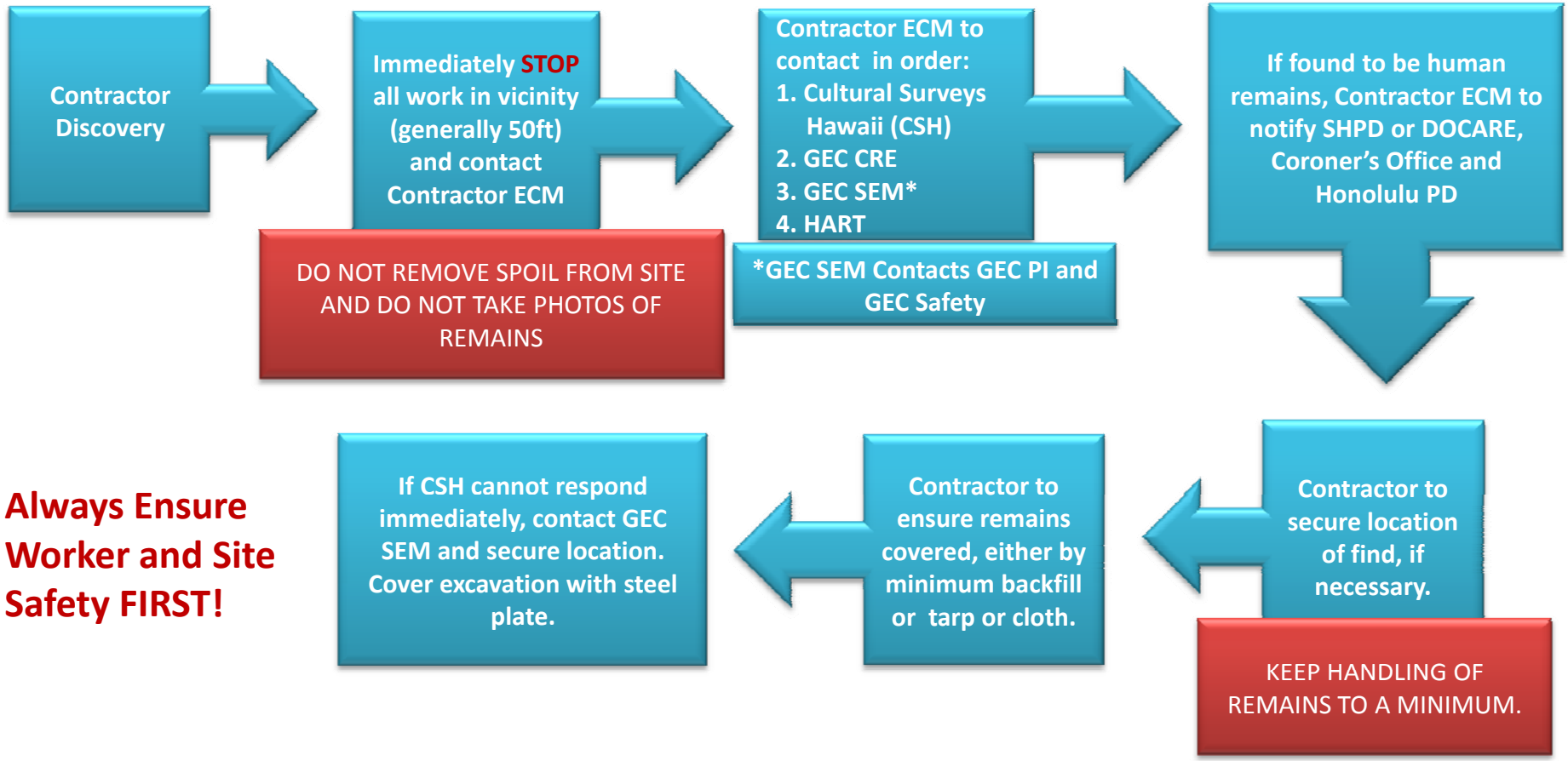


Always Ensure Worker and Site Safety FIRST!

Key Contacts

Contractor ECM:
GEC CRE:
GEC SEM:
GEC ECM:
GEC PI:
GEC Safety:

Process to Determine Action Upon Inadvertent Discovery of Iwi Kupuna or Other Archaeological Items



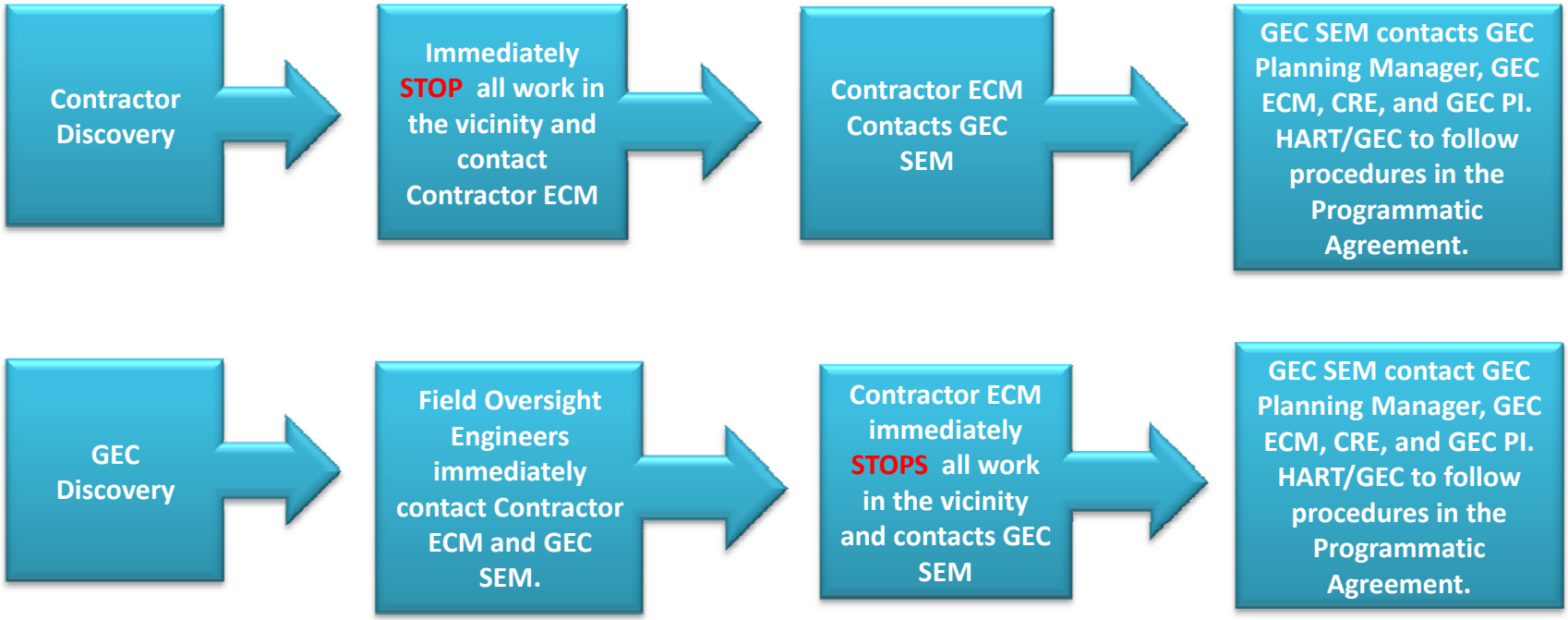
Always Ensure Worker and Site Safety FIRST!

Key Contacts

Contractor ECM:
HART: Kaleo Patterson, 808-330-3769
GEC CRE:
GEC SEM:
CSH : 808-262-9972

GEC PI:
GEC Safety:
DOCARE: 808-643-3567
Coroner: 808-768-3090
Honolulu PD: 808-529-3111

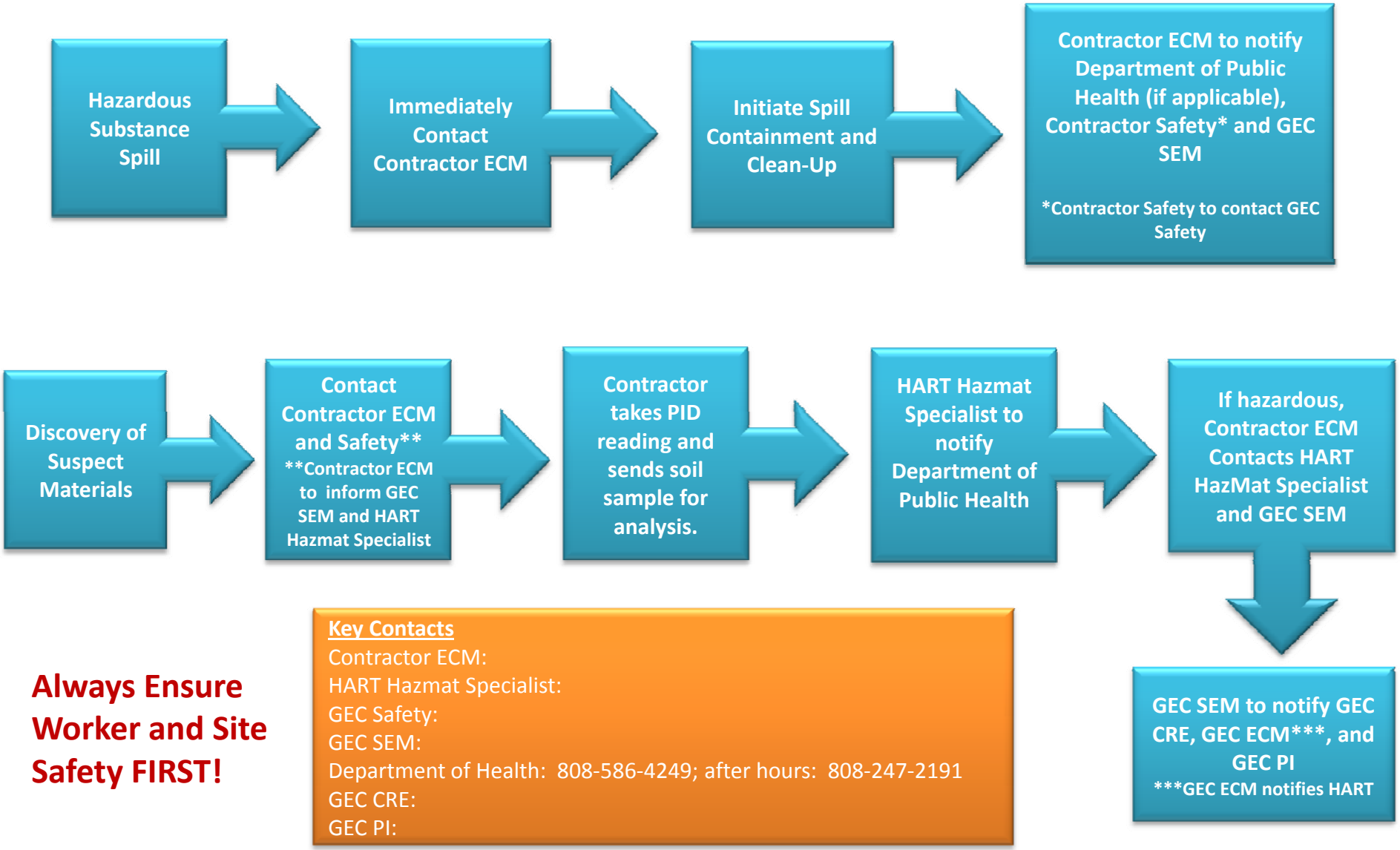
Process for Unexpected Impacts to Historic Properties



Always Ensure Worker and Site Safety FIRST!

Key Contacts
Contractor ECM:
GEC Planning Manager:
GEC CRE:
GEC SEM:
GEC ECM:
GEC PI:

Process for Unexpected Hazardous Substances Discovery or Spill



Always Ensure Worker and Site Safety FIRST!

Key Contacts

Contractor ECM:
HART Hazmat Specialist:
GEC Safety:
GEC SEM:
Department of Health: 808-586-4249; after hours: 808-247-2191
GEC CRE:
GEC PI:

Process for Unexpected Water Resources Impacts

TO BE COMPLETED BY SEM FOR EACH CONTRACT AS REQUIRED

Key Contacts
Contractor ECM:
GEC SEM:
GEC CRE:
GEC ECM:
Department of Health: 808-586-4309
US Army Corps of Engineers :

Always Ensure Worker and Site Safety FIRST!

Process for Unexpected Ecological Impacts

TO BE COMPLETED BY SEM FOR EACH CONTRACT AS REQUIRED

Key Contacts
Contractor ECM:
GEC SEM:
GEC ECM:

Always Ensure Worker and Site Safety FIRST!

ATTACHMENT C3

FORM TEMPLATES

Construction Mitigation Tracking for XXXX

Staff Identification
GEC CRE:
GEC Deputy CRE:
GEC ECM:
GEC SEM:
GEC FOEs:
GEC MMPA:
GEC MOT:
GEC PI:
Contractor ECM:
Contractor QA/QC:
Contractor Field Engineer: Depending on activity
Contractor Engineer: Depending on activity
HART Assistant Project Officer Planning & Environment:
HART Deputy Manager of Planning and Environmental:

MMid	Mitigation Measure	Associated FEIS Section, General Provision, or Special Provision	Criteria for Mitigation Compliance	Associated Permit	Associated Mitigation Documentation	Responsible Party for Mitigation Measure	Mitigation Monitoring Actions	Comments/Issues	Status of Mitigation Measure (Include Issues)

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GEC SEM Field Report

Date: _____

Time: _____

Section or Station: _____

Location: _____

_____

ATTACH PHOTOS (if applicable)

GEC SEM Weekly Report

Date:

GEC SEM:

Contract(s):

Red = Urgent Matter
Green = New Information

New topics or resource areas to be added to the beginning of the Topic and Status section. Once a topic is closed, it may be deleted from this report.

Action Items for GEC ECM

Topic and Status

Current construction activities:

Two-week activity preview:

Submittal Reviews

Contract	New Reviews (since last report)	Pending	Closed

NCRs

Contract	New (List Total Number and Associated Topic)	Pending	Resolved (List Remedy Action)

Instructions for Corridor-Specific Construction Mitigation Tracking Table

Column Title	Instruction
ROD ID	Identification number from the Record of Decision. Can be found in the Mitigation Monitoring Plan (MMP); work with MMPA to ensure all segment-appropriate measures are included.
Mitigation Measure	Description of mitigation measure from MMP.
Associated FEIS Section, ROD Section, General Provision, Special Provision, or Request for Change (RFC)*	Section in FEIS, General Provisions, or Special Provisions where the mitigation measure is either identified or a description of how the measure will be met is described.
Timing of Mitigation Measure	When the measure will be implemented; during design, construction, or operation.
Associated Permit	Note if a permit and the type of permit that is required for mitigation compliance.
Criteria for Completing Mitigation	Description of what needs to be completed to comply with mitigation measure.
Associated Mitigation Documentation	In addition to permits, list any associated documentation required for mitigation compliance. For example, a noise mitigation plan, plan sheets, or resource-specific memos.
Responsible Party for Mitigation Measure	Who is responsible for implementing the mitigation measure? Include all responsible parties.
Mitigation Monitoring Actions	Include monitoring responsibilities for the GEC SEM and FOEs.
Comments/Issues	List any additional information or issues that arise in the field.
Status of Mitigation Measure	Is it open or closed? Are there any issues and what is the status of the issue? If measure is closed, hide the row.

***Table should be updated with all RFCs as they occur including RFC number and additional mitigation measure language and requirements.**

ATTACHMENT C4

FIELD OVERSIGHT ENGINEER

TRAINING GUIDE

GENERAL ENGINEERING CONTRACTOR FIELD

OVERSIGHT ENGINEER

ENVIRONMENTAL COMPLIANCE TRAINING GUIDE

1.0 INTRODUCTION

The purpose of this guide is to provide a description of the types of environmental resources that occur within the project corridor; have the potential to be impacted during construction; provide a description of the mitigation measures for the resources; and construction activities that may constitute an "unanticipated impact." The Field Oversight Engineers are responsible for oversight of construction and notifying the General Engineering Contractor (GEC) Construction Resident Engineer (CRE) and the GEC Section Environmental Monitor (SEM) of any non-compliance issues or unanticipated impacts to environmental resources.

2.0 DEFINITIONS

Non-compliance – This occurs when the Contractor does not fulfill their mitigation requirements during construction.

Unanticipated Impacts – These are impacts that were not cleared or for which mitigation measures were not provided during the National Environmental Policy Act (NEPA) procedure. They could result from unanticipated discoveries during construction or from accidental impact during construction.

3.0 ENVIRONMENTAL RESOURCES

3.1 COMMUNITY FACILITIES AND SERVICES

Community facilities include pre-schools, elementary and secondary schools, colleges and universities, religious institutions, cemeteries, cultural institutions, government institutions, and national defense installations. It is important that there are no impacts to these properties in terms of accessibility other than what is planned for in the maintenance of traffic plans. Public services include police, transit security, fire, and emergency medical services. If any of these facilities are inadvertently impacted, please contact the SEM and explain the issue. Depending on the severity additional actions may need to be taken. Impacts may include unauthorized parking, destruction of property, fluid leakage, etc.

WOFH

KHG

MSF

Station Packages

3.2 HISTORIC, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

The FEIS identified all historic properties eligible for the National Register of Historic Places within the area of potential effect for the project. *Cultural resources* include sites or places associated with significant events and/or people important to the native Hawaiian patterns of prehistory in the study corridor and all associated resources associated with Hawaiian cultural practices.

WOFH

KHG

MSF

Station Packages

3.3 HAZARDOUS MATERIALS

Many federal and state laws regulate hazardous waste and materials. The primary federal laws are the Resource Conservation and Recovery Act of 1976 and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

Hazardous waste in the City and County of Honolulu is primarily regulated by the Office of Hazard Evaluation and Emergency Response and the Solid and Hazardous Waste Branch, both within the State of Hawai‘i Department of Health.

Hazardous materials are generally found in areas of past or present industrial uses, such as agricultural, food processing, or warehousing, or from commercial uses such as gas stations, dry cleaners, and auto repair shops. In addition, military activities are often a source of hazardous materials such as petroleum, pesticides, solvents, and heavy metals.

WOFH

KHG

MSF

Station Packages

3.4 SECTION 4(F)

Section 4(f) is a section of the U.S. Department of Transportation Act that addresses impacts to publically-owned parks and recreation areas, waterfowl and wildlife refuges, and significant historic sites. All potential impacts to Section 4(f) properties must be avoided if feasible or minimized to the greatest extent possible. Impacts that are identified as minimal and will not adversely affect the activities, features, or attributes of the property are referred to as *de minimis* impacts.

WOFH

KHG

MSF

Station Packages

3.5 NOISE AND VIBRATION

The most common noise source in construction areas would be engine-powered machinery, such as earth-moving equipment (bulldozers), materials handling equipment (cranes), and stationary equipment (generators). Mobile equipment (e.g., trucks and excavators) operates in a cyclic manner, and stationary

equipment (generators and compressors) generates noise at fairly constant levels. The loudest and most disruptive construction activities would be impact pile-driving followed by demolition, jackhammers, and hoe rams. Impact pile-driving, if used as a method for pile placement, would result in the loudest and most disruptive construction work.

Common sources of vibration during construction activities include jackhammers, pavement breakers, hoe rams, bulldozers, and backhoes. Pavement breaking and soil compaction would likely produce the highest levels of vibration. Depending on soil conditions in an area, activities such as pile-driving can generate enough vibration to result in substantial short-term noise impacts. Vibration becomes a concern during construction when the vibration is strong enough to cause structural damage to historic properties, utilities or other buildings.

WOFH

KHG

MSF

Station Packages

3.6 WATER RESOURCES

This section describes the existing surface water resources in each section and the current mitigation measures for the water resources. Surface waters include all navigable waterways, tributaries to navigable waterways, wetlands, and associated floodplains. Several agencies have jurisdiction over surface waters and floodplains, including the US Army Corps of Engineers (USACE), Federal Emergency Management Agency, Honolulu Department of Health, and the US Coast Guard.

WOFH

KHG

MSF

Station Packages

3.7 ECOSYSTEMS

The assessment of vegetation and wildlife was made by reviewing existing studies, consulting with resource agencies, and conducting field studies. Unanticipated impacts to threatened and endangered species, trees, migratory birds, and other special status species must be documented.

WOFH

KHG

MSF

Station Packages

ATTACHMENT C5

MITIGATION MONITORING PLAN EXAMPLE REPORT

W. Oahu / Farrington Highway Guideway DB

Contractor: Kiewit Pacific Co.
Contract No: 1000137

Mitigation Monitoring Report

October, 2011

Mitigation ID	Source/Link to CMS	Mitigation Measure	Latest Status	Verified By	Red Flag
		Community Facilities			
CF03		**Leeward Community College Portable Building and Parking Space Relocation**	11/1/11	James T. Hayes	
		On November 1, 2011, HART submitted to the Department of Planning and Permitting (DPP) a Planned Review Use (PRU) minor modification request for Leeward Community College (LeeCC). The PRU request includes information regarding the relocation of LeeCC parking and buildings (see attached for details). It is anticipated that DPP will respond to this PRU minor modification request within 45 to 60 days.			
		Link to signed application https://hrtcm.aloharail.com/exponline/crframe.jsp?filename=LCCPRU_111101_dpp_finalapplication_signed.pdf&action=showlatestversion&cr_external_key=%2FCMDEMO%2FAP00ENV%2FPermits%2FHART %28Preliminary Engineering%2C PRU%29%2FLCCPRU_111101_dpp_finalapplication_signed.pdf&isAttachment=true Email to LeeCC with updated PRU 2011-10-24_HARTEmailToLCC-ApplicationRevised.pdf			
		Construction Effects			
CON01		**Landscape Maintenance During Construction**			
		On Monday, October 17, a new contractor was hired to maintain all landscaping areas within the Farrington Highway median.	10/17/11	Stephanie Roberts	
CON03		**Maintenance of Traffic and Transit Mitigation Program**	11/1/11	Stephanie Roberts	
		MOT notification was in compliance with weekly lane closure information and updates sent out to the public November 6 and 20.			
		Weekly Lane Closure 11.20.11-11.22.11.pdf PSA 11-6 WOFH RoadWorkPSA110611.doc Traffic Update 11-6			

W. Oahu / Farrington Highway Guideway DB

Contractor: Kiewit Pacific Co.
Contract No: 1000137

Mitigation Monitoring Report

October, 2011

HONOLULU RAIL TRANSIT

Mitigation ID	Source/Link to CMS	Mitigation Measure	Latest Status	Verified By	Red Flag
		Construction Effects			
	WOFH-TrafficUpdate-20111106.pdf KIWC eblast 11-6 WOFH Weekly Update 20111104.htm Weekly Lane Closure 10.9.11-10.14.11_ Update 2.pdf Weekly Lane Closure 10.16.11-10.21.pdf 20111023-wofh-traffic-work-update.pdf MOT FOE report https://hrtcm.mlmprojectservices.com/exponline/documentrequestforward.do?projectname=BG00&basesysitemtype=DAI&masterkey=92702cb4bd5f489797e1fe062d&action=show GEC FOE MOT engineer report https://hrtcm.mlmprojectservices.com/exponline/documentrequestforward.do?projectname=BG00&basesysitemtype=DAI&masterkey=b953a52a40064a33b928a3ee15&action=show GEC MOT field observation log https://hrtcm.mlmprojectservices.com/exponline/documentrequestforward.do?projectname=BG00&basesysitemtype=DAI&masterkey=0634f1018de14c1c8b3d215d80&action=show GEC MOT field observation log https://hrtcm.mlmprojectservices.com/exponline/documentrequestforward.do?projectname=BG00&basesysitemtype=DAI&masterkey=0634f1018de14c1c8b3d215d80&action=show GEC MOT field observation report https://hrtcm.mlmprojectservices.com/exponline/documentrequestforward.do?projectname=BG00&basesysitemtype=DAI&masterkey=7e2f4e20c09646da8f0404b8b7&action=show MOT FOE report https://hrtcm.mlmprojectservices.com/exponline/documentrequestforward.do?projectname=BG00&basesysitemtype=DAI&masterkey=92702cb4bd5f489797e1fe062d&action=show			
CON05	**Environmental Compliance Manager Duties**	On November 15 and 21, 2011, HDOT conducted Third Party Inspections for permits and BMPs plans. A few Minor deficiencies were found and immediately corrected by the contractor.	11/15/11	Stephanie Roberts	

ATTACHMENT C6

NOISE AND VIBRATION MITIGATION PLAN

1.0 INTRODUCTION

This plan is an element of the Honolulu Rail Transit Project Environmental Compliance Monitoring Manual (ECMM), which is the Construction Mitigation Plan for the project. This plan outlines the required noise and vibration mitigation measures and monitoring of compliance with the measures. This plan will be updated on a regular basis when new noise permits or variances are issued and when contractors complete or update either a Construction Noise Management and Mitigation Plan or a Vibration Control Plan.

2.0 NOISE

Construction Noise on the island of O‘ahu is regulated by the State of Hawaii Department of Health. The City and County of Honolulu (City) must obtain a Noise Permit that allows construction to occur during daytime hours (between 7 a.m. and 6 p.m.) Nighttime construction activities will require a Noise Variance. The variance will include specific mitigation requirements for each construction contract. This Noise and Vibration Construction Mitigation Plan will incorporate by reference each Noise Permit and Noise Variance issued to the Project as the Project noise requirements applicable to the area and activities referenced in the Noise Variance.

The most common noise source in construction areas would be engine-powered machinery, such as earth-moving equipment (bulldozers), materials handling equipment (cranes), and stationary equipment (generators). Mobile equipment (e.g., trucks and excavators) operates in a cyclic manner, and stationary equipment (generators and compressors) generates noise at fairly constant levels. The loudest and most disruptive construction activities would be impact pile-driving followed by demolition, jackhammers, and hoe rams.

HART has conducted noise measurements of major activities associated with construction of the foundations and columns that will support the guideway. Noise levels were measured for three types of foundation drilling equipment. Lmax noise levels were measured at 50 feet from the operating equipment (Table 1). The crane motor was the greatest noise source. Noise levels from a cement pour for a test foundation ranged between 76 and 79 dBA at 50 feet.

Table 1. Measured Lmax Noise Levels at 50 feet for Three Types of Drill Equipment

Type of Equipment	Lmax (dBA)
Rotary Drill	74 to 82 dBA
Crane with Rotary Attachment	87 to 99 dBA
Crane with Oscillator	80 to 84 dBA

For each contract requiring an individual Noise Variance, the contractor shall prepare a Construction Noise Management and Mitigation Plan to meet the requirements of the Noise Variance. This Noise and Vibration Construction Mitigation Plan will incorporate by reference each Construction Noise

Management and Mitigation Plan once the plan has been submitted to the State of Hawaii Department of Health Indoor and Radiological Health Branch.

Construction noise monitoring will be carried out as required by each Noise Variance.

3.0 VIBRATION

Common sources of vibration during construction activities include pile drivers, vibratory rollers, pavement breakers, hoe rams, and ground compactors. Pile driving, soil compaction, and demolition activities would likely produce the highest levels of vibration. Vibration becomes a concern during construction when the vibration is strong enough to cause structural damage to historic properties, utilities or other buildings.

HART has conducted vibration measurements of major activities associated with construction of the foundations and columns that will support the guideway. Because soil types vary, these measurements are typical, but not representative of all conditions. Vibration levels were measured for three types of foundation drilling equipment. Peak particle velocity (PPV) levels were measured at 25 and 50 feet from the operating equipment (**Error! Reference source not found.**). Vibration levels from a cement pour for a test foundation ranged between 0.020 and 0.021 (inch-per-second) at 25 feet.

Table2. Measured PPV for Three Types of Drill Equipment

Type of Equipment	PPV(inch-per-second)	
	25 feet	50 feet
Rotary Drill	0.046 to 0.092	0.023 to 0.046
Crane with Rotary Attachment	0.006 to 0.084	0.003 to 0.042
Crane with Oscillator	0.040 to 0.158	0.020 to 0.079

For each construction contract, the contractor will be responsible for preparation of a Vibration Control Plan. The plan will identify and address each location where construction activities that create potentially damaging vibration at vibration sensitive buildings. **Error! Reference source not found.** lists peak particle velocity (PPV) potential damage criteria for various structure types as listed in the FTA guidebook *Noise and Vibration Impact Assessment* (FTA 2006). Category IV includes buildings in poor structural condition. The majority of historical buildings within the Area of Potential Effect for the project are Category III buildings.

Table3. Construction Vibration Damage Criteria

Building Category	PPV (inch-per-second)
I. Reinforced-concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

Buildings may experience damage when vibration levels at the building foundation exceed the vibration damage criteria listed in **Error! Reference source not found.**. Damage would be limited to superficial cracking at levels close to the criteria. Structural damage could occur at levels greatly exceeding the criteria.

The use of impact equipment has the potential to create vibration levels at or above the construction vibration damage criteria. Such equipment includes pile drivers, vibratory rollers, ground compactors, and mounted hoe rams. Table 4 provides distances at which these equipment types may, under certain ground conditions, cause vibration levels that approach the criteria listed in Table 3.

Table 4. Construction Vibration Concern Distances (in feet)

Equipment Type	Building Category	
	IV. Extremely Susceptible to Damage	Categories I - III
Pile Driving	200 feet	100 feet
Other vibration-causing equipment	50 feet	25 feet

In any location where a contractor proposes to use a pile driver within 200 feet or other vibration-causing equipment (such as vibratory rollers, ground compactors, and mounted hoe rams) within 50 feet of a structure, the proposed activity must be addressed through a vibration control plan. The plan must consider the category and condition of the nearby building and the nature of the activity to determine if mitigation is required. The plan may also, if supported by soil transfer mobility measurement data, consider soil conditions in evaluating the potential for vibration impacts.

At any location where vibration-causing equipment would be used within a distance from a building that could cause potential structural damage, the following measures would be implemented:

1. Before and after photo-documentation of building condition, including any cracks in the building foundation, façade, or finishes.
2. Monitoring of vibration levels at the building foundation during construction activity.

4.0 WEST OAHU FARRINGTON HIGHWAY

Noise

Vibration

5.0 KAMEHAMEHA HIGHWAY GUIDEWAY

Noise

Vibration

6.0 MAINTENANCE STORAGE FACILITY

Noise

Vibration

7.0 FARRINGTON HIGHWAY STATIONS

Noise

Vibration

8.0 WEST OAHU STATIONS

Noise

Vibration

9.0 PEARL HIGHLANDS GARAGE AND H2 RAMPS

Noise

Vibration

10.0 KAMEHAMEHA STATIONS

Noise

Vibration

11.0 AIRPORT UTILITY AND GUIDEWAY

Noise

Vibration

12.0 AIRPORT STATIONS

Noise

Vibration

13.0 CITY CENTER UTILITY, GUIDEWAY AND ALA MOANA STATION

Noise

Vibration

14.0 DILLINGHAM STATIONS

Noise

Vibration

15.0 CITY CENTER STATIONS

Noise

Vibration

16.0 KAKA‘AKO STATIONS

Noise

Vibration

ATTACHMENT C7

ENVIRONMENTAL GENERAL CONDITIONS

AND SPECIAL PROVISIONS

ATTACHMENT C8

PERMIT CONDITIONS