

SECTION 01570 – ENVIRONMENTAL CONTROL (Revised per Addendum No. 1 dated July 12, 2024)

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

With the exception of those measures set forth elsewhere in these Specifications, environmental protection shall consist of the prevention of environmental pollution as the result of construction operations under this Contract. For the purpose of this specification, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utilization of the environment for aesthetic and recreational purposes.

The control of environmental pollution and damage requires consideration of air, water, and land, and includes management of visual aesthetics, noises, solid waste, radiant energy and radioactive materials, as well as other pollutants.

Contractor shall provide and maintain, during the life of the Contract, environmental protection as defined; plan for and provide environmental protective measures to control pollution that develops during normal construction practice; and comply with Federal, State, and County regulations pertaining to the environment including, but not limited to, water, air, and noise pollution.

- A. The work under this section shall include the following:
1. Ensure that all required permits and certifications are obtained and are valid for the construction period. Permits and certifications may include, but are not limited to:
    - a. U.S. Army Corps of Engineers permit
    - b. State Department of Health, Section 401 Water Quality Certification
    - c. State Department of Health Noise Permit
    - d. Hawaii County Grading Permit
    - e. National Pollution Discharge Elimination System (NPDES) permit
  2. Provide all air and water quality testing and monitoring work required by the permits during construction.
  3. Provide all facilities, equipment, and structural controls for minimizing adverse impacts upon the environment during the construction period.

## 1.02 SUBMITTALS

Environmental Protection Plan: Within thirty (30) days after the award of the Contract, the Contractor shall submit an environmental protection plan. Prior to starting work, the Contractor shall meet with the Engineer to develop mutual understanding relative to compliance with this provision and administration of the Environmental Protection Plan and compliance with the U.S. Army Corps of Engineers permit and Section 401 Water Quality Certification. Approval of the Contractor's plan will not relieve the Contractor of his responsibility for adequate and continuing control of pollutants and other environmental protection measures as required by the permitting documents. The Environmental Protection Plan shall comply with the project Dredging Operation and Site-Specific Best Management Practices Plan (BMPP) to protect resources needing protection (i.e. landscape features, air and water quality, fish and wildlife, etc.); procedures to be followed to correct pollution of the environment due to accident or failure to follow the procedures set out in the Environmental Protection Plan; inspection and maintenance of pollution control measures; monitoring and photographic documentation of the worksite.

Daily Field Reports: Daily Field Reports (DFRs) shall be submitted to the Engineer on a weekly basis. DFRs shall identify the work activities, equipment and labor, condition of pollution control measures, monitoring, and photographic documentation of the worksite as appropriate.

## 1.03 DESCRIPTION OF WORK

Applicable Regulations: In order to provide for abatement and control of environmental pollution arising from the construction activities of the Contractor and his subcontractors in the performance of this Contract, the work performed shall comply with the intent of the applicable Federal, State, and local laws and regulations concerning environmental pollution control and abatement, including, but not limited to, the following regulations:

1. State of Hawaii, Department of Health, Administrative Rules, Title 11, Chapter 54, WATER QUALITY STANDARDS
2. State of Hawaii, Department of Health, Administrative Rules, Title 11, Chapter 55, WATER POLLUTION CONTROL
3. State of Hawaii, Department of Health, Administrative Rules, Title 11, Chapter 59, AMBIENT AIR QUALITY STANDARDS
4. State of Hawaii, Department of Health, Administrative Rules, Title 11, Chapter 60.1, AIR POLLUTION CONTROL

5. State of Hawaii, Department of Health, Administrative Rules, Title 11, Chapter 46,  
COMMUNITY NOISE CONTROL

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 ENVIRONMENTAL PROTECTION PLAN

- A. Before commencement of the work, the Contractor shall submit in writing a plan for implementing the requirements of this section, including training for his personnel during the construction period. Work shall not commence until acceptance of the plan by the Engineer. Acceptance of the Contractor's plan will not relieve the Contractor of his responsibility for adequate and continuing environmental controls specified herein.
- B. The Environmental Protection Plan shall contain the following items, as a minimum:
  1. The Contractor's plan for mitigation measures to control turbidity in the harbor basin, in the event that turbidity measurements exceed State Water Quality Standards.
  2. The name of the Contractor's designated individual responsible for all environmental monitoring and reporting. The individual's name and contact telephone numbers will also be provided to the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service (USFWS), U.S. Coast Guard, and National Marine Fisheries Service's Land Use Commission prior to construction activities.
  3. The Contractor's plan to inform employees about the endangered Hawaiian Monk Seal, Green Sea Turtle and Newell's Shearwaters.
  4. The Contractor's plan for fuel storage, spill prevention, and cleanup.
  5. The Contractor's plan for dust control measures.
- C. The Contractor shall be responsible for compliance with the Environmental Protection Plan and provisions of this section by all subcontractors and suppliers.

### 3.02 BEST MANAGEMENT PRACTICES PLAN (BMPP)

The Contractor shall comply with the Site-Specific Best Management Practices Plan (BMPP) included in the project permitting documents. The Contractor shall comply with the terms of the BMPP and make adjustments as necessary to ensure adequate protections are in place throughout the construction period.

In addition to compliance with the BMPP, the Contractor shall comply with the following:

1. The Contractor shall abide by all applicable Federal, State, and Local Environmental Protection Standards, Laws and Regulations, including the Best Management Practices plans incorporated or required by U.S. Army Corps of Engineers Nationwide Permits, and Hawaii Administrative Rules, Title 11 Department of Health, Chapter 55, Water Pollution Control.
2. To the extent practicable, work in the aquatic environment must be scheduled to avoid coral spawning and recruitment periods and sea turtle nesting and hatching periods. Coordinate with USFWS and National Marine Fisheries Service to identify these time periods.
3. The Contractor shall provide protective measures to capture all debris from demolition and construction activities and ensure that petroleum products or other deleterious materials are not allowed to enter the water.
4. The Contractor shall take measures to prevent sediment runoff from areas disturbed by construction activities from entering the water.
5. The Contractor shall install temporary sediment control filter at any affected drain inlets before any work commences. Sediment control filters shall remain until after completion of construction activities.
6. The Contractor shall use full-depth silt curtains to enclose the work area to control turbidity and reduce the anticipated effects of suspension of disturbed sediments during dredging work.
7. The Contractor will capture and dispose of all newly-generated wastes above water. Solid wastes shall be picked up and placed in containers that are regularly emptied. Site contamination shall be prevented when handling and disposing of all wastes. The project site shall be cleaned up at the end of each workday to prevent debris from entering the water.

8. No contamination of adjacent waters of the United States, including special aquatic sites, shall result from project-related activities. Special attention must be paid to fouling on barges, vessels, and equipment to minimize transport and potential introduction and spread of aquatic non-native species.
9. The Contractor shall ensure all tires of construction vehicles are cleaned off such that dirt or debris is not tracked off the construction site. Washing off tires with water will not be accepted unless the wash runoff is contained and does not enter State waters.
10. All project-related materials and equipment to be placed in any aquatic environment shall be inspected and cleaned of pollutants, organic matter, and invasive species prior to use in any aquatic environment.
11. Project-related materials shall not be stockpiled in the aquatic environment or in close proximity such that materials could be carried into waters by wind, rain, or high surf.
12. Fueling of project-related vehicles and equipment shall take place away from the water and a contingency plan to control petroleum products accidentally spilled during project activities shall be developed. Absorbent pads and containment booms shall be stored to facilitate the cleanup of accidental petroleum releases.
  - a. Oil or other hazardous substances shall be prevented from entering the ground, drainage area, or local bodies of water. All temporary fuel oil or petroleum storage tanks shall be contained to prevent accidental release. Fueling and lubrication of equipment and motor vehicles shall be conducted in a manner to protect against leaks or spills, lubricants and excess oil will be disposed in accordance with applicable Federal, State, and Local Regulations.
  - b. All equipment shall be inspected daily for leaks. Any leaks shall be corrected before equipment is used.
  - c. One spill kit each shall be kept on board the work barge and the landside staging area in case of accidental release of any petroleum products.
  - d. All major spills shall be reported to the National Response Center (Phone: 800-424-8802), United States Coast Guard (Phone: 808-842-2600), State Department of Health Hazard Evaluation and Emergency Response Office (Phone: 808-586-4249).

### 3.03 DREDGING AND EXCAVATION BEST MANAGEMENT PRACTICES

- A. The Engineer will notify the Contractor in writing of any observed noncompliance with the Contractor's Environmental Protection Plan. The Contractor shall, after receipt of such notice, inform the Engineer of proposed corrective action and take such action as appropriate.
- B. Heavy equipment will be operated from above and out of the water, except for the actual dredging apparatus (e.g. clamshell buckets, or the scoop and articulated arm of a backhoe, hydraulic head, etc.).
- C. Use of hydraulic dredging must include the installation of excluder devices adequate to prevent the entrainment or impingement of protected marine species such as sea turtles.
- D. The use of a trailing suction hopper dredge, or hopper dredge, is not authorized. There have been numerous observed mortalities of sea turtles associated with these vessel types.
- E. The use of dustpan dredges, which use high velocity water jets to loosen material before sucking it into their apparatus, is not authorized. This technique causes high turbidity and the effects of water velocities from water jets to ESA-listed species have not been evaluated.
- F. The portions of the equipment that enter the water will be clean and free of pollutants.
- G. Appropriate silt containment devices must be used and properly installed to avoid the potential degradation of adjacent habitats and aquatic vegetation.
- H. Dredged material must be deposited at upland sites, or at EPA designated ocean disposal sites, provided the sediment standards are met.

### 3.04 AIR POLLUTION CONTROL

- A. Emission: The Contractor shall not be allowed to operate equipment and vehicles that show excessive emissions of exhaust gases until corrective repairs or adjustments are made to the satisfaction of the Engineer.

B. Dust:

1. The Contractor, for the duration of the Contract, shall maintain all excavations, embankments, haul roads, permanent access roads, plant sites, waste disposal areas, borrow areas, and all other work areas within or outside the project limits free from dust which would cause a hazard to the work, or the operations of other contractors, or to persons or property. Industry-accepted methods of stabilization suitable for the area involved, such as sprinkling or similar methods, will be permitted. Chemicals or oil treating shall not be used.
2. The Contractor shall construct dust screens around all excavated material.

C. Burning shall not be permitted.

3.05 WATER POLLUTION CONTROL

- A. Water pollution control shall be in accordance with State of Hawaii, Department of Health, Administrative Rules, Title 11, Chapter 54, WATER QUALITY STANDARDS and in compliance with the Department of Health, Section 401 Water Quality Certification. Water quality monitoring shall be done in accordance with the Applicable Monitoring and Assessment Plan.
- B. Dredging Operations: The Contractor shall plan his dredging operations and perform all work necessary to minimize adverse impact or violation of the water quality standard. In the event that a turbidity plume and/or floating hydrocarbon (oil, gas) products are observed, in-water work shall be suspended so that appropriate corrective measures are taken. The Honolulu District Regulatory Branch of the U.S. Army Corps of Engineers (Telephone 808-835-4303) shall be notified as soon as practicable and the activity causing the plume will be modified by containment.
- C. Turbidity and siltation from project-related work shall be minimized and contained within the vicinity of the site through the appropriate use of effective silt containment devices and the curtailment of work during adverse tidal and/or weather conditions.
- D. Dredging and filling in the marine/aquatic environment shall be designed to avoid or minimize the loss special aquatic site habitat (beaches, coral reefs, wetlands, etc.) and the function of such habitat shall be replaced.
- E. No project-related materials (fill, revetment rock, pipe, etc.) should be stockpiled in the water (intertidal zones, reef flats, stream channels, wetlands, etc.) or on beach habitats.

- F. All debris removed from the marine/aquatic environment shall be disposed of at an approved upland or ocean dumping site.
- G. No contamination (trash or debris disposal, non-native species introductions, attraction of nonnative pests, etc.) of adjacent habitats shall result from project-related activities. This shall be accomplished by implementing a litter-control plan and developing a Hazard Analysis and Critical Control Point Plan to prevent attraction and introduction of non- native species.
- H. Fueling of project-related vehicles and equipment should take place at least 50 feet away from the water and a spill prevention, control, and countermeasure (SPCC) plan to control petroleum products accidentally spilled during the project shall be developed. Absorbent pads and containment booms shall be stored on-site, if appropriate, to facilitate the clean-up of accidental petroleum releases.
- I. Any under-layer fills used in the project shall be protected from erosion with stones (or core-loc units) as soon after placement as practicable.

### 3.06 NOISE CONTROL

- A. Noise shall be kept within acceptable levels at all times in conformance with State of Hawaii, Department of Health, Administrative Rules, Title 11, Chapter 46, COMMUNITY NOISE CONTROL. The Contractor shall obtain and pay for noise permits from the State Department of Health when the construction equipment or other devices emit noise at levels exceeding the allowable limits.
- B. Construction equipment shall be equipped with suitable mufflers to maintain noise within levels complying with applicable regulations.
- C. Starting up of construction equipment meeting allowable noise limits shall not be done prior to 6:45 a.m. without prior approval of the Engineer. Equipment exceeding allowable noise limits shall not be started up prior to 7:00 a.m.

### 3.07 SOLID WASTES

The handling of solid wastes shall be in compliance with the requirements stated in the BMPP.

- A. No burning of debris and/or waste materials shall be permitted.
- B. No burying of debris and/or waste material except for materials which are specifically indicated



elsewhere in these specifications as suitable for backfill shall be permitted on the project site.

- C. Clean-up shall include the collection and removal of all waste paper and wrapping materials, cans, bottles, construction waste materials, and other objectionable materials. Frequency of clean-up shall coincide with rubbish producing events.
- D. Construction waste, such as crates, boxes, building materials, pipes, and other rubbish shall be reduced to a size approved by the Hawaii County. Large size objects shall be reduced to a size acceptable by the County Specifications for disposal in their landfills. Other areas or methods proposed by the Contractor will be allowed only if the Engineer determines that their effect on the environment is equal to or less than those described herein.

3.08 THREATENED AND ENDANGERED SPECIES

- A. The protection of threatened and endangered species shall be in compliance with the requirements in the U.S. Army Corps of Engineers Permit.

The following are Federally listed species with potential to occur in the Project area.

<b>Mammals</b>
‘ōpe‘ape‘a, Hawaiian Hoary Bat ( <i>Lasiurus cinereus semotus</i> )
<b>Seabirds</b>
‘Akē‘akē, band-rumped storm petrel ( <i>Oceanodroma castro</i> )
‘A‘o, Newell’s shearwater ( <i>Puffinus auricularis newelli</i> )
‘Ua‘u, or Hawaiian petrel ( <i>Pterodroma sandwichensis</i> )
Short-tailed Albatross ( <i>Phoebastria (=Diomedea) albatrus</i> )
<b>Waterbirds</b>
‘Alae ke‘oke‘o, Hawaiian coot ( <i>Fulica americana alai</i> )
Ae‘o, Hawaiian stilt ( <i>Himantopus mexicanus knudseni</i> )
Koloa Maoli, or Hawaiian duck ( <i>Anas wyvilliana</i> )
<b>Other</b>
Nēnē, Hawaiian goose ( <i>Branta sandvicensis</i> )
<b>Reptiles</b>
Honu, Green sea turtle [Central North Pacific DPS] ( <i>Chelonia mydas</i> ) + proposed critical habitat

Honu‘ea, or Hawksbill sea turtle ( <i>Eretmochelys imbricata</i> )
<b>Plants</b>
Hau Kuahiwi ( <i>Hibiscadelphus giffardianus</i> )
Hilo ( <i>Ischaemum Ischaemum byrone</i> )
Ihi ( <i>Portulaca villosa</i> )
Loulu ( <i>Pritchardia maideniana</i> )
Palapalai ( <i>Microlepia strigosa var. mauiensis</i> )

B. ‘ōpe‘ape‘a Hawaiian hoary bat

1. Do not disturb, remove, or trim woody plants greater than 15 ft tall during the bat birthing and pup rearing season (June 1 through September 15).
2. Do not use barbed wire for fencing.

C. Nēnē, Hawaiian goose

1. Do not approach, feed, or disturb nēnē.
2. If nēnē are observed loafing or foraging within the project area during the breeding season (September 1 to April 30), halt work and have a qualified biologist familiar with the nesting behavior of nēnē survey for nests in and around the project area prior to the resumption of any work. Repeat surveys after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest).
3. Cease all work immediately and contact the PIFWO for further guidance if a nest is discovered within a radius of 100 ft of proposed work, or a previously undiscovered nest is found within said radius after work begins. A 150 ft boundary will be clearly marked around the nest with guidance from a qualified biologist, and activities will remain outside the boundary.
4. In areas where nēnē are known to be present or observed during construction, post and implement reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site.

D. Hawaiian Seabirds

1. Fully shield all outdoor lights so the bulb can only be seen from below bulb height and

only use when necessary.

2. Install automatic motion sensor switches and timer controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
3. Avoid nighttime construction during the seabird fledging period, September 15 through December 15.
4. Where fences extend above vegetation, integrate three strands of polytape into the fence to increase visibility.
5. For powerlines, guywires and other cables, minimize exposure above vegetation height and vertical profile.

#### E. Waterbirds

1. In areas where waterbirds are known to be present, post and implement reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site or nearby.
2. If water resources are located within or adjacent to the project site, incorporate the applicable BMPs regarding work in aquatic environments into the project design.
3. Cover containers in the work area with the potential for collecting/containing low standing water.
4. Have a biological monitor that is familiar with the species' biology conduct waterbird nest surveys where appropriate habitat occurs within 100 ft of the proposed project site prior to project initiation. Repeat surveys again within 3 days of project initiation and after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest).
5. If a nest or active brood is found in the project area:
  - a. Contact the PIFWO within 24 hours for further guidance.
  - b. Establish and maintain a 100-foot buffer around all active nests and/or broods until the chicks/ducklings have fledged. Do not conduct potentially disruptive activities or habitat alteration within this buffer.

- c. Have a biological monitor that is familiar with the species' biology present on the project site during all construction or earth moving activities until the chicks/ducklings fledge to ensure that waterbirds and nests are not adversely impacted.

#### F. Sea Turtles

1. A qualified biologist or trained observer may be required on-site throughout excavation and dredging operations.
2. Do not remove native dune vegetation.
3. Have a qualified biologist familiar with sea turtles conduct a visual survey of the action area to ensure no basking sea turtles are present.
4. Remove any project-related debris, trash, or equipment from the beach or dune if not actively being used.
5. Do not stockpile project-related materials in the intertidal zone, reef flats, or stream channels.
6. If a basking sea turtle is found within the action area:
  - a. Cease all mechanical or construction actions within 100 feet until the animal voluntarily leaves the action area.
  - b. Cease all actions between the basking turtle and the ocean.
7. To avoid or minimize potential project impacts to sea turtles from light attraction, implement the following conservation measures:
  - a. Avoid nighttime work during the nesting and hatching season (May 1 to December 31).
  - b. Minimize the use of lighting and shield all project-related lights so the light is not visible from any beach or the water.
  - c. If lights can't be fully shielded or if headlights must be used, fully enclose the light source with light filtering tape or filters.
  - d. Incorporate design measures into the action or operation of buildings adjacent to the beach to reduce ambient outdoor lighting such as tinting or using automatic window

shades for exterior windows that face the beach; reducing the height of exterior lighting to below three feet and pointed downward or away from the beach. In order to minimize light intensity, lighting sources will use low pressure sodium 18 watts, 35 watts and lighting sources that produce light of 580 nanometers or longer and, when possible, include timers and motion sensors.

#### G. Plants

1. Minimize disturbance outside of existing developed or otherwise modified areas.
2. When disturbance outside existing developed or modified sites is proposed, conduct a botanical survey for listed plant species within the project Action area (surveys should be conducted by a botanist with documented experience in identifying native plants); surveys should be conducted during an appropriate time period for the potentially occurring protected species, if possible; for example, “surveys should be conducted during the wettest part of the year (e.g., October to April)”.
3. The boundary of the area occupied by listed plants should be marked with flagging by the surveyor; PIFWO recommends adherence to buffer distances in Table 1. However, where project activities will occur within the recommended buffer distances, additional consultation with PIFWO is required.
4. Where disturbed areas do not need to be maintained as an open area, restore disturbed areas using native plants as appropriate for the location.
5. Ensure that all equipment, personnel and supplies are properly checked and are free of contamination (i.e., weed seeds, organic matter, or other contaminants) before entering project areas.
6. Quarantines and/or management activities occurring on specific priority invasive species in the vicinity of a project should be adequately addressed, as required.
7. Buffer Distances: Follow the recommended buffer distances to minimize and avoid potential adverse impacts to listed plants from the activities indicated below.

Action	Buffer Distance (feet (meters))		
	Grasses/Herbs/Shrubs and Terrestrial Orchids	Trees and Arboreal Orchids	
Walking, hiking, surveys	3 ft (1 m)	3 ft (1 m)	
Cutting and Removing Vegetation By Hand or Hand Tools (e.g., weeding)	3 ft (1 m)	3 ft (1 m)	
Mechanical Removal of Individual Plants or Woody Vegetation (e.g., chainsaw, weed eater)	3 ft up to height of removed vegetation (whichever greater)	3 ft up to height of removed vegetation (whichever greater)	
Removal of Vegetation with Heavy Equipment (e.g., bulldozer, tractor, “bush hog”)	2x width equipment + height of vegetation	820 ft (250 m)	
Use of Approved Herbicides (following label)	Ground-based Spray Application; hand application (no wand applicator; spot treatment)	10 ft (3 m)	Crown diameter
	Ground-based Spray Application; manual pump with wand, backpack	50 ft (15 m)	Crown diameter
	Ground-based Spray Application; vehicle-mounted tank sprayer	50 ft (15 m)	Crown diameter
	Aerial Spray (ball applicator)	250 ft (76 m)	250 ft (76 m)
	Aerial Application – herbicide ballistic technology (individual plant treatment)	100 ft (30 m)	Crown diameter
	Aerial Spray (boom)	Further consultation required	Further consultation required
Use of Insecticides (pollinators, seed dispersers)	Further consultation required	Further consultation required	
Ground/Soil Disturbance/Outplanting/Fencing (Hand tools; Small mechanized tools)	20 ft (6 m)	2x crown diameter	

<b>Action</b>		<b>Buffer Distance (feet (meters))</b>	
		<b>Grasses/Herbs/Shrubs and Terrestrial Orchids</b>	<b>Trees and Arboreal Orchids</b>
<b>Ground/Soil Disturbance (Heavy Equipment)</b>		328 ft (100 m)	820 ft (250 m)
<b>Surface Hardening/ Soil compaction</b>	<b>Trails (e.g., human, ungulates)</b>	20 ft (6 m)	2x crown diameter
	<b>Roads/Utility Corridors, Buildings/Structures</b>	328 ft (100 m)	820 ft (250 m)
<b>Prescribed Burns</b>		Further consultation required	Further consultation required
<b>Farming/Ranching/Silviculture</b>		820 ft (250 m)	820 ft (250 m)

### 3.09 HISTORICAL, ARCHAEOLOGICAL AND CULTURAL RESOURCES

- A. There are no known historical, archaeological, or cultural resources within the Contractor’s work area as defined on the plans. However, known historical, archaeological, or cultural resources are located near the project area. The Contractor shall protect the known sites near the project site from damage or inadvertent disturbances.
- B. If items of apparent historical or archaeological interest are discovered in the course of any construction activities, they shall be left undisturbed, and the Contractor shall immediately report the find to the Engineer.

### 3.10 CONSERVATION MEASURES

- A. The Contractor shall ensure Federal Emergency Management Agency (FEMA) and USFWS Pacific Islands Fish and Wildlife Office (PIFWO) are provided reasonable access to the project to monitor the compliance with and effectiveness of approval conditions.
- B. The Contractor shall document and report to the Engineer all interactions with listed species.

Should it become apparent that an ESA-listed species may be adversely affected by the project, all work must stop pending completion of consultation between FEMA and USFWS for the action and the reinitiating approval.

- C. Constant vigilance shall be kept for the presence of ESA-listed species during all aspects of the Project. A Biological Monitor shall be on site to enforce conservation measures and buffer distances.
1. The Contractor shall retain and pay for the services of a qualified biologist knowledgeable of the species life cycles, and able to identify individuals in all life stages and their representative nests and eggs to survey the action area and areas adjacent to the authorized work area for ESA-listed species.
  2. All personnel shall be briefed on the species with the potential to occur in the project area.
  3. A qualified biologist shall consist of an environmental professional with at least a bachelor's degree in Biology, Ecology, Natural Resources, Environmental Sciences, or similar, and has multiple years of experience working with Federally listed species, their habitats, and Endangered Species Act implementation in Hawaii and/or the Pacific Islands.
  4. The action area for the project encompasses all areas to be affected directly or indirectly by the project. This includes the project footprint and areas beyond the project footprint where stressors such as noise, night-time lighting, and changes in water quality, air quality, wind exposure, sunlight, or humidity may affect listed plants or animals as a result of project implementation.
  5. Surveys shall be conducted including laydown and staging areas for individuals of ESA-listed species as well as their nests and eggs prior to the start of each work day and prior to resumption of work following any break of more than one half hour. Periodic additional surveys throughout the workday are strongly recommended following any breaks in action.
  6. Any site at which species have been identified will have a biological monitor present during all work. The biological monitor shall have the authority to stop and resume work, and enforce buffer distances.



7. No one shall attempt to feed, touch (e.g., pet, relocate, etc.), or otherwise intentionally interact with any protected species.
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- D. Project footprints must be limited to the minimum area necessary to complete the project and project work limits clearly defined.
  - E. Sensitive resource areas, such as ESA-listed terrestrial plants and nests, within the action area must be visibly flagged; however, fencing with non-natural material and smaller than 3x3 inch mesh size, and loose-weave joints for projects on or near the coast or suitable waterbird habitat, is prohibited due to the ensnarement hazard potential that exists with this type of material.
  - F. Project operations must cease under unusual conditions, such as large tidal events, heavy storms, and high surf conditions, with the exception of emergency protective measures implemented to preserve life and property resulting from such conditions.
  - G. A storm water management plan, commensurate to the size of the project must be prepared and carried out, for any project that will produce any new impervious surface or a land cover conversion that will slow the entry of water into the soil, to ensure that that effects to water quality and hydrology are minimized.
  - H. A pollution and erosion control plan for the project site and adjacent areas must be prepared and carried out. As a minimum, this plan shall include:
    1. Proper installation and maintenance of silt fences, booms, equipment diapers, and/or drip pans.
    2. A contingency plan to control and clean spilled petroleum products and other toxic materials.
    3. Appropriate materials to contain and clean potential spills will be stored at the worksite and be readily available.
    4. All project-related materials and equipment placed in the water will free of pollutants.
    5. Daily pre-work inspections of heavy equipment for cleanliness and leaks, with all

heavy equipment operations postponed or halted until leaks are repaired and equipment cleaned.

6. Fueling of project-related vehicles and equipment will take place at least 50 feet away from water, preferably over an impervious surface.
  7. A plan will be developed to prevent trash and debris from entering the environment during the project.
  8. All construction discharge water (e.g., concrete washout, pumping for work area isolation, vehicle wash water, drilling fluids, etc.) must be treated prior to discharge or disposed of in an approved waste disposal facility.
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- I. Erosion controls must be properly installed before any alteration of the area may take place. When erosion control is necessary selecting products with biodegradable netting (natural fiber, biodegradable polyesters) is preferred as well as netting with flexible, non-welded, rectangular mesh. Additional options exist that include open weave textile, rolled erosion control products with woven, natural fiber netting. Erosion control products that require UV-light to biodegrade, netting with square mesh, plastic mesh are not permitted. Actions with listed snail and plant habitat will also include dust barriers to reduce negative effects.
  - J. Construction barriers that prevent dust from traveling off site will be used where feasible for dust mitigation. These barriers will be free standing (rebar anchored). Barriers will be approximately 10 feet high. Final barrier shape to be determined in the field to adjust to survey findings and will accommodate a buffer distance if feasible. Barrier material shall be a High-density Polyethylene, with Ultraviolet protection, shade rate of 30-90 percent, weight of 55-240 grams per square meter, high strength, and easy fixing. The barrier will remain until the project actions have been fully completed. Removal of the barriers will be completed as a final project task.
  - K. Barriers to protect occupied habitat should be placed outside the buffer distance and no one should enter the protected habitat. Recommended minimum is 10 meters from the outmost individual detected during the survey. The survey biologist shall be present when barriers are installed.
  - L. Vegetation clearing shall be limited to that which is required for project completion.

Indiscriminate clearing will not be permitted. Any clearing proposed within a project footprint will require a re-survey for listed species, including a 10-meter exterior buffer prior to vegetation removal.

- M. Temporary access roads shall avoid steep slopes of 15 degrees or steeper where grade, soil types, or other features suggest a likelihood of excessive erosion or failure; existing access routes must be utilized or improved whenever possible, in lieu of the construction of the construction of new access routes.
- N. All disturbed areas must be immediately stabilized in accordance with aforementioned erosion controls following cessation of activities in advance or any break in work longer than four (4) days.
- O. Drilling and sampling associated waste or spoils must be completely isolated and disposed of in an upland location and approved disposal site. Disposal sites will be previously permitted by USFWS PIFWO and subject to individual project compliance review based on the Acton Area.
- P. Authorized work must comply with all applicable general, activity- and species specific conditions.

### 3.11 INVASIVE SPECIES BIOSECURITY

- A. All work vehicles, machinery, and equipment are to be cleaned, inspected by its user, and found free of mud, dirt, debris and organisms prior to entry into and exit from the natural areas or native habitat.
  - 1. Vehicles, machinery, and equipment must be thoroughly pressure washed in a designated cleaning area (designated by the responsible land manager) and visibly free of mud, dirt, plant debris, insects, frogs (including frog eggs) and other vertebrate species such as rats, mice and non-vegetative debris. A hot water wash is preferred. Areas of particular concern include bumpers, grills, hood compartments, areas under the battery, wheel wells, undercarriage, cabs, and truck beds (truck beds with accumulated material (intentionally placed or fallen from trees) are prime sites for accidental transport of invasive species).
  - 2. The interior and exterior of vehicles, machinery, and equipment must be free of rubbish and food. The interiors of vehicles and the cabs of machinery must be vacuumed clean. Floor mats shall be sanitized with a solution of > 70% isopropyl

alcohol or a freshly mixed 10% bleach solution.

3. Any machinery, vehicles, equipment, or other supplies found to be infested with ants (or other invasive species) must not enter natural areas or native habitat. Treatment is the responsibility of the equipment or vehicle owner and operator.
- B. Little Fire Ants – All work vehicles, machinery, and equipment are to be inspected for invasive ants prior to entering the natural areas or native habitat.
1. A visual inspection for little fire ants is to be conducted prior to entry into natural areas or native habitat.
  2. Any machinery, vehicles, equipment, or other supplies found to be infested with ants (or other invasive species) must not enter the project site until it is properly treated (<https://littlefireants.com/how-to-treat-for-little-fire-ants-for-homeowners/>) and re-tested. Infested vehicles must be treated following recommendations by the Hawai'i Ant Lab (<https://littlefireants.com/resource-center/>) or another ant control expert and in accordance with all State and Federal laws. Treatment is the responsibility of the equipment or vehicle owner.
  3. General Vehicle Ant Hygiene: Even the cleanest vehicle can pick up and spread little fire ant. Place MaxForce Complete Brand Granular Insect Bait (1.0 percent Hydramethylnon; [https://labelsds.com/images/user\\_uploads/Maxforce%20Complete%20Label%201-5-18.pdf](https://labelsds.com/images/user_uploads/Maxforce%20Complete%20Label%201-5-18.pdf)) into refillable tamper resistant bait stations. An example of a commercially available refillable tamper resistant bait station is the Ant Café Pro (<https://www.antcafe.com/>). Place a bait station (or stations) in the vehicle and note that larger vehicles, such as trucks, may require multiple stations. Monitor bait stations frequently (every week at a minimum) and replace bait as needed. If the bait station does not have a sticker to identify the contents, apply a sticker listing contents to the station.
  4. Gravel, building materials, or other equipment such as portable buildings should be baited using MaxForce Complete Brand Granular Insect Bait (1.0 percent Hydramethylnon; [https://labelsds.com/images/user\\_uploads/Maxforce%20Complete%20Label%201-5-18.pdf](https://labelsds.com/images/user_uploads/Maxforce%20Complete%20Label%201-5-18.pdf)) or AmdroPro (0.73 percent Hydramethylnon;

<https://connpest.com/labels/AMDROPRO.pdf> ) following label guidance.

5. Storage areas that hold field tools, especially tents, tarps, and clothing should be baited using MaxForce Complete Brand Granular Insect Bait (1.0 percent Hydramethylnon;  
[https://labelsds.com/images/user\\_uploads/Maxforce%20Complete%20Label%201-5-18.pdf](https://labelsds.com/images/user_uploads/Maxforce%20Complete%20Label%201-5-18.pdf)) or AmdroPro (0.73 percent Hydramethylnon;  
<https://connpest.com/labels/AMDROPRO.pdf> ) following label guidance. Note: The authors' use of trade names is for descriptive purposes only and does not imply endorsement by the US Government. All pesticides must be applied in accordance with State and Federal laws.
- C. Base yards and staging areas inside and outside natural areas and native habitat must be kept free of invasive species.
1. Base yards and staging areas are to be inspected at least weekly for invasive species and any invasive found is to be removed immediately. The local land manager(s) will determine what species are to be targeted in these inspections and removal procedures. The local land manager will also ensure regulatory compliance with all activities. Land managers are to pay particular attention to where vehicles are parked overnight, keeping areas within 10-meters of vehicles free of debris. Parking on pavement and not under trees, while not always practical, is best.
  2. Project vehicles or equipment stored outside of a base yard or staging area, such as a private residence, are to be kept in a pest free area as defined by the onsite land or project manager.
- D. All cutting tools used in natural areas and native habitat must be sanitized to prevent the spread of the Rapid Ohi'a Death (ROD) fungus.
1. Avoid wounding 'ohi'a trees and roots with mowers, chainsaws, weed eaters, and other tools. If an 'ōhi'a receives a minor injury like a small broken branch, then give the injury a clean, pruning-type cut (close to the main part of the trunk or branch) to promote healing, and then spray the entire wounded area with a pruning seal.
  2. All cutting tools, including machetes, chainsaws, and loppers must be sanitized to

remove visible dirt and other contaminants prior to entry into natural areas or areas with native habitat, and when moving to a new project area within the native habitat area. Tools may be sanitized using a solution of >70% isopropyl alcohol or a freshly mixed 10% bleach solution. One minute after sanitizing, you may apply an oil-based lubricant to chainsaw chains or other metallic parts to prevent corrosion.

3. Only dedicated tools and chainsaws are to be used to sample known or suspected ROD infected trees.

4. Ohi'a firewood, logs, and parts are not to be transported. For State guidance see: [www.hdoa.hawaii.gov](http://www.hdoa.hawaii.gov) .

NOTE: When using a 10 percent bleach solution, surfaces should be cleaned with a minimum contact time of 30 seconds. Bleach must be mixed daily and used within 24 hours, as once mixed it degrades. Bleach will not work to disinfect surfaces that have high levels of organic matter such as sawdust or soil. Because bleach is also corrosive to metal, a water rinse after proper sanitization is recommended to avoid corrosion.

E. For personnel working in the field:

1. Before going into the field, visually inspect and clean your clothes, boots, pack, radio harness, tools, and other personal gear and equipment, for seeds, soil, plant parts, insects, and other debris. A small brush is handy for cleaning boots, equipment and gear. Soles of shoes are to be sanitized using a solution of >70% isopropyl alcohol or a freshly mixed 10% bleach solution.
2. Immediately before leaving the field, visually inspect and clean your clothes, boots, pack, radio harness, tools, and other personal gear and equipment, for seeds, soil, plant parts, insects, and other debris.
3. Little fire ants nest in trees. If you are under a tree and that tree is bumped or somehow stressed, the threat response of the ants is to fall from the leaves and sting the person under the tree. If you are subject to an ant attack, do not panic. The ants are extremely small, but their stings are painful, so make sure you remove all ants from your body and clothing. The stings cause inch long welts that are itchy and painful, and can last for weeks. Treat stings as you would other insect stings. In some persons, stings can produce life threatening reactions. Stocking antihistamine in the first aid kit is a reasonable precaution.

4. Rat Lungworm disease is caused by a parasite that can infect humans who consume raw or undercooked infected snails or slugs or consume raw produce that contains a small infected snail or slug. Infection is rare but can be serious. Symptoms can include severe headache, neck stiffness, low grade fever, nausea, and vomiting anywhere from 1-6 weeks after exposure. The disease is not spread person to person. Anyone who handles snails or slugs is to wear gloves and/or wash hands. Eating unwashed produce is discouraged.

F. Protocol for coconut rhinoceros beetle (CRB)

1. Never transport green waste between islands and minimize the creation, storage, and transport of green waste within island, this also includes:
  - a. Mulch, bark, compost
  - b. Soil of any kind
  - c. Potted plants of any kind
2. Additional consultation is recommended if the project involves transportation of materials, soil, equipment, vehicles, etc. between islands.
3. If felling or trimming palms, contact CRB Response for a free inspection ((808) 679-5244 or email at [info@crbhawaii.org](mailto:info@crbhawaii.org))
4. Keep green waste whole until it is ready to be treated and removed.
  - a. Chip green waste on site and transport it on the same day to a secure and managed green waste disposal site/facility.
  - b. For chipped green waste in high-risk areas, re-chip prior to movement outside the infested area, treat with pesticide (when applicable), heat treatment (>130 degrees F), spread and dry, or store in sealed durable containers.
5. Minimize accumulations of green waste by regularly treating mulch piles or depositing it in sealed green waste bins. In low-risk areas, we also recommend thinly spreading mulch (less than 2 inches deep) and allowing it to dry (no irrigation).
6. If injured or dying coconut palm trees are observed or if CRB are detected, contact CRB Response at (808) 679-5244 or email at [info@crbhawaii.org](mailto:info@crbhawaii.org) or online at <https://www.crbhawaii.org/report>





3.12 ACTIVITIES THAT MAY RESULT IN DIRECT PHYSICAL IMPACT

- A. Before any equipment, anchor(s), or material enters the water or undisturbed habitats a qualified biologist will survey the action area to ensure that no ESA-listed species are present in the area where the equipment, anchor(s), or materials are expected to contact the substrate or disturb habitats. If practicable, the use of divers to visually confirm that the area is clear is preferred.
- B. Equipment operators will employ “soft starts” when initiating work each day and after each break of 30 minutes or more that directly impacts the substrates and vegetation. Buckets and other equipment will be operated in a slow and controlled manner for the first several cycles before achieving full operational impact strength or tempo.
- C. All objects lowered to the bottom shall be lowered in a controlled manner. This can be achieved by the use of buoyancy controls such as lift bags, or the use of cranes, winches, or other equipment that affect positive control over the rate of descent.

3.13 ACTIVITIES THAT MAY RESULT IN COLLISION WITH VESSELS

- A. When piloting vessels, vessel operators shall alter course to remain at least 100 meters (109 yards) from whales, and at least 50 meters (54.7 yards, 164 feet) from other ESA- listed marine animals.
- B. Reduce vessel speed to 10 knots or less when piloting vessels in proximity of ESA-listed marine mammals, sharks, and rays.
- C. Reduce vessel speed to 5 knots or less when piloting vessels in areas of known or suspected sea turtle activity.
- D. If despite efforts to maintain the distances and speeds described above, a marine mammal or turtle approaches the vessel, the vessel operator will put the engine in neutral until the animal is at least 15 meters (~50 feet) away, and then slowly move away to the prescribed distance.
- E. Marine mammals, sea turtles and other ESA-listed motile species shall not be encircled or trapped between multiple vessels or between vessels and the shore.

- F. FEMA and National Marine Fisheries Services (NMFS) will be notified within 48 hours of a vessel grounding or abandonment during the proposed action.

3.14 ACTIVITIES THAT MAY RESULT IN ENTANGLEMENT

- A. Temporary in-water tethers, as well as mooring lines for vessels and marker buoys shall be kept taut to the minimum length necessary and shall remain deployed only as long as needed to properly accomplish the required task.
- B. Mooring systems shall employ the minimum line length necessary to account for expected fluctuations in water depth due to tides and waves.
- C. Mooring systems shall be designed to keep the line as tight as possible, with the intent to eliminate the potential for loops to form.
- D. Mooring lines shall consist of a single line connected to the buoy float. No additional lines or material capable of entangling marine life may be attached to the mooring line or to any other part of the deployed system.
- E. Mooring systems shall be designed to keep the gear off the bottom, by use of a mid-line float when appropriate, with the intent to eliminate entanglement of the line on the substrate.
- F. Any permanent or long-term deployments shall include an inspection and maintenance program to reduce the likelihood of failures that may result in loose mooring lines lying on the substrate or hanging below a drifting buoy.
- G. Mooring systems, including those used for temporary markers, scientific sensor buoys, or vessel moorings, shall be completely removed from the marine environment immediately at the completion of the authorized work.

3.15 FOR ACTIVITIES THAT MAY RESULT IN EXPOSURE TO ELEVATED NOISE LEVELS

- A. Dredging, excavation, clearing, movement of large armor stones, and benthic core sampling shall not be undertaken if any ESA-listed marine animals are within 50 meters (54.7 yards, 164 feet) of the authorized work, and those operations will immediately shut- down if an ESA-listed marine animal enters within 50 meters (54.7 yards, 164 feet) of the authorized work. This condition is intended to ensure that no ESA-listed marine animals are exposed to

sound levels anywhere near the TTS threshold isopleths.

- B. Operation of buoy acoustic release systems shall cease when ESA-listed marine animals are within 250 meters (273 yards) (safety zone). It is further recommended that the permittee carefully survey the safety zone around the vessel/buoy from 30 minutes prior to activating the acoustic release, to 30 minutes following the end of transducer operations.
- C. Operations will immediately shut down should an ESA-listed animal (e.g., sea turtle) enter the action area within the mandatory 150-foot shut down range.
- D. Equipment operators will employ “soft starts” when initiating work to reduce initial sound pressure levels. The soft start method is intended to be a warning mechanism for fauna so that they can vacate the action area before maximum sound pressure levels are reached.

### 3.16 WATER COURSES AND COSTAL FEATURES

- A. No material will be discharged into special aquatic sites (i.e., wetlands, sanctuaries and refuges, mud flats, vegetated shallows, coral reefs, and riffle and pool complexes).
- B. Structures are limited to the current footprint only and will not extend towards the water.
- C. A project will involve no more than 500 linear feet of bank. Projects involving more than 500 linear feet of bank will require written approval from the Service or additional consultation, as directed by the Service.
- D. The maximum amount of material placed will not exceed the minimum needed for erosion protection.
- E. All material will be placed in a manner that will avoid erosion by normal or expected high flows.

### 3.17 SUSPENSION OF WORK

- A. The Engineer will notify the Contractor in writing of any observed noncompliance with the Contractor’s Environmental Protection Plan. The Contractor shall, after receipt of such notice, inform the Engineer of proposed corrective action and take such action as appropriate.
- B. Violation of any of the above requirements or any other pollution control requirements which may

be specified in the Specifications herein shall be cause for suspension of the work creating such violation. No additional compensation shall be due the Contractor for remedial measures to correct the offense. Also, no extension of time will be granted for delays caused by such suspensions.

- C. If no corrective action is taken by the Contractor within 72 hours after a suspension is ordered by the Engineer, the State reserves the right to take whatever action is necessary to correct the situation and to deduct all costs incurred by the State in taking such action from monies due the Contractor.
- D. The Engineer may also suspend any operations which he feels are creating pollution problems although they may not be in violation of the above-mentioned requirements.

### 3.10 FINES

The Contractor shall pay any fines due to violations of environmental regulations and permits as a result of his activities at no additional cost to the State.

## PART 4 - MEASUREMENT AND PAYMENT

Payment for Environmental control shall be at the lump sum bid amount in the Proposal.

END OF SECTION