

CALIFORNIA COASTAL COMMISSION

NORTH COAST DISTRICT OFFICE
1385 8TH STREET, SUITE 130
ARCATA, CA 95521
VOICE (707) 826-8950



W11a

1-21-0653

(Humboldt Bay Harbor, Recreation, and Conservation District)

May 8, 2024

APPENDICES

Appendix A – [Substantive File Documents](#).....2
Appendix B – [FEIR Mitigation Measures Required](#).....4

Appendix A

Substantive File Documents

1. Coastal Development Permit Application File No. 1-21-0653 and associated materials, including, but not limited to, the following:
 - a. Tenera Environmental. December 13, 2021. *“The Use of Piling Removal for Mitigating Effects of Entrainment Losses to Longfin Smelt and Other Marine Resources Resulting from Operation of the Proposed Samoa Peninsula Intakes in Humboldt Bay.”* San Luis Obispo, CA.
 - b. SHN. July 19, 2022. *Baywater Intake System Pipeline Trench and ESHA Analysis.* Arcata, CA.
 - c. H.T. Harvey & Assoc. December 9, 2022. Technical Memorandum in response to concerns about effects of water intake operations by the Sea Chests on juvenile salmonid critical habitat. Arcata, CA.
 - d. Tenera Environmental. February 9, 2023. Technical Memorandum regarding *“Response to Comment 2c from California Coastal Commission on Intake Assessment.”* San Luis Obispo, CA.
 - a. Tenera Environmental. May 1, 2023. *“Intake Assessment of the Potential Effects on Ichthyoplankton and other Meroplankton Due to Entrainment at Proposed Samoa Peninsula Water Intakes.”* San Luis Obispo, CA.
 - b. H.T. Harvey & Assoc. and GHD. June 21, 2023. *Humboldt Bay Water Intakes Improvement Project Biological Assessment.* Los Gatos, CA.
 - c. Tenera Environmental. July 21, 2023. Technical Memorandum regarding *“Alternative Entrainment Estimates for Intake Assessment.”* San Luis Obispo, CA.
 - d. Tenera Environmental. August 18, 2023. Technical Memorandum regarding *“Addendum on APF Estimates to Humboldt Bay Intake Assessment.”* San Luis Obispo, CA.
 - e. Tenera Environmental. October 2, 2023. Technical Memorandum regarding *“Addendum with Proposed Adjustments to Longfin Smelt Entrainment Estimates for the 2023 Humboldt Bay Intake Assessment.”* San Luis Obispo, CA.
 - f. Tenera Environmental. December 7, 2023. *Technical Memorandum regarding “Correction to August 18, 2023 Addendum on APF Estimates for Humboldt Bay Intake Assessment.”* San Luis Obispo, CA.
 - g. Tenera Environmental. December 8, 2023. Technical Memorandum regarding *“APF Estimates for Humboldt Bay Intake Assessment Adjusted for*

- Entrainment Reductions from 1mm Wedgewire Screen Intake.” San Luis Obispo, CA.*
- h. Tenera Environmental. March 29, 2024. *Technical Memorandum regarding “Head Capsule Analysis for Determining Probability of Entrainment at Intakes Using Wedgewire Screen.” San Luis Obispo, CA.*
 - i. H.T. Harvey & Assoc. April 3, 2024. Technical Memorandum regarding *“Estimated Entrainment of Larval Longfin Smelt for a 0.5 mm Wedgewire Screen at the Humboldt Bay Master Seawater Intakes.” Arcata, CA*
 - j. GHD. October 12, 2023. Technical Memorandum regarding *“Offsite Mitigation Opportunities for APF.” Eureka, CA.*
 - k. GHD. April 5, 2024. Technical Memorandum regarding *“Summary of APF and LFS Mitigation Adjustments Resulting from Measures to Reduce Impacts and Updated APF and LFS Mitigation Calculations Based on the Redesign of Intake Screens and Project Phasing.” Eureka, CA.*
2. Coastal Development Permit Application File No. 9-20-0488 and associated materials, including, but not limited to, adopted findings for approval of CDP 9-20-0488.
 3. Coastal Development Permit Appeal File No. A-1-HUM-22-0063 and associated materials, including, but not limited to, adopted findings for No Substantial Issue on Appeal No. A-1-HUM-22-0063.
 4. Coastal Development Permit Application File No. 1-14-0249 and associated materials, including, but not limited to, adopted findings for approval of CDP 1-14-0249.
 5. Final Environmental Impact Report for the Samoa Peninsula Land-based Aquaculture Project, County of Humboldt, Planning and Building Department (SCH#: 2021040532), June 30, 2022 (accessible from the County’s website: <https://humboldt.gov/3218/Nordic-Aquafarms-Project>).
 6. Final Programmatic Environmental Impact Report for the Humboldt Bay Regional Spartina Eradication Plan, Prepared for the California State Coastal Conservancy by H.T. Harvey & Associates and GHD, March 21, 2013.
 7. Applicable policies and standards of the Humboldt County certified LCP (Humboldt Bay Area Plan and Coastal Zoning Regulations)

Appendix B

FEIR Mitigation Measures Required Under CDP 1-21-0653¹

Mitigation Measure AQ-1 (BMPs to Reduce Air Pollution):

The contractor shall implement the following BMPs during construction; the BMPs shall be included as notes on final construction plans:

- Equipment and activity must not emit dust that is visible crossing the property line, except for short-term activities related to explosive demolition of the boiler building and smoke stack.
- All exposed surfaces (e.g., parking areas, staging areas, soil piles, active graded areas, excavations, and unpaved access roads) shall be watered two times per day in areas of active construction or as necessary in conjecture with other dust suppression methods (such as gravel application) to appropriately control dust. The County or NCUAQMD may require additional treatment in periods of high wind or other circumstances causing visible dust to be generated by the construction site.
- All vehicle speeds on unpaved roads shall be limited to 15 mph, unless the unpaved road surface has been treated for dust suppression with water, rock, wood chip mulch, or other dust prevention measures.
- All haul trucks transporting soil, sand, or other loose material off-site shall clean all side boards and headboards of material and be adequately wetted and covered.
- Use of mud rumbler mats will be required to reduce off-site tracking of mud and dirt. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day, as necessary. The use of dry power sweeping is prohibited.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

¹ These mitigation measures identified in the findings and conditions of approval of CDP Application No. 1-21-0653 (Humboldt Bay Harbor, Recreation, and Conservation District) that are required to be implemented as part of the project, except as modified or supplemented by the terms and conditions of CDP 1-21-0653. There may be other mitigation measures required to be implemented as part of the project not discussed in the Commission's findings or conditions of approval of the subject CDP and not listed herein. These mitigation measures and others were adopted by Humboldt County in its adoption of the Final Environmental Impact Report for the Samoa Peninsula Land-Based Aquaculture Project on September 28, 2022 (State Clearinghouse #2021040532). The full FEIR can be accessed at <https://humboldt.gov/3218/Nordic-Aquafarms-Project>.

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes. Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications.
- Materials screening, transfer points on a belt conveyor, and crushers must have dust control measures such that:
 - No screening operation, or transfer point on a belt conveyor discharges into the air any visible emissions other than uncombined water vapor, for a period aggregating more than three minutes in any one hour which are 50% as dark or darker in shade as that designated as number one on the Ringelmann Chart, or 10% opacity.
 - No crusher discharges into the air any visible emissions other than uncombined water vapor, for a period aggregating more than three minutes in any one hour which are 75% as dark or darker in shade as that designated as number one on the Ringelmann Chart, or 15% opacity.
 - Control measures may include installation and operation of spray bars on all conveyors; installation of shrouds at all drop points; or any other measure(s) deemed as effective as the prior listed measures.

Mitigation Measure BIO-2 (Protect Special Status Terrestrial Mammals):

The construction plans will specify that steep-sided excavations capable of trapping mammals shall be ramped or covered if left overnight. No pets (i.e., dogs) shall be allowed on the Project Site during construction. Trash receptacles shall be covered and removed from site at least weekly. Trash shall be managed so that it is not a nuisance, fire hazard, or attract animals. No poisons (including anticoagulant rodenticides) or other potentially injurious materials attractive to mammals shall be utilized or left unattended during construction or operation activities.

Mitigation Measure BIO-4 (Protect Special Status Amphibians):

- No more than one week prior to commencement of ground disturbance within 50 feet of),the anthropogenic rectangular concrete pool, a qualified biologist shall perform a pre-construction survey for NRLF, and shall relocate any individuals or egg masses that occur within the work impact zone to nearby suitable habitat.
- If any NRLF are observed during the pre-construction survey, CDFW shall be consulted to determine the best way to avoid impacts to NRLF. Ground-disturbing activities should be conducted during the dry season (May 15-October 15) to minimize take of NRLF. If construction activities are conducted within the dry season (May 15-October 15), exclusion fencing shall be installed around the work area prior to October 15 to prevent NRLF from migrating into work areas. The fencing material and design shall be reviewed and approved by the Planning and Building Department in consultation with CDFW before installation.

- In the event a NRLF is encountered on-site during construction, all construction activities will cease until the animal has left the Project area on its own and is no longer in danger of harm. The project construction manager or project biologist will report the sighting to CDFW within 24 hours. No one other than a CDFW-approved biologist is permitted to handle or capture NRLF, and NRLF will not be taken or harassed.
- An Environmental Awareness Training will be provided to the construction crew prior to commencement of construction activities. This “tailgate” training is intended to enable the construction crew to be able to identify NRLF and to safely relocate them outside of the Project Site.

Mitigation Measure CR-1 (Protocols for Cultural Monitoring During Construction):

[The applicant] shall retain a qualified cultural resource monitor who is approved by the Wiyot Tribe, Bear River Band of the Rohnerville Rancheria, and the Blue Lake Rancheria to monitor ground disturbing activities related to this Project in areas the Tribes deem culturally sensitive. The three Tribal Historic Preservation Officers or their functional equivalent shall be contacted to set up and implement a cultural monitoring contract when a construction schedule has been determined. Advanced coordination with the qualified cultural monitor is required. As landowner, the Humboldt Bay Harbor, Recreation, and Conservation District (landowner) shall be provided with written verification for compliance. [The applicant] shall adhere to the Standard Operating Procedures for Inadvertent Archaeological Discovery (General), as detailed in the Archaeological and Historical Resource Investigation Report prepared for the Project by Roscoe and Associates (2020).

Mitigation Measure CR-2 (Implementation of Inadvertent Discovery Protocols):

If cultural or historic-era resources are encountered during construction activities, the contractor onsite shall cease all work in the immediate area and within a 50-foot buffer of the discovery location. A qualified archaeologist, as well as the Tribal Historic Preservation Officers for the Bear River Band Rohnerville Rancheria, Blue Lake Rancheria, and Wiyot Tribe shall be contacted to evaluate the discovery and, in consultation with the applicant and lead agency, develop a treatment plan in any instance where significant impacts cannot be avoided. The Humboldt Bay Harbor, Recreation, and Conservation District (landowner) shall also be notified. In the event of inadvertent discoveries, the Standard Operating Procedures as outlined by Roscoe and Associates (2020) shall be followed. [The applicant] shall adhere to the Standard Operating Procedures for Inadvertent Archaeological Discovery (General) and Standard Operating Procedures for Documenting Inadvertent Archaeological Discoveries, as detailed in the Archaeological and Historical Resource Investigation Report prepared for the Project by Roscoe and Associates (2020).

Mitigation Measure CR-3 (Minimize Impacts to Arch. Resources/Human Remains):

If human remains are discovered during Project implementation, all work shall be halted and the Humboldt Bay Harbor, Recreation, and Conservation District (landowner) and tribal representatives shall be contacted immediately. The Humboldt

Bay Harbor, Recreation, and Conservation District shall contact the County Coroner immediately and the Coroner would evaluate the find to determine the subsequent course of action, including notification of tribal representatives. In the event of inadvertent discoveries, the Standard Operating Procedures as outlined by Roscoe and Associates (2020) shall be followed, including Standard Operating Procedures for Inadvertent Discovery of Native American Remains and Grave Goods.

Mitigation Measure GEO-2 (Construction BMPs):

The contractor shall implement BMPs during construction, including the following BMPs from the current California Stormwater BMP Handbook for Construction: EC-1: Scheduling; EC-2: Preservation of Existing Vegetation; NS-2: Dewatering Operations; NS-9: Vehicle Equipment and Fueling; NS-10: Vehicle & Equipment Maintenance; WM-2: Material Use; WM-4: Spill Prevention and Control. Additionally, the following conditions shall be required during construction:

- Silt fences shall be deployed as needed at onshore construction areas to prevent any sediment from flowing into Humboldt Bay. Required silt fence and erosion control locations and specifications for installation shall be included in the final construction plan set. If the silt fences are not adequately containing sediment, construction activity shall cease until remedial measures are implemented that prevents sediment from entering the waters east of the construction area;
- Construction materials and debris shall not be placed or stored where it may be allowed to enter into or washed by rainfall into Humboldt Bay;
- Best Management Practices (BMPs) shall be implemented to prevent: 1) entry of stormwater runoff into Humboldt Bay during construction, 2) the entrainment of excavated contaminated materials leaving the site, and 3) the entry of polluted stormwater runoff into coastal waters during the transportation and storage of excavated materials. These BMPs will be included in the Stormwater Pollution Prevention Program (SWPPP)... The SWPPP shall be required to be implemented during the demolition and construction phases of the project. The SWPPP shall be submitted to the SWRCB Stormwater Multiple Application and Report Tracking System website (SMARTS) and contain the following components: best management practices to address erosion and sediment control, monitoring and testing for site runoff, an inspection program, and site maps...
- Non-essential work vehicles and equipment shall be parked at least 100 feet away from the shoreline;
- Sufficient erosion control supplies shall be maintained on-site at all times, available for prompt use in areas susceptible to erosion during rain events;
- Disturbance of existing vegetation shall be minimized to only areas approved for development;
- Dewatering operations shall be conducted in the event that groundwater is encountered at the work location and stored or disposed of appropriately. Any groundwater encountered during demolition and construction that requires

removal would be pumped into appropriate containers, such as Baker tanks for characterization. Excavation depths for construction are not anticipated to extend to groundwater and the use of dewatering wells for the Project is not planned (SHN 2020b). Water sourced from dewatering shall not be discharged to on-site one-parameter wetlands or Humboldt Bay;

- Dewatering and Discharge Plan (DDP): It is not anticipated that groundwater will be encountered during demolition or construction, but in the event that it is encountered, development of a plan for water management that includes handling, storage, testing, treatment, monitoring, and discharge shall be prepared for the project and submitted to the RWQCB for approval to complete the project. The plan shall use available groundwater testing results to identify appropriate treatment and include a monitoring program to ensure discharge parameters contained in the permit are met. ...
- Vehicle and equipment maintenance shall not occur within 100 feet of Humboldt Bay or wetlands;
- As required in the SWPPP, contractor shall ensure that the site is prepared with BMPs prior to the onset of any storm predicted to receive 0.5 inches or more of rain over 24 hours;
- All erosion and sediment control measures shall be maintained in accordance to their respective BMP fact sheet until disturbed areas are stabilized. Erosion and sediment control measures shall be explicitly included in the final construction plan set and shall be conditions of the Coastal Development Permit; ...

Mitigation Measures HWQ-1 and HWQ-2 (Implement BMPs and SWPPP):²

... implement, at a minimum, the list of Best Management Practices identified below as part of approved construction permits and as part of compliance with State Water Resources Control Board (Water Board) Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction and Land Disturbance Activities. ... The following BMPs are the minimum necessary to reduce potential impacts to a less than significant level:

General Construction

- a) Construction activities shall be scheduled and sequenced to minimize the areal extent and duration of site disturbance at any time.
- b) Drainage from outside the construction area shall be directed away from or around the site through use of berms, ditches, or other structures to divert surface runoff.
- c) Install weed-free fiber rolls, straw-wattles, coir logs, silt fences, or other effective devices along locations where water drain off the construction site.

² Note: These two mitigation measures are essentially identical. HWQ-1 applies to terrestrial work (e.g., pipeline installation) and HWQ-2 to other water intake related construction work.

- d) All graded slopes shall receive slope protection measures such as fiber rolls, drainage ditches, or erosion control fabrics to minimize the potential for concentrated surface runoff to cause erosion.
- e) Implement wind erosion or dust control procedures consisting of applying water or other dust palliatives as necessary to prevent or alleviate dust nuisance generated by construction activities. The contractor may choose to cover small stockpiles or areas as an alternative to applying water or other dust palliatives.
- f) Control water application rates to prevent runoff and ponding. Repair leaks from water trucks and equipment immediately.

Hazardous Materials

- a) Hazardous materials shall be stored in areas protected from rain, provide secondary containment and must be a minimum of 100 feet from any wetland or Environmentally Sensitive Habitat Area.
- b) Implement the following hazardous materials handling, storage, and spill response practices to reduce the possibility of adverse impacts from use or accidental spills or releases of contaminants:
 - i. Conduct all refueling and servicing of equipment more than 100 feet from any wetland or Environmentally Sensitive Habitat Area with absorbent material or drip pans underneath to contain spilled fuel. Collect any fluid drained from machinery during servicing in leak-proof containers and deliver to an appropriate disposal or recycling facility.
 - ii. Prevent raw cement; concrete or concrete washings; asphalt, paint, or other coating material; oil or other petroleum products; or any other substances that could be hazardous to aquatic life from contaminating the soil or surface water.

Dewatering and Treatment Controls

In the event dewatering is determined to be necessary the following steps shall be taken:

- a) Prepare a dewatering plan prior to excavation.
- b) Impound dewatering discharges in sediment retention basins or other holding facilities to settle the solids and provide treatment prior to discharge to receiving waters as necessary to meet Basin Plan water quality objectives.

Mitigation Measure HWQ-3 (Protection of Water Quality During Pile Removal):

The following requirements shall be implemented during the removal of piles in and near the waters of Humboldt Bay. A Harbor District staff or representative will be present to ensure adherence to these requirements.

- Neither the barge nor the tug will anchor during the project. The barge may attach to existing piles in order to maintain its position.

- Piles will be removed during a tide of sufficient elevation to float the barge and tug boat adjacent to the piles being removed without scarring the mudflats or injuring eelgrass.
- Grounding of the barge is not permitted.
- A floating containment boom shall be installed and maintained around each pile being removed to collect any debris including debris floating below the surface but not sinking to the bottom, weighted plastic mesh (similar to orange construction fencing) will be attached to the boom and extended across the area surrounding the pile. If debris sinks to the bottom, then it shall be removed by a diver.
- Any equipment used shall be without leaks of any coolant, hydraulic fluid, transmission fluid, or petroleum products. All equipment shall be checked before use in order to certify that there are no fluid leaks. A spill response kit, including oil absorbent pads shall be on-site to collect any petroleum product accidentally released.
- Crane excavator and tug operators shall be experienced with vibratory pile removal.
- The crane or excavator operator shall break the soil/pile bond prior to pulling in order to minimize pile breakage and sediment adhesion
- Piles shall be removed slowly to limit sediment disturbance.
- Piles shall not be hosed off, scraped, or otherwise cleaned once they are removed from the sediment.
- Piles shall be placed in a containment area on the barge to capture sediment attached to the piles.
- The containment area shall include a structure around the perimeter which precludes sediment or contaminated water from reentering the bay.
- Holes left in the sediment by the removed pilings will not be filled. They are expected to naturally fill.
- Piles and debris shall be removed from the barge and moved to a designated site for disposal preparation in such a manner as to prevent. Prior to disposal, the piles and debris will be stored on paved areas, covered with tarps, and surrounded by a soil erosion boom in order to prevent potential leaching or discharge of debris or contaminated material.
- All removed piles or portions of piles shall be disposed of at an authorized facility. Piles or portions of piles shall not be re-used in Humboldt Bay or along shoreline areas.
- Land operations shall not be conducted in wetlands in proximity to the staging

Mitigation Measure HAZ-1 (Interim Measures Work Plan Recommendations):

To address historic soil and groundwater contaminants remaining at the Project Site from historic use, the Project will implement recommendations included in the

Interim Measures Work Plan developed by SHN (2020b). Interim measures in the plan include the following required actions to be implemented before and or during demolition and construction activities:

- ...
- Construction Storm Water Pollution Prevention Plan (SWPPP): The SWPPP shall be required to be implemented during the demolition and construction phases of the project. The SWPPP shall ... contain the following components: best management practices to address erosion and sediment control, monitoring and testing for site runoff, an inspection program, and site maps.
- Sampling and Analysis Plan (SAP): Prior to demolition and ground disturbance, the project SAP shall be submitted to the RWQCB for approval. The SAP shall describe protocols and procedures that shall be implemented for characterization of chemical impacts associated with past operations at the site. The SAP shall address characterization of excavated soils, assessment of final in-place conditions, and testing of materials for reuse or offsite disposal. The SAP shall be the primary guide used to determine suitability of material for reuse. The use of Incremental Sampling Methodology (ISM) for characterization of soils is the preferred approach to assess suitability of reuse. The SAP shall contain the ISM program to evaluate the chemical quality of the material. ...
- Dewatering and Discharge Plan (DDP): It is not anticipated that groundwater will be encountered during demolition or construction, but in the event that it is encountered, development of a plan for water management that includes handling, storage, testing, treatment, monitoring, and discharge shall be prepared for the project and submitted to the RWQCB for approval to complete the project. The plan shall use available groundwater testing results to identify appropriate treatment and include a monitoring program to ensure discharge parameters contained in the permit are met. ...
- ...
- Health and Safety Plan (HASP): Preparation of a site-specific health and safety plan shall be required for workers that may come in contact with contaminated materials. The HASP shall outline procedures, training requirements, and contain applicable monitoring programs to limit worker exposure. A hazard analysis must be performed in accordance with industry standards to determine the appropriate level of personnel protection required for completing the work. ...
- ...
- Excavation of Soils: Soils excavated during demolition and construction at the site shall be screened in the field according to methods described in Section 4.3 of the IMWP and stockpiled appropriately. To evaluate whether excess soil can be reused onsite or disposed of offsite, samples of the soil shall be collected and tested, and the results compared to established screening levels. Excavated soils identified to have impacts from mill operations that require off-site disposal shall be moved for temporary stockpiling to a secure area of the site that is away from routine traffic and is high enough that water will not pond on or around the soil.

The contaminated soil shall be placed on, and covered with, plastic (Visqueen®) in such a way that the soil pile is protected from water runoff and runoff. Soils that are not hazardous shall be considered for site reuse if analytical results are below the published regulatory thresholds for residential or industrial soils. See Table 1 in the Interim Measures Work Plan (Appendix G) for Regulatory Screening Thresholds for Site Reuse.

- Field Screening: Field screening of debris and excavated soils shall occur through visual observation and hand-held tools that shall be outlined in the project SAP. All debris and excavated soils shall be assessed for visible discoloration or staining, and if noticeable odors are present. Use of a hand-held Niton XLp 702A x-ray fluorescence (XRF) meter for metals and a portable photoionization detector (PID) for VOCs shall be used to assist in field screening activities. The use of a pH meter for extracted water and pH strips on soil mixed with deionized water shall additionally be implemented in the field to assess levels present. Construction materials such as concrete and brick shall be tested in the field for metals using the XRF prior to being processed (crushed) for reuse onsite. Exterior surfaces of materials selected for field screening shall be analyzed using the device's "standard bulk" mode, which includes analysis for 15 elements. Records of concentrations of cadmium, chromium, lead, nickel, and zinc shall be maintained through the field screening program. Frequency of testing with the XRF and for quality control shall be developed based on the volume of material and the Area of Interest (AOI) of generation for RWQCB approval and implementation in the project SAP. All meter readings for soil samples screened in the field for metals and VOCs will be recorded on logs or daily field record sheets and kept on file.
- Quality Assurance and Quality Control and Reporting: The project SAP shall outline quality assurance and control quality (QA/QC) for the field program and laboratory testing. Standard Operating Procedures shall be provided for field activities and the designated testing laboratory quality assurance manual shall be included. A frequency according to industry standards for the number of samples to be analyzed, duplicate requirements, and testing limits for COPCs shall be determined based on the volumes of material generated. ...

Mitigation Measure Spartina PEIR BIO-3 (Minimize Impacts to Sensitive Plants):

On a site specific basis, a habitat analysis shall be done to determine if special status plant species have the potential to occur. If they could occur, then surveys may be done to establish that these species are absent, using protocols approved by CDFW. If such surveys are not conducted, then the species will be assumed present. If special status plant species are present, then Spartina control methods will be selected that avoid or minimize potential impacts. Staked locations of special status plant populations or special status plant habitat shall be recorded, and field crews on foot or in vehicles shall be instructed to avoid and protect special status plant populations or plant habitat. Impact to the endangered dune plants beach layia and Humboldt Bay wallflower will be avoided by selecting access routes that do not contain these plants. For Humboldt Bay owl's clover and Point Reyes bird's beak,

avoidance is determined not to be necessary because temporary effects during Spartina control are mitigated by the explosive increase in population that has been demonstrated after Spartina control (Pickart 2012 as cited in H.T. Harvey and GHD 2013). For other annual special status plants such as Western sand spurrey, avoidance shall occur by using only treatment methods that are highly selective; for example heavy equipment will not be operated where these plants or their habitat occur. For perennial plants such as Lyngbye's sedge, a qualified botanist shall stake out locations of special status plants and provide training to control crews to ensure that they minimize impacts to these plants. If special status plant populations or habitat occur near the high tide line, wrack and large deposits of mown Spartina shall be removed during the growing season. To avoid trampling of special status plant species, in areas where frequent access will occur, paths shall be marked and used that avoid special status plant species to the maximum extent possible (H.T. Harvey & Associates and GHD 2013, page 64).

Mitigation Measure Spartina PEIR HHM-2 (Spill Prevention Control):

Contractors and equipment operators on site during Project activities will be required to have emergency spill cleanup kits immediately accessible. If fuel storage containers are utilized exceeding a single tank capacity of 660 gallons or cumulative storage greater than 1,320 gallons, a Hazardous Materials Spill Prevention Control and Countermeasure Plan (HMSPCCP) would be required and approved by the NCRWQCB. The HMSPCCP regulations are not applicable for chemicals other than petroleum products; therefore, the contractor shall prepare a spill prevention and response plan for the specific chemicals utilized during Project activities (H.T. Harvey & Associates and GHD 2013, page 85).

Mitigation Measure Spartina PEIR WQ-3 (Minimize Fuel & Petroleum Spill Risks):

Fueling operations or storage of petroleum products shall be maintained off-site, and a spill prevention and management plan shall be developed and implemented to contain and clean up spills. Transport vessels and vehicles, and other equipment (e.g., mowers) shall not be serviced or fueled in the field except under emergency conditions; hand-held gas-powered equipment shall be fueled in the field using precautions to minimize or avoid fuel spills within the marsh. For example, gas cans will be placed on an oil drip pan with a PIG® Oil-Only Mat Pad placed on top to prevent oil/gas contamination. Only vegetable oil-based hydraulic fluid will be used in heavy equipment and vehicles during Spartina control efforts. When feasible, biodiesel will be used instead of petroleum diesel in heavy equipment and vehicles during Spartina control efforts. Other, specific BMPs shall be specified as appropriate to comply with the Basin Plan and the other applicable Water Quality Certifications and/or NPDES requirements. This mitigation is intended to be carried out in conjunction with Mitigation HMM-2 in order to reduce potential impacts to less than significant level (H.T. Harvey & Associates and GHD 2013, page 126).

Mitigation Measure Spartina PEIR WQ-7 (Removal of Wrack):

During site specific planning, tidal circulation will be visually assessed. In areas with relatively low tidal circulation, it will either be assumed that dissolved oxygen levels

are depressed, or monitoring will be conducted to determine if dissolved oxygen levels are depressed. In treatment areas located within or adjacent to waters known or expected to have depressed dissolved oxygen, if wrack is generated during the treatment process, the wrack shall be removed from the treatment area subject to tidal inundation or mulched finely and left in place (H.T. Harvey & Associates and GHD 2013, page 129).