# 1512022 - Sea Water Screening Plant - Band Screen Replacement

**Scope of Work**

The Respondent shall provide all supervision, labor, and equipment necessary to complete the Works as described herein and stated in the Contract.

1. **Mobilization**
   1. Mobilize a work crew and all equipment to complete the Works including transportation costs, local accommodation costs and site facilities.
   2. Attend meetings with Tynes Bay Operations to confirm laydown areas, set communications channels and facility use coordination to prevent delays.
   3. Develop, in consultation with Tynes Bay Maintenance Engineer, a methodology for limiting plant shutdown time requirements to complete the project.
   4. Document the pre-mobilization conditions of the site and laydown areas and provide a copy to Tynes Bay management.
   5. The Tynes Bay Waste to Energy Facility is a continuously operating plant. Any activity that would require a plant shutdown must be approved in writing and no more than 7 consecutive calendar days. The Respondent shall be given 24 hour access to the facility if required to meet these shutdown time restraints.
2. **Supply and Delivery of the Sea Water Screening System**
   1. . The scope of supply shall include the following (BEAUDREY A.S. has been selected as the Supplier for items 2.1.1, 2.1.2, 2.1.3, and 2.1.4 based on the evaluation of three separate suppliers), the remaining items can be sourced at the discretion of the Respondent provided they meet the required specification):
      1. Two travelling band screens as per the technical specifications (from selected Supplier)
      2. A control system complete with control panel and level sensors (from selected Supplier)
      3. A spray water system with automatic valves
      4. A cathodic protection system
      5. A power supply system for all electrical components where required
      6. One penstock screw stem
      7. One access ladder from the upper level, Elevation +6.0 meters, to the lower level, Elevation +2.5 meters, of the Sea Water Screening Plant
      8. Two service ladders for access to the travelling band screens from Elevation +2.5 meters to Elevation -3.75 meters
      9. Two access floor grates to match the existing size for the ladders attached to the band screens
   2. Complete and report on factory acceptance tests for each band screen motor, control system control panel, level sensors, spray water nozzles and automatic valves.
   3. Provide shop drawings for band screen assemblies, band screen motors, stop gates, control panel, and all access ladders
   4. Confirm that equipment will fit in the space provided or provide a detailed plan for proposed modifications to existing space for review and approval
   5. Liaise with manufacturer of the band screens to send a technical expert for final commissioning. The Respondent shall note that the manufacturer must be given adequate notice, as outlined in their proposal, for on-site commissioning requests to avoid project delays.
3. **Travelling Band Screens**
   1. Decommissioning of Travelling Band Screens
      1. During decommissioning, one band screen unit must remain operational at all times
      2. The Respondent shall be responsible for the removal of the current band screens and all ancillary components
      3. The Respondent shall be responsible for removal and disposal of the access ladders and floor grates
      4. The Respondent shall be responsible for disposal of all decommissioned equipment and debris into waste skips provided on the 6 meter level
      5. Any equipment containing oil or fluids shall be drained before disposal
      6. All waste generated as a result of the decommissioning process shall be disposed of in accordance with local laws and regulations as noted in the RBEC Guidelines March 2011 Rev 4
   2. Installation of Travelling Band Screen
      1. The Respondent shall be responsible for;
         1. Fitting the new equipment into the existing space. Any modifications required to fit the new equipment into the existing spaces shall be the responsibility of the Respondent
         2. Installation of the band screen assembly
         3. Installation of spray water system including automatic valves, plumbing and pressure gages
         4. Connection of all electrical wiring between the band screen motor, control panel, level sensors and mains supply
         5. Installation of level sensor and protective cover
         6. Installation of the Cathodic protection system
4. **Control Panel and Power Supply**
   1. The Respondent shall supply any electrical components needed to supply power to the control panel, travelling band screen motors, automatic valves for spray water system (cable, cable trays, etc.)
   2. Decommissioning of control panel and power supply
      1. During decommissioning, one band screen unit must remain operational at all times.
      2. Removal of existing electrical cables and cable trays
      3. Removal of existing control panel
   3. Installation of control system and power supply
      1. Installation of control cabinet, control panel, local control boxes and connection of all electrical systems required for operation
      2. Installation and connection of all electrical wiring between the screening system, control and mains supply
5. **Penstock Screw Stem**
   1. Supply and install penstock screw stem and turn wheel
6. **Access Ladder and Floor Grates**
   1. Supply and install access floor grates for each of the stop gate access points
   2. Supply and install two fiberglass access ladders to access for service access into the band screen channels
   3. Remove the existing access ladder between the upper level, Elevation +6.0 meters, and the lower level, Elevation +2.5 meters of the sea water screening plant – location of ladder shows in drawing 1512022 - Sea Water Screening Plant - Band Screen Replacement - Intake Pump House 2
   4. Supply and install one fiberglass access ladder between the upper and lower level of the sea water screening plant
7. **Supply and Installation of new exterior lighting**
   1. Remove the existing lighting fixtures from the lower level of the sea water screening plant
   2. Install two LED light fixtures on each the east and west walls on the lower level of the sea water screening plant to illuminate the areas around the band screens
8. **Testing and Commissioning of the Seawater Screening System**
   1. Provide a testing program to be executed under the guidance of the Commissioning Technician from the equipment supplier
   2. Test the installed travelling band screen systems under the supervision of the Commissioning Technician from the equipment manufacturer and make any required adjustments
   3. Report any errors during testing and document the corrections made to the systems
   4. Provide a test report showing that the equipment functioned in accordance with Supplier specifications
   5. Only when all errors are rectified to the satisfaction of the Commissioning Technician shall the Respondent commence the commissioning process
   6. Provide a commissioning program to be executed under the guidance of the Commissioning Technician from the equipment supplier
   7. Provide a commissioning report showing that the equipment functioned in accordance with Supplier specifications
   8. If during the commissioning there are errors, commissioning will stop, the error will be resolved and the commissioning process will start from the first step of the commissioning process
9. **Equipment Training**
   1. Train plant operations and maintenance staff on the operation of the screening system
10. **Provide System and Equipment AS-Built Documentation**
    1. Supply maintenance and operations manuals
    2. Prepare and submit for review as-built drawings
    3. Provide a recommended spare parts list
    4. The spare parts list shall be coordinated such that the part numbers shown on the as-built drawings and documents can be cross referenced with the spare parts list
11. **De-mobilization**
    1. Demobilize the work crew and all their equipment from the facility
    2. Return the site to pre-mobilization conditions
    3. Obtain hand over sign off from Tynes Bay Management confirming that the construction site and lay down areas are returned in pre-mobilization conditions, clean of all debris and construction equipment