**Scope of Work:**

The Contractor shall furnish all labor, materials, equipment and tools to install two aeration systems in the wastewater lagoons for the Louisiana Department of Corrections (DOC). The purpose of the aeration systems will be to supply air and mixing to the oxidation ponds to enhance the treatment of municipal sewage.

**Location:**

Allen Correctional Center

3751 Lauderdale Woodyard Rd.

Kinder, La. 70648

**Site Visit Contact:**

Taylor Maricle – Maintenance Supervisor

337-375-6611 – Cell

337-639-2971- Facility

[Taylor.Maricle@la.gov](mailto:Taylor.Maricle@la.gov) – Email

**Specifications:**

* The Contractor shall supply two completely assembled and installed aeration systems each consisting of a 20 HP blower, approximately 500’ HDPE pipe, seven aeration units with patented fixed film mounted over the aeration diffusers, and other material as needed.
* The Contractor shall supply supervision and installation of aeration systems.
* The Contractor shall supply and install control panels for each blower.
* The Contractor shall supply and install all equipment and materials required for complete and operable systems.
* The Contractor shall provide training of personnel representing Allen Correctional Center.
* The Contractor shall ensure conditions in the ponds are normal for a municipal wastewater treatment pond.
  + Specifically, for proper treatment the influent quality shall not exceed the following conditions:
  + BOD5 of 200 mg/L
  + TSS of 200 mg/L
  + NH3-N of 20 mg/L
  + pH of 6-9
  + Contain no toxic substances.
  + Industrial contributions shall be of municipal quality as stated above.

**Aerator System Specifications:**

* Each aeration system shall be of the submerged fine bubble type with the blower to be located on the oxidation pond levee.
* Each aeration delivery system shall consist of one 20 HP regenerative blower capable of delivering 600 CFM at inlet air conditions of 90oF and 14.7 psia against a discharge pressure 18.7 psia. The TEFC induction duty rated motor shall have a 1.15 service factor and be provided with a thermal overload protector switch.
* Each aeration system air header shall be of butt fused bonded high density polyethylene (HDPE) pipe and tees.
* The diameter of the HDPE header pipes shall be of an appropriate diameter to minimize pressure drop and shall be a minimum of 4” in diameter.
* The flexible lines shall be connected to the aeration grids with polypropylene quick connect.
* The membrane diffusers shall be manufactured of SBR rubber and low density polyethylene with a 50 - 250 micron pore size with a 95+% uniformity.
* The frames, support legs, and grids shall be manufactured of 304 stainless steel.
* All bolts, nuts, and washers shall be manufactured of 304 stainless steel.
* The air manifolds shall consist of PVC pipe, polypropylene nipples, and elbows.
* The pipe clamps shall be 304 or 316 stainless steel. Stainless steel hose clamps with carbon steel screws are not acceptable.
* A minimum of 150’ of flexible aeration hose shall be connected to each floating aeration unit.
* A galvanized pipe 4” in diameter shall be connected to the discharge side of each blower to act as a heat sink. It shall be at least 36” long and connect to the HDPE with an aluminum camlock. The galvanized pipe must be supported above ground out of the water.
* The aeration header pipes shall be straight with no bends.
* The maximum operating pressure shall not exceed 25 psig.
* The operating temperature range shall be 0-135oF.
* The aeration systems shall be designed to transfer 5.2 pounds oxygen per horsepower-hour at oxygen transfer rates in tap water at 14.7 PSIA, 20° C, zero dissolved oxygen and a diffuser submergence of 6’.
* The aeration distribution headers and diffuser systems shall be designed to uniformly distribute the airflow.
* The aeration systems shall be designed to provide air distribution and air diffusion equipment capable of delivering 100% of the design air flow.
* All wetted parts are of HDPE or stainless steel. No special surface preparation or painting is required.
* The aeration systems shall be warranted to perform in accordance with the specifications when operated at the specified design conditions.
* All parts of the aeration systems shall be warranted to free from defective material and workmanship for one year from installation.
* All parts found to be defective within the first year shall be replaced by parts of equal or better quality and furnished to the Allen Correctional Center by the Contractor at no cost to the Allen Correctional Center.

**General Terms:**

* The Contractor shall deliver and install aerators within 4 - 6 weeks after receipt of purchase order, as this job is time sensitive.
* The Contractor shall provide one copy of shop drawings in accordance with Section -Submittal Procedures, complete with all dimensions, anchor locations, and details of connecting piping.
* The Contractor shall provide one copy of an Operation and Maintenance Manual for the aeration equipment.
* The Contractor shall provide one day of training for three maintenance foremen as part of the installation.
* The Contractor shall be responsible for delivery and pickup of materials/supplies needed to complete project.
* The project shall include a startup performance check. The system must be complete and fully operational.
* Disposal of all materials and debris shall be the responsibility of the Contractor.
* The Contractor shall be responsible for any damages caused during this project.
* Work to be performed according to industry standard, and meet all federal, state and local codes.
* The Contractor’s employees are subject to passing a background check.
* The Contractor’s vehicles and equipment are subject to searches.
* The Contractor must follow all policy and procedures while performing work on facility grounds.
* All work shall be performed during normal business hours: 7:00 AM – 3:00 PM Monday –Friday.