

A&D Water – Buffalo Meadows (Wastewater)

Facility Information:

Wastewater System: PWS# NC0030325

City, Ashe County, NC

~44 Service connections

Assets: Extended Aeration Treatment Plant, aeration basin, clarifier, chlorine feed vault, chlorine contact chamber, dechlorinator, post aeration, ultrasonic flow measurement from flow meter to weir, sludge holding basin and Collection System

Compliance History

Reviewing the EPA (ECHO) compliance history of the High Vista plant shows a history of noncompliance. The facility has been in a state of non-compliance for 4 of the previous 12 quarters and is currently listed in significant non-compliance. The facility regularly violates limits for fecal coliform and has failed to submit DMRs for the last 3 quarters. In the last five years, the facility has 2 informal enforcement actions (Notices of Violation), and 2 formal enforcement actions with fines assessed totaling \$5,836. This all demonstrates a failure to properly operate and maintain the facility under current ownership.

Description of need:

The Buffalo Meadows wastewater facility is an extended aeration plant consisting of concrete aeration basins, clarifier, and chlorine disinfection. The tankage is in generally poor condition, however much of the aeration equipment is in poor condition. The blowers and aeration equipment appear to be reaching the end of their useful lives and will need to be renovated. The tanks will require inspection and repairs to ensure structural stability and all yard piping is in need of replacement. Currently the facility functions with flow into a septic tank which pumps to two small aeration chambers. From the aeration chambers waste is pumped to a clarifier with sludge returns pumping to a digester, then to old contact chamber which is no longer used as a contact chamber. The sludge holding tank and the contact chlorine contact chamber are both out of service. Tablets are used for both the chlorination and dichlorination processes. The flow then goes through a tablet feeder and to a new contact chamber. All equipment and tanks are in poor condition and will require evaluation and repair.

Proposed Improvements:

In order to ensure the longevity and performance of the Buffalo Meadows Wastewater Treatment Plant, Red Bird Water Utility Operating Company plans to make improvements to the system. In order to ensure that operations can effectively respond to abnormal operating conditions and ensure proper operations, the existing equipment must be evaluated and repaired. The aeration system will be inspected and blowers, pumps, air headers, sludge returns, and diffusers repaired or replaced as needed. Yard piping should be replaced and rerouted with baffling removed from the old contact chamber and aeration added to add more treatment. The clarifier will be inspected and repaired as needed and the yard piping modification will take flow directly to the tablet feeder tank. Baffling will be inspected in the functional contact chamber and repaired, as necessary. Aeration will be added to the sludge holding tank to encourage sludge breakdown. Mission remote monitoring will be installed. These improvements will ensure the system can provide safe and reliable service to customers and will bring the facilities into a maintainable condition moving forward

Item No.	Cost
Chain link Fence Repair	\$5,000
Aeration Overhaul (Repairs & Replacement)	\$60,000
Remove Sludge from Existing Plant, Septic Tank, and Sludge Holding	\$30,000
Mission Remote Monitoring and Meters	\$18,000
Old Contact Chamber Conversion	\$30,000
RAS Line Replacement and Clarifier Repairs	\$30,000
Contact Chamber Repair	\$10,000
Panel Replacement and Electrical System Repairs	\$30,000
Yard Piping Repair	\$20,000
Weir / Flow Meter Repair	\$10,000
Walkway Repair, Manhole Repairs, Miscellaneous Repairs	\$15,000
Total	\$243,000