

CORRECTIVE ACTION PLAN

AFIN: 22-00379 NPDES Permit No. AR0021831

Monticello WWTP- East

Monticello AR 71655

August 30, 2019

McClelland Consulting Engineers (MCE) conducted a walk-through of the city of Monticello Wastewater Treatment Plant (WWTP)- East alongside personnel of the city of Monticello on July 24, 2019. The Monticello WWTP- East is a lagoon system comprising four cells, and operates as an aeration-stabilization system. However, the fourth cell is a hydrograph control release (HCR) pond and primarily serves as a holding pond. The HCR system components include an HCR cell, effluent discharge component, and the receiving stream flow monitoring.

The lagoon has a preliminary treatment unit where the wastewater enters first by gravity. The preliminary unit is followed by a Parshall flume that measures the volumetric flow rate of the wastewater through the treatment cells. After the Parshall flume, the wastewater enters the first cell and then flows by gravity to second cell or cell number 2. Both cells 1 and 2 are aerated by mechanical surface aeration, and can be operated in parallel when the need arises. At present, the lagoon cells are serially operated. Cell 2 is partitioned with a baffle that seemingly creates "cell 2B". There are two screw pumps that lift wastewater from "cell 2B" to cell 3 and flows by gravity to the HCR pond, where the treated wastewater is discharged to the receiving stream through a 48-inch diameter pipe. The screw pumps alternate wastewater transfers to cell 3.

The effluent discharge is based on a certain level of water in the receiving stream. There is a secondary measuring device (ultrasonic meter) that is located upstream of the discharge location. The ultrasonic meter measures the water level in the stream, and the measured water level is then converted to instantaneous stream flowrate.

A review of the discharge monitoring reports (DMRs) from January 2016 to June 2019 was performed against the consent administrative order (CAO), LIS Number 18-066. It seems most of the parameters cited in the order has somewhat been met. Of recent (2018 to present) only discharge flow as percent of stream flow and fecal coliform exceeded the permit limits. Violation

of discharge as percent of stream flow occurred three times, and consistently exceeded by 0.128 percent based on the permit limit of 78 percent. The difference is attributable to rounding errors. The discharge permit limit is given in two significant digits, and therefore, the reported value should have been reported in two digits rather than three digits. The precision of the reported values must not be greater than the prescribed permit limits. In other words, there seems to be no violations of discharge as percent of stream flow during the period cited herein. The fecal coliform violation was only once from 2018 to present and was approximately 9.7 percent exceedance of the permit limit.

A lagoon pond survey conducted by the City's prior consultant contained in a letter dated April 17, 2019 to ADEQ shows that several cells of the lagoon system seem to have sludge buildup. As a consequence, the lagoon cells have short detention times. Although the sludge accumulation might have contributed to the reduction in the detention times, the values given in the letter seem to be not entirely accurate. It appears the detention times given in the lagoon survey might had been grossly underestimated.

At present, the City is in the process of purchasing portable generators along with the installation of necessary electrical switch gears at the lift stations to connect to the generators during electrical power failures.

Based on the preceding, the following milestones that will assist in ushering the facility into compliance have been drawn.

| Milestone | Date |
|--|-----------------------|
| 1. Verification of adequacy of streamflow monitoring system with respect to HCR effluent discharge | Sep 9 to Dec 20, 2019 |
| 2. Desludging of wastewater treatment pond <ul style="list-style-type: none"> • Determination of sludge depths • Estimation of the quantity of sludge to be removed • Onsite sludge dewatering and landfill/ land application | Jan 6 to Sep 2020 |
| 3. Minimization of short circuiting in the lagoon system <ul style="list-style-type: none"> • Inlet and outlet conditions • Enhancement of mixing/aeration • Baffling | Mar 2 to Dec 2020 |
| 4. Emergency power supply to lift stations <ul style="list-style-type: none"> • Four "quick connects" | Mar 2 to Dec 2020 |

- One portable generator

Mar 2 to Dec 2020

5. Performance assessments of the instituted changes

Jan 4, 2021 to Mar 31, 2021

Final Compliance Deadline and Final Report

Sep 30, 2021

Quarterly report will be provided and would commence beginning the fourth quarter of 2019.



Paige Chase
Mayor, City of Monticello



McClelland Consulting Engineers, Inc.