

***CORRECTIVE ACTION PLAN  
WASTEWATER TREATMENT FACILITY***

City of Corning, Arkansas  
March 2018  
REVISED April 5, 2018



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## 1. DESCRIPTION OF EXISTING WASTEWATER FACILITIES

The City of Corning owns and operates a wastewater collection system and wastewater treatment facility in Corning, Arkansas. The wastewater system serves the extent of the City limits and the treatment facility treats all of the wastewater generated in the City. The treatment facility consists of a headworks unit (bar screen), 3-cell facultative lagoon with a rock filter bed, followed by the pump station that lifts the discharge to the outfall. The treatment facility is permitted for a flow rate of 0.89 MGD.

## 2. DESCRIPTION OF EXISTING PROBLEMS

This "Corrective Action Plan" (CAP) was prepared based on a recommendation made in a letter issued by the Arkansas Department of Environmental Quality (ADEQ), dated December 5, 2017. This letter stated that the wastewater treatment facility had fourteen (14) effluent violations between October 2014 and August 2017. All but three (3) of these violations were for dissolved oxygen. There was one month where the BOD was out of compliance and one month where the fecal was out of compliance.

## 3. RECOMMENDED IMPROVEMENTS

There are three (3) individuals that work in the field for Water/Wastewater Department for the City of Corning, including the Superintendent. The Superintendent typically delegates works among the three (3) individuals, for day-to-day operation. The three (3) individuals will work together, when needed, to resolve any issues that might arise.

In the recent past, the Superintendent had delegated all of the grounds maintenance at the wastewater treatment facility to one (1) individual. This individual had done a pretty good job maintaining the visual appearance of the facility from the road. However, the majority of the property had been allowed to become overgrown. The existing lagoon is facultative. Therefore, it relies solely on the transfer of oxygen at the surface of the lagoon. For this reason, there is not a tremendous amount of extra oxygen in the water. If the vegetation on the levees of the lagoon is allowed to become overgrown, the wind is not able to reach the surface of the water as well. This reduces the oxygen transfer, thereby reducing the amount of oxygen in the water. In addition, the vegetation in the water pulls oxygen from the water, also reducing the amount of oxygen. If the vegetation is removed from the inside of the levees (at least out of the water) and then maintained properly, the oxygen transfer should return to normal.

After reviewing the letter from ADEQ, making a site visit to the facility, and having a candid conversation with the Superintendent, it has been determined that the lack of proper maintenance at the facility is probably the cause of the DO permit violations. Half of the DO excursions occurred in 2017, which is when the vegetation had gotten the worst. In looking back at the historical DMR's, the DO excursions were not as bad a couple of years ago, before the vegetation was allowed to get so bad. Therefore, the Superintendent is planning on taking a more active role in the levee maintenance at the facility. The existing trees and other vegetation that have been allowed to grow in the lagoons will be removed. This vegetation will be properly managed and kept under control. The removal of the vegetation will reduce the oxygen demand in the lagoons and will allow the wind to come into contact with the lagoon across its entire surface area, thus providing for more oxygen transfer.

This work will be performed as soon as the levees are dry enough to get the proper equipment needed to remove the vegetation on them. Once the vegetation is removed initially, it will be kept under control, especially during the summer months, by proper maintenance.

In addition to these issues, the Superintendent is going to monitor the sampling events at the facility better. It has been noted that samples have been taken on days when the facility is not actually discharging. This will make a significant difference in the quality of the samples. As the water is leaving the final lagoon, it flows through a pipe to the pumping chamber, where it is lifted by one of the vertical turbine pumps and pumped to the Black River. If the facility is not actually discharging at the time of the sampling event, the water is sitting stagnant in the pumping chamber. If a sample is pulled from water that has been sitting stagnant, it is not a representative sample of water being discharged from the facility.

After the vegetation has been removed from inside the lagoons and is being properly maintained, the effluent quality will be monitored for a couple of months to determine whether or not this makes enough of a positive impact on the discharge to bring the facility back into compliance with its permit limits. In addition, the Superintendent will pay better attention to the sampling dates and make sure that the water being sampled is a true representative sample of the discharge from the facility. If these steps do not resolve the issues and correct the DO excursions, the City will look into adding some sort of oxygen to the effluent from the facility to boost the DO.

#### 4. MILESTONE SCHEDULE FOR COMPLETION AND IMPLEMENTATION

The following is a proposed milestone schedule for the work to be performed.

Removal of trees and other vegetation from inside the lagoons	June 2018
Monitor effluent from facility to determine if vegetation removal corrects DO issues	October 2018
Evaluate aeration alternatives to add oxygen to facility's effluent, if needed	November 2018
Prepare drawings and specifications for addition of aeration to facility, if needed	December 2018
Submit drawings and specifications for addition of aeration to facility to ADEQ for review, if needed	February 2019
Obtain construction permit and advertise for bids for addition of aeration to facility, if needed	May 2019
Award contract for addition of aeration to facility, if needed	July 2019

Initiate construction for addition of aeration to facility,  
if needed

August 2019

Completion of construction for addition of aeration to  
facility, if needed


November 2019

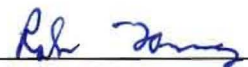
Regain compliance with NPDES permit (assuming additional  
aeration is required)

January 2020

5. PREPARER

This Corrective Action Plan (CAP) has been prepared by John S. Selig, P.E., and has been approved by the City of Corning.

  
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John S. Selig, P.E.

  
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Rob Young  
Mayor

  
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Tracy Robinson  
Utility Superintendent