Stuttgart Municipal Water Works

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Tommy Lawson
Manager

August 27, 2018

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

Attn: Mr. Alan Anderson
Office of Water Quality

RE: NPDES Permit No. AR0034381, AFIN 01-00214

Dear Mr. Anderson:

Attached to this letter are four (4) written reports and a Step 2- Sewer Upgrades and Improvements Map with improvements over the last several years to the Stuttgart Sewer Collection System with improvements shown in red.

The four (4) written reports are as follows:

1) Response to Discharge Monitoring Violations contained in proposed Consent Administrative Order (CAO).

2) Flow Regulating Pond Operating Plan.

3) Comments Regarding Inflow and Infiltration into Collection System.

4) Report of Sewer Construction and Rehab Work for Stuttgart Municipal Water Works.

In the Consent Administrative Order, we feel that Stuttgart has been charged without anyone at the Arkansas Department of Environmental Quality having given any consideration for the large amount of work that has been done on both the Sewer collection Systems and Stuttgart Wastewater Treatment Plant.

When you review this letter and attachments, we think you will agree with us that the proposed CAO should be cancelled.

The WesTech, Inc. Group have advised that the two new gear drives for the final clarifiers are scheduled to be shipped to Stuttgart on October 17, 2018, and the rehab of the clarifiers should be complete and operating on the proposed Corrective Action Plan by February 1, 2019, as required, thus completing the Corrective Action Plan.

As we discussed in the attached response to Monitoring Violations, we think some the violations were caused by worn out chlorine and sulfur dioxide feeders and having to adjust feeders manually; plus the broken underground solution feed line may have affected monitoring test results on fecal coliform and residual chlorine test.

The violations for dissolved oxygen, total suspended solids and one ammonia nitrogen test may have been affected by tertiary filters being out of service first for replacing media, the slanted tertiary screw pumps failing, and final clarifiers' gear drives broke down.

We think the civil penalty of $21,400.00 could be better used to buy parts or repair part of the system. However, the violations were reported on our DMR's; so we recommend a civil penalty of $5,000.00 be used to settle the violations with ADEQ.

We also recommend that the attached operating plan be substituted for the costly I & I Plan called for in the CAO. Because of the amount of work done and some remaining, the staff of the Stuttgart Municipal Water Works already know where a lot of the problems in the system are and they have the cleaning-video truck to check out new problems should they show up.

The Collection System had two manholes that consistently overflowed. One was corrected in the time period December 2017-January 2018. The staff of the Water Works are making plans currently to stop the 2nd manhole from overflowing.

We believe Stuttgart has made a remarkable amount of improvements to both their sewer collection system and the wastewater treatment facilities. We respectfully ask that the proposed Consent Administrative Order be discontinued.

Sincerely yours,

City of Stuttgart

J. W. Green, Jr., Mayor

Tommy Lawson

Tommy Lawson, Manager
Stuttgart Municipal Water Works

Charles R. Summerford

Charles R. Summerford, P.E.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 2179
CHARLES R. SUMMERFORD

RESPONSE TO DISCHARGE MONITORING VIOLATIONS
CONTAINED IN PROPOSED CONSENT ADMINISTRATIVE ORDER
STUTTGART, ARKANSAS
AUGUST 2018

The proposed Consent Administrative Order (CAO) lists four (4) violations for Total Residual Chlorine and twenty-one (21) violations for Fecal Coliform. In the Consent Administrative Order that was sent to Mayor Green on January 29, 2016, there were only sixteen (16) violations while the current CAO contains thirty-seven (37) violations. Over half of the violations occurred in the interim.

I believe a number of violations were caused by worn out chlorine and sulphur dioxide feeders. Also, the Effluent Meter Control Converter quit working which paced the chlorine and sulphur dioxide feed rates causing the operator to have to set chlorine and sulphur dioxide feed rates manually.

If the feed rates were not reset for wet flow condition, this could have resulted in low rate chlorine feed and resulted in high coliform counts in discharge; or if the chlorine was high while sulphur dioxide was low could also result in excess chlorine residual in discharge.

About three weeks ago the water works manager and plant personnel found split pipe leak in the underground chlorine solution line between the chlorine feeder and the application point. No one knew about this pipe leak, but it was clear the leak had occurred over a relatively long time before the ground saturated and came to the surface around a treatment unit.

With corrective action plans, Item 12a, the sewer department obtained parts, replaced rotometers, yolks, and completely rehabbed both chlorinator and sulphur dioxide feeders. Also, new effluent meter control converters were replaced with new ones. Both feeders are now operating correctly and being paced by the flow from the plant discharge meter. We are of the opinion these improvements will result in no more violations of fecal coliform or total residual chlorine in monitoring tests.

The CAO also lists two (2) violations for Dissolved Oxygen, five (5) violations for Total Suspended Solids, and one (1) violation for Ammonia Nitrogen. We believe these monitoring test violations are related to the following items: (a) the tertiary filters being out of service for media replacement; (b) the slanted tertiary screw pumps that lifted the wastewater up into the tertiary filters failing; and (c) the final clarifiers partial operations due to the gear drives' broken shafts. With the new gear drive units for the clarifiers scheduled for delivery from WesTech, Inc.,

October 17, 2018, we should have the gear drives installed and the clarifiers rehabilitated, cleaned and operating properly by the February 1, 2019, deadline. The new tertiary pumping equipment has been operating since late 2016 and delivering treated wastewater to the tertiary filters. We believe all these improvements will stop the dissolved oxygen, the suspended solids and ammonia nitrogen from exceeding permit limitations.

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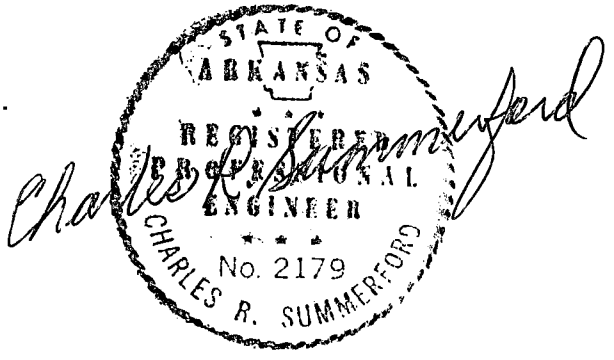

FLOW REGULATION POND
OPERATING PLAN
STUTTGART, ARKANSAS
AUGUST 2018

The flow regulation pond at the Stuttgart Sewerage Treatment Plant has a design capacity of 48 MG of storage. The purpose of this pond is to hold excess wastewater flow in the pond until the incoming wastewater to the plant recedes to a point below the 3.5 MGD plant capacity. As the flow recedes lower than plant treatment capacity, then pump wastewater stored in pond back to head of plant for treatment.

The first step will be to place a level measurement device in the pond pump back station to continuously measure and record pond water surface level.

Then the B pumps in the primary pumping station will be monitored for run times; then with rated capacities, the amount of excess flow could be monitored that was pumped to pond

Rain gauges will be placed at the sewer plant and the four corners of the City for measuring rainfall events; then average the amounts for an average for the rainfall event.

The operator will then look at pond level and the treatment plant flow rate when the pond is above minimum level and flow in plant normal. The pump back pumps will be running or they would be turned on to continue to lower pond to minimum level.

The plant operator would be instructed to continually work to lower pond level to minimum level in anticipation of the next rainfall event.

If these plans are followed, the flow regulation pond will allow the sewerage treatment plant to treat all the Stuttgart wastewater without overflowing the pond, except in the most extreme rainfall events or combination thereof.

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COMMENTS REGARDING INFLOW AND INFILTRATION
INTO SEWER COLLECTION SYSTEM
STUTTGART, ARKANSAS
AUGUST 2018

It is out opinion that a complete I & I Study of the Stuttgart Sewer System is not warranted.

a. Stuttgart only has one Sewerage Treatment Plant.

b. The Municipal Water Works purchased a new sewer line cleaning truck with video camera for over $300,000 in 2010.

c. The truck is in service about half the time. As a result, the Stuttgart Municipal Water Works knows where the problems in the collection system are.

d. Since they got the cleaning and video truck, the Department has cleaned and inspected a lot of the sewers.

e. If you look at the preliminary layout map of the Step II-Sewer Upgrades and Improvements, in addition to the shaded areas, the Sewer Department has replaced a number of lines outside the shaded areas where some lines collapsed or corrected inflow problems.

f. In the contract project 2013, the primary pumping stations, Cleveland Street and 13th Street were rehabbed and new 12-inch force mains installed across town. The Cleveland Street Station force main was installed along 2nd Street discharging into the 24-inch trunk sewer at Prairie and 2nd Streets. The 13th Street Station 12-inch force main was installed along 13th Street, and 12th Street discharges into the 18-inch truck sewer at 11th and Prairie Streets. The Lennox Station was rehabbed in this project, but the 6-inch force main was left in place discharging into the 12-inch interceptor sewer at 21st and Buerkle Streets. These discharge from the service areas directly to plant for treatment rather then into the collection system a few blocks away as in the past. The McCracken Pumping Station on 21st Street was rehabbed in the 2010 project, and a 12" force main installed west along 31st and connects into 18-inch sewer line 11th and Prairie Streets. The Bean Mill Pumping Station at Park Avenue takes the wastewater from Riceland Foods Soybean Mill and pumps through a 10-inch force main, generally along Washington Street to Columbia Street. It turns onto Columbia Street and connects onto the 24-inch trunk sewer just south of Columbia and Lincoln Streets. These five (5) primary pumping stations now discharge a majority of wastewater into large sewers close to the treatment plant for treatment. By this change, the collection system has been relieved, where in the past some of the wastewater remained in the collection system and seemed to be recirculated by the pump stations.

g. Also, looking at the map, the shaded areas are some of the oldest parts of Stuttgart and were constructed with concrete sewer pipe that had caused the sewer department crews to make repairs regularly for collapsed sewers. The sewer gases from septic sewerage had left only a shell of the original concrete pipes.

h. By replacing the sewer lines, either PVC pipe with rubber-like gaskets or HDPE pipe with fused joints and rehabbing the manholes, a huge amount of inflow has been eliminated. In other areas where broken pipes were along or across ditches and/or poor construction, the pipe jointing materials have rotted away, and also, has eliminated much inflow.

i. In the past when a rain occurred, the phone at the water works office would ring constantly with sewers backing up into houses. Today, there are only an occasional phone call to report sewer backups.

j. There also is a concern about sanitary sewer overflows. The system only had two overflowing manholes after rains. One of these was corrected late last year at Columbia and Lincoln Streets in connection with the replacement work done there. Plans are being made now to correct the second overflowing manhole.

k. No doubt the replacement of lines and rehabbing manholes in the Section 4-Step 2-Sewer Upgrades and Improvements will eliminate additional inflow that enters system now.

l. Because the ground water table is more than a hundred feet below the collection system, non-sewer water coming into the collection system is inflow.

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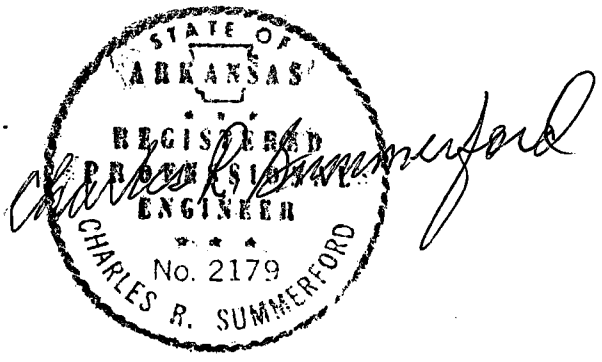

MAP(S)/PLAN(S) SCANNED IN SEPARATE FILE

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