



May 15<sup>th</sup>, 2017

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

Re: Permit #AR0021717 City of Flippin Revised CAP

We are revisiting our Compliance Action Plan previously submitted by CWB Engineers and hope you find that we have addressed the issues more clearly on what has been done to date, being done and will be completed prior to December 31<sup>st</sup>, 2017.

1). Ammonia and Dissolved Oxygen Issues: The City of Flippin had sample violations for ammonia in the past and since that time Flippin has changed their operational processes to try to optimize ammonia removal to the best of the plants abilities at this time. In the past the system was shutting off the rotors that provide the air to the plant to try to prevent bulking sludge in the clarifiers, which are undersized, and the bulking sludge was flowing out over the weirs and passing onto the filter system which would block the sand in the filters and prevent it from draining properly. This can cause the sand filters to block which could cause a bypass situation. Since the City became aware of the issues reducing air could cause with the plants natural ammonia removal we now run the rotors and provide as much air as possible to the oxidation ditch while closely monitoring our clarifiers to prevent them from spilling solids over the weirs. It is a constant battle of changing settings but our ammonia limits have been in permit and with this technique we have created a short term solution that is working. If we become unable to continue this process with good results we will look into feeding chemicals to adjust alkalinity and pH to try to optimize our ammonia removal, however the City would prefer to continue the method we are using till we can upgrade our plant since chemical treatment can be a guessing game in the beginning to achieve proper nitrification. Chemicals could also cause other problems with our process such as increasing solids which we prefer not to cause. We are also purchasing an ammonia test kit to monitor the ammonia in house throughout the system to better watch problem areas.

Also on the issue of ammonia, I and Scott Garrison also attended training May 9<sup>th</sup> and 10<sup>th</sup> at Arkansas Rural Water Association under that was instructed by Toni Glymph, a Microbiologist with Chicago Municipal Wastewater. The class included hands on microscope training and included bringing samples to class. Flippin's wastewater was analyzed by Toni while she was there and she gave good advice on operation controls from the sample and confirmed what we are trying to do now is a good solution along with continued inflow and infiltration reduction (discussed further in document in more detail). The City owns a microscope that will be used more in the future to monitor the plant and to assist with ammonia removal. Toni was able to give us valuable advice on the relationship with microorganisms and our operational controls to keep the plant as healthy as possible. According to our findings and Toni's opinion the plant is low on food during infiltration. We have been supplementing their food source with rice bran which has also seemed to help overall performance. Toni also recommended we continue the rice bran as needed, until we were able to locate and fix the infiltration leaks which will help with our ammonia removal.

On the matter of the Dissolved Oxygen violation we have purchased a new Dissolved Oxygen Meter earlier this year that is more accurate than our previous equipment and we can monitor it closely. We have noticed a drop in our dissolved oxygen as we are increasing our microorganisms (consuming more oxygen as they increase in numbers) and have made every effort to maintain our permit limits. We feel that the matter of the violation we had may have been due to our reducing air until we became aware of the additional problems we could cause and have also placed a compressor with a diffuser on the end of the feed line to add more DO to the water prior to it reaching the receiving stream if our limit falls too low. The one DO violation we received occurred during an emergency bypass situation. This is one of the items to be addressed in our long range plans working with an engineer, however for the immediate future, we are using the compressor method and will look into purchasing a small diffuser system to add on at the effluent should this method appear to not be sufficient in the immediate future.

2.) Flow issues: The City purchased a plant with a design flow of .175 MGD which has long been outgrown due to issues with inflow and infiltration. Our flows can run less than .1 MGD and reach .5 MGD during rain events. We had walked the lines in hopes of finding a breach to the system and checked flows in manholes to try to locate any infiltration where unnecessary water was entering the system. Arkansas Rural Water Association provided their Wastewater Technician to perform a smoke test over the next three months at no cost for the equipment so we may try to locate leaks and pinpoint areas that are causing the problems. The smoke test began the week of April 11<sup>th</sup> and we have already found four major issues that are being resolved. One manhole wall that was broken above ground that appeared to be hit by a tractor during mowing, a car wash that is not in business at this time that had their five bay wash areas still attached taking in run off to the wastewater system through their old grit chamber which also had missing lids to it and lies below grade taking in a tremendous amount of water, two four inch clean outs at a closed business that are draining off a parking lot into the system and one service line below ground that was broken open to allow a lot to drain and take in rain water from the gutter system at a private residence. The manhole is being temporarily patched to block the excess rain water until it can be properly repaired later this year, the car wash has been plugged of at the main line to prevent unnecessary flow from entering the system, the 4 inch clean outs were capped off by the city to stop the drainage of the parking lot from entering and the private residence has been notified that they will need to replace their service line and make the repairs in accordance with the Arkansas Department of Health Plumbing Codes. The City is not allowed to make repairs on private property, however we have the right to disconnect water service to a resident or business that are in violation for

proper plumbing codes after proper notification. As customers are notified they are given 30 days to make the repairs or water service is terminated until such time the repairs are made. During the smoke testing there were also some clean out caps missing or broken that were found and owners of the property that became aware of it while we were performing the test made the necessary repairs and notified us before the test was completed. There were approximately five other issues that were handled that week by customers that will also help alleviate the water coming in. The smoke test is approximately 1/3 complete and so far with the exception of the manhole it has primarily been customer side issues. We are going to continue the testing as weather permits in hopes of finding more of these type issues which can greatly reduce the infiltration to the system. We also are monitoring our records on rainfall from the past compared to current to see if we can notice a drop in flow during rain events to verify that this is helping the system reduce our infiltration and by how much. We are beginning the second round of smoke testing on May 16<sup>th</sup>, with the ARWA Technician, Susan Poe returning in hopes we find more issues that we can fix in a timely manner. We have also since the beginning of this CAP response noticed a decrease in flow during a rain event and we are still monitoring the flow and going over past histories to determine how much our reducing the unnecessary water is ultimately helping our plant. We understand that a long range plan for upgrading is necessary for Flippin's future, however we are going to remain diligent in our efforts and will update on our progress reports to ADEQ of the findings. This particular issue with our system is a priority due to it affecting all aspects of treatment including ammonia removal.

Upgrades: The system originally was working with engineers on our problem and so far all that has been brought to them as a solution is increase the capacity of the plant to solve issues with ammonia and dissolved oxygen. Flippin believes that by continuing our efforts so far, we know we will not avoid an upgrade, however we want to spend our citizens monies wisely to carry the system into the long range future. We are already analyzing our rates, which will be presented in June 2017 to our City Council for creating more funds to make in house repairs such as to the inflow and infiltration, we are advertising for Requests for Qualifications for Engineers, which this process needed to be advertised for two consecutive weeks in the legal classifieds to qualify for funding with the available funding sources. Once the engineer firm is selected, by mid July 2016 we will have more ideas on what our long range plan is for plant upgrades and hopefully by then solve some more of our inflow and infiltration problems.

During our meeting it was also asked for us to check our flows with our current industries on growth over the last several years. We are working on getting history past 12 months with our billing service provider, Intedata of Mountain Home. Our previous office person that handled our billing left during the month of April and we have since hired a new person that is working with them to restore previous data so we may get information from further back. We are submitting copies of their current bills so you may see what kind of monthly usage they have. Our program according to Intedata only stores one year at a time and we have to restore data through their technical support to view prior to that. We will send this information as soon as we can retrieve it through their service.

On one more item overall for the plant we have purchased a back up pump for our system for our main lift station to help with a continuous flow during rain events feeding our station in case we were to lose one of the pumps to help prevent us from backing up in the system as we discussed.

To update you on our status for performing a sewer camera inspection of our lines, our grant request is still pending with ANRC and we understand their meeting on this is tomorrow.

Please feel free to contact me if you have any questions concerning our revised CAP. We hope that we have addressed what we are doing now and in the immediate future without waiting on potential grants/loans to solve a problem two to five years from now. We feel we have already made great strides and are becoming more educated daily on how to operate this plant to the best of our ability take care of our equipment to make it last as long as possible without failure while taking measures to prepare for high flows as well as reduce those flows whenever possible by repairing leaks to the system. We appreciate you giving us this opportunity to express our immediate plans to supplement what was already submitted and hope we have addressed your concerns.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. L. Wagoner". The signature is written in black ink and is positioned above the printed name.

J. L. Wagoner  
City of Flippin  
Public Works Director

CITY OF FLIPPIN  
Usage & Charges History

3:52:12 PM

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Account Number: 20249000

Customer Name: FISHING HOLDINGS *Aluminum Plant*

Service Address: 470 W. IND. PARK RD

Type User: C

Meter Size: 10

Date	Usage	Charges
01/2017	19420	164.28
02/2017	20680	173.64
03/2017	18250	157.12
04/2017	29350	239.88
05/2017	18540	157.12
06/2016	31660	230.95
07/2016	67560	479.55
08/2016	67430	479.55
09/2016	70470	500.25
10/2016	57410	410.55
11/2016	27690	220.40
12/2016	22620	184.40
Last Yr	38900	278.55

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Account Number: 30114100

Customer Name: RANGER BOATS/TWIN LAKES

Service Address: HWY 178

Type User: C

Meter Size: 10

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Date	Usage	Charges
01/2017	6300	69.50
02/2017	6600	69.50
03/2017	6700	69.50
04/2017	7900	76.56
05/2017	8800	83.62
06/2016	8500	72.95
07/2016	8100	72.95
08/2016	8800	72.95
09/2016	11700	94.35
10/2016	8500	72.95
11/2016	8000	75.00
12/2016	9300	88.80
Last Yr	8700	72.95

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Account Number: 30113400

Customer Name: RANGER BOATS *Truck Shop*

Service Address: HWY 980

Type User: I

Meter Size: 10

Date	Usage	Charges
01/2017	13990	121.32
02/2017	12310	114.16
03/2017	15580	135.64
04/2017	14260	128.48
05/2017	20950	173.64
06/2016	13100	107.35
07/2016	12640	100.85
08/2016	14110	113.85
09/2016	12850	100.85
10/2016	10290	87.85
11/2016	10450	97.80
12/2016	9790	88.80
Last Yr	10940	87.85

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Account Number: 50235510

Customer Name: RANGER BOATS *Trailer Shop*

Service Address: 927 HWY 178

Type User: I

Meter Size: 20

Date	Usage	Charges
01/2017	58010	541.38
02/2017	35470	334.93
03/2017	40960	386.33
04/2017	17210	173.23
05/2017	80940	745.43
06/2016		30.75
07/2016		30.75
08/2016	39000	335.05
09/2016	120280	997.90
10/2016	223330	1,837.35
11/2016	45020	414.00
12/2016	41210	379.40
Last Yr	117650	979.80



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Usage & Charges History

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Account Number: 50236610

Customer Name: RANGER BOATS *First Aid Building*

Service Address: 927 HWY 178

Type User: 1

Meter Size: 20

Date	Usage	Charges
01/2017	800	33.93
02/2017	600	33.93
03/2017	500	33.93
04/2017	800	33.93
05/2017	600	33.93
06/2016	2000	38.40
07/2016	1100	32.05
08/2016	300	30.75
09/2016	600	30.75
10/2016	500	30.75
11/2016	700	33.30
12/2016	700	33.30
Last Yr	1100	32.05

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Usage & Charges History

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Account Number: 50230510

Customer Name: RANGER BOATS *Tool Shop*

Service Address: 927 HWY 178

Type User: I

Meter Size: 20

Date	Usage	Charges
01/2017	105750	994.18
02/2017	82060	781.18
03/2017	108120	1,013.88
04/2017	116560	1,092.63
05/2017	114290	1,067.58
06/2016	152390	1,283.70
07/2016	228370	1,903.10
08/2016	174160	1,463.00
09/2016	212480	1,772.70
10/2016	120240	1,022.90
11/2016	134520	1,226.30
12/2016	127840	1,165.05
Last Yr	227180	1,894.95