

PRELIMINARY OPINION OF PROBABLE COST

WEST MADISON UTILITY DISTRICT

SANITARY SEWER LAGOON RELOCATION AND ASSOCIATED WORK

MARCH 2021

Item	Description	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization	1	LS	\$ 10,000.00	\$ 10,000.00
2	Construction Staking	1	LS	\$ 5,000.00	\$ 5,000.00
3	Purchase New Land for Lagoon (5 Acres)	5	ACR	\$ 10,000.00	\$ 50,000.00
4	Easements and Other Legal Costs for Land Acquisition	1	LS	\$ 15,000.00	\$ 15,000.00
5	New 3.0 Acre Sanitary-Sewer Lagoon and Appurtenances	1	LS	\$ 1,000,000.00	\$ 1,000,000.00
6	Abandon Existing Lagoon	1	LS	\$ 500,000.00	\$ 500,000.00
7	New 3000 GPM Sanitary-Sewer Triplex Pump Station	1	LS	\$ 500,000.00	\$ 500,000.00
8	Grinder for New Pump Station	1	LS	\$ 225,000.00	\$ 225,000.00
9	Force Main from Pump Station to New Lagoon	1	LS	\$ 100,000.00	\$ 100,000.00
10	Rework Existing Gravity-Collection Piping	1	LS	\$ 200,000.00	\$ 200,000.00
11	Site Clearing and Grubbing	1	LS	\$ 35,000.00	\$ 35,000.00
12	Site Restoration	1	LS	\$ 15,000.00	\$ 15,000.00
13	By-Pass Pumping	1	LS	\$ 30,000.00	\$ 30,000.00
14	Dewatering	1	LS	\$ 25,000.00	\$ 25,000.00
15	Utility Allowance	1	LS	\$ 35,000.00	\$ 35,000.00
16	Maintenance of Traffic	1	LS	\$ 2,000.00	\$ 2,000.00
TOTAL: ESTIMATED DIRECT CONSTRUCTION COST - PART I					\$ 2,747,000.00
PART II: INDIRECT CONSTRUCTION COST					
	Planning and Design Engineering				\$ 164,900.00
	Construction Engineering				\$ 109,900.00
	Survey				\$ 25,000.00
	Field Representative				\$ 206,100.00
	Contingency (10%)				\$ 274,700.00
SUBTOTAL: ESTIMATED INDIRECT CONSTRUCTION COST					\$ 780,600.00
TOTAL ESTIMATED PROJECT COST					\$ 3,527,600.00



STATE OF MISSISSIPPI
PHIL BRYANT
GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
GARY C. RIKARD, EXECUTIVE DIRECTOR

April 25, 2017

Certified Mail: 7010 0780 0001 9992 4823

Ms. Louvella Lawson
West Madison Utility District
PO Box 27
Flora, MS 39071

Dear Ms. Lawson:

Re: Inspection Report
West Madison Utility District
Flora, Mississippi
Madison County
Water - NPDES Permit No. MS0033081

Enclosed is a copy of the Compliance Evaluation Inspection - NPDES inspection report completed as a result of this office's inspection at West Madison Utility District on March 13, 2017. The report should be used by you as a guide for complying with requirements and limitations stated in your permit.

Please respond in writing by **May 5, 2017**, with a plan to address the erosion issue noted in the inspection report.

If you have any questions concerning this matter, please contact me at (601) 961-5094.

Sincerely,

Jamon Rucker
Municipal and Private Facilities Branch
Environmental Compliance and Enforcement Division

Agency Interest No. 12204
INS20170001

COPY



**Mississippi Department of Environmental Quality
Office of Pollution Control
Water Compliance Inspection Report**

Site Name: West Madison Utility District

Permit Number(s): Water - NPDES Permit No. MS0033081

Physical Address

Trussell Road
Flora, MS 39071
Madison County

Mailing Address

PO Box 27
Flora, Mississippi 39071

Evaluation Type: Compliance Evaluation Inspection - NPDES

Date of Evaluation: 03/13/2017

Facility Type: Municipal

Inspection Participants: Jamon Rucker, MDEQ
K.T. Newman WS2-00005258, Certified Wastewater Operator

Purpose of Inspection

The purpose of this inspection was to determine the facility's compliance status with its NPDES permit.

Permit Status

The facility's permit was issued August 4, 2014, and expires July 31, 2019.

Facility Description

The West Madison Utility District is classified as a Minor Municipal NPDES facility program with a design flow of 0.1 MGD. Domestic wastewater is collected and treated biologically by means of an aerated lagoon followed by disinfection with chlorine gas. The treated wastewater is then discharged into Big Black River.

Inspection Summary

At 9:30 a.m., I met with Mr. K.T. Newman who is the certified wastewater operator for the West Madison Utility District. I explained to Mr. Newman that I was there to conduct a site inspection for the West Madison Utility District wastewater treatment facility. I began the inspection with a file review of the facility's wastewater documents. All Discharge Monitoring Reports (DMRs), chain of custody forms, and operator's logs were accounted for covering the last three years. The facility had all the sample data sheets from their contract lab except for the 2015 4th quarter due to a catastrophic event with the lagoon and the loss of the wastewater on December 15, 2015. Sampling was unable to be conducted at that time. I thoroughly reviewed the 2016 DMR and wastewater documents for calculation accuracy and correctness. There were no calculation errors noticed during the file review and everything was in good order.

After the file review, a site visit of the facility was conducted. At the time of the inspection, access at the lagoon was restricted from unauthorized personnel. The facility's two influent pumps were in good working order. The facility has recently installed a permanent influent bypass pump due to high volumes of influent flows. During rain events the influent flow increases due to infiltration and inflow (I&I) and the combined sewer and storm water in the collection system overwhelms the two influent pumps, causing the influent bypass pump to kick on so an overflow would not occur from the influent pump wet well. The overall condition of the levees was good. The diffused air unit and the chlorinator were both operable and there were no floating solids noticed either in the lagoon or in the effluent. The effluent had a light grayish tint to it but there was no odor.

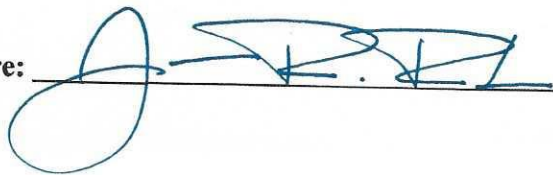
The facility is located alongside the Big Black River at a bend in the river, and each year the river continues to erode the toe of the bank. This causes the bank to erode closer to the facility. The continued erosion eventually will reach the facility causing a catastrophic failure of the treatment system and the potential of a significant impact to the environment and human health if untreated wastewater is discharged into the Big Black River.

Conclusions

The following issue was noted during the inspection and should be addressed:

1. Plans for an alternative treatment system/location or sending the wastewater to another facility for treatment should be considered and a plan established due to the continuous erosion problem of the Big Black River banks encroaching on the facility. These measures must be considered and implemented to avoid catastrophic failure of the treatment system and the potential of a significant impact to the environment and human health if pollutants are discharged.

Signature: _____



Date: _____

4/25/2017

Photos / Other Attachments



Figure 1: Influent Pumps and Permanent Influent Bypass

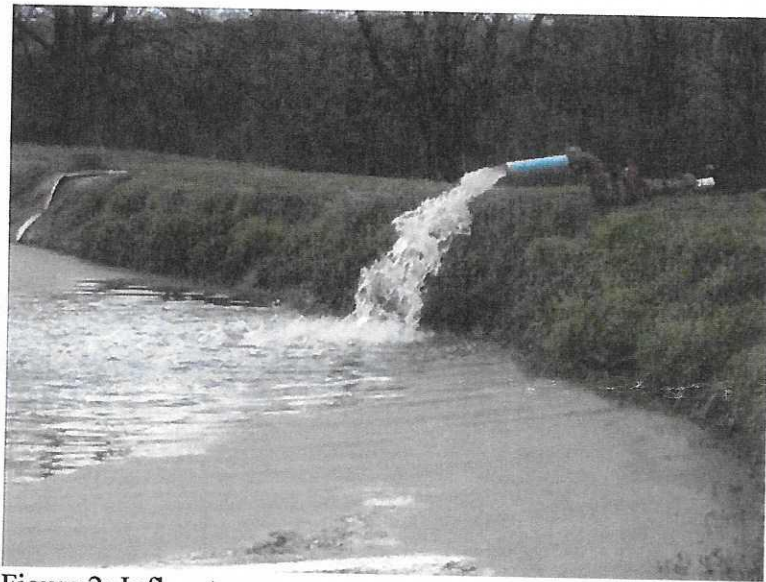


Figure 2: Influent

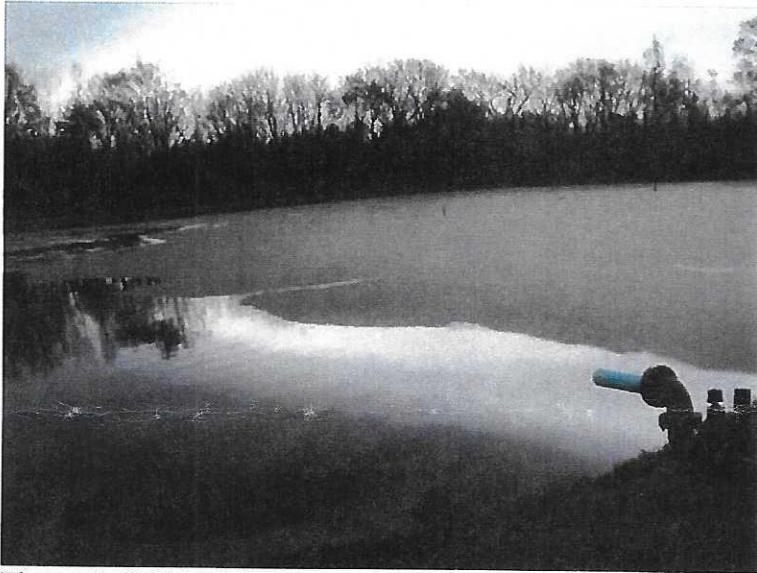


Figure 3: Cell 1 of the Lagoon (Settling Pond)



Figure 4: Diffused Aeration



Figure 5: Cell 2 of the Lagoon (Polishing Pond)

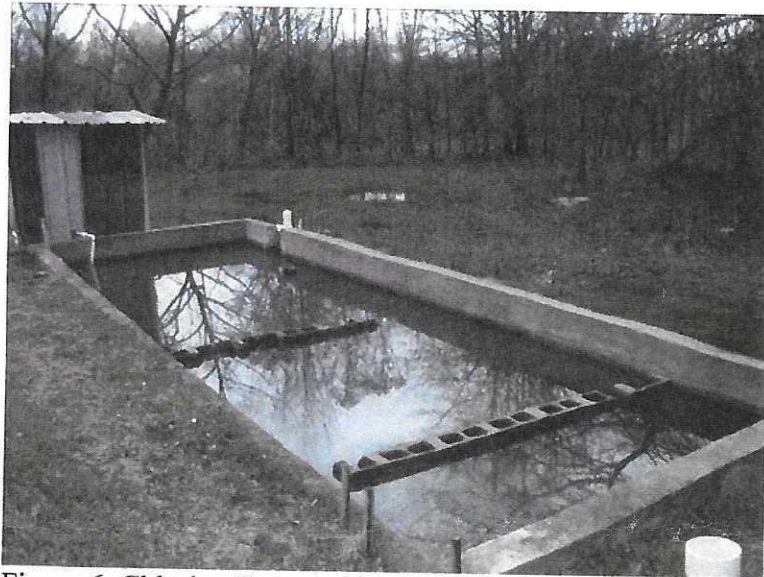


Figure 6: Chlorine Contact Chamber



Figure 7: 90° Weir

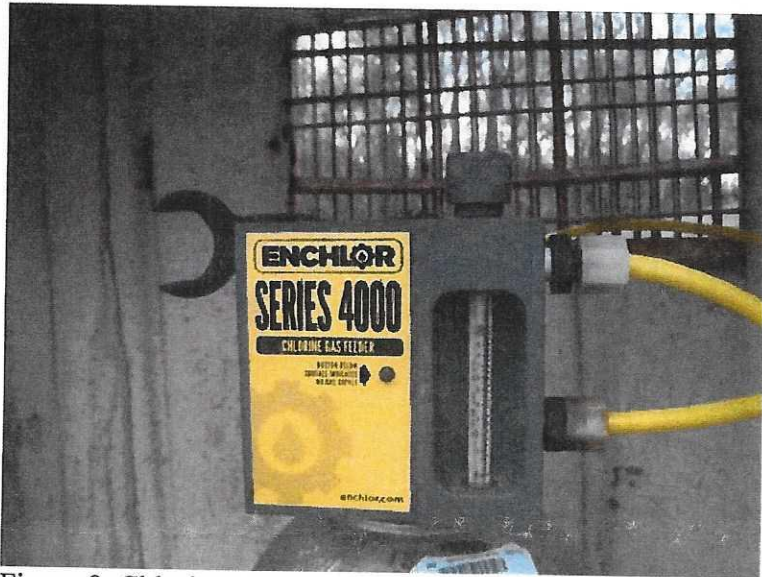


Figure 8: Chlorinator



Figure 9: Discharge Point (Big Black River)



Figure 10: Big Black River Bank Erosion at the Facility



Figure 10: Distance of the Bank Erosion from the Facility's Levee.



Figure 11: Big Black River Bank Erosion at the Facility



TELEPHONE: 601-939-8737
FAX: 601-939-8799

MAILING ADDRESS:
POST OFFICE BOX 180429
RICHLAND, MISSISSIPPI 39218-0429

March 21, 2017

Phillip Rogers
USACE
4155 East Clay Street
Vicksburg, Mississippi 39183

Re: Big Black River & West Madison Utility District (WMUD) Wastewater Lagoon

Gentlemen,

For the past several months Engineering Service has been working with the WMUD on proposed improvements to the potable water distribution system and the wastewater collection and treatment system owned and operated by WMUD.

We recently conducted a site visit to the wastewater lagoon, located on the banks of the Big Black River. While we were there to gather data on the influent pump station and other components of the treatment process, we observed a condition with the river bank that we believe needs immediate attention. The river bank has sloughed severely and at one point is only 25 feet from the toe of the lagoon levee. It is our opinion that the lagoon is danger of being lost in a few more "sloughing" events.

Attached hereto is a letter from the Mississippi Department of Environmental Quality where they recognized the problem in 2008. We are unsure if your office was contacted at that time.

We are including recent photographs of the area and a site map on the location of the lagoon.

We would like to request a site visit by your agency and begin formulating a solution to the problem.

Please contact the undersigned to discuss this issue further.

Thank you for your attention to this matter.

Very truly yours,

ENGINEERING SERVICE


R. Allen Scott, P.E.

RAS/rs

cc: West Madison Utility District



Photo taken in March 2017 shows how close the river bank soughing is to the toe of the lagoon levee.



Photo taken in March 2017 shows how close the river bank soughing is to the toe of the lagoon levee.



Photo taken in March 2017 shows how close the river bank soughing is to the toe of the lagoon levee.

Supervisor
Karl Banks

WEST MADISON UTILITY DISTRICT

P.O. Box 27
Flora, MS 39071
Phone/Fax: 601-879-9718

Commissioners
Tonia Cowan
Willie Steen Battle
Marilyn Martin
Alma Lewis
Eddie Nelson

February 16, 2007

Mr. Douglas J. Kamien, P.E.
Chief, Planning, Programs and Project Management Division
USACE, Vicksburg District
CEMVK-PP
4155 East Clay Street
Vicksburg, MS 39183-3435


Dear Mr. Kamien:

This letter is written to request your assistance in addressing some of the significant problems of the West Madison Utility District's (WMUD) sewage lagoons located along the Big Black River, Kearney Park area in Madison County, Mississippi. This area has been the focus of severe recent streambank erosion that has placed the sewage lagoons in immediate danger of exposure and collapse. The continuing erosion of the banks from the Big Black River is rapidly encroaching upon the WMUD sewage lagoons, the lagoons are being threatened by this erosion and without the streambank protection, the lagoon will eventually be breached with the resulting of untreated wastewater into the Big Black River causing pollution and limiting service to the local community. The banks of the Big Black River adjacent to the lagoons are presently tenuously supported by severely undermined tree root masses.

The WMUD provides water and sewer service in the Kearney Park area to about 481 mostly low/moderate income customers. We are seeking the Corp of Engineers assistance through the Continuing Authorities Program (CAP) Section 14 – Emergency Streambank Stabilization program or any other mechanism readily available. From my understanding funding for the CAP program as a whole, and the Section 14 feature of that program is unavailable for this project Fiscal Year (07) due to lack of funding.

Time is another issue because it is not on our side and any assistance whether it is a coordinated effort with local and state officials to temporarily or permanently stabilize the facilities is greatly appreciated. This is a disaster waiting to happen. We are in desperate need of any assistance.

Thank you for your favorable consideration of this important matter for the WMUD. If you have questions or need additional information, you may contact me at 601-866-9003.

Sincerely,

Tonia Cowan
Board President