

**BOND CONSULTING ENGINEERS EAST, INC.**  
**3683 STATE HIGHWAY 77 NORTH**  
**MARION, ARKANSAS 72364**

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October 4, 2021

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

Attn: Danielle Harbin– Enforcement Analyst

RE: City of Marion  
NPDES Permit No. AR0021971  
AFIN 18-00110

Dear Danielle,

Please consider this letter another attempt to analyze what is causing Marion's chronic violations in their discharge permit.

First of all, our letter of February 4, 2021 discussed the concern of the depth of the water in the first pond and the reasons for it, that being an effort to cover the solids that have accumulated around the force mains where they enter the pond. A control structure was considered to continue maintaining a greater depth but reducing the depth in the last pond. After some consideration and the fact that the aging pond levees needed some attention, it seemed a better solution to reduce the solids that had settled around the force mains. Since a track machine would be necessary to do repair work on the levees, it makes more sense to remove the solids that have accumulated and spread them along the inside of the existing levees. This will allow for lowering the level in all of the ponds and eliminating the need for the control structure discussed February 4, 2021.

Plans and specifications for removing the accumulated sludge and placing along the inside of the levees were taken a month ago and a local contractor, B&B Utility Contractors, Inc. was the low bidder and work should start soon.

Another item that is being addressed is the total amount of mechanical aeration being provided. The city has ordered two new 20 H.P. floating aerators to replace two existing units. This will raise the total horsepower to 80 in the first pond. We do hope that adjusting the pond depth and providing this aeration will reduce the instances of BOD violations.

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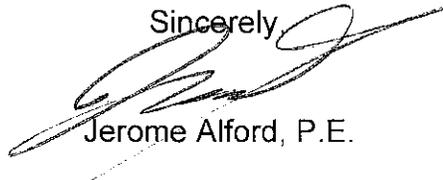
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There is still something unusual about the Suspended Solids violations. I have attached a list of all the analysis of July and August of 2021. Keep in mind that Marion has substantial pond acreage with zero opportunity to short circuit. Please note July 21<sup>st</sup> and 22<sup>nd</sup> of 2021 the Total Suspended Solids (TSS) went from 43 mg/L to 115 mg/L then on July 27<sup>th</sup> and 28<sup>th</sup> the TSS went from 107 to 24 mg/L. On August 3<sup>rd</sup> and 4<sup>th</sup> TSS went from 103 to 18 mg/L then again on August 18<sup>th</sup> and 19<sup>th</sup> TSS went from 17 to 124 mg/L. These wide swings in TSS makes no sense. The sampling schedule is pretty consistent. When one reviews the BOD results, they are not always consistent with the high TSS.

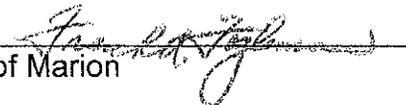
The above inconsistencies in TSS are making us, again, look at sampling technique. We will continue to give this our attention and report to you on our findings.

As soon as we get the pond level lowered and the new aerators installed, we will notify you. Again, on behalf of the City of Marion, we appreciate your cooperation.

Sincerely,



Jerome Alford, P.E.

  
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City of Marion

July 21

DAYS	FLOW RA MGD	EFF DO MG/L	EFF DATA				EFF BOD LBS	EFF TSS MG/L	EFF TSS LBS	EFF CL R MG/L	EFF FECAL GEO	MARION DMR INFORMATION	
			EFF PH SU	EFF BOD MG/L	EFF TSS MG/L	EFF CL R MG/L							
1	0.00												
2	0.00												
3	0.00												
4	0.00												
5	0.00												
6	0.00												
7	0.00												
8	0.00												
9	0.00												
10	0.00												
11	2.10												
12	2.84												
13	1.50	4.05	6.65	19	237.69	98	1225.98	0	50				
14	1.50			15	187.65	15	187.65	0	1				
15	1.49			15	186.40	40	497.06	0	1				
16	2.50												
17	2.71												
18	2.86												
19	2.87												
20	2.88	4.66	7.27	15	360.29	40	960.77	0	7				
21	2.88			43	1032.83	43	1032.83	0	1				
22	2.81			22	515.58	115	2695.07	0	1				
23	2.72												
24	2.74												
25	2.74												
26	2.75												
27	2.75	4.28	6.43	31	710.99	107	2454.05	0	138				
28	2.75			24	550.44	24	550.44	0	146				
29	2.75			27	619.25	81	1857.74	0	28				
30	2.83												
31	2.80												

AVG	1.73	4.33	6.78	21.50	438.36	62.56	1273.51	0.00	41.44		
MIN	1.49	4.05	6.43	15.00	186.40	15.00	187.65	0.00	1.00		
MAX	2.88	4.66	7.27	31.00	710.99	115.00	2695.07	0.00	146.00		

aug 21

EFF DATA								
	FLOW RATE	EFF DO	EFF PH	EFF BOD	EFF BOD	EFF TSS	EFF TSS	EFF CL RES
DAYS	MGD	MG/L	SU	MG/L	LBS	MG/L	LBS	MG/L
1	2.78							
2	2.78							
3	2.77	4.31	7.49	23	531.34	103	2379.49	0
4	1.81					18	271.72	0
5	0.88			13	95.41	14	102.75	0
6	0.00							
7	0.00							
8	0.00							
9	0.98							
10	1.50	4.31	7.34	26	325.26	98	1225.98	
11	1.51					18	226.68	
12	1.50			22	275.22	59	738.09	
13	1.68							
14	0.00							
15	0.00							
16	1.78							
17	1.49	9.1	8.69	24	298.24	90	1118.39	0
18	1.50					17	212.67	0
19	2.49			37	768.36	124	2575.06	0
20	2.46							
21	2.43							
22	2.39							
23	1.48							
24	1.50	4.95	9	45	562.95	71	888.21	0
25	1.13					97	914.15	0
26	1.50			22	275.22	19	237.69	0
27	0.00							
28	0.00							
29	0.00							
30	0.00							
31	1.10	4.94	6.64	37	339.44	61	559.61	0
AVG	1.27	5.52	7.83	27.67	385.72	60.69	880.81	0.00
MIN	0.00	4.31	6.64	13.00	95.41	14.00	102.75	0.00
MAX	2.78	9.10	9.00	45.00	768.36	124.00	2575.06	0.00

