

Operations and Compliance Report

January 18, 2023

Plant Loading, CSO Report, and Director's Notes

Plant Influent Report

Biochemical Oxygen Demand, 5-Day (Avg. 31329 lbs/day)	49 percent of design
Total Suspended Solids (Avg. 47279 lbs/day)	44 percent of design
Average Daily Flow (34.15 million gallons/day)	83 percent of design
Maximum Daily Flow (60.14 million gallons/day)	48 percent of design

Plant Effluent Report

<u>Parameter</u>	<u>Report Frequency</u>	<u>Permit Limits</u>	<u>Reported Values</u>	<u>Violations</u>
CBOD ₅ , mg/L	Mo./Wk. Avg	20/40	2/3	0
TSS, mg/L	Mo./Wk. Avg	25/45	4/6	0
NH ₃ -N, mg/L	Mo. Avg/Daily Max	1.5/3.0	0.18/0.57	0
DO, mg/L	Mo. Avg/Wk. Avg/Daily Min	6.0/4.5/4.0	8.91/8.83/8.58	0
pH, S.U.	Daily Min/Max	6.0/9.0	7.70/8.11	0
Total Nickel, mg/L	Mo. Avg	0.0381	0.015	0
CL ₂ Residual, mg/L	Daily Max	0.05*	NA	0
Fecal Coliform CFU/100mL	Daily Max	400*	NA	0

CSO Report

Location	Events	Est. Total Duration of Discharges (hrs.)	Discharge (million gallons)
Oakland Avenue (Outfall 003)	2	5.77	2.24
Lincoln Park (Outfall 004)	0	0	0
McKinley Avenue (Outfall 007)	2	5.27	4.65
Seventh Ward (Outfall 008)	1	4.20	9.04

Director's Notes:

Land Application Program:

J. Oros Environmental Inc. (JOE) completed all land application of the District's biosolids as of 12/16/2022. As of that date, 24.7 million gallons (MG) of solids has been hauled, equaling roughly 4257.2 dry tons (dT) of material to local farm fields.

Compliance Reporting:

In accordance with the requirements of our NPDES permit the SDD has submitted all required reports to the appropriate entities for the 2022 year.

Sanitary Sewer Overflow Report:

A break in a digested sludge line going to the Wyckles lagoon facility occurred at the plant on January 10th which allowed sludge to inadvertently be released to Stevens Creek through a leaking stormwater gate. The amount of sludge that made its way to Stevens Creek was estimated at approximately 10 gallons. The occurrence had to be reported to the IEPA as a Sanitary Sewer Overflow (SSO) and could potentially lead to a violation. The stormwater gate had been closed and the pumps to the lift station were turned off as soon as the leak was detected. The gate although closed did not completely seal which allowed a slow leak to continue beyond the confines of the Main Plant from the West Stormwater Pump Station. Stop logs will be placed at all stormwater gates to ensure sealing, but a root cause analysis investigation will be performed for a more permanent solution.

Operations, Laboratory, and Pretreatment Activity Reports – December 2022/January 2023

Operations Activities:

Normal operational activities were conducted as prescribed by standard procedures or in response to conditions within the plant. These include operating, monitoring, and adjusting facility equipment, performing process control testing, records keeping, and coordination with the other departments to realize optimal performance of the Plant.

- 1) #1 and #4 anaerobic digester mixers are back in service and the Operators are monitoring them closely. Digester gas production has been low the last half of the month and into January. We are maintaining digester temps without the use of natural gas.
- 2) The dredge and crawler at the Wyckles Facility lagoons have been suspended for the season. We experienced several breakdowns with the dredge yet have operated 158 hours and transferred approximately 7.8 million gallons for this season. Additionally, the operators have operated the crawler 107 hours for this season.
- 3) Operators have taken the West Primary offline and are in the process of cleaning the remaining sludge and grit from the tanks. We are using the East Head Works at the present time.
- 4) Influent ammonia levels have been up due to higher-than-normal discharge levels coming from ADM. Though higher, none of the discharges have exceeded their permitted limits, but it has put a larger demand for the blowers. We did have to use the #1 Hoffman blower twice for a total of 68 hours. I&C got #4 Neuros blower in service and we have been able to handle the additional load with only the Neuros blowers.
- 5) Operations staff continue to actively address PMs as time, workload, and staff levels allow.

Laboratory Activities:

Routine:

A total of 1,924 analyses were performed in the laboratory during the month of December 2022.

Monitoring of treatment plant, industrial users, and receiving stream samples for compliance purposes and process monitoring continued. Laboratory personnel continued to perform additional background nutrient monitoring to help fully characterize the nutrient loading on the plant.

Non-Routine:

- 1) The SDD lab continued to send samples of raw influent twice a week throughout the month of December 2022 for the "COVID-19 in Wastewater" study funded by the Illinois Department of Public Health. A Zoom call was held on December 2, 2022, with the study participants and the researchers to discuss the results of the study thus far. They plan to implement a publicly accessible dashboard in the coming weeks for easy access to the monitoring data.
- 2) The SDD lab/pretreatment collected and analyzed two more days of samples for the ongoing nutrient study for Black and Veatch. Samples were collected on December 1 and December 16, 2022.
- 3) The third round of biomonitoring, as required by our NPDES discharge permit, was completed in December 2022 using a sample of the SDD effluent collected on December 12, 2022. Just as in the first and second rounds of biomonitoring, there was no acute toxicity found in the SDD effluent. The final round of biomonitoring will be conducted in March 2023.

Pretreatment Activities:

Pretreatment - General Activities:

- 1) Pretreatment personnel monitored nine commercial and industrial users (IU) during December 2022 and conducted five industrial site inspections.
- 2) Industrial Wastewater Discharge Permits were issued to **Mueller Foundry** and **St Marys Hospital**.
- 3) Bimonthly sampling for the Nutrient Study is ongoing. SDD personnel are utilizing our portable samplers to collect the extra samples from **Primient** and **ADM**.
- 4) Annual Report forms from our Industrial Users are beginning to arrive. We use these reports to fill out our Pretreatment Annual Report, which is due to USEPA Region 5 by April 28th each year.
- 5) Self-Monitoring report forms have been received from all Industrial Users that are required to submit them.

Pretreatment Ordinance - Verbal Notices:

- 1) The SDD issued a Verbal Warning to **Bulkmatic** on December 6, 2022, for failing to submit their self-monitoring report on time. It was received the same day.
- 2) The SDD issued a Verbal Warning to **Stripmasters** on December 6, 2022, for failing to submit their self-monitoring report on time. It was received the same day.

Pretreatment Ordinance - Warning Notices (WN):

- 1) The SDD issued WN 22-007 to **ADM** for discharging an excess amount of corn germ to the sanitary sewer. The cause of the germ loss was a plugged cyclone of the #2 fluid bed germ dryer. A high level probe, which could have potentially prevented the loss, was also found to not be in place. The required 15-day response, along with action items, has not been received.
- 2) The SDD issued WN 23-001 to **ADM** for discharging 200 proof alcohol from the alcohol containment area to the sanitary sewer. The slug of alcohol was caused by a valve that was

mistakenly locked in the open position on the containment sump line. The required 15-day response has not been received.

Pretreatment Ordinance - Notices of Violation (NOV):

No Notices of Violation were issued during December 2022.

Pretreatment Ordinance - Executive Orders:

No Executive Orders were issued during December 2022.

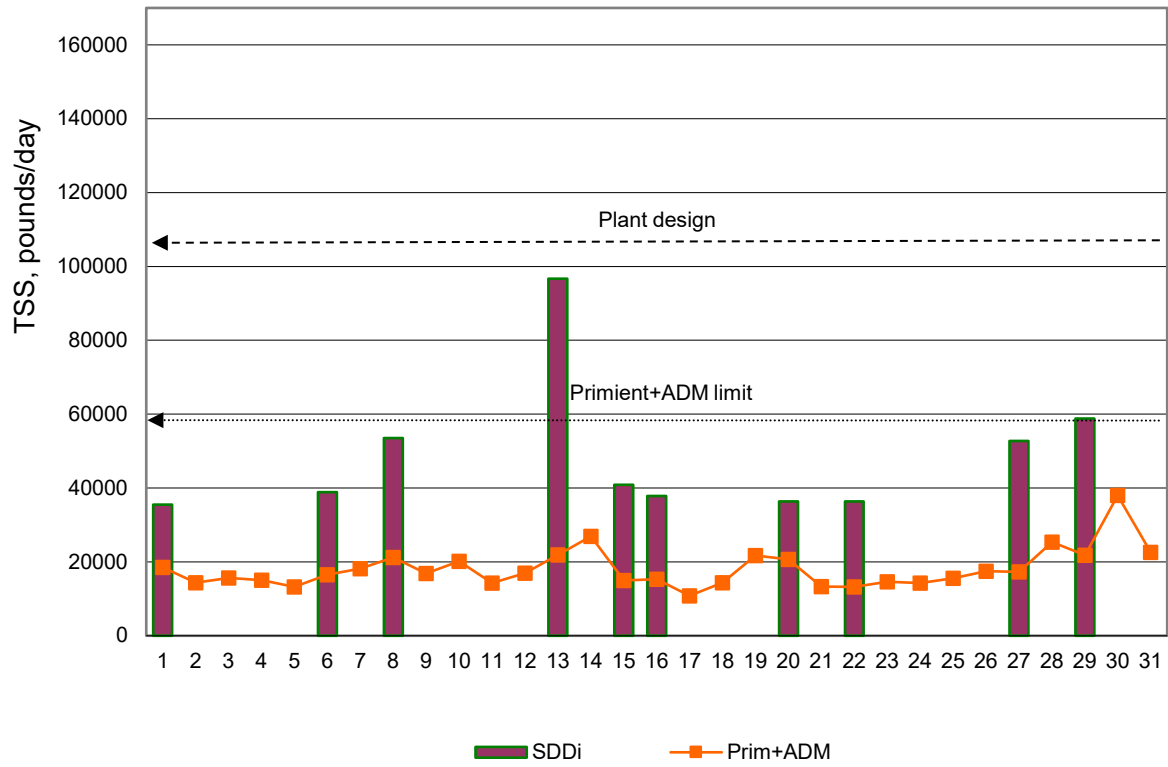
Pretreatment Ordinance - Penalty Assessments:

The following industrial penalties were assessed for December 2022:

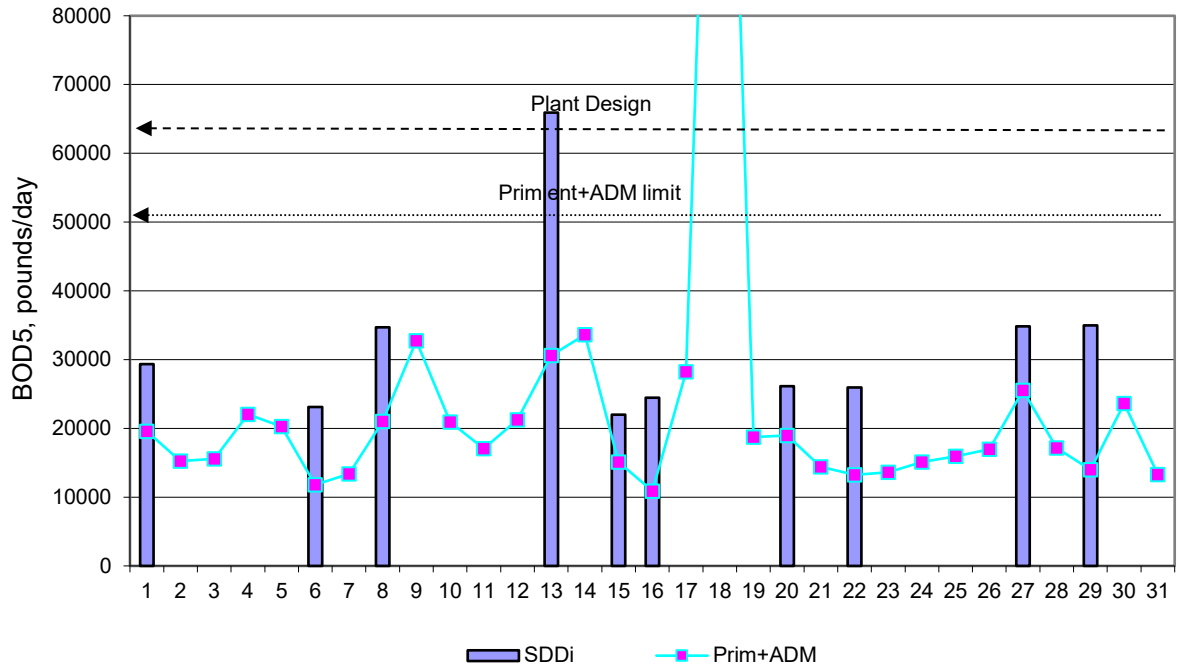
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|--------------------|-----------------|
| 1) Primient | \$1,000 |
| 2) ADM | \$21,000 |

Plant Operating Graphs:

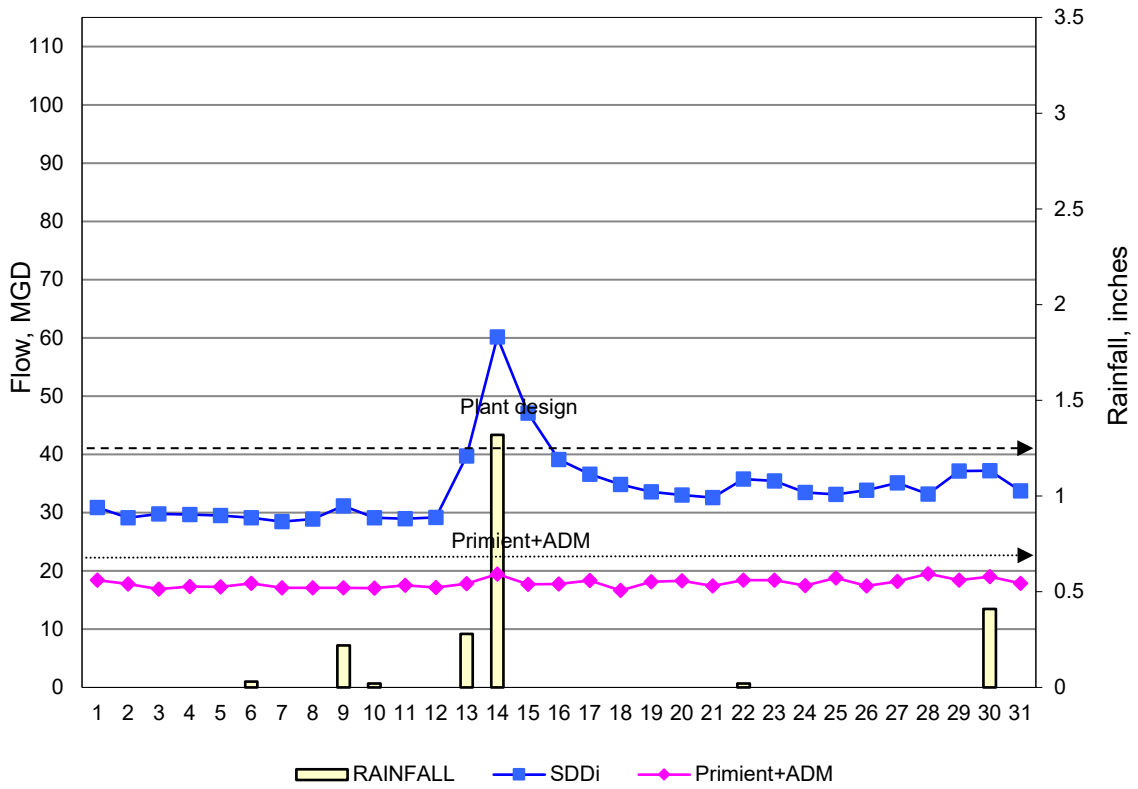
TSS Comparison: SDD Inf Primient+ADM Discharges



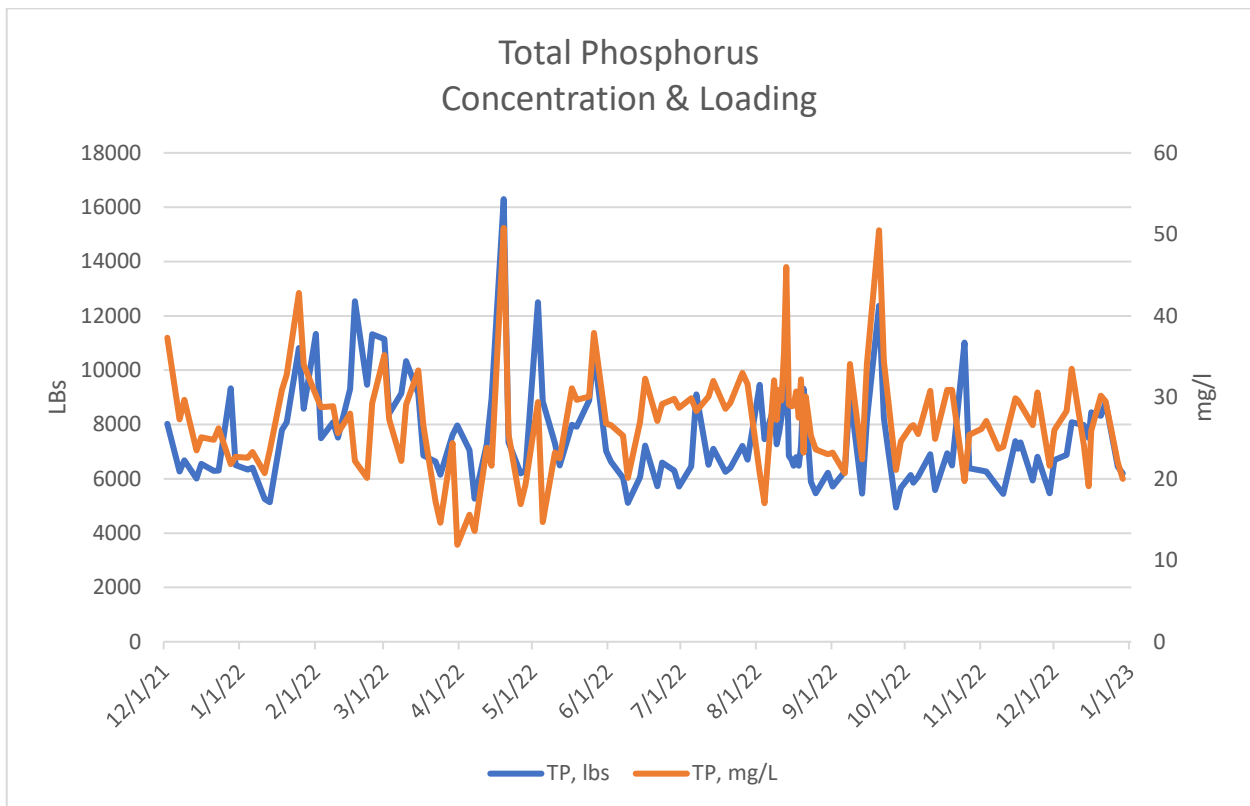
BOD Comparison: BOD Inf vs. Primient + ADM Discharges



Flow Comparison: SDD vs. Primient + ADM Discharges and Rainfall

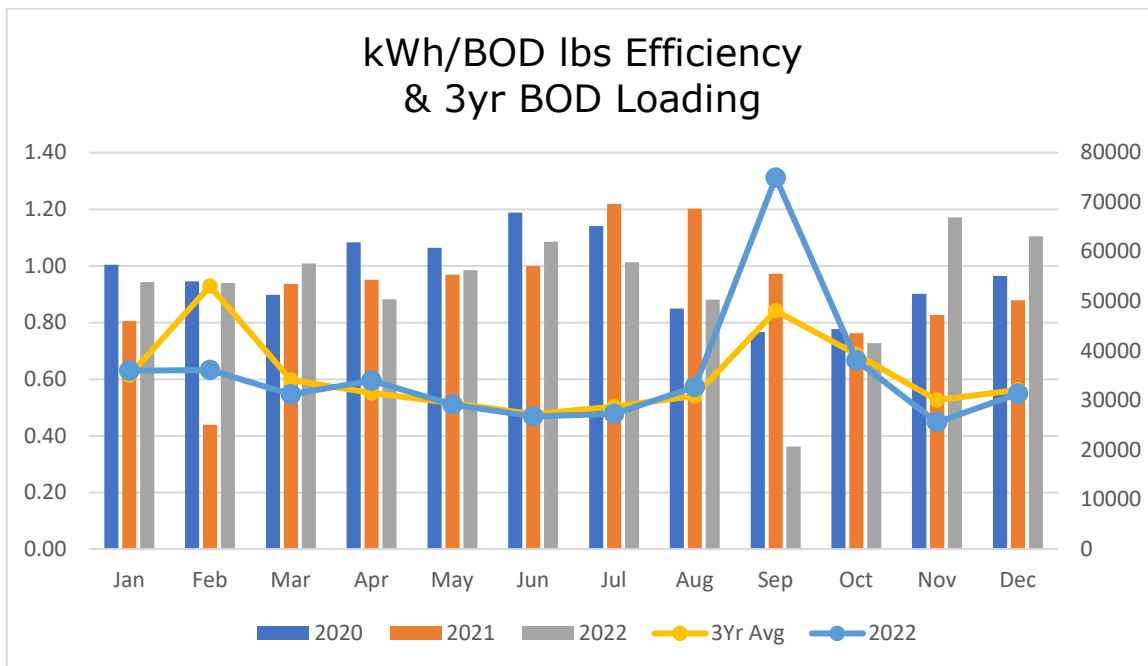
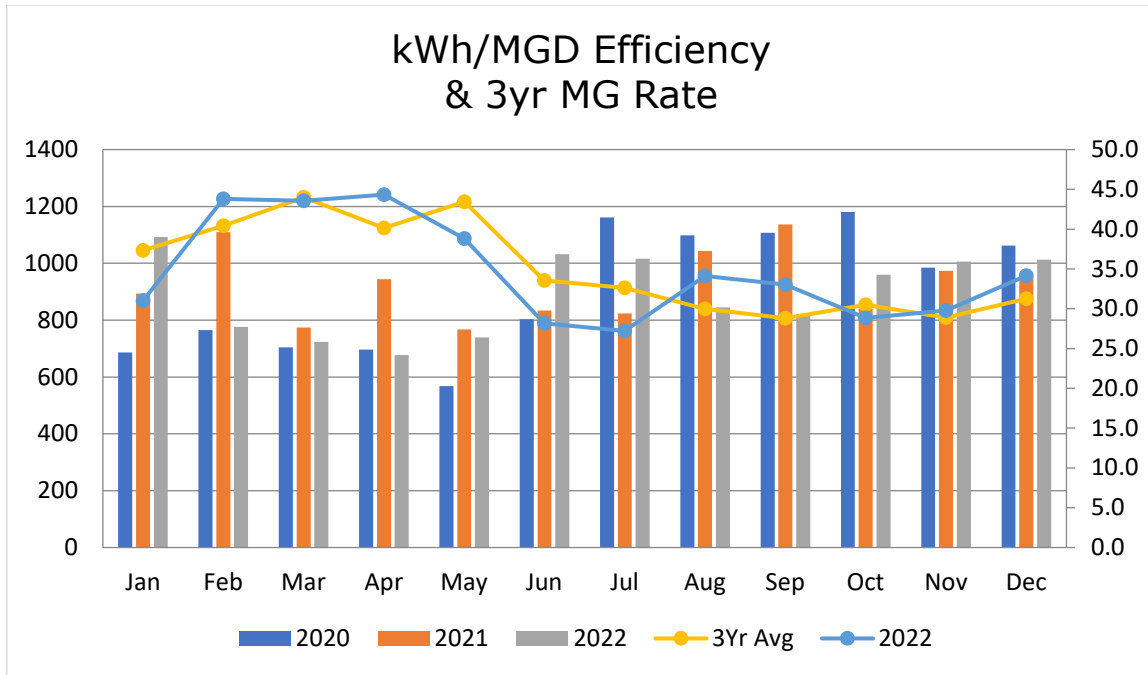


Phosphorus Tracking Graph:



Plant Efficiency Graphs:

December 2022



**Sanitary District of Decatur
Nutrient Program Management Report**

January 18, 2023

During the month of December District personnel attended meetings with members of the Black & Veatch Team to affect progress in nutrient reduction planning and activities.

Currently, activities are surrounding the gathering and sharing of data and information so that all parties can assist in how to move the projects forward as efficiently as possible. In the month of December, the District continued to gather and forward all requested industrial special sampling lab results and plant performance data as requested by the B&V.

B&V concentrated on developing and completing the Draft Phosphorus Optimization Plan (PDOP), continued efforts associated to their analysis and evaluations of solid stream alternatives as well as the aging infrastructure evaluations. B&V has continued to request, receive, and assimilate data provided by SDD for integration into a PowerBI dashboard for the Program. They are continuing their analysis and evaluations of liquid stream alternatives to finalize the Technical Memorandum associated to that effort. In addition, B&V has also continued began design and coordination associated with the Frac Tank Pilot.

Below you will find a list of the actual meetings conducted in chronological order. The information covers the subject, date, and agenda items of each meeting. Additional information related to if any of these items can be supplied to the Board upon request including meeting minutes and documentation used during the meeting as it is all being stored as part of the permanent record.

Nutrient Reduction Program Meetings Conducted during December 2022

<u>Subject</u>	<u>Date</u>	<u>Agenda Items</u>
BNR Discussion with ADM/Primient	12/15/2022	<ol style="list-style-type: none">1. Review of Special Condition #21 (and what a PDOP is)2. Review of the 2015-2022 lbs/day and avg mg/L/day TP3. Review of items SDD has done regarding effluent reduction measures4. The need to answer SC 21 A.2.a
Bi-weekly Program Status Update	12/21/2022	<ol style="list-style-type: none">1. Frac Tank Pilot Design2. NARP/Watershed Services3. PDOP4. TM4 – BNR Solids Handling Evaluation5. Aged Infrastructure Evaluation6. Power BI7. Ozone Evaluations

**Sanitary District of Decatur
Watershed Management Report**

January 18, 2023

During the month of December District personnel attended meetings with members of the Black & Veatch and Geosyntec Teams to affect progress in meeting the NARP requirements as listed in the NPDES permit as well as moving forward on the formation of a future watershed workgroup for the Middle Sangamon River.

Recent activities pertained to planning the program in order to complete the NARP Study. Foremost in these efforts included Geosyntec finalizing their detailed data analysis from the completed bi-weekly sampling/monitoring efforts.

Below you will find a list of the meeting conducted. The information covers the subject, date, and agenda items of each meeting. Black & Veatch provided a written summary. Additional information related to any of these items can be supplied to the Board upon request including meeting minutes and documentation used during the meeting as it is all being stored as part of the permanent record.

Watershed Management Meetings Conducted during December 2022

<u>Subject</u>	<u>Date</u>	<u>Agenda Items</u>
Watershed Services Bi-weekly Meeting	12/14/2022	<ol style="list-style-type: none">1. Discuss impacts of Ozone Treatment on Sangamon River water quality.2. Discuss follow-up meeting on results of data analysis

January 9, 2023

Sanitary District of Decatur (SDD)
501 Dipper Lane
Decatur, IL 62522

Nutrient Program Manager
BV Project No. 411502

Attention: Don Miller, P.E., Director of Engineering

Subject: SDD Nutrient Program Management
December Monthly Progress Update (December 3, 2022 – December 30, 2022)

Dear Mr. Miller:

This letter summarizes the work associated to the SDD Nutrient Program Management project for services from December 3, 2022, through December 30, 2022.

1. Program Management, Administration, and Coordination
 - Conducted bi-weekly program conference calls to update progress and discuss key issues.
 - Provided Monthly Project Update
 - Provided ongoing management of the project including program management, preparation/monitoring of the program schedule and budget as well as program administrative duties.
 - Continued to coordinate PowerBI development including project data integration and dashboard development.
2. Pretreatment Program Update
 - Continued data evaluation
 - Began to evaluate special sampling data
3. Phosphorus Discharge and Optimization Plan (PDOP)
 - Continued the development of the Final report per SDD provided comments
 - Prepared for and met with ADM and Premient to discuss SC 21 A.2.a
4. Watershed Support Services
 - Conducted bi-weekly progress update meeting
 - Geosyntec began to address comments provided during their presentation detailing the data analysis of the river monitoring data
 - Continued initial planning efforts and outline for the Watershed Group formation development

5. WRRF Upgrade Plan
 - Continued to incorporate review comments and District feedback on the alternatives analysis into TM#2: BNR Liquid Stream Evaluations.
 - Solutions Development Solids Stream
 - i. Continued preparation for BNR Solids Stream Technology Screen Workshop to provide:
 1. A comprehensive list of technologies to address solids handling upgrades.
 2. Provide screened technology solutions
 3. Comparison of 2020 Mast Plan
 - Aging Infrastructure Evaluation
 - i. Continued to work with SDD staff to develop overall list of infrastructure and develop assessments for onsite condition assessments.
6. Pilot and Demonstration Testing
 - Continued development of the 30% design for the Frac Tank Pilot

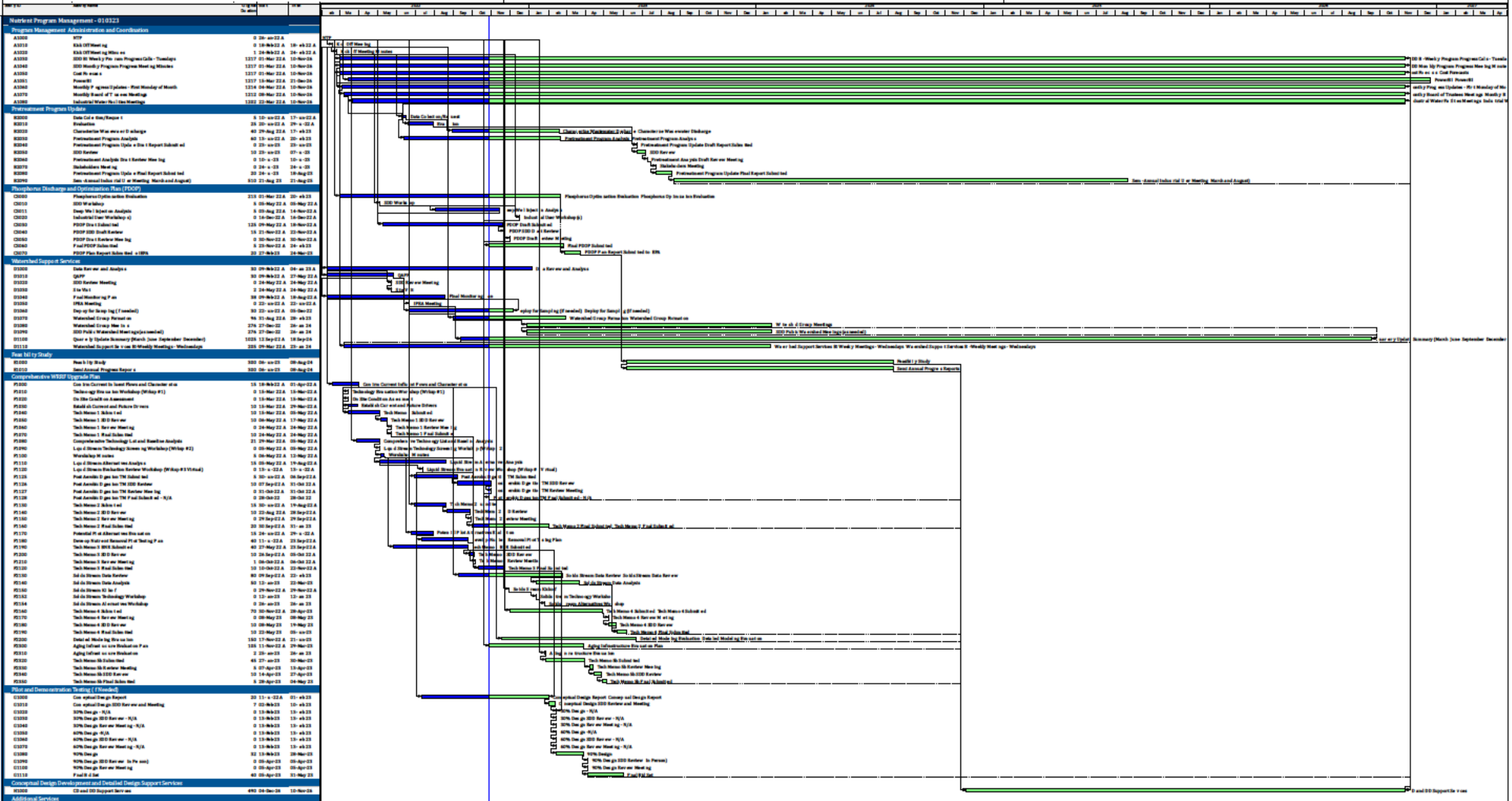
Please feel free to contact me with any questions, comments or if you need additional information.

Sincerely,

Diane Grossenheider, P.E.
Project Manager, Black & Veatch

Enclosure(s):

- SDD Nutrient Program Manager Schedule (Year 1)
- Anticipated Cost Forecast



■ Actual Work
 ■ Critical Remaining ...
 ■ Remaining Work
 ◆ Milestone

SANITARY DISTRICT OF DECATUR - NUTRIENT PROGRAM MANAGEMENT
2022 COST FORECAST
 BV Project Number 411502

Incremental		2022.02	2022.03	2022.04	2022.05	2022.06	2022.07	2022.08	2022.09	2022.10	2022.11	2022.12	2023.01	2023.02	2023.03
	Planned	13,683	108,359	237,519	168,336	497,478	284,217	100,648	86,219	109,725	91,822	91,820	204,625	175,033	184,839
	Actuals	16,724	60,831	77,995	54,808	61,865	125,355	145,679	112,979	118,381	94,677	105,023			
	Forecast	16,724	60,831	77,995	54,808	61,865	125,355	145,679	112,979	118,381	94,677	105,023	146,803	133,793	133,350
Task 1 Program Mgmt	Planned	4,631	18,589	26,171	20,169	20,164	25,213	20,168	20,170	25,211	20,169	20,167	20,050	17,010	17,014
	Actuals	7,905	2,198	2,585	3,303	2,115	3,760	4,348	5,103	3,173	9,088	4,320			
	Forecast	7,905	2,198	2,585	3,303	2,115	3,760	4,348	5,103	3,173	9,088	4,320	10,000	9,000	9,000
Task 2 Pretreatment Program Update	Planned	1,726	15,177	42,250	17,294	10,880	30,578	19,616	5,192	6,491	5,192	5,192			
	Actuals			705	470	470	235	-	353	430	430	1,320			
	Forecast			705	470	470	235	-	353	430	430	1,320	8,000	8,000	8,000
Task 3 Phosphorus Discharge and Optimization	Planned	536	3,756	4,694	7,073	26,718	5,977	4,881	4,879	6,099	4,877	4,879	6,748	5,656	5,213
	Actuals		1,290	3,755	3,508	1,613	235	4,645	8,731	8,100	10,948	3,898			
	Forecast		1,290	3,755	3,508	1,613	235	4,645	8,731	8,100	10,948	3,898	6,748	5,656	5,213
Task 4 Watershed Support Services	Planned	6,790	61,631	12,107	4,040	193,991	22,817	18,255	18,250	22,817	18,253	18,251	5,383	4,569	4,567
	Actuals	940	14,809	17,206	28,941	21,065	45,297	54,170	36,587	44,435	12,003	34,319			
	Forecast	940	14,809	17,206	28,941	21,065	45,297	54,170	36,587	44,435	12,003	34,319	5,383	4,569	4,567
Task 5 Comprehensive WRRF Upgrade Plan	Planned	-	9,206	122,984	89,447	32,035	35,466	-	-	-	-	-	62,344	52,898	52,900
	Actuals	7,879	42,534	53,745	16,778	36,223	74,878	81,756	59,461	42,065	46,199	28,493			
	Forecast	7,879	42,534	53,745	16,778	36,223	74,878	81,756	59,461	42,065	46,199	28,493	62,344	52,898	52,900
Task 6 Feasibility Study	Planned	-	-	-	-	-	-	-	-	-	-	-	4,328	3,670	3,670
	Actuals														
	Forecast												4,328	3,670	3,670
Task 7 Pilot and Demonstration Testing	Planned	-	-	-	-	213,988	164,168	37,728	37,728	49,107	43,331	43,331	105,773	91,229	101,474
	Actuals				1,710	380	950	760	2,745	20,178	16,030	32,674			
	Forecast				1,710	380	950	760	2,745	20,178	16,030	32,674	50,000	50,000	50,000
Cumulative	Planned	-	13,683	122,042	359,561	527,897	1,025,373	1,309,590	1,410,238	1,496,457	1,606,182	1,698,004	1,789,824	1,994,449	2,169,482
	Actuals	-	16,724	77,554	155,549	210,157	272,023	397,378	543,057	656,036	774,417	869,094	974,116		
	Forecast	-	16,724	77,554	155,549	210,157	272,023	397,378	543,057	656,036	774,417	869,094	974,116	1,120,919	1,254,712

