

Director of Operations and Compliance Report

December 21, 2022

Plant Loading, CSO Report, and Director's Notes

Plant Influent Report

Biochemical Oxygen Demand, 5-Day (Avg. 25582 lbs/day)	40 percent of design
Total Suspended Solids (Avg. 38000 lbs/day)	35 percent of design
Average Daily Flow (29.78 million gallons/day)	73 percent of design
Maximum Daily Flow (43.98 million gallons/day)	35 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	2/2	0
TSS, mg/L	Mo./Wk. Avg	25/45	3/6	0
NH ₃ -N, mg/L	Mo. Avg/Daily Max	1.5/3.0	0.20/0.48	0
DO, mg/L	Mo. Avg/Wk. Avg/Daily Min	6.0/4.5/4.0	8.49/8.09/7.95	0
pH, S.U.	Daily Min/Max	6.0/9.0	7.84/8.05	0
Total Nickel, mg/L	Mo. Avg	0.0381	0.020	0
CL ₂ Residual, mg/L	Daily Max	0.05*	<0.011	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	5.26	1.21
Lincoln Park (Outfall 004)	0	0	0
McKinley Avenue (Outfall 007)	2	5.0	3.84
Seventh Ward (Outfall 008)	1	4.8	9.37

Director's Notes:

Land Application Program:

J. Oros Environmental Inc. (JOE) is currently in operation of land application of the District's biosolids. As of 12/05/22 they have hauled 19.5 million gallons (MG) equaling roughly 3335.3 dry tons (dT) of material to local farm fields.

Final Report:

This is the final Director's Report that I present to the Board. I would take this opportunity to express my thanks to all the Board Members, the District Administration, my Management Team, and all staff members here. I hope that my tenure here has had a positive effect on the District and can attest that it has made me a better Wastewater Professional. It has been a pleasure to work here I wish the best for all of you and the District in the future.

Operations, Laboratory, and Pretreatment Activity Reports – November/December 2022

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) Operations has #1 and #4 anaerobic digester mixers back in service and are monitoring them closely.
- 2) The operators are now operating the dredge and crawler at the Wyckles Facility lagoons to facilitate JOE staff in the land application process. We have experienced several breakdowns with the dredge yet have operated 86 hours and transferred approximately 4.8 million gallons for this reporting period. Additionally, the operators have operated the crawler 56 hours for this reporting period.
- 3) Operators have drained the #5 Primary Clarifier and are collecting the ground water level data while the units are being inspected by Plocher staff in preparations for the future repairs.
- 4) Influent ammonia levels have been up due to higher-than-normal discharge levels coming from industrial sources though higher none of the discharges have exceeded their permitted limits. This has put a larger demand for the blowers. We have been able to handle the additional loading using only the four Neuros turbine blowers.
- 5) Chuck Roberts and Joseph Lundin have joined the operations staff as Operators-In-Training.
- 6) Operations staff continue to actively address PMs as time, workload, and staff levels allow.

Laboratory Activities:

Routine:

A total of 2,089 analyses were performed in the laboratory during the month of November 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 quarterly NPDES sampling of the influent, effluent, and sludge to Wyckles was conducted during the second week of November 2022.
- 2) The SDD lab continued to send samples of raw influent twice a week throughout the month of November 2022 for the "COVID-19 in Wastewater" study funded by the Illinois Department of Public Health. A Zoom call was held on November 4, 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.

- 3) 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 November 1 and November 16, 2022.
- 4) Keith Richard, Matthew Patricio, Matt Nihiser, and David Collard virtually attended the Nutrient Loss Reduction Strategy (NLRS) Conference on November 1, 2022. The conference was hosted by the Illinois EPA with the purpose of updating the attendees on the current state of the NLRS and highlight the successes of the past year.
- 5) Keith Richard, Matthew Patricio, and Matt Nihiser provided a presentation and plant tour on November 16, 2022, for a microbiology class from Millikin University. The presentation was heavily focused on the microbiology of our treatment process since it was a microbiology class.

Pretreatment Activities:

Pretreatment - General Activities:

- 1) Pretreatment personnel monitored fourteen commercial and industrial users (IU) during November 2022 and conducted nine industrial site inspections.
- 2) A permit application package was sent to **H&M Trucking**.
- 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 were mailed to our industrial users. These forms are due on March 1st of each year and require the industry to detail all of the changes that took place at their facility during calendar year 2022.
- 5) Self-Monitoring report forms were due from our permitted industrial users on December 1, 2022.

Pretreatment Ordinance - Verbal Notices:

- 1) The SDD issued a Verbal Warning to **Primient** on November 4, 2022, for discharging wastewater in excess of their dry weather flow limit. Issues with compressor cooling were blamed for the extra flow.
- 2) The SDD issued a Verbal Warning to **DMH** on November 7, 2022, for violating their numeric FOG limit at the pt C. discharge. **DMH** is trialing a drain enzyme at their cafeteria pulper unit. The enzyme is not supposed to cause pass through of FOG when it is dosed properly, however it appears that the enzyme may have been overdosed, causing the violation.
- 3) The SDD issued a Verbal Warning to **H&M Trucking** on November 28, 2022, for discharging wastewater above their non-polar FOG limit. This violation was detected in their self-monitoring. **H&M** has completely cleaned out their holding tank, and we are waiting for results from their re-sample.

Pretreatment Ordinance - Warning Notices (WN):

No Warning Notices were issued during November 2022.

Pretreatment Ordinance - Notices of Violation (NOV):

No Notices of Violation were issued during November 2022.

Pretreatment Ordinance - Executive Orders:

No Executive Orders were issued during November 2022.

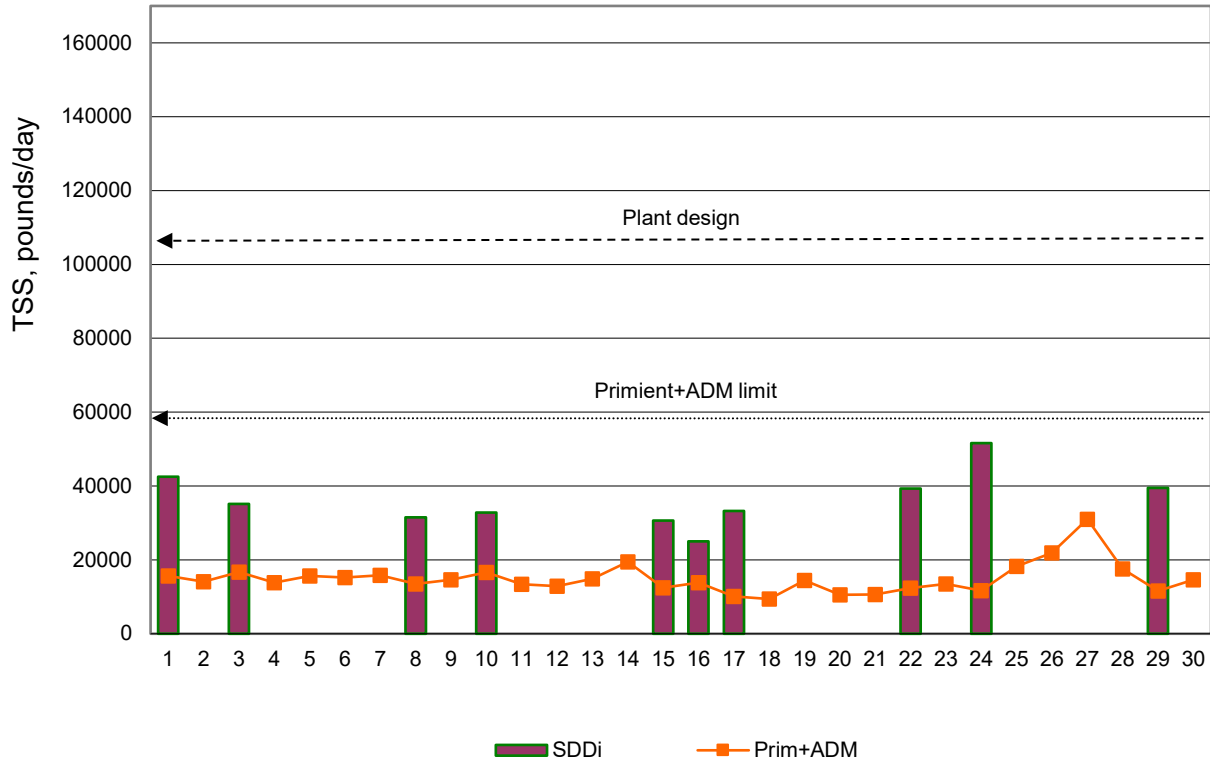
Pretreatment Ordinance - Penalty Assessments:

The following industrial penalties were assessed for November 2022:

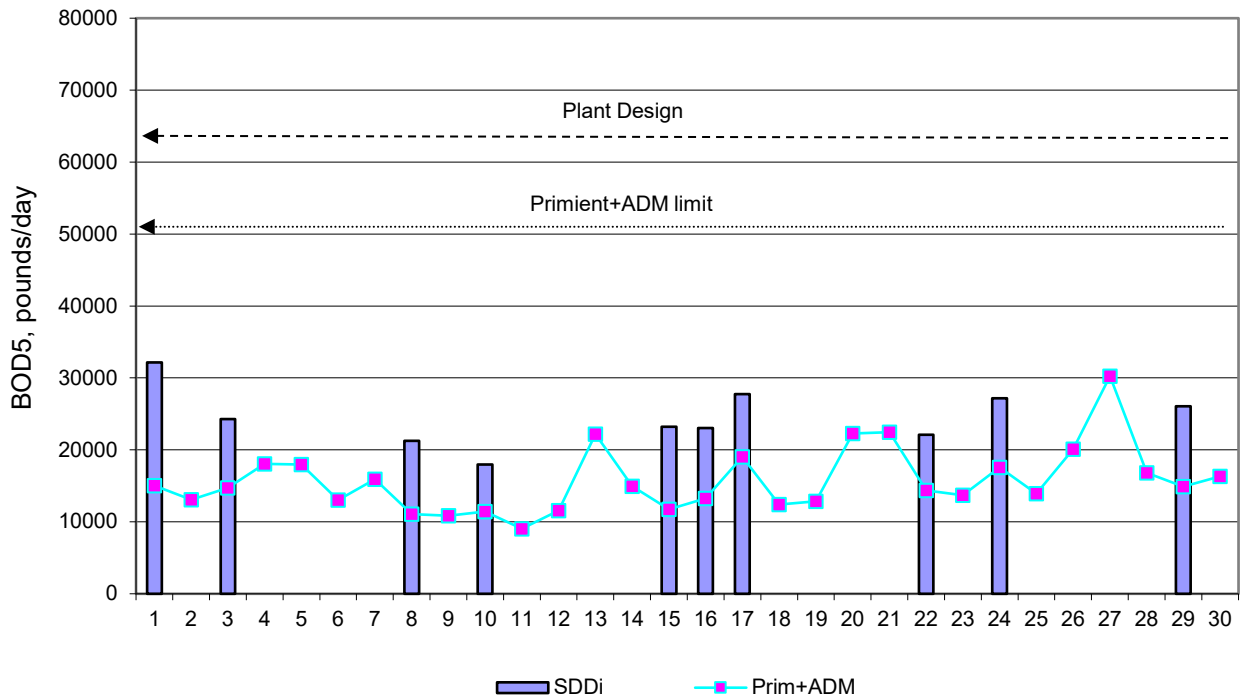
- | | |
|--------------------|----------------|
| 1) Primient | \$1,000 |
|--------------------|----------------|

Plant Operating Graphs:

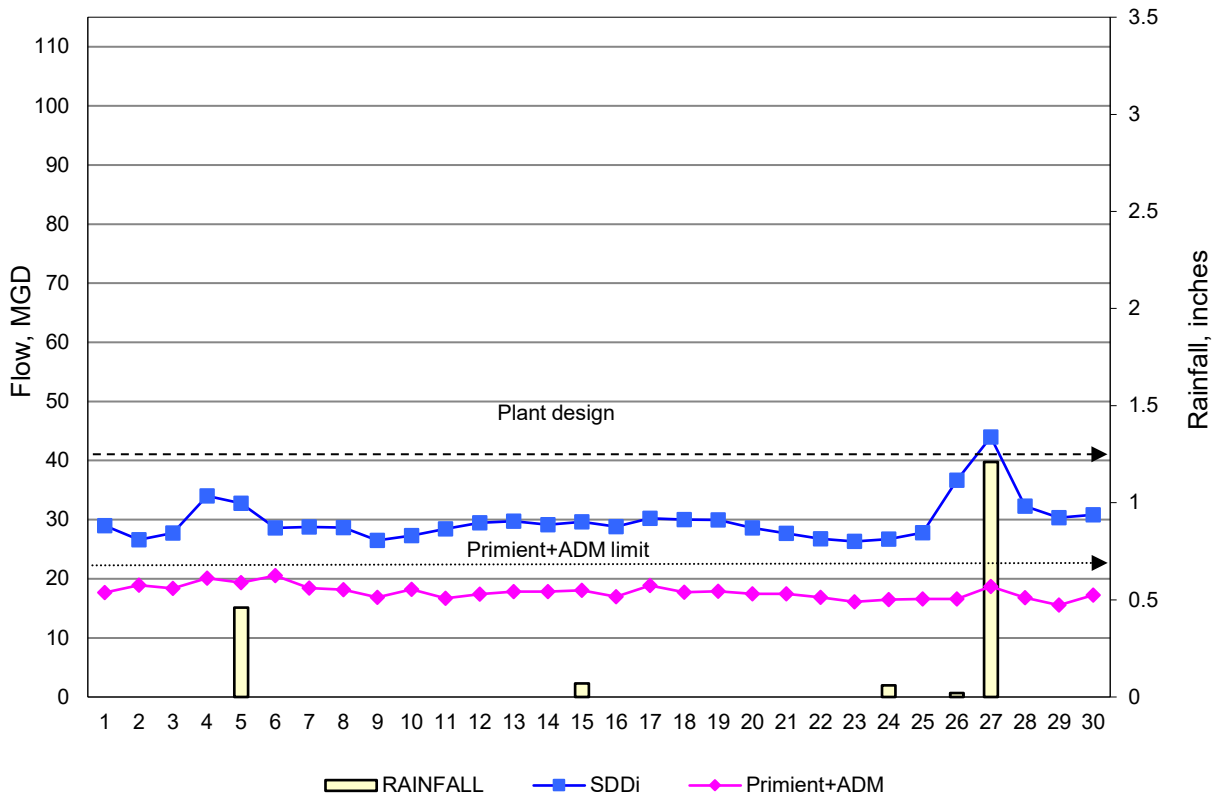
TSS Comparison: SDD Inf Primient+ADM Discharges



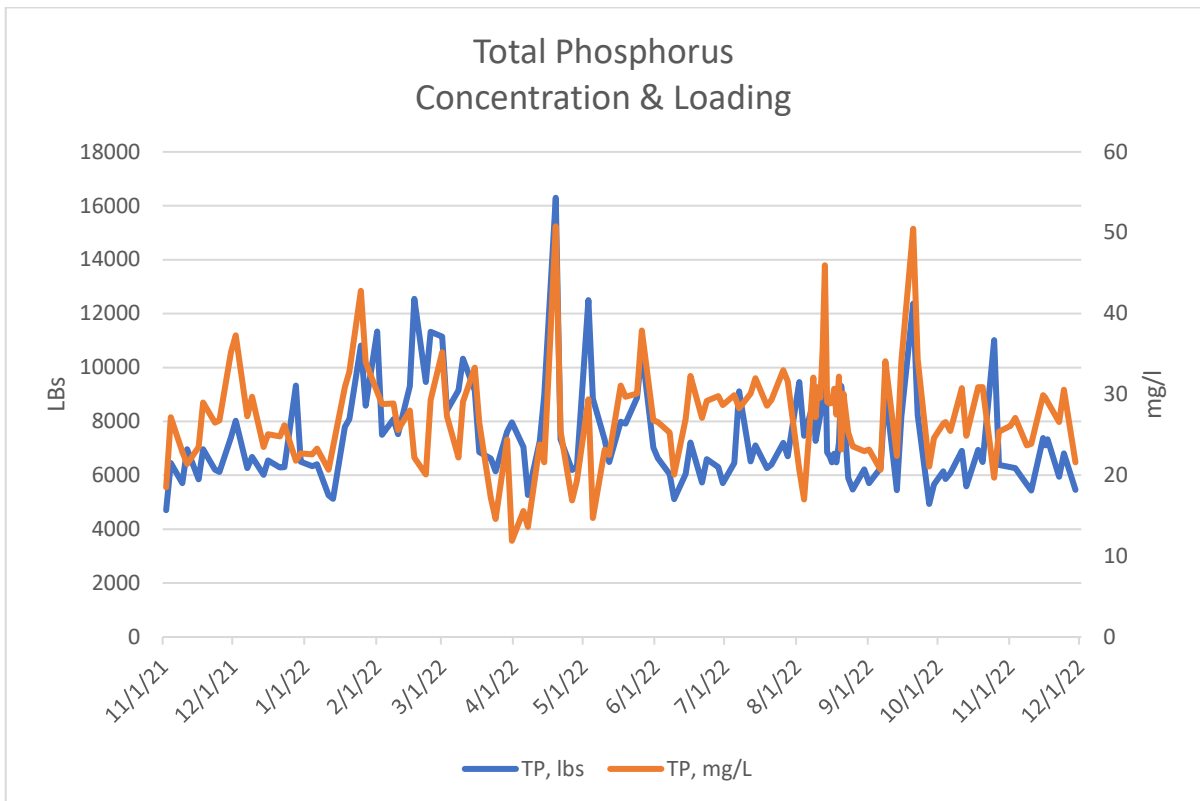
BOD Comparison: BOD Inf vs. Primient + ADM Discharges



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

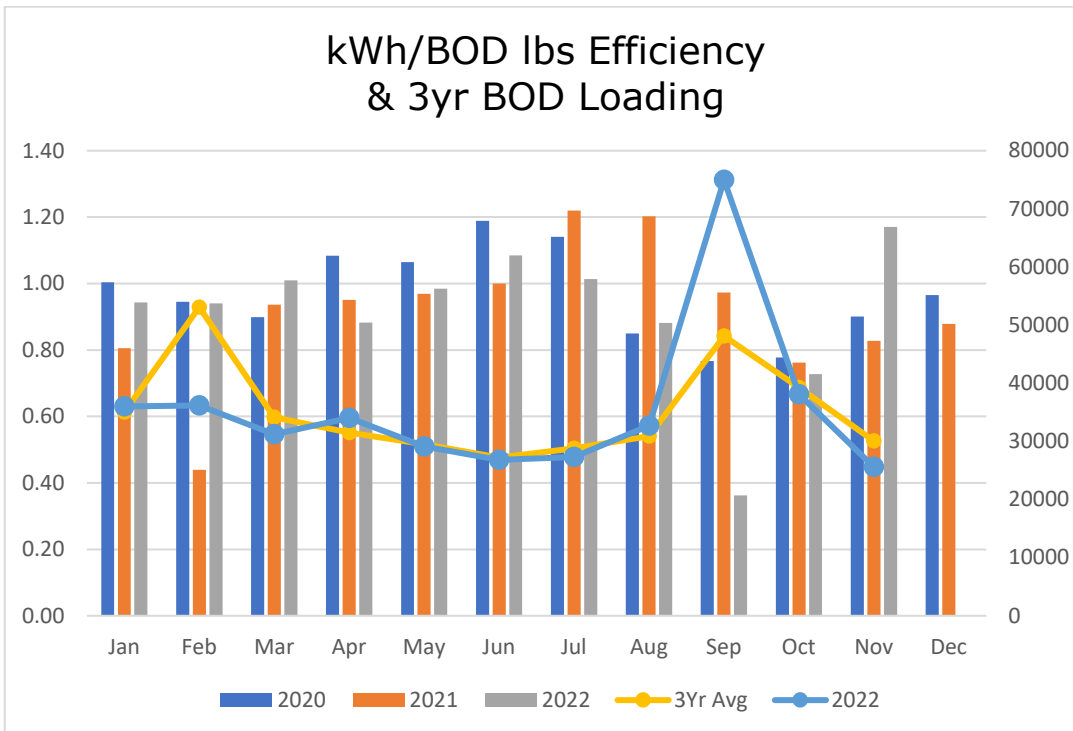
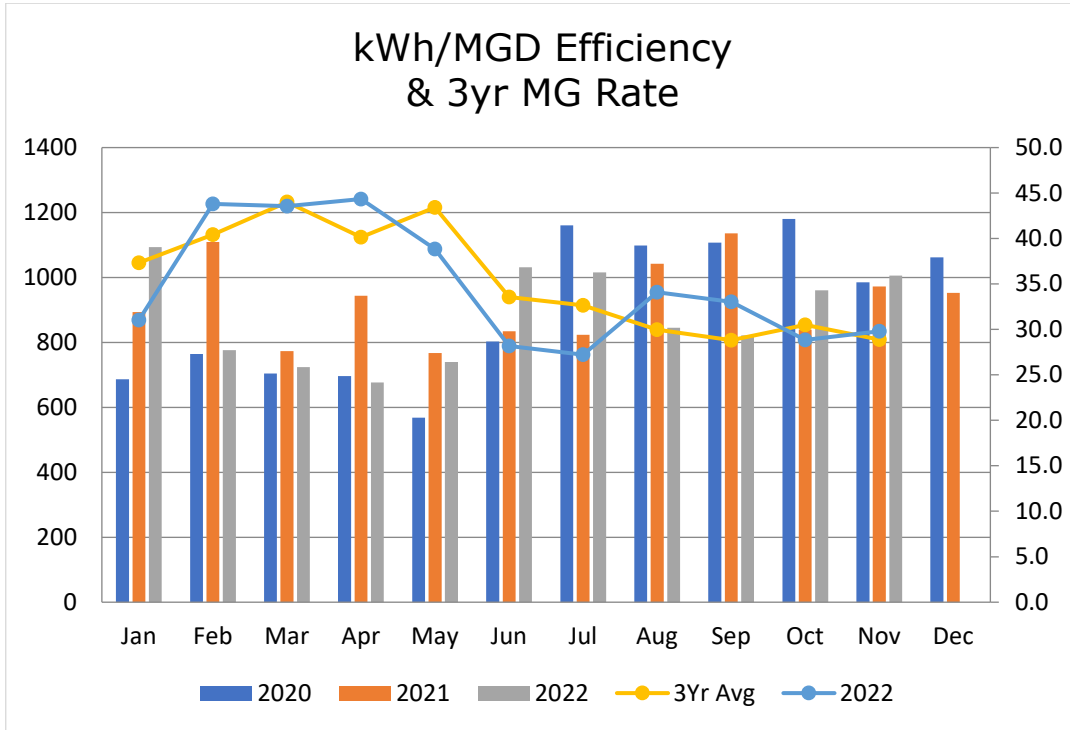


Phosphorus Tracking Graph:



Plant Efficiency Graphs:

November 2022



Sanitary District of Decatur Nutrient Program Management Report

December 21, 2022

During the month of November District personnel attended several 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 November, the District concentrated in continuing to gather and forward all requested industrial special sampling lab results and plant performance data as requested by the B&V in addition to review of the submitted Technical Memorandums.

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 from District comments to finalize the Technical Memorandum associated to that effort. In addition, B&V has also continued their efforts associated with the Frac Tank Pilot Design conducting a design kick off meeting with the District establishing initial layout, design parameters, and schedule.

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 November 2022

<u>Subject</u>	<u>Date</u>	<u>Agenda Items</u>
Bi-weekly Program Status Update	11/09/2022	<ol style="list-style-type: none"> 1. General Update / Discussion 2. Industrial Special Sampling Update 3. Watershed Data Analysis Presentation 4. PDOP Submittal and Review Meeting 5. BNR Solids Handling Kickoff 6. Frack Tank Pilot
PowerBI Dashboard Development	11/21/2022	<ol style="list-style-type: none"> 1. Data Request Review 2. General Discussion 3. Next Steps
Solids Handling and Aging Infrastructure Evaluation Kickoff	11/29/2022	<ol style="list-style-type: none"> 1. Project Overview 2. Goals and Objectives 3. Review of Current Solids Management Program 4. Project Scope Overview and Schedule 5. Next Steps 6. Discussion
PDOP Review	11/30/2022	<ol style="list-style-type: none"> 1. PDOP Overview 2. SDD Comment Review 3. Next Steps
Frac Tank Pilot Design Kickoff	11/30/2022	<ol style="list-style-type: none"> 1. Need for Pilot 2. Project Scope 3. Reviewed Site Layout and Process Flow Diagram 4. Project Team 5. Schedule 6. Implementation / Next Steps

**Sanitary District of Decatur
Watershed Management Report**

December 21, 2022

During the month of November 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 presenting 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 November 2022

<u>Subject</u>	<u>Date</u>	<u>Agenda Items</u>
Sangamon River Data Analysis Presentation	11/16/2022	1. Summary 2. Evaluation of Phosphorus in the Stream 3. The Response and Importance 4. Conclusions and Next Steps

December 5, 2022

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
October Monthly Progress Update (October 29, 2022 – December 2, 2022)

Dear Mr. Miller:

This letter summarizes the work associated to the SDD Nutrient Program Management project for services from October 29, 2022, through December 2, 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 project data for integration into PowerBI including a dashboard development review meeting.
2. Pretreatment Program Update
 - Continued data evaluation in parallel with the WWRF Upgrade Plan
3. Phosphorus Discharge and Optimization Plan (PDOP)
 - Completed the draft PDOP report
 - Completed the feasibility analysis of deep well injection as a potential discharge option, including the development a conceptual level cost estimate.
 - Completed PDOP report review meeting
 - Began the development of the Final report
4. Watershed Support Services
 - Conducted bi-weekly progress update meeting
 - Geosyntec presented their detailed 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.
- Completed Final draft of TM#3: BNR Pilot Study Plan for the Frac Tank Pilot from District review comments and feedback.
- Solids Stream Alternatives and Aging Infrastructure Evaluations.
 - i. Continued to develop a detailed outline and comprehensive list of technologies to address solids handling upgrades.
 - ii. Completed Solids Stream Evaluation and Aging Infrastructure Evaluation Kick-off Meeting
 - iii. Began preparation for Workshop #1

6. Pilot and Demonstration Testing

- Completed the Frac Tank Pilot Design Kick-off Meeting, establishing initial layout, design parameters, and schedule.
- Began development of the 30% design for the Frank Tank Pilot

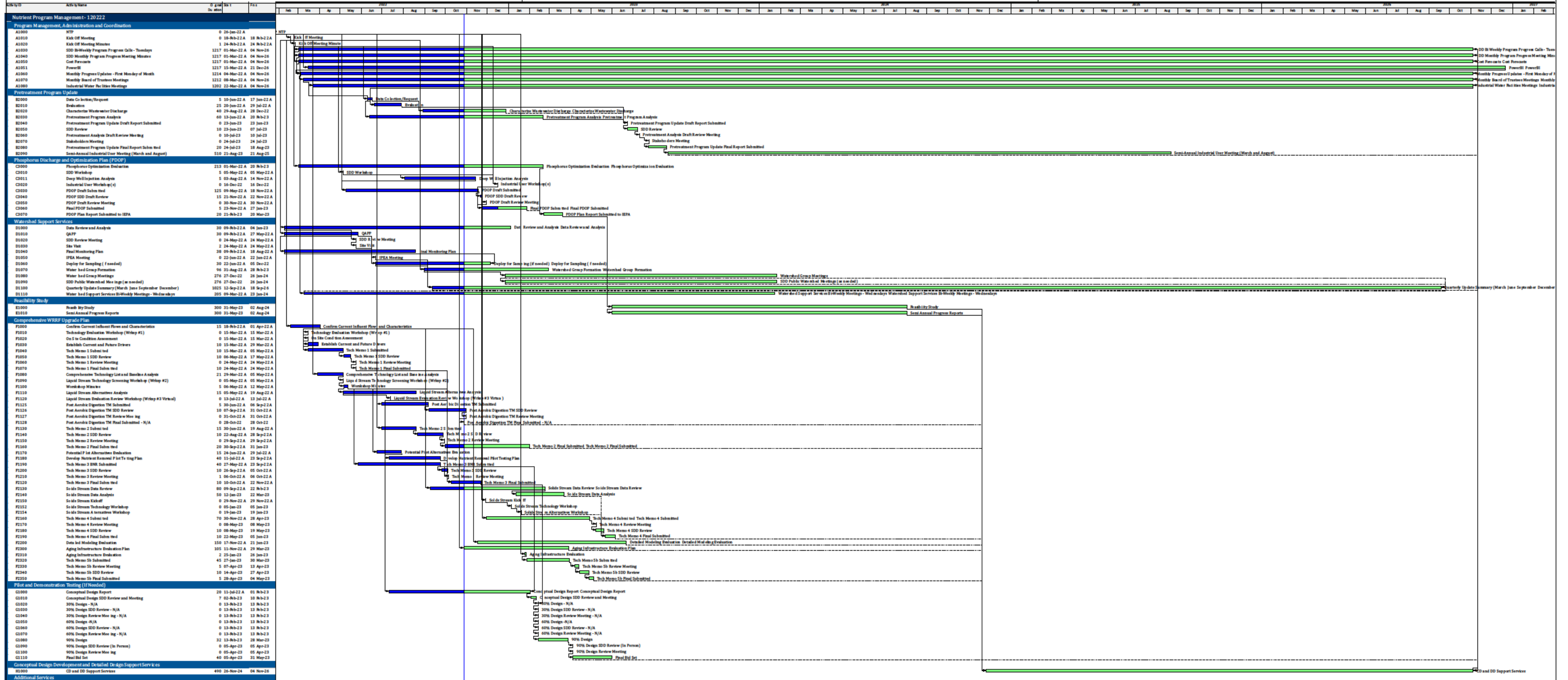
Please feel free to contact me with any questions, comments or if you need additional information.

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 Work
█ 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	94,912				
	Forecast	16,724	60,831	77,995	54,808	61,865	125,355	145,679	112,979	118,381	94,912	102,079	126,803	113,793	108,350
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	8,772				
	Forecast	7,905	2,198	2,585	3,303	2,115	3,760	4,348	5,103	3,173	8,772	12,000	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	433				
	Forecast			705	470	470	235	-	353	430	433	5,200	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	11,594				
	Forecast		1,290	3,755	3,508	1,613	235	4,645	8,731	8,100	11,594	4,879	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	11,521				
	Forecast	940	14,809	17,206	28,941	21,065	45,297	54,170	36,587	44,435	11,521	15,000	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	46,730				
	Forecast	7,879	42,534	53,745	16,778	36,223	74,878	81,756	59,461	42,065	46,730	35,000	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	15,861				
	Forecast				1,710	380	950	760	2,745	20,178	15,861	30,000	30,000	30,000	25,000
Cumulative	Planned	-	13,683	122,042	359,561	527,897	1,025,373	1,309,560	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	869,328	971,407	1,098,210	1,212,003
	Forecast	-	16,724	77,554	155,549	210,157	272,023	397,378	543,057	656,036	774,417	869,328	971,407	1,098,210	1,212,003

