

Director of Compliance and Innovation Report

July 17, 2024

Plant Loading, CSO Report, and Director’s Notes

Plant Influent Report:

Biochemical Oxygen Demand, 5-Day (Avg. 25883 lbs/day)	41 percent of design
Total Suspended Solids (Avg. 47199 lbs/day)	43 percent of design
Average Daily Flow (26.08 million gallons/day)	64 percent of design
Maximum Daily Flow (43.44 million gallons/day)	35 percent of design
Plant Influent Total Monthly Flow (million gallons) for May	1,034.44
Estimated Unbilled Total Monthly Flow (million gallons)	330.11
Total Monthly Precipitation (inches)	4.14

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	4/5	0
NH ₃ -N, mg/L	Mo. Avg/Weekly Max/Daily Max	1.1/2.8/3.0	0.46/0.54/0.58	0
DO, mg/L	Wk. Avg/Daily Min	6.25/5.0	6.87/6.75	0
pH, S.U.	Daily Min/Max	6.0/9.0	7.76/8.02	0
Total Nickel, mg/L	Mo. Avg	0.0381	0.014	0
Cl ₂ Residual, mg/L	Daily Max	0.05	<0.011	0
Fecal Coliform CFU/100mL	Daily Max	400	88	0

CSO Report:

Location	Events	Est. Total Duration of Discharges (hrs.)	Discharge (million gallons)
Oakland Avenue (Outfall 003)	1	2.52	0.71
Lincoln Park (Outfall 004)	0	0	0
McKinley Avenue (Outfall 007)	1	1.6	0.54
Seventh Ward (Outfall 008)	1	1.5	0.73

Director’s Notes:

Sanitary Sewer Overflow:

The Finley Creek pump station bypassed early in the morning on June 25th. A sequence of events occurred that allowed the bypass to occur. On the 24th, at about 1:15 pm the power cable protection fuse blew for the PLC (Progress Logic Control) circuit when the emergency generator was started and transferred to emergency power. The PLC holds the logic that tells the pumps when to turn on and

off. Because the wetwell had been pumped down during the generator exercise the pumps were off when the PLC lost power and remained off until the situation was corrected at 7:15 am on 6/25. Some alarms were generated by SCADA at the Plant but were not distributed to employees by text message. No alarms were generated by the Lift Station because the PLC had no power.

On examination of the flow and the specs of the lift station wet well and surrounding sewer, an estimated 78,000 gallons was possibility discharged from the collection system into a ditch that leads to Finley Creek in an estimated time frame of 4 hours and 40 minutes. The vector truck was able to clean up around 4,000 gallons from the surrounding ditch. There was no observed negative impact on Finley Creek. IEPA was notified as required.

USEPA Region 5 Pretreatment Compliance Inspection Findings:

The District submitted a response to the USEPA Pretreatment Compliance Inspection Finding Report on July 3rd. Now the District is awaiting the review of the response.

Staff Training Activities:

Tim Gorden, Brent Deardorff, Austin Gruber, Keith Richard and Ashley Bailey attended an 8-hour FOG and PFAS training on June 6, 2024, at the Heartland Community College in Normal, IL. The training was titled "USEPA FOG Abatement & Emerging Pollutants Training" and went over how to help control and abate FOG and other pollutants from entering into our system.

June 27, 2024, Jennifer Brand, Tisha Greve and Keith Richard attended a webinar for Advanced Discrete Software Training. The training gave the lab staff valuable information on how to get the most out of the AQ2 discrete analyzer.

Operations, Laboratory, and Pretreatment Activity Reports – June/July 2024

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) Digester #2- We are making some piping changes that will allow sludge to be pumped directly to the secondary digesters then to Wyckles. Currently waiting on parts.
- 2) Operations staff have been monitoring the operation of the Frac Tank.
- 3) Operations staff continue to actively address PMs as time, workload, and staff levels allow.
- 4) Operations have switched to the West Primary system to facilitate contractor measuring clarifiers 4 and 6.
- 5) Disinfection started May 1. We have not experienced any major problems. Chemical usage has risen due to very low flows.
- 6) Blower usage is up due to the low flows and industrial loads.
- 7) Operators will be preparing for valve replacement on the RAS line.

Laboratory Activities:

Routine:

A total of 1,982 analyses were performed in the laboratory during the month of June 2024.

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 laboratory continued to send samples of raw influent twice a week throughout the month of June 2024 for the "COVID-19 in Wastewater" study funded by the Illinois Department of Public Health. A Zoom call was held on June 7, 2024, with the study participants and the researchers to discuss the results of the study thus far. The District received a \$2,000 stipend for participating in the study.
- 2) Keith Richard and several other SDD staff members attended an all-day training titled "USEPA FOG Abatement & Emerging Pollutants Training" at Heartland Community College in Normal on June 6, 2024. The training was conducted by the Western States Alliance and Pacific Northwest Pollution Prevention Resource Center and was hosted by the Bloomington Normal Water Reclamation District.
- 3) Lab staff continued to analyze samples weekly from the frac tank pilot study throughout the month of June 2024.
- 4) Keith Richard, Tishia Greve, and Jennifer Brand attended a webinar hosted by SEAL Analytical titled "Advanced Discrete Software Training" on June 27, 2024. The webinar contained valuable information about getting the most out of our AQ2 discrete analyzer that is used for ammonia, TKN, phosphorus, and anions analysis.

Pretreatment Activities:

Pretreatment - General Activities:

- 1) Pretreatment personnel monitored 7 commercial and industrial users (IU) during June 2024. There were no industrial site inspections.
- 2) All 1st Half Self-Monitoring Reports were submitted, with only **HR Ewell** requiring a re-sample due to the BOD result being above the limit. Subsequent re-sampling showed them to be in compliance.
- 3) Austin Gruber, along with other SDD colleagues, attended a FOG Abatement and Emerging Pollutants Training at Heartland Community College in Normal on June 6th. Topics covered included building a business case for a FOG program, characteristics of FOG and its impact on the collection system and POTW, the need for a program, and the planning and development of a FOG program.

Pretreatment Ordinance - Verbal Notices:

The SDD issued a total of 2 Verbal Notices to **Primient** and **ADM** in June 2024:

- 6/4/2024 – **ADM** was issued a verbal warning and a \$1,000 fine for a cleanout of Lakeshore Pump Station. This was the first cleanout since Executive Order 24-001 was enacted. Subsequent cleanouts will result in increasing fines.
- 6/13/2024 – **Primient** was issued a verbal warning and a \$1,000 fine for a violation of their maximum daily dry weather flow. Following the violation, **Primient** has been in compliance.

Pretreatment Ordinance - Warning Notices (WN):

There were no Warning Notices issued during June 2024.

Pretreatment Ordinance - Notices of Violation (NOV):

There were no NOV's issued during June 2024.

Pretreatment Ordinance - Executive Orders:

There were no Executive Orders issued during June 2024.

Pretreatment Ordinance - Penalty Assessments:

The following industrial penalties were assessed for June 2024:

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

Nutrient Program Report:

NARP:

The District and environmental lawyers held a meeting with the new Director of the IEPA, Joey Logan-Pugh and Darin LeCrone, NPDES permit section manager, to discuss the Integrated Planning approach. The meeting with the agency went very well, and they seemed very receptive to the idea. It concluded with the Agency wanting to hold an internal meeting to discuss the approach before following up with a more in-depth meeting, which would include Geosyntec.

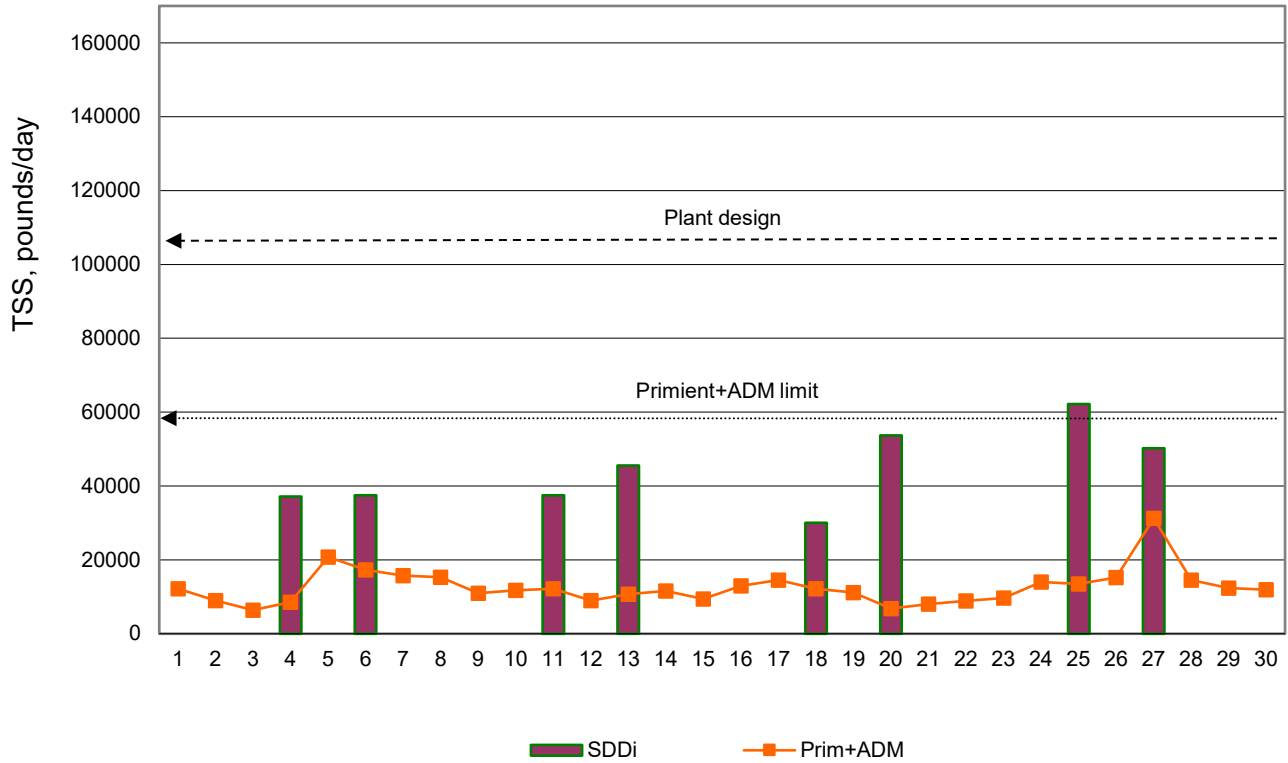
A meeting with the City of Decatur to discuss the Integrated Planning approach is also scheduled for the middle of July.

Watershed:

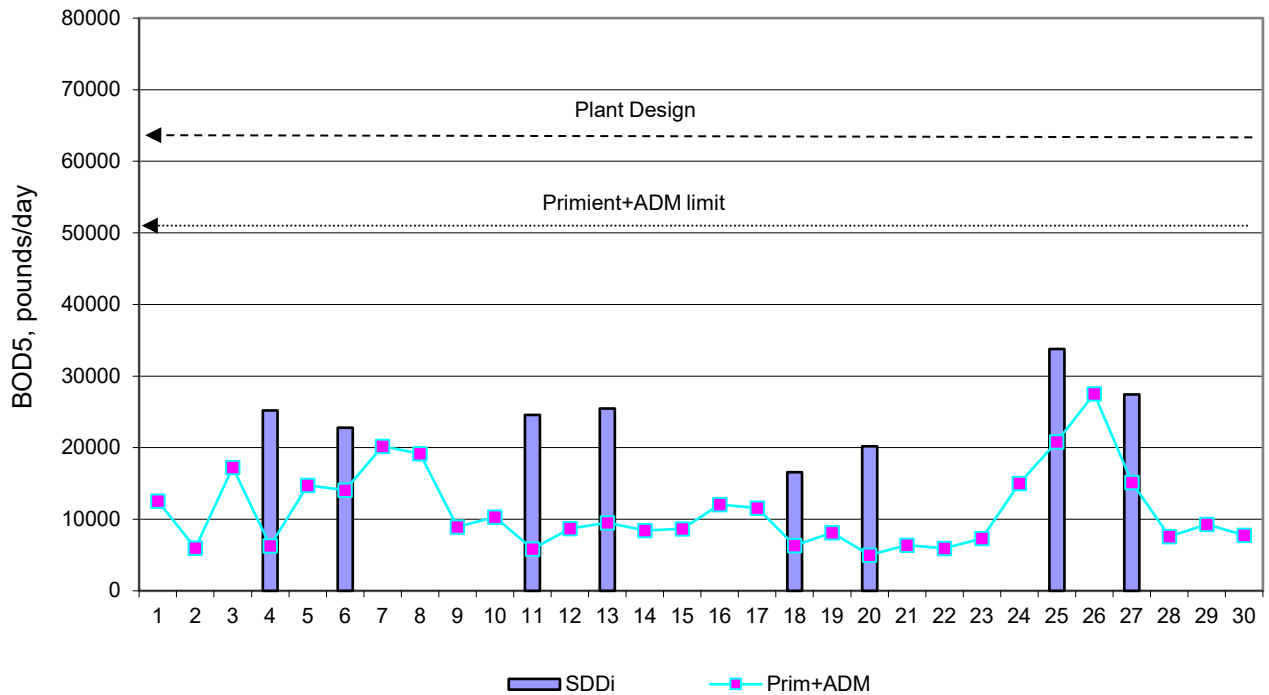
Interest forms have still been slowly trickling back into the District from potential members, but other options for reaching out to stakeholders have been discussed with Geosyntec.

Plant Operating Graphs:

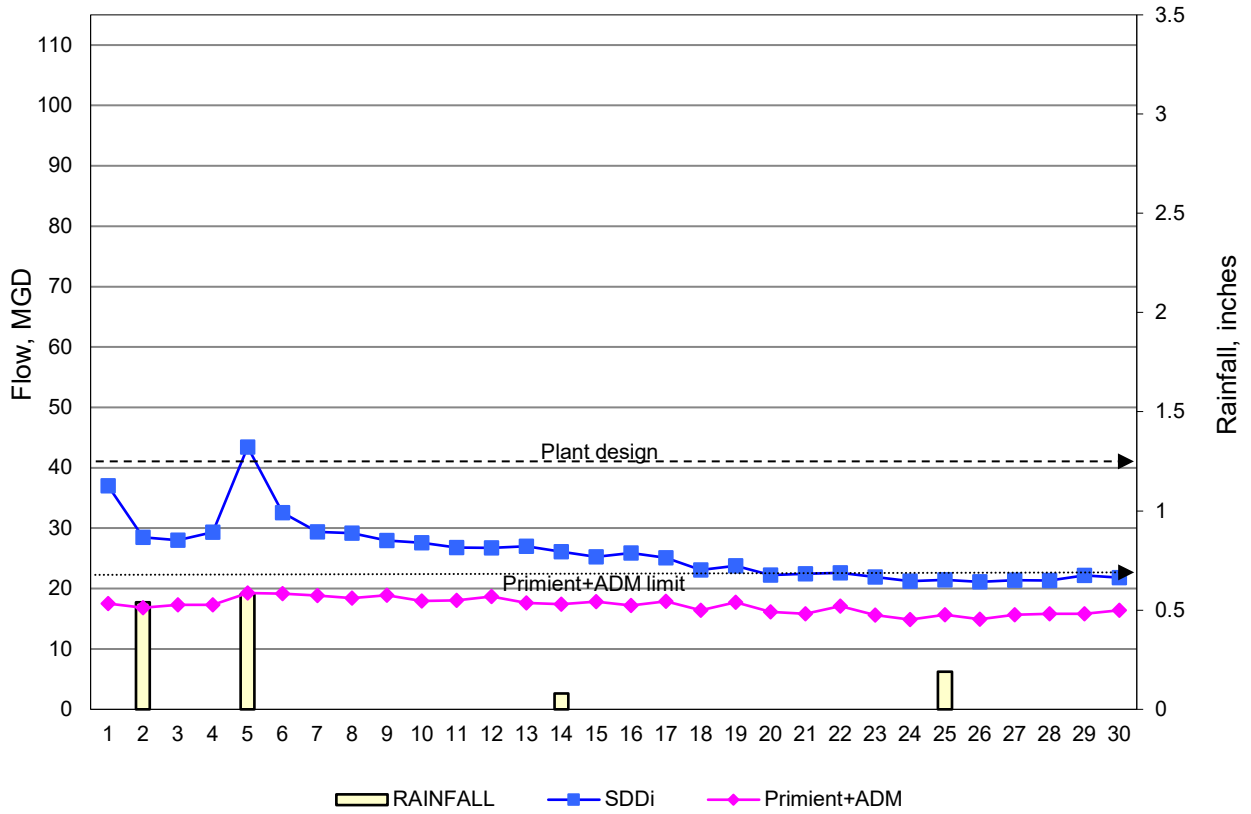
TSS Comparison: SDD Inf Primient+ADM Discharges



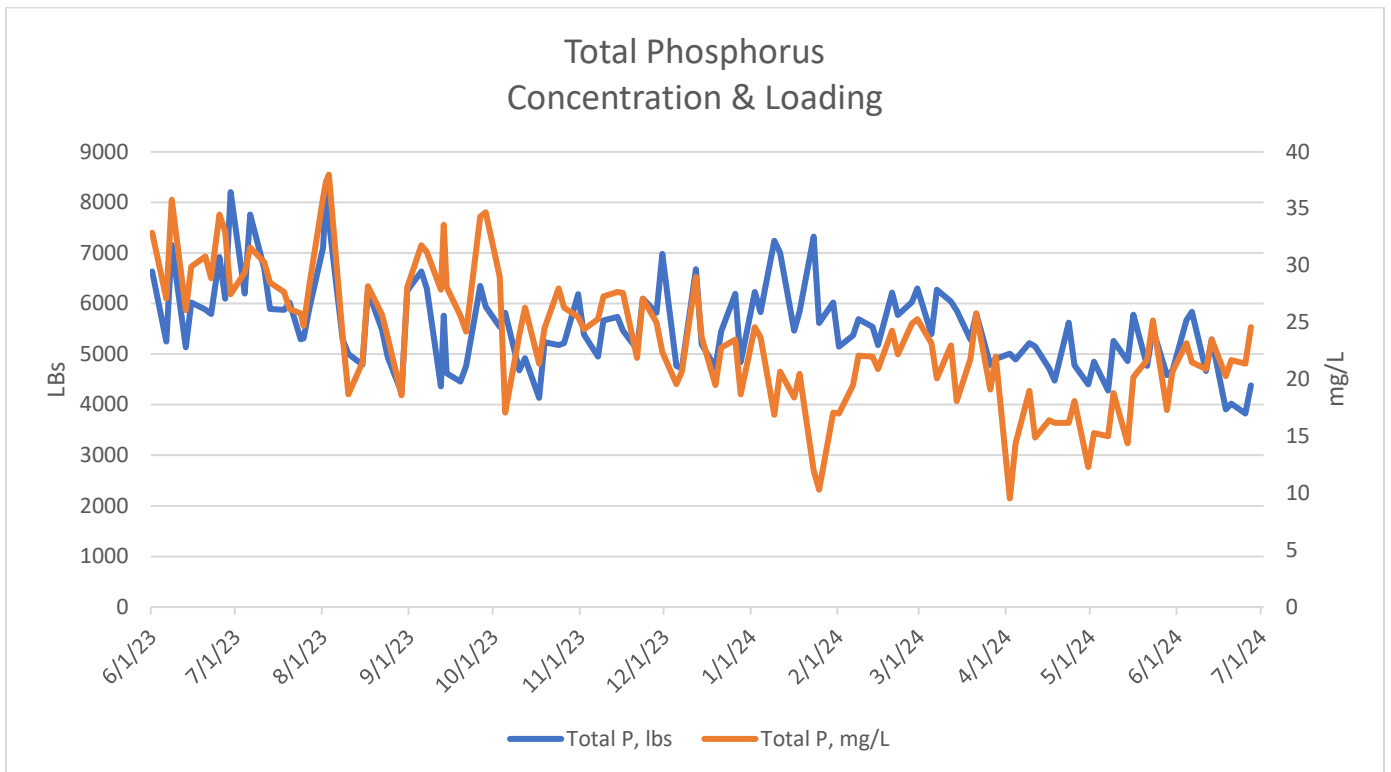
BOD Comparison: BOD Inf vs. Primient + ADM Discharges



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

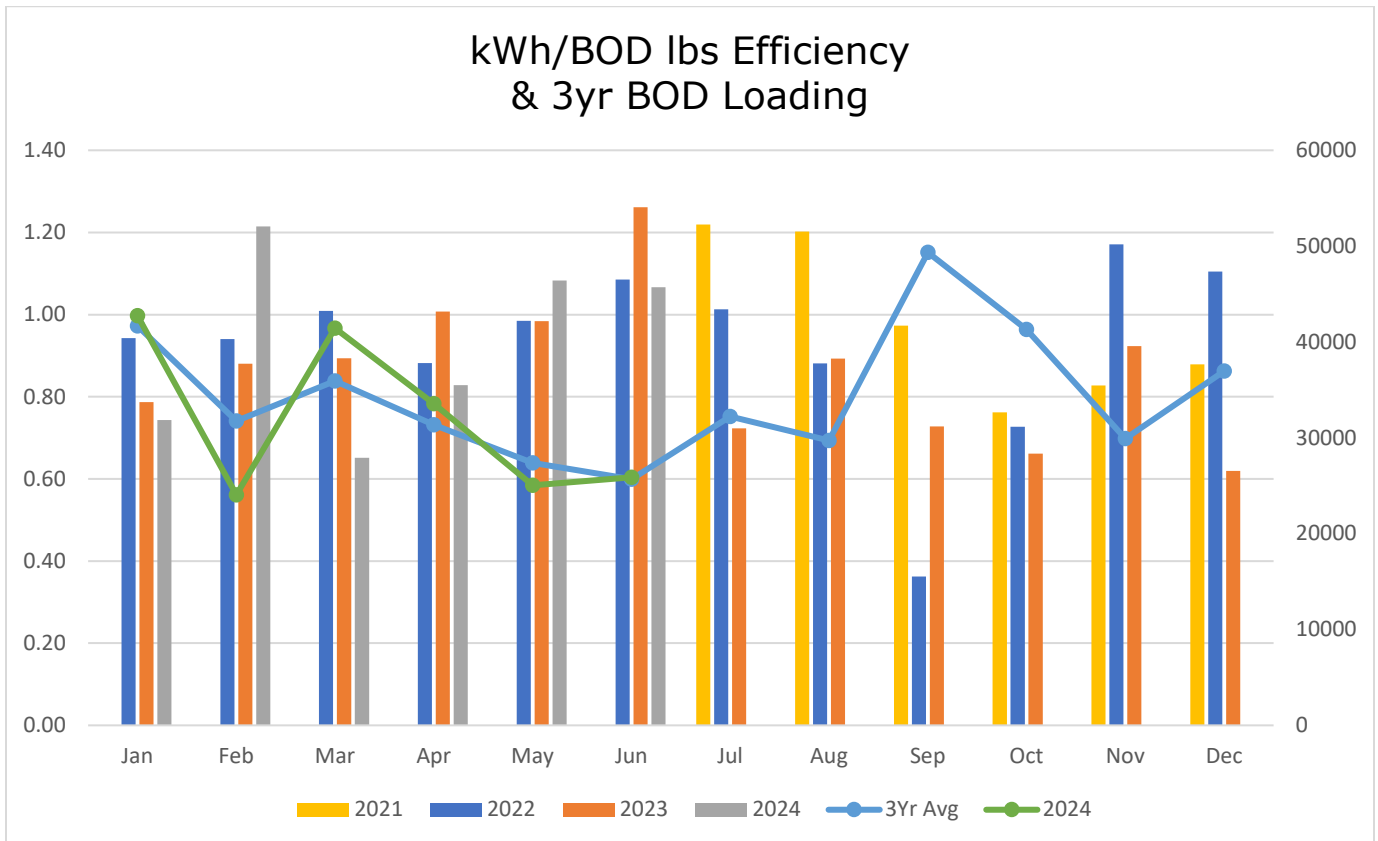
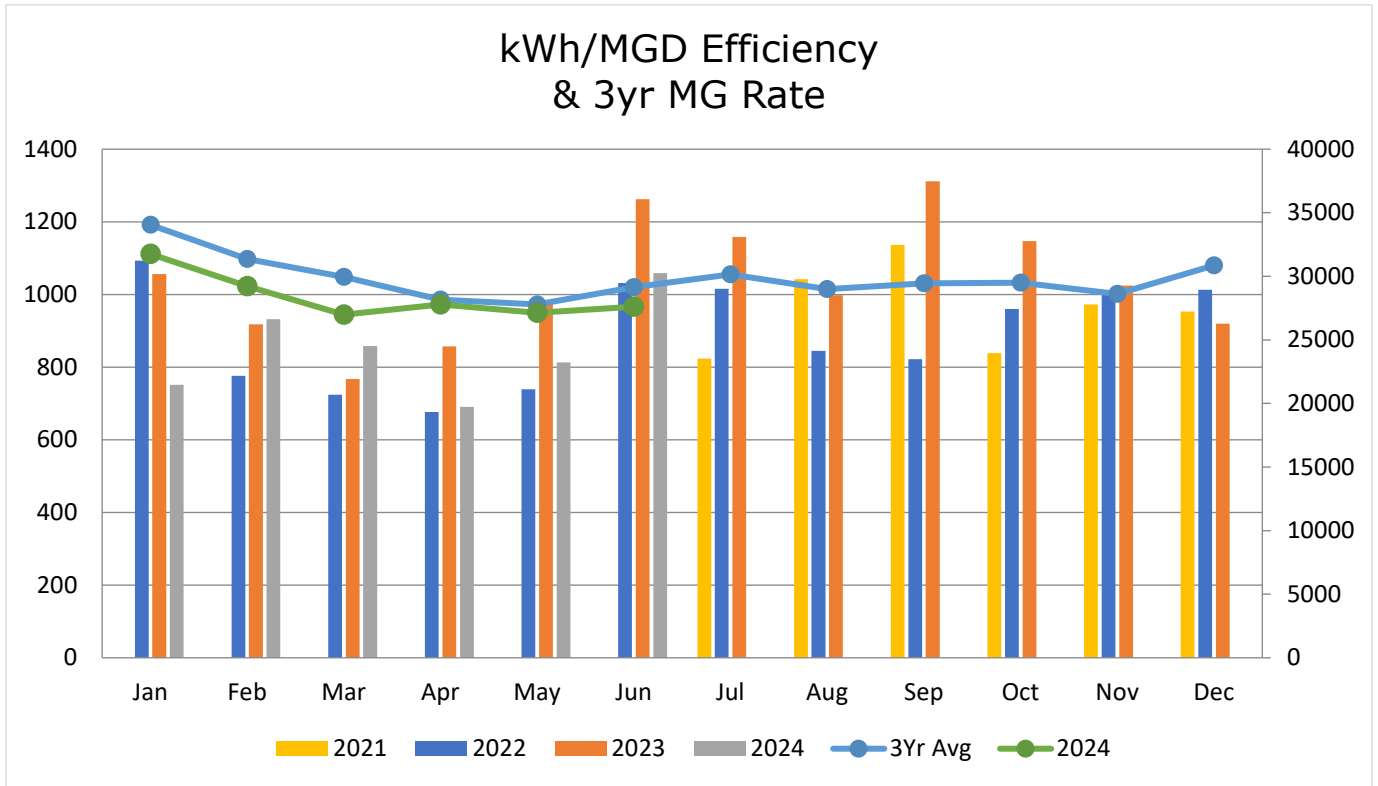


Phosphorus Tracking Graph:



Plant Efficiency Graphs:

June 2024



Sanitary District of Decatur
Nutrient Program Management Report

July 11, 2024

During the period of June 1, 2024 through June 28, 2024 District personnel attended meetings with members of the Black & Veatch (B&V) team to affect progress in nutrient reduction planning and activities.

The District has provided plant performance data to B&V for inclusion in the Power BI dashboards. Additionally, the District has continued to support the Fermentation Pilot to gather performance data on the proposed biological phosphorus removal process.

B&V has continued the development of their full facility model, continued to develop aged infrastructure evaluation, and continued the evaluation of alternatives for upgrades to the Water Resource Recovery Facility (WRRF). In addition, B&V continued its' assistance with operation of the Fermentation Pilot.

The following is a list of meetings conducted. The information provided covers the subject, date, and agenda items of each meeting. Additional information related to any of these meetings or specific agenda 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 from June 1, 2024 through June 28, 2024

<u>Subject</u>	<u>Date</u>	<u>Agenda Items</u>
Nutrient Program Management Bi-weekly Meetings	6/5/24 No meeting held on 6/19/24 due to Juneteenth holiday. BV did provide an update to Board on 6/20/24.	<i>Objective: Provided Status Update on Program Tasks</i> <ul style="list-style-type: none"> • Frac Tank Pilot • Power BI • Pretreatment Program Update • PDOP/Annual Progress Report • Watershed Services • Aging Infrastructure • WRRF Upgrade Plan
Fermentation Reactor Pilot Operations Review meetings	6/7/2024, 6/21/2024	<i>Objective: Review operation of Frac Tank pilot</i> <ul style="list-style-type: none"> • Review previous two weeks <ul style="list-style-type: none"> ○ Alarms/issues ○ Missed/rescheduled samples ○ Odor and scum observations ○ Bench scale results • Review upcoming scenario <ul style="list-style-type: none"> ○ Set points ○ Sampling schedule ○ Odor sampling, if applicable ○ Deep Cycle Mixing Tests • Summarize results from previous weeks

**Sanitary District of Decatur
Watershed Management Report**

July 11, 2024

During the period of June 1, 2024 through June 28, 2024 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.

Activities completed pertained to items necessary to complete the NARP Study. Foremost in these efforts included Geosyntec applying the calibrated instream model to evaluation management scenarios to address impairments in the Sangamon River. This period focused on developing and writing of the NARP report. The NARP outline was provided to the District for their review and comments.

The following is a list of the meetings conducted. The information provided 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 from June 1, 2024 through June 28, 2024.

<u>Subject</u>	<u>Date</u>	<u>Agenda Items</u>
Watershed Services Bi-weekly Discussions	6/12/24 and 6/26/24	<i>Objective:</i> Geosyntec discussed elements of the Nutrient Assessment Reduction Plan, specifically related to the report development. Also discussed steps for initiating an Integrated Planning approach and schedule to nutrient management. Reviewed meeting materials to discuss Integrated Planning with IEPA and City of Decatur.

July 11, 2024

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
Progress Update (June 1, 2024 – June 28, 2024)

Dear Mr. Miller:

This letter summarizes the work associated to the SDD Nutrient Program Management project for services from June 1, 2024, through June 28, 2024.

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.
 - Updated Power BI dashboard with most recent plant monitoring data.
2. Pretreatment Program Update
 - Coordinated with SDD regarding additional data for possible supplemental carbon sources from ADM.
 - Evaluated data provided by ADM for possible supplemental carbon sources.
3. Phosphorus Discharge and Optimization Plan (PDOP)
 - No Services were completed this period.
4. Watershed Support Services
 - Conducted bi-weekly progress update meeting.
 - Continued initial planning efforts for the Watershed Group formation development.
 - Discussed elements of the Nutrient Reduction Assessment Plan, specifically the potential to implement an Integrated Plan approach.
 - Assisted with development of meeting materials for IEPA and City of Decatur to discuss Integrated Planning.
 - Continued drafting the Nutrient Reduction Assessment Plan.
5. WRRF Upgrade Plan
 - Aged Infrastructure Evaluation
 - i. Continued to evaluate modifications to the RAS pump station, including review with SDD and discussing pump station alternatives with pump vendors.

- ii. Initiated work to evaluate the required improvements within Building 210.
 - Plant Facility Evaluation
 - i. Continued to update TM-5a, including performing additional modeling. Costs were updated for evaluated alternatives as well.
- 6. Capital Improvement Plan Development
 - Continued planning for this task and started to develop a plan outline.
- 7. Pilot and Demonstration Testing
 - Continued to support operation of Frac Tank.
 - Conducted bi-weekly conference calls to update progress and discuss key issues.
 - Analyzed initial result of fermenter pilot results and started summarizing the results into a technical memorandum.

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

Sincerely,

Todd Archer, P.E.
Engineering Manager, Black & Veatch

Enclosure(s): SDD Nutrient Program Manager Schedule and Anticipated Cost Forecast