

Director of Compliance and Innovation Report

May 22, 2024

Plant Loading, CSO Report, and Director's Notes

Plant Influent Report:

Biochemical Oxygen Demand, 5-Day (Avg. 33552 lbs/day)	53 percent of design
Total Suspended Solids (Avg. 52676 lbs/day)	49 percent of design
Average Daily Flow (40.23 million gallons/day)	98 percent of design
Maximum Daily Flow (63.75 million gallons/day)	51 percent of design

Plant Influent Total Monthly Flow (million gallons) for March	974.88
Estimated Unbilled Total Monthly Flow (million gallons)	280.21
Total Monthly Precipitation (inches)	2.49

Plant Effluent Report:

Parameter	Report Frequency	Permit Limits	Reported Values	Violations
CBOD ₅ , mg/L	Mo./Wk. Avg	20/40	2/2	0
TSS, mg/L	Mo./Wk. Avg	25/45	4/4	0
NH ₃ -N, mg/L	Mo. Avg/Daily Max	1.5/3.0	0.12/0.12	0
DO, mg/L	Wk. Avg/Daily Min	6.25/5.0	7.78/7.12	0
pH, S.U.	Daily Min/Max	6.0/9.0	7.62/7.90	0
Total Nickel, mg/L	Mo. Avg	0.0381	0.009	0
Cl ₂ Residual, mg/L	Daily Max	0.05	NA	NA
Fecal Coliform CFU/100mL	Daily Max	400	NA	NA

CSO Report:

Location	Events	Est. Total Duration of Discharges (hrs.)	Discharge (million gallons)
Oakland Avenue (Outfall 003)	5	28.18	10.6
Lincoln Park (Outfall 004)	1	2.89	2.2
McKinley Avenue (Outfall 007)	3	16.5	11.12
Seventh Ward (Outfall 008)	3	19.9	41.08

Director's Notes:

2024 Disinfection Season:

As of May 1, 2024, chlorine disinfection and dechlorination has begun per requirements of the SDD's NPDES permit. Until October 31, 2024, fecal counts and chlorine residual will be closely monitored to ensure compliance.

2024 Biosolids Land Application Bids:

A request for bids for the land application of the District's liquid biosolids was posted in the local newspaper and the District's website on April 18, 2024. The bid submission process included a pre-qualification application and pre-qualified bid meeting.

The pre-qualification process has been a long-standing policy used by the District and utilized in previous land application processes. The process allows the Sanitary District to vet potential bidders, assuring their reliability to meet the minimum standards to Bid for the three-year contract. The pre-bid meeting was held on May 3, 2024, allowing prospective bidders to ask questions and to better understand the nature, size and scope of the project.

All bids were opened and read on May 15, 2024. The District pre-qualified four prospective bidders but received only two bid submissions for this bid cycle. The choice to accept or deny any bid remains solely with the District.

Both bids were rejected due to all bid requirements not being met. The project will be readvertised with a recommended June 12, 2024, opening date.

Operations, Laboratory, and Pretreatment Activity Reports – April/May 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- Maintenance has started pumping the contents into # 4 Digester.
- 2) Digester #3- Heat Exchanger has been trouble free since repairs were made.
- 3) Operations staff have been monitoring the operation of the Frac Tank.
- 4) Operations staff continue to actively address PMs as time, workload, and staff levels allow.
- 5) Operator Lewis Feltes has passed the IEPA Class 3 exam. Lewis is currently working on CEU's.
- 6) Operations has switched to the East Primary. Staff have made some setpoint adjustments to the system.
- 7) Disinfection started May 1. We have not experienced any major problems.
- 8) Bulldog Diving removed the spray bar ring from # 6 final clarifier.

Laboratory Activities:

Routine:

A total of 2,486 analyses were performed in the laboratory during the month of April 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 April 2024 for the "COVID-19 in Wastewater" study funded by the Illinois Department of Public Health. A Zoom call was held on April 5, 2024, with the study participants and the researchers to discuss the results of the study thus far.
- 2) The quarterly sampling of the groundwater monitoring wells was conducted at the South Sludge Lagoons and Wyckles Lagoons during the second week of April 2024.
- 3) Lab staff continued to analyze samples weekly from the frac tank pilot study throughout the month of April 2024.

- 4) The SDD laboratory analyzed thirty-four stormwater samples during April 2024 for the Lake Decatur Watershed monitoring study. This was significantly more samples than normal due to frequent storm events throughout the month. The SDD is providing in-kind laboratory analysis of samples collected at the study's three monitoring sites after significant storm events.
- 5) Keith Richard and Ashley Bailey attended the quarterly meeting of the Heart of the Sangamon River Ecosystem Partnership in Decatur on April 11, 2024. The partnership is a consortium of local governmental agencies and non-governmental organizations that are working together to ensure the continued well-being of the Upper Sangamon River watershed.
- 6) Keith Richard provided a presentation and plant tour on April 17, 2024, for a Microbiology class from Millikin University. The presentation was heavily focused on the microbiology of our treatment process.
- 7) Keith Richard served as a poster judge for the Millikin University "Celebrations of Scholarship and Poster Symposium" on April 26, 2024. The poster symposium was an opportunity for students to present the research projects they had worked on during the school year.

Pretreatment Activities:

Pretreatment - General Activities:

- 1) Pretreatment personnel monitored 10 commercial and industrial users (IU) during April 2024. There were 14 industrial site inspections that took place.
- 2) **Primient** continued to operate under their revised penalty structure. They had 1 violation in the month of April, a Total Suspended Solids violation. **Primient** has now completed 3 consecutive months with 3 or less violations, which allows them to request to revert to their previous penalty structure set under Executive Order 18-003.

Pretreatment Ordinance - Verbal Notices:

The SDD issued a total of 3 Verbal Notices to **Primient** and **Mueller #4** in April 2024:

- 4/14/2024 – **Primient** was issued a verbal warning and \$1,000 fine for violating their TSS limit of 28,500 lbs with a result of 32,309 lbs.
- 4/22/2024 – **Mueller #4** was issued a verbal warning and a \$1,000 fine for violating their TSS limit of 500 mg/L with a result of 1,576 mg/L. This violation occurred on follow-up sampling for a March violation.
- 4/23/2024 – **Mueller #4** was issued a verbal warning and \$1,000 fine for violating their TSS limit of 500mg/L with a result of 570 mg/L. Subsequent sampling showed them to be in compliance.

Pretreatment Ordinance - Warning Notices (WN):

There were no Warning Notices issued during April 2024.

Pretreatment Ordinance - Notices of Violation (NOV):

There were no NOV's issued during April 2024.

Pretreatment Ordinance - Executive Orders:

There was one Executive Order issued to **ADM** in April 2024.

- 4/16/2024 - **ADM** was issued Executive Order 24-001 as a result of repeated discharges of oil to the Lakeshore Lift station. The order institutes an increasingly stringent penalty structure for every FOG violation of ADM's permit resulting from the West Plant, and for every cleanout of the lift station that takes place. Among other topics, the order covers how ADM can attain acceptable compliance and get out of the order, and the role that ADM's response team will play in the case of an SSO at the Lakeshore station.

Pretreatment Ordinance - Penalty Assessments:

The following industrial penalties were assessed for April 2024:

- | | |
|----------------------|----------------|
| 1) Primient | \$1,000 |
| 2) Mueller #4 | \$2,000 |

Nutrient Program Report:

NARP:

District staff has been working with Black & Vetch and Geosyntec in collective efforts to discuss the future of the District's NARP and watershed group creation. Our preliminary NARP and treatment plant modeling showed significant improvements to the Sangamon River nutrient impediments when the District reaches the 1.0 mg/l Phosphorus limit. However, achieving the 0.5 mg/l limit is looking to be extremely difficult and costly with limited additional improvement to the river. Due to this difficulty, Geosyntec suggested to include Integrated Planning as a component of the NARP. Integrated Planning is an approach to prioritize all community water related problems regardless of type of water (drinking, waste, storm, industrial) so that items with the most impact and ability to implement are completed first while technology has time to emerge and address the harder problems. An example would be replacing lead drinking water service lines before reducing the SDD Phosphorus discharge limit below the 1.0 mg/l. This approach has not been used in Illinois yet but is included in the Clean Water Act and has been successful in other states.

Staff is working with our environmental attorneys to develop the best approach to incorporating Integrated Planning in the NARP.

Adrienne Nemura from Geosyntec is one of the leading Integrated Planning experts and will be a great asset to the District in assisting with acceptance and implementation.

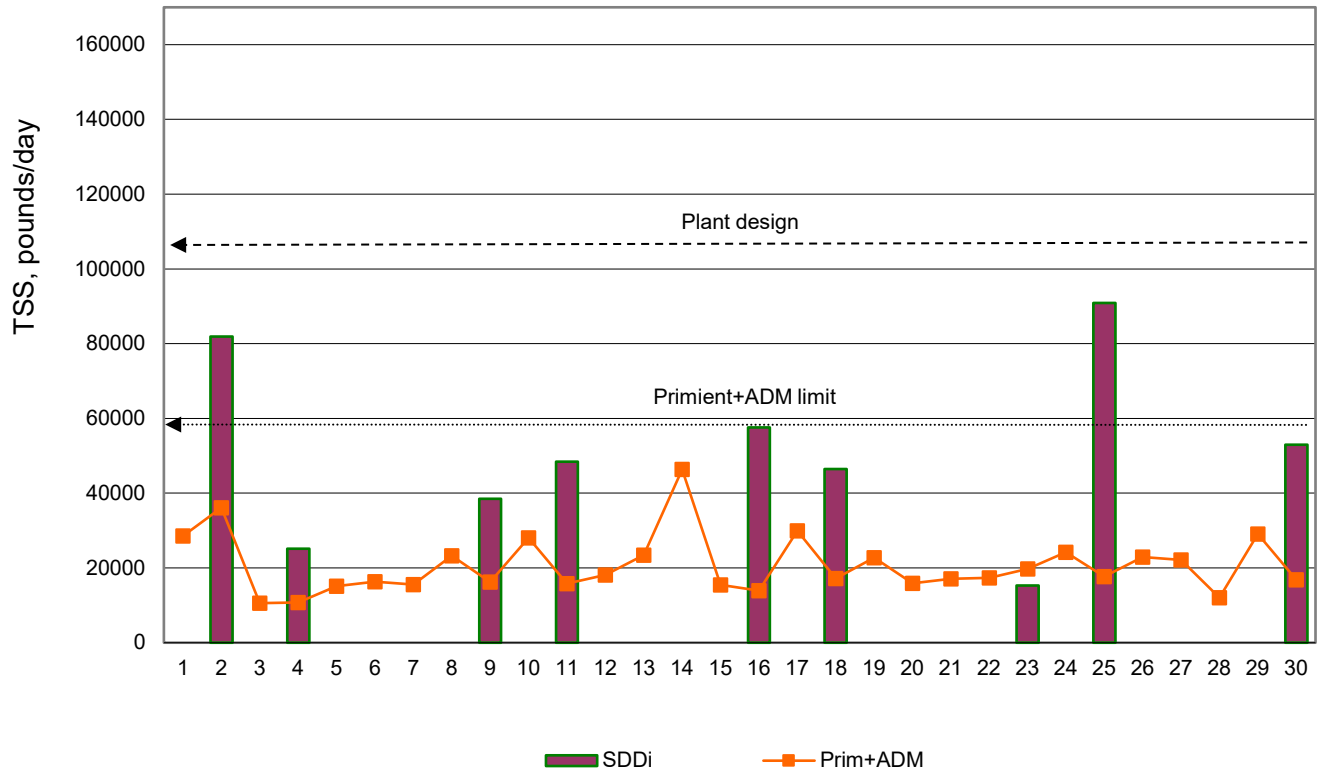
Watershed:

As per the NPDES permit, part of the NARP is to pursue creation of a watershed group. The Sanitary District of Decatur (SDD) Board of Trustees approved a resolution creating the bylaws for the Middle Sangamon Watershed Group. These bylaws form the structure of a self-sustaining group of stakeholders to provide input into the nutrient reduction process for improvement of the Sangamon River.

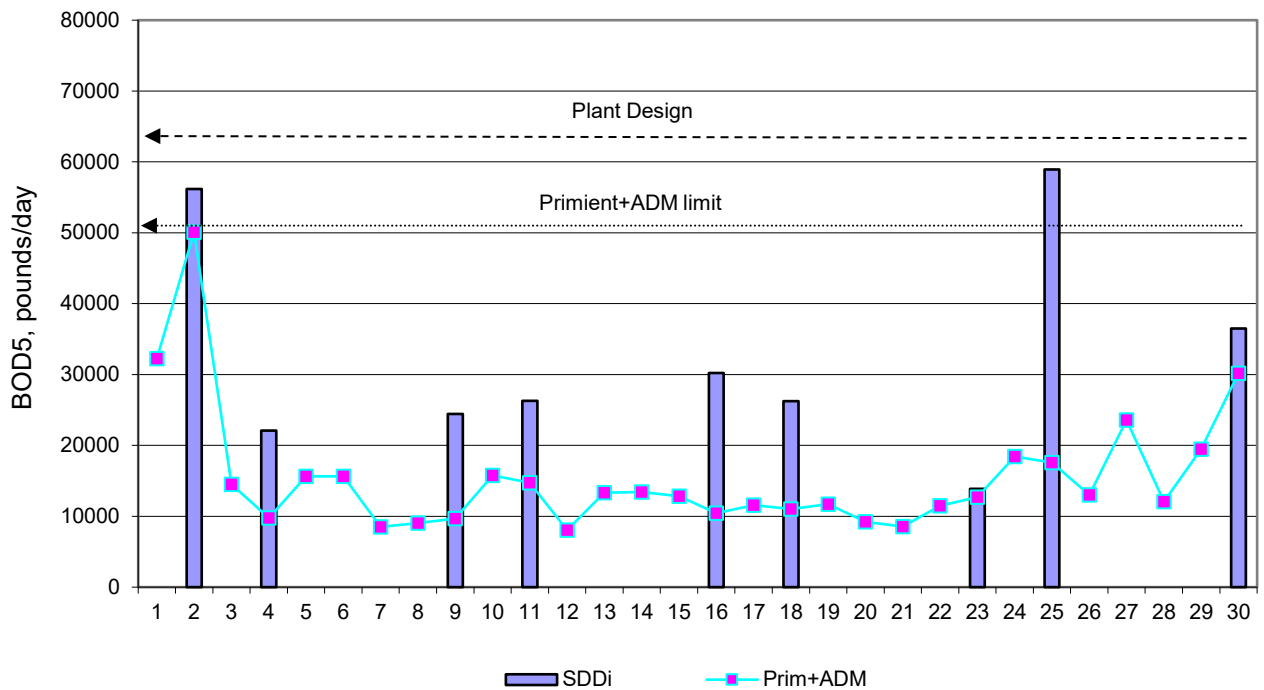
With the bylaws established and approved, potential members were next on the list to complete. The District has sent out twenty-nine letters to potential stakeholders explaining the purpose of the Middle Sangamon Watershed Group along with an interest form for the potential members to fill out and return to express their interest. The District is still in the process of waiting for interest forms to return.

Plant Operating Graphs:

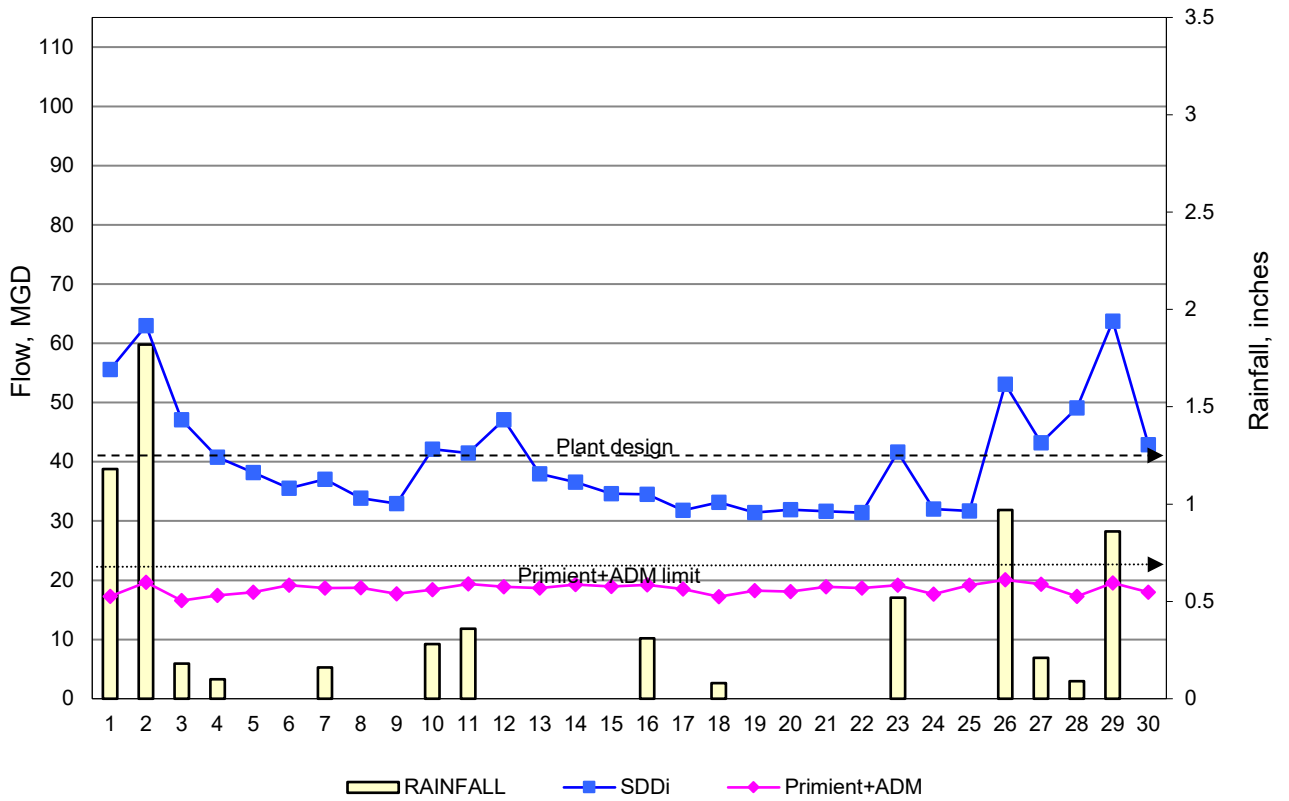
TSS Comparison: SDD Inf Primient+ADM Discharges



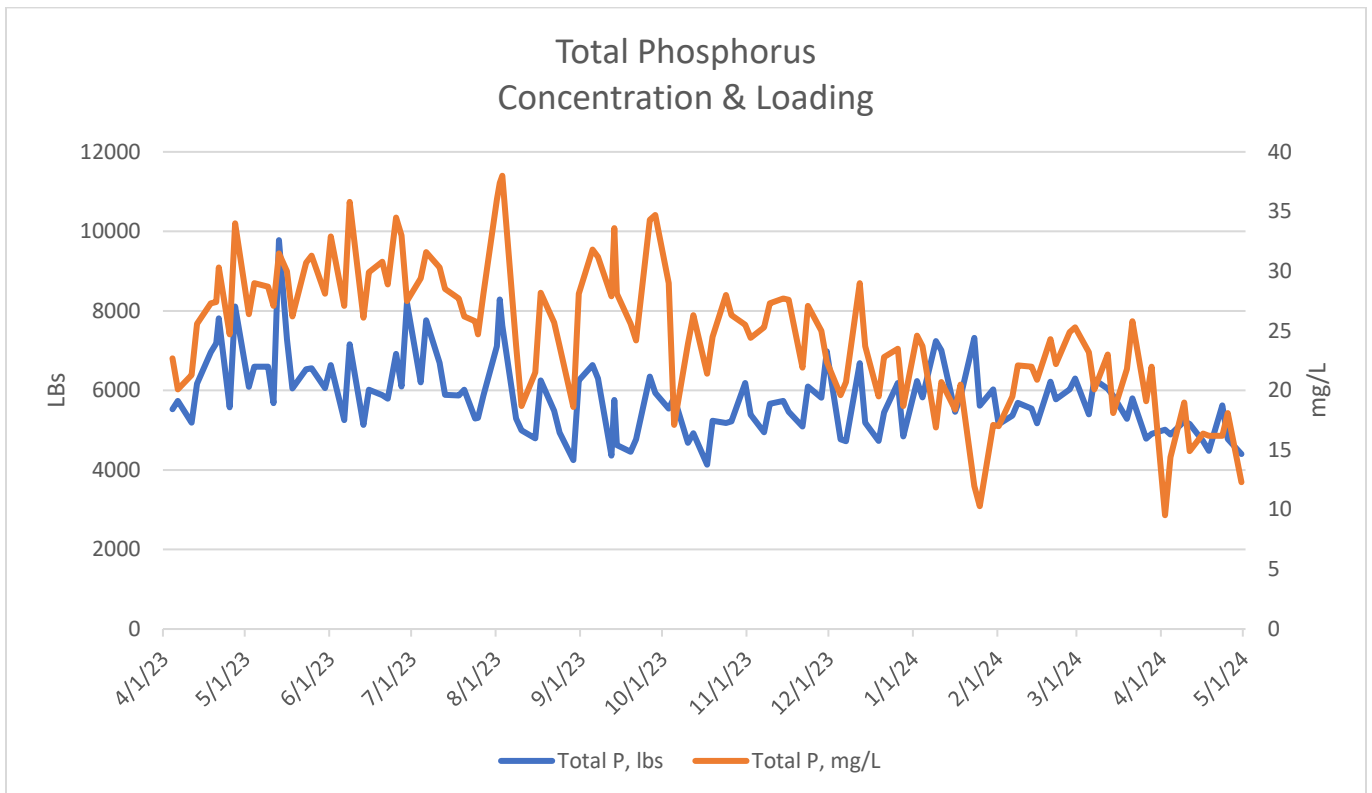
BOD Comparison: BOD Inf vs. Primient + ADM Discharges



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

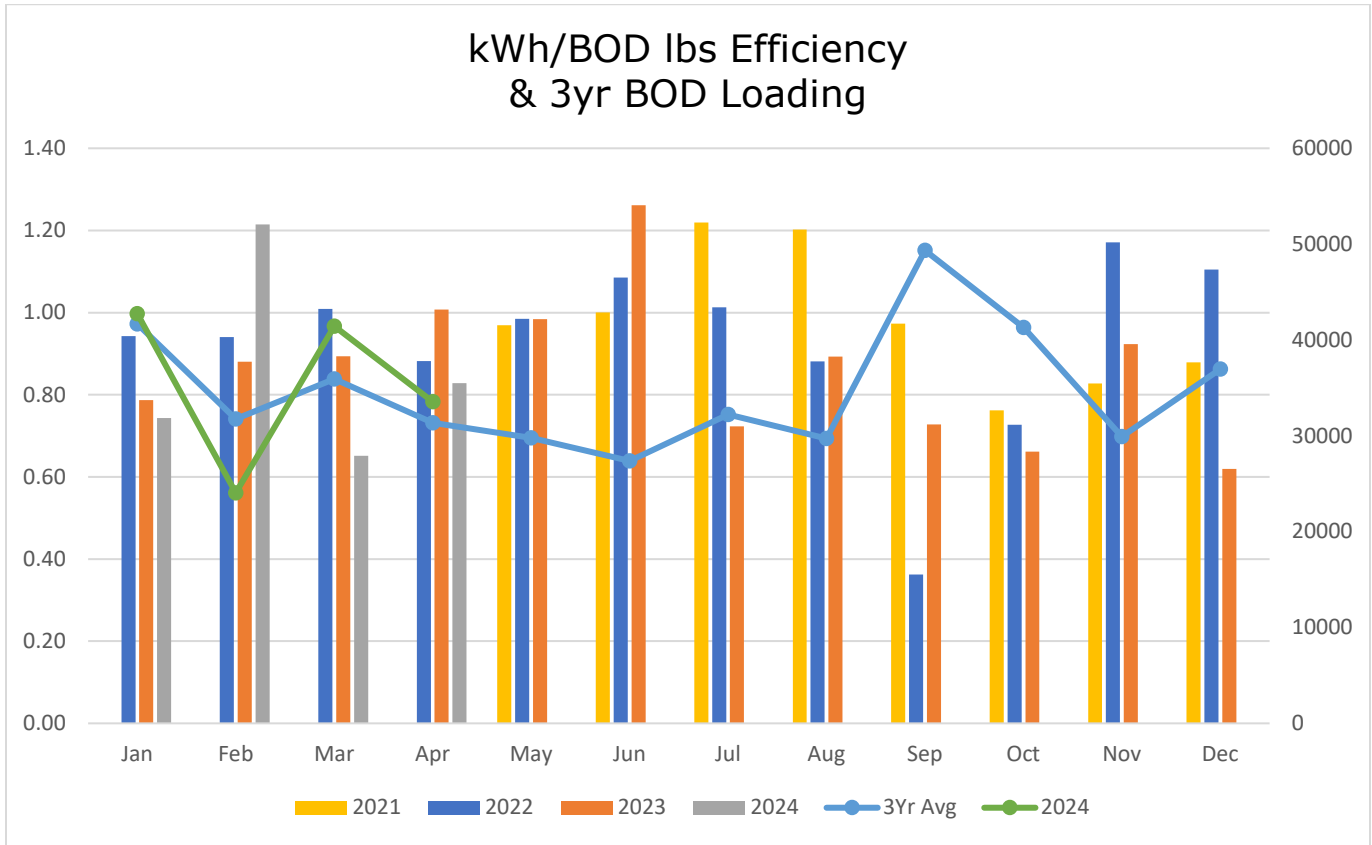
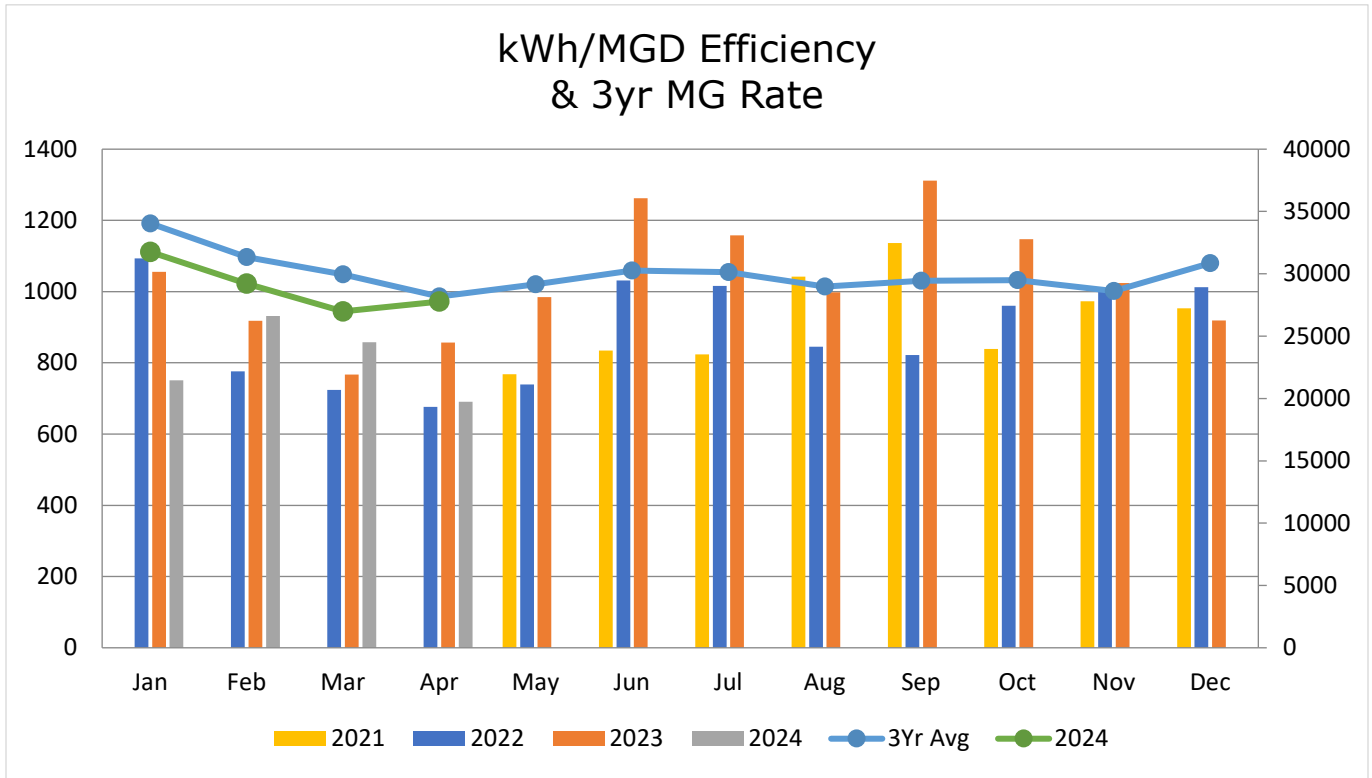


Phosphorus Tracking Graph:



Plant Efficiency Graphs:

April 2024



Sanitary District of Decatur
Nutrient Program Management Report

May 9, 2024

During the period March 31, 2024 through April 26, 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 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.

Below you will find a list of meetings conducted. The information 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 March 31, 2024 through April 26, 2024

<u>Subject</u>	<u>Date</u>	<u>Agenda Items</u>
Nutrient Program Management Bi-weekly Meetings	4/10/24, and 4/24/24	<p><i>Objective:</i> Provided Status Update on Program Tasks</p> <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	4/12/2024, 4/26/2024	<p><i>Objective:</i> Review operation of Frac Tank pilot</p> <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 • Summarize results from previous weeks

**Sanitary District of Decatur
Watershed Management Report**

May 9, 2024

During the period March 31, 2024 through April 26, 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.

Recent activities 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 the review of the results of the alternative scenarios while receiving District feedback.

Below you will find a list of the meetings 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 March 31 2024 through April 26, 2024.

<u>Subject</u>	<u>Date</u>	<u>Agenda Items</u>
Watershed Services Bi-weekly Discussions	4/3/24 and 4/17/24	<i>Objective:</i> Geosyntec discussed elements of the Nutrient Assessment Reduction Plan, specifically the draft outline of the NARP report. Also discussed steps for initiating an Integrated Planning approach and schedule to nutrient management.

May 9, 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 (March 31, 2024 – April 26, 2024)

Dear Mr. Miller:

This letter summarizes the work associated to the SDD Nutrient Program Management project for services from March 31, 2024, through April 26, 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
 - Reviewed information for possible supplemental carbon sources from ADM. Coordinated with SDD to request additional data on possible 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.
 - Developed a draft outline for 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. A planning level cost estimate was started to compare alternatives.
 - ii. Continued development of improvements to Building 210.

- Plant Facility Evaluation
 - i. Continued to develop TM-5, including performing additional modeling. Costs were updated for evaluated alternatives as well.
- 6. Capital Improvement Plan Development
 - No Services were completed this period.
- 7. Pilot and Demonstration Testing
 - Continued to support operation of Frac Tank.
 - Conducted bi-weekly conference calls to update progress and discuss key issues.
 - Attended a call with EnviroMix to discuss and review the system's "deep-cycle" mixing operation which will be piloted near the end of May.

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