

## Director of Compliance and Innovation Report

October 16, 2024

### Plant Loading, CSO Report, and Director's Notes

#### Plant Influent Report:

Biochemical Oxygen Demand, 5-Day (Avg. 24839 lbs/day)	39 percent of design
Total Suspended Solids (Avg. 30733 lbs/day)	28 percent of design
Average Daily Flow (25.24 million gallons/day)	62 percent of design
Maximum Daily Flow (43.72 million gallons/day)	35 percent of design

Plant Influent Total Monthly Flow (million gallons) for August	870.54
Estimated Unbilled Total Monthly Flow (million gallons)	225.99
Total Monthly Precipitation (inches)	3.62

#### Plant Effluent Report:

Parameter	Report Frequency	Permit Limits	Reported Values	Violations
CBOD <sub>5</sub> , mg/L	Mo./Wk. Avg	20/40	3/6	0
TSS, mg/L	Mo./Wk. Avg	25/45	2/3	0
NH <sub>3</sub> -N, mg/L	Mo. Avg/Daily Max	1.5/3.0	0.43/0.49	0
DO, mg/L	Mo. Avg/Wk. Avg/Daily Min	6.0/4.5/4.0	7.04/6.68/6.67	0
pH, S.U.	Daily Min/Max	6.0/9.0	7.68/8.42	0
Total Nickel, mg/L	Mo. Avg	0.0381	0.013	0
Cl <sub>2</sub> Residual, mg/L	Daily Max	0.05	<0.011	0
Fecal Coliform CFU/100mL	Daily Max	400	86	0

#### CSO Report:

Location	Events	Est. Total Duration of Discharges (hrs.)	Discharge (million gallons)
Oakland Avenue (Outfall 003)	1	3.7	1.07
Lincoln Park (Outfall 004)	1	6.3	0.6
McKinley Avenue (Outfall 007)	1	2.5	1.2
Seventh Ward (Outfall 008)	1	1.2	3.15

#### Director's Notes:

##### **Land Application Program:**

Metro-Ag began land application on September 30<sup>th</sup>. District staff continues to work hard mixing sludge in the Wyckles storage lagoons. The staff also began transferring sludge from the west lagoon to the east to keep up with the biosolids applicators who have been applying approximately 1 million gallons a day to nearby fields.

**Disinfection Season:**

Although the disinfection season is coming to an end for the 2024 season, the District operators continue to work hard operating the disinfection system. Operators have had to continually deal with issues such as nitrite fluctuation and ammonia levels mainly due to heavy loading from industries.

**Compliance Reporting:**

In accordance with the requirements of our NPDES permit the SDD has submitted all semi-annual and/or annual reports to the appropriate entities. These included the annual NARP Progress Report, the semi-annual Phosphorus Feasibility Progress Report, and the annual Phosphorus Feasibility Study.

**2024 SDD Public NARP Process and Results Meeting:**

The District wants to be transparent with all its stakeholders, so it will be hosting a hybrid meeting at 1:00 PM CDT on October 17, 2024, to provide an update on the Nutrient Assessment Reduction Plan (NARP) process, present results from our work so far and receive feedback on the plan that will be submitted at the end of the year to the IEPA.

The meeting information was posted to the District's website and send out in an email to a list of stakeholders on October 9, 2024. The meeting details will also be published in the paper on October 15, 2024.

**Operations, Laboratory, and Pretreatment Activity Reports – September/October 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 for parts to be installed and pumper returned to the plant.
- 2) Operations staff coordinated with maintenance staff for the 259 valve replacement. All staff did an excellent job from start to finish.
- 3) Operations staff continue to actively address PMs as time, workload, and staff levels allow.
- 4) Operations staff continue to monitor disinfection chemical usage and make the necessary adjustments. Usage is still slightly increased due to very low flow.
- 5) Blower usage is up due to the low flows and industrial loads. Operation staff has started getting Nitrite readings every shift and making the necessary blower adjustments to be more proactive in regards to the industrial loadings. Since starting this approach, we have not had to use the 900 HP Hoffman blower.
- 6) Blower #6 is not available. We are waiting for the repairs to be complete.
- 7) Preparation for land ap started on 9/17. Total mixing hours are 147.5 (east and west lagoons). Pumping from the west lagoon started on 10/3. The estimated total gallons pumped is 2.5 million.
- 8) Operators are being assigned different tasks to write SOP's.
- 9) Chad Bledsoe has passed his EPA class 4 exam Charles Roberts passed the EPA class 1 exam. They are both Operator in Training (OIT) certified until the required time or CEUs are met.
- 10) SOPs are on hold at this point due to land ap workload. Will resume when land ap is complete.

## **Laboratory Activities:**

### **Routine:**

A total of 1,687 analyses were performed in the laboratory during the month of September 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 September 2024 for the "COVID-19 in Wastewater" study funded by the Illinois Department of Public Health.
- 2) Keith Richard attended the Illinois Water Environment Association (IWEA) Executive Board and Committee Chair Meeting at the Joliet Eastside Wastewater Treatment Plant on September 13, 2024. The group meets quarterly to discuss current and upcoming activities of the IWEA and its committees. Keith continues to serve as the Chair of the IWEA Laboratory Committee.
- 3) Keith Richard attended a webinar on September 24, 2024, hosted by the USEPA titled "PFAS: National Primary Drinking Water Regulation, Occurrence, Analytics, and Risk Communications". The webinar was focused on PFAS regulations in drinking water, but it did give valuable insight on future PFAS regulations that will likely be imposed on the wastewater sector.
- 4) The graded results of the annual USEPA mandated DMR-QA proficiency testing were received on September 27, 2024. We obtained passing results for all twenty-nine analytes that were tested. We must obtain passing results for all analytes we report to the IEPA and USEPA.

## **Pretreatment Activities:**

### **Pretreatment - General Activities:**

- 1) Pretreatment personnel monitored 6 commercial and industrial users (IU) during September 2024. There were no industrial site inspections.
- 2) There were 4 wastehauler permits issued in September 2024 to Kelley's Septic Tank Service, Septic Specialist, Midwest Pottyhouse, and Enviroserve.
- 3) **ADM** was charged \$1,000 and was given a verbal warning after Lakeshore lift station was cleaned due to excess FOG discharge on September 10<sup>th</sup>. This was their 1<sup>st</sup> cleanout of Q3.

### **Pretreatment Ordinance - Verbal Notices:**

The SDD issued a total of 4 Verbal Notices to **ADM**, **Mueller**, and **Primient** in September 2024:

- 9/10/2024 – **ADM** was issued a verbal notice and \$1,000 fine for discharging FOG to Lakeshore requiring the pump station to be cleaned by a contractor. This was their 1<sup>st</sup> cleanout violation in Q3
- 9/11/2024 – **Mueller #4** was issued a verbal warning and a \$1,000 fine for a TSS violation.
- 9/22/2024 – **Primient** was issued a verbal notice and a \$1,000 fine for a BOD violation resulting from a significant rain event.
- 9/24/2024 – **Primient** was issued a verbal notice and a \$1,000 fine for a BOD violation resulting from a significant rain event.

### **Pretreatment Ordinance - Warning Notices (WN):**

There were no Warning Notices issued during September 2024.

**Pretreatment Ordinance - Notices of Violation (NOV):**

There were no NOV’s issued during September 2024.

**Pretreatment Ordinance - Executive Orders:**

There were no Executive Orders issued during September 2024.

**Pretreatment Ordinance - Penalty Assessments:**

The following industrial penalties were assessed for September 2024:

1) <b>ADM</b>	<b>\$1,000</b>
2) <b>Mueller #4</b>	<b>\$1,000</b>
3) <b>Primient</b>	<b>\$2,000</b>

**Nutrient Program Report:**

**NARP:**

The District with the help of Black and Veatch and Geosyntec continues to move forward with the NARP process and the topic of Integrating Planning although we have not formally heard back from the IEPA. Technical meetings with ADM and informative meetings with Primient occurred in the first half of October.

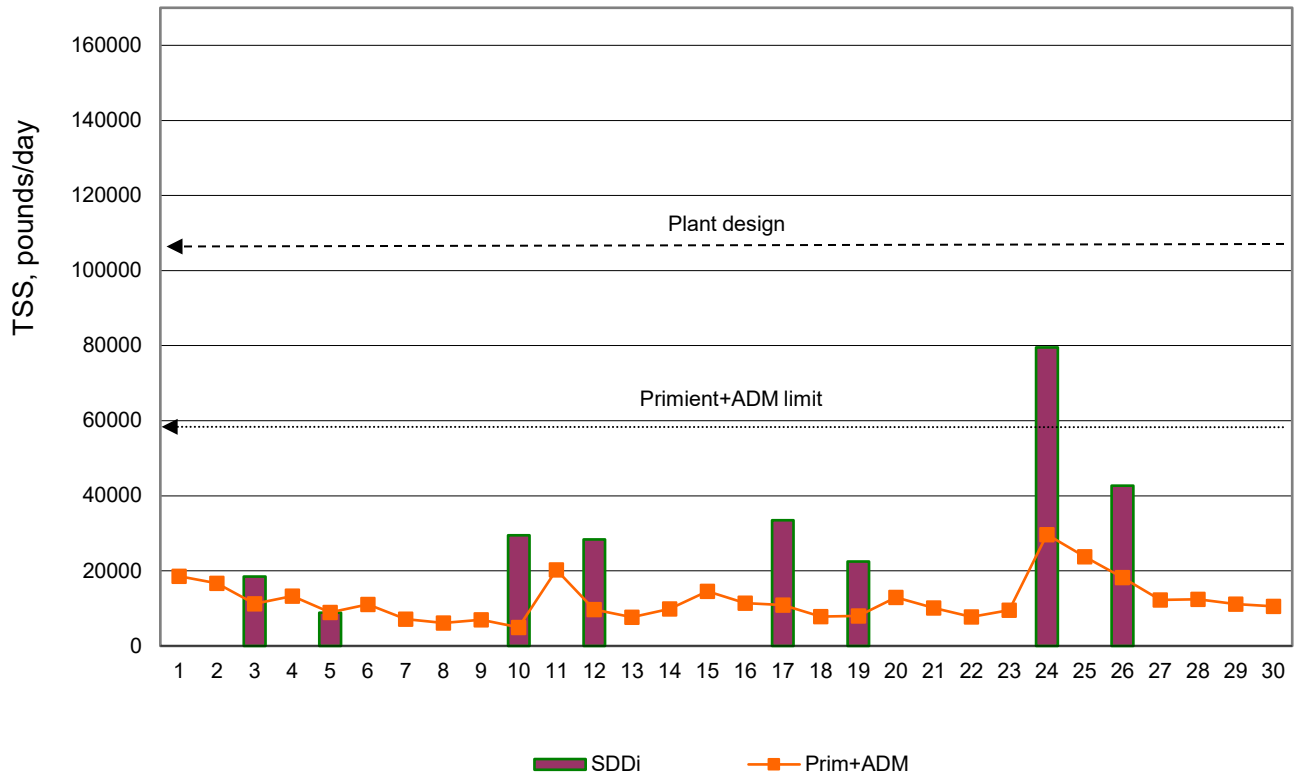
The goal is to have the first draft of the NARP completed by mid-October and the final draft by mid-November. By the end of November, the hope is to have the full IEPA packet complete and the completed NARP submitted to the agency at the beginning of December.

**Watershed:**

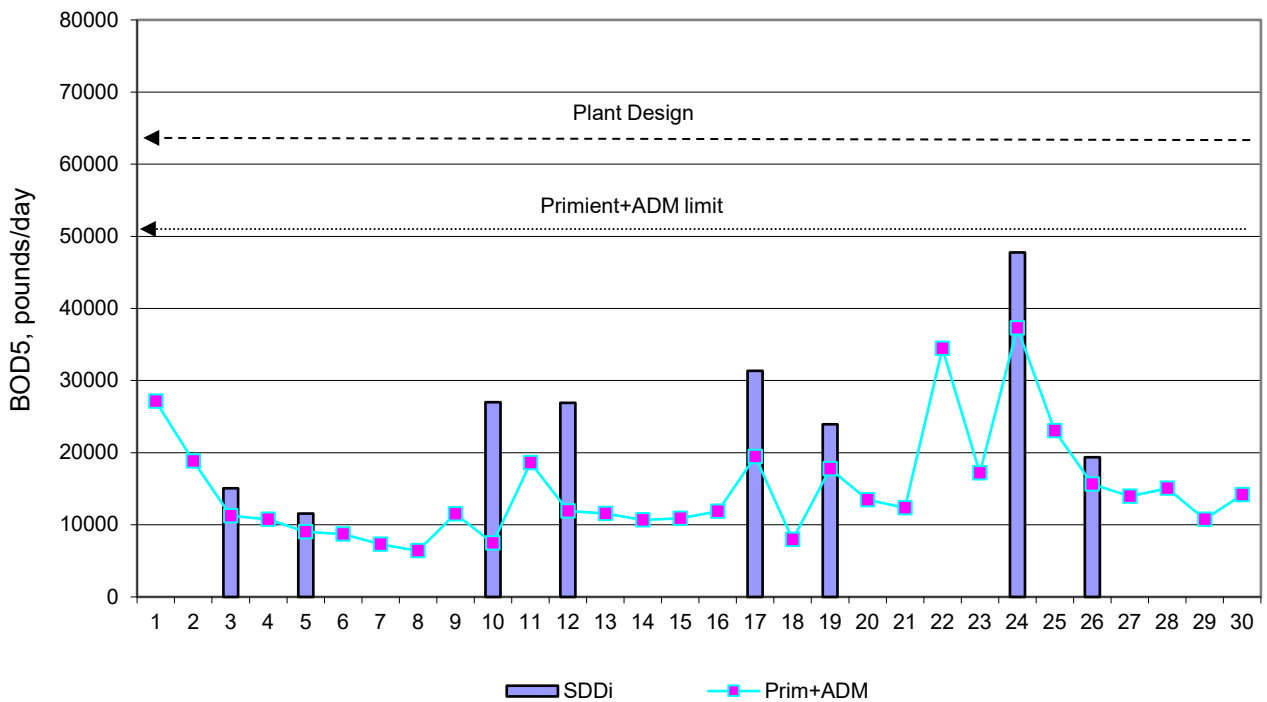
Unfortunately, we will not be forming a watershed group at this time due to a lack of interest in voting members. Although the watershed group will not be established there are still benefits to cooperating and working with other stakeholders in the watershed to determine the most cost-effective means to address the phosphorus related impairment and is why the District is hosting the hybrid meeting to inform stakeholders on the progress and results of the NARP.

**Plant Operating Graphs:**

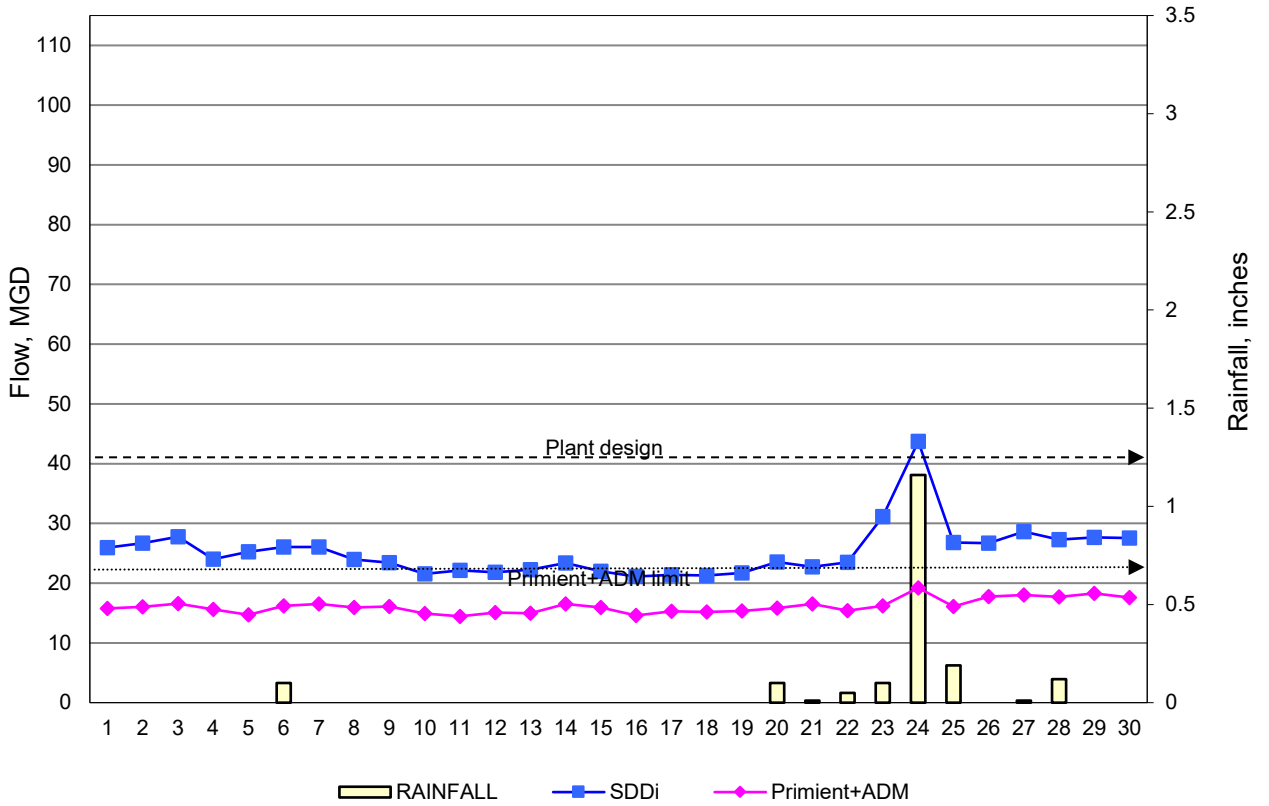
**TSS Comparison: SDD Inf Primient+ADM Discharges**



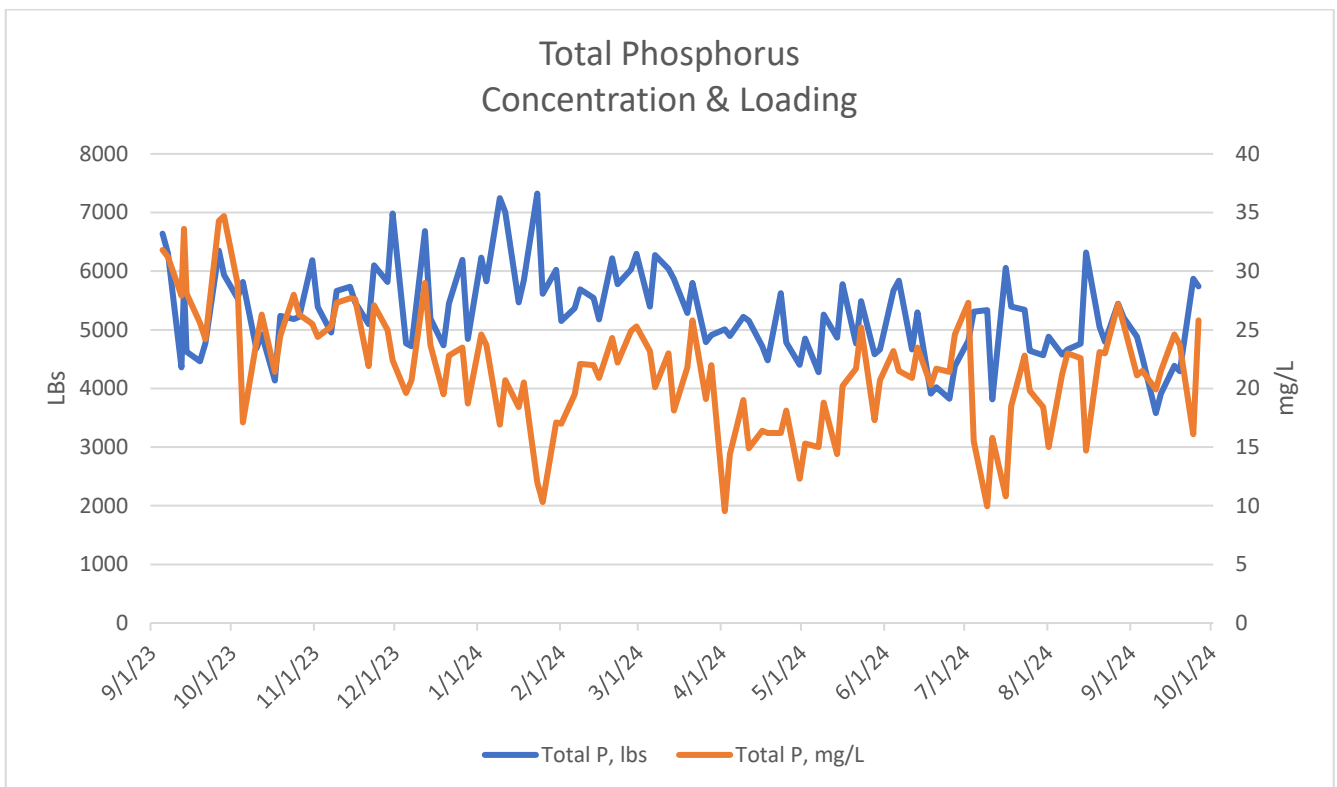
**BOD Comparison: BOD Inf vs. Primient + ADM Discharges**



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

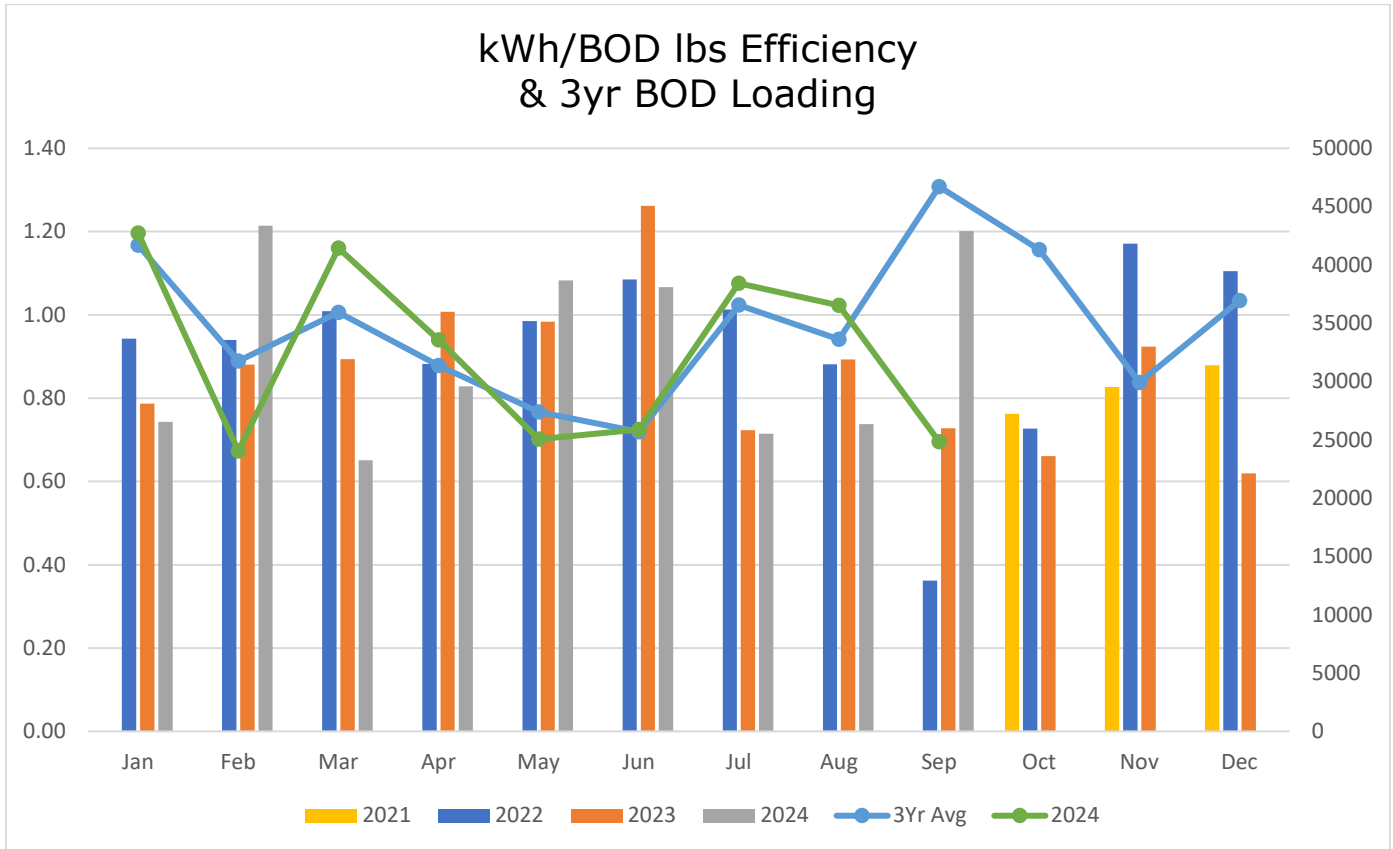
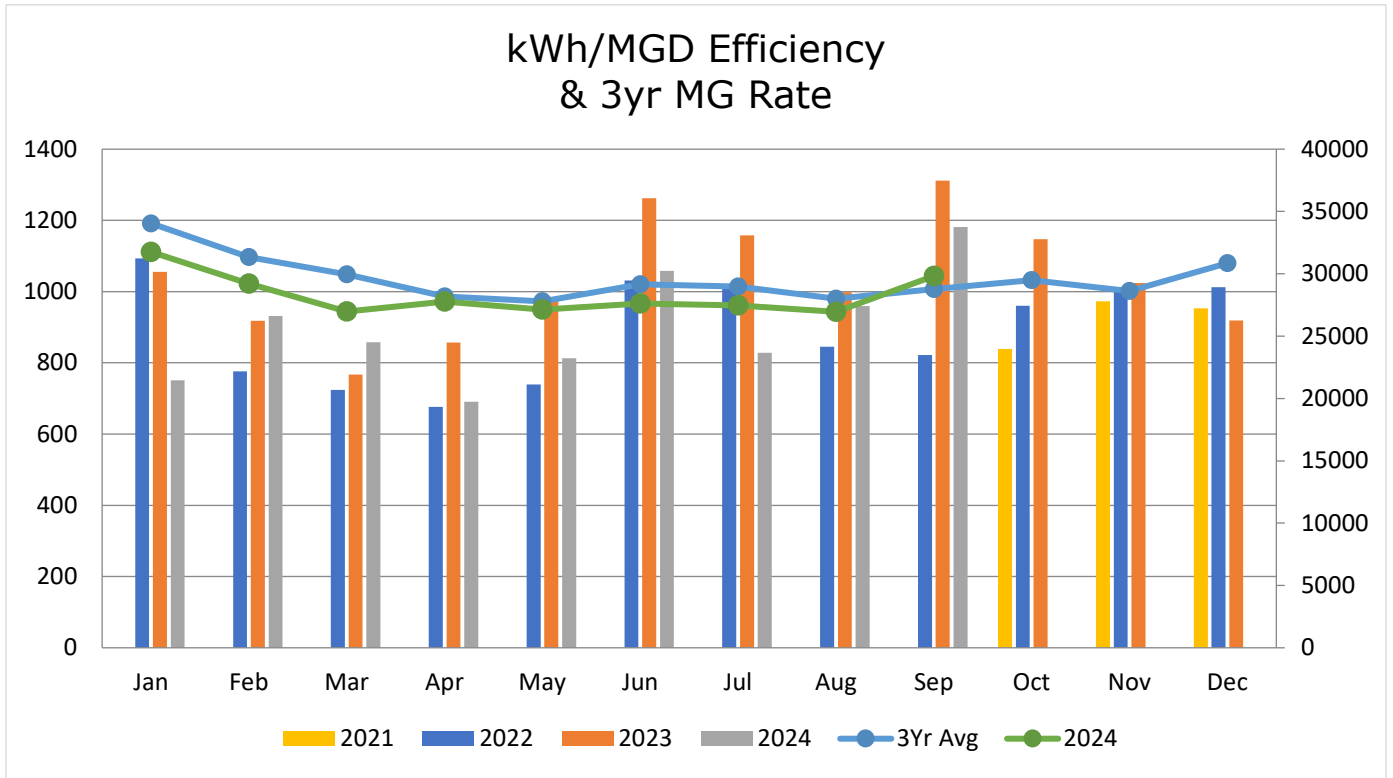


**Phosphorus Tracking Graph:**



**Plant Efficiency Graphs:**

**September 2024**



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

**October 9, 2024**

During the period of August 31, 2024 through September 27, 2024, District personnel attended meetings with members of the Black & Veatch (BV) team to affect progress in nutrient reduction planning and activities.

The District has provided plant performance data to BV for inclusion in the Power BI dashboards. Additionally, the District provided the last lab results from the Fermentation Pilot to BV for their analysis assessing performance data on the proposed biological phosphorus removal process.

BV has continued the evolution of their full facility process model, continued to develop aged infrastructure evaluation, and continued the evaluation of alternatives for upgrades to the Water Resource Recovery Facility (WRRF). In addition, BV continued its' assistance with operation and decommissioning 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 August 31, 2024 through September 27, 2024**

<b><u>Subject</u></b>	<b><u>Date</u></b>	<b><u>Agenda Items</u></b>
Nutrient Program Management Bi-weekly Meetings	Meetings held on 9/11/2024, 9/25/2024	<i>Objective:</i> Provided Status Update on Program Tasks <ul style="list-style-type: none"><li>• Frac Tank Pilot</li><li>• Power BI</li><li>• Pretreatment Program Update</li><li>• PDOP/Annual Progress Report</li><li>• Watershed Services</li><li>• Aging Infrastructure</li><li>• WRRF Upgrade Plan</li></ul>
Fermentation Reactor Pilot Operations Review meetings	9/5/2024	Coordinate with EnviroMix for decommissioning and return shipping of their equipment.



**Sanitary District of Decatur**  
**Watershed Management Report**

**October 9, 2024**

During the period of August 31, 2024 through September 27, 2024, District personnel attended meetings with members of the Black & Veatch and Geosyntec team to coordinate and discuss elements essential to meet the Nutrient Assessment Reduction Plan (NARP) requirements as listed in the NPDES permit. Additional coordination and discussion was held regarding the formation of a future watershed workgroup for the Middle Sangamon River.

Activities completed this month pertained to items necessary to complete the NARP report. This period focused on developing and writing of the NARP report. Additional discussion was had related to implementation of an Integrated Planning approach for the NARP, including providing support for a meeting with an industry to introduce Integrated Planning.

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 August 31, 2024 through September 27, 2024.**

<b><u>Subject</u></b>	<b><u>Date</u></b>	<b><u>Agenda Items</u></b>
Watershed Services Bi-weekly Discussions	9/4/2024, 9/18/2024	<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. Geosyntec also supported an update to ADM by providing an introduction to Integrated Planning at an industrial meeting.

October 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 (August 31, 2024 – September 27, 2024)

Dear Mr. Miller:

This letter summarizes the work associated to the SDD Nutrient Program Management project for services from August 31, 2024, through September 27, 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
  - Presented an update to ADM on SDD's progress with the nutrient management program. This included the sensitivity analysis that was performed, including updated project costs at the various local limits for total phosphorus. Prepared meeting summary from this meeting.
  - Met with ADM for a technical review discussion to evaluate possible supplemental carbon sources. Developed a list of requested information to further evaluate the possible supplemental carbon sources proposed by ADM.
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, including discussing an alternative path for seeking input from potential stakeholders.
  - Continued discussion on elements of the Nutrient Assessment Reduction Plan, specifically the potential to implement an Integrated Plan approach.
  - Continued drafting the Nutrient Assessment Reduction Plan, including implementation plans related to Integrated Planning.

- Presented a brief overview of Integrated Planning to ADM during an industrial update meeting.
5. WRRF Upgrade Plan
    - Aged Infrastructure Evaluation
      - i. Provided an update on next steps to further quantify improvements to Building 210.
      - ii. Continued to review, update, and refine the list of aged infrastructure projects.
    - Plant Facility Evaluation
      - i. Continued to update Technical Memorandum (TM) 5a as it related to process model evaluations for supplemental carbon.
    - Feasibility Study
      - i. Coordinated with SDD to draft, review, edit, and submit the final Feasibility Study report to IEPA by the mandated permit compliance date of September 30, 2024.
  6. Capital Improvement Plan Development
    - Started to develop a plan outline, including preliminary outline of aged infrastructure projects.
  7. Pilot and Demonstration Testing
    - Analyzed final results of fermenter pilot.
    - Initiated edits to the draft memorandum on the pilot results.
    - Supported decommissioning of the fermenter pilot.

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