

Director of Operations and Compliance Report

February 17, 2021

Plant Loading, CSO Report, and Director's Notes

Plant Loading

Biochemical Oxygen Demand, 5-Day (Avg. 35650 lbs/day)	56 percent of design
Total Suspended Solids (Avg. 36454 lbs/day)	34 percent of design
Average Daily Flow (32.14 million gallons/day)	78 percent of design
Maximum Daily Flow (59.67 million gallons/day)	48 percent of design

	Permit Limits (avg/max)	Reported Values	Violations
CBOD ₅ , mg/L	20/40	3/4	0
TSS, mg/L	25/45	5/8	0
NH ₃ -N, mg/L	1.5/3.0	0.13/0.17	0
Fecal coliform per 100mL	400* (max)	N/A	0
Chlorine Residual, mg/L	0.05* (max)	0.0	0
Dissolved Oxygen, mg/L	6.0 (min)	8.63	0
pH, S.U.	6.0/9.0 (min/max)	7.98/8.22	0
Total Nickel, mg/L	0.015 (avg.)	0.019	1
Total Zinc, mg/L	0.075/0.416	0.015/0.029	0

*Effluent disinfection is required May 1 through October 31.

CSO Report

Location	Events	Discharge (million gallons)	Estimated Total Duration of Discharges (hrs)
Oakland Avenue (Outfall 003)	2	0.49	2.82
Lincoln Park (Outfall 004)	0	0.0	0.0
McKinley Avenue (Outfall 007)	2	6.93	3.3
Seventh Ward (Outfall 008)	1	27.14	3.0

Director's Notes:

NPDES Permit:

The District responded to the Agency's questions last month and we are still waiting to either see the previous draft permit to be issued or to receive an alternate permit draft. In the response the District offered to share the records that were discussed but the Agency has not replied that they want any of the records to-date.

Land Application of Biosolids:

The District is currently working with J. Oros Environmental Inc. on a change order that would have them continue working on the East Wyckles Lagoon to affect cleaning all the remaining material from that unit which will allow for much needed repairs in the coming year. This is repair work that

the District has been actively planning and working toward for the past three years. This lagoon unit is necessary to the efficient operation of the biosolids program and doing so will assure its availability in the years to come.

This change order will be to approve a price/unit cost (cu. Yd.) for the lagoon cleaning.

This change order was discussed at the January Board Meeting and is included on the Consent Agenda for consideration at the February Meeting.

Operations, Laboratory, and Pretreatment Activity Reports –January/February 2021

Operations Activities:

Normal operational activities were conducted as prescribed by standard procedures or in response to conditions within the plant related to the new measures being employed due to Covid-19.

- 1) Operations staff continue to adjust the ferrous feed and digester operations to lower the H2S readings for improved maintenance reliability.
- 2) All Operations staff are currently working on maintaining PM workorders as they are received.
- 3) Some high flow events occurred during the past month which allowed the operators to run both headworks (HW) after a period of downtime for the East HW. It afforded them the opportunity to learn what is to be expected when starting the East side when the West has been in sole operation. As these events occur the operators will learn what should be expected in these somewhat new circumstances and can be proactive in response to high flow events as they have been when the old system(s) were in use.
- 4) The operations staff continues adjusting the dissolved oxygen in the Waste Activated Sludge (WAS) tanks to improve the performance of the Rotating Drum Thickeners (RDTs) during the month of January.
- 5) The operators have recently been operating the Plant under severe cold weather conditions. These conditions as one can imagine can and often will cause problems with equipment failure related to icing, metal stresses, etc. The staff during these events will become very diligent to the areas of the Plant that are susceptible to cold weather failure so that they may respond accordingly.
- 6) David Collard attended the INFEWS virtual workshop on Jan. 19th, 2021 joining for the regular general meeting that discuss reports to Update everyone on the progress of the INFEWS program in general. Later David attended the break-out session that covered SWAT (Soil & Water Assessment Tool). SWAT is a computer modeling tool utilized in Watershed evaluations and monitoring. Keith Richard also attended the workshop; a report of his experience can be found below in the Laboratory Activities section of this report.

Laboratory Activities:

Routine:

A total of 1,761 analyses were performed in the laboratory during the month of January 2021.

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 sampling of the groundwater monitoring wells was conducted at the South Sludge Lagoons and Wyckles Lagoons.
- 2) Keith Richard attended the virtual quarterly meeting of the Heart of the Sangamon River Ecosystem Partnership on January 14, 2021. The partnership is a consortium of local government agencies and non-government organizations that are working together to ensure the continued well-being of the Upper Sangamon River Watershed.
- 3) Keith Richard attended the virtual INFEWS workshop on January 19, 2021 to hear updates on the status of the INFEWS project. INFEWS is an acronym for "Innovations at the Nexus of Food, Energy and Water Systems." The University of Illinois at Urbana-Champaign is leading the project which is funded by the National Science Foundation and is titled "Advancing FEW System Resilience in the Corn Belt by Integrated Technology-Environment-Economics Modeling (ITEEM) of Nutrient Cycling." One of the major components of the project is the development of a computer modeling tool to be used to conduct watershed resilience analysis. The Upper Sangamon River Watershed is the testbed for the development of this modeling tool. The SDD is a stake holder in this project and has provided data for use in development of the modeling tool.
- 4) A comparison study was conducted during the last two weeks of January 2021 to compare the readings from an experimental probe installed in the headworks with results obtained in the lab. The probe uses bio-electrode sensor technology to estimate the organic loading coming into the headworks. For the comparison study, an automatic sampler was used to collect discrete influent samples every hour over a 24-hour period on multiple days. These samples were analyzed in the lab for chemical oxygen demand (COD) and the lab results were compared to the readings from the probe. The review of the comparison data is ongoing.

Pretreatment Activities:

General Activities:

- 1) Pretreatment personnel monitored 13 commercial and industrial users (IU) during January 2021, and we did not perform any industrial site inspections.
- 2) Industrial site inspections that do not allow for social distancing have been postponed again due to the pandemic.
- 3) There are no updates to the AOC.
- 4) The SDD sent a permit application package to **Decatur Plating and Manufacturing**.
- 5) The SDD sent a waste hauler permit application to **Bodine Services/Environmental**. Bodine was purchased by Enviroserve/Savage, so they will need a new permit.
- 6) The SDD reviewed Wastewater Discharge Permit applications from **Caterpillar** and **Prairie Farms**.
- 7) Pretreatment personnel are working on the Pretreatment Annual Report. We are currently summarizing data for the monitoring section of the report.

Pretreatment Ordinance - Verbal Notices:

- 1) The SDD issued a Verbal Notice to **Tate and Lyle** on January 11, 2021 for exceeding their daily maximum BOD limit. Tate and Lyle representatives investigated the cause of the exceedance and found that they were having aeration basin foaming issues the day of the violation. Tate and Lyle

indicated that they ran out of anti-foam chemical during the violation, but they are now keeping it in stock in case of future issues.

- 2) The SDD issued a Verbal Notice to **St. Mary's Hospital** on February 1, 2021 for exceeding their upper pH limit in a sample taken in January. St. Mary's is in the process of replacing some of their boiler system components, which they have attributed to causing the violation. Samples taken after the violation occurred have shown that St. Mary's is again in compliance.

Pretreatment Ordinance - Warning Notices:

The SDD issued WN 21-001 to **ADM** on January 19, 2021 for pH violations at their West Plant outfall. Caustic material was discharged to the SDD through a drain in the West Plant. ADM is investigating both the root cause of the exceedance and how to prevent it from reoccurring. The SDD has not received the results of the root cause analysis at the time of this report.

Pretreatment Ordinance - Notices of Violation (NOV):

No Notices of Violation were issued during January 2021.

Pretreatment Ordinance - Executive Orders:

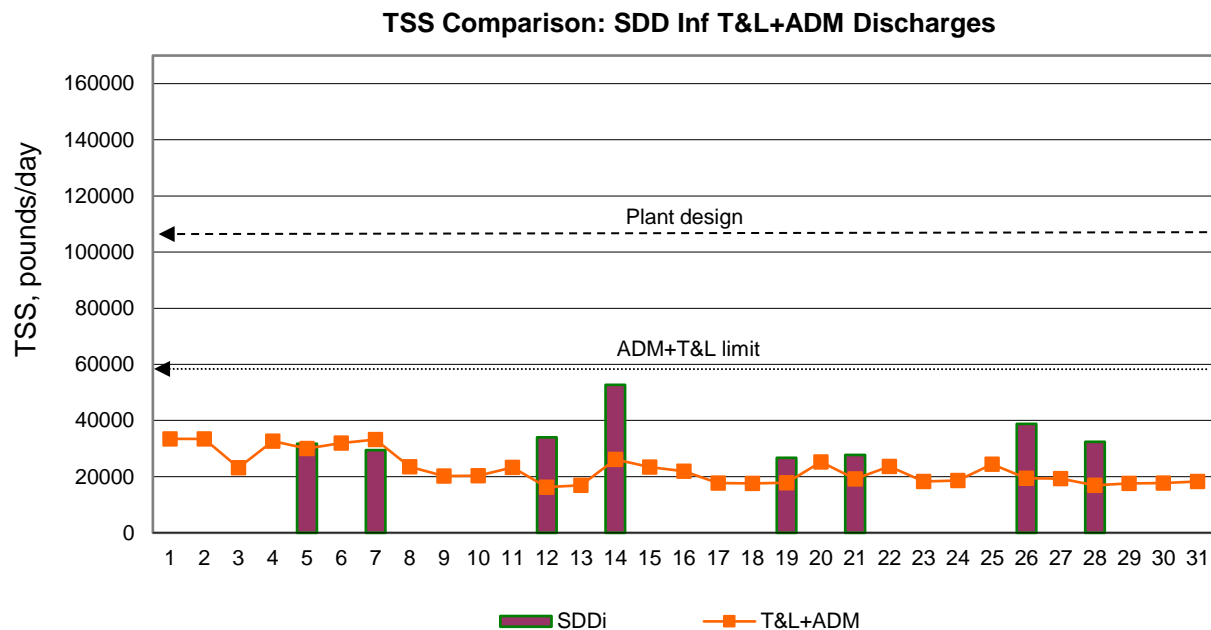
No Executive Orders were issued during January 2021.

Pretreatment Ordinance - Penalty Assessments:

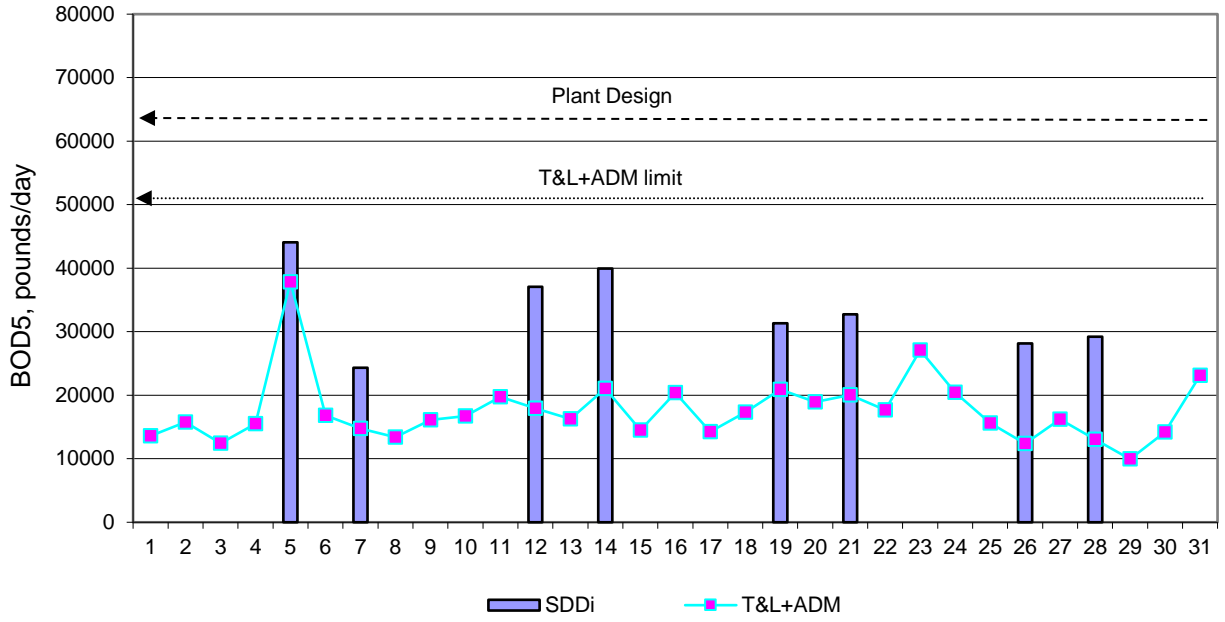
The following industrial penalties were assessed for January 2021:

- | | |
|-------------------------|----------------|
| 1) Tate and Lyle | \$1,000 |
| 2) ADM | \$1,000 |

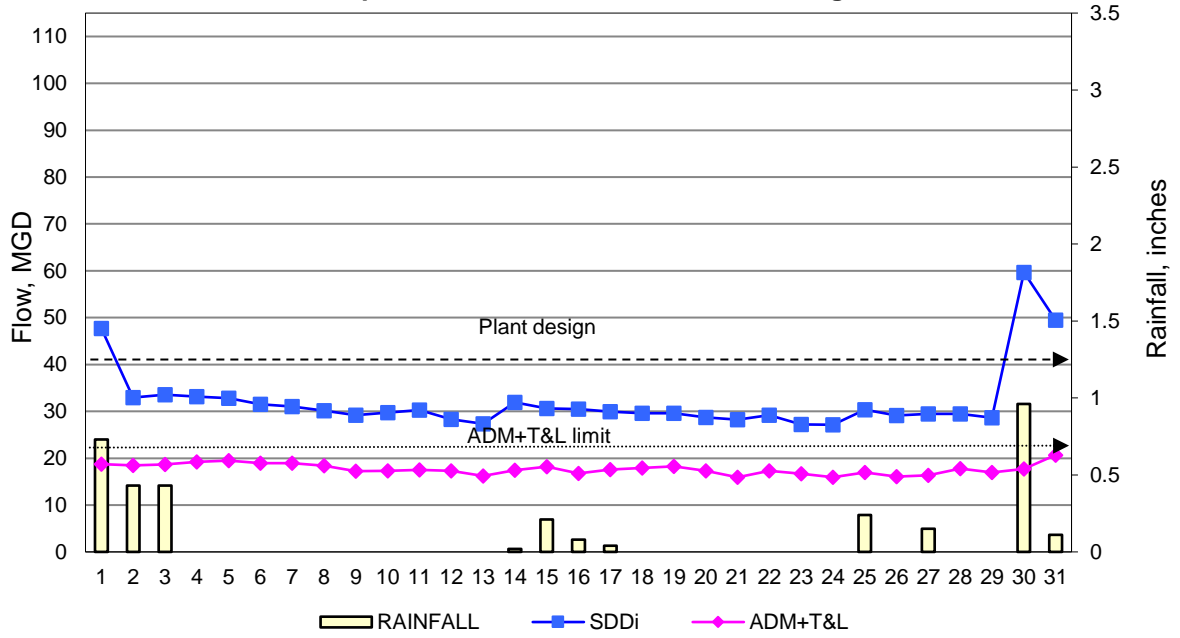
Plant Operating Graphs:



BOD Comparison: BOD Inf vs. T&L + ADM Discharges



Flow Comparison: SDD vs. ADM + T&L Discharges and Rainfall



Plant Efficiency Graphs:

