

## Director of Operations and Compliance Report

December 16, 2020

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

#### Plant Loading

|   |                      |
|---|----------------------|
| Biochemical Oxygen Demand, 5-Day (Avg. 29914 lbs/day) | 47 percent of design |
| Total Suspended Solids (Avg. 34481 lbs/day)           | 32 percent of design |
| Average Daily Flow (27.38 million gallons/day)        | 67 percent of design |
| Maximum Daily Flow (38.17 million gallons/day)        | 31 percent of design |

|                          | Permit Limits (avg/max) | Reported Values | Violations |
|--------------------------|-------------------------|-----------------|------------|
| CBOD <sub>5</sub> , mg/L | 20/40                   | 3/3             | 0          |
| TSS, mg/L                | 25/45                   | 4/5             | 0          |
| NH <sub>3</sub> -N, mg/L | 1.5/3.0                 | 0.12/0.12       | 0          |
| Fecal coliform per 100mL | 400* (max)              | N/A             | 0          |
| Chlorine Residual, mg/L  | 0.05* (max)             | 0.011           | 0          |
| Dissolved Oxygen, mg/L   | 6.0 (min)               | 7.76            | 0          |
| pH, S.U.                 | 6.0/9.0 (min/max)       | 7.83/8.16       | 0          |
| Total Nickel, mg/L       | 0.015 (avg.)            | 0.017           | 1          |
| Total Zinc, mg/L         | 0.075/0.416             | 0.017/0.027     | 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)  | 1      | 0.28                        | 9.5  |
| Lincoln Park (Outfall 004)    | 0      | 0.0                         | 0.0  |
| McKinley Avenue (Outfall 007) | 1      | 0.3                         | 0.4  |
| Seventh Ward (Outfall 008)    | 0      | 0.0                         | 0.0  |

#### Director's Notes:

##### **NPDES Permit:**

During the first week of December the District Admin staff was informed that the USEPA had been in contact with Brant Flemming of the IEPA regarding the proposed new permit. Other IEPA staff have been in contact with David Collard to obtain additional information related to the potential new permit.

##### **Land Application of Biosolids:**

J. Oros Environmental Inc. has completed the biosolid applications for the current year. The season was completed this year when the East Lagoon was emptied to a point that the material left was not of a nature that allowed further operations because of excess debris and sediment.

The final production numbers were:

- 22.73 million gallons (MG)
- 3861 dry Tons (dT) hauled
- 4082 Truckloads
- Biosolids averaged 4.06% solids concentration
- \$659,199.87 Total Expenditure to J. Oros Environmental, Inc
- \$19,573.32 Total Fuel Costs
- \$169.18 cost per dT (including Operators payroll expenses)

Operations hours tallied for the season totaled 74 workhours on the crawler only, no dredging was needed this season at the Wyckles facility. This does not take into consideration any equipment maintenance expense or workhours expended by Maintenance department staff.

The east lagoon is in desperate need for maintenance and repairs that will require the biosolids remaining in the lagoon to be removed. While District staff has been aware of the need for repairs, the District has not been in a position to take the lagoon out of service. Due to the fact that we have had several good land application years in a row, we can now empty the lagoon and take a year off from application to make the repairs. We have asked J. Oros Environmental to provide an estimate to remove the residual biosolids from the east lagoon. This will most likely result in a change order to the existing biosolids contract as the consistency of the remaining biosolids is not conducive to liquid land application.

## **Operations, Laboratory, and Pretreatment Activity Reports – November/December 2020**

### **Operations Activities:**

Normal operational activities were conducted as proscribed 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 in concert with Maintenance staff have finalized the shut-down and winterization of the disinfection system(s) during the month of November.
- 2) All Operations staff are currently working on maintaining PM workorders as time and staffing allows given the limited staff due to Covid operations and allowing for time-off requests etc.
- 3) Dakota Bledsaw has passed a District issued temporary internal operator test and has been temporarily advanced to the Operator position until he has an opportunity to sit for the IEPA exam. The District is aware that the Agency will not offer an opportunity to test until Jan 2021 at the earliest, and even that will allow only limited capacity. Dakota as well as other Operators already waiting to test might have several more months before a chance to take the test becomes available.
- 4) Shannon Probst the newest OIT has resigned her position with the District during November.
- 5) The digester heat exchangers have recently developed problems related to excessive "ash build-up" which occludes the fire tubes and thereby prevents proper transfer of heat from the firebox to the water bath. Operators are facilitating Maintenance staff efforts to affect repairs and the source(s) of the problem are currently being researched.

## **Laboratory Activities:**

### **Routine:**

A total of 1,630 analyses were performed in the laboratory during the month of November 2020.

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 first week of November 2020.
- 2) Keith Richard, Matt Nihiser, and David Collard attended the virtual Nutrient Loss Reduction Strategy (NLRs) partnership workshop on November 6, 2020. The workshop was hosted by the Illinois EPA. The purpose of the workshop was to update the attendees on the current state of the NLRs and highlight the successes of the past year.
- 3) The investigation into the suspected false-positive IDEXX fecal coliform results is ongoing. A bacteriological expert at Teklab was contacted for technical assistance in identifying the unknown bacteria. EC broth with Durham tubes has been ordered to test the previously isolated bacterial colonies to determine whether they are true coliform bacteria.

## **Pretreatment Activities:**

### **General Activities:**

- 1) Pretreatment personnel monitored seven commercial and industrial users (IU) during November 2020.
- 2) Industrial site inspections that do not allow for social distancing have been postponed again due to the uptick in COVID-19 cases. The final inspections for 2020 will likely be conducted virtually, where possible, to avoid potential exposure.
- 3) There are no updates to the AOC.
- 4) The SDD issued a new discharge permit to **ADM Railcar Repair** and issued revised permits to **Decatur Correctional Center (DCC)** and **Canadian National/Illinois Central Railroad (CN/IC)**. Errors were discovered in both DCC's and CN/IC's permits, so the issues were corrected, and revised permits were sent to the facilities.
- 5) The District conducted a socially distant split sampling event with **Canadian National/Illinois Central Railroad (CN/IC)**. A grab sample for total phenols was taken at CN/IC's outfall by District and CN/IC representatives, and then split between two containers. The SDD analyzed the sample in our laboratory, while CN/IC sent their sample to a contract lab. Both results were the same.
- 6) The required written response from **Prairie Farms Dairy (PFD)**, for violations that led to Warning Notice 20-004, was received by the District. PFD had a loss of milk down an open drain. Proper milk transfer procedures were reviewed with employees at PFD and an alarm that warns of high flow to the floor drain in the milk tank area was added. These corrective actions should help mitigate the amount of milk that would make it to the District should this ever happen again.

**Pretreatment Ordinance - Verbal Notices:**

The SDD issued a Verbal Notice to **Tate and Lyle** on December 3, 2020 for violating their total phenols limit in a sample taken mid-November. **Tate and Lyle** is currently investigating the cause of the violation, but the source has not yet been found. The District will be resampling soon.

**Pretreatment Ordinance - Warning Notices:**

No Warning Notices were issued during November 2020.

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

No Notices of Violation were issued during November 2020.

**Pretreatment Ordinance - Executive Orders:**

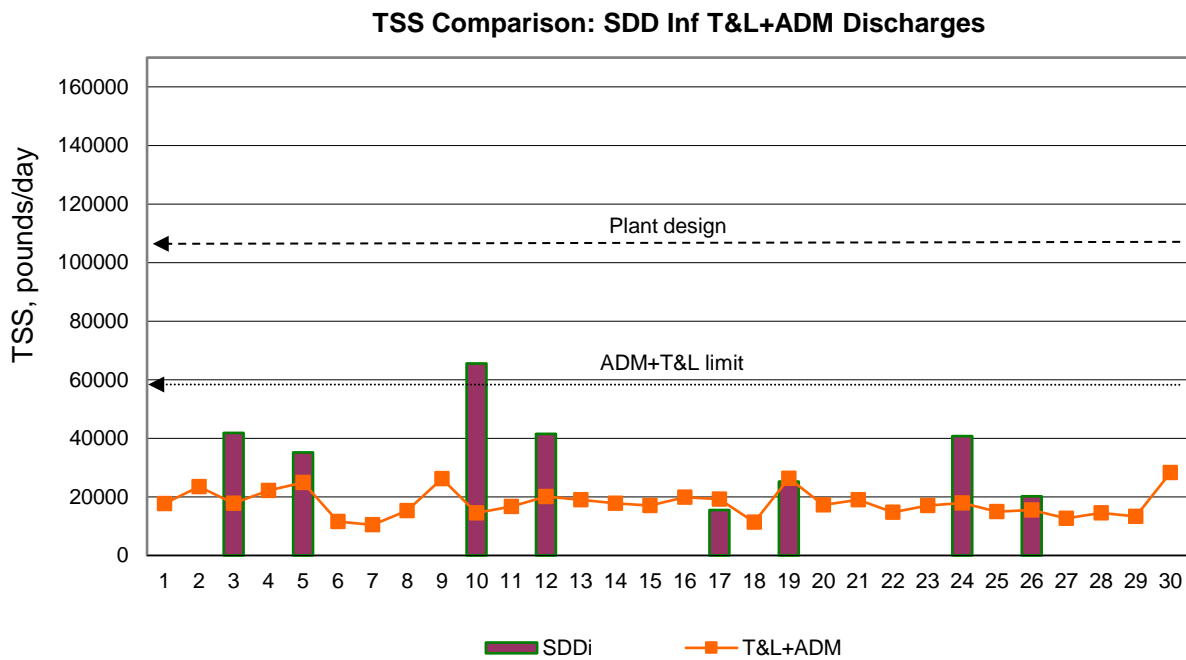
No Executive Orders were issued during November 2020.

**Pretreatment Ordinance - Penalty Assessments:**

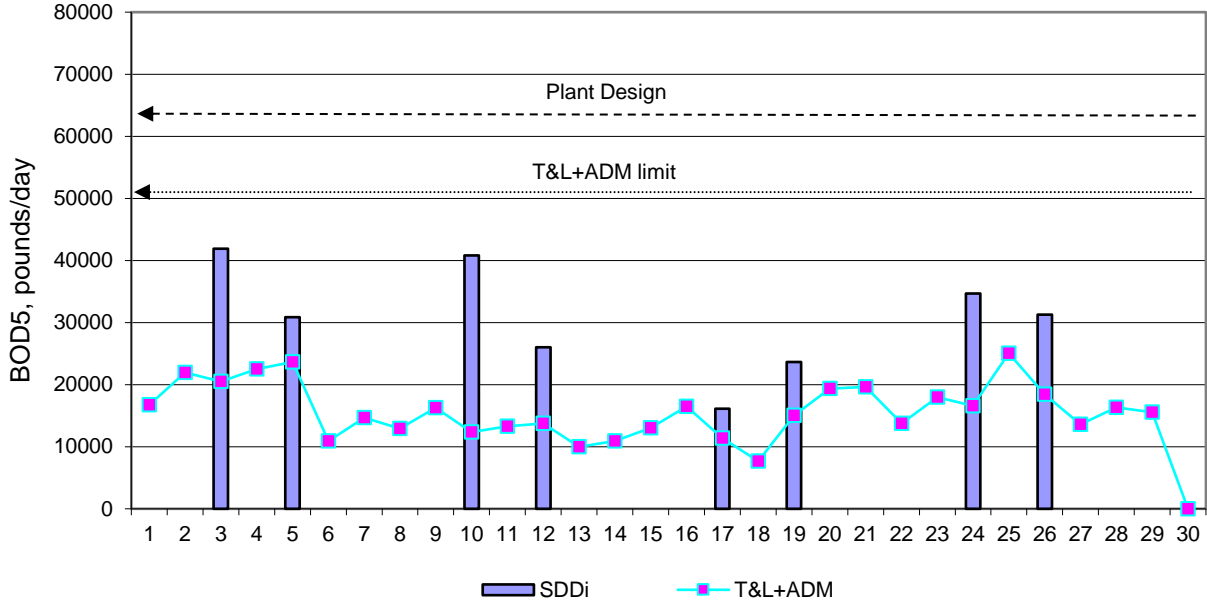
The following industrial penalties were assessed for November 2020:

**Tate and Lyle** **\$1,000**

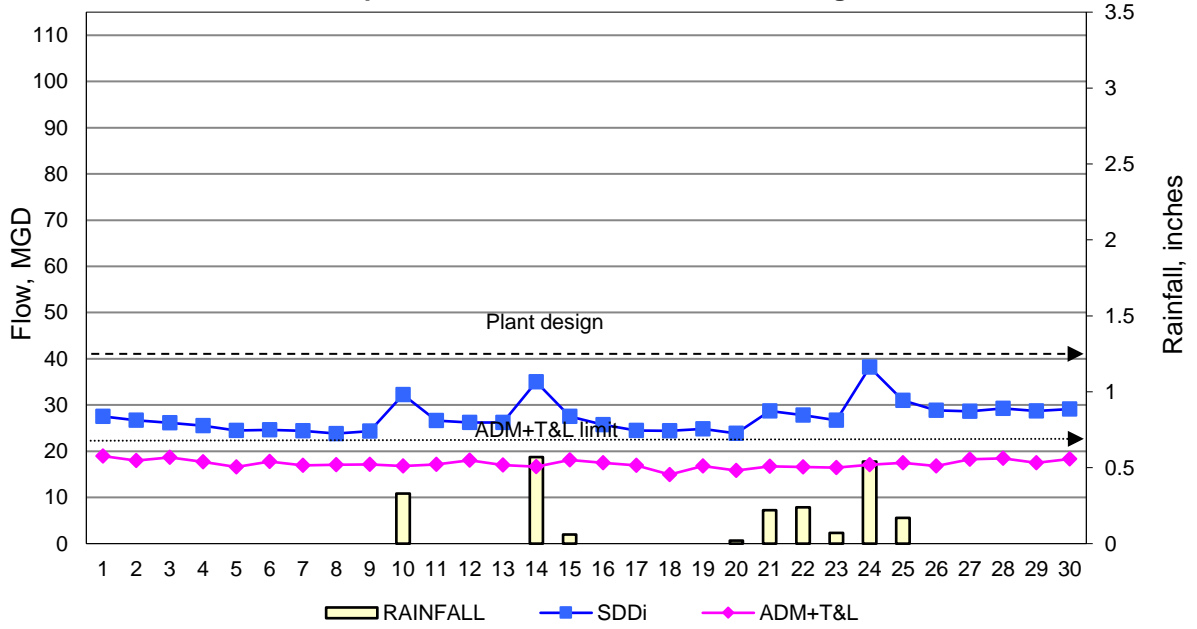
**Plant Operating Graphs:**



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



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



**Plant Efficiency Graphs:**

