



King County

Department of Natural Resources and Parks
Wastewater Treatment Division
West Point Treatment Plant, WTP-NR-0100
1400 Discovery Park Blvd
Seattle, WA 98199-1044

February 8, 2023

TO: Robert Waddle, WTD Operations Manager

FM: Process Control Staff

RE: West Point Treatment Plant Performance Report – January 2023

The West Point Treatment Plant (West Point) Outfall 001 met all effluent discharge requirements in January 2023. Effluent cBOD averaged < 25 mg/L and TSS averaged < 30 mg/L. Effluent pH was maintained between 6.0 and 9.0.

West Point's total flow averaged 125.85 million gallons per day (MGD), almost 18 MGD lower than the average January flow for the previous five years (143.56 MGD).

January was relatively a dry month, with the Seattle-Tacoma International Airport (SeaTac) reporting 3.09 inches of rainfall for the month, well below the historical average 5.78 inches for January rainfall at SeaTac.

There were unusual spikes of high pH on January 12, samples were collected and analyzed for metals. The results are attached with this month's report.

Primary Treatment

Primary sedimentation operated at full capacity for the entire month. The primary solids removal for the month was calculated to be 58.02%. The removal is calculated using the Secondary Influent values which include solids returned in the recycle streams.

Secondary Treatment

The secondary process had all six aeration trains and all thirteen secondary clarifiers in service during the month of January. Aeration operated in plug flow mode. The secondary sludge age averaged 2.7 days for the month. Final effluent quality was excellent with a monthly TSS average of 5.6 mg/L and a monthly fecal coliform geomean of 1 MPN/100 mL.

Key Measures

| | |
|-------------------|--|
| Volume Treated | 3901 Million Gallons |
| Permit Compliance | 0 Exceptions |
| Biosolids | 3771 Wet Tons Hauled 1096 Dry Tons Hauled 29.05% Cake Total Solids |

Permit Compliance Summary – January 2023

| Flow (mgd) | cBOD (mg/l) | TSS (mg/l) | cBOD (% Removal) | TSS (% Removal) | Fecal Coliforms (counts/100 ml) | Chlorine Residual (µg/l) |
|------------|--------------|--------------|------------------|-----------------|---------------------------------|--------------------------|
| | Plant/Permit | Plant/Permit | Plant/Permit | Plant/Permit | Plant/Permit | Plant/Permit |
| 125.85 | 4/25 | 6/30 | 97/80 | 97/80 | 1/200 | 96/139 |

West Point’s NPDES permit requires 80% removal of cBOD and TSS during the wet season months of November through April. The Permit also sets effluent concentration limits of 25 mg/l for cBOD and 30 mg/l for TSS, or 20% of influent values during the wet season months, whichever is more stringent. For January 2023, the effluent concentration limits were 25 mg/l for cBOD and 30 mg/l for TSS.

Process Control

Total plant flow for the month was 3901.49 million gallons. Influent and effluent cBOD concentrations averaged 131 mg/l and 4 mg/l, respectively (97% removal); influent and effluent TSS averaged 178 mg/l and 6 mg/l, respectively (97% removal).

There were three Secondary Diversions in January, details are provided in the table below.

| Date | Secondary Diversion Volume (MG) | Duration (hr) | Reason for Diversion |
|-----------|---------------------------------|---------------|----------------------|
| 1/9/2023 | 3.53 | 2.07 | Flows > 300 MGD |
| 1/10/2023 | 1.63 | 1.43 | Flows > 300 MGD |
| 1/12/2023 | 0.44 | 1.73 | Flows > 300 MGD |