



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

December 9, 2021

TO: Robert Waddle, WTD Operations Manager

FM: Process Control Staff

RE: West Point Treatment Plant Performance Report – November 2021

The West Point Treatment Plant (West Point) Outfall 001 met all effluent discharge requirements in November 2021. 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 141.77 million gallons per day (MGD), 36.83 MGD above the average November flow for the previous five years (104.94 MGD).

Seattle had a wet November. The Seattle-Tacoma International Airport (SeaTac) reported 10.26 inches of rainfall for the month of November; the historical average for November rainfall at SeaTac is 6.31 inches.

Primary Treatment

Primary treatment operated with 12 tanks in service throughout November. Primary performance has improved due to primary sedimentation being at full capacity. The Z-beam removal project continued with overhead work throughout the month. The primary removal was calculated to be 47.9%. The removal is normally calculated using the Secondary Influent values but there were unusually high solids return in the recycle streams in previous months that led to the Secondary Influent not being representative of Primary Effluent. For the month of November, solids return has decreased due to improved dewatering performance but the plant is still monitoring and investigating the cause(s) and will implement mitigation.

Secondary Treatment

The secondary process operated with 6 aeration trains and 12 clarifiers in service for entire month of November. Clarifier 10 is scheduled to be back in service in December. All aeration trains operated in plug flow throughout the month. The secondary sludge age averaged 2.6 days for the month of November. Final effluent quality was excellent in November.

Key Measures

Volume Treated 4253 Million Gallons
 Permit Compliance 0 Exceptions
 Biosolids 3994 Wet Tons Hauled
 1149 Dry Tons Hauled
 28.76% Cake Total Solids

Permit Compliance Summary – October 2021

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
141.77	6/25	9/30	94/80	94/80	5/200	100/139

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 November 2021, 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 4253.18 million gallons. Influent and effluent cBOD concentrations averaged 117 mg/l and 6 mg/l, respectively (94% removal); influent and effluent TSS averaged 160 mg/l and 9 mg/l, respectively (94% removal).

There were seven Secondary Diversions in November, details are in the table below.

Date	Secondary Diversion Volume (MG)	Duration (hr)	Reason for Diversion
11/3/2021	0.79	0.88	Flow >300 MGD
11/4/2021	4.38	3.67	Flow>300 MGD
11/11/2021	1.59	3.52	Flow>300 MGD
11/12/2021	1.33	1.45	Flow>300 MGD
11/13/2021	2.57	2.62	Flow>300 MGD
11/14/2021	0.79	1.53	Flow>300 MGD
11/15/2021	2.60	2.60	Flow>300 MGD