Village of Hanover Park
Public Works

Public Works Facility
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Compliance Assurance Section
Division of Water Pollution Control
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9726

Subject: Village of Hanover Park STP#1 NPDES Permit No. IL0034479 – Compliance Submittal for Special Condition 18.E – Phosphorus Discharge Optimization Plan (PDOP) Annual Report

Dear IEPA Compliance Assurance Section:

On March 31st, 2023, in accordance with Special Conditions 18.E of NPDES Permit IL 0034479 for the Village of Hanover Park Sewage Treatment Plant (STP), a Phosphorus Discharge Optimization Plan was submitted to the Illinois Environmental Protection Agency (IEPA).

2023 Chemical Phosphorus Removal Evaluation Results Summary

Operating data was compiled and analyzed from January 2020 through August 2022. On average, phosphorus influent and effluent concentrations were 7.8 mg/L and 4.8 mg/L respectively. The current process achieves some removal biologically; however, the observed biological phosphorus removal is not consistent or sufficient to achieve the effluent limit of 1.0mg/L. Therefore, phosphorus removal by chemical addition is recommended.

The evaluation recommends that an alum feed system is installed in a new chemical building and comprised of a duplex feed pump skid with a 2,550-gallon chemical storage tank that will provide around 30 days of chemical storage before October 1, 2028, as required in Special Condition 18.F.1. Chemical shall be dosed at either the distribution box upstream of the clarifier or at the final ring at the oxidation ditch. Two dosing points are not required but can be considered.

2024 Phosphorus Discharge Optimization Status

The average influent and effluent concentration of phosphorus to the STP from September 2022 to February 2024 were 4.88 mg/L and 2.69 mg/L respectively. There have been no new significant or categorical industrial users introduced to the collection system serviced by the STP, and staff have not identified any further loading contributions from existing industries.

Staff continues to utilize biological removal methods in its treatment process such as reduced Sludge Retention Times, utilization of Anaerobic, Anoxic, and Aerobic zones within the Oxidation Ditch as applicable to maintain permit standards and adjusting flow through existing basins to enhance biological nutrient removal.

Based on the information listed above, the Village will continue to proceed with a chemical pilot study in the Summer of 2024 as described in the 2023 PDOP.

2025 Phosphorus Discharge Optimization Status

The average influent and effluent concentration of phosphorus to the STP from February 1st, 2024 to February 28th 2025 were 5.75mg/L and 1.74 mg/L respectively. There have been no new significant or categorical industrial users introduced to the collection system serviced by the STP, and staff have not identified any further loading contributions from existing industries. The slight increase in influent loading contributions are identified by side stream recycling through digester decanting and de-watering operations. Staff maintained a biological removal approach for 2024 and saw a decrease of nearly 1 mg/L in effluent concentrations.

Staff continues to utilize biological removal methods in its treatment process such as reduced Sludge Retention Times, utilization of Anaerobic, Anoxic, and Aerobic zones within the Oxidation Ditch as applicable to maintain permit standards and adjusting flow through existing basins to enhance biological nutrient removal.

2026 Phosphorus Discharge Optimization Status

The average influent and effluent concentration of phosphorus to the STP from February 1st, 2025 to February 28th 2026 were 6.4 m/L and 3 mg/L respectively. There have been no new significant or categorical industrial users introduced to the collection system serviced by the STP, and staff have not identified any further loading contributions from existing industries. The slight increase in influent loading contributions are identified by side stream recycling through digester decanting and de-watering operations. Staff maintained a biological removal approach for 2024 and saw a decrease of nearly 1 mg/L in effluent concentrations.

Staff continues to utilize biological removal methods in its treatment process such as reduced Sludge Retention Times, utilization of Anaerobic, Anoxic, and Aerobic zones within the Oxidation Ditch as applicable to maintain permit standards and adjusting flow through existing basins to enhance biological nutrient removal.

We trust this submittal satisfies the Special Condition 18.E PDOP Annual Report requirements. Please contact me at 630-823-5700 if you have questions.

Sincerely,

Christian Rebone
Wastewater Treatment Plant Supervisor
Hanover Park, IL 60133