Downers Grove Sanitary District

2710 Curtiss Street
P.O. Box 1412
Downers Grove, IL 60515-0703
Phone: 630-969-0664
Fax: 630-969-0827
www.dgsd.org

Providing a Better Environment for South Central DuPage County

March 19, 2026

Illinois Environmental Protection Agency
Division of Water Pollution Control
Sent Electronically to: EPA.PrmtSpecCondtns@Illinois.gov

Subject: IL0028380 Special Condition 17.E
Wastewater Treatment Center Phosphorus Discharge Optimization Plan
2026 Progress Report

To Whom It Concerns:

Special Condition 17 of permit IL0028380 requires the Downers Grove Sanitary District to submit an annual progress report on its Phosphorus Discharge Optimization Plan (PDOP). The PDOP, submitted in July 2017, evaluates source reduction measures, operational improvements, and minor low-cost facility modifications to optimize reductions in phosphorus discharges from the wastewater treatment center (WWTC). This letter serves as the District's 2026 PDOP annual progress report, in compliance with Special Condition 17, Paragraph E. This report is due by March 31, 2026.

WWTC Phosphorus Removal Performance

The WWTC total phosphorus (TP) monitoring data for calendar year 2025 is summarized in Table 1 on the next page.

A summary of the annual average WWTC TP monitoring data since the PDOP was completed is provided in Table 2 for comparison. The baseline data, which was collected prior to any phosphorus removal optimization efforts, is also presented. Historically, as influent TP has increased, effluent TP has increased. The effluent TP concentration in 2025 did not follow this trend; the annual average influent TP concentration was at the median of the nine-year period shown whereas the effluent TP concentration was the highest for the period.

Table 1. 2025 WWTC Total Phosphorus Monitoring Data

	INFLUENT		EFFLUENT		
	CONCN mg/l	LOAD lbs/day	CONCN mg/l	LOAD lbs/day	FRACTION REMOVED
Jan-25	4.69	336	3.33	206	0.39
Feb-25	4.69	333	3.55	225	0.32
Mar-25	3.06	346	2.13	236	0.32
Apr-25	3.82	351	2.32	218	0.38
May-25	4.80	304	3.89	270	0.11
Jun-25	5.87	500	4.07	393	0.21
Jul-25	6.23	358	3.74	212	0.41
Aug-25	4.49	401	2.80	281	0.30
Sep-25	7.14	382	5.27	272	0.29
Oct-25	7.20	362	4.15	213	0.41
Nov-25	6.80	369	4.72	259	0.30
Dec-25	5.02	346	2.63	180	0.48
Average	5.32	366	3.55	247	0.33
Maximum	7.20	500	5.27	393	0.48
Minimum	3.06	304	2.13	180	0.11

Table 2. Historic WWTC Total Phosphorus Annual Average Monitoring Data

	INFLUENT		EFFLUENT			
	CONCN mg/l	LOAD lbs/day	CONCN mg/l	LOAD lbs/day	FRACTION REMOVED	NOTES
Baseline*	4.81	365	3.07	229	0.37	
2017	5.62	414	2.99	217	0.48	RAS fermenter in service
2018	5.43	448	2.48	208	0.52	RAS fermenter in service
2019	4.68	434	2.16	201	0.53	RAS fermenter in service
2020	5.33	418	2.90	228	0.45	RAS fermenter in service
2021	5.72	405	3.33	238	0.40	RAS fermenter in service
2022	5.12	373	2.91	200	0.46	RAS fermenter removed from service in July
2023	5.14	369	2.94	219	0.40	
2024	5.01	392	2.96	218	0.43	
2025	5.32	366	3.55	247	0.33	

*Baseline data was collected from July 2012 to July 2013

WWTC Influent Reduction Measures

The influent phosphorus load to the District's Wastewater Treatment Center (WWTC) in 2025 was consistent with the previous few years, giving the District no reason to suspect any user has significantly increased their phosphorus discharge. Therefore, no special sampling of industrial

users or surcharge customers was done in 2025.

Phosphorus is a sampling parameter in the regular surcharge sampling program for the few users that were previously tested.

Most District customers receive their drinking water through the DuPage Water Commission which distributes water treated by the City of Chicago. Between November 2024 and March 2025, the City gradually modified the phosphate added to optimize corrosion control. Prior to November 2024, the city water had an orthophosphate residual of 0.6 mg/L PO_4 and a polyphosphate residual of 0.7 mg/L PO_4. Starting in March 2025, the orthophosphate residual in the city water is 2.0 mg/L PO_4, and polyphosphate is no longer added. As noted previously, the influent TP to the WWTC in 2025 is average for the nine-year period shown in Table 2, and therefore, this 0.7 mg/L PO_4 increase does not appear to be a direct passthrough to the wastewater.

WWTC Effluent Reduction Measures

The 2022 PDOP Progress Report indicated that the return activated sludge (RAS) fermenter, which the District had operated in an attempt to do sidestream enhanced biological phosphorus removal (EBPR), impacted our ability to always meet our total suspended solids (TSS) permit limits and had made meeting our ammonia permit limits challenging. Based on the data presented in the 2022 PDOP report, it was not clear whether the sidestream EBPR was providing more phosphorus removal than the WWTC would provide without it. The District decided to remove the RAS fermenter from service in July 2022.

In 2025, the District's consulting engineer recalibrated the BioWin model of the WWTC and reevaluated the potential biological phosphorus removal performance of our existing facilities. The engineer determined that optimization of the existing treatment plant to provide additional biological phosphorus removal is not feasible.

We trust that this letter satisfies the requirements in Special Condition 17 for a PDOP progress report. As required by Special Condition 17, this report has been posted to the District's website.

If you have any questions or comments, please contact me at the above address and phone.

Very Truly Yours,

Amy R. Underwood, P.E.
General Manager

cc: Board of Trustees
Marc Majewski, DGSD Operations Supervisor
Reese Berry, DGSD Laboratory Supervisor
Stephen McCracken, DRSCW