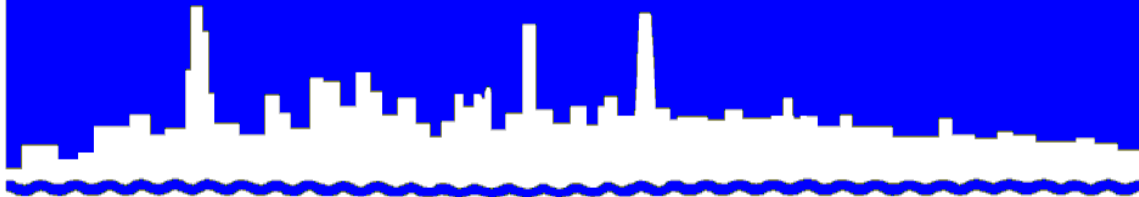


Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

***MONITORING AND RESEARCH
DEPARTMENT***

REPORT NO. 26-24

***TUNNEL AND RESERVOIR PLAN
GLORIA ALITTO MAJEWSKI CHICAGO UNDERFLOW PLAN
RESERVOIR WATER QUALITY MONITORING WELLS ANNUAL
GROUNDWATER MONITORING REPORT FOR 2025***

July 2026



Metropolitan Water Reclamation District of Greater Chicago

CECIL LUE-HING RESEARCH AND DEVELOPMENT COMPLEX
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July 21, 2026

Ms. Joey Logan-Pugh
Chief
Bureau of Water
Illinois Environmental Protection Agency
2520 W. Iles Ave.
P. O. Box 19276
Springfield, IL 62794-9276

Dear Ms. Logan-Pugh:

Subject: Tunnel and Reservoir Plan Gloria Alitto Majewski Chicago Underflow Plan
Reservoir Water Quality Monitoring Wells Annual Groundwater Monitoring
Report for 2025

The report entitled "Tunnel and Reservoir Plan Gloria Alitto Majewski Chicago Underflow Plan Reservoir Water Quality Monitoring Wells Annual Groundwater Monitoring Report for 2025" is attached.

Very truly yours,

Albert Cox, Ph.D.
Environmental Monitoring and Research Manager
Monitoring and Research Department

AC:lf
Attachment
cc: Mr. Ryan Bahr (USEPA Region 5 - WC15J)
Ms. A. Zimmer (IEPA)
Mr. E. Podczerwinski
Dr. H. Zhang
cc w/o att: Mr. E. Staudacher
Ms. L. Oduocha

Metropolitan Water Reclamation District of Greater Chicago
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**TUNNEL AND RESERVOIR PLAN
GLORIA ALITTO MAJEWSKI
CHICAGO UNDERFLOW PLAN RESERVOIR
WATER QUALITY MONITORING WELLS
ANNUAL GROUNDWATER MONITORING REPORT
FOR 2025**

By

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LIST OF ABBREVIATIONS

Abbreviation	Definition
°C	degrees Celsius
CCD	Chicago City Datum
CFU	colony forming units
Cl ⁻	chloride
EC	electrical conductivity
FC	fecal coliform
IEPA	Illinois Environmental Protection Agency
L	liter
m	meter
mg	milligram
mS	millisiemens
NH ₃ -N	ammonia nitrogen
SO ₄ ²⁻	Sulfate
TDS	total dissolved solids
Temp.	temperature
TOC	total organic carbon

ANNUAL DATA FOR MONITORING WELLS

Introduction

The Gloria Alitto Majewski Chicagoland Underflow Plan Reservoir (Reservoir) is a lined, above-ground retention basin that began to receive combined sewer flow from the Upper Des Plaines Tunnel System since 1998. Four groundwater monitoring wells, QK-1 through QK-4, are located on the perimeter of the Reservoir (Reservoir). Well QK-1 is located at the northwest corner of the Reservoir, with QK-2, QK-3, and QK-4 at the northeast, southeast, and southwest corners, respectively ([Figure 1](#)). In addition, there are nine privately owned water supply wells, W1X through W9X, which are located within 1,000 feet of the Reservoir. Until 2025, the four monitoring wells were sampled for six consecutive weeks following each Reservoir fill event in which the Reservoir was used to store combined sewer flow from the Metropolitan Water Reclamation District of Greater Chicago's Tunnel and Reservoir Plan system (Illinois Environmental Protection Agency [IEPA] memorandum dated October 14, 1997). Based on the findings of 10-year monitoring from 2013 to 2023 and communication with the IEPA (March 22, 2024), from 2025, the number of sampling events following a Reservoir fill event was reduced to two: the first at week 1 to capture peak fecal coliform (FC) levels and the second at week 6, when FC levels are expected to be at their lowest. In case of no fill event within any quarter of the year, one sampling event is conducted for this quarter. Groundwater elevations are also measured during each sampling event.

Summary of Data

In 2025, two fill events occurred, on January 31 and August 19, 2025. Sampling was conducted at week 1 and week 6 following the first and second fill events. The sampling conducted on October 23, 2025, approximately six weeks past the second fill event, also served as the fourth quarterly sampling. Quarterly sampling of the monitoring wells was also conducted during the second and third quarters of 2025.

Monitoring Wells. The analytical data for groundwater sampled during 2025 from monitoring wells QK-1 through QK-4 are presented in [Table 1](#). Physical characteristics, such as groundwater elevation, groundwater temperature, and estimated recharge rate for each well between initial pump-down and sampling, are also included.

FIGURE 1: MAP OF FOUR WATER QUALITY MONITORING WELLS AND NINE PRIVATE WELLS SURROUNDING THE GLORIA ALITTO MAJEWSKI CHICAGO UNDERFLOW PLAN RESERVOIR OF THE TUNNEL AND RESERVOIR PLAN

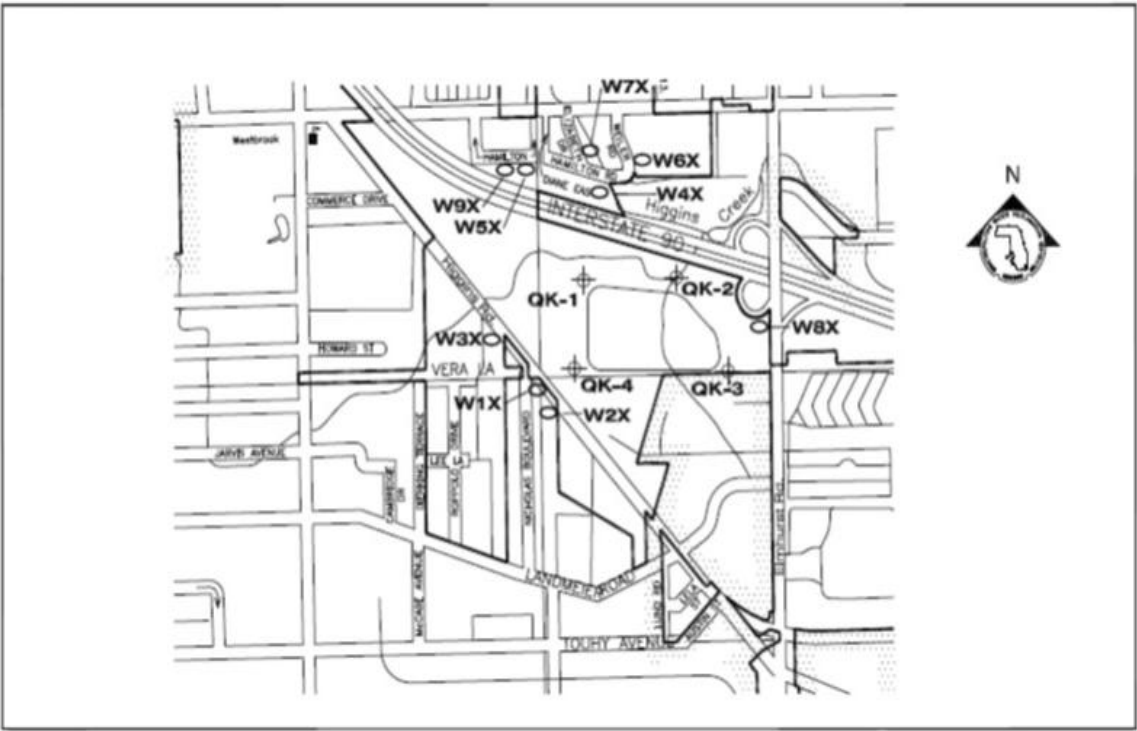


TABLE 1: ANALYSIS OF CHEMICAL AND PHYSICAL PARAMETERS AND FECAL COLIFORM IN GROUNDWATER FROM MONITORING WELLS ADJACENT TO THE GLORIA ALITTO MAJEWSKI CHICAGOLAND UNDERFLOW PLAN RESERVOIR OF THE TUNNEL AND RESERVOIR PLAN DURING 2025

Event	Sample Date	pH	EC ¹ mS/m	TDS ¹	TOC ¹	Cl ⁻	SO ₄ ²⁻ mg/L	NH ₃ -N	Hardness	Temp. °C	Fecal Coliform CFU/100 mL	Water Elevation ² feet	Recharge Time hours
Well QK-1													
1 st Fill	02/06/25	7.1	143	1,412	<5.0	83	710	0.79	929	11.4	<1	-74	<4
	03/06/25	7.0	134	1,370	<5.0	92	679	0.75	904	12.6	<1	-75	<4
2 nd Quarter	05/28/25	7.0	147	1,498	<5.0	77	786	0.75	884	12.9	<1	-75	<4
3 rd Quarter	08/06/25	7.0	158	1,490	<5.0	69	735	0.82	879	15.4	<1	-75	<4
2 nd Fill	08/27/25	7.1	160	1,394	<5.0	64	721	0.72	826	14.1	<1	-74	<4
4 th Quarter	10/23/25	7.1	147	1,380	<5.0	63	701	0.77	869	12.8	<1	-74	<4
Well QK-2													
1 st Fill	02/06/25	7.8	86	848	<5.0	5	502	<0.30	474	10.8	<1	-81	<4
	03/06/25	7.7	88	870	<5.0	5	518	<0.30	524	13.0	<1	-80	<4
2 nd Quarter	05/28/25	7.7	96	716	16	87	259	0.60	437	12.9	<1	-80	<4
3 rd Quarter	08/06/25	7.7	102	852	<5.0	5	505	0.91	469	14.5	<1	-80	<4
2 nd Fill	08/27/25	7.7	104	840	<5.0	5	505	<0.30	439	14.2	<1	-80	<4
4 th Quarter	10/23/25	7.7	95	802	<5.0	5	502	<0.30	491	13.3	<1	-80	<4

TABLE 1 (Continued): ANALYSIS OF CHEMICAL AND PHYSICAL PARAMETERS AND FECAL COLIFORM IN GROUNDWATER FROM MONITORING WELLS ADJACENT TO THE GLORIA ALITTO MAJEWSKI CHICAGOLAND UNDERFLOW PLAN RESERVOIR OF THE TUNNEL AND RESERVOIR PLAN DURING 2025

Event	Sample Date	pH	EC ¹ mS/m	TDS ¹	TOC ¹	Cl ⁻	SO ₄ ²⁻ mg/L	NH ₃ -N	Hardness	Temp. °C	Fecal Coliform CFU/100 mL	Water Elevation ² feet	Recharge Time hours
Well QK-3													
1 st Fill	02/06/25	7.5	86	662	<5.0	82	248	0.62	446	12.1	20	-89	<4
	03/06/25	7.4	85	842	<5.0	70	304	0.58	472	12.9	2	-88	<4
2 nd Quarter	05/28/25	7.5	89	924	14	5	535	<0.30	457	12.4	<1	-88	<4
3 rd Quarter	08/06/25	7.4	95	750	<5.0	85	248	0.55	444	13.6	<1	-88	<4
2 nd Fill	08/27/25	7.5	97	742	<5.0	83	248	0.58	373	13.5	<1	-88	<4
4 th Quarter	10/23/25	7.6	92	710	<5.0	87	252	0.59	457	12.4	<1	-87	<4
Well QK-4													
1 st Fill	02/06/25	7.6	80	700	<5.0	94	262	<0.30	410	10.9	<1	-63	<4
	03/06/25	7.4	83	822	<5.0	138	254	0.50	468	12.0	<1	-77	<4
2 nd Quarter	05/28/25	7.4	85	716	13	100	265	<0.30	359	12.4	48	-63	<4
3 rd Quarter	08/06/25	7.4	88	690	<5.0	93	252	0.42	397	13.6	<1	-63	<4
2 nd Fill	08/27/25	7.5	92	690	<5.0	95	257	<0.30	359	13.6	<1	-63	<4
4 th Quarter	10/23/25	7.5	85	690	<5.0	102	257	<0.30	408	12.2	<1	-63	<4

¹EC = electrical conductivity; TDS = total dissolved solids; TOC = total organic carbon.

²Relative to the Chicago City Datum at the intersection of State and Madison Streets (579.48 feet above mean sea level).