



July 6, 2023

Dan Duchniak, General Manager (via email)
Waukesha Water Utility
PO Box 1648
Waukesha, WI 53187

Subject: DNR objects to Root River QAPP for Root River monitoring required by Diversion Approval

Dear Mr. Duchniak:

This letter is in response to the City of Waukesha's (City) Quality Assurance Program Plan (June QAPP) for the Root River, submitted to the Department of Natural Resources (DNR) on June 7, 2023 in response to the DNR letter April 26, 2023. Thank you for preparing a new QAPP. While the June QAPP addresses many of the objections the DNR provided in April, the DNR continues to object to the QAPP. This letter explains the areas that require additional attention to resolve DNR's concerns before beginning to divert Lake Michigan water to the City.

The DNR's April 26 letter outlined the approval requirements and seven areas where the City's March 2023 QAPP did not assure compliance with those requirements. The DNR reviewed the June QAPP based on these seven areas and has no further objections related to: Water Quality Parameters; Habitat Monitoring, Algae; Data Reporting; Data Analysis, and Modification to the QAPP.

The following provides the specific areas the DNR has identified where the June QAPP does not assure compliance with Condition I (Council Decision), the City's monitoring program proposal, or condition 11 of the DNR diversion approval:

Flow monitoring: The monitoring program proposal states, "The City will measure Root River flow downstream of the return flow discharge (e.g. Site D), after consulting with the USGS. The purpose of this measurement is to directly quantify river flow that includes return flow and to confirm that the Root River flow rate downstream of the return flow is equivalent to the summation of flow from measured a Site C plus the return flow measured at the [Clean Water Plant]." Additionally, Condition 11 requires, "The Quality Assurance Program Plan shall specify the locations of sampling, methodology for sample collection, handling and analysis and monitoring data reporting and evaluation procedures."

DNR request from April letter: The QAPP should include a section on flow monitoring detailing the locations of sampling, methodology for sample collection, flow data analysis and data reporting. The QAPP should address flow monitoring at the City's wastewater treatment plant, at Site C, and downstream of the outfall location consistent with the monitoring program proposal. The flow monitoring section of the QAPP should address how volume and periodicity of discharge will be monitored.

DNR comments on June QAPP: The June QAPP now includes a section (Section 3.2) on flow monitoring. The City's revised QAPP proposes to monitor the flow in the wastewater outfall with the assistance of the USGS. The flow in the outfall added to the flow from the USGS gage at Site C is intended to "directly quantify river flow that includes return flow." The City also intends to use the combination of the flow at Site C and the outfall to confirm

that this flow is “equivalent to the summation of flow measured at Site C plus the return flow measured at the [Clean Water Plant].”

While this proposal does not include an in-stream measurement of the total flow downstream of the wastewater outfall, the DNR agrees that continuous flow monitoring at the wastewater outfall summed with the USGS flow gage upstream at Site C is a reasonable approach to meeting the monitoring program proposal objectives for flow monitoring.

The DNR objects to the following related to flow monitoring in the June QAPP:

- a) Section 2.1.2.2 and Section 3.2.1 – the QAPP states “flow monitoring data will be collected in 1-minute intervals for a total duration of 2 month” and “flow monitoring data will be collected by the USGS within the return flow pipe at the return flow outfall site aeration building for two months...” The DNR objects to the 2-month duration of this monitoring period. Condition I requires monitoring of the Root River for 10 years. The DNR requests that the QAPP be revised to eliminate the specification of a time period for the flow monitoring in the wastewater outfall, and that ending the monitoring in the wastewater outfall should be evaluated after there is at least twelve months of data to evaluate. The DNR believes at least one year of data may provide a better range of return flow conditions, and a longer period of outfall monitoring may be required.
- b) Section 3.2.2.2 – The June QAPP references the WPDES permit and attaches the permit. The DNR requests that the City provide a short summary of the WPDES flow monitoring requirements at the Clean Water Plant and a more specific reference within the WPDES permit for the details on flow monitoring at the Clean Water Plant.
- c) Section 6.1 – The June QAPP states “The temporary flow monitoring at the return flow outfall site...” The DNR requests that references to “temporary” be eliminated. The June QAPP also states “It is anticipated that the return flow volume measured at the CWP will accurately reflect the volume returned to the Root River; consequently, the CWP flow will be used for return flow volume measurements to the Root River.” The DNR requests that the City conduct the analysis comparing the flow at the Clean Water Plant and the flow at the wastewater outfall after twelve months and verify that the flows are comparable before anticipating the outcome.
- d) Section 6.1 references “A current publicly available existing conditions hydraulic model (e.g., HEC model) will be used to quantify water elevation and velocity changes resulting from return flow between low and high stream flow, between the outfall and downstream site D.” The DNR requests that any models used reflect current conditions and rely on up-to-date model code.

Temperature and continuous water quality monitoring: The program monitoring proposal states, “Continuous in-stream temperature monitoring of the Root River is anticipated up- and downstream of the return flow outfall and will determine the spatial extent of temperature impacts.” Additionally, Condition 11 requires, “The Quality Assurance Program Plan shall specify the locations of sampling, methodology for sample collection, handling and analysis and monitoring data reporting and evaluation procedures.”

DNR request from April letter: The QAPP does not include reference to the temperature monitoring at the wastewater treatment plant and at the wastewater outfall. It is also missing who is conducting the methodology for installation and data collection standard operating procedures for the continuous temperature and water quality sondes. The QAPP should include all locations of temperature monitoring, who is conducting the monitoring, the methodology for installation, data collection, and data analysis for the continuous data sondes deployed to monitor temperature and other water quality parameters.

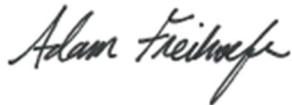
DNR comments on June QAPP: The City has addressed some of the requests related to temperature and continuous water quality monitoring in the June QAPP.

DNR objects to the following related to temperature and continuous water quality monitoring:

- a) Table 2-2(b) references that temperature monitoring will be conducted at site C2 for one year. The DNR requests that this footnote be changed to: “The need to continue continuous temperature monitoring at Site C2 will be *evaluated* after one year.”
- b) Section 3.3.2.2 references the CWP WPDES Permit monitoring in Appendix A. The DNR requests that the City provide a brief summary, in Section 3.3.2.2, of the locations of temperature monitoring conducted as part of WPDES permit monitoring

The DNR looks forward to working with the City to address any of these issues and clarify any questions. Please contact Shaili Pfeiffer, Shaili.pfeiffer@wisconsin.gov, 608-219-2216, with any questions regarding the QAPP.

Sincerely,



Adam Freihoefer
Water Use Section Manager, Wisconsin DNR

- cc. Jim Zellmer, Division Administrator, Wisconsin DNR
- Steve Elmore, Bureau Director, Wisconsin DNR
- Shaili Pfeiffer, Natural Resources Staff Specialist, Wisconsin DNR