

March 22, 2023

Mr. John Sager
Wisconsin Department of Natural Resources
1701 N 4th Street
Superior, WI 54880

**Re: Facility-Wide Groundwater Monitoring Plan Update
Enbridge Energy Superior Terminal, Superior, WI
WDNR BRRTS Activity #: 16-16-560657**

Dear Mr. Sager:

On behalf of Enbridge Energy, Limited Partnership (Enbridge), Barr Engineering, Company, Inc. (Barr) has prepared this letter to request a modification to the existing groundwater monitoring plan for the above referenced Enbridge Superior Terminal Facility-Wide site (Site). Specifically, this request provides a recommendation for changes to the groundwater monitoring program field sampling parameters.

Background

Following Wisconsin Department of Natural Resources (WDNR) approval of the Facility-wide *Site Investigation and Response Action Plan (SI/RAP)* in September 2014, Enbridge began monitoring groundwater at the Site on a semi-annual basis. The most recent *Groundwater Monitoring Program (GMP) Sampling and Analysis Plan (SAP) (Version 2.0)* was submitted to the WDNR in September 2017 as Appendix G of the *Addendum to: Site Investigation and Response Action Plan (Addendum)*. The *Addendum*, including *Version 2.0* of the *GMP SAP* was approved by the WDNR in February 2018 and provided a list of the network wells, described sampling frequency, sampling parameters, sampling methods and procedures, and provided a schedule for data assessment and reporting.

A *Facility-Wide Groundwater Monitoring Plan Update (Update)* was submitted to the WDNR on March 4, 2021, requesting a change in groundwater monitoring frequency from semiannual to annual. The *Update* was approved by the WDNR on April 6, 2021. The annual monitoring data from the 28 monitoring wells includes collection of laboratory samples for analysis of petroleum volatile organic compounds (PVOCs) and naphthalene and measuring the following field parameters: temperature, conductivity, dissolved oxygen, and pH.

Sampling Results Summary

Groundwater from the monitoring well network is sampled annually, and no analyzed compounds have been detected at concentrations above the limits of detection in groundwater from the network wells (Barr, 2022). The field parameter data collected during each sampling event has been summarized on field data summary sheets attached to each annual report. The most recent *2022 Groundwater Monitoring Program Report*, which summarizes the past 5 years of data, was submitted to the WDNR in August 2022.

Discussion and Recommendations

Since the 28 wells are installed in a low permeability clay formation, the flow rate from these wells is not sufficient for low-flow sampling. Instead, the wells are purged dry and then a sample is collected following a short recovery period. Therefore, collection of field parameters is not necessary for demonstrating well stabilization prior to sample collection. Since the facility-wide monitoring began in 2014, field parameters have been measured at each well location following water level gauging and prior to well purging using a down-hole probe. The original objective of collecting these field parameters was to sufficiently characterize the aquifer for establishing the original hydrogeologic performance standard and to document background conditions in the event of a future release. The field parameters are not indicator of a release and do not provide useful data needed to support any sampling protocol. As a result, we are recommending that the field parameters listed above for the Site be eliminated from the annual sampling for the following reasons:

- There are no recent significant changes to Site operations or activities.
- Enbridge has more than five years of field parameter background data from Site wells.
- Sampling has demonstrated that all wells at the site purge dry and field parameters are not used as stabilizing criteria before sampling.
- The field parameters collected are not utilized to evaluate additional risk to human health or the environment.

Eliminating the field parameters would not change the intent and goals of the negotiate agreement (NA) which are to monitor the effectiveness of the existing hydrogeology, ensure the hydrogeologic performance standard remains protective of human health and the environment, and to maintain compliance with NR 700 – NR 754. Further, other than the elimination of field parameters, it is Enbridge's intent to continue to perform groundwater sampling in accordance with the *GMP SAP (Version 2.0)* and the update to the plan approved on March 4, 2021.

In accordance with NR 749, the WDNR fee for review and approval of a long-term monitoring plan is included with this submittal (\$425). If you have any questions, please contact me at 218-529-7141 or lcarney@barr.com.

Sincerely,

Barr Engineering Company Inc.



Lynette Carney

cc: Nick Larabel, Enbridge Energy