



March 2, 2022

Ms. Amber Thomas
Village of Grafton
675 North Green Bay Road
Grafton, WI 53024

Subject: Review of Site Investigation Workplan
Grafton Lime Kiln Park (West Plume) BRRTS #: 02-46-549906, FID #: 246036780
Lime Kiln Park Grafton Village BRRTS #: 02-46-000743, FID #: 246036780

Dear Ms. Thomas:

On January 4, 2022, the Department of Natural Resources (DNR) received the *Site Investigation Workplan with Review Fee, Lime Kiln Park and West Plume*, (the Report) from your consultant, TRC Companies Inc. (TRC) with a fee for a written response. This work is regulated under Wis. Admin. Code ch. NR 716.

Background

On January 19, 1999, the DNR received a site investigation and preliminary remedial action options report (RAOR) from the Village's consultant at the time for the Lime Kiln Park Grafton Village (landfill site) and Grafton Lime Kiln Park (West Plume). The 1999 report recommended, on a preliminary basis, monitored natural attenuation (MNA) as the selected remedial action option for the landfill site. On June 8, 1999, the DNR approved the Village of Grafton's chosen remedial action option of MNA at the landfill site.

In 2017, the DNR received a site investigation and preliminary RAOR report for the West Plume. The report was based on work done by the Village's previous consultant including private well sampling, construction and sampling of a bedrock piezometer monitoring well network, and advancement of 10 Geoprobe with collection of Geoprobe soil samples at the 2076 1st Avenue property, which is currently identified as the source of the West Plume. The remedial action option analysis for the West Plume in the 2017 report recommended that MNA "should be investigated" as the remedial action option of choice for the West Plume. The DNR responded to this report on May 1, 2019 with a request to (a) further investigate the shallow groundwater and soil vapor exposure pathways associated with the West Plume and the landfill site, and to (b) submit a combined update monitoring report for both BRRTS activities.

In September of 2020, TRC made an effort to investigate the shallow groundwater pathway to screen the homes on Green Bay Avenue and Manchester Drive for potential vapor intrusion (only one temporary well on Green Bay Avenue was able to produce water after many attempts at several locations). On May 18, 2021, the DNR reviewed TRC's subsequent site investigation and monitoring update report, and in response, requested several items including another attempt to install a water table well on Manchester Drive, a historical groundwater table, additional site investigation at 2076 1st Avenue, and revised figures and tables as well as a site investigation workplan (SIWP) for additional needed work.

Proposed Work Summary

TRC's scope of work, and responses to the DNR's various review comments is summarized in detail on Table 1, *Summary of WDNR Comments and Associated Responses/Actions*. The main elements of the proposed work are as follows:

2076 1st Avenue

1. Five direct-push soil borings to bedrock refusal (10 to 20 feet is the expected depth), with two VOC soil samples collected from each boring at the identified chlorinated volatile organic compound (CVOC) soil contamination area and the former degreaser room location.
2. One temporary well constructed in the main building if water is found.
3. Three ch. NR 141 compliant water table wells constructed in borings advanced to 29 feet below ground surface with roto-sonic or air-rotary methods. One well is to be placed in the previously identified CVOC soil contaminant area and two wells are to be placed downgradient from that area.
4. One sub-slab vapor probe sample paired with indoor air sample in the storage/garage building over the CVOC soil contaminant plume.
5. Two sub-slab vapor probe samples in the main building paired with two indoor air samples, with one closest to the CVOC soil plume, and one at the former degreaser area.
6. New monitoring wells are to be included in the combined MNA program.

Lime Kiln Park

1. Vapor evaluation of the enclosed portion of the Zaun Pavilion with sub-slab vapor probe sample paired with an indoor air sample.
2. Field evaluation of the utilities connected to the Zaun Pavilion for the purpose of vapor assessment.

Combined Sites

1. P1B/C/D, P5B, P6B will be added back to MNA sampling network.
2. Semiannual (twice a year) groundwater sampling of the new wells at 2076 1st Avenue to be included with the modified combined MNA program for two years followed by re-evaluation.

Review

The DNR reviewed the Report on January 25, 2022 and has the following requirements and comments:

A. Evaluation of Receptors

Wis. Admin. Code § NR 716.11 (5) (b) requires the field investigation to include an evaluation of the impacts of the contamination upon receptors.

1. Submit a current evaluation of existing nearby private water supply wells and municipal wells as potential receptors.
2. If possible, collect current samples from private water supply wells, in particular a) the wells west of PW668GB and PW664GB shown on Figure 2 in the 1999 site investigation report, b) private well PW812GB, and c) the private water supply well just west of the pond, directly east of the landfill. These wells would be useful to delineate the contaminant plumes, demonstrate the contaminant plumes have not expanded, and justify the MNA network.
3. Submit a historic groundwater data table and map for all private water supply well sample results for those wells not in the MNA network and not included in the Report's historic groundwater data table. These wells were indicated by unlabeled circles on Figure 2 in the 1999 site investigation report.

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4. Discuss if contamination from this site is impacting municipal wells. If so, include the municipal wells as potential receptors and use historic data to delineate the groundwater plumes.
5. Discuss if the pond east of Lime Kiln Park is affecting groundwater flow and whether this pond is a receptor of groundwater contamination.
6. The DNR's current understanding of site conditions suggests that the Manchester Drive homes cannot be screened out from the vapor intrusion pathway by concluding that the contaminant plumes dive under clean water since (a) only one nested water table well and piezometer exist near the river, (b) Table 4 of the Report indicates an upward gradient between piezometers MW8A and P8B in Q3 of 2021, and (c) it is unclear if the staff gauge in the river has been used to measure river water elevations recently, as recent data are not presented in Table 4 of the Report. Since TRC will be mobilizing equipment capable of drilling through bedrock for drilling at the 2076 1st Avenue location, the DNR suggests that a water table well be constructed near MW-08A that reliably produces water to screen the homes on Manchester Drive.

B. Conceptual Site Model (CSM)

Wis. Admin. Code § NR 716.11(3)(h) requires interpretations of the data generated at the site to characterize the geologic and hydrogeologic characteristics of the site, the areal and vertical degree and extent of hazardous substances in all environmental media, and the impacts of the contamination to all potential receptors.

Wis. Admin. Code § NR 716.17(1) states that when warranted by the complexity of the site or the severity of the actual or potential environmental or public health impacts which may be caused by the contamination, the DNR may impose additional site investigation requirements.

1. Due to the complexity of the site and the severity of the actual or potential contamination, the DNR requests the development of a CSM to include both written and graphical work products to portray and interpret both known and potential site information. The "known" information typically includes historic and/or reported contamination sources, evidence of a hazardous substance discharge or environmental pollution, and past sampling data. The "potential" information should include migration pathways to explain how the contamination traveled away from the source area and receptors of contamination to identify what could be affected by the contamination. As more data and information is collected, the CSM is updated to serve as a current framework and representation of the site.
2. The CSM should include cross-sections that incorporate sample results, contaminant plumes, flow data geophysical logs and/or other hydrologic data, surface features, and receptors, including municipal wells, capture zones, private water supply wells, homes and buildings with basements and below grade features (e.g., sumps), and sub-surface utilities.
3. Include an additional cross-section from Milwaukee Sign to Green Bay Road to include homes on Green Bay Road.

C. Other DNR Comments

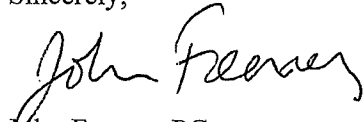
1. The Report describes construction of one small diameter 1-inch monitoring well inside the 2076 1st Avenue building and includes a request for DNR approval for use of this small diameter well. The DNR approves this requested variance to the monitoring well construction and understands that the well will be constructed to meet all the Wis. Admin. Code NR 141 requirements, except the well will have a one-inch diameter. This letter serves as the exemption.

Schedule

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The DNR requests that you submit a Site Investigation Work Plan Addendum to the Report to address the above comments by April 22, 2022 for DNR review. If you have any questions or concerns regarding this letter, please contact me, the DNR Project Manager, at (262) 416-8643, or by email at johnm.feeney@wisconsin.gov.

Sincerely,

A handwritten signature in black ink that reads "John Feeney". The signature is written in a cursive, flowing style.

John Feeney, PG
Remediation & Redevelopment Program
Wisconsin Department of Natural Resources

Cc: Ms. Alia Enright, TRC
Mr. Steve Sellwood, TRC