



June 19, 2019

Mr. Howard Melton
St. Francis Auto Wreckers
4043 S. Pennsylvania Avenue
St. Francis, WI 53235

SUBJECT: Review of "Status Update"
WI DOT Lake Arterial – Auto Wreckers, 4043 S. Pennsylvania Avenue, St. Francis, WI
WDNR BRRTS Activity #: 02-41-000269
FID #: 241469250

Dear Mr. Melton:

The Department of Natural Resources (DNR) has reviewed the April 12, 2019 "NR 716 Site Investigation Report" (SIR) submitted by Moraine Environmental, Inc. for the site identified above. The intent of the SIR was to document all past investigation and remediation activities conducted at the site and to try to demonstrate that no further actions are needed to ensure that residual contamination will not pose a risk. Moraine recommended current property use and features be required to remain unchanged in the future to keep conditions at the property protective and the site suitable for closure. A review fee was paid to provide a written response regarding the completeness of the site investigation and to confirm that no additional actions are required prior to submitting a closure request.

Considerable progress has been made to define the degree and extent of contamination at this site. As the DNR requested, historical analytical data has mostly been compiled and compared to current standards. Additional soil and groundwater samples were collected in areas that were recognized as needing assessment. While progress continues to be made, the site investigation cannot be considered complete at this time until the specific actions outlined in this letter are taken to assess migration of contamination from this site through the vapor, groundwater, and surface water pathways. Completing a site investigation is often an iterative process, especially when the site in question is as complex as this one with widespread contamination originating from numerous sources. Various types of contaminants are present which behave differently in the environment and pose risks through different exposure routes. Completing the site investigation under these circumstances is a difficult process but is necessary to comply with state statutes and administrative code, ensure that conditions on the site are protective, and that the contamination on your property is not a detriment to surrounding properties or posing a risk to your neighbors.

At a minimum, the following items must be addressed before the site investigation could be considered complete:

- 1) A thorough assessment of the vapor intrusion risk posed by contamination at this site must be conducted to satisfy the requirement of Wis. Admin. Code § NR 716.11(5)(g). Potential risks to on-site buildings have been assessed. However, it is unclear whether chlorinated volatile organic compound (CVOC) contamination at the very northern edge of the site is affecting the nearby residence. **Provide an evaluation as to whether vapor intrusion poses a risk to the**

property at 3975 S Pennsylvania Avenue. Conditions at the neighboring property must be investigated if there is a potential for vapor intrusion.

- 2) The potential migration of contamination off-site through storm water and groundwater must be assessed per Wis. Admin. Code § NR716.11(5)(a).
 - a. Unconsolidated contaminated material is exposed at the surface within the southern portion of the property. **The potential for contamination to migrate via stormwater off the site must be assessed by collecting stormwater and sediment samples at each outfall where runoff potentially leaves the site.**
 - b. Soil samples collected at the site identified significant concentrations of various contaminants that could be expected to contaminate groundwater. Current groundwater samples collected in areas with some of the most significant soil contamination did not identify significant groundwater contamination. These results are not consistent with conditions known to exist at this site and the basic properties of the contaminants present:
 - i. CVOC contamination has impacted a large portion of the property. Dumping of CVOCs, along with other waste materials, has likely occurred on the site. It is possible that relatively dense CVOC free product discharged at the site may have migrated well below the water table and is now acting as an ongoing source of contamination. Groundwater contamination located below existing well screens would not be detected in current groundwater samples collected.
 - ii. Even if there is not a free-product contaminant source at depth it is possible that contamination that once impacted the shallow water table has migrated deeper. The most significant contaminant discharges likely impacted this site early enough in the property's history that shallow groundwater contamination may have migrated or attenuated through other mechanisms while deeper groundwater contamination remains.

Piezometers are therefore being requested to complete the site investigation. **At a minimum, the DNR requests installing piezometers at locations near HP15 and MW-3B to assess groundwater below the water table.** Results of samples collected from these locations may dictate the need for additional groundwater monitoring.

- c. This site once operated as a landfill that accepted hazardous materials. The prevalence of drums and other containers found at the site, and the presence of significant VOC and PCB contamination, suggests that no limits were imposed on the types of waste accepted. If records were kept regarding disposal at the site, they are not available or have not been provided to the DNR. Because the DNR does not have access to disposal records, it has to assume that any class of chemical contaminate, including some not analyzed for as part of the site investigation thus far, could be present at this site. Of particular concern are perfluoroalkyl and polyfluoroalkyl substances (PFAS) compounds, chemicals commonly used historically in various industrial practices and were ingredients in paints and other chemical products. Until recently, samples collected at environmental response sites were not typically analyzed for these compounds. However, it has now become apparent that PFAS compounds are prevalent in industrial waste and contact with these chemicals poses a significant risk

even at exceedingly small concentrations. The site investigation cannot be considered complete until the presence of these compounds is assessed in groundwater. **At a minimum, a groundwater sample from MW-6, MW-3B, and the piezometer that is requested to be installed near MW-3B must be analyzed for the presence of PFAS.** These sample locations were selected as they are within and immediately downgradient of the areas where significant chemical disposal was known to occur. Additional investigation may be needed if the PFAS is detected in groundwater.

- 3) Various corrections to the SIR tables and figures will need be completed for the next submittal:
- a. Total petroleum hydrocarbon (TPH) results for soil samples collected by STS in 1991 should be tabulated. These sample results should be considered when estimating the extent of VOCs and polycyclic aromatic hydrocarbons (PAHs) on site figures.
 - b. Results of soil samples collected from S1, S2, and S3 must be included on analytical tables.
 - c. There were numerous issues with transferring data from the soil analytical table included in the June 2004 "Site Reassessment Report" into the SIR tables.
 - i. The table in the "Site Reassessment Report" indicates that metal concentrations are presented in ug/kg. The SIR tables were completed based on metal concentrations being shown in these units. However, the text within the "Site Reassessment Report" states that metal concentrations on the table are presented in mg/kg. Based on a comparison with other samples collected at this site, the values in the "Site Reassessment Report" would most likely be in mg/kg. The SIR table needs to be corrected to reflect the correct concentrations of metals in these samples.
 - ii. SF15 has the incorrect value for mercury listed on the SIR table.
 - iii. A contaminant concentration is not listed on the soil analytical table in the "Site Reassessment Report" if the concentration was not above the given threshold and not because a compound was not analyzed for or detected in a sample. The tables in the SIR should be changed to reflect this by noting that the concentration is less than the given threshold (e.g., <1.4).
 - d. CVOC concentrations detected in the soil sample collected from GP-6 were not depicted on site figures or considered in the depiction of VOC contamination at this site and should be added.
 - e. Soil probes SF06 through SF15 were advanced in June 2004, not SF06 through SF12 as indicated on the SIR figures, please correct.
 - f. The plume limits depicted on Figures B.2.a(1) and B.2.a(4) should be reassessed.
 - i. VOC are likely more wide spread than depicted on the figures, there is no evidence to suggest that contamination is not present in the swale or the eastern side of the property.
 - ii. The extent of lead contamination should be reassessed using the samples collected during the 2004 site reassessment in the correct units.

- g. The cross section should be modified to better depict the extent of contamination.
 - i. Groundwater contamination is not limited to the area between the high and low water table.
 - ii. The entire extent of soil contamination that exceeds the direct contact RCL should be depicted, not just what is present in the upper four feet.
- 4) The SIR incorrectly indicates that soil samples recently collected from GP-4 through GP-7 were sampled for PCBs and metals, that MW -1, MW-2, MW-4, and MW-5 were sampled in December 2015, and that the groundwater sample collected from TW-1 was analyzed for PAHs, please correct.
- 5) The SIR recommends that the following requirements be imposed on this property to make conditions suitable for closure:
 - a. maintaining the fence that surrounds most of the property,
 - b. using signage to warn people away from the property,
 - c. and ensuring that current work practices (which require little worker time outside the building) are followed.

The DNR cannot consider closure for this site until the site investigation is complete and the risk posed by soil contamination is addressed. Wis. Admin. Code § NR 720.05(2) requires soil with contaminant concentrations greater than residual contaminant levels to either be remediated or capped. This site will not close until one of these actions (or a combination) has addressed soil contamination at this site.

A less stringent cap that would not be considered a final remedy may be proposed as an interim action to prevent direct contact in combination with the proposed investigation. If the interim action is regularly inspected and maintained, the DNR would not pursue the completion of a remedial action until the property is redeveloped or the property use is proposed to change.

We appreciate your continued efforts to restore the environment at this site. The DNR will continue what assistance it can by guiding you towards the completion of a site investigation that complies with the requirements of NR 716 in a manner that is as efficient as possible. If you have any questions regarding any of the above items, or would like to discuss the status of this site in more detail, please contact me at (262) 574-2166 or by email at paul.grittner@wisconsin.gov.

Sincerely,



Paul Grittner
Hydrogeologist
Remediation & Redevelopment Program

cc: Dave Lennon, Moraine Environmental, Inc., 766 Tower Dr., Fredonia, WI 53021 (electronic)
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