



May 2, 2016

Mr. Harold Shipshock
c/o Tom Shipshock
Master Drycleaning, Inc.
N57 W26389 Mount Du Lac Drive
Sussex, WI 53089

Subject: Proposed Supplemental Below Building Treatment,
Master Dry Cleaners, 6326 West Bluemound Road, Wauwatosa, WI
FID: 241398630; BRRTS: 02-41-545142

Dear Mr. Shipshock:

On March 10, 2016, the Wisconsin Department of Natural Resources (DNR) received from Fehr Graham Engineering & Environmental (Fehr Graham) the report, "*Additional Remedial Action Results and Proposed Supplemental Below Building Treatment, Master Dry Cleaners Site, 6326 W. Bluemound Road, Wauwatosa, WI.*" This report presented the results of an investigation beneath the interior floor of the former dry cleaning site and proposed additional remedial actions based on the investigation results. The proposed remedial actions include soil treatment through chemical injection at the open sump location, and temporary soil vapor extraction from the former sump opening.

At this time, the DNR cannot approve the proposal, as presented by Fehr Graham, for the following reasons:

1. The goals/objectives for the proposed actions are not clearly provided in the submittal. The proposal only addresses a limited area/volume of contaminated soil beneath the building. An evaluation of how the proposed actions will contribute to the overall remediation/mass reduction for the site source area is needed, in order for DNR to review the action for potential DERF eligibility.
2. The proposed treatment methods have not been demonstrated to be effective for reducing soil contaminant levels at the site. After recently mixing the proposed treatment material with highly contaminated soil in the sump area, the post treatment sample had extremely high levels of Tetrachloroethene (PCE), higher than levels found before treatment. An explanation for this result has not been provided. Additionally, it is not clear how the proposed sub-slab soil vapor extraction would contribute to mass reduction, or how this would be demonstrated. Soil vapor extraction has generally not been shown to be effective in clayey soil, and typically uses vertical extraction wells, or deeper horizontal extraction wells, with the affected areas/volumes determined through pilot tests. The DNR has not received groundwater sampling results since the injection was completed in December 2015. Groundwater sampling results may help determine whether the PCE has been effectively degraded by the treatment chemicals. The subslab vapor results from February 2016 have not yet been submitted to the DNR, these results may aid in remedy selection.
3. The treatment proposal only includes a limited area/volume of contaminated soil beneath the building, without a complete definition of the extent and degree of soil contamination. Based on the available data, there is limited information on the degree and extent of the PCE soil contamination underneath the building's foundation and possibly outside of the building footprint, including what may exist along the sewer line. The amount of soil contamination that will present a long-term threat to groundwater and vapor pathways remains unknown, making it difficult to approve any limited remedial action proposal for DERF eligibility.

4. In addition to defining the full degree and extent of soil contamination, the amount of material to be managed as hazardous waste has not been well defined. This could significantly affect the overall cost for soil management. Fehr Graham's current cost estimate for excavation appears to be based on all of the soil being classified as hazardous waste. After further sampling, a formal waste characterization should be conducted. In addition to defining the extent of contaminated soil beneath and adjacent to the building, additional soil sampling to determine areas that may be considered hazardous versus non-hazardous waste and estimating the total mass to be removed would allow for a better evaluation of possible remedial actions and development of more accurate cost estimates. The DNR has guidance, "Guidance for Hazardous Waste Remediation RR-705," dated January 2014, to help with the waste determination.

5. Other possible methods of soil source mass reduction have not been evaluated. Excavation may be the most effective way of reducing the mass of soil contamination. The viability and effectiveness of removal needs to be evaluated along with alternate delivery options for the other processes discussed, in order to determine the preferred remedial option per Wisconsin Administrative § NR 722.

Actions Needed

In order for DNR to evaluate further remedial action proposals, additional site investigation and/or evaluation should be completed as follows:

1. Provide an evaluation of the groundwater injection treatment that was completed in December 2015. Consider this evaluation in determining the amount of soil matrix contamination to be further defined below the water table.
2. Delineate the extent and degree of soil matrix contamination beneath and immediately adjacent to the building that may present an ongoing source for groundwater and/or vapor contamination. Delineate volumes of hazardous versus non-hazardous waste. Definition should extend to the water table and potentially below that depth.
3. Evaluate potential soil contamination along the sanitary sewer and water lines originating from the sump area in the building into North 64th Street.
4. Evaluate the vapor migration potential along the sanitary sewer and water lines.
5. Conduct soil gas sampling along the Milwaukee Police Association building at 6310 West Bluemound Road to assess the potential for vapor intrusion for this building.
6. Sample all groundwater monitoring wells for chlorinated volatile organic compounds.
7. Submit a NR 722 evaluation for the source soil contamination and any unaddressed vapor pathways.

Please have Fehr Graham submit a work plan with the associated costs for the DNR's approval, to meet the DERF program eligibility requirements.

Additional site investigation or remedial activities may be required in the future depending on the results of the work tasks listed above. If you have any questions or comments, please feel free to contact me at the above address or at (414) 263-8644. Please refer to the FID/BRRTS numbers at the top of this letter in any future correspondence. Future correspondence should be sent directly to me at the above address.

Sincerely,



John J. Hnat, C.P.G./P. G.

Project Manager/Hydrogeologist
Southeast Region, Remediation and Redevelopment Program

C: Laura Conklin and Andy Budde – Wauwatosa Health Department
Kendrick Ebbott – Fehr Graham
Don Gallo and Michelle Williams – Whyte Hirschboeck