



January 26, 2024

John Flad  
Shorewood Commons Ltd. Partnership  
3330 University Avenue, Suite 206  
Madison WI 53705

**SENT BY ELECTRONIC MAIL ONLY**

SUBJECT: Site Investigation Report  
Shorewood Commons, 3330 University Avenue, Madison  
BRRTS #: 02-13-560698

Dear Mr. Flad:

The Department of Natural Resources (DNR) received the Site Investigation Report (Report) for Shorewood Commons prepared by Resource Engineering Associates on September 5, 2023. On November 28, 2023, you provided the applicable review fee specified in Wis. Admin. Code § NR 749.04(1).

Based on DNR review, the Report does not meet the requirements of Wisconsin Administrative Code ch. NR 716. Submit a revised site investigation report within 90 days of the date of this letter, based on the items detailed below.

**Report format, executive summary, and general information sections (NR 716.15 (2)(a), (b), and (c))**

Section NR 716.15 provides the requirements for site investigation reports. DNR also has an optional checklist (Form 4400-317, available on DNR's website) that breaks down the requirements and may be helpful for report organization. The site investigation report should be a stand-alone document compiling all the investigation work done so far and presenting your conclusions about the data, whether the degree and extent of contamination is fully defined, discussing and interpreting results and trends, and making recommendations. The organization of the report is up to the author, but I encourage all consultants I work with to follow the sequence in NR 716.15 as it makes it easy to see that all the required elements are included.

The executive summary should be a high-level summary of the report, not the details of the work. Use the main body of the report to discuss and interpret the details, calling out specific significant data points but not repeating in text the results that are provided in the data tables. NR 715.15(2)(c), the general information section, lists several required items for the text and the location maps.

**Background information and investigation methods (NR 716.15(2)(d) and (e))**

The background information section asks for site history. I understand that information about activities that occurred before your ownership, including the dry cleaner operation, is likely limited. If any Phase I or II environmental site assessments have been done for this property, those can be a good source for site history. A concise summary of response actions (such as the soil excavation) would also go in this section. As part of the location information, indicate the proximity of your property to other sources of contamination (for example, the former Mobil station across the street). The investigation methods section in NR 716.15(2)(e) provides a list of what is expected in this section and the level of detail.

**Results (NR 716.15(3))**

This section should provide information to demonstrate the investigation addressed all applicable items in NR 716.11(3), such as an estimate of contaminant mass, and (5) and NR 716.13. Include information on the field measurements and QA/QC methods used during sampling. When providing interpretation of the results, provide

greater detail for NR 716.15(3)(e) through (i) than was provided in the current Report. Use specific examples to support the interpretation and refer to the tables and figures, rather than writing out what's in the tables in text form.

Provide a discussion of the contaminants and their impacts on each environmental medium. This section will lay the foundation for case closure by providing the details needed to show which continuing obligations are appropriate.

*Soil:*

- Discuss the stratigraphy of the site. Identify soil and rock types at the site and the contaminant source location. Include a description of moisture contents, high and low water table elevations, and the location of any smear zone.
- Explain how the degree & extent of soil contamination is defined.
- Compare the zoning/land use to residual concentrations, using the applicable non-industrial residual contaminant levels.

*Groundwater:*

There have been several challenges to understanding groundwater flow for this project:

- Some wells were blind drilled (drilled without logging the soil layers encountered) which leaves us with less soil data than desirable.
- MW-5 has consistently had a water level several feet higher than upgradient wells which could indicate a problem with the well's construction.
- MW-5 was the only well where hydraulic conductivity was calculated; since its integrity is in question, the hydraulic conductivity calculated for it probably doesn't reflect the typical hydraulic conductivity for the property. The other well (MW-3) where hydraulic conductivity testing was planned was dry at the time and could not be tested. Another well should have been substituted.
- The area where wells MW-4 and PZ-2 experienced a significant flash flood in 2018, which could have affected the integrity of those wells and at least temporarily affected the water levels observed there. If the 3330 University Avenue property was impacted by the flash flooding, this should be considered when reviewing water levels measurements there.
- The vertical component of flow should be considered to determine if there is significant upward or downward movement of groundwater that could affect movement of contaminants. The groundwater flow and contaminant maps will only be realistic if we have a good understanding of these important groundwater characteristics.

These issues will need to be resolved before we can have confidence in our understanding of groundwater at the site. Your revised report should revisit the interpretation of site hydrogeology and consider all the data collected to date and the items listed above. Since groundwater levels have changed over the years at the subject site, include some hydrographs, showing water levels and contaminant concentration trends over time; discuss how these changes in water levels may be affecting sample results and contaminant migration.

At our meeting last summer, you were informed that DNR's Remediation & Redevelopment Program has an emerging contaminants committee that works with project managers to determine which projects need to sample for emerging contaminants, such as PFAS and 1,4-dioxane. The emerging contaminants committee has requested that you sample one or two wells for PFAS. Your consultant and I can discuss a sampling plan to fulfill this requirement.

*Vapor Intrusion:*

A vapor intrusion investigation was conducted for this project between 2013 and 2021 that included sub-slab vapor sampling, indoor air sampling, and soil gas sampling. Based on the results, a vapor mitigation system was required for the office building on the source property. This system was installed in 2016.

Was pressure field extension testing done at the 3330 University Avenue building after the vapor mitigation system was installed? Provide data for that documentation to confirm the effectiveness of sub-slab depressurization.

Sub-slab samples taken at two neighboring buildings and soil gas samples taken from parking lot areas did not exceed the vapor risk screening level for tetrachloroethene. In table 4, indicate when the adjacent building was redeveloped and indicate which samples were taken in the new building versus the former building.

#### **Visual aids (NR 716.15(4))**

Include a figure (or figures) that clearly show extent of remaining soil contamination, using magnification if needed, and highlighting which results are NR 720 direct contact exceedances and which are NR 720 groundwater pathway exceedances if applicable.

Include one cross-section through the center line of the groundwater plume and show a groundwater flow net to better illustrate both vertical and horizontal components of flow. Include a second cross-section through the presumed source area and indicate the soil excavation. On the cross-sections, show any buildings, basements, utilities, and soil layers and their connections between borings using dashed lines where continuity is uncertain.

#### **Deed and locational information (NR 716.15(5))**

The information listed in this section of the code was not included in the Report.

#### **Conclusions and recommendations (NR 716.15(6))**

In the closing section of your revised report, summarize the geologic and hydrogeologic setting and the lateral and vertical extent of contamination in soil, groundwater, and soil vapor. Identify any data gaps that need to be addressed and how close the project is to meeting the criteria in NR 726.05. Provide recommendations for the any actions needed to reach case closure.

#### **Revised site investigation report**

Within 90 days of the date of this letter, submit a revised site investigation report to DNR following the requirements of NR 716. As part of this report, update the conceptual site model to include the items described above.

If you have any questions about this letter, please contact me at 608-219-2181 or [cynthia.koepke@wisconsin.gov](mailto:cynthia.koepke@wisconsin.gov).

Sincerely,



Cynthia L. Koepke, P.G.  
Remediation & Redevelopment Hydrogeologist  
South Central Region

Copy: Ryan Nehls – REA  
Chris Valcheff – True North  
Issac Ross - DNR