



February 14, 2022

VIA EMAIL

Roers Companies
c/o: Mr. Shane LaFave
shane@roerscompanies.com
110 Cheshire Lane, Suite 120
Minnetonka, MN 55305

Subject: Technical Assistance Provided
Community Within the Corridor – East Block
2748 N 32nd Street, Milwaukee, WI 53210
BRRTS #: 02-41-263675, FID #: 241025400

Dear Mr. LaFave:

On January 25, 2022, the Wisconsin Department of Natural Resources (DNR) received a *Technical Assistance, Environmental Liability Clarification or Post Modification Request (Form 4400-237)* (Report) prepared by K. Singh and Associates, Inc. (K. Singh) for the above- referenced site. The Report was presented with the applicable technical assistance request fee for DNR review and written response.

Background

In a letter dated June 8, 2021 (attached), the DNR provided conceptual approval of K. Singh’s remedial action design plan, which included the installation and operation of a horizontal trench-based vapor mitigation/extraction system covering all site buildings. The following reports contain information that was considered as a part of the DNR’s review of the system:

- *Feasibility Study and Design – Vapor Mitigation System*, dated March 10, 2021
- *Update to Post Closure Modification Request/Remedial Action Plan*, dated March 19, 2021
- *Proposed Modification of Vapor Mitigation / Extraction System*, dated April 29, 2021

Report Summary

The Report requests DNR approval of a revised vapor mitigation/extraction system design plan specifically pertaining to Building 3A, which is in the northeast corner of the site (see attached map). More specifically, K. Singh proposes to change the system to a vertical extraction point system consisting of eleven extraction points and four HS3000 Fans. The overall goal of the system is to perform vapor mitigation/extraction throughout the entire footprint of Building 3A. In summary, K. Singh provides the following rationale for the system design change:

- I. Building 3A will be walled off from the residential buildings on site.
- II. Building 3A will not be connected to the same HVAC system as the residential buildings on site.

- III. Building 3A will be used for storage and not for residential purposes.
- IV. The revised system will perform vapor mitigation/extraction throughout the entire footprint of Building 3A.

DNR Review

The DNR provides conceptual approval of the use of a vertical extraction point system within Building 3A, and provides the following comments:

- I. In the Report, K. Singh indicates that there are no large commercial/industrial vapor risk screening level (VRSL) exceedances in Building 3A. This statement is not accurate. As documented in tables and figures presented in the Report, large commercial/industrial VRSL exceedances exist at sample locations SS-2 and SS-39 in Building 3A. These exceedances must be considered when evaluating the effectiveness of the system.
- II. Hexane greater than its applicable large commercial/industrial VRSL was identified at sample location SS-39. Considering the potentially explosive properties of hexane, evaluate the need for spark resistant fans in Building 3A and other buildings on site, as may be applicable. Update the fan type as may be necessary.
- III. To maximize the effectiveness of the system, ensure that any cracks, floor drains and/or penetrations that may exist in the building slab are properly sealed, as is necessary throughout all site buildings.
- IV. Provide additional details on how Building 3A is separated from the rest of the site buildings. Ensure that all pathways to other site buildings have been assessed. Provide this discussion in a future report, as outlined below.
- V. Provide additional details regarding the type of storage that Building 3A will be used for. More specifically, discuss whether the future residents will have access to this building and what will be stored in this building. Provide this discussion in a future report, as outlined below

The following DNR review letters contain comments and outline certain requirements pertaining to the vapor mitigation/extraction system for this site that must still be considered and implemented, as may be appropriate:

- *Review of Remedial Action Design Report*, dated April 9, 2021 (attached)
- *Review of Updated Remedial Action Design Report*, dated June 8, 2021 (attached)

Next Steps

In consideration of administrative code requirements, the DNR is requesting the implementation of the following schedule:

- Per Wis. Admin. Code §§ NR 724.11(7), NR 724.13, submit a site-wide operation and maintenance/commissioning plan (report) for the vapor mitigation/extraction system that is to be implemented once the building construction/redevelopment activities are complete and HVAC system is fully operational. This report must include your plans for completing activities necessary to demonstrate the system is adequately performing both vapor intrusion mitigation and source remediation. The report should include a robust indoor air sampling plan to demonstrate that vapor action limits (VALs) are not

exceeded in the indoor air, per Wis. Admin. Code § NR 726.05(4), a plan to collect pressure field extension measurements to demonstrate that the sub-slab is adequately depressurized, and a sampling plan to demonstrate that the system is removing contaminant mass and reducing its concentration. This commissioning plan should consider and incorporate the results of the pilot testing described in the “Proposed Modification of Vapor Mitigation/Extraction System” submittal, dated April 29, 2021. You may reference DNR guidance document RR-800, *Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin*, for commissioning guidelines. Submit the applicable review fee if you would like to request DNR review of and response to the plan.

- Per Wis. Admin. Code § NR 724.15, submit a construction documentation or as-built report within 60 days after the commissioning is completed. This report should include the results of activities completed to demonstrate that the system is adequately performing both vapor intrusion mitigation and source remediation. The DNR recommends that frequent status updates be submitted throughout the commissioning process.
- Per Wis. Admin. Code § NR 716.14, submit all sampling results (on appropriately formatted tables) within 10 days of receiving laboratory data.

The DNR appreciates the actions you are taking to restore the environment at this site. If you have any questions concerning the site or this letter, please contact me at (414) 435-8021, or by email at jane.pfeiffer@wisconsin.gov.

Sincerely,

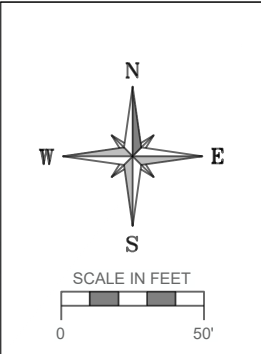
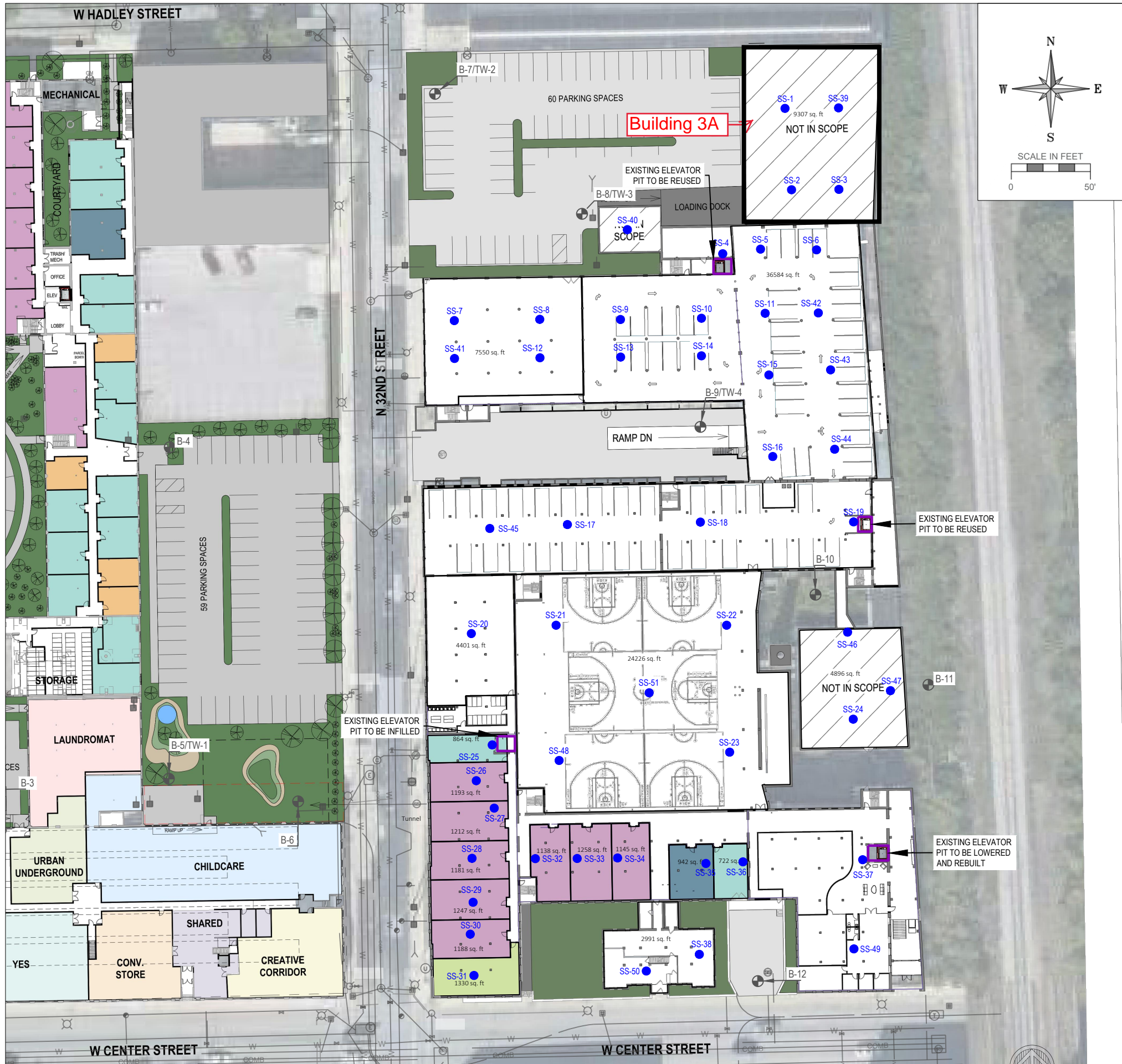


Jane K. Pfeiffer
Project Manager – Hydrogeologist
Remediation & Redevelopment Program

Attachments:

- Figure 1, *Sub-Slab Vapor Probe Locations*, dated January 7, 2021
- *Review of Remedial Action Design Report*, dated April 9, 2021
- *Review of Updated Remedial Action Design Report*, dated June 8, 2021

cc: Mr. Que El-Amin, Scott Crawford, Inc., que@scott-crawford.com – electronic copy
Mr. Daniel Pelczar, K. Singh & Associates, Inc., dpelczar@ksinghengineering.com – electronic copy
Mr. Robert Reineke, K. Singh & Associates, Inc., rreineke@ksinghengineering.com – electronic copy
Dr. Pratap N. Singh, K Singh & Associates, Inc., psingh@ksinghengineering.com – electronic copy



LEGEND

- Sub-Slab Sampling Locations (51)
- ⊙ Previous Boring and Temporary Well Locations
- Known Elevator Shaft
- 1 - Bedroom Apartment
- 2 - Bedroom Apartment
- 3 - Bedroom Apartment
- 4 - Bedroom Apartment
- Studio Apartment

CONSULTANT

CONSULTANT

CONSULTANT

PROJECT TITLE: COMMUNITY WITHIN THE CORRIDOR
MILWAUKEE, WI
PROJECT NUMBER: 40420

CLIENT:
COMMUNITY WITHIN THE CORRIDOR LIMITED
PARTNERSHIP

REVISIONS	DATE	DESCRIPTION

DRAWN BY AMZ	DATE 01/07/2021
CHECKED BY KVH	DATE 01/07/2021

SHEET TITLE
SUB-SLAB VAPOR PROBE LOCATIONS

FIGURE 1



April 9, 2021

Roers Companies
c/o: Mr. Shane LaFave
110 Cheshire Lane
Suite 120
Minnetonka, MN 55305

Subject: Review of Remedial Action Design Report
Community Within the Corridor – East Block
2748 N 32nd Street, Milwaukee, WI 53208
BRRTS #: 02-41-263675, FID #: 241025400

Dear Mr. LaFave:

On March 23, 2021, the Wisconsin Department of Natural Resources (DNR) received *Update to Post Closure Modification Request/Remedial Action Plan*, dated March 19, 2021, prepared by K. Singh & Associates, Inc. (K. Singh) for the above-referenced site. This submittal was presented with a Technical Assistance fee for DNR review and response. The following supplemental documents were submitted along with the above-identified document:

- *Feasibility Study and Design – Vapor Mitigation System*, dated March 10, 2021
- *Additional Soils Investigation*, dated March 24, 2021

The above-referenced documents will be collectively referred to as “the Report” for the remainder of this letter. In the Report, K. Singh presents recently collected data pertaining to the site investigation and proposes a remedial action plan/design report (RAP) to address the contamination identified thus far. The DNR reviewed the site investigation portion of the Report for regulatory compliance with Wis. Admin Code ch. NR 716 and the remedial action portion of the Report for regulatory compliance with Wis. Admin. Code chs. NR 722 and NR 724.

The DNR’s comments, as presented below, provide you with recommendations for additional site investigation to complete the delineation of the extent and degree of contamination at this site, which must be completed prior to case closure, per Wis. Admin. Code ch, NR 716. Furthermore, the results of a complete site investigation must be applied when evaluating remedial action options, which are required to prevent any threat to public health, safety, welfare and the environment. Accordingly, at the present time, the DNR is unable to approve the remedial action plan presented in the Report as there are many variables that are still unknown at this site, as outlined below.

Background

The site is 4.16 acres in size and is covered by paved parking lots and driveways (courtyards) and multi-building facility (collectively referred to as “the building”) that were constructed in the early 1900s. The property was originally used by Romadka Brothers Co. to manufacture trunks suitcases and travel bags. By 1951, the property

was occupied by a Briggs & Stratton factory, which operated as a part of the gas and engine division of the company. The site turned over ownership to WI Industries Pension Plan & Trust in 1987.

A *Notification of Hazardous Substance Discharge* was received by the DNR on January 11, 2001, for soil and groundwater contaminated with petroleum volatile organic compounds (VOCs), chlorinated VOCs and polycyclic aromatic hydrocarbons (PAHs). The sources of this contamination were identified as the historic underground storage tanks (USTs) located in the northern courtyard at the site. On August 26, 2008, the DNR issued a *Final Case Closure with Land Use Limitations or Conditions* letter for this site, formerly identified as the WI Industries Pension Plan & Trust. The land use limitations (i.e., continuing obligations) required for case closure included structural impediments, engineered caps and a sub-slab depressurization system.

On August 3, 2020, the DNR received a *Request for Post Closure Modification* (PCM Request), dated July 8, 2020, prepared by K. Singh. The PCM Request indicated that the Community Within the Corridor Limited Partnership purchased the site and planned to redevelop the site into a mixed residential, retail and commercial facility. Following the submittal of the PCM Request, K. Singh presented additional data to the DNR that identified sub-slab vapor and soil contamination above their respective vapor risk screening levels (VRSLs) and Wis. Admin. Code ch. NR 720 soil residual contaminant levels (RCLs), which indicate there are likely additional source areas present on the site that were not previously investigated. Subsequently, on April 6, 2021, the DNR re-opened the environmental contamination case under a new site name, Community Within the Corridor – East Block.

Site Investigation Summary

In preparation for site redevelopment, K. Singh performed a Phase I Environmental Site Assessment (ESA), and subsequently performed a Phase II ESA. The Phase II ESA identified PVOCs, CVOCs, PAHs and RCRA metals in the soil and/or groundwater greater than their respective soil RCLs and Wis. Admin. Code ch. NR 140 preventive action limits (PALs) and/or enforcement standards (ESs). Following the Phase II ESA, K. Singh conducted sub-slab vapor sampling as well as soil sampling throughout the site building, which identified soil RCL exceedances in addition to residential, commercial and industrial VRSL exceedances of PVOCs, CVOCs, PAHs and/or metals.

Site Investigation Review

Wis. Admin. Code ch. NR 716 provides the requirements for conducting a site investigation. In summary, the required steps to follow include 1) collecting and evaluating information to scope the investigation, 2) preparing a site investigation work plan, 3) conducting the field investigation, and 4) preparing a site investigation report. Investigative activities have occurred at this site, but additional site investigation, per Wis. Admin. Code ch. NR 716, which is based on and supports a conceptual site model, is required, as outlined below:

I. Source identification (scoping the investigation)

Wis. Admin. Code § NR 716.01 states that the site investigation must define the extent and degree of contamination and identify the source(s) of contamination. Furthermore, Wis. Admin. Code § NR 716.07(1) requires that the history of the site or facility, including industrial land uses that may have been associated with one or more hazardous substance discharges, be evaluated.

- A. Discuss the widespread distribution of trichloroethylene (TCE) related to a conceptual site model. Discuss potential sources and source areas of TCE at this site. Given the presence of high

moisture content clay soils beneath the building, it appears unlikely that there was widespread migration through vapor and/or groundwater from a single release/source area.

- B. Considering the historical use of the site, discuss whether there were degreasing stations throughout the building, and if possible, discuss the specific locations of these stations. Incorporate interviews from the Phase I ESA in your discussion, as applicable.

II. Addressing previous investigations during future site investigation activities (scoping the investigation and work plan development)

Wis. Admin Code § NR 716.09(2)(f)(8) requires a discussion of how sampling results will relate to results of any previous investigations.

- A. Provide historic site figures showing the location of contamination associated with the historic site investigation conducted prior to the 2008 case closure. Discuss the potential new sources of contamination as they may relate to previous investigations.

B. Evaluation of emerging contaminants

On August 24, 2020, the DNR received *Environmental Investigation Memorandum for Community Within the Corridor* (PFAS Report), dated August 24, 2020, prepared by K. Singh, which presents PFAS soil analytical results. However, an evaluation, as described below, was not provided.

Wis. Admin. Code §§ NR 716.07, NR 716.09 requires that site investigation scoping and work plans include an evaluation of potential perfluoroalkyl and polyfluoroalkyl substances (PFAS) and other applicable emerging contaminants that were historically or are presently produced, used, handled, or stored at the site.

1. Provide an evaluation of emerging contaminants, and include any available information on whether any products containing PFAS were used in any process services, the duration of PFAS containing product use, the type of PFAS contained in the product, and any areas of the site where PFAS- containing products may have been used, stored, managed, or discarded. You may reference *Reminder to Include Evaluation of Emerging Contaminants in Site Investigation* DNR letter, dated August 17, 2020, for additional details on this requirement.
2. Discuss how this emerging contaminant evaluation relates to the results presented in both the PFAS Report and the Report. Discuss whether additional PFAS or other emerging contaminant investigation is required given the data presented in the Report. Provide a work plan as needed.

III. Degree and extent of contamination in all affected media (field investigation)

Wis. Admin. Code § NR 716.11 (3) (a) requires the field investigation to determine the nature, degree and extent, both areal and vertical, of the hazardous substances or environmental pollution in all affected media.

A. Soil

1. The DNR concurs that additional soil investigation is needed to define the extent and degree of soil contamination at the site, as proposed in the Report. This investigation should consider potential source areas and areas where the concentration of contamination appears to be highest.

B. Groundwater

1. The DNR concurs that additional groundwater investigation is needed to define the extent and degree of groundwater contamination at the site, as proposed in the Report. Additionally, the groundwater investigation must assess depth to groundwater and groundwater flow direction.

C. Vapor

Additional discussion regarding the DNR's review of the vapor investigation as it pertains to the vapor mitigation system (VMS) design and feasibility is presented in the Remedial Action section below.

1. Collect vapor samples from the sewer connections to the building to assess the potential impact to indoor air in the building.
2. Revise VRSL exceedance lines on all applicable figures to include all sample locations with exceedances. For example, VRSL exceedances were identified at sample locations SS-1 and SS-2, but these locations were not included within the VRSL exceedance lines shown on several figures within the Report.

IV. Off-site affected properties (work plan development and field investigation)

Wis. Admin. Code § NR 716.11(4) requires the field investigation to extend beyond the property boundaries of the source area as necessary to full define the extent of contamination.

- A. Any additional soil, groundwater and vapor investigation at this site must be evaluated to determine whether contamination is extending off-site. Off-site contamination must be defined, as necessary.
- B. Collect vapor samples from the sewer connection points to the building to assess whether the sewer is acting as a preferential migration pathway for contamination off-site. Typically, this will include collection of vapor samples from cleanouts or other locations within the building's plumbing system and the sewer main manholes closest to the point where the sewer laterals from the building connect with the sewer main.

V. Submitting site investigation information (site investigation report)

Wis. Admin. Code § NR 716.15 requires that a site investigation report be submitted to the DNR within 60-days after completion of the field investigation and receipt of laboratory data. As you are aware based on the work conducted at this site thus far, the site investigation can be an iterative process and data results may indicate further assessment is needed to define the degree and extent of contamination. Although work status update information and field data notifications may be submitted to the DNR throughout the field investigation phase, it is expected that each submittal evaluating results and recommending additional work build on previous site information, therefore developing and maintaining

the comprehensive site investigation reporting up to submittal of the final comprehensive site investigation report.

Remedial Action Summary

The Report includes a design and feasibility study that was conducted for the installation of a VMS. The VMS is proposed to mitigate the vapor contamination beneath the building slab as well as remediate the vapors in the building through soil vapor extraction (SVE), as described in the Report. In addition to SVE, the remedial action plan presented various remedial actions and recommended completion of the following activities:

- Soil excavation in the areas, outlined on Figure 6B (attached) from the Report;
- Implementation of engineered barriers to limit direct contact and groundwater infiltration will consist of the building, pavement, soil, and vapor barriers;
- Groundwater remediation through natural attenuation.

Remedial Action Review

Wis. Admin. Code § NR 722.05(4)(a) states that responsible parties shall identify, evaluate, and document an appropriate range of remedial action options to address each contaminated medium when a site investigation report is completed in accordance with Wis. Admin. Code ch. NR 716. As previously indicated, the DNR cannot approve the remedial action plan presented in the Report at this time because the site investigation is not complete. However, based on the DNR's review of the remedial actions proposed in the Report, the following comments and questions are provided to assist with future remedial actions options evaluation(s):

I. Vapor – remedial action and mitigation

Wis. Admin Code § NR 726.05(8)(b) states that prior to case closure, any site where vapors are present above their respective VRSLs must complete a remedial action to reduce the mass and concentration of volatile organic compounds (VOCs) to the extent practical. Additionally, the vapor exposure pathway must be interrupted or mitigated.

The feasibility and design of the vapor mitigation system (VMS) presented in the Report does not provide enough evidence to show that it will adequately interrupt or mitigate vapors. Below are specific comments and questions regarding the system and its ability to provide protective conditions to future occupants of the building:

A. Vapor remediation

1. Discuss how the reduction in the mass and concentration of the contamination at the site will be measured during the operation of the SVE system. Provide the calculation(s) that will be applied to monitor the reduction in mass and concentration of contamination. Please note that if the selected remediation does not show a reduction in the mass and concentration of contamination, then additional remedial action will be required prior to case closure.
2. Discuss the specific goal(s) for the SVE system as a remedial action. Provide an estimate for the mass of the contamination that will be removed during the operation of the SVE system.

B. Vapor mitigation

1. Vapor mitigation system

- i. The current density of sub-slab vapor probes used to investigate sub-slab vapors beneath the building are likely not dense enough to capture all of the source areas and/or areas with VRSL exceedances, especially given the nature of the subsurface soils (i.e., clay soils with high moisture content). Therefore, the DNR has determined that the VMS must be effective in all areas of the building. Revise the system as necessary.
 - a. Discuss whether the potential for diffusion has been evaluated, per Section 8.1.2. of RR-800, *Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin*. Evaluate and discuss whether the high concentrations of TCE in vapors (such as at SS-25) could result in enough diffusion of vapors through the 4-inch thick concrete slab to present a concern of vapor intrusion regardless of the operation of the VMS.
- ii. Two individual drop points and fans are proposed to be placed near sub-slab sample locations SS-4 and SS-40. SS-4 and SS-40 could not be sampled during the December 2020 sub-slab vapor investigation due to the presence of a high-water table. Additionally, a pilot test could not be conducted near these sample locations at the vapor extraction point VE-1 due to the frozen ground and/or high-water table.
 - a. Discuss whether the VMS will properly function in this area of the site given the wet subsurface conditions. Moreover, discuss what modifications may be necessary to ensure that the VMS is properly functioning.
 - b. Discuss whether the VMS will be protective to the occupants in this area of the building.
- iii. The VMS is proposed to operate at 44-inches of water to overcome the resistance created by the clay soils beneath the building, which is not a typical vacuum for a VMS. Considering this parameter combined with the clay soils and condition of building slab, discuss whether the system may pull air out of the building or create short circuiting via the newly created utility trenches, old utility trenches or through outer foundation walls, which may impact the system's radius of influence. Describe how this will be measured or otherwise evaluated during future pilot testing.
- iv. Discuss whether dewatering will be necessary during remediation and redevelopment, specifically in the northern area of the site where the water appears to be immediately below the building slab. More specifically, discuss whether dewatering will be necessary for the VMS to properly function.
- v. The Report did not address several design considerations presented in Table 8f, *Parking Garage Ventilation – Mitigation Design Basics*, of Appendix C in RR-800, as detailed below:
 - a. Discuss how the penetrations to the upper building floors are being sealed. Describe the condition of the ceiling above the parking garage and indicate whether any sealing of this ceiling will be necessary.
 - b. There are two elevator shafts and several stairwells adjacent to the parking garage, which can act as pathways for vapors to migrate to upper building floors. Describe how these are building features are being evaluated and considered in the VMS design.

- c. Discuss the source of intake air into the parking garage. As presented in Table 8f, high ventilation can increase vapor intrusion if the ventilation causes high interior negative pressures in relation to the subsurface pressures.
 - d. What is the expected subsurface pressure in the parking garage relative to the sub-slab pressure, the overlying pressure, and the pressure in adjacent spaces?
 - e. Describe how the pressures described above will be monitored.
 - vi. The pilot pressure testing completed for the VMS was not working against a negative operating indoor air pressure, which will be established during redevelopment and will ultimately be the condition present when building is occupied. Pilot pressure testing should be re-evaluated once the negative operating indoor air pressure is established in the building.
 - vii. Provide a contingency plan for if the VMS does not achieve an adequate pressure-field-extension throughout the entire building, which will be required prior to case closure.
 - viii. A robust indoor air sampling program will be required following the installation of the VMS and after the interior construction is complete and the heating, ventilation and air conditioning (HVAC) systems are operational.
 - a. Given the scale of the building, number of rooms, and potential variability due to source and building factors, the DNR recommends using a real time portable gas chromatography-mass spectrometry (GC/MS) to initially assess the building. Additionally, canisters and passive air sampling should be conducted in the elevator shafts.
2. Preferential routes for vapor migration must be assessed, as detailed below:
 - i. The DNR understands that there is a tunnel beneath the 32nd Street right-of-way that connects the east and west block of the Community Within the Corridor redevelopment and that the tunnel will be filled during redevelopment.
 - a. Describe whether the tunnel is actively used.
 - b. Provide the depth and the dimensions of the tunnel.
 - c. Describe what type of material the tunnel will be filled with.
 - d. Discuss whether the tunnel represents a potential source for vapor contamination.
 - e. Discuss whether the tunnel may have a negative impact on the effectiveness of the VMS.
 - f. Discuss whether there is an opportunity to collect vapor samples from within the tunnel before the tunnel is filled, and if so, provide a sampling plan.
 - ii. As indicated in RR-800, a tight foundation is an important element of a sub-slab depressurization system (i.e., VMS). The DNR understands that the building foundation is generally 4- to 5-inches thick throughout the building, with few areas being 8-inches thick.
 - a. Describe the condition of the slab throughout the building.
 - b. Describe how the foundation will be sealed, including floor cracks and perimeter cracks/joints and around any penetrations (i.e., columns).
 - c. The Report states that regular sealing of any cracks will allow the VMS to achieve the required zone of influence. Describe how this will be accomplished when the building floor is finished. Clarify whether this action will only be performed in the parking garage, or through the entire building.

- d. Discuss whether the walls are poured solid concrete or consist of concrete blocks that are hollow.
 - e. Discuss whether the columns in the basement of the building are poured concrete or whether they are hollow.
- iii. The DNR understands that there are three elevator shafts in the building and that passive air samples will be collected from each elevator shaft.
- a. Describe if and/or how the pits will be sealed to prevent vapors from entering them.
- iv. The DNR has not received an assessment of utilities as a preferential pathway for migration of contamination.
- a. Present the locations of any utility pipes, such as sewers or drains on a figure and indicate whether any existing utilities will be retained or abandoned.
 - b. Discuss whether there is a potential for vapor movement into the occupied spaces through any utility pipes, such as sewers or drains.
 - c. Indicate whether historic sewer pipes beneath the building have been abandoned. If not, discuss whether these pipes could be contaminated from historic solvent disposal and may be acting as a source of contamination.

C. Acute risks of TCE in vapor

One of the contaminants of concern at this site, TCE, poses a short-term (i.e., acute) health risk in indoor air at concentrations that exceed its applicable VRSL. More specifically, TCE presents an acute risk of fetal heart malformation that may occur when a pregnant mother is exposed to TCE vapors in the first trimester of pregnancy, as indicated in Section 3.4.1 of RR-800. Department of Health Services recommends that if TCE is present beyond the building envelope at or above the VRSL and women of child-bearing age are present, that indoor air be evaluated with a quick lab turnaround (24- to 72-hours). Given the nature of the proposed building use, the presence of the above-referenced demographic should be presumed. TCE is present beneath the site building in sub-slab vapors at concentrations that exceed not only the residential VRSL, but also the industrial VRSL. Given these conditions and the information provided above, establishing the indoor air concentrations prior to occupancy is highly recommended. Periodic sampling of indoor air throughout a given year to ensure protectiveness is also highly recommended.

II. Soil – remedial action

The remedial action plan portion of the Report did not evaluate and incorporate all soil data that was available at the time that the Report was created and submitted to the DNR. Not including this soil data in the remedial action plan results in a misrepresentation of the degree and extent of contamination being addressed by the proposed remedial action, thus making it difficult for the DNR to evaluate the proposed plan. All available data must be included and considered in future remedial action plans submitted to the DNR.

A. Soil excavation

- 1. The Report indicates that there will be four main areas of excavation at the site which will focus on the parking garage area and the utilities beneath the building. Considering these excavations are to facilitate redevelopment and were not specifically designed or remediation,

evaluate and discuss whether soil excavation could occur in areas where the concentration of soil contamination is highest. Provide evidence of any access limitations which might impact the feasibility of source area soil excavations.

2. Discuss how the planned soil excavation and introducing off-site fill material beneath the building will alter sub-slab dynamics. More specifically, discuss whether potential accumulation of groundwater within these areas of excavation may impact the VMS.
3. The Report indicates that approximately 12,000 tons of soil will be excavated as a part of site redevelopment. However, this is the total amount of soil excavation that is proposed for both the west and east blocks of the Community Within the Corridor redevelopment. The DNR understands that that less than half of this anticipated total volume of soil will be removed from this site (east block) during redevelopment. Future reports should provide information specific to the east block only.

B. Engineered barrier

1. The DNR does not have any feedback to provide for the engineered barrier presented in the Report. The proposed engineered barrier can be re-evaluated once the site investigation is complete.

III. Groundwater – remedial action

- A. Natural Attenuation as a remedial action for groundwater contamination at this site will be re-assessed once there is a complete groundwater investigation presented to the DNR.

Schedule

The DNR understands that a strict construction schedule has been established for this site. Nevertheless, this case must follow the Wis. Admin. NR 700 code series to entirely investigate and remediate the environmental contamination on site to ensure protective conditions for the citizens that will reside in and utilize this residential and community-oriented redevelopment. Therefore, in consideration of administrative code requirements, and as detailed in the *Reopening of Closed Case at Community Within the Corridor – East Block (Former Wisconsin Industries Pension Plan & Trust)* DNR letter, dated April 6, 2021, the DNR is requesting the implementation of the following schedule:

- Per Wis. Admin. Code § NR 716.14, all sampling results are required to be submitted within 10-days of receiving laboratory data.
- Per Wis. Admin. Code § NR 716.09(1), submit a site investigation work plan within 60-days of the date of this letter, by June 8, 2021, that incorporates the DNR's review of site investigation, as presented above.
- Per Wis. Admin Code § NR. 716.15, submit a site investigation report within 60-days after the completion of the field investigation and receipt of the laboratory data.
- Per Wis. Admin Code § NR 722.13, submit a remedial action options report (RAOR) within 60-days after submitting the site investigation report. Consider and incorporate the DNR's review of the remedial action plan, as presented above, in the RAOR.

The DNR appreciates the actions you are taking to restore the environment at this site. If you have any questions concerning this site or this letter, please contact me, the DNR Project Manager, at (414) 263-8603, or by email at Jane.Pfeiffer@wisconsin.gov, and we can schedule a meeting to address any questions you may have.

Sincerely,

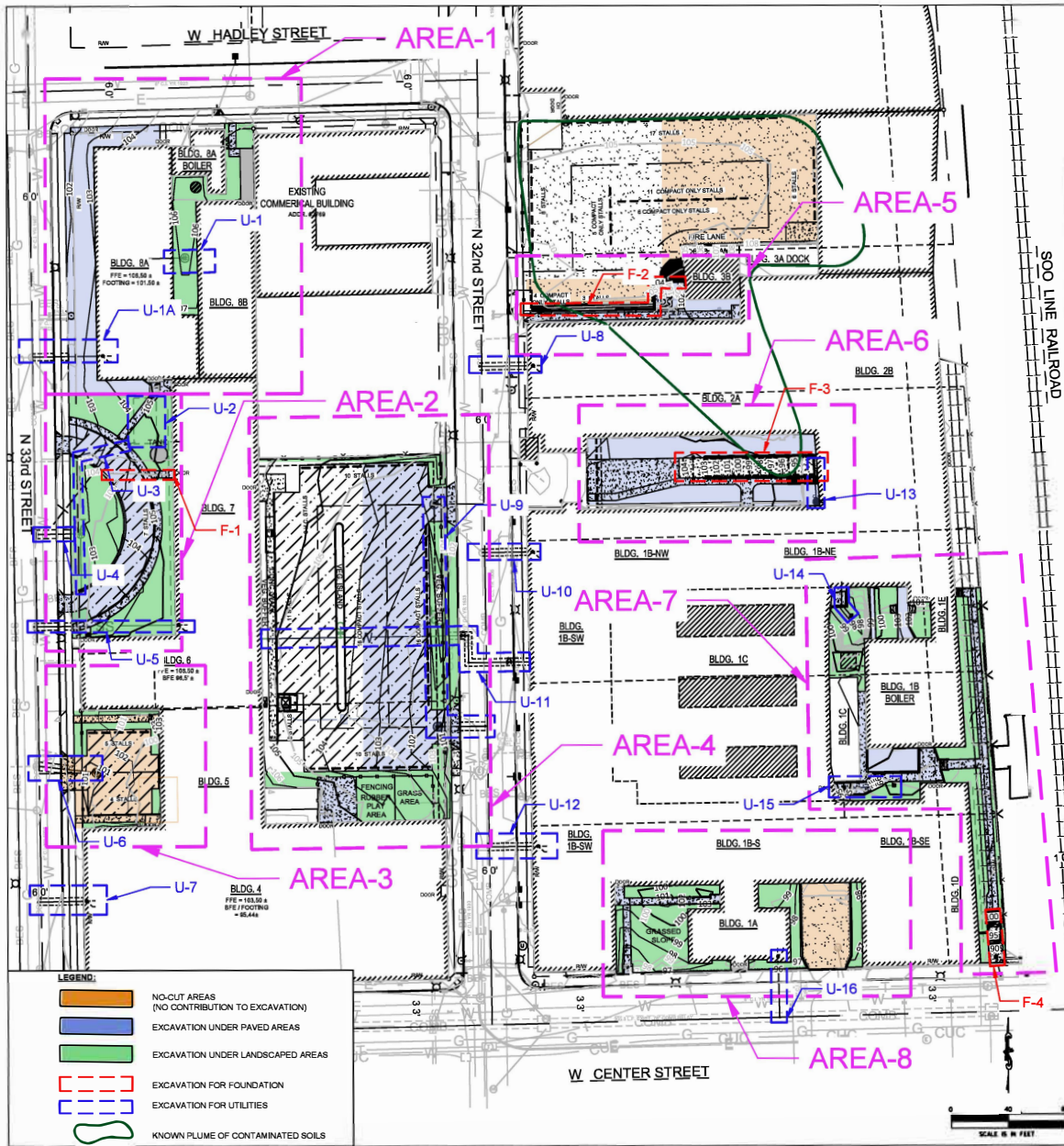


Jane K. Pfeiffer
Project Manager – Hydrogeologist
Remediation & Redevelopment Program

Enclosures:

- Figure 6B, Earthwork Calculations Exhibit, dated September 21, 2020

cc: Mr. Que El-Amin, Scott Crawford, Inc., que@scott-crawford.com – electronic copy
Mr. Robert Reineke, K. Singh & Associates, Inc., rreineke@ksinghengineering.com – electronic copy
Dr. Pratap N. Singh, K Singh & Associates, Inc., psingh@ksinghengineering.com – electronic copy



NOTE: EXCAVATION QUANTITIES ESTIMATED BY ENVIRONMENTAL CONSULTANT FOR DISPOSAL PURPOSES. ACTUAL EXCAVATION QUANTITIES TO BE DETERMINED BY THE CONTRACTOR.

Excavation under Paved Areas	
t Volume (C.Yd)	115
s = F/27	313
	1,599
	59
	106
	91
	14
	2,296

Excavation under Landscaped Areas	
ut Volume (C.Yd)	127
G = F/27	699
	27
	857
	311
	226
	2,247

Volume (C.YD)	Notes
3	Storm
75	Sanitary
315	Vault
50	Storm
19	Storm
137	Sanitary
24	Storm
59	Sanitary
64	Sanitary
39	Storm
62	Sanitary
171	Water
64	Sanitary
13	Storm
10	Storm
22	Storm
74	Sanitary
1,201	

Primary	Cut Volume (C.YD)
4	2,296
1	2,247
0	1,201
9	771
5	6,515

CONSULTANT
 CONSULTANT
 CONSULTANT

PROJECT TITLE: COMMUNITY WITHIN THE CORRIDOR
 MILWAUKEE, WI
 PROJECT NUMBER: 40405
 CLIENT: COMMUNITY WITHIN THE CORRIDOR LIMITED PARTNERSHIP

REVISIONS	DATE	DESCRIPTION

EARTHWORK CALCULATIONS EXHIBIT

FIGURE 6B



June 8, 2021

Roers Companies
c/o: Mr. Shane LaFave
110 Cheshire Lane
Suite 120
Minnetonka, MN 55305

Subject: Review of Updated Remedial Action Design Report
Community Within the Corridor – East Block
2748 N 32nd Street, Milwaukee, WI 53208
BRRTS #: 02-41-263675, FID #: 241025400

Dear Mr. LaFave:

On May 10, 2021, the Wisconsin Department of Natural Resources (DNR) received *Proposed Modification of Vapor Mitigation / Extraction System* (the Report) prepared on your behalf by K. Singh & Associates, Inc. for the above-referenced site. The Report was submitted in response to the DNR's *Review of Remedial Action Design Report* letter, dated April 9, 2021. The Report was presented with a Technical Assistance fee of \$700 for DNR review and response. The DNR reviewed the Report for regulatory compliance with Wis. Admin. Code chs. NR 722 and NR 724, and grants a conceptual approval of the remedial action design plan and provides you with recommendations and feedback pertaining to the plan, as detailed below.

Summary of Updated Remedial Action

The Report presents additional information and revisions in response to the remedial action review portion of the April 9, 2021, DNR letter. More specifically, the Report includes an expanded vapor mitigation system (VMS) design to include the entire building footprint. The purpose of the VMS is to mitigate vapors and remediate the vapors in the building through soil vapor extraction (SVE). Additionally, the Report presents a plan to perform a remedial soil excavation to reduce the mass and concentration of the identified contamination. The excavation will remove approximately 320 tons of soil in the area of sample locations SS-20 and SS-25, which are the locations that have the highest known concentrations of trichloroethylene (TCE) in sub-slab vapors at the site. The Report indicates that the soil will be excavated to approximately 6 inches below ground surface and will be replaced with granular fill, which may help to accentuate SVE.

Review of Updated Remedial Action

Based on the DNR's review of the updated remedial action design plan, as presented in the Report, the DNR provides the following recommendations and feedback:

- I. Soil – remedial action
 - A. The DNR recommends expanding the area of remedial soil excavation to include all areas under building 1B where residential units are planned to be located directly on top of the building slab.

This action may accentuate the SVE under the residential units. Additionally, the DNR recommends that the excavation be expanded vertically, as this will increase the likelihood that a greater amount of mass and concentration of contamination is removed.

- B. As indicated in the DNR's *Site Investigation Work Plan Review* letter dated May 18, 2021, the DNR recommends that confirmation samples be collected during the remedial soil excavation to more thoroughly investigate the potential source areas at this site and to help to define the nature, extent and degree of soil contamination.

II. Vapor – remedial action

- A. The DNR does not recommend the use of a photoionization detector (PID) for gathering and developing data that will be used to calculate mass and concentration of contamination removed and/or discharge rates from the SVE exhaust. Moreover, PID monitoring may be useful for qualitative evaluation of the SVE operation, but lab analysis of the SVE exhaust samples is necessary to quantitatively estimate the emissions and to develop mass and concentration calculations. Generally, PID readings can be coupled with sample collection and lab analysis but should not be exclusively used for quantitative data collection. The DNR recommends that K. Singh develop a plan for quantitative sampling during the early operation period of the SVE system and then at select times during the long-term operation and monitoring.
- B. In the Report, K. Singh indicates that, once no detection of TCE is identified in the SVE exhaust, the VMS will be shut off for three weeks and then turned back on to determine whether residual vapors exist below the building. The DNR does not recommend that the system be shut off while the building is occupied, as this action could expose the future occupants of the building to harmful TCE vapors. As previously indicated, TCE poses an acute health risk in indoor air at concentrations that exceed its applicable vapor risk screening level (VRSL) and TCE contamination has been identified at this site at concentrations exceeding each of the residential, small-commercial and industrial VRSLs.
- C. In the Report, K. Singh proposes to install a 10-mil plastic vapor barrier in the area of the soil excavation prior to the placement of the new concrete floor. The DNR recommends that K. Singh install a more protective barrier than what is proposed. More advanced vapor barrier technology (i.e., thicker barrier, etc.) must be considered at this site given the high concentrations of TCE in the sub-slab vapors that exists directly beneath the planned residential units. Additionally, the vapor barrier should be sealed to the foundation features, any utility piercing, and all elevator or stairwell pits or sumps of the building to promote the effectiveness of the barrier. All seals should be tested in an appropriate manner to assure seals are properly performing.
- D. Regarding the SVE system, the DNR recommends installing a valve in the remedial soil excavation area to allow for more control/isolation of the system. Following the excavation, this area will contain a layer of granular fill directly beneath the concrete slab, which may allow for the application of a reduced vacuum capacity (i.e., inches H₂O) in the remedial soil excavation area. A reduced vacuum may also limit the possibility of the SVE system drawing contaminants into the layer of more permeable granular fill.

III. Vapor mitigation

- A. The DNR concurs with K. Singh that a pre-pilot scale test should be performed as an initial test to determine the zone of influence for the system, as outlined in the Report.
- B. The DNR recommends that additional vacuum measurement points be placed in between the VMS piping runs to evaluate the effectiveness of the VMS in areas of the building that are located further from the system to gauge whether the VMS will adequately depressurize the entire building footprint. More specifically, the DNR recommends that additional vacuum measurement points be placed in the gym area and western section of building 1B.

IV. Vapor - Preferential routes for migration of contamination

- A. Evaluate whether the VMS testing is positioned to assess the stairwells in the building, as stairwells can be a migration pathway for vapor contamination. Consider whether contamination exists under the stairwells. Revise the testing plan as needed. Evaluate the PFE and indoor air sample data to determine whether the stairwells are acting as preferential routes for vapor migration to upper levels of the building. Propose a solution, if necessary.
- B. The Report indicates that the sumps in the site building have been inactive and that this could be a cause for the perched water conditions identified near SS-4 and SS-40. In the next applicable report, provide the location of the sump(s) on an applicable figure and provide details on how the sump(s) will be or have been sealed prior to building occupancy.
- C. Considering the age of the building, the DNR recommends that the elevator shafts be sealed prior to passive air sampling to help to prevent the elevator shafts from acting as a potential pathway for migration.

Review of Hazardous Waste Determination

On May 11, 2021, the DNR received *Contained Out Determination for Proposed Modification of Vapor Mitigation / Extraction System* prepared by K. Singh on your behalf as an addendum to the Report (the Addendum). The Addendum requests DNR concurrence that the soil from Community Within the Corridor – East block that is proposed for remedial excavation is not characteristic of hazardous waste and can be disposed of as special waste. The DNR has reviewed the Addendum along with previously submitted reports and analytical data for this site for regulatory compliance with Wis. Admin. Code § NR 662.011 and has concluded that the soil presented for evaluation in the Addendum can be classified as a non-hazardous waste, based on the following information:

- I. Based on their investigations to-date, K. Singh has concluded that because the source of TCE contamination and the date of discharge to the soil are not known, the soil located in the remedial excavation area does not meet the definition of a “listed” waste under state and federal regulations.
- II. Upon excavation, any soil that exhibits a characteristic of hazardous waste (i.e., toxicity) would be considered a hazardous waste. The toxicity characteristic leaching procedure (TCLP) is used to test whether contaminated soil exceeds regulatory limits, thereby considered hazardous for disposal. The listed TCLP toxicity regulatory limit for TCE, under RCRA, is 0.5 ppm.

K. Singh performed a TCLP for TCE at soil sample locations VE-4, EB-IB-2 and EB-IB-3, which are located in the area of proposed remedial soil excavation and the general area of the site exhibiting the highest known concentration of TCE in the soil, and found that the TCLP results (0.06 ppm, 0.085 ppm, and 0.18 ppm, respectively) were all below 0.5 ppm. Therefore, the soil analyzed using TCLP in the area of remedial excavation does not exhibit a hazardous waste characteristic and is not considered a characteristic hazardous waste.

A “contained out” request does not apply to the TCE contaminated soil within this remedial excavation area, because K. Singh has determined that the soil was not contaminated with a “listed” waste and did not exhibit a hazardous characteristic. Therefore, the DNR reviewed the Addendum as a request for waste determination concurrence, not as a request for a “contained out” determination. Furthermore, the DNR’s concurrence with this waste determination does not negate the generator’s responsibility for correctly classifying a solid waste under Wis. Admin. Code § NR 662.011 and properly managing soils.

Next Steps

The DNR requests that an updated schedule be submitted that includes the details applicable to the site investigation and remediation in consideration of the strict timeline for redevelopment. This schedule can be presented in a standalone email or report and should be submitted at your next earliest convenience. The DNR recommends that frequent status update reports and schedules be presented as often as applicable as this project moves forward in the remediation and redevelopment process. Additionally, the Report indicates that an indoor air sampling plan will be submitted to the DNR for approval in the Fall of 2021. The DNR requests that the pilot test results for the VMS be submitted before the indoor air sampling plan.

In consideration of administrative code requirements, the DNR is requesting the implementation of the following schedule:

- Per Wis. Admin. Code § NR 716.14, submit all sampling results within 10 days (on appropriately formatted tables) of receiving laboratory data.
- Per Wis. Admin. Code § NR 724.13, submit an operation and maintenance plan following the implementation of the remedial actions.
- Per Wis. Admin. Code § NR 724.15, submit a construction documentation or as—built report within 60 days after the date that construction of the remedial action is completed or determined to be essentially complete by the DNR. This report should include documentation of the commissioning of the system. You may reference RR-800, *Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin*, for commissioning guidelines. The DNR recommends that frequent status updates be submitted throughout the commissioning process.

The DNR appreciates the actions you are taking to restore the environment at this site. If you have any questions concerning this site or this letter, please contact me, the DNR Project Manager, at (414) 435-8021, or by email at jane.pfeiffer@wisconsin.gov.

Sincerely,

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

Jane K. Pfeiffer
Project Manager – Hydrogeologist
Remediation & Redevelopment Program

cc: Mr. Que El-Amin, Scott Crawford, Inc., que@scott-crawford.com – electronic copy
Mr. Robert Reineke, K. Singh & Associates, Inc., reineke@ksinghengineering.com – electronic copy
Dr. Pratap N. Singh, K Singh & Associates, Inc., psingh@ksinghengineering.com – electronic copy