

Pfeiffer, Jane K - DNR

From: Pfeiffer, Jane K - DNR
Sent: Monday, January 23, 2023 2:23 PM
To: Robert Reineke; Pratap Singh; Shane LaFave; Que El-Amin
Cc: Mylotta, Pamela A - DNR; Hedman, Curtis J - DHS; Kloczko, Nathan F - DHS
Subject: Community Within the Corridor - East Block (02-41-263675) - Commissioning Plan Review/Action Required
Attachments: ContinuousMonitoring_FactSheet.pdf; 20210325
_DNR_VI_Immed.Response_Inquiry_DHS_Reply-Combined.pdf

Greetings All,

Thank you for taking the time today to meet with the DNR and the DHS to discuss the Community Within the Corridor - East Block site. On December 28, 2022, the DNR received the *Proposed Vapor Mitigation System Commissioning Plan*, dated December 23, 2022 ("report"), without a technical assistance fee for the above-referenced site. After internal review and discussion, the DNR does not approve the commissioning plan outlined in the report considering these primary concerns:

- chlorinated solvents have been identified in sub-slab vapors significantly greater than their applicable vapor risk screening levels (VRSL), and
- the acute health risks associated with these contaminants of concern (COCs), primarily trichloroethene (TCE) (see attached letter, dated March 25, 2021, from the Department of Health Services (DHS) to the DNR ("2021 DHS letter")).

As we discussed during our meeting today, the DNR provides the following feedback in response to the report:

Commissioning Plan

- The report states that both the first round of commissioning sampling and building occupancy are planned to occur in January/February 2023. As the DNR recommended for the Community Within the Corridor - West Block site (BRRS # 02-41-587376), in consideration of public health, safety, and welfare, **the DNR strongly recommends completing all necessary rounds of commissioning prior to any occupancy** to avoid potentially exposing future residents to indoor air contamination that may present acute health risks. Commissioning provides the data needed to demonstrate that the vapor pathway has been mitigated or interrupted, which is a requirement for case closure under Wis. Admin. Code § NR 726.05(8). Given that the building has not yet been occupied by residents, the DNR strongly encourages you to complete full system commissioning prior to occupancy to demonstrate that the vapor pathways have been successfully mitigated or interrupted to prevent potentially exposing future residents to health risks associated with the COCs that exist at this site. See the 2021 DHS letter for additional details on these health risks and timelines associated with these risks. Please note that the commissioning should be completed with the same building conditions expected during occupancy (i.e., construction complete, HVAC operational, exhaust fans operating).
- The proposed indoor air sampling plan is not adequate to evaluate the presence and concentration of vapors in indoor air. In revising your report, please consider the following administrative code requirements:
 - Under Wis. Admin. Code § NR 716.11(5)(h), field investigation shall include an evaluation of "the presence and concentration of vapors in indoor air, when it is necessary to determine the impact on an occupied structure, considering applicable attenuation factors, land use, building size and other site-specific factors that affect exposure to vapor." As explained in the notes to the rule, indoor air samples are expected to be collected and analyzed in cases, such as this, where vapor migration into an occupied residential setting is likely.

- Under Wis. Admin. Code § NR 722.09(2)(d), where a discharge of volatile hazardous substances has occurred, such as TCE, “the vapor intrusion pathway shall be evaluated to determine the likelihood of those substances entering the breathing space of a structure.” Further, under Wis. Admin. Code § NR 722.09(2)(d)(1), a responsible party may be required “to conduct any necessary actions ... to protect public health, safety, or welfare or to prevent a significant damaging effect on indoor air quality for present or future use.”
- Under Wis. Admin. Code § NR 726.13(1)(b), the DNR may **not** close a case if the remaining level of contamination is likely to pose a threat to public health, safety, or welfare or the environment or cause a vapor action level (“VAL”) in indoor air to be attained or exceeded.

Considering the site building complex’s size, layout, future use, and the identified VRSL exceedances in sub-slab vapors that exist throughout the site, and the presence of TCE, and to demonstrate that the above-described Wis. Admin. Code requirements are satisfied, indoor air must be sampled within each of the twelve residential units on the first level of Building 1B. Furthermore, throughout all levels of each site building, the indoor air sampling plan should be revised to consider locations where potential exposure to vapor intrusion is highest, such as areas with residences, with higher sub-slab concentrations, or potential preferential pathways (i.e., column penetrations, perimeter foundation/wall joints, plumbing penetrations, abandoned utilities, elevator shafts, stairwells, sumps, etc.).

Wis. Admin. Code § NR 716.11(5)(a) states that field investigation shall include an evaluation of potential pathways for migration of contamination, including drainage improvements, utility corridors, bedrock, and permeable material or soil along which vapors may flow. The report does not provide any discussion on how the planned indoor air sample locations will assess the potential preferential migration pathways for contamination to move throughout the site buildings. The revised indoor air sampling plan must provide a comprehensive discussion on the potential migration pathways for vapor contamination to move within the site buildings, and how these will be evaluated during the indoor air sampling. Update the indoor air sampling plan, as needed, to ensure that all potential migration pathways are evaluated. Specifically discuss sampling plans with respect to elevators and stairwells that exist throughout the site and how HVAC systems affect air movement within the building. Provide figures to accompany this discussion that call out the relevant building features that pertain to the discussion.

The DNR strongly recommends that the first round of indoor air samples be collected using continuous monitoring technology using a portable gas chromatograph/electron capture detector (GC/ECD) unit (“units”). This methodology allows for real-time data to be collected and up to 140 samples can be collected in a day. Based on our discussion today, the DNR understands that K. Singh has already taken the time to review this sampling methodology. Following this suggested initial assessment, the DNR recommends that passive indoor air samplers be used to further investigate the impacts identified based on the data obtained from the units. Attached is a document about the GC/ECD methodology and listed below is a contact person that can answer questions concerning this methodology:

- [Vapor Safe® – The World Leader in Real Time Chemical Vapor and Monitoring Solutions](#)
- Mark Kram, Ph.D., CGWP
Groundswell Technologies, LLC
7127 Hollister Ave., Suite 25A-108
Goleta, CA 93117 USA
805-899-8142 (office)
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Documentation

In the revised report, please also provide the following documentation:

- Exhaust sample locations on figures, as applicable.

- Additional information on the exhaust sampling/methodology with a supporting schematic/diagram.
- Display pressure field extension readings as negative values, where applicable.
- Confirmation soil sample results that were collected during remedial soil excavations. These results should be provided on appropriately formatted tables with a figure showing where the samples were collected. Lab data sheets must be provided.
- Confirm whether smoke testing has occurred to investigate potential vapor pathways, as was suggested by K. Singh in the *Proposed Modification of Vapor Mitigation / Extraction System* report, dated April 29, 2021. Discuss the smoke testing methods and the conclusions of the testing.
- A contingency plan outlining actions that may be taken if the pressure field extension is not achieved throughout all site buildings or if any indoor air VALs are attained or exceeded.
- Detailed description of sampling methodologies that will be used during commissioning.

Next Steps

1. In consideration with Wis. Admin. Code requirements, submit a revised commissioning plan based on the comments provided above within 30 days of the date of this email, by February 22, 2023. Include an updated commissioning plan schedule and occupancy schedule within the plan. Per Wis. Admin. Code §§ NR 708.11(4) and 724.07(1), **DNR approval of the commissioning plan is required prior to proceeding with implementation of the first round of system commissioning.** Therefore, this plan must be submitted with a (\$700) technical assistance fee for DNR review and response.
2. After the DNR receives the revised commissioning plan, the DNR may request additional information, require revisions, approve, conditionally approve, or deny the plan.
3. As a reminder, per Wis. Admin. Code § NR 716.14, submit all sampling results to DNR within 10 days (on appropriately formatted tables) of receiving laboratory data. Immediate notification of results upon receipt is justified under Wis. Admin. Code §§ NR 708.05 and 714.07 when the building is occupied and there is exposure to an acute (immediate) health risk (e.g., TCE is present above the VAL and women of child-bearing age are present, TCE is present above three times the VAL). These notifications must sent to both the occupants of the building and the DNR, as may be applicable.

The DNR appreciates the actions you are taking to restore the environment at this site and looks forward to continuing to work with you on this project. Please do not hesitate to reach out with any questions you might have.

Thank you, Jane

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Jane K. Pfeiffer

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