

August 26, 2024

MR CARLOS CASTILLO
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**Re: Former Denison Municipal Utilities (1503 5th Avenue South, Denison, Iowa 51442)
Contaminated Sites Database Site ID No. 2802
Phase I and Phase II Site Assessments**

Dear Mr. Castillo:

The Iowa Department of Natural Resources, Solid Waste and Contaminated Sites Section (DNR) has reviewed the March 8, 2023 Phase I Environmental Site Assessment (ESA)([Doc #41701](#)) and the May 29, 2024 Phase II ESA ([Doc #41702](#)) for the site located in Denison, Iowa. The DNR understands that the assessments were conducted as a part of a community-wide Brownfields assessment grant to investigate potential contamination related to past uses of the site in order to renovate and reuse the property.

The Phase I ESA details past and present uses of the site and surrounding properties, and identified a total of eight recognized environmental conditions (RECs) that may have resulted in contamination to the soil, groundwater, and/or air. Following the Phase I ESA, a Phase II ESA was conducted at the site to investigate the identified RECs. Activities completed during this Phase II ESA include a ground penetrating radar (GPR) survey as well as the collection of 5 soil samples, 2 groundwater samples, 1 surface water sample, 2 sub-slab vapor samples, and 2 indoor air samples. Several compounds were detected above applicable reporting limits, statewide standards, DNR Tier 1 lookup values, and/or Environmental Protection Agency (EPA) regional screening levels. DNR has the following comments regarding the Phase II ESA Report:

1. Please note although DNR Statewide Standards (SWS) as set forth in 567 IAC 137 are often used for preliminary screening purposes in Phase I and Phase II reports, it is not appropriate to use these values to determine risk to receptors prior to enrollment into the LRP. If the owner wishes to enroll the site into the LRP, SWS may be used to determine remedial actions and cleanup levels but only after a fully delineated site assessment.
2. Section 4.3 – In the second sentence following Table 4, it is stated that “Of these two (2) PAHs, six (6) VOCs, and one (1) RCRA metal were reported above applicable NPGW SWSs...”. It appears that this should state that these are above applicable PGW SWSs and presumed to be a typo. Please clarify.
3. Section 4.2 – In the paragraph following Table 2, it is stated that five VOCs were detected. However, between the two borings and the duplicate, a total of eleven VOCs were detected above laboratory reporting limits. Please clarify if this is a typo or explain the reasoning behind the discrepancy.
4. Section 4.8 – It is stated that the values for input into the cumulative risk calculator can be chosen as either the maximum value for each analyte in each medium of concern or the 95% upper confidence limit (UCL) of the mean analyte concentration in each medium. Per 567 IAC 137.10(5), the 95% UCL can be used to meet compliance with a Statewide Standard or site-specific soil standard. However, the 95% UCL cannot be used in the cumulative risk calculator and the maximum detection value of each analyte for each medium must be used in the calculator. Furthermore, although the cumulative risk calculator

can be a useful screening tool, it is not appropriate to rely on the outcome of the risk calculator before a full site assessment is done as part of the LRP.

Due to the contamination detected in soil, groundwater, and vapor along with the GPR detections of underground anomalies at the site near the boring that returned the highest levels of contaminants in soil and groundwater, ***additional assessment is required***. DNR requests the following actions at the site:

1. Your consultant recommends further investigation of the anomalous high arsenic detection in one of the soil samples collected in order to delineate the arsenic contamination and identify a potential source. DNR concurs with this recommendation.
2. The underground anomalies detected by the GPR survey should be investigated to determine their nature and whether they are a source for the contamination observed in the nearby boring. If the anomalies are underground storage tanks (USTs), they should be removed and evaluated according to DNR requirements. If these are USTs, please contact Lisa Niedermayer with the DNR UST section for further direction and coordination by email at lisa.niedermayer@dnr.iowa.gov or by phone at [515-393-9851](tel:515-393-9851).
3. According to historical records, a well with a site type of “drilled hole” was logged on the site in 1916. This well has not been located and no evidence exists to show that the well has been abandoned. Until the well can be located and properly abandoned, it is presumed that it is present and the groundwater pathway has not been severed. Effort should be made to locate this well and abandon it in accordance with all applicable regulations and requirements.
4. Additional groundwater assessment needs to be completed to delineate the horizontal and vertical extent of the groundwater contamination plume.
5. Although indoor air samples returned results that present an acceptable risk for site residents, site workers, and construction workers, sub-slab vapor samples returned results that exceed EPA RSLs in both a residential and industrial setting. This suggests that vapor intrusion risk is present for site occupants and could potentially be present for occupants of neighboring properties. Further investigation to determine vapor intrusion mitigation needs at the site and, if further groundwater assessment reveals that the contamination plume extends off-site, additional vapor intrusion assessment on neighboring properties may be necessary to evaluate risks and ensure protection of human health and the environment.

The site information and reports have been reviewed as part of the Initial Site Screening (ISS) program. The site has been assigned a **Priority 2**, which constitutes a moderate level of concern and indicates that some risk of exposure likely exists at the site.

Please submit a work plan for further assessment of soil, groundwater, and the underground anomalies by **October 31, 2024**. If you have any questions or would like to discuss further, please contact me at [\(515\) 415-0889](tel:515-415-0889) or jake.bucklin@dnr.iowa.gov.

Sincerely,

Jake Bucklin
Environmental Specialist
Land Quality Bureau

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