

## Revised High Purge Volume Sub-slab Testing

The proposed sub-slab sampling plan has been revised based on comments received on July 21, 2020 in an email from the US EPA and to provide detail regarding the additional quality control measures that will be used during sampling. The proposed sub-slab sampling will be completed using high-purge volume vapor sampling and standard sub-slab sampling at 311 E Greenfield Ave, the former Solvay Coke and Gas Site. The general procedure is described below.

The number of high-purge volume sampling points has been increased to seven (HV-1 through HV-7) and are installed within Komatsu's proposed manufacturing building, as shown on the attached figure. In addition, standard sub-slab sampling will be performed as part of the QA/QC procedures to validate the analytical results of the high-purge sampling. The sampling points were located based on the previous groundwater analytical results and the potential for areas of vapor concern as outlined in the previously submitted vapor assessment.

High purge volume sub-slab vapor monitoring was selected based on property size as well as accessibility. Sample points were placed to maximize the potential radius of influence.

Each sampling point was constructed by coring a 3-inch diameter hole through the concrete floor and removing the underlying material to a depth of approximately 8 inches. A one-inch diameter PVC riser with six-inches of slotted screen was placed down the hole with the riser extending slightly above the floor level and capped prior to sampling. Washed filter sand will be placed around the screen followed by bentonite chips and hydraulic cement to form a seal. All vapor probes will be allowed to set for a minimum of 12 hours prior to sampling.

Prior to sampling, a set of three, Cox-Colvin sub-slab vapor probes will be installed surrounding one (1) of the sampling points at distances of approximately 5, 10 and 20-25 feet away from the sampling point in separate radial directions in order to measure the effective radius of influence (ROI) for the sample location. The selected sampling point is shown on Figure 1 and the vapor pins will be located in the field based on site conditions. As stated in RR-800 Section 5.4.1, *additional quality control measures-measuring the vacuum of influence*, determining the ROI on only one of the sampling points is acceptable and is representative of the other sampling points because the construction of the building foundation is uniform across the entire building and a uniform layer of compacted stone is present beneath the entire extent of the concrete building slab. A manifold set up will then be connected to the sampling point that will include a sampling port, a pressure gauge and a connection port to the blower.

Following setting up the system, a blower will be started to allow for approximately 5 minutes of high volume purging during which time a smoke test will be completed checking for potential leaks through the surrounding floor slab and sampling components. The blower will be vented outside, if possible, or a minimum of 50-feet away from the sampling point. During this initial purging, readings will be collected for photoionization detector (PID) and flow. Vacuum readings will be collected from the three (3) ROI probes around the single sampling point identified on Figure 1. Following the initial 5-minute purge, the valve on a 6-liter summa canister that was attached to the sampling point manifold will be opened to allow for sample collection. The canister is equipped with a 30-minute flow controller. During the purging and sampling effort, PID

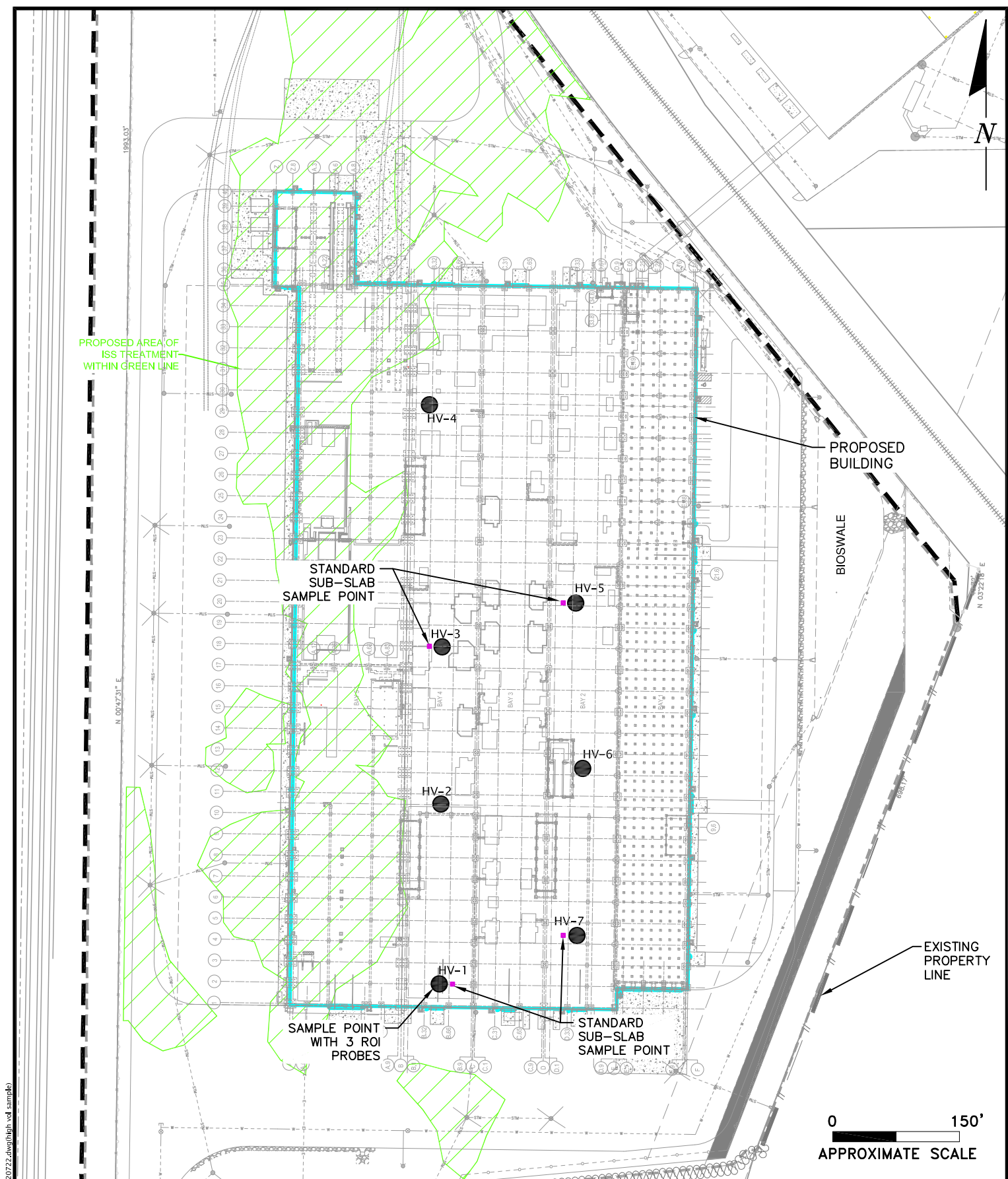
readings will be recorded at the vapor discharge point. PID readings are collected during testing at each sampling location. Following the 30 minutes of sample collection, the valve on the canister will be closed and the blower shut down. This process will be repeated for each sampling point, except for the installation of the three (3) ROI probes, which will only be completed at the sampling point identified on Figure 1.

The high-volume sampling will occur during normal HVAC and building operations as recommended by RR-800 Table 5c. The methane mitigation system will not be operational during the high-volume sampling events.

All vapor samples will be transported under COC procedures, to an accredited laboratory for analysis of benzene and naphthalene using Method TO-15 modified. It is noted that, following WDNR approval, the sample points will be abandoned.

In accordance with WDNR guidance, one round of high-volume sampling will occur during the time of at or near high-water table conditions at the site and one round will be completed during winter conditions. If there are no exceedances of a Vapor Risk Screening Level (VRSL) in the sub-slab vapor samples, then no more additional rounds of sub-slab vapor samples will be collected. If any of these indicate an exceedance of a VRSL, then follow-up indoor air samples will be collected.

As part of the QA/QC, a standard sub-slab sample will be collected from the 5-foot away Cox-Colvin vapor probe around the sampling points identified on Figure 1. These sampling points are HV-1, HV-3, HV-5, and HV-7. These points were chosen based on the groundwater sampling results that occurred in 2018 and 2019 prior to the execution of the in-situ soil stabilization in the soil and groundwater contamination source area. HV-1 and HV-3 were chosen because they are near the previously completed ISS of the source area, which had groundwater concentrations above the NR 140 enforcement standard (ES) prior to the ISS completion. HV-7 was chosen because the groundwater sampling results for benzene were above the NR 140 ES. The sampling results will be used to validate the result of the high-purge sampling result. The sub-slab sample will be collected using a summa canister and the method outlined in Section 5.4.1 in RR800. The samples will be collected prior to the high-purge sampling being conducted. The frequency of the standard sub-slab sample will be the same as the high-purge volume sampling.



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**PROPOSED BUILDING HIGH VOLUME SAMPLES LOCATIONS**

**311 E. GREENFIELD AVE  
MILWAUKEE, WISCONSIN**

Scale: 1" = 150'

Date: August 26, 2022

KPRG Project No. 17519

FIGURE 1

T:\projects\komatsu\site\_map\_rev\_2020\_vert\_020722.dwg (high vol sample)