

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
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***Via Email***

May 8, 2012

To: Tom Fox, Prairie Ronde Realty  
Jim Tolbert, AECOM  
Dave Mursch

From: Michelle Kaysen, US EPA  
Bhooma Sundar, US EPA

Re: Prairie Ronde Realty Company  
Work Plan for Interim Sub-Slab Depressurization System, Received 5/3/12  
Dowagiac, Michigan

US EPA has reviewed Prairie Ronde Realty's (PRR) *Work Plan for Interim Sub-Slab Depressurization System*. The Agency received this work plan on May 3, 2012 following PRR's *Indoor Air and Sub-Slab Soil Gas Sampling Report*, received by EPA on April 30, 2012. Please address the following comments in a revised work plan.

## **1.0 Introduction**

The sub-slab depressurization system (SSDS) is repeatedly referred to as an "interim" system; however, the Agency does not view this system as an interim system. This action is proceeding as a Corrective Action Interim Measure. The SSDS is expected to be consistent with the proposed final remedies and will operate as such until EPA-approved remedial endpoints are obtained or an alternative final remedy is approved. Although an SSDS is not intended to be a long-term solution to the contamination, it must continue to be operated and maintained throughout the period of that exposure risk.

## **2.0 System Installation and Startup**

PRR is "initiating a survey to locate and repair crack or penetrations in the floor slab." Provided the size of the building, the use of "Drylock" or epoxy paints should be considered to cover large surface areas and to cover caulked materials previously placed in the concrete floor. Locations of caulking and/or painting should be recorded and provided in a final SSDS Interim Measure report.

The installation section does not address key system design questions. The pipe size, blower size, subsurface material, and extraction point density all effect the radius of influence. The radius of influence at each extraction point, especially in a large building, is critical to the system design

and effectiveness. Achieving vacuum under a large slab may require multiple lateral lines and blowers in order to induce the necessary influence at all locations.

Specific areas of concern include the PRR Office, Velthouse Antiques, Michigan Precision, and the North RV Park. The nearest SVE wells to the PRR Office appears to be SVE-A and SVE-M. Radius of influence must be demonstrated for the PRR Office and if these two SVE wells do not achieve influence, another extraction well will need to be installed. Velthouse Antiques and Michigan Precision are also located in an area where the current SVE wells will not be sufficient to achieve influence. If that is the case, another extraction well will need to be installed. The North RV Park appears to have only one SVE well designated for that area. SVE-N and SVE-L should be considered as additional extraction points in order to achieve influence under that area. Although some of these areas may not be currently occupied, future potential use must be considered.

The "initial operating period" is not defined. The parameters measured during this time, on a weekly basis, have not been defined. Those measurements should include decision criteria in the event monitoring demonstrates unacceptable system performance. All sub-slab vapor monitoring ports should demonstrate a vacuum is being achieved beneath the entire slab. The extension of the pressure field must be demonstrated to extend influence beneath all occupied areas, and if not, additional extraction points must be installed. An over-engineered system is undesirable as it will create too much subsurface vacuum and draw deeper vapors toward the building.

The initial monitoring period should also include sub-slab and indoor air analytical samples. A schedule and decision criteria should be provided.

### **3.0 Monitoring and Sampling**

This section states that the sub-slab vacuum will be monitored at the vapor monitoring ports with a magnehelic gauge. Please provide an explanation as to why a digital manometer was not selected.

The appropriate pressure value or range should be defined.

Quarterly monitoring may be an appropriate frequency in the future, but is not at this time. In the absence of defining the "initial operating period", which includes weekly monitoring, it is not clear what type of monitoring program or frequency PRR is proposing. Weekly monitoring should be implemented in the near-time.

Both the near-term and long-term monitoring should include soil gas and indoor air samples in addition to pressure differentials and the vapor monitoring ports. PRR should propose a sampling and analysis protocol for the "initial operating period" and the long-term maintenance.

**General**

PRR should include in the revised work plan a schematic of the proposed subsurface pipe design, layout, and points of connection to the blower and stack.

The final Corrective Measures Study should include this interim measure and the proposed final remedial endpoints and associated decision criteria.

A copy of MDEQ's permit approval should be provided to EPA.

