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February 2, 2009

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Mr. William Ports
NYSDEC Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7017

**Subject: Work Plan for Indoor Air and Soil Vapor Intrusion Evaluation
Haverstraw MGP Site, 3-44-049P
Haverstraw, New York**

Dear Mr. Ports,

On behalf of our client, Orange and Rockland Utilities, Inc. (O&R), AECOM Environment is pleased to provide you with this site-specific Work Plan for a scope of work and methods for performing an indoor air and soil vapor intrusion (SVI) evaluation at six residences near the manufactured gas plant sites in Haverstraw, New York. The sampling will be performed in accordance with the New York State Department of Health (NYSDOH) document entitled "Guidance for Evaluating Soil Vapor Intrusion in the State of New York", dated October 2006. The SVI evaluation sampling will occur during the heating season, which is generally between November 15 and March 31 in New York State (NYSDOH Guidance, 2006).

Investigation objectives

The objectives of the proposed investigation are to:

- Characterize soil vapor conditions beneath the buildings via the collection and analysis of sub-slab soil vapor samples;
- Determine if sub-slab soil vapor conditions are adversely affecting indoor air quality conditions via the collection and analysis of indoor air quality samples and ambient (outdoor) air samples.

Planned SVI field activities

The proposed scope of work will consist of the collection of indoor air, ambient air, and sub-slab soil vapor samples at six residences in Haverstraw, NY. A total of 15 samples will be collected and analyzed: 6 indoor air, 6 sub-slab vapor, 2 ambient air, and 1 duplicate sample.

The approximate sampling locations are shown on the attached Figure 1.

The SVI sampling will require two tasks to complete, as follows:

Task 1 – Preparation

Utilities clearance and selection of sample locations. Prior to installing the sub-slab sample points, all proposed sub-slab vapor and soil vapor locations will be cleared for utilities using ground penetrating radar (GPR) This will be conducted in accordance with the Site-Specific Health and Safety Plan (HASP). The selected locations will also be free of floor tiling or other potentially asbestos-containing material.

Installation of sub-slab vapor sampling points. After the sub-slab sampling location is pre-cleared by the GPR, the sub-slab vapor sample points will be installed to enable a sample to be collected from immediately below the concrete floor slab of each building. A small hole will be drilled through the concrete slab and Teflon® tubing will be placed in the hole. An air-tight seal around the tubing will be created by filling the space between the tubing and the concrete and the area around the probe with hydrated bentonite clay and modeling clay. The integrity of the seal will be confirmed by placing a helium-filled “shroud” around the insertion point. One to three volumes of air will be purged with a helium meter at a rate not to exceed 0.2 liters per minute, in accordance with NYSDOH Guidance. Detections of helium will indicate a leak in the seal, requiring that the seal be repaired or replaced.

Chemical inventory. Consistent with NYSDOH guidance, a chemical inventory check will be performed to document current conditions with regard to the storage of chemicals. The chemical inventory will be performed in the rooms and areas in and adjacent to the planned indoor air sampling location.

Task 2 – Sampling

Ambient and indoor air samples will be collected at the same time as the sub-slab and outdoor soil vapor samples. The sample collection will occur at least 24 hours after the installation of the sub-slab soil vapor probes. Prior to collection of the sub-slab vapor samples, the seals will be tested using the helium procedure described above. All samples will be collected in certified-clean, 6-liter canisters for a period of approximately 2 hours.

Two ambient air samples will be collected outside the residences at locations determined to be upwind and downwind of the buildings.

An Indoor air sample and coinciding sub-slab vapor sample will be collected from each of the six residences if access is provided by the property owners/residents. Following the sub-slab vapor point sampling, the seal and tubing will be removed and all holes will be sealed and patched to match the existing grade.

Laboratory analyses and reporting

The laboratory will perform the analyses according to methods and procedures specified in the New NYSDEC Analytical Services Protocols (ASP, July 2005). The data package provided by the laboratory will meet the specifications of a full ASP Category B deliverable package. The laboratory performing the analyses will have current NYSDOH Environmental Laboratory Approval Program (ELAP) certification for all analyses performed. A NYSDEC Data Usability Summary Report (DUSR) will be prepared by a qualified chemist.

The samples will be analyzed for VOCs (including naphthalene) by U.S. EPA Method TO-15. In addition to the standard TO-15 list of compounds, several additional compounds will be analyzed, including: indane, indene, thiophene, styrene, 2-methyl pentane, isopentane, 2, 3-dimethyl pentane, isooctane, and methyl tert butyl ether (MTBE). The helium analysis will be performed using modified

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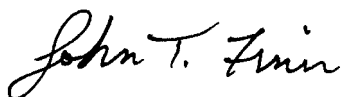
method ASTM D1945. Upon receipt of validated analytical results, a report on the SVI evaluation will be prepared and submitted to the NYSDEC.

Schedule

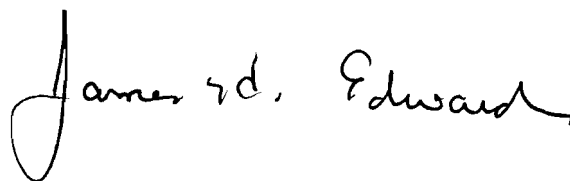
A tentative schedule for the SVI has been established. This schedule is dependent upon property owner/resident availability and agreement and; therefore, is subject to change. However, AECOM is proposing to conduct the SVI evaluation on Feb. 24 – 26, 2009.

If you have any questions regarding this Work Plan, please do not hesitate to contact me at (607) 277-5716.

Sincerely,



John T. Finn, P.E.
Senior Engineer



James Edwards
Geologist

JTF:mlr

Attachments: Figure 1 – Sampling Locations

cc: Maribeth McCormick – O&R
Anthony Perretta – NYSDOH
File: 05090-029



LEGEND:

- ⊗ SG-## SOIL GAS SAMPLING LOCATION
- IA-## INDOOR AIR SAMPLING LOCATION
- AMB-## AMBIENT AIR SAMPLING LOCATION
- ▣ AMB-## AMBIENT AIR SAMPLING LOCATION

AECOM

ORANGE & ROCKLAND UTILITIES, INC.
 HAVERSTRAW, NEW YORK
 05090-029

AIR MONITORING AND SOIL GAS LOCATIONS
 FEBRUARY 2009
 CLOVE & MAPLE AVE. FORMER MGP SITE

DATE: 2/2/09

DRWN: HAJ

FIGURE 1