Sub-Slab Depressurization System
Communication Testing Work Plan

Dutchess County Airport Hanger Facility
Site No.: 314078
Call Out ID: 119161

Former IBM Hanger Building B953

Prepared for:

New York State Department of Environmental Conservation
Division of Environmental Remediation
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I. Site Description / History

A Sub-Slab Depressurization System (SSDS) is proposed for installation by Aztech Technologies, Inc. on behalf of the New York State Department of Environmental Conservation (NYSDEC) at the former IBM aviation hanger B953. The purpose of this SSDS is to facilitate the mitigation of soil vapors from beneath the north, south and east perimeter working spaces of the structure. The system will be designed and installed to specifically prevent the intrusion of soil vapors containing chlorinated solvents and petroleum derived compounds from entering into the structure.

II. Pre-System Installation Activities

The following section consists of a description of activities to ensue at the Dutchess County Airport Hanger Facility B953 site, as described in the scope of work provided by the New York State Department of Environmental Conservation Call Out No. 119161 and in the Standby Remedial Services Contract No. 100904, for communication testing activities prior to system installation.

a. Communication Testing

Prior to system installation, communication testing will be performed in the substructures at B953. The communication test will begin with the installation of an extraction point located where the greatest radius of influence could possibly be obtained. Consideration will also be given to the layout of the structure and selecting an extraction point location where the least amount of interference will occur with normal activities in the area. Likely testing locations inspected during a site visit on November 22, 2010 include: the maintenance machine shop area located at the south portion of the building; a storeroom located toward the southeast corner of the building; and, the furnace room located on the north side of the building. Actual location will be determined in the field based on the above criteria and on a review of building plans. Building plans were not available for review at the time this work plan was being prepared. A diagram of an extraction point can be found in **Attachment A, Figure 1** of this document.

Once the first extraction point is located and installed, a Radon Away fan will be setup as shown in **Attachment B, Photograph 1**. The

exhaust from the fan will be piped via flexible piping to the exterior of the building, favoring areas where no employees will come into contact with the exhaust from the fan. Once the extraction point, fan and piping are installed, small (3/8 inch diameter) holes will be drilled through the concrete slab at various locations and distances surrounding the extraction point, where vacuum will be measured and recorded.

Observed vacuum measurements will be obtained using a Dwyer Micro-Monometer Series 475 Mark III to confirm that 0.004 inches of water column can be maintained along the subsurface of the concrete slab of the structure (meter shown in **Attachment B, Photograph 2**). In addition, measurements will also be taken at the wellhead for flow rate (SCFM) using a Dwyer Anemometer, vacuum using a Dwyer Magnehelic, and total volatile organic compounds (TVOCs) using a ppb Rae 3000. TVOCs will also be periodically measured and recorded at the exhaust point during communication testing activities. A copy of the Communication Test data collection sheet is provided in **Attachment C**.

Depending on the radius of influence found at the tested extraction point, a larger fan or additional extraction points will be strategically installed (if necessary) until all vacuum test points along the perimeter of the substructure achieve and maintain the required 0.004 inches of water column.

b. Communication Testing Report and Conceptual Design

After communication testing is completed, separate reports detailing the results at hanger facility B953 will be prepared and submitted to the NYSDEC. Based on these results, Aztech Technologies, Inc. will submit a Site Specific Work Plan to the NYSDEC and copies can be distributed to the New York State Department of Health (NYSDOH) for subsequent approval. Any changes made to this Work Plan after submittal will be noted in appendices that will be attached to the Final Design Report. The Final Design Report will include all contracts, warranties, a description of the system and basic operating principals, operation and maintenance procedures, and a list of appropriate actions to take in case of system failure.

Attachments

Attachment A

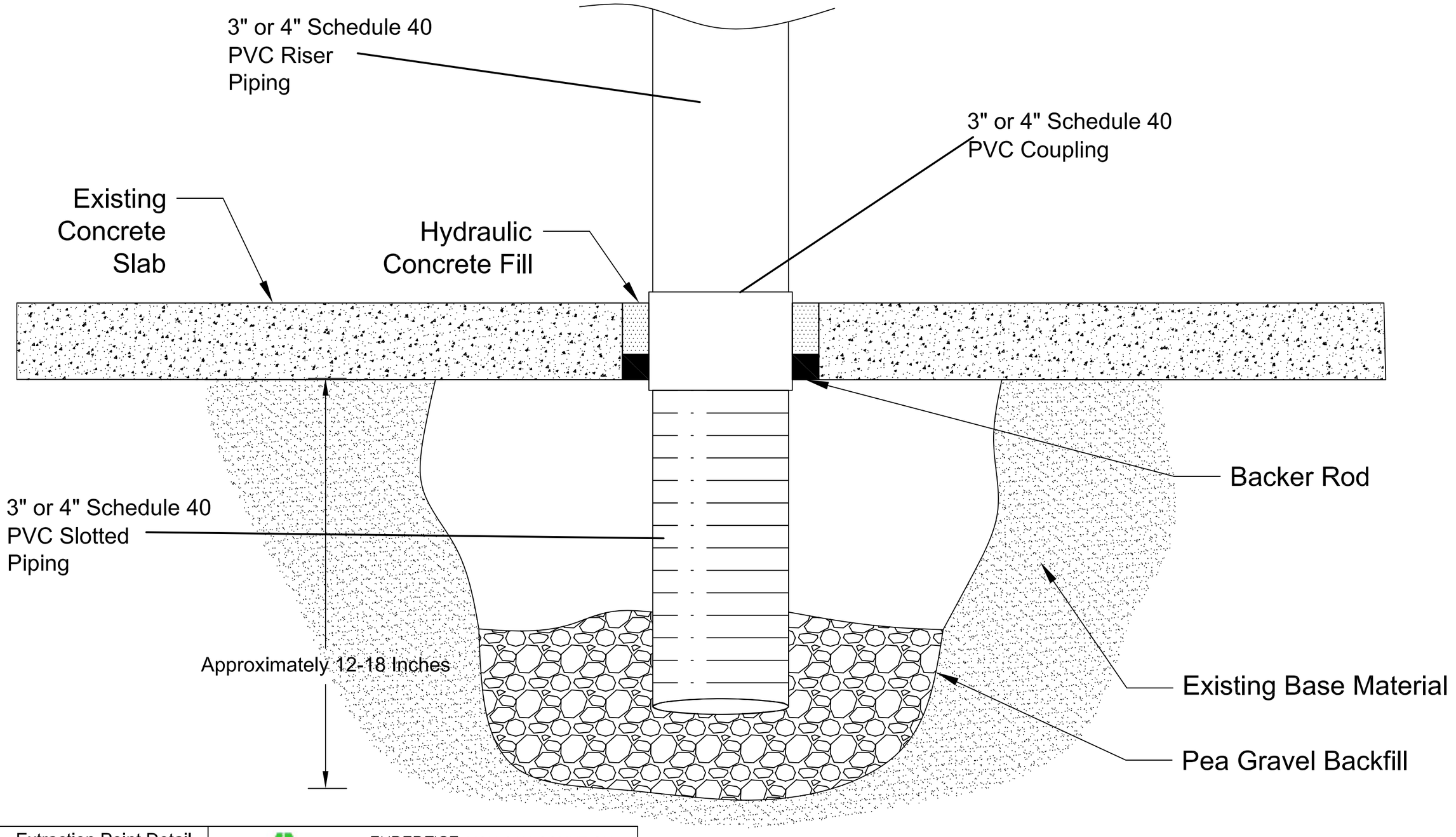

Figure 1 - Extraction Point Detail
Hanger Building B953
Dutchess County Airport
Site No: 314078

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Attachment B

Photo 1

Extraction Point Setup for Communication Test – Including Anemometer and Magnehelic Monometer

Photo 2

Vacuum Point Measurement for Communication Test Using Digital Micro-Monometer

Attachment C

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Communication Test

Project ID

Site: Department of Environmental Conservation - Dutchess Co Airport
Address: Aviation Hanger Building B953
Date:

Time	Extraction Point Number 1 Using Radon Away Fan Model X								
	Vacuum at Well Head	Vacuum at Point #1	Vacuum at Point #2	Vacuum at Point #3	Vacuum at Point #4	Vacuum at Point #5	Vacuum at Point #6	TVOC (ppb)	Air Flow (SCFM)

Time	Extraction Point Number 2 Using Radon Away Fan Model X								
	Vacuum at Well Head	Vacuum at Point #1	Vacuum at Point #2	Vacuum at Point #3	Vacuum at Point #4	Vacuum at Point #5	Vacuum at Point #6	TVOC (ppb)	Air Flow (SCFM)

Time	Extraction Point Number 3 Using Radon Away Fan Model X								
	Vacuum at Well Head	Vacuum at Point #1	Vacuum at Point #2	Vacuum at Point #3	Vacuum at Point #4	Vacuum at Point #5	Vacuum at Point #6	TVOC (ppb)	Air Flow (SCFM)