

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 8
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February 7, 2020

Carolyn Vitale
Jefferson Wollensack LLC
312 State Street
Rochester, New York 14608

Re: Sub-slab Depressurization Work Plan
Former Wollensack Optical Site
Site No.: C828209
City of Rochester, Monroe (C)

Dear Ms. Vitale:

The New York State Department of Environmental Conservation (Department) and the New York State Department of Health (NYSDOH) (collectively known as the State) have completed their review of the June 18, 2019 Sub-slab Depressurization System Work Plan (Work Plan) for the Former Wollensack Optical site (Site) located at 872 and 886 Hudson Avenue, City of Rochester. Based on the information presented in the Work Plan, the Work Plan is approved with the following modifications and clarifications.

1. The State understands that all imported fill material will be imported to the Site in accordance with DER-10 Section 5.4(e). The Request to Import/Reuse Fill/Soil Material will be submitted to the Department for review and approval prior to import of any soil/fill material to the Site.
2. In order to ensure the SSDS is mitigating the whole footprint of the Site's existing building additional sampling/monitoring points need to be installed within the building's footprint. The attached figure has been modified to show the proposed locations for the additional sampling/monitoring points.
3. The State understands that the SSDS installed within the Site's existing building will achieve sufficient vacuum under the slab that meets the NYSDOH guidance requirements for mitigation of soil vapor intrusion. See NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York dated October 2006 Section 4.0 Soil Vapor Intrusion Mitigation.
4. Pressure field extension/communication testing will be completed after the installation of the SSDS to evaluate the extent of the pressure field/communication.
5. During all field work activities associated with the IRM completed under an approved State work plan there will be a qualified environmental professional as defined in 6 NYCRR Part 375-1.2(ak) or an individual who is a direct report to the QEP on the property to supervise the activities undertaken.

6. The State understands that the installation and subsequent post-installation testing/monitoring will be documented in a Construction Completion Report or in the Final Engineering report as per DER-10 Section 5.8. The CCR and/or FER will include all NYS licensed PE stamped and signed as-built drawings and the appropriate certification language as presented in DER-10 Section 1.5.
7. An Operation and Maintenance Plan (O&M Plan) will be developed for the SSDS. This O&M Plan will be incorporated into the Site Management Plan for the Site. A copy of the Site Management Plan containing the O&M Plan will be maintained on-site.

Within fifteen (15) days of the date of this letter and prior to operation of the Sub-slab Depressurization System, the Applicant must elect in writing (electronic notification is acceptable) one of the following options:

- Option A: Accept the modified work plan;
- Option B: Invoke dispute resolution as set forth in 6 NYCRR Part 35-1.5(b)(2); or
- Option C: Terminate the Brownfield Cleanup Agreement in accordance with 6 NYCRR Part 375-3.5.

If the Applicant chooses to accept Option A then this letter becomes part of the approved Sub-slab Depressurization System Work Plan. Also, if Option A is chosen then a copy of the approved Sub-slab Depressurization System Work Plan along with this letter attached must be placed in the document repository within 1 week of accepting Option A and prior to operation of the Sub-slab Depressurization System. Please provide notification to the Department that the approved Sub-slab Depressurization System Work Plan and a copy of this letter have been placed in the document repository (electronic notification is acceptable).

State seeks to resolve any outstanding differences in a mutually agreeable manner which addresses the requirements of the Brownfield Cleanup Agreement and associated work plans. If you have any questions or concerns regarding this letter, the BCP requirements, or need further assistance with the Site, please feel free to contact me at 585-226-5354 or via e-mail at charlotte.theobald@dec.ny.gov.

Sincerely,



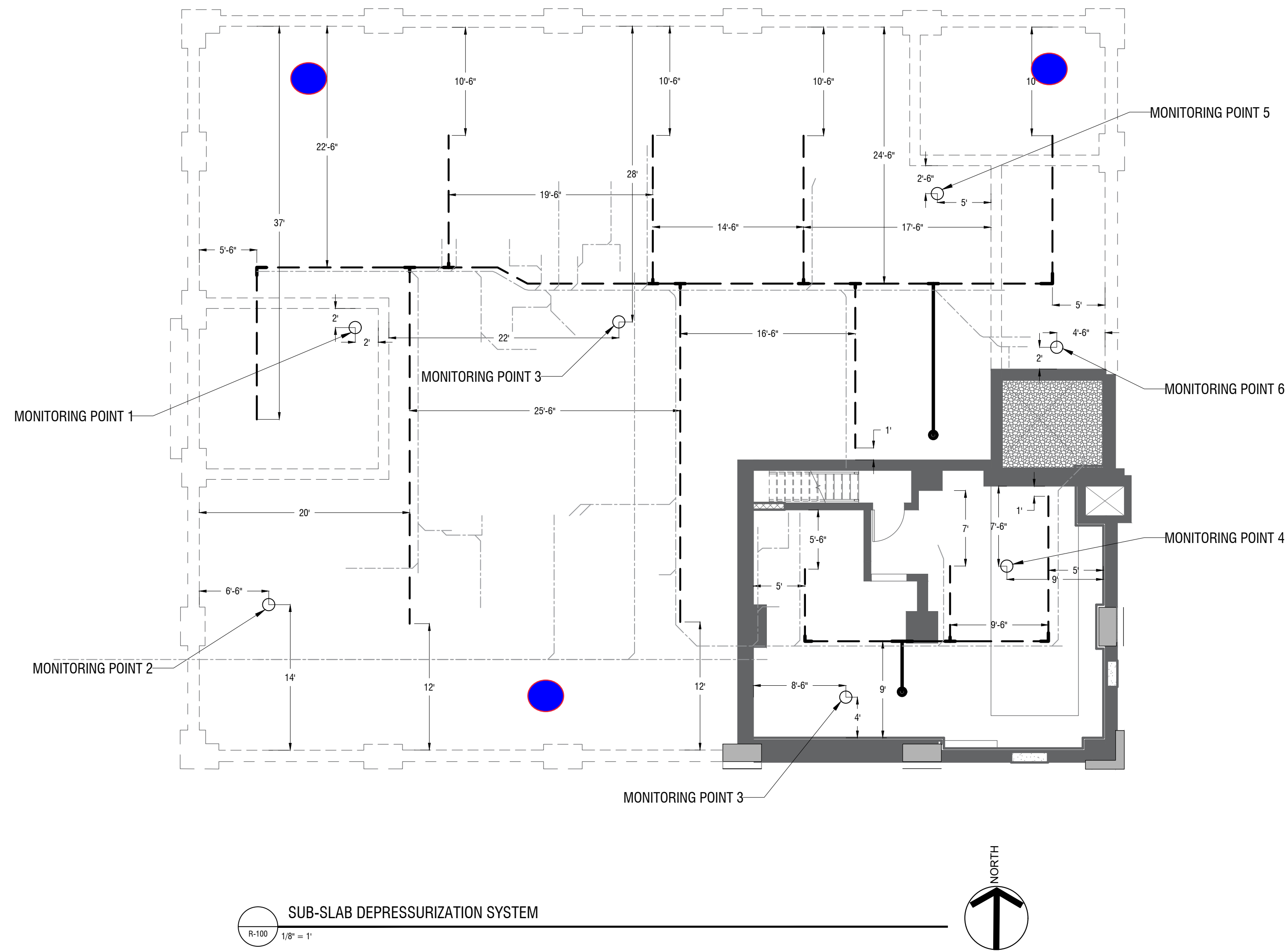
Charlotte B. Theobald
Assistant Engineer

ec:

Chris Roland (Edgemere Development)
Jennifer Gillen (LaBella)
Ann Aquilina (LaBella)
Dan Noll (LaBella)
Amy Reichhart (Nixon Peabody, LLC)
Carlos Barbosa (NYSHCR)
Melissa Doroski (NYS Dept. of Health – Albany)
Arunesh Ghosh (NYS Dept. of Health - Albany)
John Frazer (MCHD)
Wade Silkworth (MCHD)

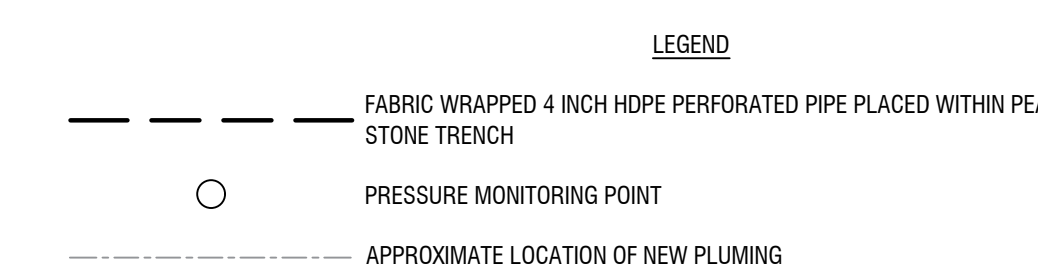
Kieran McCarthy (NYSDEC)
David Pratt (NYSDEC)
Mike Zamiarski (NYSDEC)
Todd Caffoe (NYSDEC)

ADDITIONAL SAMPLING/MONITORING POINTS - APPROXIMATE LOCATIONS.



NOTES:

- THIS PLAN NOT INTENDED TO PROVIDE PLUMBING DETAILS. REFER TO TO PLUMBING DRAWINGS.
- VERTICAL PIPES ARE 4 INCH SCHEDULE 40 PVC. CONTRACTOR TO VENT UP THROUGH THE ROOF.
- ALL SUB-SLAB VAPOR COLLECTION PIPING IS GEOTEXTILE-WRAPPED 4 INCH PERFORATED DUAL-WALLED CORRUGATED EXTERIOR SMOOTH INTERIOR HDPE.
- 4 INCH SCHEDULE 40 PVC VERTICAL RISERS TO BE ROUTED TO STORAGE ROOM/ PIPE CHASE AND VENTED UP THROUGH THE ROOF.
- INSTALL ALARM AND MANOMETER ON EACH RISER PIPE INSIDE BUILDING IN ACCESSIBLE LOCATIONS.
- SUB-SLAB DEPRESSURIZATION SYSTEM PERFORATED PIPING TO BE INSTALLED WITHIN PLUMBING TRENCH, ABOVE OR THE SIDE OF PLUMBING, WITH MINIMUM 3 INCHES OF STONE BETWEEN PIPES. MOVE SUB-SLAB DEPRESSURIZATION PIPING WITHIN TRENCH AS NEEDED TO ACCOMMODATE PLUMBING. LOCATIONS WHERE PIPING CROSSES, THE SSDS PIPING SHALL BE PLACED ABOVE PLUMBING PIPING.
- INSTALL 4" CAP AT EACH VAPOR COLLECTION PIPE TERMINATION.
- TRENCH SHALL BE BACKFILLED WITH PEA STONE. PEA STONE SHALL CONSIST OF WASHED MATERIAL THAT WILL PASS THROUGH A 2 INCH SIEVE AND BE RETAINED BY A 1/4 INCH SIEVE.
- SEAL ALL PENETRATIONS INCLUDING SUMPS AND GAPS IN THE FLOOR SLAB WITH AN ELASTOMERIC JOINT SEALANT.
- INSTALL RADON AWAY GP-501 FAN (OR EQUIVALENT) ON EACH VERTICAL RISER ABOVE ROOF. TERMINATE VENT STACK MINIMUM 12 INCHES ABOVE ROOF AND MINIMUM 25 FEET FROM ANY AIR INTAKE.
- SUB-SLAB PRESSURE MONITORING POINTS TO BE DRILLED THROUGH THE SLAB AFTER CONSTRUCTION. INSTALL VAPOR PIN ASSEMBLY AS SHOWN ON R-200 DETAIL 4.
- FINAL MONITORING POINTS TO BE CONFIRMED WITH OWNER.



LaBella
Powered by partnership.

PROJECT CLIENT
JEFFERSON WOLLENSACK, LLC
872 HUDSON AVE
ROCHESTER, NEW YORK

DRAWING TITLE
SUB-SLAB DEPRESSURIZATION SYSTEM LAYOUT

ISSUED FOR: **FINAL**

DESIGNED BY: **AA**

DRAWN BY: **DRP**

REVIEWED BY: **AA**

DATE: **07-27-2018**

SCALE: **1/8" = 1'**

PROJECT/DRAWING NUMBER
2182207

R-100

NO.	REVISION	BY	DATE
1			
2			
3			
4			
5			
6			

It is a violation of New York Education Law Article 145, Sec. 7209, for any person, unless otherwise in writing, to offer or accept any fee, honorarium, gift, or other item in any way, if on items bearing the seal of an architect, engineer, or other professional, for the preparation, execution, or issuance of any professional drawing, plan, specification, report, or other document, or for any other service, if the fee, honorarium, gift, or other item is offered by, or received by, the person, or a specific description of the alteration.



June 18, 2019

Charlotte B. Theobald
New York State Department of Environmental Conservation
6274 East Avon-Lima Road
Avon, New York 14414

Re: Sub-Slab Depressurization System Work Plan
Former Wollensack Optical
872 & 886 Hudson Avenue
Rochester, New York
NYSDEC BCP Site C828209
LaBella Project No. 2182207

Dear Ms. Theobald,

LaBella Associates, D.P.C. (LaBella) is pleased to submit this Sub-Slab Depressurization System (SSDS) Work Plan associated with the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) Site (BCP ID No. C828209) known as Former Wollensack Optical located at 872 & 886 Hudson Avenue, Rochester, New York herein after referred to as “the Site.” This letter work plan is to seek approval on the design of the SSDS.

PROJECT BACKGROUND

The Site has been operated by various optical manufacturing companies including Wollensack Optical (AKA Wollensack Optical) from at least 1930 until approximately 2010. Previous investigations have identified the presence of volatile organic compounds (VOCs) including chlorinated VOCs in soil and groundwater at the Site.

The Site Building is currently vacant and is undergoing asbestos abatement to prepare for renovation of the existing building into apartments. A retro-fitted SSDS will be installed across the entire building footprint during renovation activities. Although not specifically required by the New York State Department of Health (NYSDOH) Final Soil Vapor Intrusion Guidance, post-installation indoor air sampling will be completed. A sampling work plan will be submitted under separate cover following installation of the system detailing the indoor air sampling plan.

SSDS DESIGN

Design drawings and specifications for the SSDS are attached. If any alterations to building plans result from permit approvals, etc. that warrant substantial changes to the SSDS, an amendment will be made to this document detailing necessary changes.

The SSDS will be installed across the entire building footprint, including the ground level (approximately 5,000-square feet) and the basement (approximately 1,000-square feet) by trenching through the existing concrete floor to install the SSDS piping network.

Two (2) separate systems are planned to be installed; one (1) in the basement and one (1) on the ground level. During building renovations, trenching will be completed for plumbing work and will be utilized for the SSDS piping as well. Additional trenching will be completed as necessary for SSDS piping only. The piping layout is shown on R-100, attached. Each system will consist of a network of horizontal 4-inch diameter perforated HDPE pipes installed within trenching beneath the concrete floor, connected to a solid schedule 40 PVC header pipe. Perforated piping will be placed a minimum of 3-inches beneath the bottom of the concrete floor. Trenches will be backfilled with peastone, with a minimum of 3-inches of peastone on the sides and above all perforated SSDS piping as shown on R-200. Concrete will be restored.

Seven (7) Vapor Pins® (2 for the basement system and 5 for the ground level system) will be installed for permanent pressure monitoring and sub-slab vapor sampling points. The Vapor Pin® construction is shown on R-200.

The solid PVC risers will penetrate the floor slab and be routed through the building to above the roofline, a minimum of 25-feet from any air intakes or building opening. Radon Away GP-501 fans (or equivalent) will be installed on the roof and activated. Alarms (RadonAway Checkpoint IIA Mitigation System Alarm, or equivalent) will be installed on each of the two (2) riser pipes in accessible locations to alert if a loss of pressure occurs. Labels will be attached to the vertical risers indicating the piping is for a SSDS.

CERTIFICATION

I Ann Aquilina certify that I am currently a NYS registered professional engineer and that this Sub-Slab Depressurization System Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remedial (DER-10).

If you have any questions, or require additional information, please do not hesitate to contact me at (585) 295-6289.

Respectfully submitted,

LABELLA ASSOCIATES, D.P.C.



Ann Aquilina, PE
Environmental Engineer



Attachments:

- R-100 Sub-Slab Depressurization System Layout
- R-200 Sub-Slab Depressurization System Details
- Specification Section 071100- Sub-Slab Vapor Mitigation System



ATTACHMENTS

SECTION 071100 – SUB-SLAB VAPOR MITIGATION SYSTEM

PART 1 - TRENCHING

1.1 GAS PERMEABLE LAYER

A layer of washed pea stone shall be placed within plumbing trenches to facilitate installation of Sub-Slab Depressurization System (SSDS) piping. Pea stone shall consist of washed material that will pass through a 2 inch sieve and be retained by a ¼ inch sieve.

1.2 PREVENTION OF SOIL VAPOR ENTRY

- A. All concrete shall be designed, mixed, placed, reinforced, consolidated, finished, and cured to minimize the formation of cracks in accordance with standards set forth in the Model Building Codes.
- B. Large openings, if any, through the concrete floor slab, grade beams, or other foundation components in contact with the soil (e.g., spaces around storm sewer piping, sumps, etc.) shall be filled or closed with materials that provide a permanent airtight seal such as non-shrink mortar, grouts, expanding foam, or similar materials designed for such application.
- C. Smaller gaps around all pipe, wire, or other objects, if any, that penetrate concrete floor slab or other floor assemblies shall be made air-tight with an elastomeric joint sealant, as defined in ASTM C920-87, and applied in accordance with the manufacturer's recommendations.
- D. All control joints, isolation joints, construction joints, and any other joints in the concrete floor slab or between the floor slab and the building's walls shall be sealed. A continuous formed gap (for example, a "tooled edge") which allows the application of a sealant that will provide a continuous, airtight seal shall be created along all joints. When the slab has cured, the gap shall be cleared of loose material and filled with an elastomeric joint sealant, as defined in ASTM C920-97, and applied in accordance with the manufacturer's recommendations.
- E. Joints, cracks, or other openings around all penetrations of both exterior and interior surfaces of masonry block or poured concrete foundation components below the ground surface shall be sealed with an elastomeric sealant that provides an air-tight seal. Penetrations of poured concrete walls should also be sealed on the exterior surface. This includes sealing of wall tie penetrations, if applicable.

PART 2 – VAPOR COLLECTION AND VENT SYSTEM

- A. Lengths of SSDS piping shall be installed within the pea stone trench as depicted on R-100. SSDS piping shall be geotextile-wrapped, 4-inch diameter, perforated, dual-walled, corrugated exterior, smooth interior high density polyethylene (HDPE).
- B. SSDS piping shall be installed above or to the side of the plumbing, within pipe trenches as depicted on R-100. Cross SSDS piping above plumbing if needed. SSDS piping shall be placed a minimum 3 inches below concrete and covered with a minimum of 3 inches of pea stone. A minimum of 3 inches of pea stone shall be placed between pipes.

- C. The collection piping shall be connected via the appropriate fittings to 4-inch, schedule 40, polyvinyl chloride (PVC) header pipes. The header pipes shall penetrate the building envelope, through the floor slab.
- D. Install perforated cap at each vapor collection pipe termination, and slope all solid PVC pipe up ¼-inch per foot from connection with vapor collection piping.
- E. The header pipe shall be routed within pipe chases by the contractor through the roof and terminate at least 12 inches above the surface of the roof, in a location that is: at least 25 feet from any air intakes, any window, or other opening into the conditioned spaces of the building that is less than 2 feet below the exhaust point; and at least 10 feet from any adjoining or adjacent buildings. All roof penetrations must be properly sealed and completed in accordance with other related specifications.
- F. All exposed and visible interior and exterior vent pipes shall be identified with labels placed at least every 25 feet. The labels shall read: "Sub-Slab Depressurization System."
- G. Vent pipes shall be installed in a configuration and supported in a manner that ensures that any rain water or condensation accumulating within the pipes drains downward into the ground beneath the vapor barrier.
- H. Completion is subject to owner/environmental consultant approval. The owner and environmental consultant shall be provided 48-hour notice to inspect the system prior to any portion being covered. Inspections will include at least (but not limited to) the following:
 - a. Below Grade Portions of Sub-Slab Depressurization System Piping – prior to covering any piping with stone
 - b. Above Grade Portions of Sub-Slab Depressurization System – Prior to any portions being sealed behind walls, pipe chases, etc.

In addition, the contractor shall provide photo documentation for all piping prior to covering.

PART 3 – FAN

3.1 GENERAL

- A. “Activation” of the SSDS shall be completed by adding an exhaust fan in the vertical stand pipe above the roof, as shown on R-200.
- B. The fan shall meet the following requirements (in-line exhaust fan, such as the “RadonAway GP-501” or equivalent):

Fan Specifications

Watts	Max Pres. "wc	Typical flow [ft ³ /min (cfm)] vs. static pressure [water column inches ("wc)]								
		0.0" wc	0.5" wc	1.0" wc	1.5" wc	2.0" wc	2.5" wc	3.0" wc	3.5" wc	4.0" wc
60-140	4.2	-- cfm	-- cfm	95 cfm	87 cfm	80 cfm	70 cfm	57 cfm	30 cfm	10 cfm

- C. The fan in the vent pipe and all positively-pressurized portions of the vent pipe shall be located

outside the habitable space of the building.

- D. The fans shall be installed in a vertical run of the vent pipe, at an approximate height of at least 1-ft. above the roofline to facilitate maintenance and repair.

3.2 WARNING SYSTEMS

- A. Each vertical standpipe shall be equipped with a U-tube type manometer or approved equivalent below the fan and within an accessible space, to demonstrate that pressure within the pipe is below atmospheric pressure.
- B. The fan shall be equipped with a prominently positioned visible or audible warning system (e.g., RadonAway Checkpoint IIA Mitigation Alarm or approved equivalent) to alert the building occupants if there is loss of pressure or air flow in the vent pipe, or if the fan ceases operation. Location of the warning system shall be subject to owner/Environmental Project Monitor approval. The Contractor will connect the alarm and fan on separate breakers and provide that information to the Environmental Project Monitor. The Contractor will clearly label the breakers “SSDS Fan” and “SSDS Alarm”. Label alarm with contact information to be provided by the owner.

PART 4 – TEST POINTS

- A. Test Points consisting of 5/8 inch diameter monitoring points (Vapor Pin® or equivalent) shall be installed within the floor slab as shown on R-100 to assess for pressure differential. Test points shall be temporarily sealed when not in use to prevent soil vapor entry into the building.

PART 5 – MISCELLANEOUS

- A. Heating, Ventilating, and Air Conditioning (HVAC) systems shall be designed and installed to avoid depressurization of the building relative to underlying and surrounding soil. Specifically, joints in air ducts and plenums passing through unconditioned spaces shall be sealed.
- B. The Contractor will conduct a backdraft test to ensure the operation of the SSDS system does not create backdraft when the HVAC system is in operation. The Contractor will complete the backdraft test per the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York dated October 2016. The Contractor will provide a letter or report documenting the backdraft test to the Environmental Project Monitor.

END OF SECTION 071100