LABELLA Associates, D.P.C.
Engineering
Architecture
Environmental
Planning

Interim Remedial Measures
Work Plan Amendment
Sub-Slab Depressurization System Installation

BCP Site #C828187

Location:

3750 Monroe Avenue
Pittsford, New York

Prepared for:

3750 Monroe Avenue, LLC
c/o Norry Management Corp.
1465 Monroe Avenue
Rochester, New York 14618

LaBella Project No. 213131

August 7, 2015

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 8
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September 18, 2015

Mr. Lewis Norry
3750 Monroe Avenue Associates, LLC
c/o Norry Management Corporation
1465 Monroe Avenue
Rochester, New York 14618

Dear Mr. Norry:

Subject: **3750 Monroe Avenue, Site #C828187**
Interim Remedial Measures Work Plan Amendment:
Sub-Slab Depressurization System Installation – August 7, 2015
Town of Pittsford, Monroe County

The New York State Department of Environmental Conservation and the New York State Department of Health, collectively referred to as the State, have completed their review of the document entitled *"Interim Remedial Measures Work Plan Amendment: Sub-Slab Depressurization System Installation"* (the IRM Work Plan Amendment) dated August 7, 2015 and certified on September 3, 2015, for the 3750 Monroe Avenue site located in the Town of Pittsford. In accordance with 6 NYCRR Part 375-1.6, the State has determined that the IRM Work Plan Amendment, with modifications, substantially addresses the requirements of the Brownfield Cleanup Agreement. The modifications are outlined as follows:

1. **Section 5.2.1:** The exact number and location of post startup indoor air, soil vapor intrusion (SVI; indoor air plus sub-slab soil vapor), and outdoor air samples will be determined once the new system comes online (depressurization points are connected to the fan and the fan starts continuous operation) and the extent of the pressure field is updated.

2. **Section 5.2.1:** The post startup indoor air, SVI, and outdoor air samples will be collected both 45 days after the new system comes online and during the heating season. Close adherence to the schedule is needed to meet both of these requirements with one sampling event.

3. **Section 5.2.1 and Section 1.3:** The post startup sample results will be evaluated against the most recent guidance available at the time the data are submitted to the State. For example, the indoor air results for trichloroethene will be compared to the State's current air guidance value of 2 micrograms per cubic meter.

4. **Section 5.2.1:** Additional action will be completed, as necessary, based on the post startup sample results. Note that the June 2015 data indicate additional action (Monitoring) may be needed in the Turf Time space due to the presence of 1,1,1-trichloroethane.

5. **Section 5.2.2:** Air emissions from the entire sub-slab depressurization system (SSDS) will be combined and evaluated as a whole; rather than fan by fan.

6. **Section 5.3**: The State did not previously approve a Health and Safety Plan for the IRM. The State's letter of November 5, 2014 specifically stated *"This approval does not extend to the Health and Safety Plan as the State is not responsible for the health and safety of remediation workers."* The State did previously approve a Community Air Monitoring Plan.

7. **Section 6:** As specified in the State's letter of November 5, 2014, an Interim Site Management Plan will be also be submitted within two months of full startup of the SSDS.

With the understanding that the above noted modifications are agreed to, the IRM Work Plan Amendment is hereby approved. Please notify me at least seven (7) days in advance of the start of field activities.

If you choose not to accept the State's modifications, you are required to notify this office within 20 days after receipt of this letter or prior to the start of field activities. In this event, I suggest a meeting be scheduled to discuss your concerns prior to the end of this 20-day period.

Thank you for your cooperation in this matter and please contact me at (585) 226-5357 if you have any questions regarding these modifications.

Sincerely,

Frank Sowers

Frank Sowers, P.E.
Environmental Engineer 2

ec:

James Mahoney	Rachel Rosen
Dan Noll	John Frazer
Jennifer Gillen	James Pronti
Kyle Miller	Bridget Boyd
Frank Ricotta	

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August 2015

LaBella Associates, D.P.C.
300 State Street
Rochester, New York 14614

Certification:

I Daniel P. Noll certify that I am currently a NYS registered professional engineer and that this Interim Remedial Measures Work Plan Amendment was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

9/3/15
Date

Daniel P. Noll
Name

Table of Contents

Tables, Figures and Appendix

Tables

Figures

1.0 Introduction & Background

LaBella Associates, P.C. (LaBella) is pleased to submit this Interim Remedial Measures (IRM) Work Plan Addendum to conduct remedial activities at 3750 Monroe Avenue, Town of Pittsford, Monroe County, New York, herein after referred to as the "Site." The Site was entered into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) in March 2014 as Site #C828187. A Site Location Map is included as Figure 1. LaBella is submitting this IRM Work Plan Addendum on behalf of 3750 Monroe Avenue Associates, LLC (3750 Associates).

1.1 Site Description and Background

The BCP Site boundary is comprised of approximately 9.37 acres. The BCP Site is a portion of the Site Tax Parcel, which is 41.90 acres; however, the BCP Site is 9.37 acres. Figure 1 attached illustrates the Site location and surrounding area of the Site. Approximately 6.38 acres of the BCP Site is utilized as a commercial office building and the remainder of the BCP Site is utilized as a parking lot (and associated/adjacent landscaped areas).

The BCP Site is located entirely within the Site Tax Parcel, in the central portion of the Site Tax Parcel. The Site Tax Parcel is bounded by Monroe Avenue to the southwest, a Rochester Gas and Electric (RG&E) transmission line to the northeast, by vacant real property and a developed commercial property southeast, and by several residential properties developed with apartment complexes to the northwest.

The Site Tax Parcel was initially operated by Graflex, Inc. from 1956 until at least 1979 and utilized for industrial purposes, including plating operations and printing. Additional tenants at that time included the Singer Company, Xerox Inc., and General Precision Inc. Historical mapping of the Site indicates the former presence of a "waste disposal testing area" and hazardous waste storage areas on the western side of the Site building (within the BCP Site) prior to the 1980's. Ownership changed several times until purchased by 3750 Monroe Avenue Associates, LLC in 1985. Since that time, 3750 Monroe Avenue Associates, LLC has leased portions of the Site Tax Parcel to various tenants for use including but not limited to the Town of Pittsford Town Court, a printing shop, a senior center, a daycare and various commercial and light industrial operations.

1.2 Previous Investigations

A Phase I ESA was completed by LaBella in May 2012 and the Phase I ESA identified an undated figure of the Site Tax Parcel obtained from the Town Assessor Office that indicates the building uses included (among other things) 'machine shop', 'press room', and 'heat treat' areas. In addition, a review of assessment records obtained from the Town of Pittsford identified the installation of one (1) 2,000-gallon petroleum underground storage tank (UST) at the Site Tax Parcel in 1960. These records included a map which depicted the UST to be located to the west of the Site building.

A Preliminary Phase II ESA of the Site Tax Parcel completed by LaBella in 2012 included conducting a geophysical survey (EM-61 survey), test pitting work and collecting soil and groundwater samples via direct push technology. Additional subsurface testing (soil and groundwater) was completed in the interior portion of the Site in June 2013. Although one anomaly of the size and shape of a UST was identified by the geophysical survey, test pitting activities did not identify any USTs in the pits

excavated. However, soil and groundwater samples collected from the BCP Site portion of the Site Tax Parcel identified concentrations of chlorinated volatile organic compounds (VOCs) including trichloroethene (TCE) and its breakdown products as well as some petroleum-related VOCs above the New York State Department of Environmental Conservation (NYSDEC) Part 703 Groundwater Standards.

Indoor air quality sampling was completed by LaBella at the Site in July 2014 and validated results were received in September 2014. Additional information associated with this indoor air sampling event is included in Section 4.0.

The property owner conducted a Design Phase Investigation (DPI) at the Site in August 2014 to obtain additional data for designing a sub-slab depressurization system (SSDS). An IRM Work Plan was submitted in October 2014 and approved by NYSDEC on November 5, 2014 with modifications.

The SSDS was installed between December 2014 and June 2015. Per the IRM Work Plan, indoor air sampling and soil vapor intrusion (SVI) sampling were required post SSDS start up. Due to the timing of the installation being completed, it was agreed that an initial round of sampling would be completed outside of the heating season and a follow up round of sampling would be completed at a later date. The initial sampling results are undergoing data validation; however, the sample results indicated that the indoor air in the northern portion of the building may require further mitigation. Rather than conduct a re-sampling to assess the initial sampling of this area, the property owner elected to upgrade the SSDS system to obtain influence over the northern portion of the main building. It should be noted that a complete summary of the SSDS installation will be provided in the Construction Completion Report (refer to Section 6.0).

This IRM Work Plan Addendum has been developed to provide the details for the upgrades to the SSDS.

1.3 Standards, Criteria and Guidelines

This section identifies the Standards, Criteria and Guidelines (SCGs) for the Site. The SCGs identified are used in order to quantify the extent of contamination at the Site that require remedial work based on the cleanup goal. The SCGs to be utilized as part of the implementation of this IRM Work Plan are identified below:

Soil SCGs: The following SCGs for soil were used in developing this IRM Work Plan:

- NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (RPSCOs) for Unrestricted Use, the Protection of Groundwater, and the Protection of Public Health/Commercial Use; and,
- NYSDEC Commissioner Policy 51.

Groundwater SCGs: The following SCGs for groundwater were used in developing this IRM Work Plan:

- NYSDEC Part 703 Groundwater Standards
- NYSDEC TOGS 1.1.1 Guidance Values for Groundwater

Soil Gas SCGs: Currently, no state regulatory (NYSDEC or NYSDOH) guidance values exist for soil gas.

Sub-Slab Soil Vapor and Indoor Air SCGs: The NYSDOH *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* dated October 2006 is utilized for the SCG for soil vapor and indoor air.

Effluent/Discharges from Vent Systems: Air Guide 1 Guidelines for the Control of Toxic Ambient Air Contaminants will be utilized for effluent/discharges from vent systems.

The attached Table 1 presents the complete list of applicable SCGs for this IRM.

2.0 Objective

The primary objective of this IRM Work Plan Addendum is to mitigate chlorinated VOC impacts identified in indoor air samples collected in June 2015. This objective is to be completed via the installation of additional SSDS vent points and associated fan within the northern portion of the main Site building. The Site is currently utilized for commercial purposes and is almost fully occupied.

The overall objective for the Site is its continued use for commercial purposes.

3.0 Summary of the Remedial Goals

The Remedial Goals for this IRM Work Plan are as follows:

1) Install additional SSDS vent points and fan to create negative sub-slab pressure in the area identified on Figure 2, thus mitigating soil vapor intrusion issues within this area of the Site building. It should be noted that the minimum vacuum goal is 0.004 inches of water column.
2) Install gauges and alarms associated with the SSDS as well as pressure field extension (PFE) points to monitor the operation of the system.
3) Containerize, characterize and properly dispose of any solid material (e.g., soil or fill) generated during the IRM. If necessary, impacted materials will be transported to a NYS part 360 permitted landfill for disposal.

Impacted soils and liquid materials, if any encountered, shall be addressed in accordance with applicable local, state, and federal regulations.

4.0 Indoor Air Quality Study Findings

As required by the NYSDEC, indoor air quality samples were collected from the Site on July 26, 2014 by LaBella. This sampling event is summarized in the October 2014 IRM Work Plan and will be summarized in the future Remedial Investigation Report and thus not further discussed herein.

In addition to the July 2014 sampling event, a post SSDS start up sampling event was completed in June 2015. This sampling event consisted of six (6) sub-slab soil vapor with six (6) collocated indoor air samples, four (4) indoor air samples (without sub-slab samples, due to being within the area of the SSDS

radius of influence) and three (3) outdoor air samples. These results have not been validated and thus have not been included in this Work Plan Addendum. The final validated results will be included in the CCR and RI Reports; however, based on the results of this testing some additional mitigation is being proposed.

5.0 Field Activities Plan

5.1 Sub-Slab Depressurization System Installation

5.1.1 System Overview

The additional SSDS infrastructure will be installed in substantial accordance with the NYSDOH *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* dated October 2006 (and associated amendments). The majority of the system will be constructed of Schedule 40 polyvinyl chloride (PVC) piping and fittings which shall conform to ASTM D3034. The SSDS is designed to influence approximately 22,500-square feet (sq. ft.) of the northern portion of the main building in order to extend the overall SSDS influence over this portion of the building. It should be noted that the actual limits of the existing system are shown for general information/reference and have not been finalized/confirmed with NYSDEC. The supplemental SSDS will consist of 8 additional depressurization points which will be manifolded together horizontally in the building's ceiling to form 1 additional sub-slab system (or "sub-system"). The existing PFE monitoring points within the tenant space will be utilized for evaluation the PFE in this area; however, these points (if not utilized for a permanent point) will be sealed subsequent to system installation and confirmation of the radius of influence.

In addition, although the approximate locations of the depressurization points are depicted on Figure 2, these locations may vary slightly based on building conditions, tenant requirements and vacuum requirements. SSDS details are included on Figure 3 and described below.

5.1.2 Depressurization Points

Each depressurization point is designed to consist of a vertical 2-in. diameter Schedule 40 PVC pipe which will be manifolded into a horizontal 4-in. diameter Schedule 40 PVC pipe (a lateral) located in the building's ceiling. The depressurization point will be installed by coring a 5-in. diameter hole in the concrete floor slab. Approximately one (1) cubic ft. of void space will be created directly under the cored area by removing material beneath the slab through the corehole. This material will be containerized for future characterization and appropriate disposal. The 2-in. diameter PVC pipe will then be lowered into the corehole so the bottom of the pipe is flush with the bottom of the floor slab. At that point, the PVC will be sealed into the concrete floor slab using urethane caulk and backer rod to ensure that a vacuum is created during system operation.

The depressurization points are anticipated to be installed away from columns and along the northern building wall. Some limited trenching may be completed to support the depressurization point installation. Such trenching will be completed by removing a small rectangle of the concrete floor just wide enough to insert a horizontal 2-in. diameter PVC pipe to connect the sub-slab space to the vertical riser. Any material removed as part of the trenching will be containerized for future characterization.

5.1.3 Pressure Field Extension Monitoring Points

The existing PFE monitoring points are anticipated to be utilized during the installation of the SSDS to confirm the creation of a pressure differential, sub-slab to ambient air pressure. Subsequent to system installation and confirmation that there is adequate "capture", the PFE points will be permanently sealed with urethane caulk and backer rod to prevent any of these points from compromising the vacuum created by the SSDS and to prevent sub-slab vapor from entering indoor air through these points. As noted above, any PFE point selected for a permanent monitoring point will not be sealed and rather secured for future use.

5.1.4 Lateral and Fan

The lateral will consist of 3-in. and 4-in. diameter Schedule 40 PVC into which the vertical depressurization points will be manifolded. The lateral is anticipated to link together all 8 depressurization points to create one sub-system, with it's own fan and will be located within the building's ceiling and/or other overhead utility corridors. The later for the sub-system will be tied into a vertical riser which will extend through the roof where a fan will be located. The fan is anticipated to be a GBR 76; however, an alternate fan size may be considered depending on the PFE testing, air flow measurements and vacuum observed at the time of start-up. Effluent from the fan shall be discharged at least 10-ft. away from any air intakes, at least 12-in. above the surface of the roof and at least 10-ft. from any opening that is less than 2-ft. below the exhaust point.

5.1.5 System Gauges and Alarms

Once the system is operating properly and effectively, an alarm will alert the building tenants and owners in the event that the system fails. The alarm system will consist of 0.25-in diameter tubing connected and sealed into the vertical riser (i.e., the vertical piping connecting the lateral to the fan). Tubing will be run from the sub-system to a location that will be agreed upon between the NYSDEC and building owner (with tenant input). It should be noted that based on the distance of this system to the other systems, this system alarm may be separate. Details associated with the alarms are included in Figure 3. The alarm will also be equipped with gauges to measure and display the vacuum reading.

The alarm will sound and the indicator light will turn from green to red when pressure within the vertical riser drops below the set point, which is anticipated to be 0.25 wic. When the system is working properly the audible indicated will be silent and the light will be green. Each alarm will be mounted approximately 7-ft. to 12-ft. above the finished floor surface. The alarms will be connected to separate electrical circuits than the fans so that the alarms will activate if power to the fans is interrupted. Signs in the vicinity of the alarms will indicate who to contact should one or more of the alarms sound.

5.2 Post-Startup Air Sampling

5.2.1 Indoor Air and Sub-Slab Sampling

Post-startup air sampling will be completed per the IRM Work Plan dated October 2014 and subsequent NYSDEC approval/modification letter.

5.2.2 Sub-Slab Depressurization System Effluent Sampling

Approximately 1-week subsequent to the completion of the supplemental SSDS installation and full startup, PID readings will be collected from the fan discharge point using a PPBRae. In the event that the effluent from this sub-system is lower than the highest previously collected PID reading from the

other systems, then no further work will be completed on the effluent. In the event that the PID readings are higher than the highest previous reading than effluent from the system will be sampled using a 1-liter Summa canister. These sample will be collected in the following manner:

- The effluent sample will be collected using one (1) liter Summa Canisters® equipped with pre-calibrated laboratory supplied flow regulators set for a sampling time of four (4) hours. The Summa Canister® will be certified clean by the laboratory.
- The Summa Canister® will be connected to inert tubing (e.g., polyethylene stainless steel, nylon, Teflon®, etc.) of laboratory or food grade quality. This tubing will be extended approximately 1-ft. into the vent pipe. Care will be taken so that this tubing will not extend into the fan blades.

Subsequent to sampling, the sample will be sent under standard COC procedures to the laboratory for testing of VOCs using USEPA Method TO-15 with a minimum detection limit of 1 $\mu g/m^3$ with 0.25 $\mu g/m^3$ for TCE and vinyl chloride, respectively. An "ASP-Category B-like" deliverables package will be generated by the laboratory and a DUSR will be completed and included in the RI report.

The results of the effluent sampling will be compared to the short-term (one hour) and annual guideline concentrations (SGCs & AGCs) listed in NYSDEC Division of Air Resources-1 (DAR-1), previously known as Air Guide-1, last updated December 2003 to determine if air scrubbing or another mitigation method is necessary to prevent the discharge of elevated levels of VOCs to the atmosphere. The SGCs and the AGCs for the targeted VOCs are listed in attached Table 1.

In the event that the two (2) "worst-case" discharge points require air scrubbing, additional effluent sampling will be completed using the procedure described above to determine if other discharge locations will also require air scrubbing.

5.3 Health and Safety and Community Air Monitoring

The health and safety and Community Air Monitoring requirements previously approved by NYSDEC will be utilized for this supplemental work.

5.4 Housekeeping and Investigation Derived Waste

The housekeeping and investigation derived waste requirements previously approved by NYSDEC will be utilized for this supplemental work.

5.5 Quality Assurance/Quality Control Plan

The quality assurance/quality control plan requirements previously approved by NYSDEC will be utilized for this supplemental work.

6.0 IRM Schedule and Reporting – Deliverables

The information and laboratory analytical data obtained during the IRM Addendum will be included in an IRM Construction Completion Report (CCR). The CCR will be completed in accordance with DER-10 Section 5.8.

Implementation of the IRM Work Plan Addendum is scheduled to begin within 30 days after NYSDEC approval Addendum. The field work is anticipated to require 60 to 90 days to complete subsequent to the approval of the IRM Work Plan Addendum and the IRM CCR will be submitted within two (2) months of the full start-up for the SSDS.

Information provided in the IRM CCR will also be summarized in the RI Report, as needed, to document in one report the nature and extent of contamination after the IRM was completed.

In addition to the IRM CCR, all data will also be submitted in the NYSDEC-approved EDD format. Moreover, the data will be submitted on a continuous basis immediately after data validation occurs, but in no event more than 90 days after the data has been submitted to the remedial party or its consultant(s).

J:\NORRY MANAGEMENT CORP\213131 - BCP APPLICATION 3750 MONROE AVE\REPORTS\IRM WORK PLAN - SSDS\IRM WORK PLAN - SSDS AMENDMENT.docx

LaBella Associates, D.P.C.
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Rochester, New York 14614

Figures

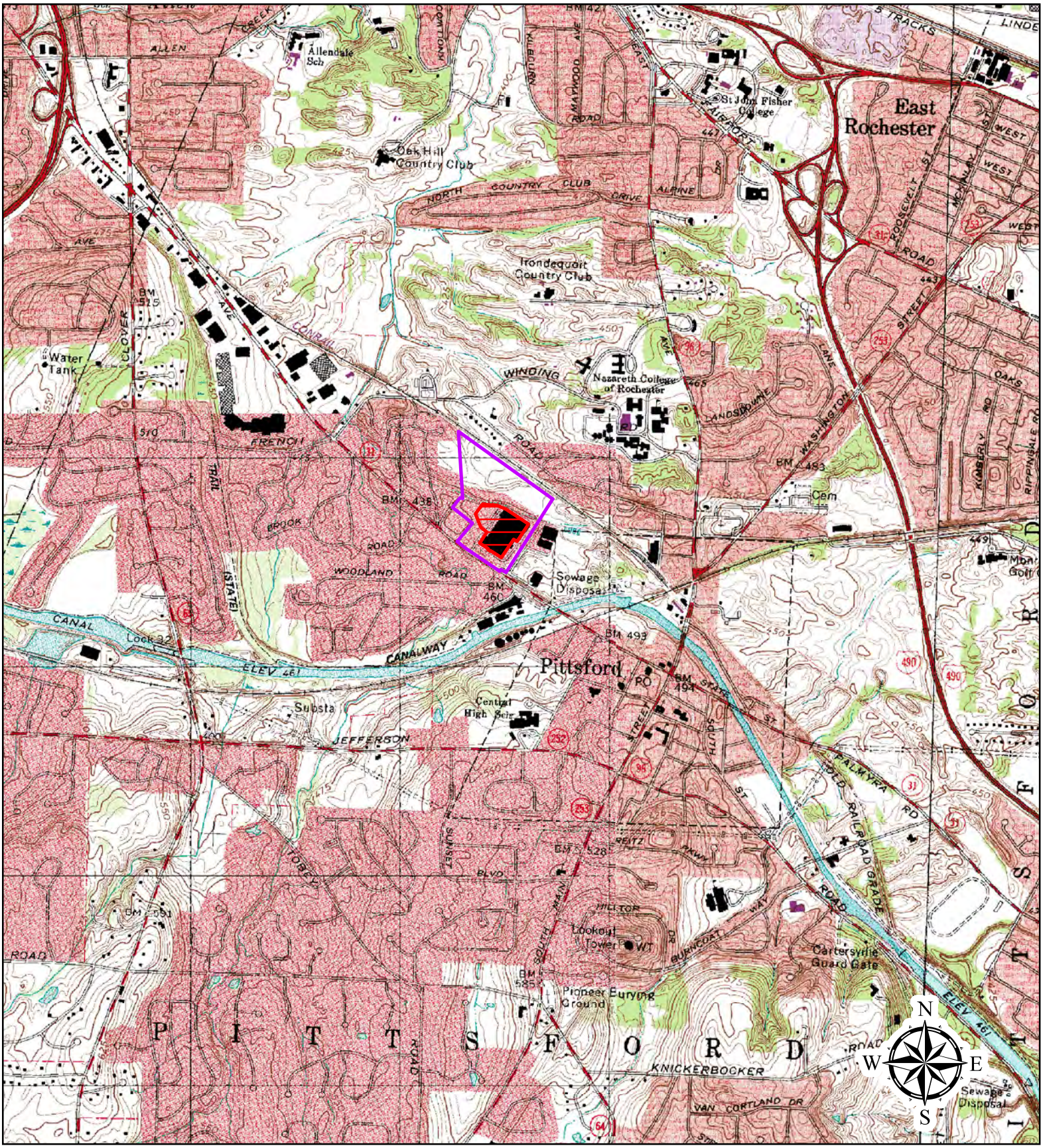

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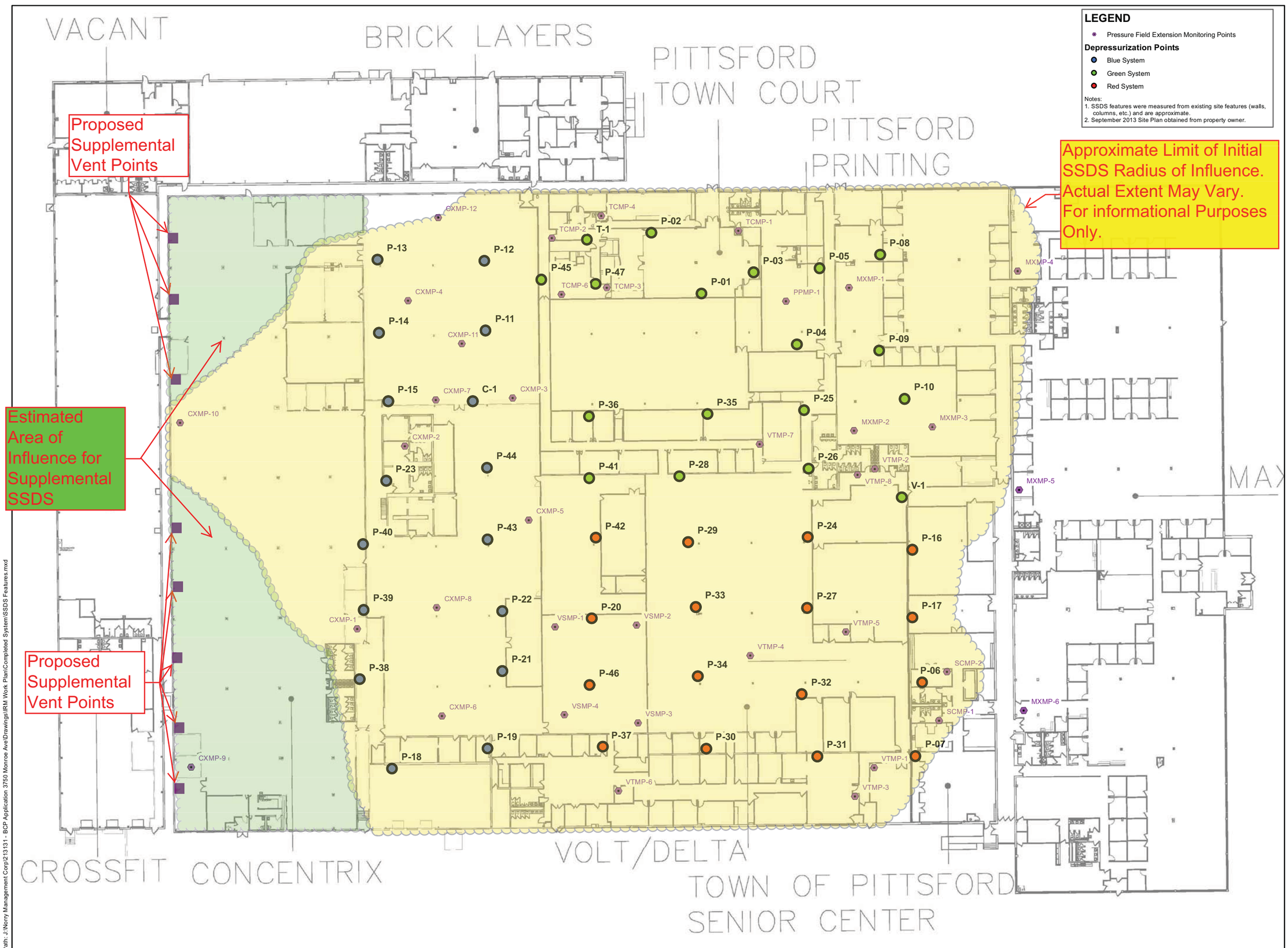
FIGURE 1
SITE LOCATION MAP
Interim Remedial Measure
Work Plan
C828187
3750 Monroe Avenue
Pittsford, New York

Legend

- BCP Boundary
- Site Tax Parcel Boundary

Scale:
1:24,000

Path: J:\Norry Management Corp\213131 - BCP Application 3750 Monroe Ave\Drawings\IRM Work Plan\Figure 1 USGS.mxd



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BCP #C828187

3750 Monroe Avenue
Pittsford, New York

Interior Layout w/
Sub Slab
Depressurization System

N E S W

0 50 Ft.

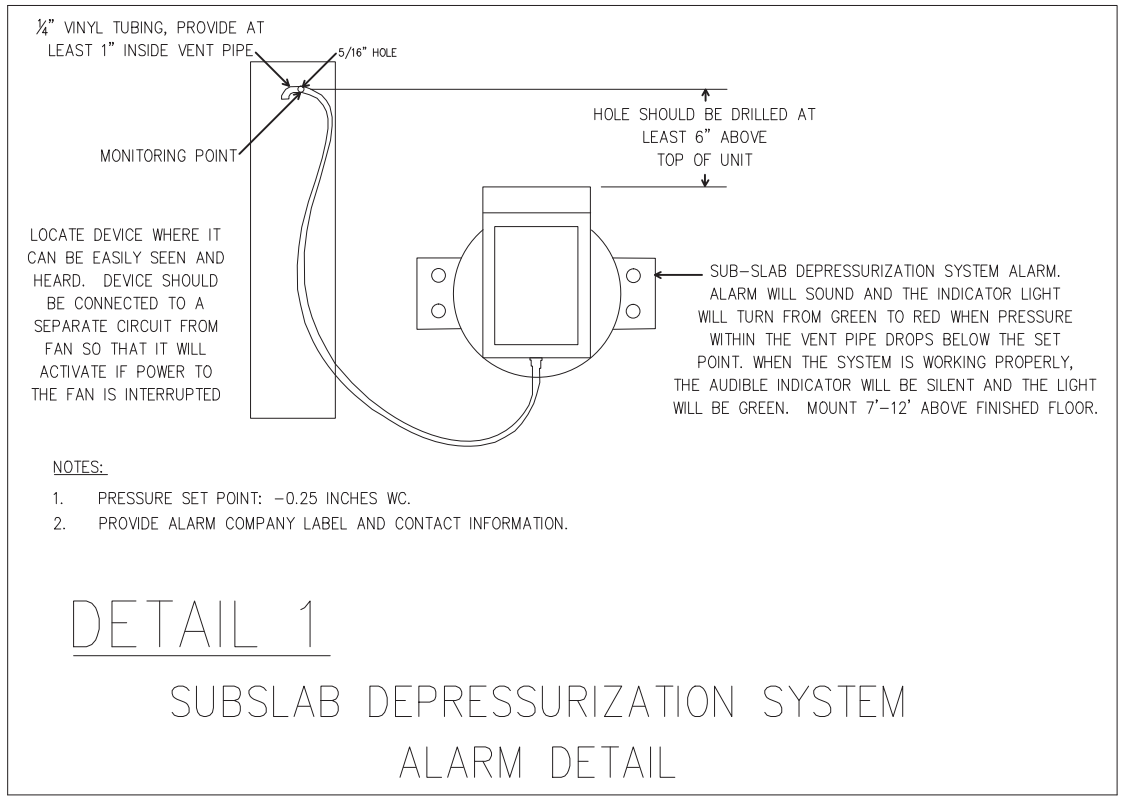
1 inch = 50 feet

Intended to print as 11" x 17".

213131

FIGURE 2

Path: J:\Norry Management Corp\213131 - BCP Application 3750 Monroe Ave\Drawings\IRM Work Plan\Completed System\SSDS Features.mxd

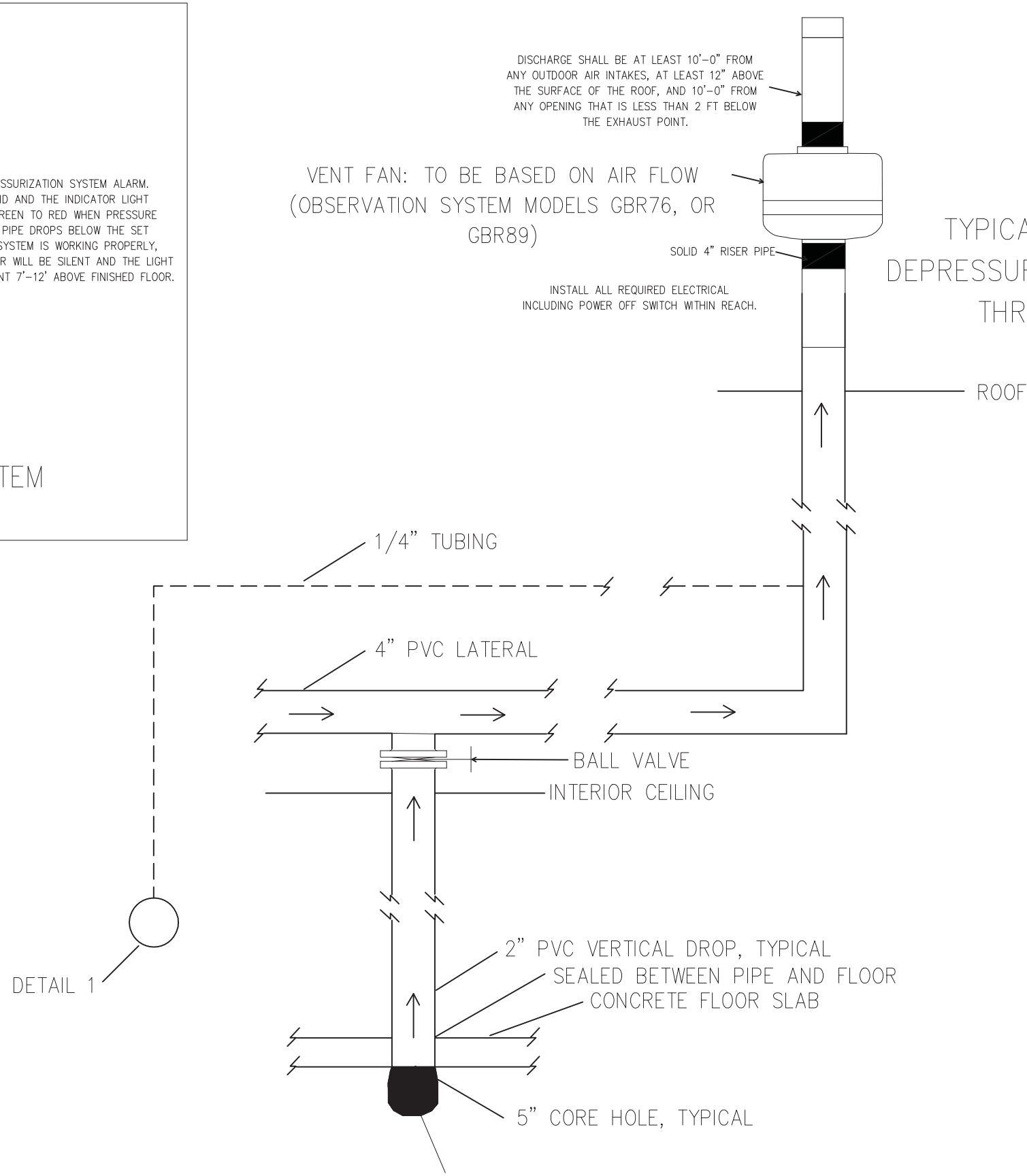


NOTES:

1. PRESSURE SET POINT: -0.25 INCHES WC.
2. PROVIDE ALARM COMPANY LABEL AND CONTACT INFORMATION.

DETAIL 1

SUBSLAB DEPRESSURIZATION SYSTEM ALARM DETAIL



TYPICAL SUBLAB DEPRESSURIZATION VENT THRU ROOF

SUBSOIL DEPRESSURIZATION SYSTEM PIPING NOTES:

A. POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS SHALL CONFORM TO ASTM D3034.

LEGEND

SYSTEM FLOW DIRECTION

DRAWING NOT TO SCALE

J:\Norry Management Corp\213131 - BCP Application 3750 Monroe Ave\Drawings\IRM Work Plan\Fig 4_SSDS Details.dwg

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PROJECT/CLIENT
3750 MONROE AVENUE ASSOCIATES
BCP SITE #C828187

3750 MONROE AVENUE
PITTSFORD, NEW YORK

DRAWING TITLE
SUB-SLAB DEPRESSURIZATION SYSTEM DETAILS

ISSUED FOR:
SITE

DESIGNED BY: DPN
DRAWN BY: IPJ
REVIEWED BY: DPN
DATE: SEPTEMBER 2014

PROJECT/DRAWING NUMBER
213131

FIGURE 3

LaBella Associates, D.P.C.
300 State Street
Rochester, New York 14614

Tables

Table 1A

Commercial Use Soil Cleanup Objectives
6 NYCRR Subpart 375-6 and CP-51 Remedial Program Soil Cleanup Objectives
(All Soil Cleanup Objectives are in mg/kg (ppm)

Contaminant	CAS No.	Commercial	Protection of Groundwater
VOLATILE ORGANIC COMPOUNDS (VOCs)			
1,1,1-Trichloroethane	71-55-6	500 [b]	0.68
1,1-Dichloroethane	75-34-3	240	0.27
1,1-Dichloroethene	75-35-4	500 [b]	0.33
1,2-Dichlorobenzene	95-50-1	500 [b]	1.1
1,2-Dichloroethane	107-06-2	30	0.02 [f]
cis-1,2-Dichloroethene	156-59-2	500 [b]	0.25
trans-1,2-Dichloroethene	156-60-5	500 [b]	0.19
1,3-Dichlorobenzene	541-73-1	280	2.4
1,4-Dichlorobenzene	106-46-7	130	1.8
1,4-Dioxane	123-91-1	130	0.1 [e]
Acetone	67-64-1	500 [b]	0.05
Benzene	71-43-2	44	0.06
Butylbenzene	104-51-8	500 [b]	12
Carbon Tetrachloride	56-23-5	22	0.76
Chlorobenzene	108-90-7	500 [b]	1.1
Chloroform	67-66-3	350	0.37
Ethylbenzene	100-41-4	390	1
Hexachlorobenzene	118-74-1	6	3.2
Methyl Ethyl Ketone (MEK)	78-93-3	500 [b]	0.12
Methyl tert-Butyl Ether (MtBE)	1634-04-4	500 [b]	0.93
Methylene Chloride	75-09-2	500 [b]	0.05
n-Propylbenzene	103-65-1	500 [b]	3.9
sec-Butylbenzene	135-98-8	500 [b]	11
tert-Butylbenzene	98-06-6	500 [b]	5.9
Tetrachloroethene	127-18-4	150	1.3
Toluene	108-88-3	500 [b]	0.7
Trichloroethene	79-01-6	200	0.47
1,2,4-Trimethylbenzene	95-63-6	190	3.6
1,3,5-Trimethylbenzene	108-67-8	190	8.4
Vinyl Chloride	75-01-4	13	0.02
Xylenes (Mixed)	1330-20-7	500 [b]	1.6

Contaminant	CAS No.	Commercial	Protection of Groundwater
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)			
Acenaphthene	83-32-9	500 [b]	98
Acenaphthylene	208-96-8	500 [b]	107
Anthracene	120-12-7	500 [b]	1,000 [c]
Benzo(a)anthracene	56-55-3	5.6	1 [f]
Benzo(a)pyrene	50-32-8	1 [f]	22
Benzo(b)fluoranthene	205-99-2	5.6	1.7
Benzo(g,h,i)perylene	191-24-2	500 [b]	1,000 [c]
Benzo(k)fluoranthene	207-08-9	56	1.7
Chrysene	218-01-9	56	1 [f]
Dibenz(a,h)anthracene	53-70-3	0.56	1,000 [c]
Fluoranthene	206-44-0	500 [b]	1,000 [c]
Fluorene	86-73-7	500 [b]	386
Indeno(1,2,3-cd)pyrene	193-39-5	5.6	8.2
m-Cresol	108-39-4	500 [b]	0.33 [e]
Naphthalene	91-20-3	500 [b]	12
o-Cresol	95-48-7	500 [b]	0.33 [e]
p-Cresol	106-44-5	500 [b]	0.33 [e]
Pentachlorophenol	87-86-5	6.7	0.8 [e]
Phenanthrene	85-01-8	500 [b]	1,000 [c]
Phenol	108-95-2	500 [b]	0.33 [e]
Pyrene	129-00-0	500 [b]	1,000 [c]

Notes:

SCO denotes Soil Cleanup Objectives.

NS denotes Not Specified.

[b] The SCOs for Commercial use were capped at a maximum of 500-mg/kg (ppm).

[d] The SCOs for metals were capped at a maximum of 10,000-mg/kg (ppm).

[e] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL was used as the SCO.

[f] For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for use of the site.

[h] The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

[i] The SCO is for the sum of Endosulfan I, Endosulfan II, and Endosulfan Sulfate.

[j] The SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts).

Table 1A (Continued)

Commercial Use Soil Cleanup Objectives
6 NYCRR Subpart 375-6 and CP-51 Remedial Program Soil Cleanup Objectives
(All Soil Cleanup Objectives are in mg/kg (ppm)

Contaminant	CAS No.	Commercial	Protection of Groundwater
METALS			
Arsenic	7440-38-2	16 [f]	16 [f]
Barium	7440-39-3	400	820
Beryllium	7440-41-7	590	47
Cadmium	7440-43-9	9.3	7.5
Chromium (Hexavalet)	18540-29-9	400	19
Chromium (Trivalent)	16065-83-1	1,500	NS
Copper	7440-50-8	270	1,720
Total Cyanide		27	40
Lead	7439-92-1	1,000	450
Manganese	7439-96-5	10,000 [d]	2,000 [f]
Total Mercury		2.8 [j]	0.73
Nickel	7440-02-0	310	130
Selenium	7782-49-2	1,500	4 [f]
Silver	7440-22-4	1,500	8.3
Zinc	7440-66-6	10,000 [d]	2,480

Contaminant	CAS No.	Commercial	Protection of Groundwater
PCB & PESTICIDES			
2,4,5-TP Acid (Silvex)	93-72-1	500 [b]	3.8
4,4'-DDE	72-55-9	62	17
4,4'-DDT	50-29-3	47	136
4,4'-DDD	72-54-8	92	14
Aldrin	309-00-2	0.68	0.19
alpha-BHC	319-84-6	3.4	0.02
beta-BHC	319-85-7	3	0.09
Chlordane (alpha)	5103-71-9	24	2.9
delta-BHC	319-86-8	500 [b]	0.25
Dibenzofuran	132-64-9	350	210
Dieldrin	60-57-1	1.4	0.1
Endosulfan I	959-98-8	200 [i]	102
Endosulfan II	33213-65-9	200 [i]	102
Endosulfan Sulfate	1031-07-8	200 [i]	1,000 [c]
Endrin	72-20-8	89	0.06
Heptachlor	76-44-8	15	0.38
Lindane	58-89-9	9.2	0.1
Polychlorinated Biphenyls	1336-36-3	1	3.2

Notes:

SCO denotes Soil Cleanup Objectives.

NS denotes Not Specified.

[b] The SCOs for Commercial use were capped at a maximum of 500-mg/kg (ppm).

[d] The SCOs for metals were capped at a maximum of 10,000-mg/kg (ppm).

[e] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL was used as the SCO.

[f] For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for use of the site.

[h] The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

[i] The SCO is for the sum of Endosulfan I, Endosulfan II, and Endosulfan Sulfate.

[j] The SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts).

Table 1B
Groundwater Standards and Guidance Values
(All Groundwater Criteria are in ug/L (ppb)

Contaminant	CAS No.	NYSDEC Part 703 Groundwater Standards and TOGS 1.1.1 Guidance Values
VOLATILE ORGANIC COMPOUNDS (VOCs)		
Chloromethane	74-87-3	5
Vinyl chloride	75-01-4	2
1,1-Dichloroethene	75-35-4	5
Acetone	67-64-1	50
Carbon disulfide	75-15-0	60*
Methylene chloride	75-09-2	5
trans-1,2-dichloroethene	156-60-5	5
Methyl tert-butyl ether	1634-04-4	10
1,1-Dichloroethane	75-34-3	5
2-Butanone	78-93-3	50
cis-1,2-dichloroethene	156-59-2	5
Chloroform	67-66-3	7
Chloroethane	75-00-3	5
1,2-Dichloroethane	107-06-2	0.6
Benzene	71-43-2	1
Trichloroethene	79-01-6	5
Toluene	108-88-3	5
1,1,2-Trichloroethane	79-00-5	1
Tetrachloroethene	127-18-4	5
Ethylbenzene	100-41-4	5
Xylenes (mixed)	1330-20-7	5
Bromoform	75-25-2	50*
Isopropylbenzene	98-82-8	5
n-Propylbenzene	103-65-1	5
1,3,5-Trimethylbenzene	108-67-8	5
tert-Butylbenzene	98-06-6	5
1,2,4-Trimethylbenzene	95-63-6	5
sec-Butylbenzene	135-98-8	5
4-Isopropyltoluene	99-87-6	5
n-Butylbenzene	104-51-8	5
1,2-Dichlorobenzene	95-50-1	3
Naphthalene	91-20-3	10

Contaminant	CAS No.	NYSDEC Part 703 Groundwater Standards and TOGS 1.1.1 Guidance Values
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)		
Acenaphthene	83-32-9	20
Acenaphthylene	208-96-8	NA
Anthracene	120-12-7	50
Benzo(a)anthracene	56-55-3	0.002
Benzo(a)pyrene	50-32-8	ND
Benzo(b)fluoranthene	205-99-2	0.002
Benzo(g,h,i)perylene	191-24-2	NA
Benzo(k)fluoranthene	207-08-9	0.002
Chrysene	218-01-9	0.002
Dibenz(a,h)anthracene	53-70-3	NA
Fluoranthene	206-44-0	50
Fluorene	86-73-7	50
Indeno(1,2,3-cd)pyrene	193-39-5	0.002
Naphthalene	91-20-3	10
Phenanthrene	85-01-8	50
Pyrene	129-00-0	50

Notes:

NA denotes Not Available.

* Indicates value is from Division of Water Techinical and Operational Guidance Series (TOGS 1.1.1)

Table 1B (Continued)
Groundwater Standards and Guidance Values
(All Groundwater Criteria are in ug/L (ppb)

Contaminant	CAS No.	NYSDEC Part 703 Groundwater Standards and TOGS 1.1.1 Guidance Values
METALS		
Arsenic	7440-38-2	25
Barium	7440-39-3	1,000
Beryllium	7440-41-7	3
Cadmium	7440-43-9	5
Chromium (Trivalent)	16065-83-1	50
Copper	7440-50-8	200
Total Cyanide	57-12-5	200
Lead	7439-92-1	25
Manganese	7439-96-5	300
Total Mercury	7439-97-6	0.7
Nickel	7440-02-0	100
Selenium	7782-49-2	10
Silver	7440-22-4	50
Zinc	7440-66-6	2,000

Contaminant	CAS No.	NYSDEC Part 703 Groundwater Standards and TOGS 1.1.1 Guidance Values
PCBs & PESTICIDES		
2,4,5-TP Acid (Silvex)	93-72-1	10
4,4'-DDE	72-55-9	0.2
4,4'-DDT	50-29-3	0.2
4,4'-DDD	72-54-8	0.3
Aldrin	309-00-2	50
alpha-BHC	319-84-6	0.01
beta-BHC	319-85-7	0.04
Chlordane (alpha)	5103-71-9	0.05
delta-BHC	319-86-8	0.04
Dibenzofuran	132-64-9	NA
Dieldrin	60-57-1	0.004
Endosulfan I	959-98-8	NA
Endosulfan II	33213-65-9	50
Endosulfan Sulfate	1031-07-8	50
Endrin	72-20-8	50
Heptachlor	76-44-8	0.03
Lindane	58-89-9	0.05
Polychlorinated Biphenyls	1336-36-3	0.09

Notes:

NA denotes Not Available.

* Indicates value is from Division of Water Techinical and Operational Guidance Series (TOGS 1.1.1)

Table 1C

Sub-Slab Vapor, Indoor Air and Effluent Standards, Criteria and Guidelines
Targeted Compounds Displayed
(All Guidelines are in ug/m^3)

Contaminant	CAS No.	USEPA BASE Database - 90th Percentile (1)	Air Guideline Derived by NYSDOH (2)	NYSDOH Sub-Slab Vapor Concentration Decision Matrix (minimum action level)
TARGETED VOLATILE ORGANIC COMPOUNDS (VOCs)				
1,1,1-Trichloroethane	71-55-6	20.6	NL	<100**
1,1-Dichloroethane	75-34-3	9.5	NL	NL
1,1-Dichloroethene	75-35-4	<0.7	NL	<100**
1,2-Dichloroethane	107-06-2	<1.4	NL	NL
Chloroethane	75-00-3	<1.2	NL	NL
cis-1,2-Dichloroethene	156-59-2	3.7	NL	<100**
trans-1,2-Dichloroethene	156-60-5	9.4	NL	NL
Tetrachloroethene	127-18-4	98.9	30*	<100**
Trichloroethene	79-01-6	<1.1	5	<5***
Vinyl Chloride	75-01-4	1.1	NL	<5***

Notes:

(1) USEPA Building Assessment and Survey Evaluation (BASE) Database (90th Percentile). As recommended in Section 3.2.4 of the NYSDOH Guidance (refer to Footnote 2), this database is referenced for the indoor air sampling results. This database is also referenced to provide initial benchmarks for comparision to data and does not represent standards or

(2) New York State Department of Health (NYSDOH) Air Guideline established in Table 3.1 of the NYSDOH Guidance titled "Evaluating Soil Vapor Intrusion in New York State",

NL denotes Not Listed.

*Air Guideline Values obtained from Table 3.1, NYSDOH, Guidance for Evaluating Soil Vapor Intrusion in the State of New York as updated by September 2013 Fact Sheet for PCE.

**Guidance Value obtained from Soil Vapor/Indoor Air Matrix 2 (minimum action level), NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

***Guideline Value obtained from Soil Vapor/Indoor Air Matrix 1 (minimum action level), NYSDOH, Guidance for Evaluating Soil Vapor Intrusion in the State of New York.