



VIA ELECTRONIC MAIL

November 29, 2021

Mr. Daniel R. Lanners, P.E.
Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233-7014

**Subject: Proposal to Install Sub-Slab Depressurization System in Main Building
Former Huck Manufacturing Facility, Kingston, New York
NYSDEC Site Number V00171**

Dear Mr. Lanners:

As discussed during a conference call on November 9, 2021, Tenneco Inc. (as successor in interest to Federal-Mogul LLC), is proposing to install a sub-slab depressurization system (SSDS) in the northwest corner of the main building at the former Huck manufacturing facility in Kingston, New York (Figure 1). The objective of the proposed SSDS is to create a sub-slab vacuum below this portion of the building to limit the potential for vapor intrusion. Presented below is background information, a brief description of the proposed scope of work, and the proposed project schedule.

BACKGROUND

As described in the Indoor Air Sampling Report, dated July 1, 2021, the results of the March 2021 indoor air sampling event indicated that the highest trichloroethene (TCE) concentration was detected at location IA-3 in the northwest portion of the main building, and the TCE concentrations appeared to decrease toward the southeast (i.e., toward Grand Street). The indoor air sample locations are shown on Figure 1. The ongoing operation of Cycle Group 1 soil vapor extraction (SVE) wells creates a sub-slab vacuum under approximately one-half of the Tenbroeck wing of the building that includes the main office complex and former metal finish area (Figure 2). In addition, Cycle Group 1 SVE wells and the operating sub-slab extraction point installed in March 2021 (i.e., SSD-TP1) produces a sub-slab vacuum across nearly the entire wing of the building that parallels Grand Street (Figure 2). Therefore, TCE detected in indoor air samples from the Tenbroeck wing in March 2021 may potentially originate in the northwest portion of the building where sub-slab vacuum is not present. However, the potential for ongoing impacts on indoor air quality from the building slab or materials stored in the self-storage units cannot be discounted.

SCOPE OF WORK

The proposed SSDS has been designed to mitigate the potential for vapor intrusion to indoor air in the northwest portion of the building. The proposed SSDS is comprised of two sub-slab extraction points (SSD-1 and SSD-2) connected to a single exterior mounted fan (Enclosure A; Sheet 2). However, the proposed locations for the sub-slab extraction points, conveyance piping, and fan are preliminary and may be adjusted in the field based on site conditions. A general description of the proposed system, startup activities, routine operation and maintenance, and reporting is provided below. Details regarding the proposed system are presented in Enclosure A.

WSP USA
7000 East Genesee Street
Building D, 2nd Floor
Fayetteville, NY 13066

Tel.: 315-655-3900
wsp.com



DESCRIPTION OF PROPOSED SYSTEM

- Two extraction points (SSD-1 and SSD-2) will be constructed by wet coring the concrete slab and excavating an approximately 12-inch-diameter by 12-inch-deep pit into the subgrade below the base of the floor slab. To promote the efficient removal of sub-slab vapor, each excavated pit will first be filled to the base of the slab with highly permeable gravel consisting of ½ to ¾-inch aggregate with minimal fines. The gravel layer within the pit provides a greater surface area (exposed subgrade soil surface) for vacuum application.
- Vapor transfer piping consisting of 3-inch diameter, Schedule 40 PVC pipe will be placed on top of the gravel layer in each excavated pit and routed vertically to the building's roof structure as shown on Sheet 3. Lockable lever-handle, 3-inch diameter PVC butterfly valves will be installed on the piping to each extraction point (near the common header pipe) to adjust flow and enable a balanced vacuum field across the targeted area.
- The transfer piping for the two extraction points will transition horizontally to a common header pipe that will direct extracted vapors to a shared fan (OBAR Systems GBR76UD) and discharge stack located on the facility's exterior wall. Transfer piping will be sloped toward the extraction point riser pipes to prevent buildup of condensation. The discharge stack shall terminate a minimum of 2 feet above the roof structure and at least 10 feet horizontally from air handling equipment intakes, windows, or doors.
- A sample port and a U-tube manometer will be installed at each extraction point riser for performance monitoring of the SSDS. The sample port will be configured to allow for future in-line flow measurements, as needed, using an averaging pitot tube.
- A dedicated electrical connection will be installed between the existing 120 Volt, single phase electrical supply (located at the north end of the SVE Treatment Room; Sheet 2) and the fan's weather-proof electrical switch box.
- Soil and concrete generated during construction of the extraction points will be containerized, labeled, and moved to an onsite storage area. The soil and concrete will be characterized and disposed of offsite in accordance with applicable requirements.
- Following restoration of the concrete at each extraction point, 36-inch-tall corner guards (or similar) will be installed around each riser, as necessary, to minimize the risk of damage from carts used by patrons to move personal belongings.

SYSTEM STARTUP PROCEDURES

Initial testing will be conducted to verify proper operation of each SSDS component and instrumentation before the system is brought on-line. Once the system is fully operational, the air flow to each extraction point will be manually balanced by adjusting the butterfly valves located before the header pipe (Sheet 4). The air flow at the extraction points will be considered balanced when the system produces the largest vacuum influence. Isolation tests of each riser will be conducted as necessary to determine the vacuum radius of influence of each extraction point. Smoke testing will be performed in the vicinity of a riser (i.e., within a 30 to 40-foot radius) if a potential leak is suspected. Vacuum below the slab will be measured at appropriate temporary and permanent monitoring points using a digital micromanometer. Temporary vacuum monitoring points will be sealed at the conclusion of the system installation.

OPERATION, MAINTENANCE, AND MONITORING

The operation, maintenance, and monitoring (OM&M) plan for the SSDS will be incorporated into the SMP for the Site. The SSDS will be inspected quarterly, at a minimum, to ensure that the system continues to operate as designed. During each inspection, the concrete floor surrounding the extraction sumps and protective bollards (if used) will be inspected for cracks to prevent the loss of vacuum through short-circuiting and to ensure that there are no pathways for vapors to enter the building. Any significant cracks or breaches discovered will be documented and repaired. Inspections will also cover all system components, including vacuum conveyance piping, fittings, sampling and gauge ports, U-tube manometers, piping supports, and the fan and exhaust stack. Inspection of system components will be completed through visual inspection from ground level. If required, overhead lifts or ladders will be utilized to troubleshoot potential defects in elevated components.

Applied vacuum will be measured and documented during each inspection at each riser. If any cracks, breaches, or other deficiencies in system components are observed, or if the applied vacuum for an extraction point varies by more than 20% from equalized measurements, corrective action will be taken within approximately 30 days of discovery. Corrective actions may include patching or



replacement of concrete, piping, or other system components. A checklist will be completed during each inspection and the completed forms will be included in the progress reports and the annual Periodic Review Report (PRR).

Non-routine inspections, such as in the event of an emergency or a suspected failure of the engineering control, will be performed in accordance with the SMP. As required, verbal notification to NYSDEC will be conducted by noon on the day following any emergency, such as a fire, flood, or earthquake, that reduces or has the potential to reduce the effectiveness of the SSDS at the site, with written confirmation to the NYSDEC within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public. In addition, notice will be provided to the NYSDEC within 48 hours (or as soon as possible thereafter) of any suspected damage or defect to the SSDS engineering control that reduces, or has the potential to reduce, the effectiveness of the SSDS engineering control, and any action to be taken to mitigate the damage or defect.

REPORTING

A summary of the SSDS installation and startup activities, including record drawings for the system, will be provided in the progress report submitted following completion of the system installation and in the annual PRR. Routine and non-routine OM&M activities will be summarized in each progress report and will be included in the annual PRR.

PROPOSED PROJECT SCHEDULE

Installation of the SSDS is tentatively scheduled for December 13, 2021, and the work is anticipated to take 3-5 days to complete.

Please contact me at (315) 374-5574 with any questions or comments regarding the proposed SSDS design or installation procedures.

Sincerely yours,

A handwritten signature in black ink that reads "Brian E. Silfer".

Brian E. Silfer, P.G.
Practice Leader

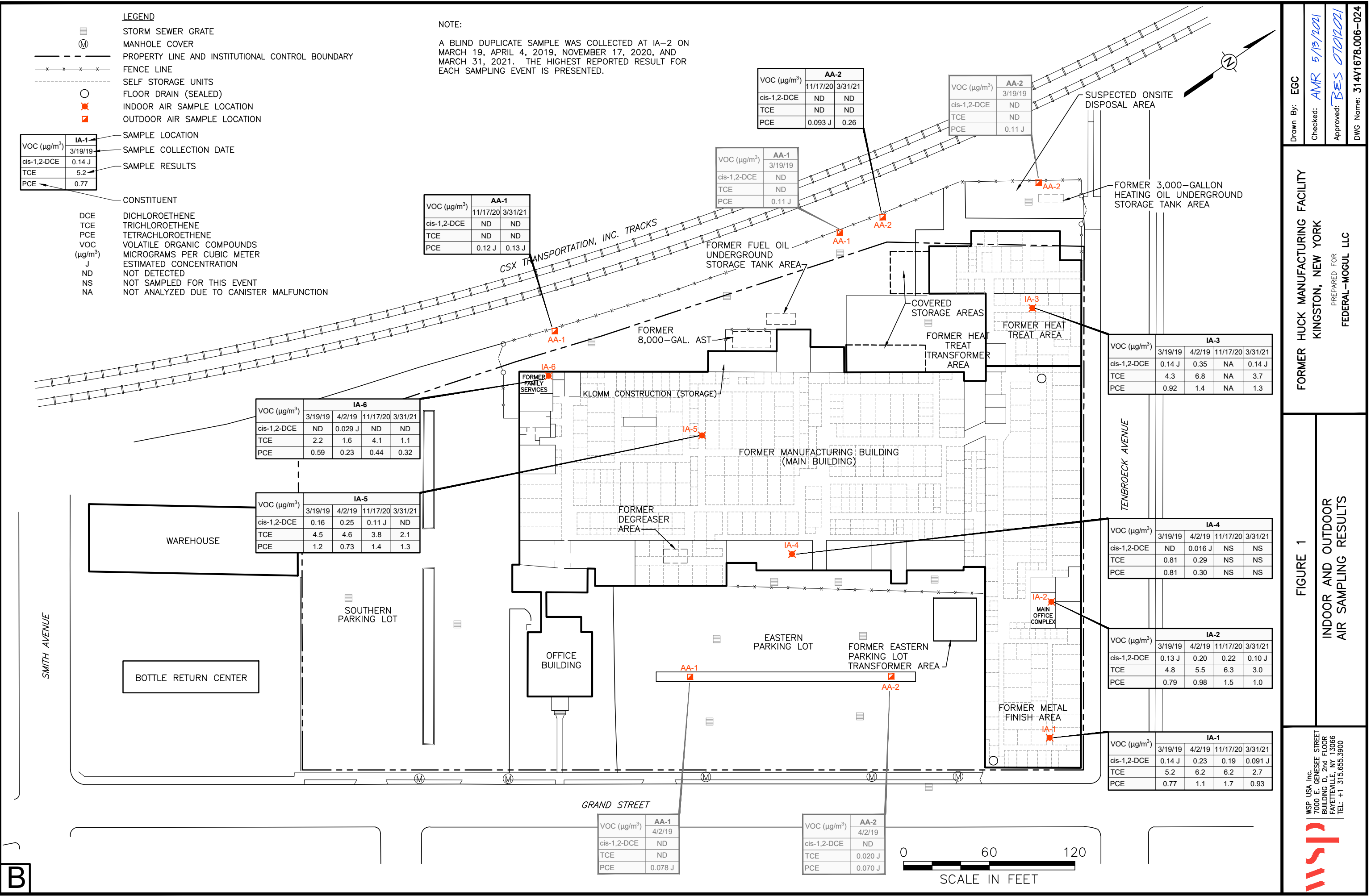
BES:rlo
\\uscaz1ser01\es\clients\federal-mogul\kingston\work plans\2021 ssds in nw corner of main building

Enclosures

cc: Ms. Kristin Kulow, New York State Department of Health
Mr. Mark Bauer, Federal-Mogul Powertrain LLC
Mr. Paul Benkert, Grand Street Realty Corp.

FIGURES

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Drawn By: EGC

Checked: AMR 5/13/2021

Approved: BES 07/02/2021

DWG Name: 314V1678.006-024

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KINGSTON, NEW YORK

PREPARED FOR

FEDERAL-MOGUL LLC

FIGURE 1

INDOOR AND OUTDOOR

AIR SAMPLING RESULTS

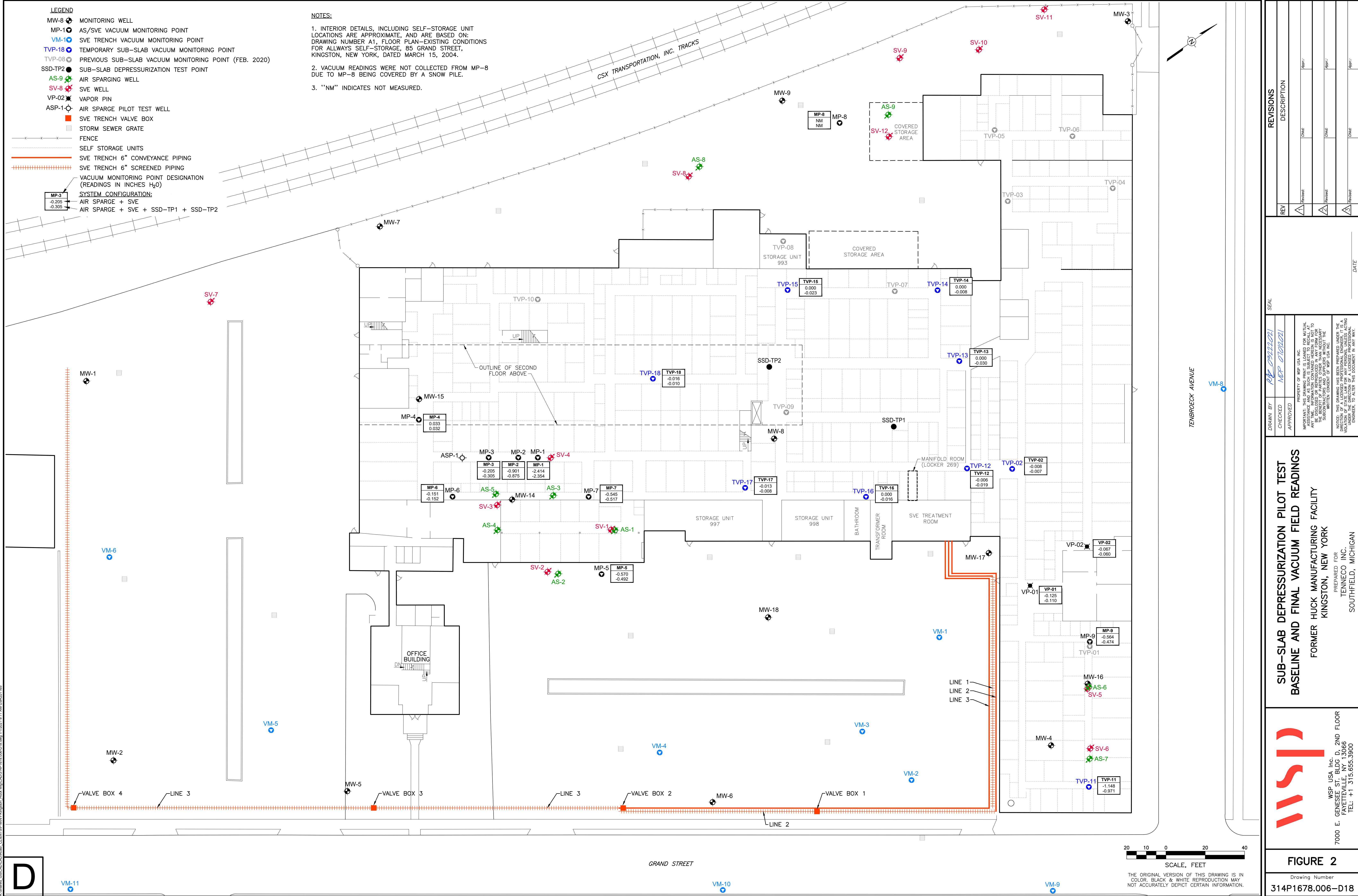
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REV	DESCRIPTION	DATE
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DATE

**SUB-SLAB DEPRESSURIZATION PILOT TEST
BASELINE AND FINAL VACUUM FIELD READINGS**

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FIGURE 2

Drawing Number
314P1678.006-D18

Richard GBCAD/Adapt Client: WSP USA Inc. 7/2021 8:11 AM US20186

ENCLOSURE A – SUB-SLAB DEPRESSURIZATION SYSTEM DESIGN DRAWINGS

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INDEX OF DRAWINGS

DRAWING NUMBER	SHEET NUMBER	DESCRIPTION
314P1678.006-D21	1	TITLE SHEET
314P1678.006-D22	2	PROPOSED SSDS LAYOUT
314P1678.006-D23	3	SSDS EXTRACTION POINT AND EXHAUST RISER DETAILS
314P1678.006-D24	4	SSDS COMMON HEADER AND EXHAUST PIPING DETAIL

TITLE SHEET


PROPOSED SUB-SLAB DEPRESSURIZATION
SYSTEM (SSDS)

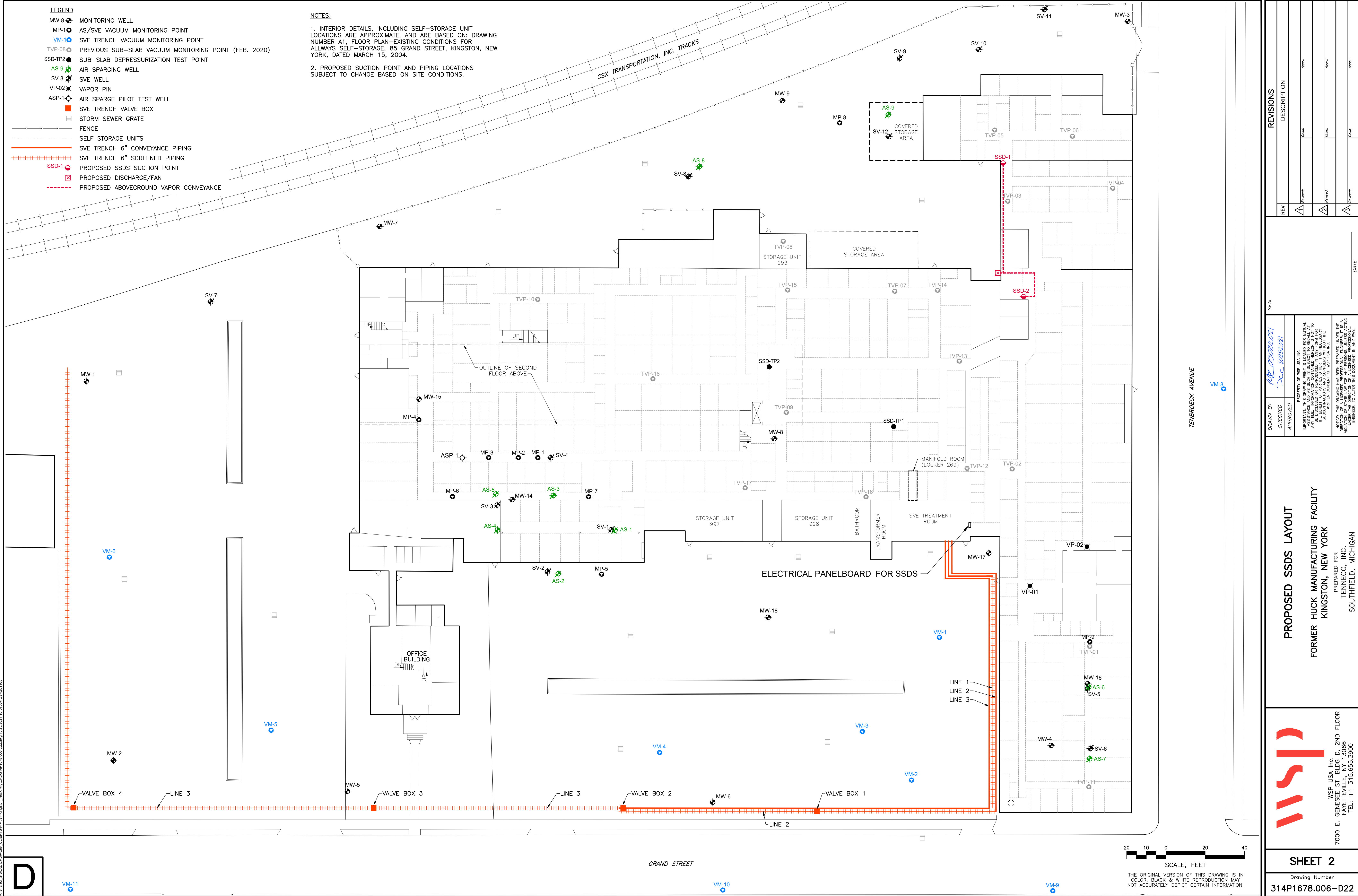
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SHEET 1			
Drawing Number 314P1678.006-D21			



- LEGEND**
- MW-8 MONITORING WELL
 - MP-1 AS/SVE VACUUM MONITORING POINT
 - VM-1 SVE TRENCH VACUUM MONITORING POINT
 - TVP-08 PREVIOUS SUB-SLAB VACUUM MONITORING POINT (FEB. 2020)
 - SSD-TP2 SUB-SLAB DEPRESSURIZATION TEST POINT
 - AS-9 AIR SPARGING WELL
 - SV-8 SVE WELL
 - VP-02 VAPOR PIN
 - ASP-1 AIR SPARGE PILOT TEST WELL
 - SVE TRENCH VALVE BOX
 - STORM SEWER GRATE
 - FENCE
 - SELF STORAGE UNITS
 - SVE TRENCH 6" CONVEYANCE PIPING
 - SVE TRENCH 6" SCREENED PIPING
 - SSD-1 PROPOSED SSDS SUCTION POINT
 - PROPOSED DISCHARGE/FAN
 - PROPOSED ABOVEGROUND VAPOR CONVEYANCE

NOTES:

1. INTERIOR DETAILS, INCLUDING SELF-STORAGE UNIT LOCATIONS ARE APPROXIMATE, AND ARE BASED ON: DRAWING NUMBER A1, FLOOR PLAN-EXISTING CONDITIONS FOR ALLWAYS SELF-STORAGE, 85 GRAND STREET, KINGSTON, NEW YORK, DATED MARCH 15, 2004.

2. PROPOSED SUCTION POINT AND PIPING LOCATIONS SUBJECT TO CHANGE BASED ON SITE CONDITIONS.

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PROPOSED SSDS LAYOUT

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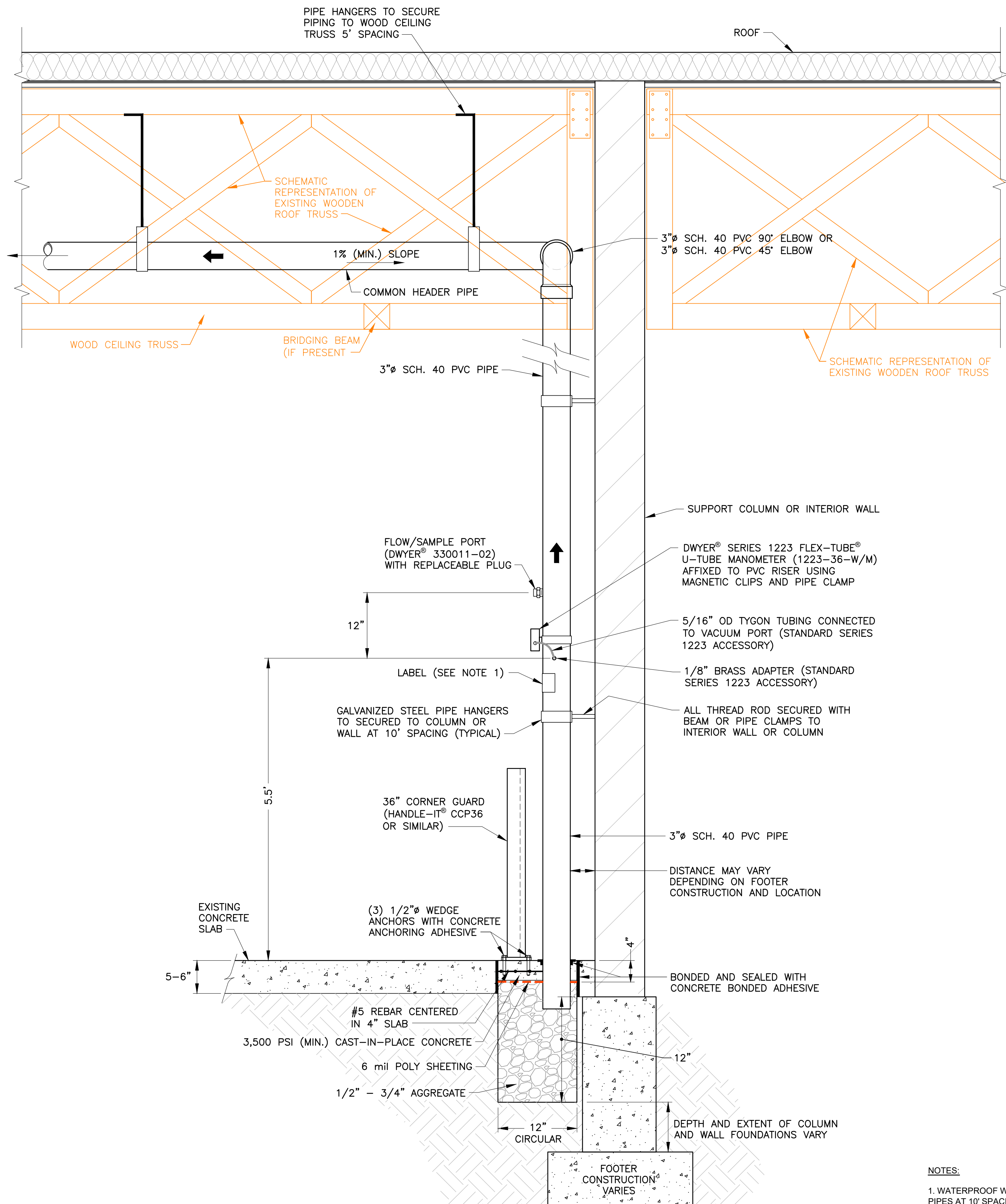
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SHEET 2

Drawing Number
314P1678.006-D22

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SSD-1 EXTRACTION POINT AND
EXHAUST RISER INSTALLATION DETAIL

NOT TO SCALE

NOTES:

1. WATERPROOF WARNING LABELS SHALL BE AFFIXED ON EXTRACTION RISER PIPES AT 10' SPACING AS SHOWN IN THE DRAWING. THE LABEL STATES:

SUB-SLAB DEPRESSURIZATION VENT PIPE
DO NOT CUT, DAMAGE, OR INTERFERE WITH ITS OPERATION

CONTACT BUILDING OWNER FOR ADDITIONAL INFORMATION

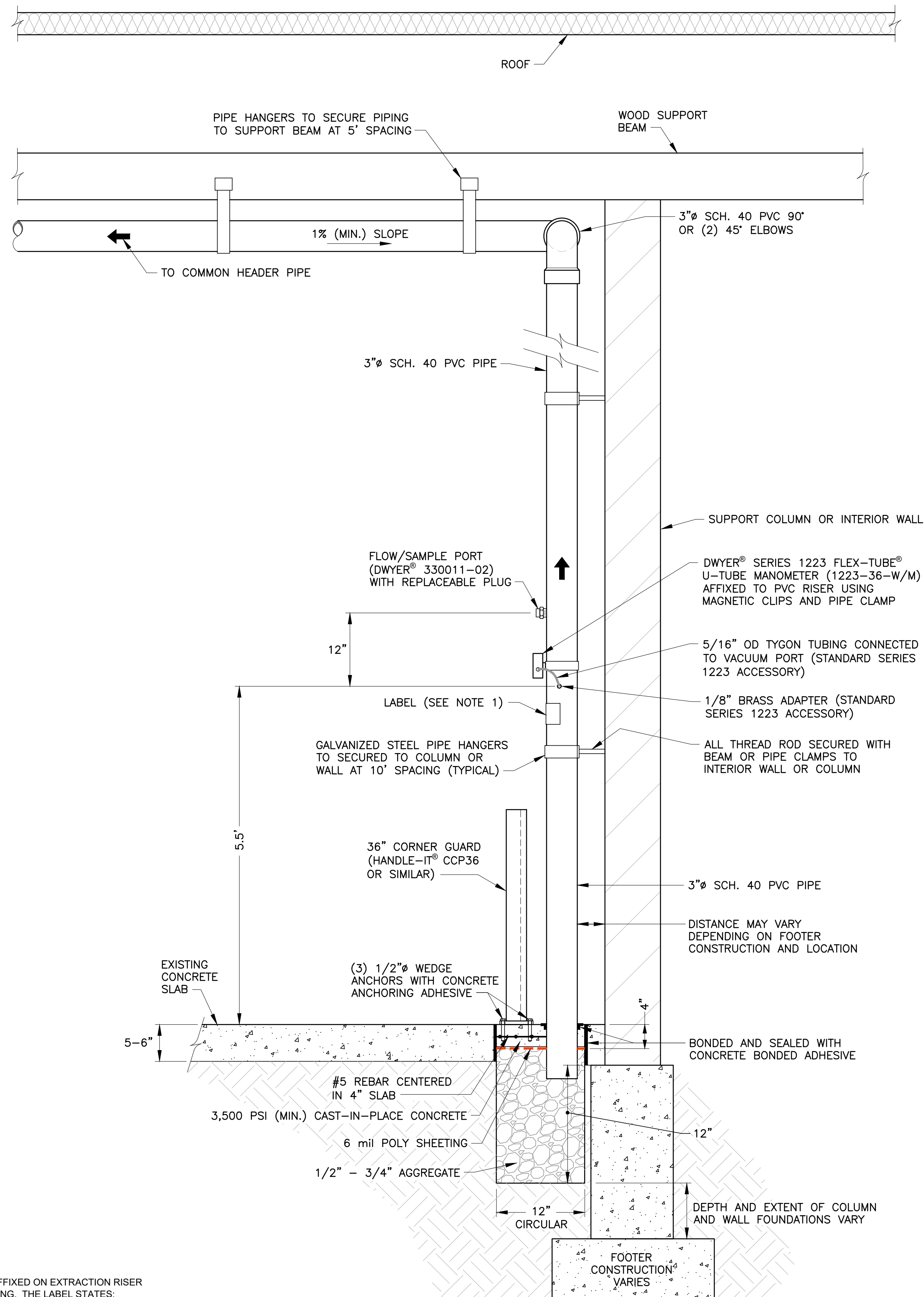
2. WATERPROOF LABELS AND ARROWS SHALL BE AFFIXED ONTO THE PANELBOARD FOR THE VAPOR MITIGATION FAN. THE CIRCUIT IDs WILL BE FILLED IN WITH PERMANENT MARKER BY WSP DURING INSTALLATION. LABELS AND ARROWS STATE:

SUB-SLAB VAPOR

3. A WARNING LABEL SHALL BE AFFIXED ONTO THE PANELBOARD FOR THE VAPOR MITIGATION FAN. THE CIRCUIT IDs WILL BE FILLED IN WITH PERMANENT MARKER BY WSP DURING INSTALLATION. THE LABEL STATES:

SSDS SHUT-OFF (CIRCUITS _____) - DO NOT TURN OFF.
VAPOR MITIGATION SYSTEM IN OPERATION

CONTACT BUILDING OWNER FOR ADDITIONAL INFORMATION



SSD-2 EXTRACTION POINT AND
EXHAUST RISER INSTALLATION DETAIL

NOT TO SCALE

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3	9/20/21	ISSUED FOR PERMIT
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5	9/20/21	ISSUED FOR PERMIT

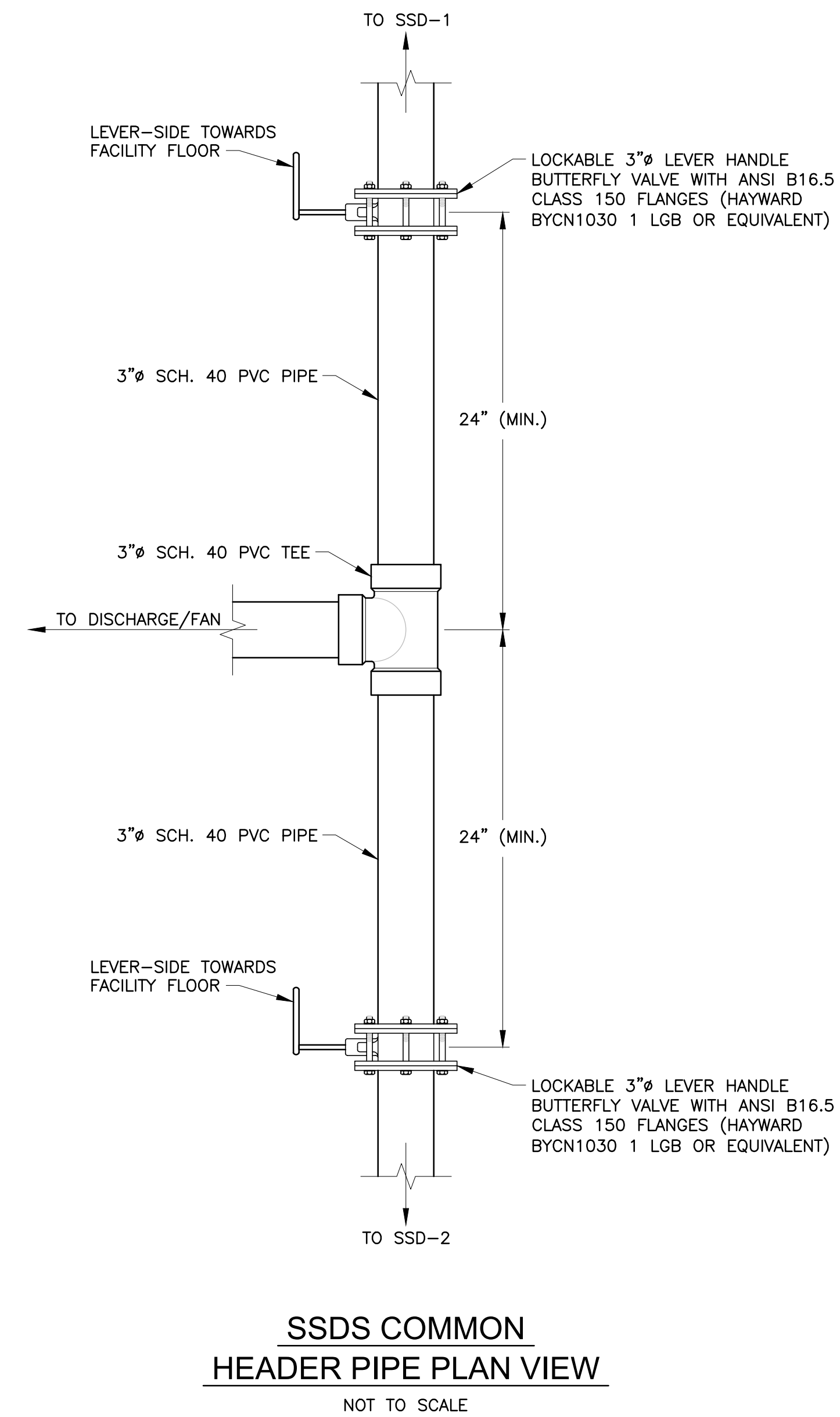
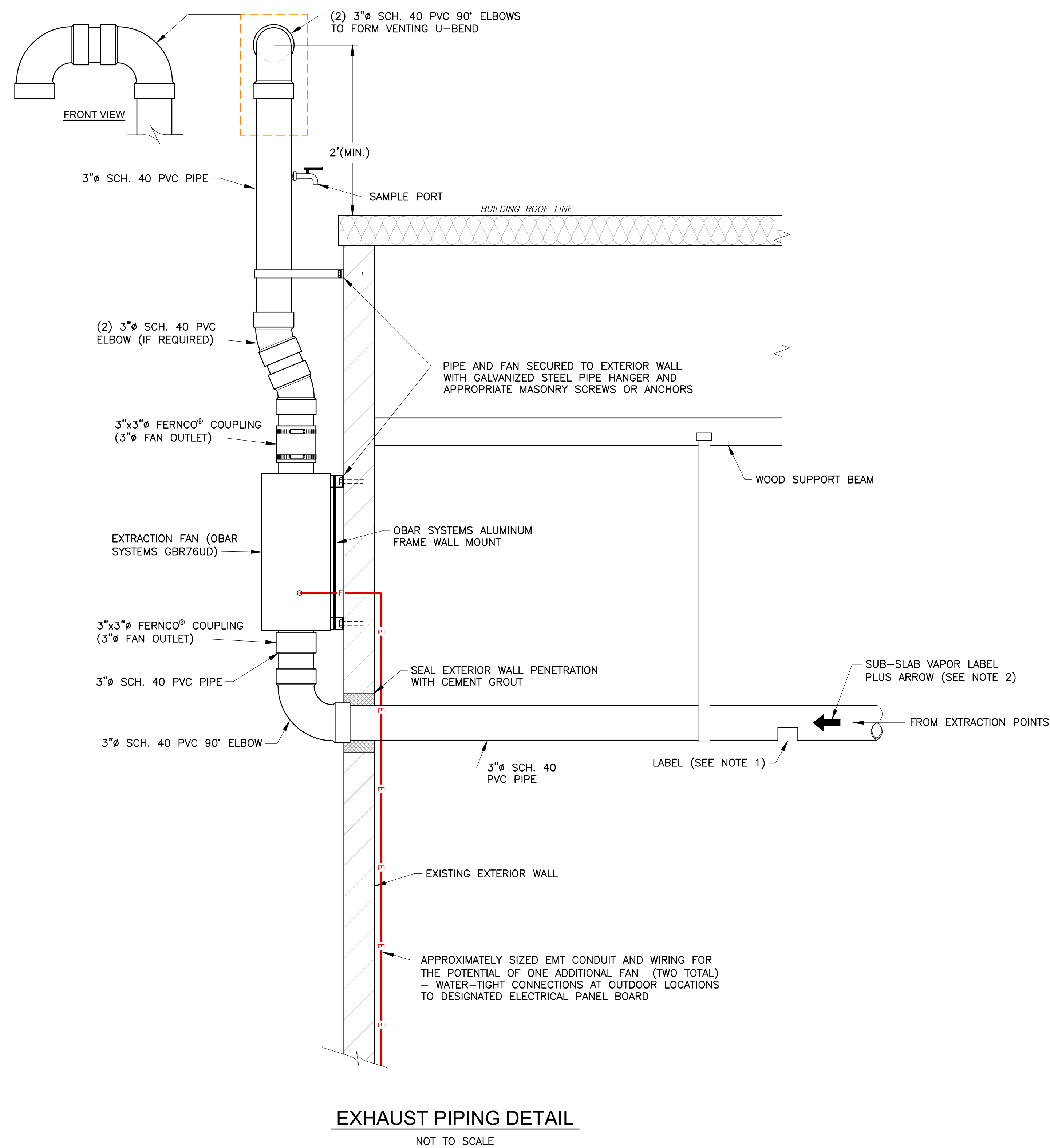
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SSDS EXTRACTION POINT AND
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SHEET 3

Drawing Number
314P1678.006-D23



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SSDS COMMON HEADER AND
EXHAUST PIPING DETAIL

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The image shows the top portion of a technical drawing sheet. On the left is the WSP USA, Inc. logo, consisting of the letters 'WSP' in a stylized, bold, sans-serif font. To the right of the logo is the company name 'WSP USA, Inc.' and its address: '7000 E. GENESSEE ST., BLDG. D, 2ND FLOOR', 'PAVEMENT, CO. 80666', and 'TEL.: +1 315.655.3900'. Below the logo and address is a large rectangular box containing the text 'SHEET 4'. At the bottom of the sheet is a horizontal line, and below it is a box containing the text 'Drawing Number' followed by the alphanumeric code '314P1678.006-D24'.