LANGAN

Technical Excellence
Practical Experience
Client Responsiveness

July 15, 2024

Wendi Zheng
Region 2 NYSDEC Office
47-40 21st Street
Long Island City, NY 11101

Re: **NYSDEC Notification Letter**
**Sub-Membrane Depressurization System Design**
**Willets Point Development Stadium**
**37-11 126th Street, Queens, NY 11356**
**BCP Site No. C241146C**
**Langan Project No.: 170613801**

Dear Ms. Zheng:

In accordance with the Site Management Plan (SMP), Langan prepared this letter to notify the New York State Department of Environmental Conservation (NYSDEC) of the sub-membrane depressurization (SMD) system design drawings for the proposed site development at the Willets Point Development Stadium Brownfield Cleanup Program (BCP) site ('the site'). The Volunteers entered into a Brownfield Cleanup Agreement (BCA) on October 31, 2023 (effective December 16, 2023) and received a Certificate of Completion (COC) on May 1, 2024. This letter describes the planned SMD system scope of work, permitting and implementation schedule, and compliance with the NYSDEC-approved SMP, dated April 22, 2024.

## SCOPE OF WORK

An SMD system will be installed below the Stadium's enclosed occupiable spaces as defined by the NYC 2022 building code. The SMD system will be installed beneath the lowest level of the proposed stadium to mitigate potential soil vapor intrusion. The SMD system was designed in accordance with the NYSDOH October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York and the 2022 building code. The system consists of a submembrane collection layer underlying a vapor barrier, with vapor conveyance piping routed to thirteen active electric blowers. The SMD system design incorporates a vapor barrier beneath the building foundation. In accordance with the SMP, a consistent minimum vacuum of at least -0.004 inches of water column will be maintained within the SMD gas permeable layer; the SMD blowers were sized to convey a negative pressure field within the gas permeable layer. Design drawings for the SMD system are included as Attachment 1. Blower details including location, motor size, manufacturer, and model details are included on Table 1 - Fan Schedule.

The stadium foundation and utility contractors will construct the SMD system under the Langan Remedial Engineer (RE) oversight. The RE will oversee implementation and document operations.

Langan will complete site inspections to observe and document the installation of the above-grade SMD system components and the vacuum monitoring points as part of the thirteen systems, and will be on-site to observe and document the start-up of each SMD system. A smoke test and vacuum test will be conducted during the start-up inspections to confirm that the riser penetrations and other preferential migration pathways were properly sealed and the SMD system is operational. Langan will also conduct a baseline inspection of the in-line fans and other above-grade components including the alarms, vacuum gauges, general system piping, and sample ports at the start-up of the systems. As part of the start-up inspections, differential pressure measurements will be collected and recorded from each of the vacuum monitoring points using an air velocity meter to determine whether the pressure field underneath the floor slab throughout the SMD system areas meets the minimum pressure described in the SMP. As-built conditions of the SMD system will be provided in a future revision to the SMP.

## SCHEDULE

This set of SMD system drawings was developed as part of the 50% Construction Development for the planned site development. The SMD system drawings will be filed with DOB on or about July 18, 2024. Ground-intrusive work for the installation of the SMD and other building components is anticipated to begin on or about September 3, 2024, and foundation completion is expected around July 2026. SMD system commissioning is anticipated to coincide with MEP commissioning, which is tentatively scheduled to begin in August 2026.

## SITE MANAGEMENT PLAN COMPLIANCE

The SMD system will become a permanent engineering control (EC). The SMP will be revised to include provisions for system operation and maintenance. The systems will be inspected and their performance certified at specified intervals as required by the SMP. As-built drawings, diagrams and manufacturer documentation for SMD system will be presented in a future revision to the SMP and the Periodic Review Reports (PRR). Active operation of the SMD systems will not be discontinued unless prior written approval is granted by the NYSDEC and NYSDOH project managers.

## CLOSING

Please contact me at 212-479-5400 if you have any questions.

Sincerely,
**Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.**

Gerald Nicholls, PE, CHMM
Associate Principal

cc: Jon Stemp – New York City Football Club
Elizabeth Burgess, Samuel Singer – Langan

Attachments:
Attachment 1 – Sub-Membrane Depressurization System Drawings

Table 1 – Fan Schedule

**ATTACHMENT 1**

**SUB-MEMBRANE DEPRESSURIZATION SYSTEM DRAWINGS**

# GENERAL NOTES:

1. THE COMPONENTS SHOWN ARE NOT TO SURVEYED COORDINATES. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATIONS AND LAYOUT OF THE VENTING SYSTEM COMPONENTS IN THE FIELD BASED ON ACTUAL SITE CONDITIONS AND OTHER PROPOSED WORK.
2. DRAWING SET NOT TO BE USED FOR STRUCTURAL, ARCHITECTURAL, OR OTHER REFERENCE EXCEPT FOR SUB-MEMBRANE DEPRESSURIZATION (SMD) SYSTEM.
3. INSULATION NOT SHOWN. REFER TO ARCHITECTURAL DRAWINGS FOR INSULATION REQUIREMENTS.
4. ANY DEVIATION FROM THIS DESIGN MUST BE SUBMITTED TO THE OWNER AND ENGINEER OF RECORD FOR APPROVAL.
5. IT IS ASSUMED THAT ALL INTERIOR SPACE AIR PRESSURES WILL BE BALANCED OR POSITIVELY PRESSURIZED WITH VENTILATION SYSTEMS AND THE INDOOR AIR PRESSURE WILL ESSENTIALLY BE EQUAL TO OR GREATER THAN THE OUTDOOR AIR PRESSURE.
6. INSTALLATION OF THE SMD SYSTEM COMPONENTS AND RISER PIPE MUST BE COORDINATED WITH THE INSTALLATION OF OTHER UTILITIES AND STRUCTURAL COMPONENTS.
7. INSTALLATION OF THE SMD SYSTEM COMPONENTS, TESTING (I.E., PRESSURE TESTING, SMOKE TEST, ETC.), AND START-UP SHALL BE COMPLETED UNDER THE OVERSIGHT OF THE ENGINEER OF RECORD.
8. NO SUB-SLAB PIPING SHALL BE COVERED POST-INSTALLATION UNTIL IT HAS BEEN INSPECTED BY LANGAN AND SURVEYED BY THE CONTRACTOR.

# DRAWING LIST



# INSPECTION SCHEDULE

| No. | MILESTONE DESCRIPTION | DATE COMPLETED |
|---|---|---|
| 1 | COMPLETION OF SUB-BASE PREPARATION, INCLUDING THE INSTALLATION OF GEOTEXTILE FABRIC, FOLLOWING SOIL EXCAVATION. | |
| 2 | DELIVERY OF GAS PERMEABLE AGGREGATE TO THE SITE. | |
| 3 | SUB-SLAB SMD PIPING INSTALLATION PROGRESS, AT A MINIMUM, 25% COMPLETENESS. | |
| 4 | SUB-SLAB SMD PIPING INSTALLATION PROGRESS, AT A MINIMUM, 50% COMPLETENESS. | |
| 5 | SUB-SLAB SMD PIPING INSTALLATION PROGRESS, AT A MINIMUM, 75% COMPLETENESS. | |
| 6 | SUB-SLAB SMD PIPING INSTALLATION PROGRESS, AT A MINIMUM, 100% COMPLETENESS. | |
| 7 | VACUUM MONITORING POINTS (VMP) INSTALLATION PROGRESS, AT A MINIMUM, 25% COMPLETENESS. | |
| 8 | VACUUM MONITORING POINTS (VMP) INSTALLATION PROGRESS, AT A MINIMUM, 50% COMPLETENESS. | |
| 9 | VACUUM MONITORING POINTS (VMP) INSTALLATION PROGRESS, AT A MINIMUM, 75% COMPLETENESS. | |
| 10 | VACUUM MONITORING POINTS (VMP) INSTALLATION PROGRESS, AT A MINIMUM, 100% COMPLETENESS. | |
| 11 | GAS PERMEABLE AGGREGATE LAYER INSTALLATION PROGRESS, AT A MINIMUM, 25% COMPLETENESS. | |
| 12 | GAS PERMEABLE AGGREGATE LAYER INSTALLATION PROGRESS, AT A MINIMUM, 50% COMPLETENESS. | |
| 13 | GAS PERMEABLE AGGREGATE LAYER INSTALLATION PROGRESS, AT A MINIMUM, 75% COMPLETENESS. | |
| 14 | GAS PERMEABLE AGGREGATE LAYER INSTALLATION PROGRESS, AT A MINIMUM, 100% COMPLETENESS. | |
| 15 | INSTALLATION OF ALL PORTIONS OF ABOVE-SLAB PIPING FROM FIELD LEVEL TO THE ROOFS (INCLUDING LABELS ON EXPOSED PORTIONS OF THE ABOVE-SLAB RISER PIPING) PROGRESS, AT A MINIMUM, 25% COMPLETENESS. | |
| 16 | INSTALLATION OF ALL PORTIONS OF ABOVE-SLAB PIPING FROM FIELD LEVEL TO THE ROOFS (INCLUDING LABELS ON EXPOSED PORTIONS OF THE ABOVE-SLAB RISER PIPING) PROGRESS, AT A MINIMUM, 50% COMPLETENESS. | |
| 17 | INSTALLATION OF ALL PORTIONS OF ABOVE-SLAB PIPING FROM FIELD LEVEL TO THE ROOFS (INCLUDING LABELS ON EXPOSED PORTIONS OF THE ABOVE-SLAB RISER PIPING) PROGRESS, AT A MINIMUM, 75% COMPLETENESS. | |
| 18 | INSTALLATION OF ALL PORTIONS OF ABOVE-SLAB PIPING FROM FIELD LEVEL TO THE ROOFS (INCLUDING LABELS ON EXPOSED PORTIONS OF THE ABOVE-SLAB RISER PIPING) PROGRESS, AT A MINIMUM, 100% COMPLETENESS. | |
| 19 | IMPLEMENTATION OF PRESSURE TEST OF COMPLETED INTERIOR PIPES. | |
| 20 | INSTALLATION OF DEPRESSURIZATION FANS AND ACCESSORIES. | |
| 21 | INSTALLATION OF ALARM INDICATOR STATION (AIS) AND TESTING. | |
| 22 | START-UP OF COMPLETED SYSTEM. | |

# SUB-MEMBRANE DEPRESSURIZATION SYSTEM NOTES

1. REFER TO DRAWINGS H-101.00 THROUGH H-114.00 AND H-201.00 THROUGH H-203.00 FOR SUB-SLAB DEPRESSURIZATION SYSTEM DETAILS AND SECTIONS.
2. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR OWNER APPROVAL PRIOR TO THE SUB-MEMBRANE DEPRESSURIZATION SYSTEM INSTALLATION. ANY CONDITION OR DETAIL NOT DEPICTED IN THESE DRAWINGS SHALL BE PROVIDED AS A SHOP DRAWING FOR APPROVAL.
3. SMD SYSTEM PIPE, FITTINGS, UNIONS, CLEANOUTS, SLEEVES, SUPPORTS, HANGERS, AND RELATED ACCESSORIES SHALL BE FURNISHED IN ACCORDANCE WITH THE REQUIREMENTS FOR PLUMBING SANITARY VENT PIPING IN DIVISION 15. REFER TO PLUMBING DRAWINGS FOR SMD SYSTEM PIPING SUPPORTS.
4. SUBMIT DETAIL OF ANY SITE SPECIFIC SUB-SLAB DEPRESSURIZATION SYSTEM CONDITIONS NOT SHOWN FOR OWNER APPROVAL.
5. SLOPE ALL SOLID (UNPERFORATED) PIPE A MINIMUM OF 1% UNIFORMLY DOWNWARD TOWARDS SMD SYSTEM SUB-SLAB PITS OR CONDENSATE DRAINS. ANY ACCUMULATED MOISTURE/WATER MUST BE ALLOWED TO DRAIN TO THE SUBSURFACE. PIPING SHALL NOT BE TRAPPED AND CONDENSATE DRAINS SHALL NOT BE INSTALLED IN ABOVE SLAB PIPING.
6. CONDENSATE DRAIN FOR SUB-SLAB PIPING MAY BE AN OPTION, WITH WRITTEN ENGINEER APPROVAL, IF CONFLICT WITH UTILITIES REQUIRES REVERSE SLOPE (SEE DETAIL 8/H-201).
7. COAT ANY PIPING IN DIRECT CONTACT WITH CONCRETE IN ACCORDANCE WITH PLUMBING CODES.
8. DESIGN DETAILS AND DRAWINGS ARE ADAPTED FROM EPA DOCUMENT EPA/625/R-92/016.
9. ALL PIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE NEW YORK CITY MECHANICAL AND PLUMBING CODE, INCLUDING, BUT NOT LIMITED TO, THOSE REQUIREMENTS PERTAINING TO:
   - PROTECTION OF SYSTEM COMPONENTS
   - TRENCHING, EXCAVATION, AND BACKFILL
   - STRUCTURAL SAFETY
   - PIPING SUPPORT
   - JOINTS
   - RISER LOCATION
   - MATERIALS OF CONSTRUCTION
10. ALL ABOVEGROUND AND BELOW GRADE SMD SYSTEM PIPES SHALL BE PROVIDED WITH PIPE HANGERS IN ACCORDANCE WITH THE REQUIREMENTS ON THE PLUMBING DRAWINGS AND SPECIFICATIONS.
11. UNLESS OTHERWISE SPECIFIED, ALL UNDERGROUND PIPING SHALL BE CONSTRUCTED OF 4"Ø SCHEDULE 80 POLYVINYL CHLORIDE (PVC) AND ALL ABOVEGROUND RISER PIPING SHALL BE CONSTRUCTED OF 4"Ø CAST IRON OR GALVANIZED STEEL.
12. INSTALLATION OF THE SUB-SLAB COMPONENTS AND VENT AND RISER PIPING, AND ROOF PENETRATIONS MUST BE COORDINATED WITH OTHER TRADES FOR THE INSTALLATION OF OTHER UTILITIES AND STRUCTURAL COMPONENTS.
13. RISER PIPE FROM SUB-SLAB TO ROOF SHALL BE COORDINATED WITH THE ARCHITECT AND MECHANICAL ENGINEER. RISER PIPE SHALL BE EXTENDED TO THE ROOF WITH MINIMAL CHANGES IN DIRECTION (i.e., NO MORE THAN 3 ROUTING ALTERATIONS FROM A STRAIGHT VERTICAL RISER PIPE); NO 90-DEGREE CHANGES IN DIRECTION ARE ALLOWED, 45-DEGREE FITTINGS ARE PREFERRED.
14. SYSTEM INSTALLATION SHALL ADHERE TO: OCTOBER 2006 FINAL GUIDANCE FOR EVALUATING SOIL VAPOR INTRUSION IN THE STATE OF NEW YORK PREPARED BY NEW YORK STATE DEPARTMENT OF HEALTH (NYSDOH), ALL APPLICABLE PORTIONS OF THE BUILDING CODE OF THE CITY OF NEW YORK, INCLUDING BUT NOT LIMITED TO 2022 NEW YORK CITY MECHANICAL CODE, CHAPTER 5, SECTION MC 512 SUBSLAB SOIL EXHAUST SYSTEMS.
15. RISER PIPE (REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR DESIGN AND LOCATION OF ABOVE-SLAB PIPING) SHALL BE EXTENDED TO THE ROOF WITH MINIMAL CHANGES IN DIRECTION AS SHOWN ON THE MECHANICAL AND PLUMBING DRAWINGS. HORIZONTAL RISER PIPE RUNS MUST MAINTAIN A MINIMUM SLOPE OF 1/8 INCHES PER LINEAR FOOT, SLOPING BACK TOWARDS THE SUB-SLAB DEPRESSURIZATION PIT (FOR BELOW GRADE SOLID PIPE) OR SLOPING BACK TOWARDS THE RISER (FOR ABOVE-SLAB SOLID PIPE).
16. RISER PIPE SHALL BE AIR-TIGHT. THE CONTRACTOR SHALL PERFORM PRESSURE TESTING TO DEMONSTRATE THAT THE RISER PIPE IS AIR-TIGHT BEFORE IT IS PUT INTO SERVICE. PRESSURE TESTING SHALL BE COMPLETED AT EVERY VERTICAL VENT RISER PIPE TO CONFIRM NO DAMAGE TO THE ABOVE GRADE SMD PIPES. PRESSURE TESTING WILL INVOLVE ISOLATING THE RISERS AND SHALL GENERALLY FOLLOW THE TESTING PROCEDURES SET FORTH IN ASME B31.1. A MINIMUM OF 2 INCHES OF MERCURY [IN.HG] SHALL BE APPLIED TO THE PIPE AND MAINTAINED FOR A MINIMUM OF 10 MINUTES. ANY DAMAGE OR DEFECT DETECTED SHALL BE REPAIRED OR REPLACED.
17. EXHAUST STACKS SHALL BE SECURELY ANCHORED WITH ADEQUATE STRUCTURAL SUPPORTS AS SHOWN ON DETAILS AND REQUIRED IN THE SPECIFICATIONS.
18. LOCATIONS OF RISER PIPE FROM SUB-SLAB TO ROOF SHALL BE COORDINATED WITH ARCHITECT AND MECHANICAL ENGINEER. RISER PIPE SHALL BE EXTENDED TO THE ROOF WITH MINIMAL CHANGES IN DIRECTION. SEE DRAWINGS H-103.00 THROUGH H-114.00 FOR RISER LOCATIONS.
19. RISER PIPE MUST BE CLEARLY LABELED "CAUTION: DO NOT ALTER SUB-SLAB VAPOR VENT PIPE" IN EACH ACCESSIBLE AREA A MINIMUM OF EVERY 10 LINEAR FEET OF RISER PIPE RUN.
20. SMD SYSTEM EFFLUENT DISCHARGE POINTS SHALL BE:
   - COORDINATED WITH ARCHITECT AND MECHANICAL ENGINEER;
   - ABOVE THE EAVE OF THE ROOF (PREFERABLY, ABOVE THE HIGHEST EAVE OF THE BUILDING AND AT LEAST 24-INCHES ABOVE THE SURFACE OF THE ROOF);
   - AT LEAST 10 FEET ABOVE GROUND LEVEL;
   - AT LEAST 10 FEET AWAY FROM ANY OPERABLE AIR INTAKE THAT IS LESS THAN 2 FEET BELOW THE EXHAUST POINT; AND
   - 10 FEET FROM ANY ADJOINING OR ADJACENT BUILDINGS, OR HVAC INTAKES OR SUPPLY REGISTERS
21. ALL EXTERNAL PIPES SHALL BE PAINTED WITH A UV-RATED AND/OR CORROSION RESISTANT COATING, DEPENDING ON PIPE MATERIAL.
22. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS (SIGNED AND SEALED BY A NYS-LICENSED PROFESSIONAL ENGINEER) OF COMPLETE SMD SYSTEM TO OWNER FOLLOWING INSTALLATION. THE SUBSURFACE SYSTEM COMPONENTS (E.G. PIPES) SHALL BE SURVEYED BY A NYS LICENSED SURVEYOR.

# VAPOR BARRIER NOTES

1. REFER TO VAPOR BARRIER DRAWINGS FOR DESIGN.
2. VAPOR BARRIER SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE MANUFACTURER GUIDELINES AND DETAILS.
3. VAPOR BARRIER SHALL BE INSTALLED BY A MANUFACTURER-CERTIFIED OR -APPROVED INSTALLER.
4. VAPOR BARRIER SHALL BE INSPECTED IMMEDIATELY BEFORE CONCRETE IS PLACED. ALL PENETRATIONS, HOLES, AND/OR TEARS SHALL BE SEALED BEFORE CONCRETE IS PLACED. THE VAPOR BARRIER DETAILS SHOWN ARE GENERALIZED IN NATURE AND ARE INTENDED TO INDICATE THE EXTENT AND LOCATIONS OF THE VAPOR BARRIER. ACTUAL INSTALLATION AND REPAIRS SHALL BE IN ACCORDANCE WITH THE VAPOR BARRIER MANUFACTURER'S STANDARD DETAILS AND WRITTEN INSTALLATION INSTRUCTIONS. ALL STANDING WATER AND SOIL/DEBRIS MUST BE REMOVED FROM THE VAPOR BARRIER BEFORE CONCRETE IS PLACED. POTABLE WATER OR COMPRESSED AIR CAN BE USED TO CLEAN THE SURFACE BEFORE CONCRETE IS PLACED.
5. CONTRACTOR SHOP DRAWINGS INDICATING VAPOR BARRIER INSTALLATION DETAILS AND METHODS SHALL BE REVIEWED AND APPROVED BY THE MATERIAL MANUFACTURER PRIOR TO SUBMITTAL TO THE ENGINEER OF RECORD FOR REVIEW.
6. ALL VAPOR BARRIER ACCESSORY MATERIALS, INCLUDING BUT NOT LIMITED TO TAPE, SEALANT, LIQUID MEMBRANE, ETC. SHALL BE COMPATIBLE WITH AND DESIGNED FOR USE WITH THE SELECTED VAPOR BARRIER.
7. INSTALLED VAPOR BARRIER MATERIALS AND INSTALLATION SHALL HAVE WARRANTIES PROVIDED BY THE INSTALLER AND MANUFACTURER.
8. DO NOT PENETRATE THE VAPOR BARRIER MEMBRANE. CARE SHALL BE TAKEN DURING THE PLACEMENT OF THE SLAB REINFORCING REBAR AND THE POURING OF THE BUILDING SLAB TO PREVENT ACTIVITIES [I.E., VEHICLE TRAFFIC DIRECTLY ON TOP OF VAPOR BARRIER] WHICH MAY DAMAGE THE VAPOR BARRIER PRIOR TO INSTALLING THE BUILDING SLAB. IF VEHICLE TRAFFIC OVER THE VAPOR BARRIER IS REQUIRED, PROPER PRECAUTIONS SHALL BE COORDINATED WITH THE ENGINEER OF RECORD PRIOR TO INITIATING SUCH WORK. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE MEMBRANE IS NOT PENETRATED OR DAMAGED.
9. THE VAPOR BARRIER SHALL BE INSPECTED FOR HOLES, PUNCTURES AND GAPS. A SMOKE TEST, OR EQUAL INTEGRITY TEST PER THE MANUFACTURER'S INSTRUCTIONS, SHALL BE CONDUCTED A MINIMUM OF EVERY 5,000 SQUARE FOOT INTERVAL, OR AS REQUIRED BY THE VAPOR BARRIER MANUFACTURER. ALL LEAKS SHALL BE PATCHED PER THE MANUFACTURER'S INSTRUCTIONS AND RETESTED.
10. THE VAPOR BARRIER MATERIALS ARE INTENDED TO MITIGATE INTRUSION OF CONTAMINATED SUB-SLAB VAPORS INTO OCCUPIED BUILDING SPACES. IF IS ALSO REQUIRED, THIS SHALL BE COORDINATED ACCORDINGLY TO ENSURE COMPATIBLE MATERIALS ARE SELECTED AND APPLIED.

# SPECIAL INSPECTIONS NOTES

1. SPECIAL INSPECTIONS REQUIRED UNDER THIS APPLICATION IN ACCORDANCE WITH CHAPTER 17 AND THE APPLICABLE SECTIONS OF THE NYC CONSTRUCTION CODE ARE LISTED BELOW. SPECIAL INSPECTIONS FOR PORTIONS OF THE WORK THAT ARE FILED UNDER SEPARATE APPLICATION ARE NOT LISTED HERE AND ARE TO BE LISTED ON THOSE APPLICATIONS BY THE CONTRACTOR'S APPLICANT OF RECORD.
2. THE CONTRACTOR MUST NOTIFY THE RELEVANT SPECIAL INSPECTOR OR SPECIAL INSPECTION AGENCY IN WRITING FOR SPECIAL INSPECTIONS AT LEAST 72 HOURS BEFORE THE SPECIFIC WORK COMMENCES.
3. THE "OWNER" SHALL BE RESPONSIBLE FOR THE FOLLOWING SPECIAL INSPECTIONS:
   - BC 1704.18: MECHANICAL SYSTEMS
   - BC 1704.27: FIRE-RESISTANT PENETRATIONS AND JOINTS
   - BC 1704.32: POST-INSTALLED ANCHORS ( BB# 20-14-018,2014-19 )
   - BC 110.5, 28-116.2.4.2, 1 RCNY 101-10: FINAL

**ENERGY CODE PROGRESS INSPECTION**

| IID | INSPECTION/TEST | PERIODIC (MINIMUM) | REFERENCE STANDARD (SEE ECC CHAPTER C6) OR OTHER CRITERIA | ECC OR OTHER CITATION | SUPPORTING DOC. LOCATION | INSPECTION DESCRIPTION |
|---|---|---|---|---|---|---|
| IDD1 | MAINTENANCE INFORMATION | PRIOR TO SIGN-OFF OR ISSUANCE OF FINAL CERTIFICATE OF OCCUPANCY | APPROVED CONSTRUCTION DOCUMENTS, INCLUDING ELECTRICAL DRAWINGS WHERE APPLICABLE; ASHRAE GUIDELINE 4: PREPARATION OF OPERATING AND MAINTENANCE DOCUMENTATION FOR BUILDING SYSTEMS | ASHRAE 90.1 - 4.2.2.3, 6.7.2.2, 6.7.2.3.5.2, 8.7.2, 9.7.2.2, 9.4.3.2.2 | SPEC SECTION 16502, 16520, 16530 | MAINTENANCE MANUALS FOR MECHANICAL, SERVICE HOT WATER AND ELECTRICAL EQUIPMENT AND SYSTEMS REQUIRING PREVENTIVE MAINTENANCE MUST BE REVIEWED FOR APPLICABILITY TO INSTALLED EQUIPMENT AND SYSTEMS BEFORE SUCH MANUALS ARE PROVIDED TO THE OWNER. LABELS REQUIRED FOR SUCH EQUIPMENT OR SYSTEMS MUST BE INSPECTED FOR ACCURACY AND COMPLETENESS. |

# SUBMITTALS/DELIVERABLES

1. CONTRACTOR TO PROVIDE MANUFACTURER CUT SHEETS FOR ALL PROPOSED COMPONENTS OF THE SMD SYSTEM (INCLUDING BUT NOT LIMITED TO GEOTEXTILE FABRIC, SOLID SUBSURFACE PVC PIPE, PVC PIPE FITTINGS, 3/4-INCH CLEAN STONE, VAPOR BARRIER, CAST IRON OR GALVANIZED STEEL RISER PIPE, RISER PIPE FITTINGS, BLOWERS, AND METHANE DETECTORS) BEFORE PROCUREMENT AND INSTALLATION.
2. CONTRACTOR TO PROVIDE DETAILED SHOP DRAWINGS TO THE REMEDIATION ENGINEER FOR REVIEW PRIOR TO INSTALLATION OF DEPRESSURIZATION SYSTEM COMPONENTS.
3. CONTRACTOR TO PROVIDE PROOF OF CERTIFICATION FOR VAPOR BARRIER INSTALLER AS A CONSTRUCTION SUBMITTAL FOR REVIEW.
4. CONTRACTOR MUST PROVIDE PE-STAMPED AS-BUILT DRAWINGS OF COMPLETED VAPOR BARRIER EXTENTS TO REMEDIAL ENGINEER FOLLOWING INSTALLATION.
5. CONTRACTOR MUST PROVIDE PE-STAMPED AS-BUILT DRAWINGS OF UNDER-SLAB AND ABOVE-SLAB SMD SYSTEM COMPONENTS TO REMEDIAL ENGINEER FOLLOWING INSTALLATION. THE LOCATIONS OF ALL SUB-SLAB SMD SYSTEM COMPONENTS SHOULD BE SURVEYED BY A LICENSED SURVEYOR.
6. CONTRACTOR TO PROVIDE TESTING REPORTS (INCLUDING RESULTS OF PRESSURE/LEAK TESTING OF ALL PIPING).
7. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR THE BLOWER (ALL COMPONENTS OF THE BLOWER SHOULD BE COMPATIBLE WITH VOLATILE ORGANIC COMPOUNDS AND METHANE).
8. CONTRACTOR TO PROVIDE SHOP DRAWINGS AND AS-BUILT DRAWINGS OF THE WATERPROOFING/VAPOR BARRIER MEMBRANE WITH A MINIMUM THICKNESS OF 20 MILS. THE PREFERRED VAPOR BARRIER MEMBRANE PRODUCT IS FLORPRUFE 120, OR AN APPROVED EQUIVALENT.

# CODE COMPLIANCE NOTES

1. THE SUB-SLAB DEPRESSURIZATION SYSTEM COMPLIES WITH THE REQUIREMENTS OF THE 2022 NYC MECHANICAL CODE SECTION 512, "SUBSLAB SOIL EXHAUST SYSTEMS".
2. PLEASE REFER TO NEW BUILDING APPLICATION DOB NOW JOB NUMBER [000000150] FOR ALL BUILDING DEPARTMENT NOTES, APPLICABLE INSPECTIONS, AND LIST OF DRAWINGS.

**PERMITS:**
CONTRACTOR SHALL FILE FOR AND OBTAIN PERMITS FOR ALL MECHANICAL SYSTEMS. PERMITS SHALL COMPLY WITH CHAPTER 1 ADMINISTRATION, TITLE 28, SECTION MC 105.

**LISTED AND LABELED:**
ALL APPLIANCES REGULATED BY NYCMC SHALL BE LISTED AND LABELED AS REQUIRED BY MC 301.4. LABEL INFORMATION SHALL COMPLY WITH REQUIREMENTS OF MC 301.6.

**VIBRATION ISOLATION:**
ALL MECHANICAL EQUIPMENT SHALL BE MOUNTED AND SUPPORTED AND PROVIDED WITH VIBRATION ISOLATORS AS REQUIRED BY MC 301.10.

**WIND RESISTANCE:**
ALL MECHANICAL EQUIPMENT, APPLIANCES, AND SUPPORTS THAT ARE EXPOSED TO WIND SHALL BE DESIGNED AND INSTALLED AS PER BC 1609 "WIND LOADS".

**FIRE STOPPING COMPLIANCE NOTE:**
- FOR FIRE STOPPING AT ANY FIRE RATED CONSTRUCTION PENETRATION, CONTRACTOR SHALL REFER TO SPECIFICATION SECTION 078413.
- ALL DUCT AND PIPE PENETRATIONS OF RATED CONSTRUCTION SHALL COMPLY WITH NYC BC 712.

# PROGRESS INSPECTIONS

1. SPECIAL INSPECTIONS REQUIRED UNDER THIS APPLICATION IN ACCORDANCE WITH CHAPTER 17 AND THE APPLICABLE SECTIONS OF THE NYC CONSTRUCTION CODE ARE LISTED BELOW. SPECIAL INSPECTIONS FOR PORTIONS OF THE WORK THAT ARE FILED UNDER SEPARATE APPLICATION ARE NOT LISTED HERE AND ARE TO BE LISTED ON THOSE APPLICATIONS BY THE CONTRACTOR'S APPLICANT OF RECORD.
2. PROGRESS INSPECTIONS REQUIRED UNDER CHAPTER 1 OF THE NYC BUILDING CODE AND THE APPLICABLE SECTIONS OF THE NYC CONSTRUCTION CODE ARE LISTED IN THE FOLLOWING NOTES AND TABLES.
3. THE CONTRACTOR MUST NOTIFY THE RELEVANT SPECIAL INSPECTOR OR SPECIAL INSPECTION AGENCY IN WRITING FOR SPECIAL INSPECTIONS AT LEAST 72 HOURS BEFORE THE SPECIFIC WORK COMMENCES.
4. THE "OWNER" SHALL BE RESPONSIBLE FOR THE FOLLOWING PROGRESS INSPECTIONS:

| | | |
|---|---|---|
| 4.1. | ENERGY CODE COMPLIANCE INSPECTIONS *TR8 | BC 110.35 |
| 4.2. | FINAL | BC 110.5<br>28-116.2.4.2<br>1 RCNY 101-10 |

NEW YORK CITY FOOTBALL CLUB

Project
NYCFC WILLETS POINT STADIUM
FLUSHING, NY 11368

Prepared For
NEW YORK CITY FOOTBALL CLUB


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MEP
29 West 38th Street, 17th Floor
New York, NY 10018
Tel: 212-447-6770

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7125 West Jefferson Avenue, Suite 350
Lakewood, CO 80235
Tel: 303-781-5001

LLOYD SPORTS + ENGINEERING
Turf
7349 N. Via Paseo Del Sur, Suite 515-324
Scottsdale, AZ 85258
Tel: 602-535-4226

HOWE ENGINEERS, INC.
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141 Longwater Drive, Suite 110
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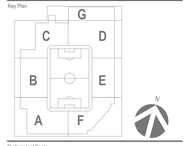
Key Plan




Professional Seals

NOT FOR CONSTRUCTION

| No. | Description | Date |
|---|---|---|
| 1 | EARLY UNDERGROUND UTILITY PACKAGE | 5/16/2024 |

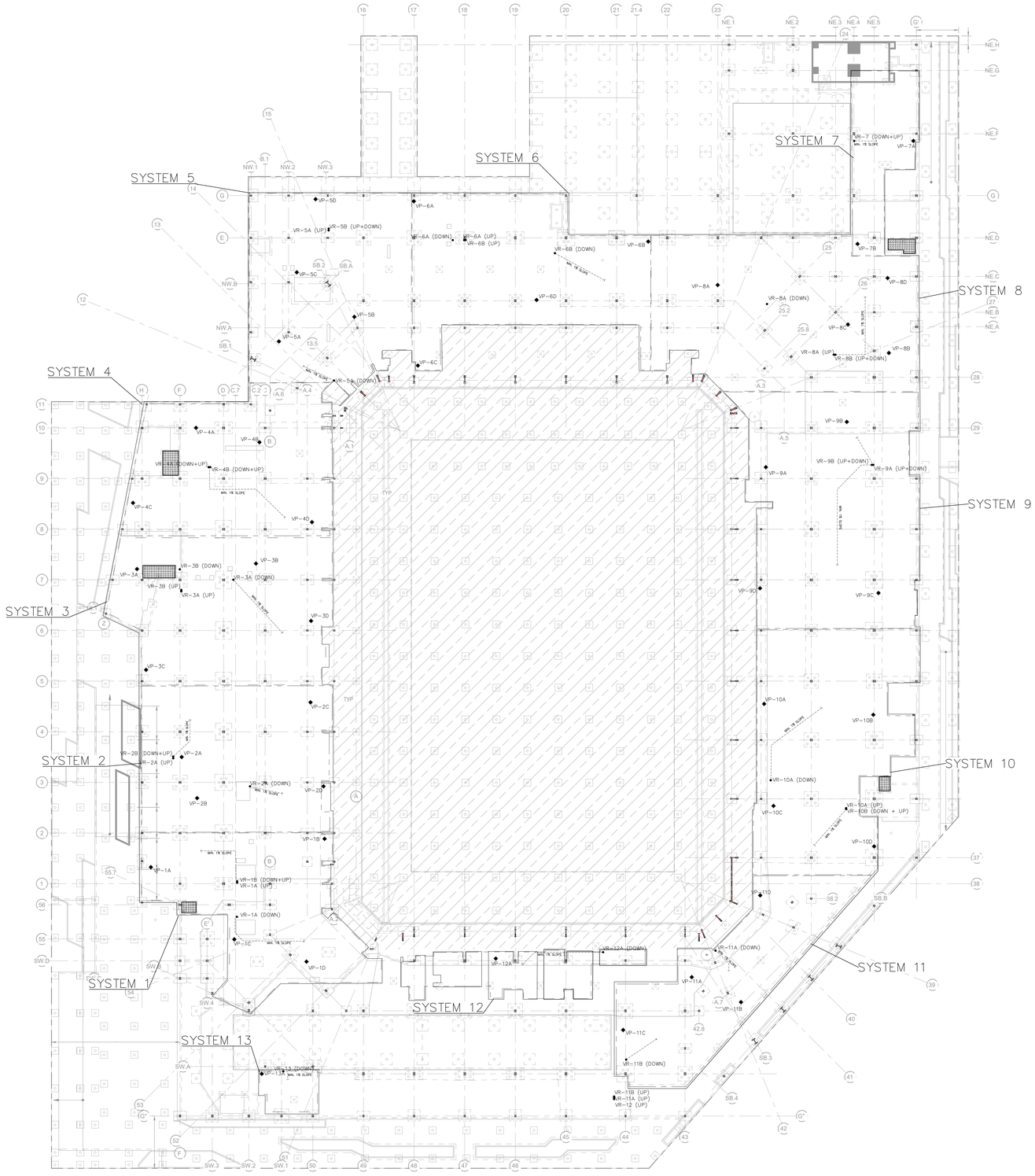
B-Scan

Package: EARLY UNDERGROUND UTILITY PACKAGE
Issue Date: MAY 16, 2024
Project No: 22.70086.00

Sheet Title
SUB-MEMBRANE DEPRESSURIZATION SYSTEM NOTES

Original is 48 x 36. Do not scale contents of this drawing.

Sheet Number
H-100.00




LEGEND:

- APPROXIMATE BUILDING BOUNDARY
- VAPOR MONITORING POINTS
- SUB-SLAB SOLID PIPING
- OR SMDS SYSTEM BOUNDARIES
- RISER PIPE SLAB PENETRATION
- OPEN AIR SPACE
- ELEVATOR PIT

NOTES:

1. BACKGROUND ADAPTED FROM 50% CONSTRUCTION DEVELOPMENT SET, STRUCTURAL COMPOSITE PLAN - FIELD LEVEL S101.00, PROVIDED TO LANGAN ON MARCH 28, 2024.
2. RISER PIPE SLAB PENETRATIONS LABELED AS "DOWN" INDICATE LOCATIONS WHERE THE RISER PIPE IS PENETRATING THE SLAB AND CONNECTING TO SUB-SURFACE VAPOR COLLECTION PIPE.
3. RISER PIPE LOCATIONS LABELED AS "UP" INDICATES LOCATION WHERE THE RISER PIPE IS PENETRATING THE UPPER FLOOR SLAB.

30 0 15 30
SCALE: 1 INCH = 30 FEET

Project
NYCFC WILLETS POINT STADIUM
FLUSHING, NY 11368

Prepared For
NEW YORK CITY FOOTBALL CLUB

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HOWE ENGINEERS, INC.
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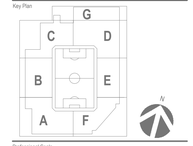
Norwell, MA 02061
Tel: 508-577-0429



Key Plan




Professional Seals

NOT FOR CONSTRUCTION

| No. | Description | Date |
|---|---|---|
| 1 | EARLY UNDERGROUND UTILITY PACKAGE | 5/16/2024 |

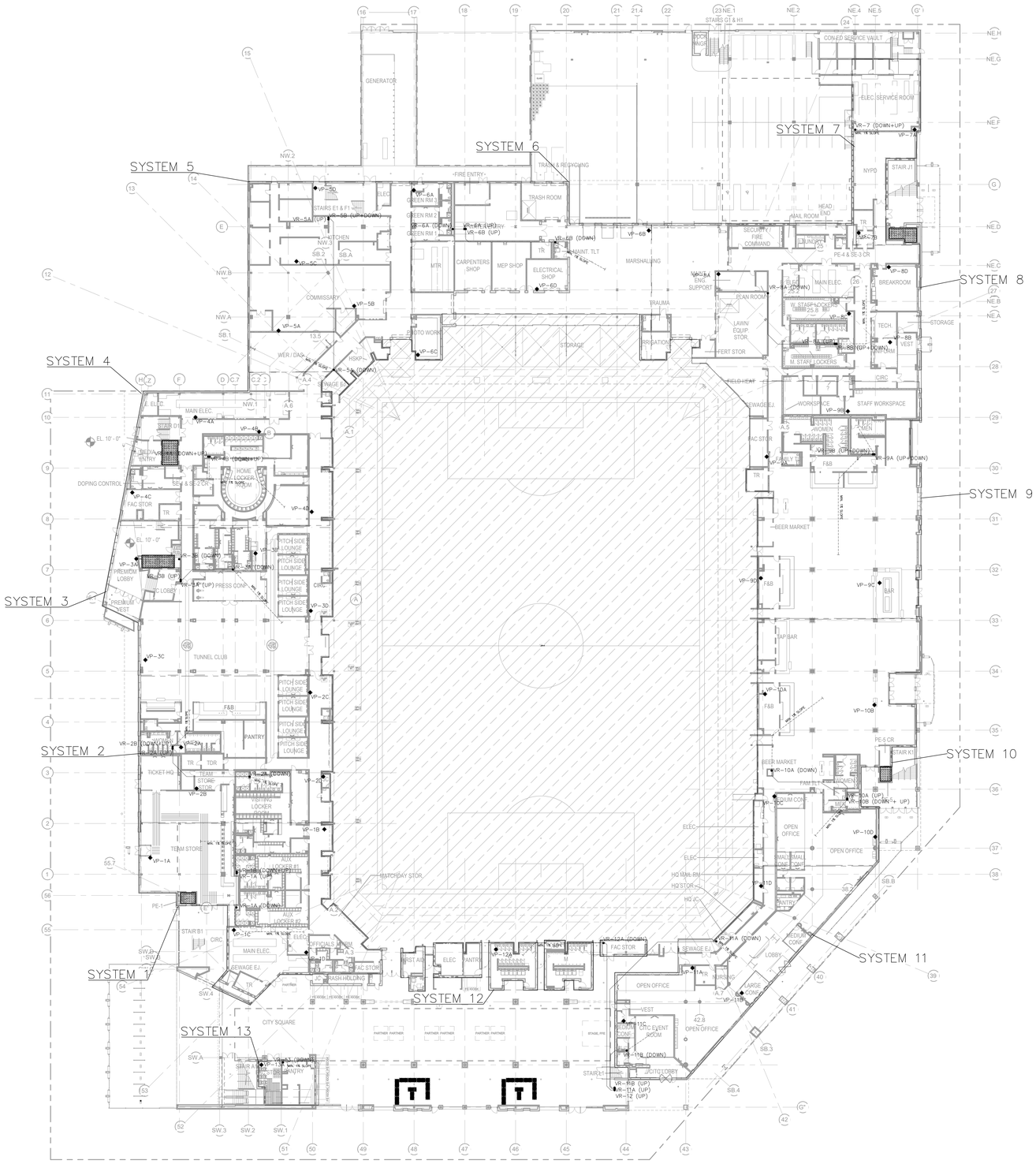
B-Scan

Package: EARLY UNDERGROUND UTILITY PACKAGE
Issue Date: MAY 16, 2024
Project No: 22.70086.00

Sheet Title
SUB-MEMBRANE DEPRESSURIZATION SYSTEM RISER PLAN

Original is 48 x 36. Do not scale contents of this drawing.

Sheet Number
H-101.00




LEGEND:

- APPROXIMATE BUILDING BOUNDARY
- VAPOR MONITORING POINTS (VP-01)
- SUB-SLAB SOLID PIPING
- ABOVE GRADE SOLID PIPING
- OR — SMDS SYSTEM BOUNDARIES
- RISER PIPE SLAB PENETRATION (VR-01)
- OPEN AIR SPACE
- ELEVATOR PIT

NOTES:

1. BACKGROUND ADAPTED FROM EARLY UNDERGROUND UTILITY PACKAGE DEVELOPMENT PROGRESS SET, ARCHITECTURAL FIELD LEVEL REFERENCE PLAN A011.00, PROVIDED TO LANGAN ON MAY 2, 2024.
2. RISER PIPE SLAB PENETRATIONS LABELED AS "DOWN" INDICATE LOCATIONS WHERE THE RISER PIPE IS PENETRATING THE SLAB AND CONNECTING TO SUB-SURFACE VAPOR COLLECTION PIPE.
3. RISER PIPE LOCATIONS LABELED AS "UP" INDICATES LOCATION WHERE THE RISER PIPE IS PENETRATING THE UPPER FLOOR SLAB.

30 0 15 30
SCALE: 1 INCH = 30 FEET

Project
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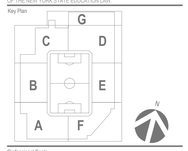
Key Plan




Professional Seals

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|---|---|---|
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B-Scan

Package: EARLY UNDERGROUND UTILITY PACKAGE
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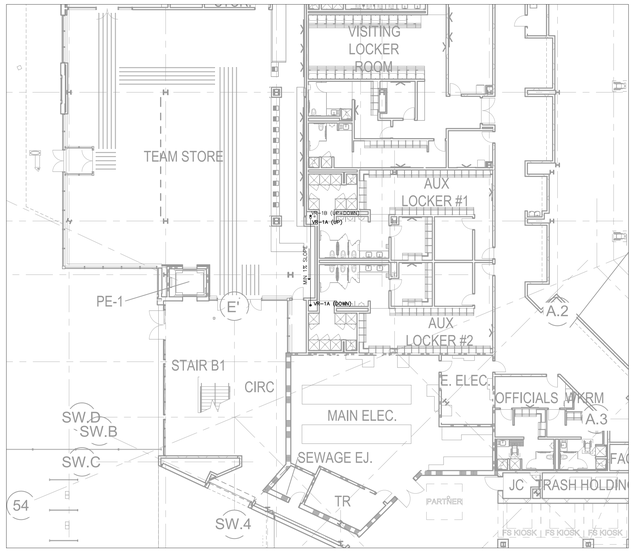
Project No: 22.70086.00

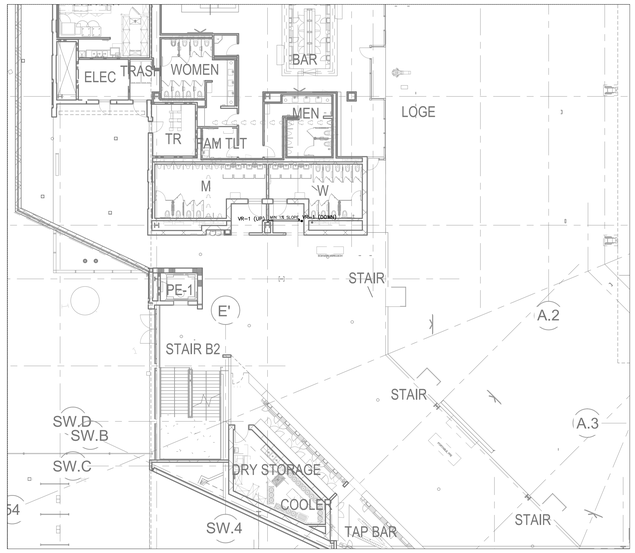
Sheet Title
SUB-MEMBRANE DEPRESSURIZATION SYSTEM RISER PLAN

Original is 48 x 36. Do not scale contents of this drawing.

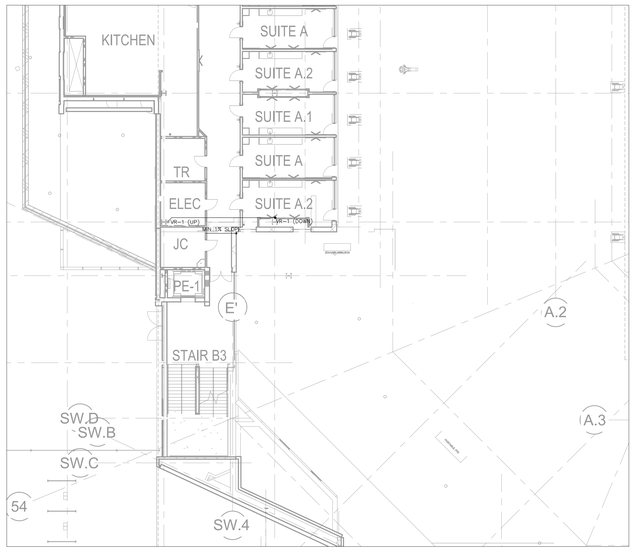
Sheet Number
H-102.00



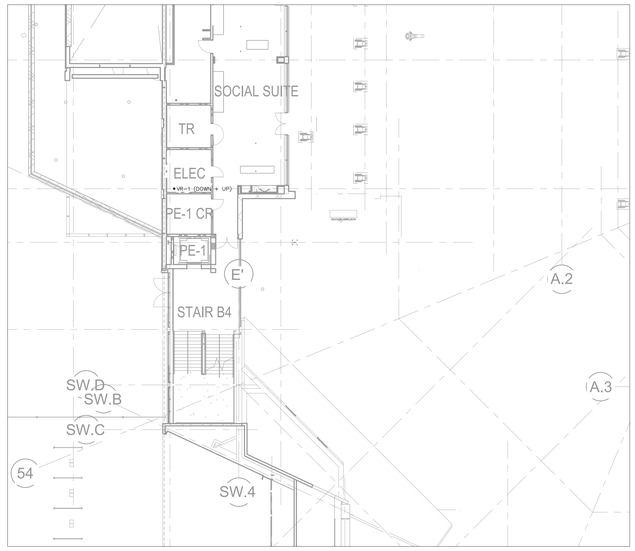

FIELD LEVEL PLAN
SCALE: 1" = 15'



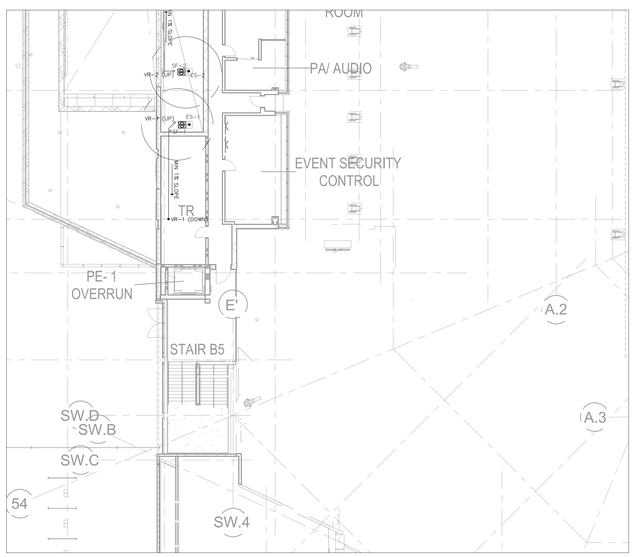

MAIN CONCOURSE LEVEL
SCALE: 1" = 15'




LOWER SUITE LEVEL
SCALE: 1" = 15'




UPPER SUITE LEVEL
SCALE: 1" = 15'




PRESS/TERRACE LEVEL
SCALE: 1" = 15'

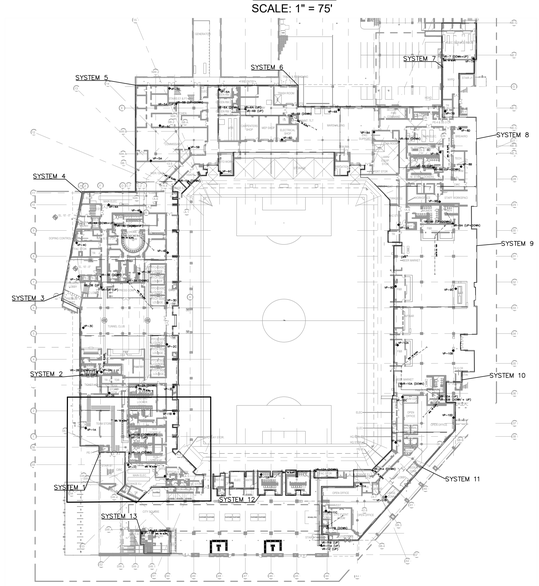
## LEGEND:

- 4" Ø GALVANIZED STEEL PIPING
- VR–1 — 4" VERTICAL RISER AND IDENTIFICATION NUMBER
- SF–1 — SUCTION FAN
- DOWN — VERTICAL RISER OFFSET
- ES–1 — EXHAUST STACK
- BUILDING AIR INTAKE LOCATION 10-FOOT RADIUS

## NOTES:

1. BASE MAP TAKEN FROM EARLY UNDERGROUND UTILITY PACKAGE DEVELOPMENT SET, ARCHITECTURAL DRAWINGS, PREPARED BY HOK, PROVIDED TO LANGAN ON MAY 2, 2024.
2. RISER PIPE SLAB PENETRATIONS LABELED AS "DOWN" INDICATE LOACTIONS WHERE THE RISER PIPE IS PENETRATING THE SLAB AND CONNECTING TO THE LOWER FLOOR RISER PIPE.
3. RISER PIPE LOCATIONS LABELED AS "UP" INDICATES LOCATIONS WHERE THE RISER PIPE IS PENETRATING THE UPPER FLOOR SLAB.

KEY MAP
SCALE: 1" = 75'




Project
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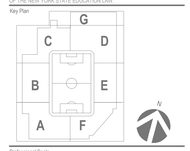
Key Plan

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| No. | Description | Date |
|---|---|---|
| 1 | EARLY UNDERGROUND UTILITY PACKAGE | 5/15/2024 |

Bi-Scan

| | |
|---|---|
| Package: | EARLY UNDERGROUND UTILITY PACKAGE |
| Issue Date: | MAY 15, 2024 |
| Project No.: | 22.70086.00 |

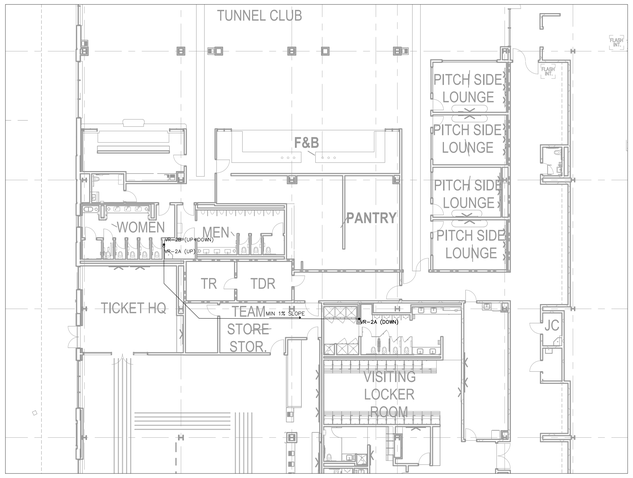
Sheet Title

SUB-MEMBRANE DEPRESSURIZATION SYSTEM 1 RISER PLAN

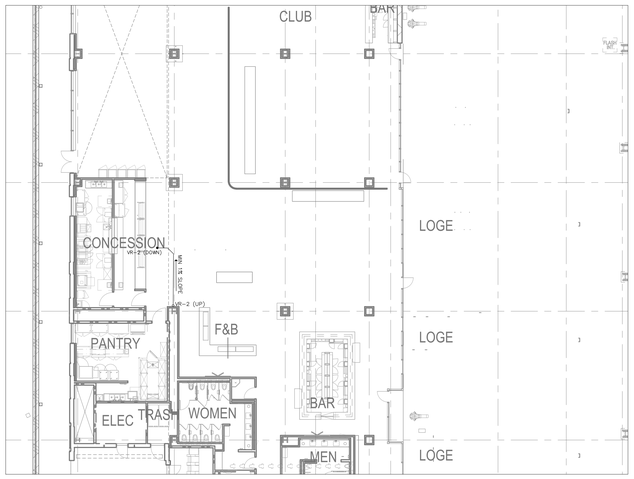
Original is 48 x 36. Do not scale contents of this drawing.

Sheet Number

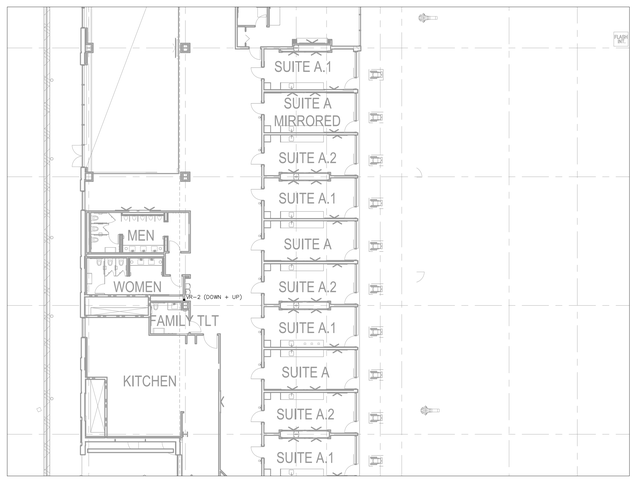
H-103.00



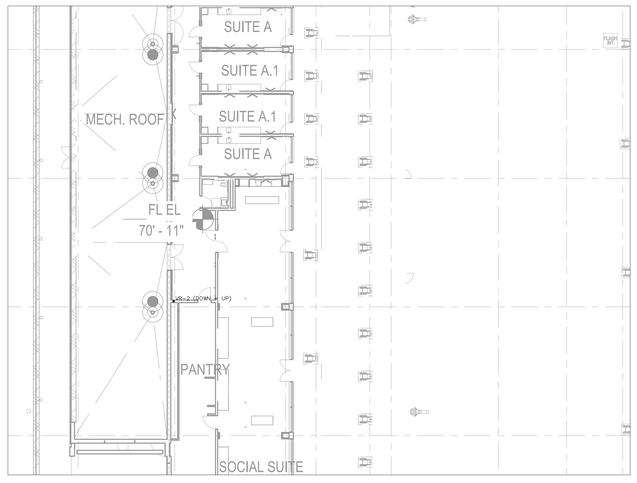

## FIELD LEVEL PLAN
SCALE: 1" = 15'



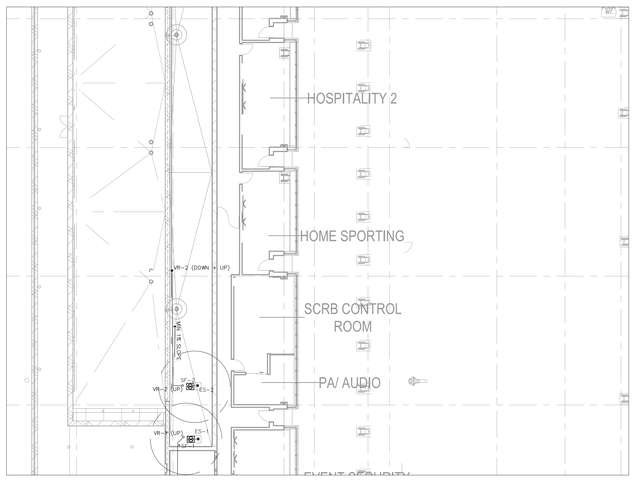

## MAIN CONCOURSE LEVEL
SCALE: 1" = 15'




## LOWER SUITE LEVEL
SCALE: 1" = 15'




## UPPER SUITE LEVEL
SCALE: 1" = 15'




## PRESS/TERRACE LEVEL
SCALE: 1" = 15'

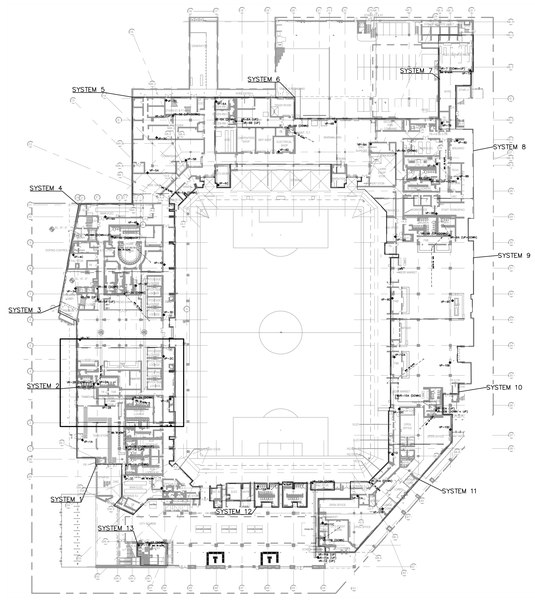
## LEGEND:

- 4" Ø GALVANIZED STEEL PIPING
- VR–1 — 4" VERTICAL RISER AND IDENTIFICATION NUMBER
- SF–1 — SUCTION FAN
- DOWN — VERTICAL RISER OFFSET
- ES–1 — EXHAUST STACK
- BUILDING AIR INTAKE LOCATION 10-FOOT RADIUS

## NOTES:

1. BASE MAP TAKEN FROM EARLY UNDERGROUND UTILITY PACKAGE DEVELOPMENT SET, ARCHITECTURAL DRAWINGS, PREPARED BY HOK, PROVIDED TO LANGAN ON MAY 2, 2024.
2. RISER PIPE SLAB PENETRATIONS LABELED AS "DOWN" INDICATE LOACTIONS WHERE THE RISER PIPE IS PENETRATING THE SLAB AND CONNECTING TO THE LOWER FLOOR RISER PIPE.
3. RISER PIPE LOCATIONS LABELED AS "UP" INDICATES LOCATIONS WHERE THE RISER PIPE IS PENETRATING THE UPPER FLOOR SLAB.

## KEY MAP
SCALE: 1" = 75'




Project
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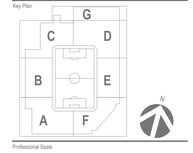
Key Plan

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| No. | Description | Date |
|---|---|---|
| 1 | EARLY UNDERGROUND UTILITY PACKAGE | 5/16/2024 |

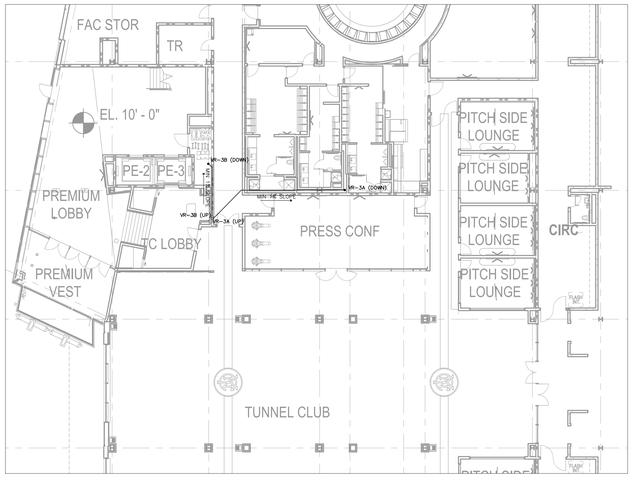
B-Scan

Package: EARLY UNDERGROUND UTILITY PACKAGE
Issue Date: MAY 16, 2024
Project No: 22.70086.00

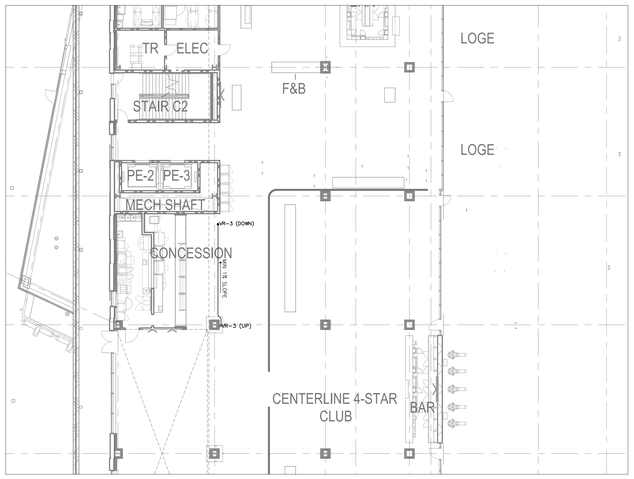
Sheet Title
SUB-MEMBRANE DEPRESSURIZATION SYSTEM 2 RISER PLAN

Original is 48 x 36. Do not scale contents of this drawing.

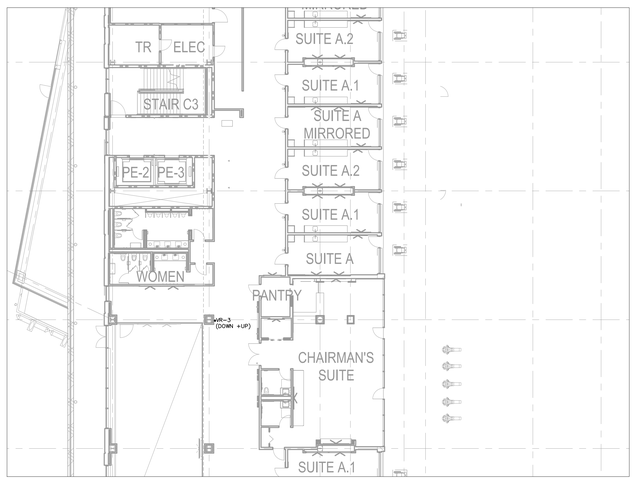
Sheet Number
H-104.00




FIELD LEVEL PLAN
SCALE: 1" = 15'




MAIN CONCOURSE LEVEL
SCALE: 1" = 15'




LOWER SUITE LEVEL
SCALE: 1" = 15'


UPPER SUITE LEVEL
SCALE: 1" = 15'


PRESS/TERRACE LEVEL
SCALE: 1" = 15'

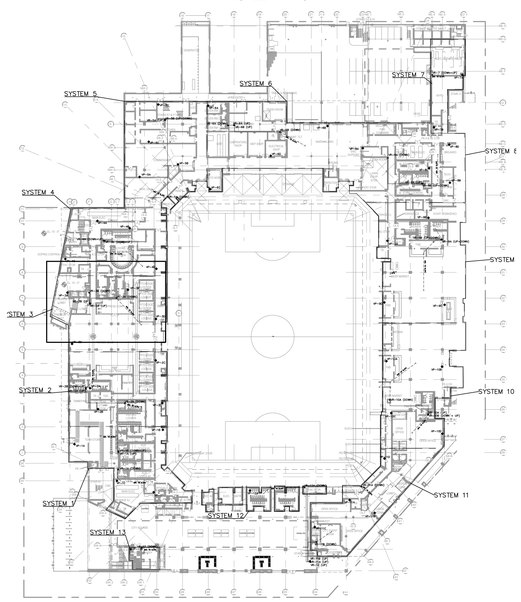
## LEGEND:

- 4" Ø GALVANIZED STEEL PIPING
- VR–1 — 4" VERTICAL RISER AND IDENTIFICATION NUMBER
- SF–1 — SUCTION FAN
- DOWN — VERTICAL RISER OFFSET
- ES–1 — EXHAUST STACK
- BUILDING AIR INTAKE LOCATION 10-FOOT RADIUS

## NOTES:

1. BASE MAP TAKEN FROM EARLY UNDERGROUND UTILITY PACKAGE DEVELOPMENT SET, ARCHITECTURAL DRAWINGS, PREPARED BY HOK, PROVIDED TO LANGAN ON MAY 2, 2024.
2. RISER PIPE SLAB PENETRATIONS LABELED AS "DOWN" INDICATE LOACTIONS WHERE THE RISER PIPE IS PENETRATING THE SLAB AND CONNECTING TO THE LOWER FLOOR RISER PIPE.
3. RISER PIPE LOCATIONS LABELED AS "UP" INDICATES LOCATIONS WHERE THE RISER PIPE IS PENETRATING THE UPPER FLOOR SLAB.

KEY MAP
SCALE: 1" = 75'

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Key Plan


Professional Seals

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| No. | Description | Date |
|---|---|---|
| 1 | EARLY UNDERGROUND UTILITY PACKAGE | 5/16/2024 |

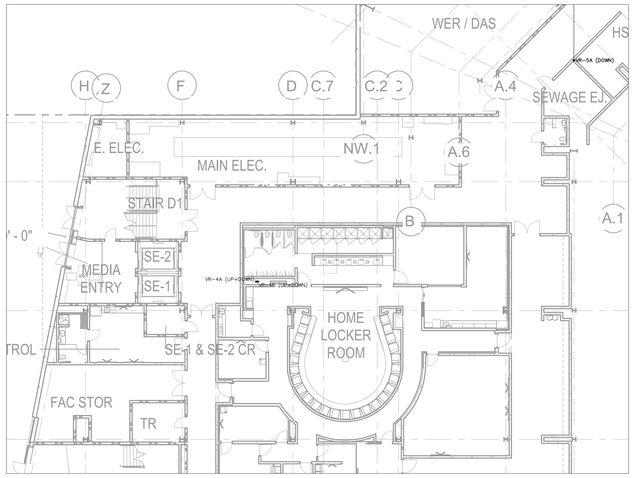
B-Scan

Package: EARLY UNDERGROUND UTILITY PACKAGE
Issue Date: MAY 16, 2024
Project No: 22.70086.00

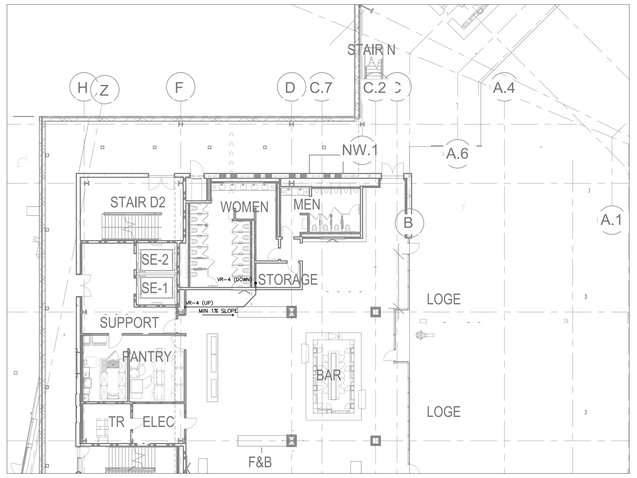
Sheet Title
SUB-MEMBRANE DEPRESSURIZATION SYSTEM 3 RISER PLAN

Original is 48 x 36. Do not scale contents of this drawing.

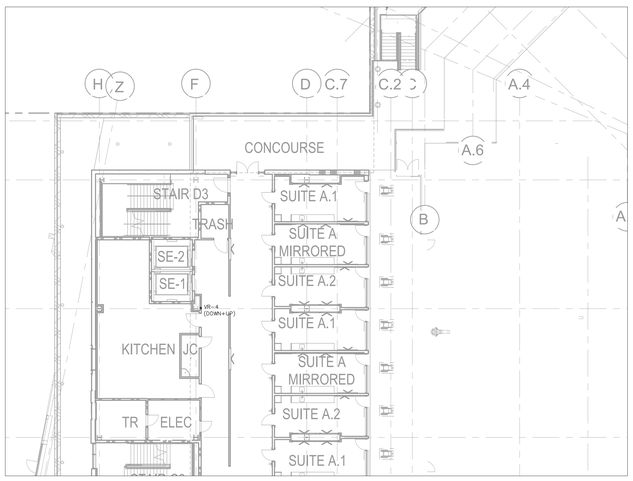
Sheet Number
H-105.00



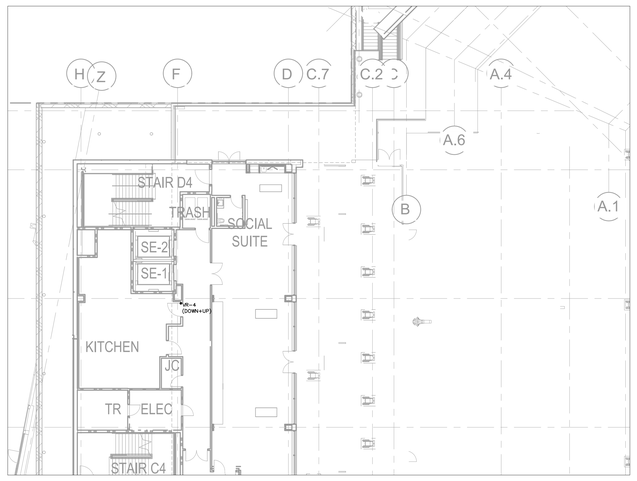

FIELD LEVEL PLAN
SCALE: 1" = 15'




MAIN CONCOURSE LEVEL
SCALE: 1" = 15'




LOWER SUITE LEVEL
SCALE: 1" = 15'




UPPER SUITE LEVEL
SCALE: 1" = 15'


PRESS/TERRACE LEVEL
SCALE: 1" = 15'

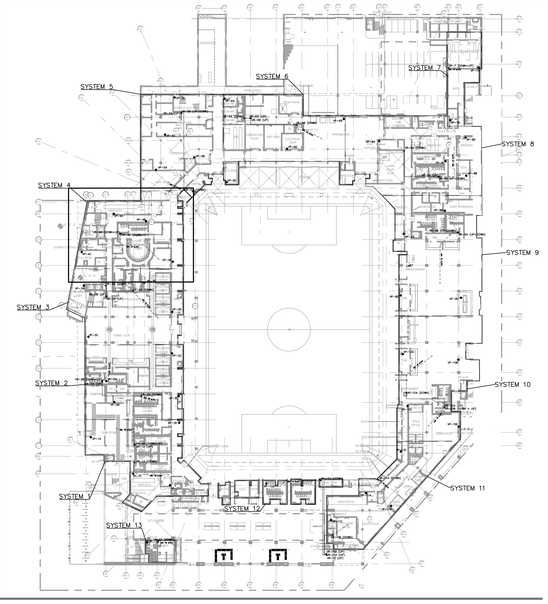
## LEGEND:

- 4" Ø GALVANIZED STEEL PIPING
- VR–1 — 4" VERTICAL RISER AND IDENTIFICATION NUMBER
- SF–1 — SUCTION FAN
- DOWN — VERTICAL RISER OFFSET
- ES–1 — EXHAUST STACK
- BUILDING AIR INTAKE LOCATION 10-FOOT RADIUS

## NOTES:

1. BASE MAP TAKEN FROM EARLY UNDERGROUND UTILITY PACKAGE DEVELOPMENT SET, ARCHITECTURAL DRAWINGS, PREPARED BY HOK, PROVIDED TO LANGAN ON MAY 2, 2024.
2. RISER PIPE SLAB PENETRATIONS LABELED AS "DOWN" INDICATE LOACTIONS WHERE THE RISER PIPE IS PENETRATING THE SLAB AND CONNECTING TO THE LOWER FLOOR RISER PIPE.
3. RISER PIPE LOCATIONS LABELED AS "UP" INDICATES LOCATIONS WHERE THE RISER PIPE IS PENETRATING THE UPPER FLOOR SLAB.

KEY MAP
SCALE: 1" = 75'





Project
NYCFC WILLETS POINT STADIUM
FLUSHING, NY 11368

Prepared For
NEW YORK CITY FOOTBALL CLUB

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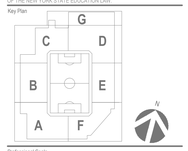
Key Plan

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| No. | Description | Date |
|---|---|---|
| | EARLY UNDERGROUND UTILITY PACKAGE | 5/16/2024 |

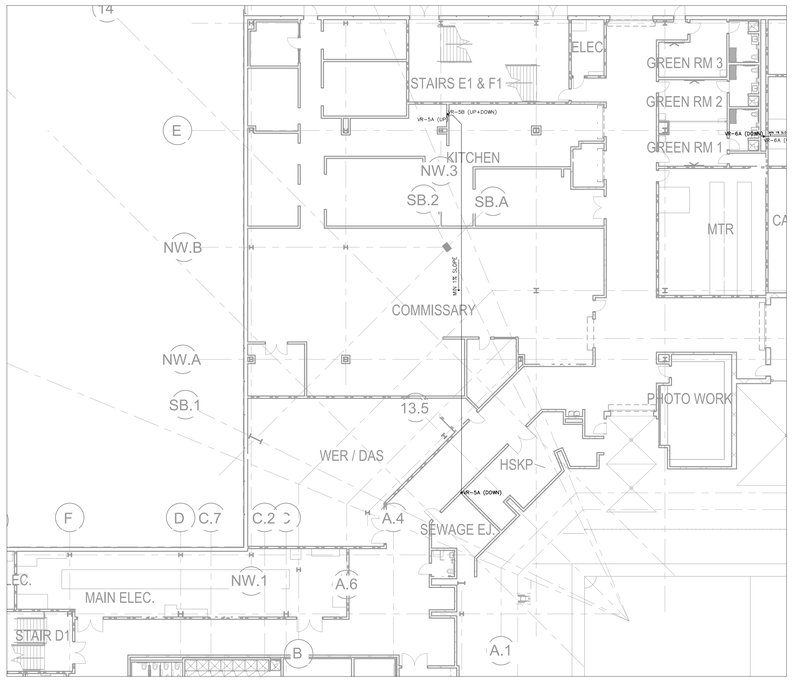
B-Scan

Package: EARLY UNDERGROUND UTILITY PACKAGE
Issue Date: MAY 16, 2024
Project No.: 22.70086.00

Sheet Title
SUB-MEMBRANE DEPRESSURIZATION SYSTEM 4 RISER PLAN

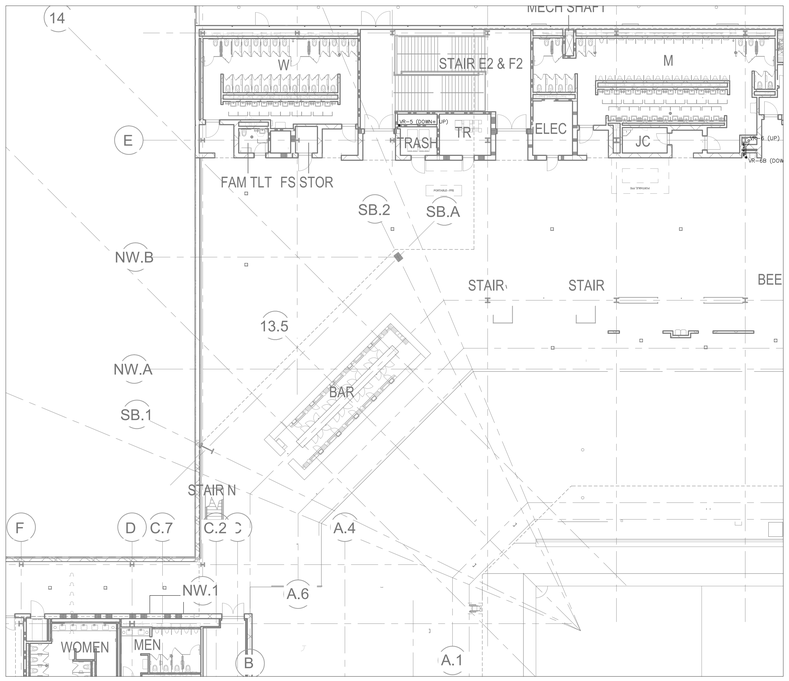
Original is 48 x 36. Do not scale contents of this drawing.

Sheet Number
H-106.00



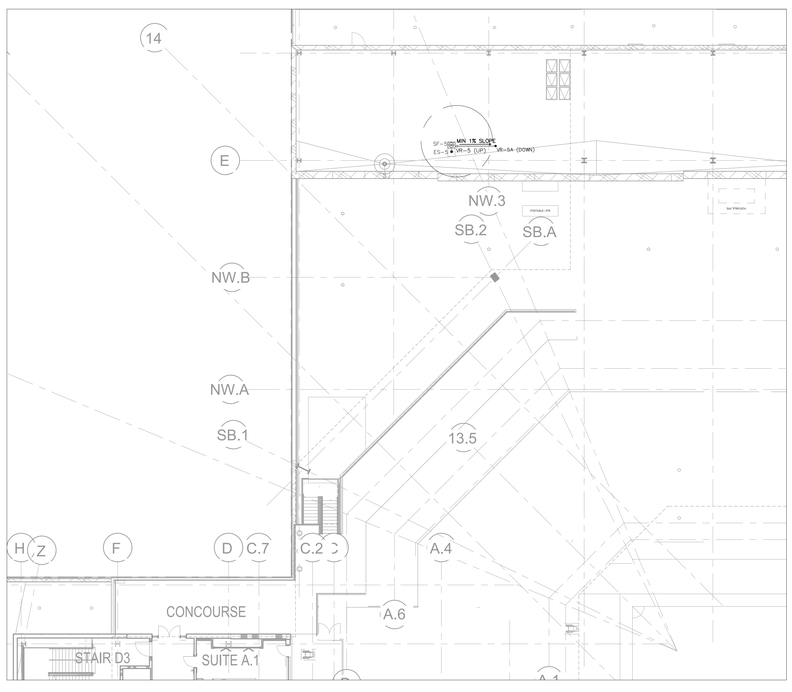

FIELD LEVEL PLAN

SCALE: 1" = 15'




MAIN CONCOURSE LEVEL

SCALE: 1" = 15'




LOWER SUITE LEVEL

SCALE: 1" = 15'

LEGEND:

4" Ø GALVANIZED STEEL PIPING

VR–1 — 4" VERTICAL RISER AND IDENTIFICATION NUMBER

SF–1 — SUCTION FAN

DOWN — VERTICAL RISER OFFSET

ES–1 — EXHAUST STACK

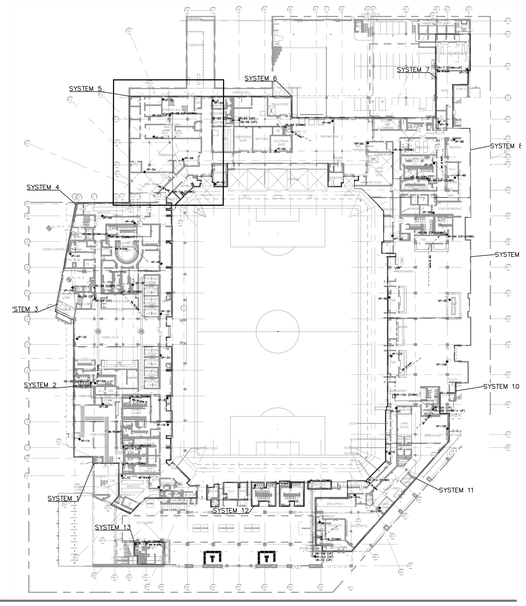
BUILDING AIR INTAKE LOCATION 10-FOOT RADIUS

NOTES:

1. BASE MAP TAKEN FROM EARLY UNDERGROUND UTILITY PACKAGE DEVELOPMENT SET, ARCHITECTURAL DRAWINGS, PREPARED BY HOK, PROVIDED TO LANGAN ON MAY 2, 2024.
2. RISER PIPE SLAB PENETRATIONS LABELED AS "DOWN" INDICATE LOACTIONS WHERE THE RISER PIPE IS PENETRATING THE SLAB AND CONNECTING TO THE LOWER FLOOR RISER PIPE.
3. RISER PIPE LOCATIONS LABELED AS "UP" INDICATES LOCATIONS WHERE THE RISER PIPE IS PENETRATING THE UPPER FLOOR SLAB.

KEY MAP

SCALE: 1" = 75'

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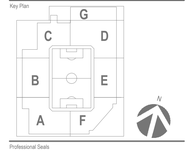
Key Plan




Professional Seals

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| No. | Description | Date |
|---|---|---|
| 1 | EARLY UNDERGROUND UTILITY PACKAGE | 5/16/2024 |

Bi-Scan

Package: EARLY UNDERGROUND UTILITY PACKAGE
Issue Date: MAY 16, 2024
Project No: 22.70086.00

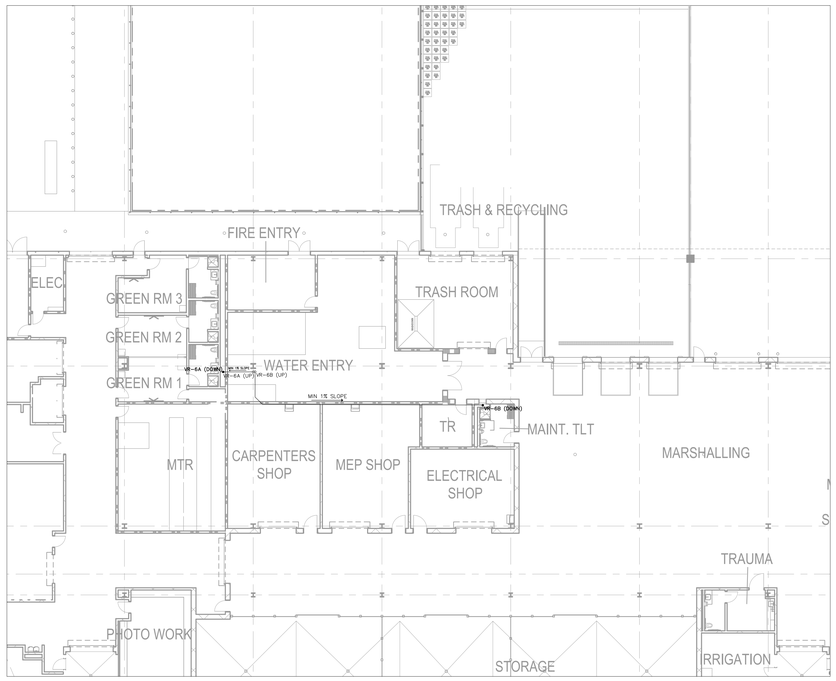
Sheet Title

SUB-MEMBRANE DEPRESSURIZATION SYSTEM 5 RISER PLAN

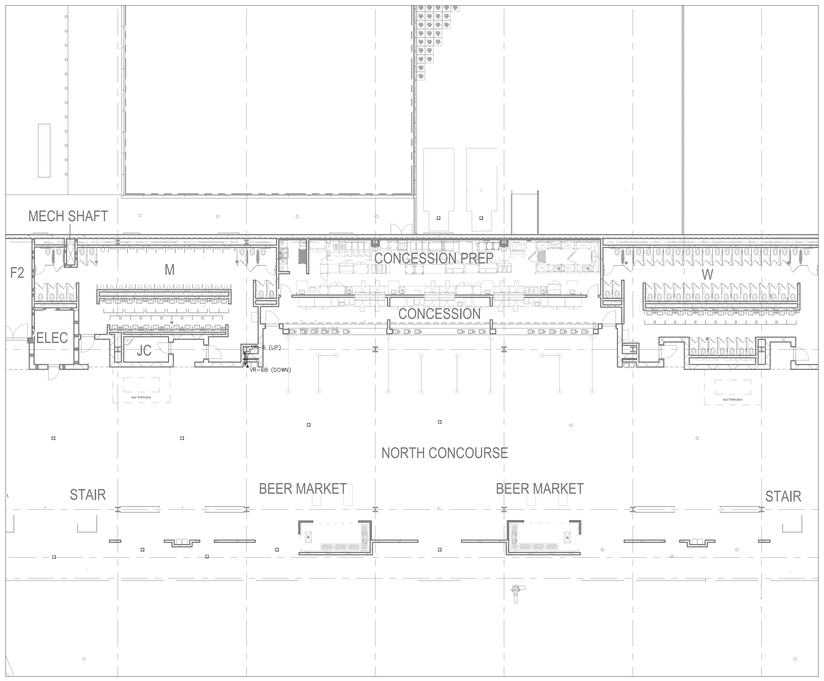
Original is 48 x 36. Do not scale contents of this drawing.

Sheet Number

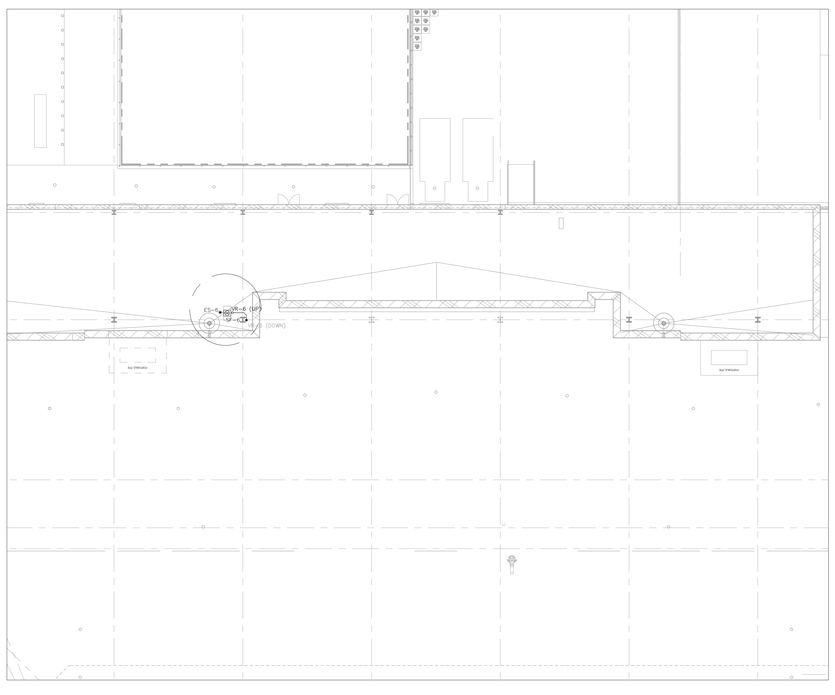
H-107.00




## FIELD LEVEL PLAN
SCALE: 1" = 15'




## MAIN CONCOURSE LEVEL
SCALE: 1" = 15'




## LOWER SUITE LEVEL
SCALE: 1" = 15'

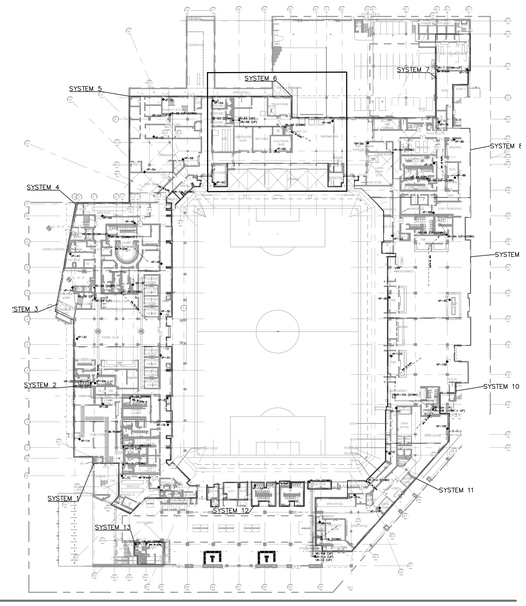
LEGEND:

- 4" Ø GALVANIZED STEEL PIPING
- VR–1 — 4" VERTICAL RISER AND IDENTIFICATION NUMBER
- SF–1 — SUCTION FAN
- DOWN — VERTICAL RISER OFFSET
- ES–1 — EXHAUST STACK
- BUILDING AIR INTAKE LOCATION 10-FOOT RADIUS

NOTES:

1. BASE MAP TAKEN FROM EARLY UNDERGROUND UTILITY PACKAGE DEVELOPMENT SET, ARCHITECTURAL DRAWINGS, PREPARED BY HOK, PROVIDED TO LANGAN ON MAY 2, 2024.
2. RISER PIPE SLAB PENETRATIONS LABELED AS "DOWN" INDICATE LOACTIONS WHERE THE RISER PIPE IS PENETRATING THE SLAB AND CONNECTING TO THE LOWER FLOOR RISER PIPE.
3. RISER PIPE LOCATIONS LABELED AS "UP" INDICATES LOCATIONS WHERE THE RISER PIPE IS PENETRATING THE UPPER FLOOR SLAB.

## KEY MAP
SCALE: 1" = 75'




NEW YORK CITY FOOTBALL CLUB

Project
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FLUSHING, NY 11368

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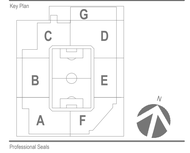
Key Plan




Professional Seals

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| No. | Description | Date |
|---|---|---|
| 1 | EARLY UNDERGROUND UTILITY PACKAGE | 5/16/2024 |

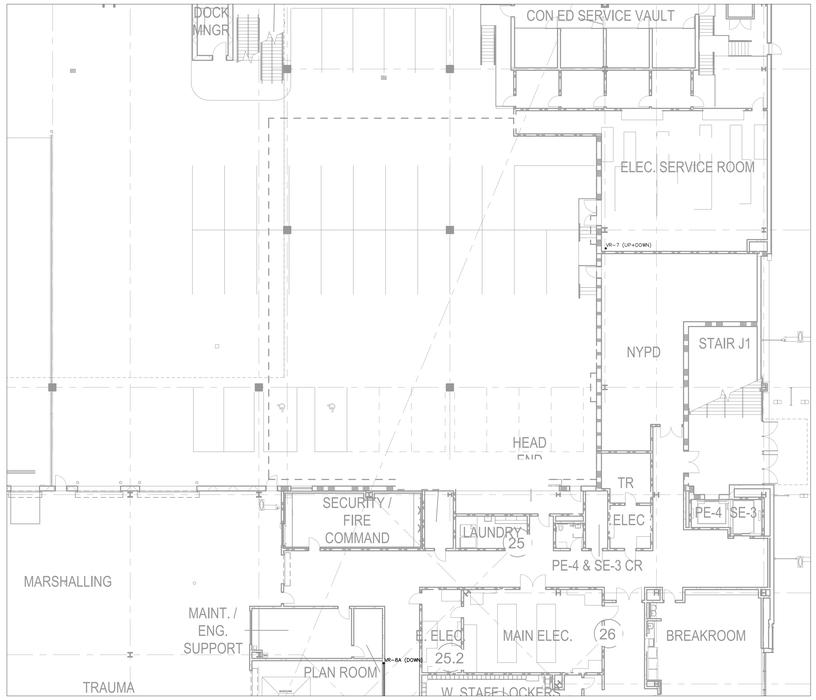
Bi-Scan

Package: EARLY UNDERGROUND UTILITY PACKAGE
Issue Date: MAY 16, 2024
Project No: 22.70086.00

Sheet Title
SUB-MEMBRANE DEPRESSURIZATION SYSTEM 6 RISER PLAN

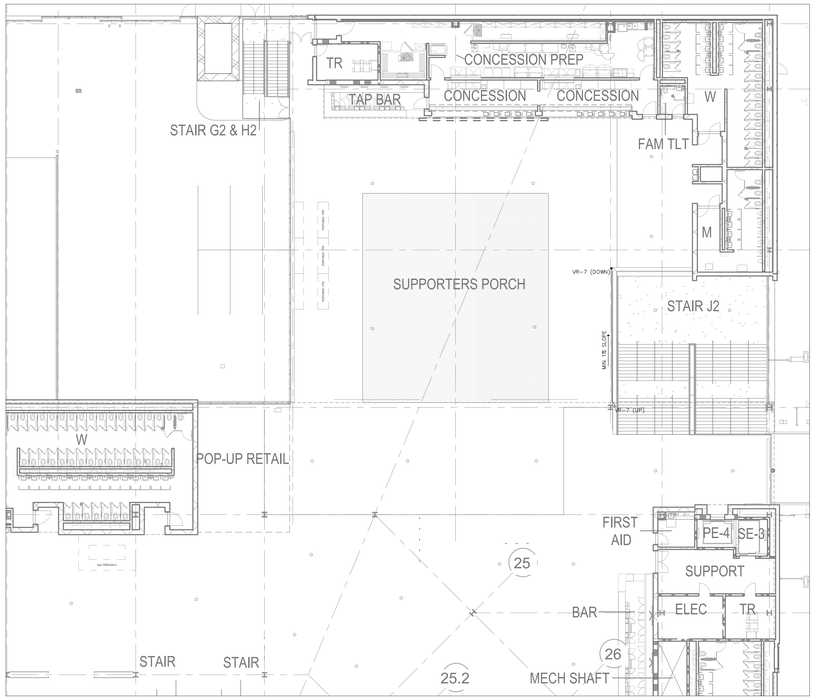
Original is 48 x 36. Do not scale contents of this drawing.

Sheet Number
H-108.00



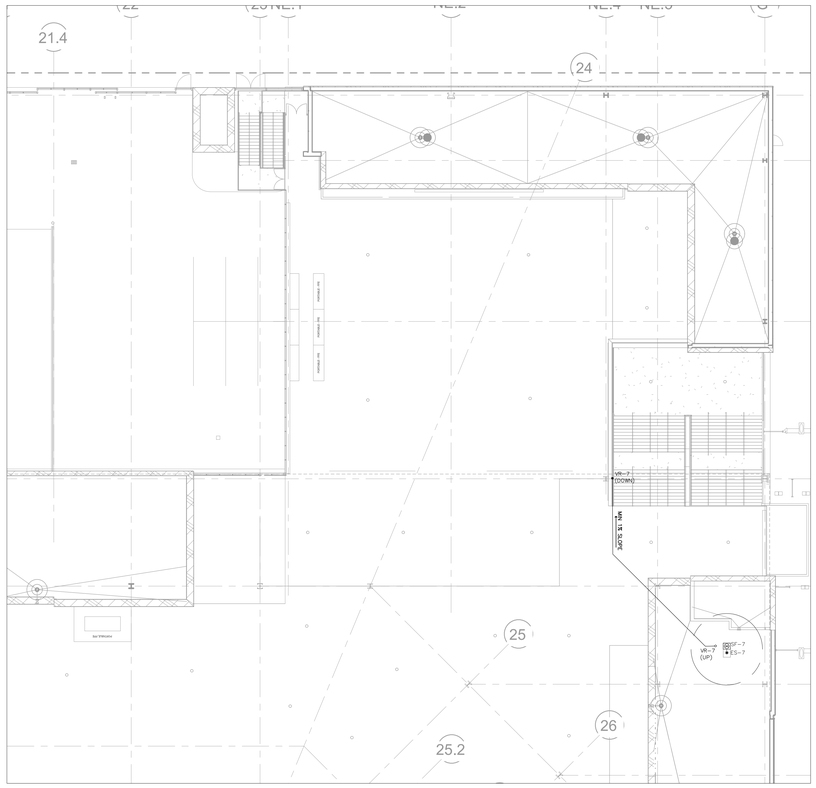

FIELD LEVEL PLAN

SCALE: 1" = 15'




MAIN CONCOURSE LEVEL

SCALE: 1" = 15'




LOWER SUITE LEVEL

SCALE: 1" = 15'

LEGEND:

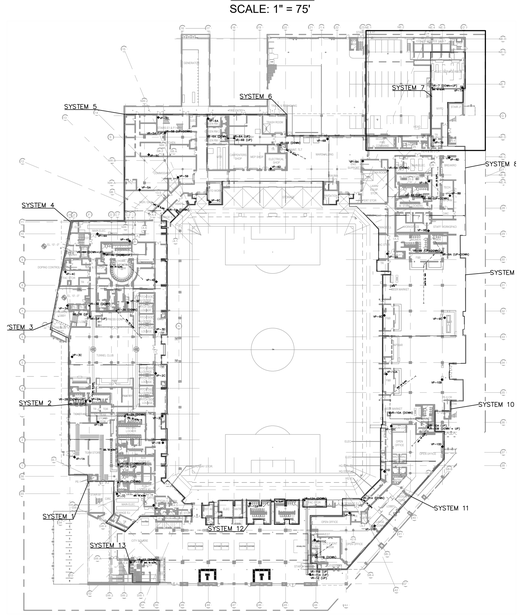
| | |
|---|---|
| | 4" Ø GALVANIZED STEEL PIPING |
| VR–1 | 4" VERTICAL RISER AND IDENTIFICATION NUMBER |
| SF–1 | SUCTION FAN |
| DOWN | VERTICAL RISER OFFSET |
| ES–1 | EXHAUST STACK |
| | BUILDING AIR INTAKE LOCATION 10-FOOT RADIUS |

NOTES:

1. BASE MAP TAKEN FROM EARLY UNDERGROUND UTILITY PACKAGE DEVELOPMENT SET, ARCHITECTURAL DRAWINGS, PREPARED BY HOK, PROVIDED TO LANGAN ON MAY 2, 2024.
2. RISER PIPE SLAB PENETRATIONS LABELED AS "DOWN" INDICATE LOACTIONS WHERE THE RISER PIPE IS PENETRATING THE SLAB AND CONNECTING TO THE LOWER FLOOR RISER PIPE.
3. RISER PIPE LOCATIONS LABELED AS "UP" INDICATES LOCATIONS WHERE THE RISER PIPE IS PENETRATING THE UPPER FLOOR SLAB.

KEY MAP

SCALE: 1" = 75'




Project

NYCFC WILLETS POINT STADIUM

FLUSHING, NY 11368

Prepared For

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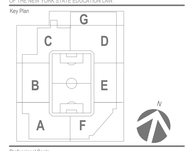
Key Plan

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| No. | Description | Date |
|---|---|---|
| 1 | EARLY UNDERGROUND UTILITY PACKAGE | 5/16/2024 |

B-Scan

Package: EARLY UNDERGROUND UTILITY PACKAGE
Issue Date: MAY 16, 2024
Project No: 22.70086.00

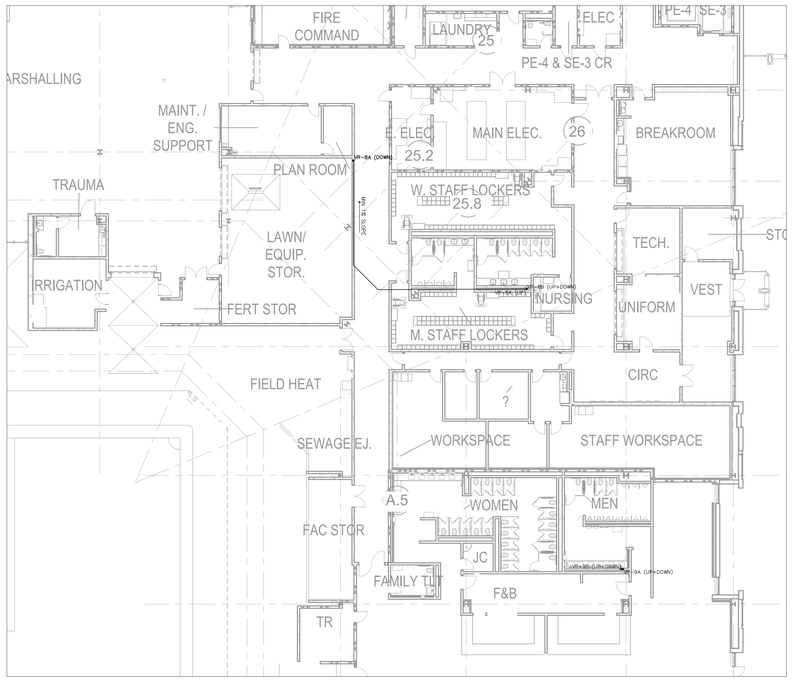
Sheet Title

SUB-MEMBRANE DEPRESSURIZATION SYSTEM 7 RISER PLAN

Original is 48 x 36. Do not scale contents of this drawing.

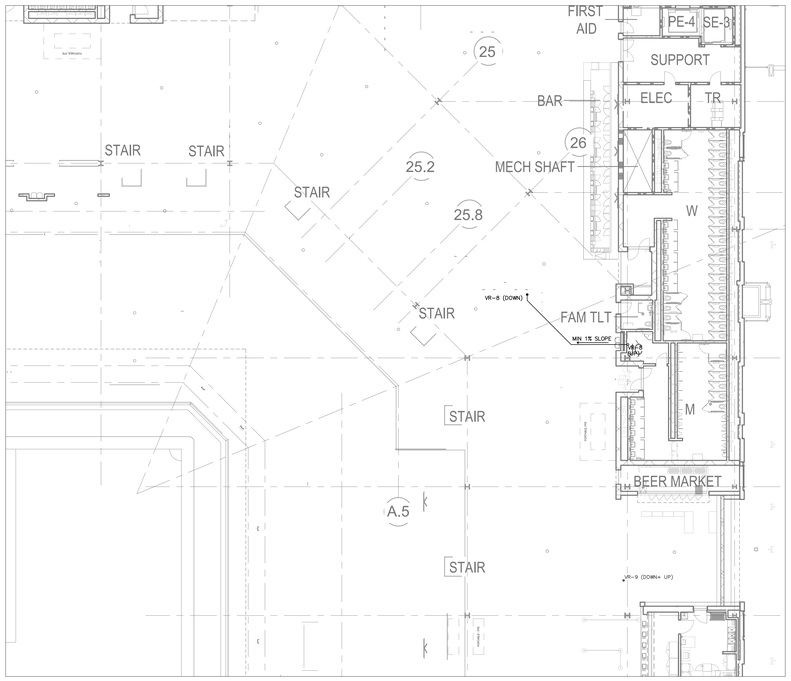
Sheet Number

H-109.00



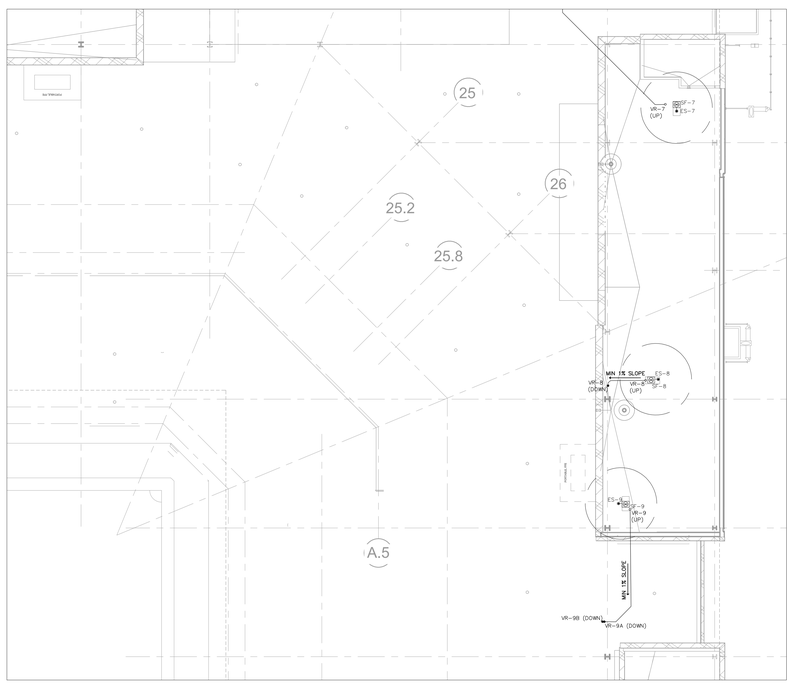

FIELD LEVEL PLAN

SCALE: 1" = 15"




MAIN CONCOURSE LEVEL

SCALE: 1" = 15"




LOWER SUITE LEVEL

SCALE: 1" = 15'

LEGEND:

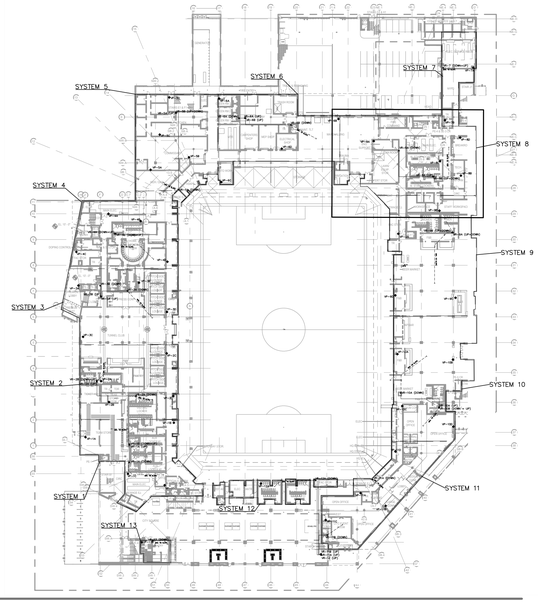
| | |
|---|---|
| | 4" Ø GALVANIZED STEEL PIPING |
| VR–1 | 4" VERTICAL RISER AND IDENTIFICATION NUMBER |
| SF–1 | SUCTION FAN |
| DOWN | VERTICAL RISER OFFSET |
| ES–1 | EXHAUST STACK |
| | BUILDING AIR INTAKE LOCATION 10-FOOT RADIUS |

NOTES:

1. BASE MAP TAKEN FROM EARLY UNDERGROUND UTILITY PACKAGE DEVELOPMENT SET, ARCHITECTURAL DRAWINGS, PREPARED BY HOK, PROVIDED TO LANGAN ON MAY 2, 2024.
2. RISER PIPE SLAB PENETRATIONS LABELED AS "DOWN" INDICATE LOACTIONS WHERE THE RISER PIPE IS PENETRATING THE SLAB AND CONNECTING TO THE LOWER FLOOR RISER PIPE.
3. RISER PIPE LOCATIONS LABELED AS "UP" INDICATES LOCATIONS WHERE THE RISER PIPE IS PENETRATING THE UPPER FLOOR SLAB.

KEY MAP

SCALE: 1" = 75'





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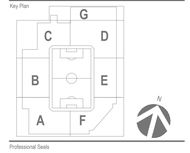
Key Plan

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| No. | Description | Date |
|---|---|---|
| 1 | EARLY UNDERGROUND UTILITY PACKAGE | 5/16/2024 |

B-Scan

Package: EARLY UNDERGROUND UTILITY PACKAGE
Issue Date: MAY 16, 2024
Project No: 22.70086.00

Sheet Title

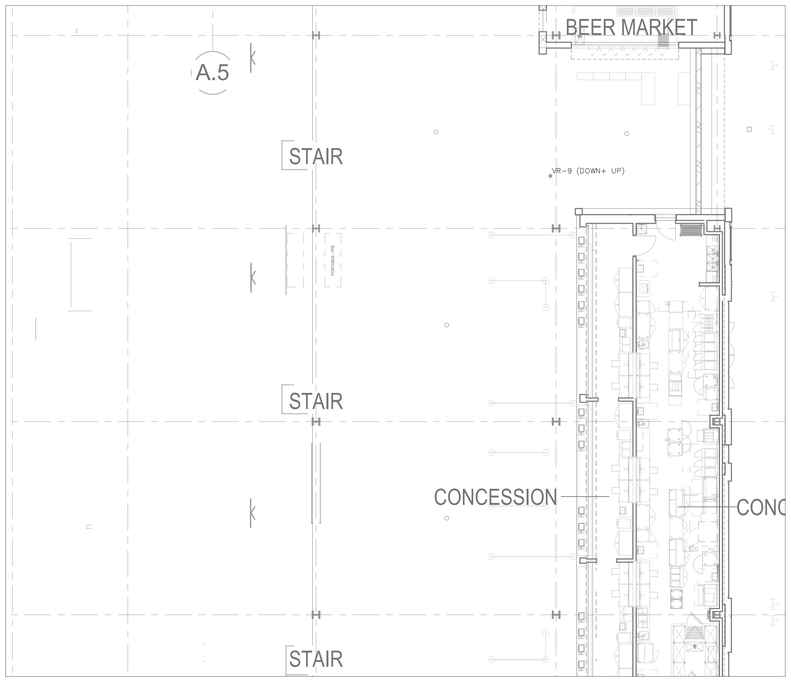
SUB-MEMBRANE DEPRESSURIZATION SYSTEM 8 RISER PLAN

Original is 48 x 36. Do not scale contents of this drawing.

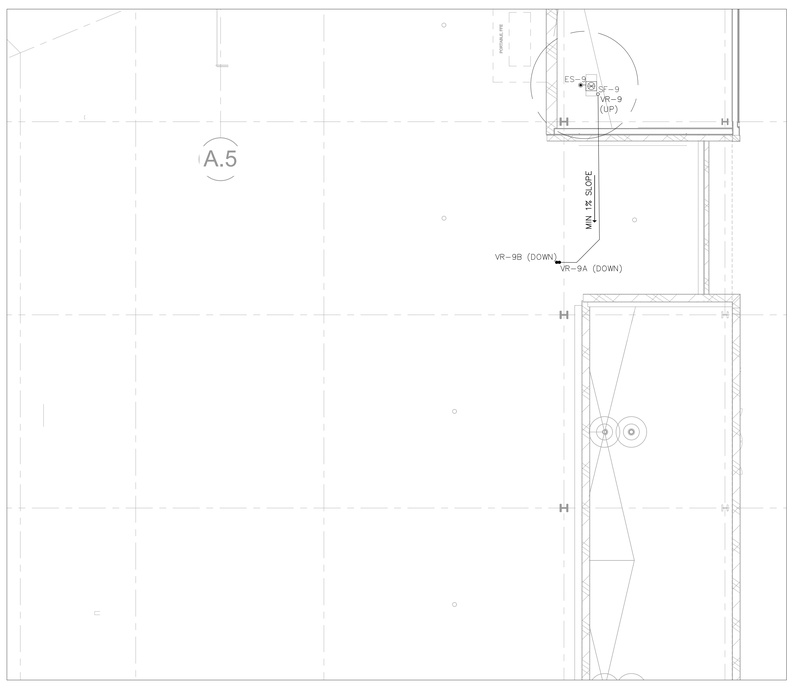
Sheet Number

H-110.00


FIELD LEVEL PLAN
SCALE: 1" = 10'




MAIN CONCOURSE LEVEL
SCALE: 1" = 10"




LOWER SUITE LEVEL
SCALE: 1" = 10'

LEGEND:

4" Ø GALVANIZED STEEL PIPING

VR-1 — 4" VERTICAL RISER AND IDENTIFICATION NUMBER

SF-1 — SUCTION FAN

DOWN — VERTICAL RISER OFFSET

ES-1 — EXHAUST STACK

BUILDING AIR INTAKE LOCATION
10-FOOT RADIUS

NOTES:

1. BASE MAP TAKEN FROM EARLY UNDERGROUND UTILITY PACKAGE DEVELOPMENT SET, ARCHITECTURAL DRAWINGS, PREPARED BY HOK, PROVIDED TO LANGAN ON MAY 2, 2024.
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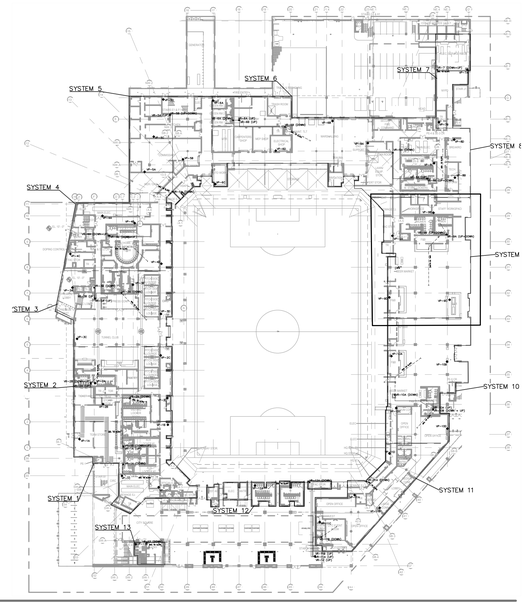
KEY MAP
SCALE: 1" = 75'




Project
NYCFC WILLETS POINT STADIUM

FLUSHING, NY 11368

Prepared For
NEW YORK CITY FOOTBALL CLUB

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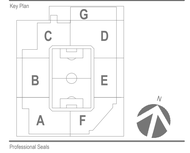
Key Plan




Professional Seals

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| No. | Description | Date |
|---|---|---|
| 1 | EARLY UNDERGROUND UTILITY PACKAGE | 5/16/2024 |

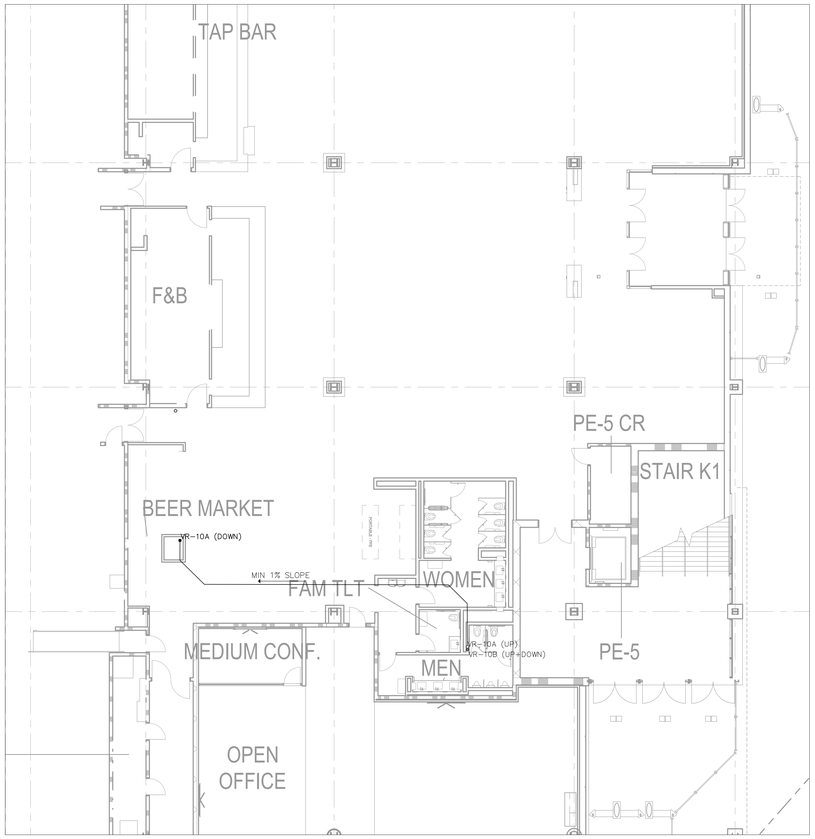
Bi-Scan

Package: EARLY UNDERGROUND UTILITY PACKAGE
Issue Date: MAY 16, 2024
Project No: 22.70086.00

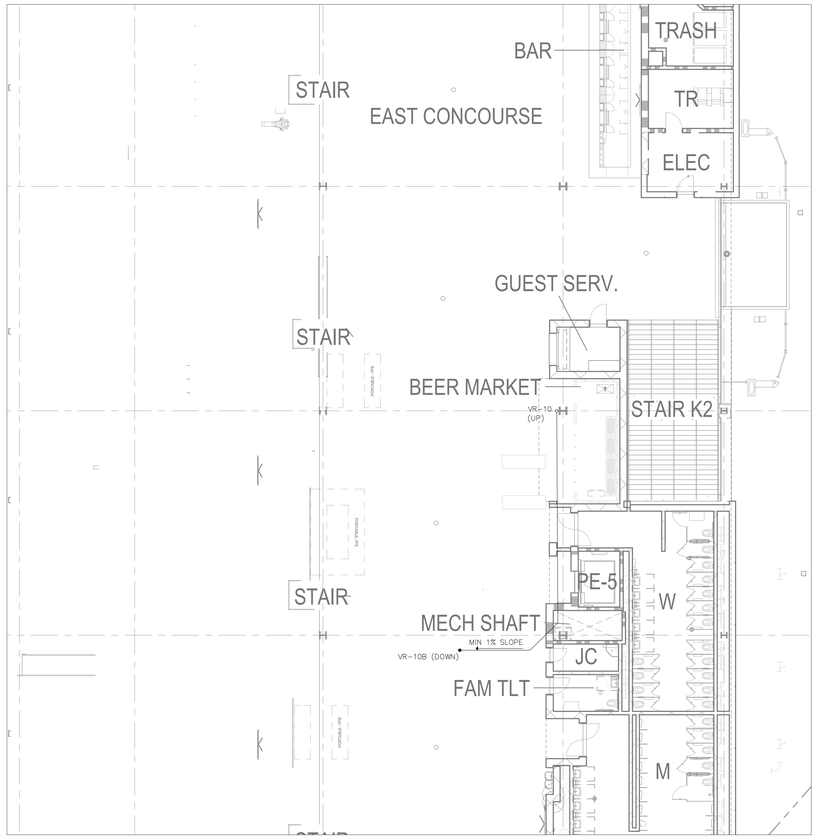
Sheet Title
SUB-MEMBRANE DEPRESSURIZATION SYSTEM 9 RISER PLAN

Original is 48 x 36. Do not scale contents of this drawing.

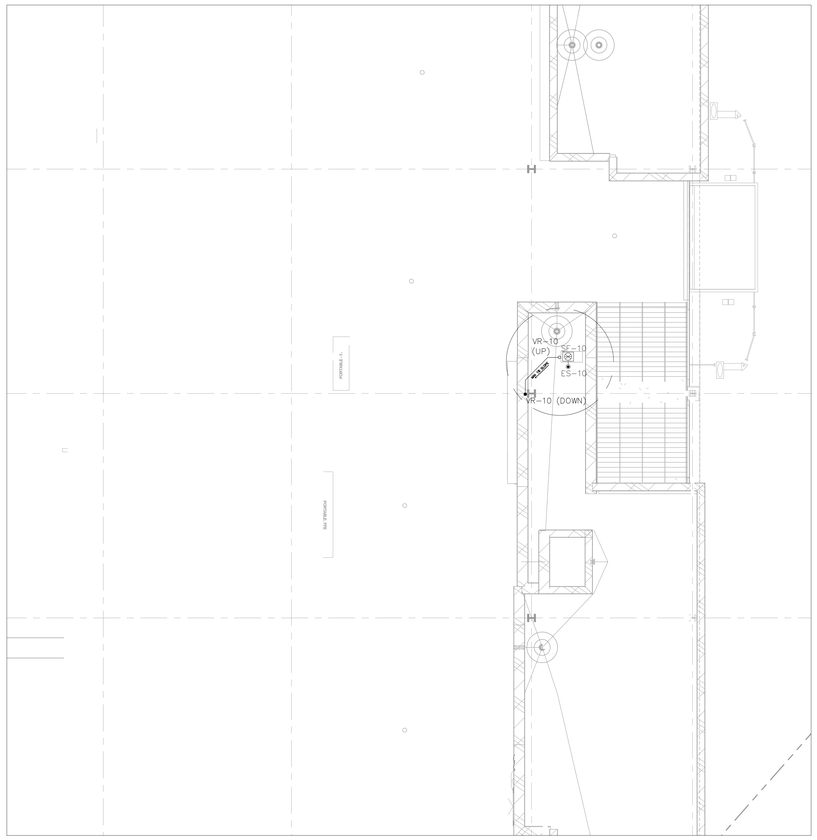
Sheet Number
H-111.00




FIELD LEVEL PLAN
SCALE: 1" = 10"




MAIN CONCOURSE LEVEL
SCALE: 1" = 10"




LOWER SUITE LEVEL
SCALE: 1" = 10"

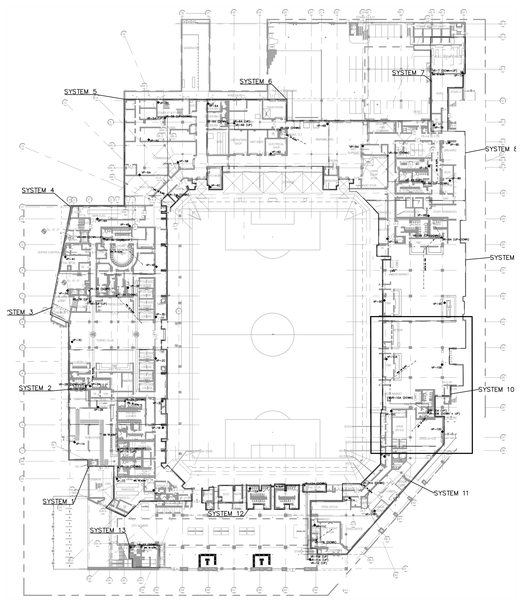
LEGEND:

- 4" Ø GALVANIZED STEEL PIPING
- VR-1 — 4" VERTICAL RISER AND IDENTIFICATION NUMBER
- SF-1 — SUCTION FAN
- DOWN — VERTICAL RISER OFFSET
- ES-1 — EXHAUST STACK
- BUILDING AIR INTAKE LOCATION 10-FOOT RADIUS

NOTES:

1. BASE MAP TAKEN FROM EARLY UNDERGROUND UTILITY PACKAGE DEVELOPMENT SET, ARCHITECTURAL DRAWINGS, PREPARED BY HOK, PROVIDED TO LANGAN ON MAY 2, 2024.
2. RISER PIPE SLAB PENETRATIONS LABELED AS "DOWN" INDICATE LOACTIONS WHERE THE RISER PIPE IS PENETRATING THE SLAB AND CONNECTING TO THE LOWER FLOOR RISER PIPE.
3. RISER PIPE LOCATIONS LABELED AS "UP" INDICATES LOCATIONS WHERE THE RISER PIPE IS PENETRATING THE UPPER FLOOR SLAB.

KEY MAP
SCALE: 1" = 75'

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Key Plan


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| No. | Description | Date |
|---|---|---|
| 1 | EARLY UNDERGROUND UTILITY PACKAGE | 5/16/2024 |

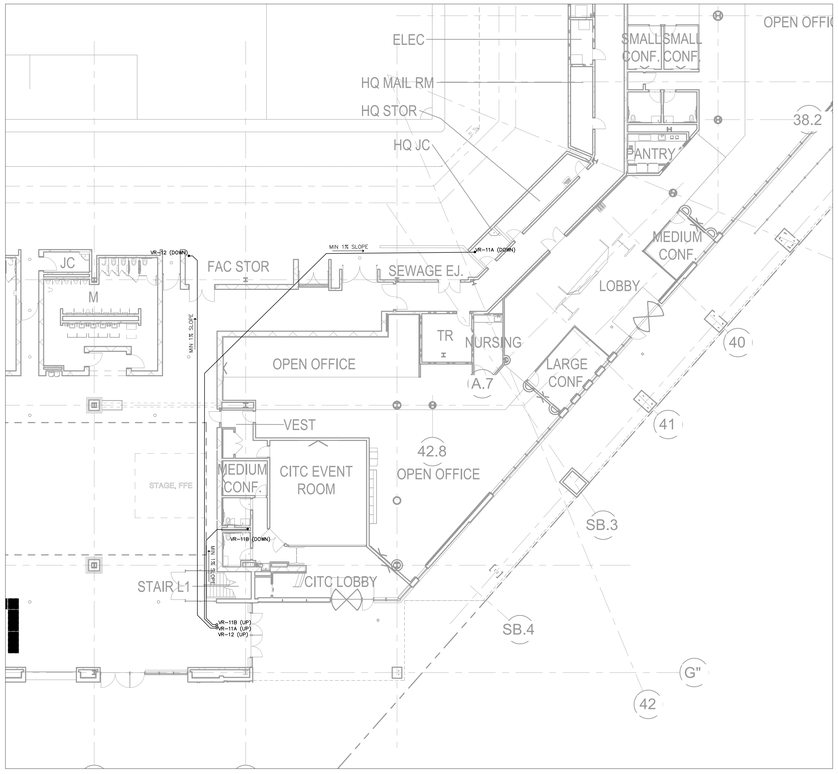
B-Scan

Package: EARLY UNDERGROUND UTILITY PACKAGE
Issue Date: MAY 16, 2024
Project No: 22.70086.00

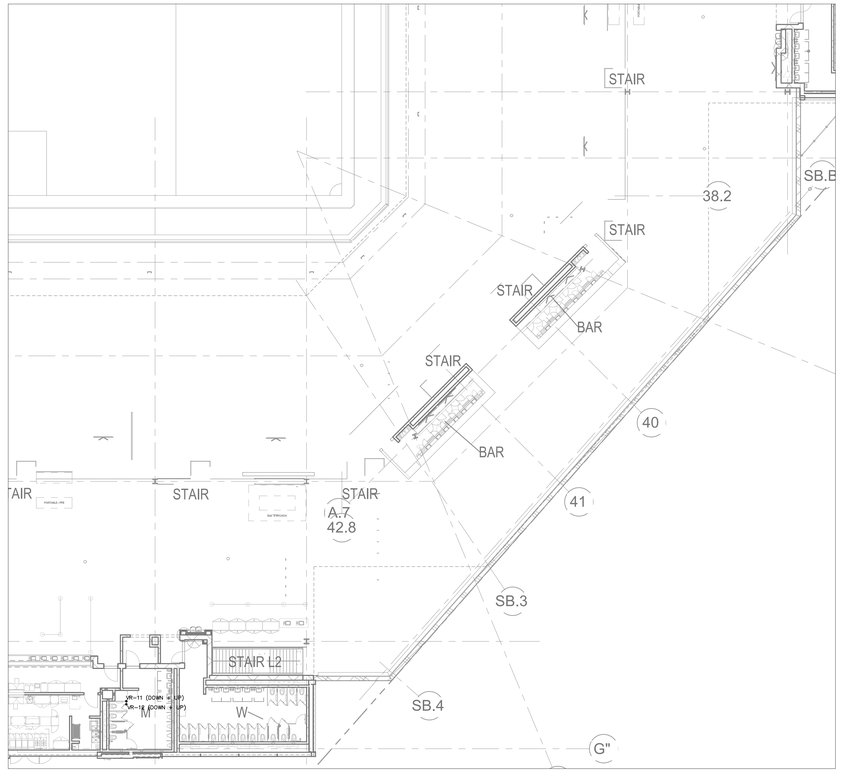
Sheet Title
SUB-MEMBRANE DEPRESSURIZATION SYSTEM 10 RISER PLAN

Original is 48 x 36. Do not scale contents of this drawing.

Sheet Number
H-112.00




FIELD LEVEL PLAN
SCALE: 1" = 15'




MAIN CONCOURSE LEVEL
SCALE: 1" = 15'


LOWER SUITE LEVEL
SCALE: 1" = 15'

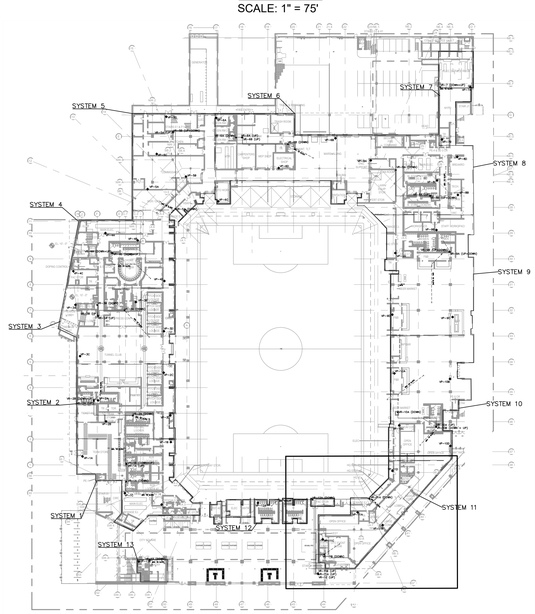
LEGEND:

| | |
|---|---|
| | 4" Ø GALVANIZED STEEL PIPING |
| VR–1 | 4" VERTICAL RISER AND IDENTIFICATION NUMBER |
| SF–1 | SUCTION FAN |
| DOWN | VERTICAL RISER OFFSET |
| ES–1 | EXHAUST STACK |
| | BUILDING AIR INTAKE LOCATION 10-FOOT RADIUS |

NOTES:

1. BASE MAP TAKEN FROM EARLY UNDERGROUND UTILITY PACKAGE DEVELOPMENT SET, ARCHITECTURAL DRAWINGS, PREPARED BY HOK, PROVIDED TO LANGAN ON MAY 2, 2024.
2. RISER PIPE SLAB PENETRATIONS LABELED AS "DOWN" INDICATE LOACTIONS WHERE THE RISER PIPE IS PENETRATING THE SLAB AND CONNECTING TO THE LOWER FLOOR RISER PIPE.
3. RISER PIPE LOCATIONS LABELED AS "UP" INDICATES LOCATIONS WHERE THE RISER PIPE IS PENETRATING THE UPPER FLOOR SLAB.

KEY MAP
SCALE: 1" = 75'

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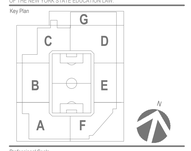
Key Plan

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| No. | Description | Date |
|---|---|---|
| 1 | EARLY UNDERGROUND UTILITY PACKAGE | 5/16/2024 |

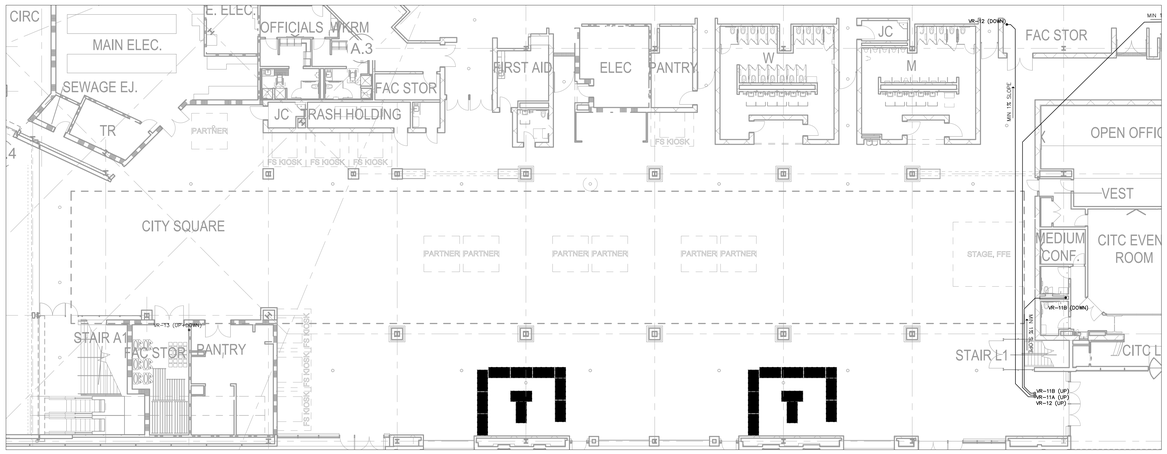
B.Scan

| | |
|---|---|
| Package: | EARLY UNDERGROUND UTILITY PACKAGE |
| Issue Date: | MAY 16, 2024 |
| Project No: | 22.70086.00 |

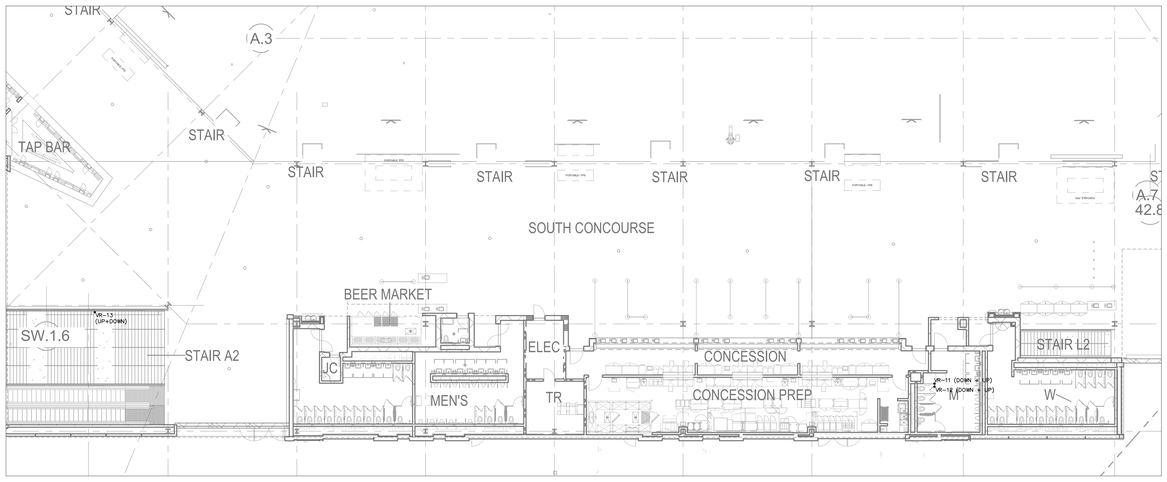
Sheet Title
SUB-MEMBRANE DEPRESSURIZATION SYSTEM 11 RISER PLAN

Original is 48 x 36. Do not scale contents of this drawing.

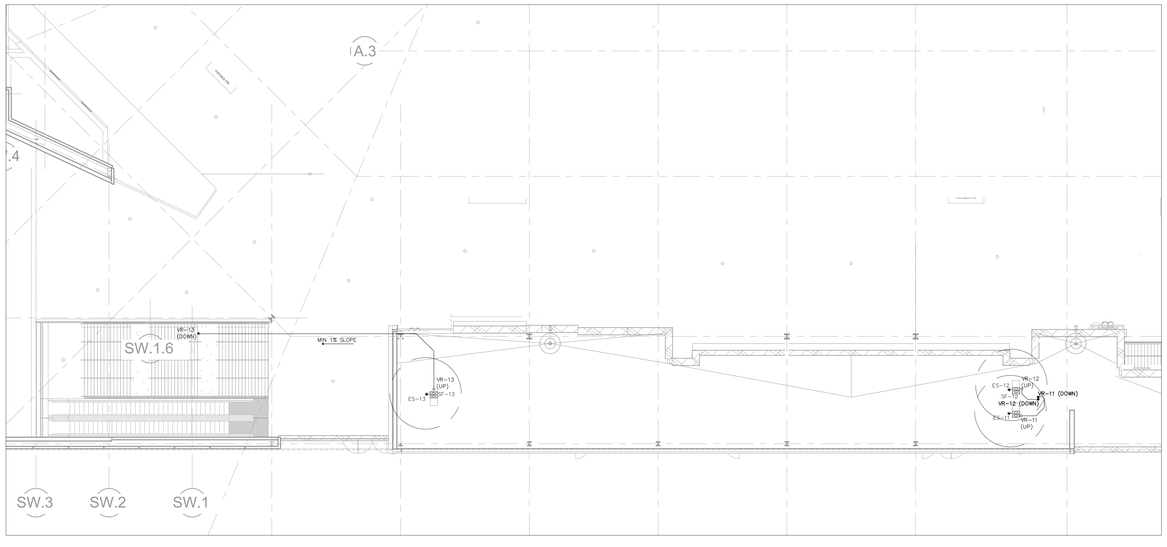
Sheet Number
H-113.00




FIELD LEVEL PLAN
SCALE: 1" = 15'




MAIN CONCOURSE LEVEL
SCALE: 1" = 15'




LOWER SUITE LEVEL
SCALE: 1" = 15'

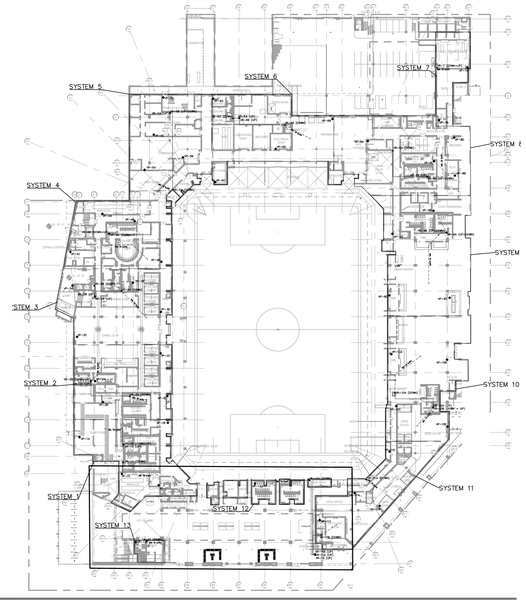
LEGEND:

- 4" Ø GALVANIZED STEEL PIPING
- VR-1 — 4" VERTICAL RISER AND IDENTIFICATION NUMBER
- SF-1 — SUCTION FAN
- DOWN — VERTICAL RISER OFFSET
- ES-1 — EXHAUST STACK
- BUILDING AIR INTAKE LOCATION 10-FOOT RADIUS

NOTES:

1. BASE MAP TAKEN FROM EARLY UNDERGROUND UTILITY PACKAGE DEVELOPMENT SET, ARCHITECTURAL DRAWINGS, PREPARED BY HOK, PROVIDED TO LANGAN ON MAY 2, 2024.
2. RISER PIPE SLAB PENETRATIONS LABELED AS "DOWN" INDICATE LOACTIONS WHERE THE RISER PIPE IS PENETRATING THE SLAB AND CONNECTING TO THE LOWER FLOOR RISER PIPE.
3. RISER PIPE LOCATIONS LABELED AS "UP" INDICATES LOCATIONS WHERE THE RISER PIPE IS PENETRATING THE UPPER FLOOR SLAB.

KEY MAP
SCALE: 1" = 75'

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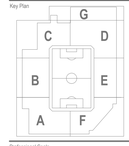
Key Plan

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| No. | Description | Date |
|---|---|---|
| 1 | EARLY UNDERGROUND UTILITY PACKAGE | 5/16/2024 |

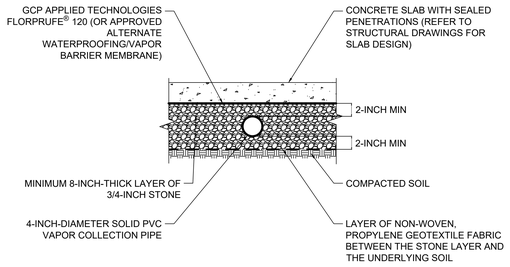
B-Scan

Package: EARLY UNDERGROUND UTILITY PACKAGE
Issue Date: MAY. 16, 2024
Project No: 22.70086.00

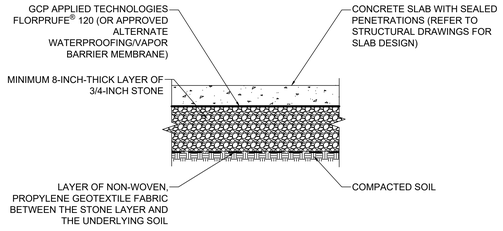
Sheet Title
SUB-MEMBRANE DEPRESSURIZATION SYSTEMS 12 AND 13 RISER PLAN

Original is 48 x 36. Do not scale contents of this drawing.

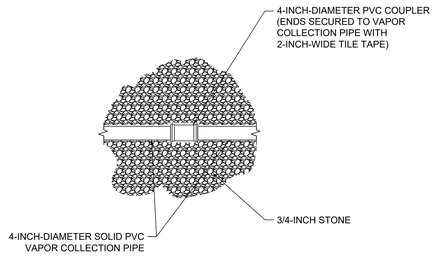
Sheet Number
H-114.00



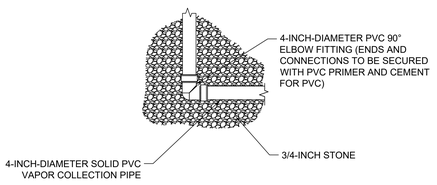

DETAIL 1: TYPICAL VAPOR COLLECTION PIPE AND WATERPROOFING/VAPOR BARRIER MEMBRANE (SECTION VIEW)
NOT TO SCALE



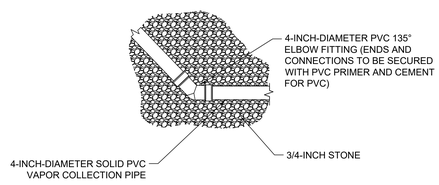

DETAIL 2: TYPICAL SECTION THROUGH SUB-SLAB (SECTION VIEW)
NOT TO SCALE



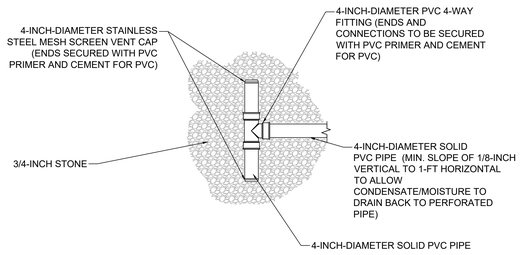

DETAIL 3: TYPICAL COUPLER CONNECTION FOR VAPOR COLLECTION PIPE (PLAN VIEW)
NOT TO SCALE



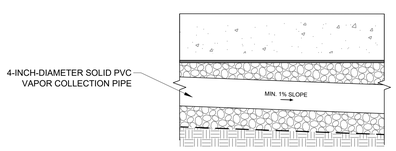

DETAIL 4: TYPICAL 90° ELBOW CONNECTION FOR VAPOR COLLECTION PIPE (PLAN VIEW)
NOT TO SCALE




DETAIL 5: TYPICAL 135° CONNECTION FOR VAPOR COLLECTION PIPE (PLAN VIEW)
NOT TO SCALE



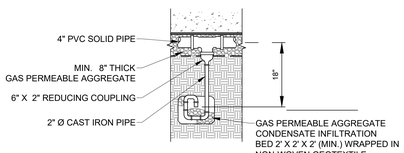

DETAIL 6: TYPICAL T-CONNECTION AND CAPPED END FOR VAPOR COLLECTION PIPE (PLAN VIEW)
NOT TO SCALE




NOTES:

1. PIPE SLOPE DISPLAYED ABOVE IS EXAGGERATED. ALL HORIZONTAL PIPE RUNS MUST BE PITCHED A MINIMUM OF 1/8-INCH VERTICAL PER FOOT HORIZONTAL (1% SLOPE) TOWARDS EACH SUB-SLAB DEPRESSURIZATION PIT OR TO UNDERGROUND CONDENSATE DRAIN WITHIN THE SUB-SLAB WHEN UNDERGROUND PIPING CANNOT BE SLOPED TOWARD PIT, THE SYSTEM SHALL BE INSTALLED SUCH THAT NO PORTION WILL ALLOW EXCESS ACCUMULATION OF CONDENSATION.

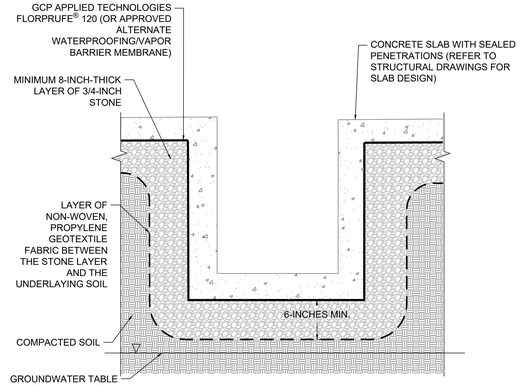
DETAIL 7: TYPICAL PIPING PROFILE AND LAYOUT
NOT TO SCALE



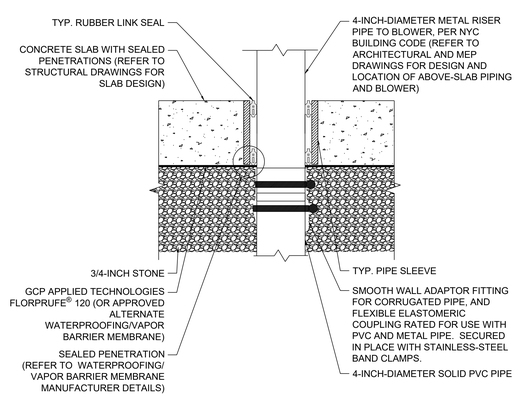

NOTE:

1. INSTALL, AS NECESSARY, AT ALL LOW POINTS IN SUB-SLAB DEPRESSURIZATION SYSTEM PIPING WHEN PIPING CANNOT BE SLOPED TO SUCTION PIT.

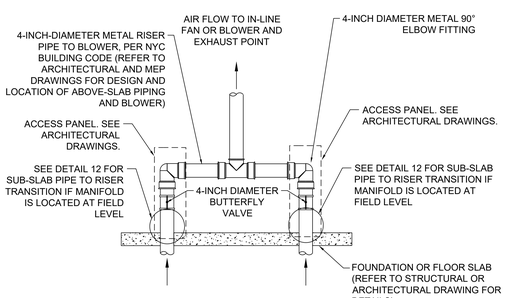
DETAIL 8: TYPICAL CONDENSATE DRAIN DETAIL
NOT TO SCALE



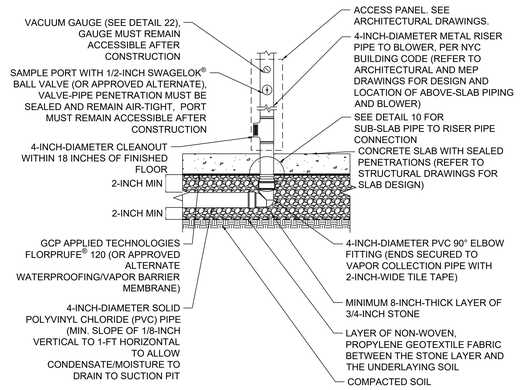

DETAIL 9: TYPICAL PIT SECTION (ABOVE GROUNDWATER)
NOT TO SCALE




DETAIL 10: TYPICAL CONNECTION FROM SUB-SLAB PIPE TO RISER PIPE (SECTION VIEW)
NOT TO SCALE




DETAIL 11: MANIFOLD ASSEMBLY
NOT TO SCALE




DETAIL 12: TYPICAL TRANSITION FROM SUB-SLAB PIPE TO RISER PIPE (SECTION VIEW)
NOT TO SCALE

NOTES:

1. RISER PIPE (REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR DESIGN AND LOCATION OF ABOVE-SLAB PIPING) SHALL BE 4-INCH-DIAMETER METAL PIPE OR OTHER MATERIAL THAT COMPLIES WITH APPLICABLE BUILDING CODE.
2. ALL FITTINGS AND CONNECTIONS FOR THE VAPOR COLLECTION PIPE SHALL BE 4-INCH-DIAMETER SCHEDULE 80 PVC FITTINGS, MADE BY THE SAME MANUFACTURER AS THE 4-INCH-DIAMETER PIPE, AND OF THE TYPE RECOMMENDED BY THE MANUFACTURER FOR USE WITH THE 4-INCH-DIAMETER PIPE. SECURE ALL FITTINGS AND CONNECTIONS WITH 2-INCH-WIDE TILE TAPE.
3. 3/4-INCH STONE SHALL BE VIRGIN, COARSE, ANGULAR, WASHED 3/4-INCH STONE WITH THE FOLLOWING GRADATION (ASTM/AASHTO #5 SIZE STONE):

| SIEVE SIZE | % PASSING BY WEIGHT |
|---|---|
| 1 1/2" | 100 |
| 1" | 90-100 |
| 3/4" | 20-55 |
| 1/2" | 0-10 |
| 3/8" | 0-5 |

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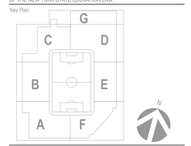
Key Plan




Professional Seals

NOT FOR CONSTRUCTION

| No. | Description | Date |
|---|---|---|
| 1 | EARLY UNDERGROUND UTILITY PACKAGE | 5/16/2024 |

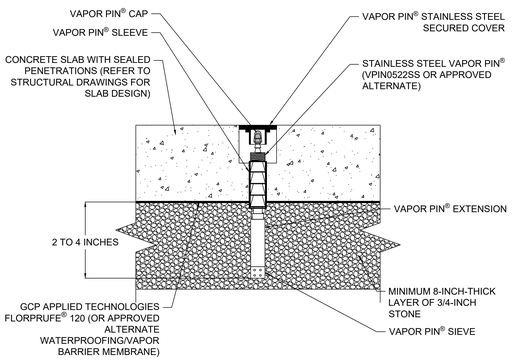
Bi-Scan:

Package: EARLY UNDERGROUND UTILITY PACKAGE
Issue Date: MAY 16, 2024
Project No: 22.70086.00

Sheet Title
SUB-MEMBRANE DEPRESSURIZATION SYSTEM DETAILS - 1

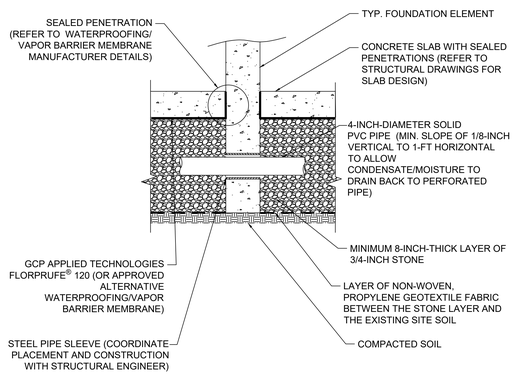
Original is 48 x 36; Do not scale contents of this drawing

Sheet Number
H-201.00

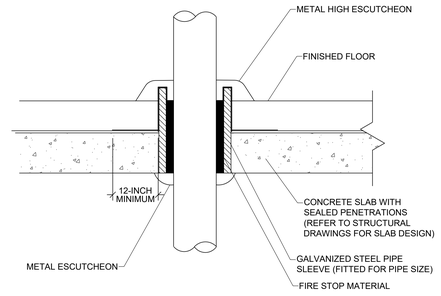



NOTE: TYPICAL CONSTRUCTION SHOWN IN THE DETAIL. CONTRACTOR MUST FOLLOW MANUFACTURER INSTRUCTIONS/MANUALS FOR ACTUAL CONSTRUCTION.

DETAIL 13: TYPICAL VACUUM MONITORING POINT
NOT TO SCALE

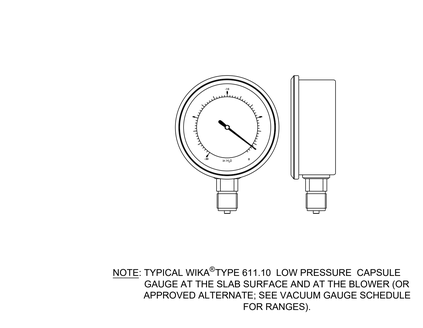



DETAIL 14: TYPICAL PIPE SLEEVE THROUGH FOUNDATION ELEMENT (SECTION VIEW)
NOT TO SCALE

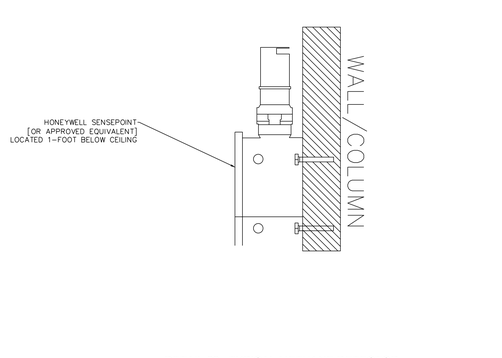



NOTE: INSTALL AS PER PLUMBING DRAWINGS AND DIVISION 15 SPECIFICATIONS, AND SPECIFICATION 078413 - FIRESTOPPING/SMOKE SEALS.

DETAIL 15: PIPE PENETRATION OF RATED FLOOR OR WALL
NOT TO SCALE




DETAIL 16: TYPICAL PIPE SLEEVE ROOF PENETRATION (SECTION VIEW)
NOT TO SCALE



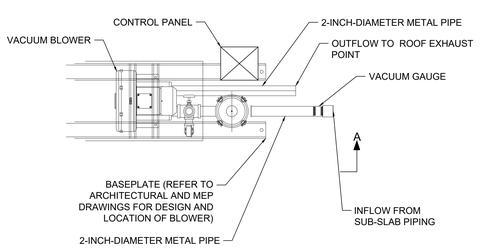

NOTE: EXTEND RISER FROM THE FLOOR PENETRATION TO CEILING. INSTALL HORIZONTAL PIPING BENEATH CEILING AT 1% SLOPE TOWARD SUCTION PIT.

DETAIL 17: TYPICAL SSDS PIPE OFFSET
NOT TO SCALE



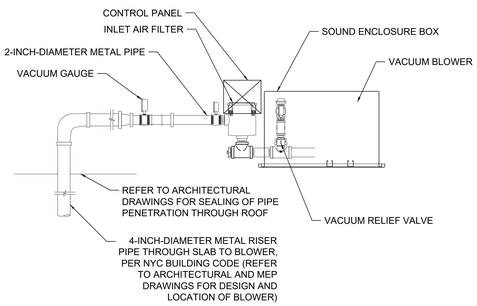

NOTE: INSTALL AS PER PLUMBING DRAWINGS AND DIVISION 15 SPECIFICATIONS.

DETAIL 18: TYPICAL PIPE SUPPORT
NOT TO SCALE

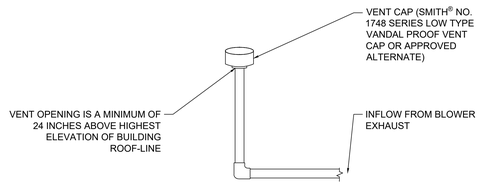



NOTE: THIS DETAIL DOES NOT SHOW THE SOUND ENCLOSURE BOX.

DETAIL 19: TYPICAL VACUUM BLOWER (PLAN VIEW)
NOT TO SCALE




DETAIL 20: TYPICAL VACUUM BLOWER (SECTION VIEW, A-A')
NOT TO SCALE




DETAIL 21: TYPICAL TERMINATION POINT (SECTION VIEW)
NOT TO SCALE



NOTE: TYPICAL WIKA®TYPE 611.10 LOW PRESSURE CAPSULE GAUGE AT THE SLAB SURFACE AND AT THE BLOWER (OR APPROVED ALTERNATE; SEE VACUUM GAUGE SCHEDULE FOR RANGES).

DETAIL 22: TYPICAL VACUUM GAUGE
NOT TO SCALE




DETAIL 23: TYPICAL METHANE DETECTOR
NOT TO SCALE

## VACUUM BLOWER NOTES:

1. INSTALL RAIN GUARD OR CAP ON THE EXHAUST POINT.
2. THE COMPOSITE BLOWER ASSEMBLY INCLUDING BLOWER, MOTOR, BASEPLATE, CONTROL PANEL, REMOTE VISUAL ALARM, VALVES, GAUGES, FILTER, AND FLEXIBLE HOSE SHALL BE PROVIDED BY THE MANUFACTURER.
3. BLOWER ASSEMBLY TO BE INSTALLED SHALL PROVIDE AT CONTINUOUS OPERATION OF A MINIMUM FLOW RATE AND VACUUM AT THE VACUUM BLOWER AS SPECIFIED BELOW.

| SUCTION FAN | MINIMUM FLOW RATE |
|---|---|
| SF-1 | 25 CMF at 15 IWC |
| SF-2 | 27 CFM at 15 IWC |
| SF-3 | 29 CFM at 15 IWC |
| SF-4 | 27 CFM at 15 IWC |
| SF-5 | 29 CFM at 15 IWC |
| SF-6 | 29 CFM at 15 IWC |
| SF-7 | 9 CFM at 15 IWC |
| SF-8 | 38 CFM at 15 IWC |
| SF-9 | 38 CFM at 15 IWC |
| SF-10 | 33 CFM at 15 IWC |
| SF-11 | 22 CFM at 15 IWC |
| SF-12 | 8 CFM at 15 IWC |
| SF-13 | 2 CFM at 15 IWC |

4. BLOWERS FOR SF-1 THROUGH SF-6 TO BE INSTALLED SHALL BE AIRTECH 3BA1630 (7AT06) OR APPROVED ALTERNATE WITH VARIABLE FREQUENCY DRIVE (VFD) BYPASS. BLOWERS FOR SF-7 AND SF-12 TO BE INSTALLED SHALL BE AIRTECH 3BA1400 (7AT06) OR APPROVED ALTERNATE WITH VFD BYPASS. BLOWERS FOR SF-8 THROUGH SF-11 TO BE INSTALLED SHALL BE AIRTECH 3BA1800 (7AT06) OR APPROVED ALTERNATE WITH VFD BYPASS. CONTRACTOR TO SUBMIT DETAILED WIRING DIAGRAM FOR ALL FAN CONTROLS, INCLUDING VFD BYPASS.
5. THE BLOWER SCHEMATICS ARE SHOWN TO ILLUSTRATE THE REQUIRED COMPONENT AND THE GENERAL LOCATIONS IN THE PIPE RUN AND SHALL NOT BE CONSIDERED TO BE ACCURATE. THE ACTUAL CONFIGURATION AND DIMENSIONS OF THE BLOWER ASSEMBLY WILL VARY BASED ON MANUFACTURING METHODS AND FIELD CONDITIONS. FINAL DESIGN AND BLOWER SYSTEM SELECTED ARE SUBJECT TO APPROVAL BY THE ENGINEER. PROVIDE ALL BLOWER SPECIFICATIONS AND CUT SHEETS FOR COMMISSION AND/OR CONSTRUCTION MANAGER'S APPROVAL PRIOR TO INSTALLATION.
6. THE BLOWERS SHALL BE INSTALLED WITHIN A SOUND ENCLOSURE BY THE BLOWER MANUFACTURER.
7. THE ELECTRICAL PANEL FOR THE BLOWERS SHALL INCLUDE AN AUXILIARY CONTACT FOR THE REMOTE ALARM AND WILL BE MOUNTED ON THE EXTERIOR OF THE SOUND ENCLOSURE. THE REMOTE ALARM SHALL BE LOCATED WITHIN THE BUILDING AND SHALL BE EASILY ACCESSIBLE. THE ALARM SHALL CONSIST OF A WARNING LIGHT AND ASSOCIATED RELAYS. THE REMOTE ALARM AND CONTROL PANEL SHALL BE CONFIGURED SUCH THAT IF THE BLOWER STOPS OPERATING, THE REMOTE ALARM WILL BE ACTIVATED. ALTERNATIVELY, IF A BUILDING MANAGEMENT SYSTEM IS TO BE INSTALLED, THE REMOTE ALARM WILL CAN BE CONFIGURED THROUGH THIS SYSTEM. A 120V ELECTRICAL SUPPLY SHALL BE PROVIDED TO THE REMOTE ALARM (REFER TO MEP DRAWINGS FOR DESIGN OF ELECTRICAL ITEMS).
8. THE REMOTE VISUAL ALARM SHALL BE LABELED AS FOLLOWS (REFER TO MEP DRAWINGS FOR DESIGN OF ELECTRICAL ITEMS):
   - SUB-SLAB VAPOR VENTING SYSTEM ALARM
   - BLOWER MALFUNCTION IF LIT
   - SERVICE BLOWER FAN IMMEDIATELY
10. SUPPLY POWER TO BLOWER ASSEMBLY, INCLUDING BLOWER, CONTROL PANEL, AND REMOTE ALARM, IN ACCORDANCE WITH THE BLOWER MANUFACTURER AND ELECTRICAL SPECIFICATIONS (TO BE PREPARED BY MEP ENGINEER). THE 3BA1630 (7AT06) BLOWER HAS A 2.75 HORSEPOWER MOTOR AND REQUIRES A THREE PHASE, 60 HZ 220-250V/415-460V POWER SUPPLY. THE 3BA1400 (7AT06) BLOWER HAS A 1.11 HORSEPOWER MOTOR AND REQUIRES A THREE PHASE, 60 HZ 220-250V/415-460V POWER SUPPLY. THE 3BA1800 (7AT06) BLOWER HAS A 6.16 HORSEPOWER MOTOR AND REQUIRES A THREE PHASE, 60 HZ 220-250V/415-460V POWER SUPPLY. THE 3BA7210 (0AT16) BLOWER HAS A 1.11 HORSEPOWER MOTOR AND REQUIRES A THREE PHASE, 60 HZ 220-250V/415-460V POWER SUPPLY (REFER TO MEP DRAWINGS FOR DESIGN OF ELECTRICAL ITEMS).
11. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR DESIGN AND LOCATION OF ABOVE-SLAB PIPING AND BLOWER ASSEMBLY.
12. COORDINATE BLOWER SOUND AND/OR VIBRATION ATTENUATION REQUIREMENTS WITH ARCHITECT AND ACOUSTICAL CONSULTANT.
13. BLOWERS MUST BE EXPLOSION PROOF AND HOUSED IN A CLASS I DIVISION II ENCLOSURE. BLOWERS MUST BE INSTALLED WITHIN THE ENCLOSURE BY THE BLOWER MANUFACTURER

## METHANE MONITORING SYSTEM NOTES:

1. INDOOR AMBIENT METHANE GAS INFRARED SENSOR/TRANSMITTERS, HONEYWELL SENSEPOINT XCL OR APPROVED EQUAL WALL-MOUNTED UNITS THAT CONTAIN A STATUS INDICATOR, TWO ALARM SET-POINTS [10% LEL AND 20% LEL], AND A SENSOR FAULT WILL BE INSTALLED THROUGHOUT THE BUILDING TO CONTINUOUSLY MONITOR AMBIENT AIR METHANE CONCENTRATIONS. INDOOR AMBIENT AIR METHANE SENSORS WILL BE INSTALLED ONE FOOT BELOW THE CEILING, AT SELECTED LOCATIONS.
2. IF THE AMBIENT INDOOR METHANE CONCENTRATION AT ANY SENSEPOINT XCL SENSOR LOCATION EXCEEDS 10% LEL [0.5% METHANE GAS CONCENTRATION BY VOLUME], OR ANY METHANE SENSOR FAULT IS DETECTED, THE ALARM RELAY WILL ENERGIZE THE YELLOW WARNING LIGHT AT THE CONTROLLER AND A WARNING NOTIFICATION WILL BE SENT TO THE BUILDING MANAGEMENT SYSTEM TO INVESTIGATE AND TAKE APPROPRIATE ACTION TO ADDRESS THIS ALARM CONDITION.
3. IF THE AMBIENT INDOOR METHANE CONCENTRATION AT ANY SENSEPOINT XCL SENSOR LOCATION EXCEEDS 20% LEL [1.00 % METHANE GAS CONCENTRATION BY VOLUME], THE FIRE ALARM CONTROL PANEL WILL BE NOTIFIED, THE ALARM WILL BE ACTIVATED, AND EMERGENCY RESPONSE PROCEDURES WILL BE INITIATED IN ACCORDANCE WITH THE OPERATIONS, MAINTENANCE, AND MONITORING PLAN. THE CONTROLS FOR THE BUILDING FIRE ALARM MUST BE COORDINATED WITH THE MEP ENGINEER.

Project
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Key Plan


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| No. | Description | Date |
|---|---|---|
| 1 | EARLY UNDERGROUND UTILITY PACKAGE | 5/16/2024 |

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|---|---|
| Package | EARLY UNDERGROUND UTILITY PACKAGE |
| Issue Date | MAY 16, 2024 |
| Project No: | 22.70086.00 |

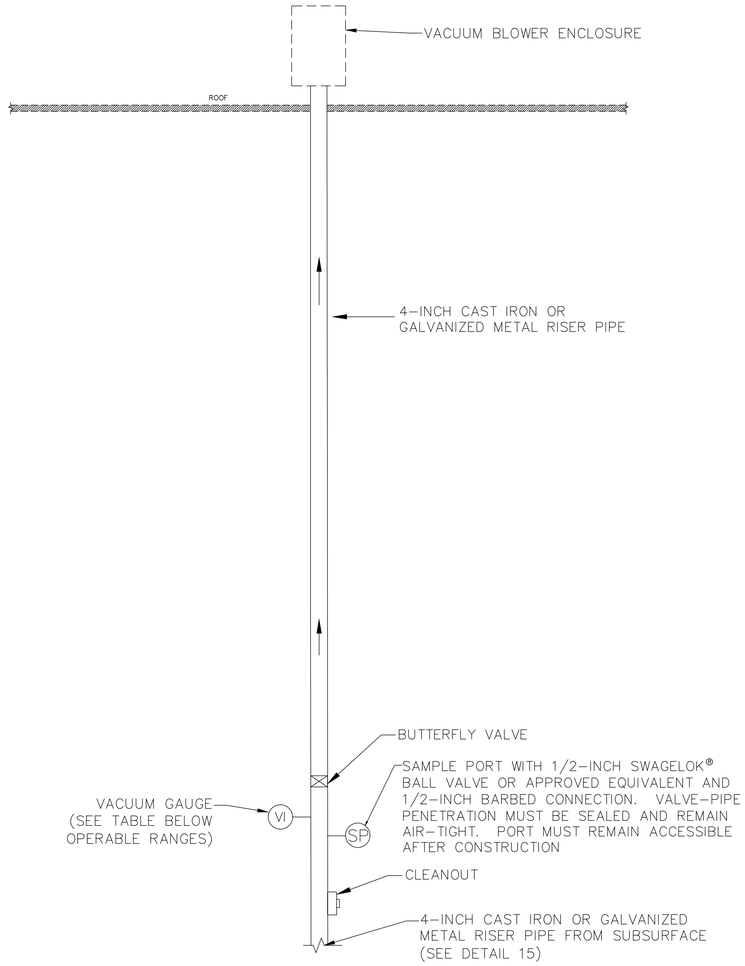
Sheet Title

SUB-MEMBRANE DEPRESSURIZATION SYSTEM DETAILS - 2

Original is 48 x 36. Do not scale contents of this drawing.

Sheet Number

H-202.00




DETAIL 24: TYPICAL DEPRESSURIZATION MITIGATION SYSTEM
ABOVE GRADE PROCESS EQUIPMENT SCHEMATIC
NOT TO SCALE

NOTES:

1. EXTENSION OF THE DEPRESSURIZATION SYSTEM PIPING MUST BE COORDINATED WITH STRUCTURAL ENGINEERS AND ARCHITECTS IN ACCORDANCE WITH ALL APPLICABLE BUILDING CODES.
2. BLOWERS MUST BE EXPLOSION PROOF AND HOUSED IN A CLASS I DIVISION II ENCLOSURE. BLOWERS MUST BE INSTALLED WITHIN THE ENCLOSURE BY THE BLOWER MANUFACTURER.

**FAN SCHEDULE**

| UNIT NO. | AREAS SERVED | SERVICE | LOCATION | MOTOR SIZE | CFM REQUIREMENT RANGE (CFM AT INCHES WC [IWC]) | | MOTOR REQUIREMENTS | | | MANUFACTURER/MODEL |
|---|---|---|---|---|---|---|---|---|---|---|
| SF-1 | SYSTEM 1 | SSDS | PRESS/TERRACE LEVEL | 2.75 HP | 25 CFM AT 15 IWC | 211 CFM AT 25 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1630 (7AT06) |
| SF-2 | SYSTEM 2 | SSDS | PRESS/TERRACE LEVEL | 2.75 HP | 27 CFM AT 15 IWC | 230 CFM AT 26 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1630 (7AT06) |
| SF-3 | SYSTEM 3 | SSDS | PRESS/TERRACE LEVEL | 2.75 HP | 29 CFM AT 15 IWC | 252 CFM AT 31 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1630 (7AT06) |
| SF-4 | SYSTEM 4 | SSDS | PRESS/TERRACE LEVEL | 2.75 HP | 27 CFM AT 15 IWC | 232 CFM AT 28 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1630 (7AT06) |
| SF-5 | SYSTEM 5 | SSDS | LOWER SUITE LEVEL | 2.75 HP | 29 CFM AT 15 IWC | 250 CFM AT 24 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1630 (7AT06) |
| SF-6 | SYSTEM 6 | SSDS | LOWER SUITE LEVEL | 2.75 HP | 29 CFM AT 15 IWC | 247 CFM AT 26 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1630 (7AT06) |
| SF-7 | SYSTEM 7 | SSDS | LOWER SUITE LEVEL | 1.11 HP | 9 CFM AT 15 IWC | 78 CFM AT 11 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1400 (7AT06) |
| SF-8 | SYSTEM 8 | SSDS | LOWER SUITE LEVEL | 6.16 HP | 38 CFM AT 15 IWC | 323 CFM AT 43 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1800 (7AT06) |
| SF-9 | SYSTEM 9 | SSDS | LOWER SUITE LEVEL | 6.16 HP | 38 CFM AT 15 IWC | 326 CFM AT 38 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1800 (7AT06) |
| SF-10 | SYSTEM 10 | SSDS | LOWER SUITE LEVEL | 6.16 HP | 33 CFM AT 15 IWC | 280 CFM AT 38 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1800 (7AT06) |
| SF-11 | SYSTEM 11 | SSDS | LOWER SUITE LEVEL | 2.7 HP | 22 CFM AT 15 IWC | 190 CFM AT 22 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1600 (7AT06) |
| SF-12 | SYSTEM 12 | SSDS | LOWER SUITE LEVEL | 1.11 HP | 8 CFM AT 15 IWC | 68 CFM AT 11 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1400 (7AT06) |
| SF-13 | SYSTEM 13 | SSDS | LOWER SUITE LEVEL | 1.11 HP | 2 CFM AT 15 IWC | 19 CFM AT 11 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA7210 (0AT16) |

**INSTRUMENT SCHEDULE**

| ITEM | DESCRIPTION | SERVICE | LOCATION | REQUIREMENTS | RANGE | REMARKS | MANUFACTURER/MODEL |
|---|---|---|---|---|---|---|---|
| PI-101 | VACUUM GAUGE | SSDS | BLOWER INLET | N/A | SEE VACUUM GAUGE SCHEDULE | N/A | WIKA TYPE 611.10 |
| AIS-1 | ALARM INDICATOR STATION | SSDS | TO BE DETERMINED | 1 PHASE, 60 HZ, 24 VAC | N/A | CONNECT TO PRESSURE SWITCH | KELE RAD-1 |
| PS-101 | DIFFERENTIAL PRESSURE SWITCH | AIS | BLOWER INLET | N/A | 0.4-1.6" WC | CONNECT TO AIS FOR BLOWER ASSEMBLY | DWEYER INSTRUMENTS SERIES 1900, MODEL 1910-1 |
| ENV VFD-1 | VARIABLE FREQUENCY DRIVE | SSDS FAN | PRESS/TERRACE LEVEL & LOWER SUITE LEVEL | 3 PHASE, 60 HZ, 208 VAC | 0-60 HZ | COORDINATE LOCATION WITH ARCHITEXT | WEG EDP11S007DN3R10000 |
| FAN SILENCER | SILENCER | SSDS FAN | PRESS/TERRACE LEVEL & LOWER SUITE LEVEL | N/A | N/A | CONNECT TO FAN OUTLET | dB NOISE REDUCTION, 213-005086 |

**VACUUM GAUGE SCHEDULE**

| AREA OF SERVICE | RANGE | MANUFACTURER/MODEL |
|---|---|---|
| SYSTEM 1 | 0-40 IWC | WIKA TYPE 611.10 |
| SYSTEM 2 | 0-40 IWC | WIKA TYPE 611.10 |
| SYSTEM 3 | 0-60 IWC | WIKA TYPE 611.10 |
| SYSTEM 4 | 0-40 IWC | WIKA TYPE 611.10 |
| SYSTEM 5 | 0-40 IWC | WIKA TYPE 611.10 |
| SYSTEM 6 | 0-40 IWC | WIKA TYPE 611.10 |
| SYSTEM 7 | 0-25 IWC | WIKA TYPE 611.10 |
| SYSTEM 8 | 0-60 IWC | WIKA TYPE 611.10 |
| SYSTEM 9 | 0-60 IWC | WIKA TYPE 611.10 |
| SYSTEM 10 | 0-60 IWC | WIKA TYPE 611.10 |
| SYSTEM 11 | 0-40 IWC | WIKA TYPE 611.10 |
| SYSTEM 12 | 0-25 IWC | WIKA TYPE 611.10 |
| SYSTEM 13 | 0-25 IWC | WIKA TYPE 611.10 |

Project
NYCFC WILLETS POINT STADIUM
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Prepared For
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Key Plan


Professional Seals

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| No. | Description | Date |
|---|---|---|
| 1 | EARLY UNDERGROUND UTILITY PACKAGE | 5/16/2024 |

B-Scan

Package: EARLY UNDERGROUND UTILITY PACKAGE
Issue Date: MAY 16, 2024
Project No: 22.70086.00

Sheet Title
SUB-MEMBRANE DEPRESSURIZATION SYSTEM DETAILS - 3

Original is 48 x 36. Do not scale contents of this drawing.

Sheet Number
H-203.00

**TABLE 1**

**FAN SCHEDULE**

Table 1
Fan Schedule
NYSDEC Notification Letter - SMD System Design
BCP Site No. C241146C
Langan Project No. 170613801

| FAN SCHEDULE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| UNIT NO. | AREAS SERVED | SERVICE | LOCATION | MOTOR SIZE | CFM REQUIREMENT RANGE (CFM AT INCHES WC [IWC]) | | MOTOR REQUIREMENTS | | | MANUFACTURER/MODEL |
| SF-1 | SYSTEM 1 | SSDS | PRESS/TERRACE LEVEL | 2.75 HP | 25 CFM AT 15 IWC | 211 CFM AT 25 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1630 (7AT06) |
| SF-2 | SYSTEM 2 | SSDS | PRESS/TERRACE LEVEL | 2.75 HP | 27 CFM AT 15 IWC | 230 CFM AT 26 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1630 (7AT06) |
| SF-3 | SYSTEM 3 | SSDS | PRESS/TERRACE LEVEL | 2.75 HP | 29 CFM AT 15 IWC | 252 CFM AT 31 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1630 (7AT06) |
| SF-4 | SYSTEM 4 | SSDS | PRESS/TERRACE LEVEL | 2.75 HP | 27 CFM AT 15 IWC | 232 CFM AT 28 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1630 (7AT06) |
| SF-5 | SYSTEM 5 | SSDS | LOWER SUITE LEVEL | 2.75 HP | 29 CFM AT 15 IWC | 250 CFM AT 24 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1630 (7AT06) |
| SF-6 | SYSTEM 6 | SSDS | LOWER SUITE LEVEL | 2.75 HP | 29 CFM AT 15 IWC | 247 CFM AT 26 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1630 (7AT06) |
| SF-7 | SYSTEM 7 | SSDS | LOWER SUITE LEVEL | 1.11 HP | 9 CFM AT 15 IWC | 78 CFM AT 11 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1400 (7AT06) |
| SF-8 | SYSTEM 8 | SSDS | LOWER SUITE LEVEL | 6.16 HP | 38 CFM AT 15 IWC | 323 CFM AT 43 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1800 (7AT06) |
| SF-9 | SYSTEM 9 | SSDS | LOWER SUITE LEVEL | 6.16 HP | 38 CFM AT 15 IWC | 326 CFM AT 38 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1800 (7AT06) |
| SF-10 | SYSTEM 10 | SSDS | LOWER SUITE LEVEL | 6.16 HP | 33 CFM AT 15 IWC | 280 CFM AT 38 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1800 (7AT06) |
| SF-11 | SYSTEM 11 | SSDS | LOWER SUITE LEVEL | 2.7 HP | 22 CFM AT 15 IWC | 190 CFM AT 22 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1600 (7AT06) |
| SF-12 | SYSTEM 12 | SSDS | LOWER SUITE LEVEL | 1.11 HP | 8 CFM AT 15 IWC | 68 CFM AT 11 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA1400 (7AT06) |
| SF-13 | SYSTEM 13 | SSDS | LOWER SUITE LEVEL | 1.11 HP | 2 CFM AT 15 IWC | 19 CFM AT 11 IWC | 3 PHASE | 60 HZ | 220-250V/415-460V | AIRTECH 3BA7210 (0AT16) |