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&
TENEN ENVIRONMENTAL
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November 7, 2024

Erick Bower, Project Manager
Division of Environmental Remediation
NYS Department of Environmental Conservation
625 Broadway, Albany, NY 12233-1010

Re: Revised Hot Spot Excavation and Secant Pile Wall Remedial Design Document
470 Kent Avenue – Brooklyn, NY
Block 2134, Lots 1 and 150 (portion)
BCP Site #C224053

Dear Erick:

In accordance with the approved October 2023 Remedial Action Work Plan (RAWP) prepared by Matthew M. Carroll, PE and Tenen Environmental, LLC (Tenen), the remedy includes the completion of hot spot excavations and the installation of a secant pile wall. Additional information regarding the support-of-excavation design and secant pile wall design are detailed below.

Background

Figure 8 of the approved RAWP, attached, includes the extents of the remedial excavations for the Site. Three hot spots, around PWSB-21, around PWSB-45 and around PWSB-27, -31 and -35 will be completed during the next phase of work. These are the final hot spot excavations to be completed.

Figure 8 of the approved RAWP also shows the minimum extent of a secant pile wall to be installed on the northern border to prevent recontamination from nonaqueous phase liquid (NAPL) observed in borings PWSB-27 and PWSB-31 and which may remain off-site.

The Tetratech Final Site Characterization Report (SCR), dated April 2018, notes that the NAPL was "noted primarily in the northwest corner of the Site at PWSB-27, PWSB-31, and to a lesser extent at PWSB-35. The impacts observed were primarily located north of the former MGP facility, in the area of a former embayment that was filled in between 1935 and 1947." The embayment area is located north of the proposed secant pile wall.

The contaminant distribution of NAPL through the borings is as follows: "Sand and gravel coated with NAPL was noted in PWSB-27 between 14 and 15 feet bgs and in PWSB-31 between 9 and 11 feet bgs. Solid NAPL was observed in PWSB-31 at 13 feet bgs. NAPL blebs and sheen were observed in PWSB-31 between 14.5 and 18 feet bgs." For reference, the borings were advanced at approximately +9 feet NAVD88 whereas current grade following demolition is assumed in the attached drawings to be +8 feet NAVD88; therefore, the proposed depths below grade are conservative. The proposed secant pile wall is being installed to elevation -22 feet, well below the 15 feet below grade required in the RAWP (which would correlate to elevation -7, as shown on the attached Design Drawing, Figure 2).

Remedial Design – Hot Spot Excavation

The objective of the hot spot excavations is to remove soil with concentrations above the remedial goals. All three hot spot locations are shown on drawing SOE-101.00 and the support-of-excavation to remove these areas are shown on the following drawings. Outside of these hot spot areas, the approved remedial depth is two feet.

Consistent with the RAWP, end-point samples will be collected to document the post-remedial conditions, as shown on Figure 10. A Community Air Monitoring Plan (CAMP, Appendix A) and Soil/Materials Management Plan (SMMP, Appendix C) will be implemented during the invasive Site activities to prevent or minimize potential impacts to human health and the environment.

Tenen notes that the bottom of slab for the new building in all instances is below the minimum measured groundwater elevation and a sub-slab depressurization system (SSDS) will not be installed; however, consistent with the RAWP, the potential for soil vapor intrusion will be evaluated through a review of post-remedial soil and groundwater results as well as indoor air sampling.

Secant Pile Wall Design

The objective of the secant pile wall is to prevent recontamination from NAPL observed in borings PWSB-27 and PWSB-31 and which may remain off-site. The secant pile wall is required to be waterproofed.

As shown on drawing SOE-101.00 and Design Drawing Figure 1, the secant pile wall will extend 90 feet along the northern border of the Site, beyond the minimum RAWP requirement of 45 feet. As shown on drawing SOE-302 and Design Drawing Figure 2, the bottom of the secant pile wall is elevation -22, which is approximately 31 feet below existing grade. As shown on RAWP Figure 8, the minimum requirement is 15 feet below grade.

As shown on detail SOE-501 number 3, the secant pile wall will have waterproofing on the interior face of the wall.

Conclusions

The hot spot excavations will be completed in accordance with the attached design drawings. Post-remediation end-point samples will be collected to confirm the soil conditions and extended as need to meet the soil remedial goals.

The secant pile wall extents along the northern border of the Site exceeds the requirements of the RAWP both vertically and horizontally and will serve as a permanent, long-term engineering control to prevent recontamination of the Site from potential NAPL.

Please contact us if you require any additional information.

Sincerely,
Tenen Environmental, LLC

Matthew Carroll, P.E.
Principal / Environmental Engineer

Attachment 1: Support of Excavation Drawings
Attachment 2: Remedial Design Drawings
Attachment 3: Referenced RAWP Figures

Attachment 1: Support of Excavation Drawings

GENERAL NOTES

1. SCOPE OF WORK: THE SCOPE OF WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, THE LAYOUT AND INSTALLATION FOR SOLDIER PILES, LAGGING, DIAGONAL STEEL BRACES, RAKERS, SOIL MIX COLUMNS KICK BLOCKS, AND PERFORMING GENERAL EXCAVATION AS NEEDED TO ACHIEVE FINAL FOUNDATION SUBGRADES FOR THE PROPOSED DEVELOPMENT. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, AND OTHER APPURTENANCES AS MAY BE REASONABLY INFERRED TO BE NECESSARY TO FACILITATE THE INSTALLATION OF THE SUPPORT OF EXCAVATION SYSTEM SHOWN AND DESCRIBED HEREIN.
2. THESE PLANS ARE FILED IN CONJUNCTION WITH THE NEW BUILDING APPLICATION (DOB NOW #B00975270-I1) AND WITH THE FO-SERIES DRAWINGS (DOB NOW #B00975270-S1)
3. FOR THE PURPOSES OF THESE DRAWINGS, "ENGINEER OF RECORD" AND "EOR" SHALL REFER TO THE ENGINEER OF RECORD FOR SUPPORT OF EXCAVATION UNLESS OTHERWISE NOTED.
4. ALL ELEVATIONS SHOWN ON THESE DRAWINGS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988, UNLESS OTHERWISE NOTED.

   DATUM CONVERSIONS:

   NGVD29 = NAVD88 +1.109'

   BROOKLYN HIGHWAY DATUM (OLD) = NAVD88 -1.46'
5. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OUTLINED ON THESE DRAWINGS AND AS INDICATED IN THE PROJECT SPECIFICATIONS.
6. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE NEW YORK CITY BUILDING CODE AND THE REQUIREMENTS OF ALL OTHER AGENCIES HAVING JURISDICTION.
7. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE FEDERAL, STATE, AND CITY REGULATIONS.
8. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE APPROPRIATE AGENCIES PRIOR TO COMMENCING WORK, AS REQUIRED.
9. THE CONTRACTOR SHALL REVIEW ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO COMMENCING WORK. VERIFY ALL DIMENSIONS, ELEVATIONS, AND LOCATIONS OF EXISTING FOUNDATIONS AND UTILITIES AND REPORT ANY DISCREPANCIES BETWEEN SURVEYS, CONTRACT DRAWINGS, AND THE FIELD CONDITIONS TO THE OWNER AND ENGINEER OF RECORD (EOR) FOR CLARIFICATION PRIOR TO COMMENCING WORK.
10. SHOULD FIELD CONDITIONS CONFLICT WITH THOSE INDICATED ON THESE DRAWINGS, THE EOR SHALL DETERMINE IMPACTS TO THE DESIGN AND PROVIDE REQUIRED DESIGN CHANGES, IF ANY.
11. THE WORK SHOWN IN THESE DRAWINGS SHALL BE EXECUTED IN CONJUNCTION WITH DRAWINGS OF ALL OTHER DISCIPLINES. DISCREPANCIES BETWEEN THESE DRAWINGS AND THOSE OF OTHER DISCIPLINES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR CLARIFICATION PRIOR TO COMMENCING WORK.
12. THE CONTRACTOR SHALL ACCOUNT FOR ENCOUNTERING NUMEROUS OBSTRUCTIONS, SUCH AS REMNANTS FROM PAST LAND USES, BULKHEADS, TIMBER PILES, TIMBER CRIBS, CONCRETE FOOTINGS AND SLABS, BOULDERS OR LARGE PIECES OF DEBRIS, IN THE FILL MATERIAL.
13. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF OTHER TRADES, INCLUDING BUT NOT LIMITED TO: SITE UTILITIES, GENERAL EARTHWORK, AND BUILDING FOUNDATION CONSTRUCTION.
14. REFER TO STRUCTURAL DRAWINGS (FO AND S SERIES) FOR ALL FOUNDATION AND OTHER BUILDING DETAILS.
15. REFER TO ARCHITECTURAL DRAWINGS (A SERIES) FOR GENERAL BUILDING AND WATERPROOFING DETAILS.
16. REFER TO CIVIL DRAWINGS (C SERIES) FOR SITE UTILITIES AND GRADING DETAILS.
17. EXISTING UTILITIES AND STRUCTURES TO REMAIN SHALL BE PROTECTED, AS REQUIRED.
18. THE CONTRACTOR SHALL COORDINATE WITH AND OBTAIN APPROVAL FROM THE EOR PRIOR TO RELOCATING ANY SUPPORT OF EXCAVATION ELEMENT.
19. BENCH CUT OR SLOPE ALL EXCAVATIONS IN ACCORDANCE WITH OSHA STANDARDS AND SECTION 3304.4.2 OF THE NEW YORK CITY BUILDING CODE UNLESS SUITABLE TEMPORARY SHORING OR BRACING IS PROVIDED.
20. DO NOT OVER-EXCAVATE UNLESS DIRECTED BY THE EOR.
21. THE SITE IS SUBJECT TO A REMEDIAL ACTION WORK PLAN (RAWP) EXCAVATION. DEPTHS AND EXTENTS OF RAWP EXCAVATIONS HAVE BEEN OBTAINED FROM FIGURE 6 OF THE RAWP PREPARED BY TENEN ENVIRONMENTAL, LLC, DATED MAY 2023. ANY CHANGE IN THE DEPTH OF EXCAVATION WILL NEED TO BE NOTIFIED TO THE SOE EOR; ADDITIONAL SUPPORT OR SOE MODIFICATIONS MAY BE REQUIRED.
22. SURVEY BACKGROUND TAKEN FROM DRAWING TITLED "BOUNDARY AND TOPOGRAPHICAL SURVEY" DRAWING BY M.G. MCLAREN ENGINEERING AND LAND SURVEYING P.C. LAST REVISED 10 JANUARY 2024.
23. FOUNDATION BACKGROUND TAKEN FROM DRAWING FO-100.00 PROVIDED BY WSP PROVIDED 29 MARCH 2024.
24. REFER TO THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY LANGAN (DATED 30 JANUARY 2024) FOR INFORMATION PERTAINING TO GENERAL SUBSURFACE CONDITIONS. THE SUBSURFACE CONDITIONS INDICATED ON THESE DRAWINGS ARE INFERRED FROM A LIMITED NUMBER OF TEST LOCATIONS. THE ACTUAL SUBSURFACE CONDITIONS MAY VARY.
25. THE SUPPORT OF EXCAVATION SYSTEM HAS BEEN DESIGNED ASSUMING A UNIFORM VERTICAL SURCHARGE OF 300 PSF (DESIGN SURCHARGE) UNLESS OTHERWISE INDICATED ON THE DRAWINGS. A 10-FOOT-WIDE BUFFER (NO LOAD) ZONE SHALL BE MAINTAINED BEHIND CANTILEVERED SOLDIER PILES WHERE SHOWN ON PLAN. THE DESIGN SURCHARGE SHALL NOT BE EXCEEDED WITHOUT PRIOR APPROVAL.
26. IF CONSTRUCTION ENTERS A "STALLED SITE" CONDITION, THE EXCAVATION SHALL BE BACKFILLED OR THE PERIMETER BERMED TO PROTECT ADJOINING PROPERTY AND RIGHTS-OF-WAY AS REQUIRED BY THE EOR AND DOB. WHERE SLOPES ARE UTILIZED, THE INCLINATION SHALL NOT EXCEED 1V:1.5H.

GENERAL PHASING NOTES

1. THE CONTRACTOR SHALL ESTABLISH AND INSTALL ALL REQUIRED MONITORING FOR ADJACENT BUILDINGS AND STRUCTURES, IN CONSULTATION WITH THE ENGINEER OF RECORD.
2. THE CONTRACTOR SHALL VERIFY LOCATION OF, AND CLEAR ALL UTILITIES AND STRUCTURES OVER AND UNDER AREA OF EXCAVATION.
3. VERIFY TYPES, EXTENTS, AND CONDITIONS OF FOUNDATIONS SUPPORTING EXISTING ADJACENT STRUCTURES WITH THE ENGINEER OF RECORD VIA TEST PITS PRIOR TO PROCEEDING WITH GENERAL EXCAVATION.
4. INSTALL PERIMETER SOLDIER PILES AND SOIL-MIX COLUMNS PER SEQUENCING NOTES AND DETAILS PROVIDED HEREIN.
5. PERFORM GENERAL EXCAVATION TO TEMPORARY SUBGRADE ELEVATIONS, INSTALL NORTH EXCAVATION SOLDIER PILES AND INSTALL BRACING ELEMENTS WHERE REQUIRED PER SEQUENCING NOTES PROVIDED HEREIN, OR AS DIRECTED BY THE OWNER'S ENGINEER. RAWP EXCAVATION TO BE PERFORMED CONCURRENTLY.
6. CONTINUE GENERAL EXCAVATION TO GENERAL SUBGRADE ELEVATION SHOWN ON THESE DRAWINGS, OR AS DIRECTED BY THE OWNER'S ENGINEER.
7. INSTALL AND OPERATE DEWATERING SYSTEM (BY OTHERS) AS REQUIRED TO MAINTAIN GROUNDWATER LEVELS AT APPROPRIATE LEVELS DURING EXCAVATION AND FOUNDATION CONSTRUCTION.
8. INSTALL INTERIOR SOLDIER PILES AT BUILDING CORES PER SEQUENCING NOTES AND DETAILS PROVIDED HEREIN.
6. CONTINUE CORE EXCAVATIONS TO CORE SUBGRADE ELEVATIONS SHOWN ON THESE DRAWINGS, OR AS DIRECTED BY THE OWNER'S ENGINEER.
6. CONTINUE RAWP EXCAVATION AS SHOWN ON THESE DRAWINGS, OR AS DIRECTED BY THE OWNER'S SOE AND ENVIRONMENTAL ENGINEER.
7. EXCAVATE TO LOWEST SUBGRADE AT BUILDING CORE, PITS AND INSTALL FOUNDATIONS AND WATERPROOFING AS REQUIRED. BACKFILL LOCALLY AS REQUIRED FOLLOWING INSTALLATION OF FOUNDATIONS.
8. INSTALL PILE CAP SHEETING AND EXCAVATE TO REQUIRED SUBGRADE LOCALLY FOR INSTALLATION OF FOUNDATIONS AND WATERPROOFING.
9. BACKFILL ANNULUS BETWEEN SUPPORT OF EXCAVATION SYSTEM AND NEW FOUNDATION WALLS/CON-ED VAULT PER THE NOTES PROVIDED HEREIN AND THE CONTRACT SPECIFICATIONS. BACKFILL SHALL NOT BE PLACED UNTIL THE FOUNDATION WALLS HAVE BEEN SUITABLY BRACED AGAINST LATERAL MOVEMENT AND HAVE ATTAINED SUITABLE STRENGTH AS DETERMINED BY THE OWNER'S STRUCTURAL ENGINEER.
10. REMOVE BRACING ONLY AT APPROVED INTERVALS FOLLOWING CONSTRUCTION OF PERMANENT FOUNDATION ELEMENTS AND PLACEMENT OF BACKFILL.
11. REMOVE ANY SOE ELEMENTS LOCATED OUTSIDE THE PROPERTY LIMITS TO A MINIMUM DEPTH OF 4'-0" BELOW FINAL GRADE.

STRUCTURAL STEEL NOTES

1. STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A572 OR A992, GRADE 50, U.O.N.
2. PLATES AND ALL OTHER MISCELLANEOUS STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A572, GRADE 50, U.O.N.
3. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS.
4. FIELD AND SHOP WELDING SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE.
5. WELDING ELECTRODES SHALL BE E70XX, U.O.N.
6. SINGLE PASS FILLET WELDS SHALL BE AS NOTED ON THESE DRAWINGS, BUT SHOULD NOT BE LESS THAN 1/4 INCH.
7. REFER TO STRUCTURAL DRAWINGS (FO AND S SERIES) AND THE PROJECT SPECIFICATIONS FOR STRUCTURAL STEEL REQUIREMENTS RELATED TO ALL OTHER WORK.

TIMBER NOTES

1. TIMBER FOR GUARDRAILS SHALL BE ROUGH SAWN, FULL SIZE, CONSTRUCTION GRADE LUMBER WITH A MINIMUM ALLOWABLE BENDING STRESS OF 1,500 PSI.
2. ALL OTHER TIMBER SHALL BE ROUGH SAWN, FULL SIZE, SELECT STRUCTURAL GRADE LUMBER. SHEETING MEMBERS SHALL HAVE A MINIMUM ALLOWABLE BENDING STRESS OF 1,450 PSI. ALL TIMBERS SHALL BE OF THE MINIMUM SIZES SHOWN ON THE DRAWINGS.
3. ALL TIMBER SHALL BE OF THE MINIMUM DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS.

FLOWABLE FILL

1. SELF-COMPACTING LOW STRENGTH MATERIAL WITH A MINIMUM UNCONFINED COMPRESSIVE STRENGTH AT 28 DAYS OF COMPRESSIVE STRENGTH OF 250 PSI.

SOLDIER PILE AND LAGGING WALL

1. ALL SOLDIER PILES SHALL BE DRIVEN OR INSTALLED WITHIN A PRE-DRILLED BOREHOLE AT THE LOCATIONS SHOWN ON THE CONTRACT DRAWINGS UNLESS OTHERWISE APPROVED BY THE EOR. SOLDIER PILES LOCATED CLOSER THAN 30 FEET FROM VIBRATION-SENSITIVE STRUCTURES SHALL BE INSTALLED USING DRILLING METHODS AS OUTLINED BELOW.
2. PILES SHALL NOT DEVIATE FROM THE THEORETICAL LOCATION BY MORE THAN 3 INCHES AND FROM THE VERTICAL PLUMB BY MORE THAN 1%. SOLDIER PILES INSTALLED OUTSIDE OF THE ABOVE TOLERANCES SHALL BE EXTRACTED AND REINSTALLED.
3. ALL DRILLED-IN SOLDIER PILES SHALL BE INSTALLED IN PRE-DRILLED CASING BACKFILLED WITH FLOWABLE FILL.
4. DRILLING SHALL BE PERFORMED USING INTERNAL FLUSH DUPLEX METHODS, WHILE MAINTAINING A SOIL PLUG LENGTH OF 2 DIAMETERS OR 2 FT BETWEEN THE OUTER CASING AND THE DRILL BIT. THE CONTRACTOR SHALL BE PREPARED TO ALTER DRILLING METHODS TO PREVENT LOSS OF GROUND, SETTLEMENT, OR LATERAL MOVEMENT OF ADJACENT STRUCTURES. EXTERNAL FLUSHING SHALL NOT BE PERMITTED. WATER SHALL BE USED AS DRILLING FLUID. THE USE OF AIR AS DRILLING FLUID SHALL NOT BE PERMITTED.
5. THE USE OF DOWN-THE-HOLE HAMMER (DTHH) SHALL BE PERMITTED ONLY TO BYPASS OBSTRUCTIONS. HOWEVER, THE USE OF DTHH SHALL NOT BE PERMITTED TO ADVANCE CASING WITHIN 30-FT OF ADJACENT STRUCTURES UNDER ANY CIRCUMSTANCES.
6. DRILLED SOLDIER PILE INSTALLATION SEQUENCE:
   - 6.1. GRADE SURFACE AS REQUIRED TO PROVIDE LEVEL WORKING PLATFORM.
   - 6.2. SET UP DRILL RIG AT THE PROPER LOCATION AND PLUMB MAST.
   - 6.3. DRILL CASING THROUGH OVERBURDEN USING DUPLEX DRILLING METHODS.
   - 6.4. THE CASING SHALL BE DRILLED TO THE REQUIRED DEPTH INDICATED ON THE CONTRACT DRAWINGS.
   - 6.5. UPON REACHING THE REQUIRED DEPTH INDICATED ON THE CONTRACT DRAWINGS, SOLDIER PILES SHALL BE TREMIE GROUTED. PLACE GROUT TUBE TO WITHIN 2 FT OF THE BOTTOM OF CASING/ BOTTOM OF HOLE AND GROUT THE PILE FROM THE BOTTOM TO DISPLACE DRILLING FLUID. CONTINUE GROUTING UNTIL CLEAN GROUT FLOWS OUT OF THE TOP OF THE PILE.
   - 6.6. INSERT SOLDIER PILE WITH SPACERS AND LOWER TO THE BOTTOM OF THE PILE.
   - 6.7. TEMPORARY CASINGS SHALL BE EXTRACTED WHILE THE GROUT REMAINS SUFFICIENTLY WORKABLE TO ENSURE THAT THE GROUT IS NOT LIFTED AND THE RESULTANT PILE IS CONTINUOUS AND OF FULL SECTION.
   - 6.8. CUT SOLDIER PILES TO PROPER ELEVATION AS SHOWN ON THE CONTRACT DRAWINGS.
7. DRIVEN SOLDIER PILES INSTALLATION SEQUENCE:
   - 7.1. GRADE SURFACE AS REQUIRED TO PROVIDE LEVEL WORKING PLATFORM.
   - 7.2. PERFORM PRE-EXCAVATIONS AS REQUIRED ALONG ALIGNMENT TO CLEAR UTILITIES OR OBSTRUCTIONS.
   - 7.3. SET UP DRIVING RIG AT THE PROPER LOCATION AND PLUMB MAST.
   - 7.4. DRIVE SOLDIER PILES TO THE REQUIRED DEPTH INDICATED ON THE CONTRACT DRAWINGS.
   - 7.5. CUT SOLDIER PILES TO PROPER ELEVATION AS SHOWN ON THE CONTRACT DRAWINGS.
8. LAGGING BOARDS SHALL BE INSTALLED AS THE EXCAVATION PROGRESSES. IN NO CASE SHALL THE EXCAVATION REMAIN EXPOSED MORE THAN 4FT IN HEIGHT ABOVE GROUNDWATER LEVEL, AND 2FT IN HEIGHT BELOW GROUNDWATER LEVEL.
9. ADJACENT LAGGING BOARDS SHALL BE LOUVERED 2 INCHES TO ALLOW FOR BACKPACKING OF DISTURBED AREAS OR VOIDS.
10. DISTURBED AREAS, VOIDS AND MATERIAL LOST BEHIND LAGGING SHALL BE BACKPACKED WITH A DRY SOIL/CEMENT MIXTURE. HAY OR FILTER FABRIC SHALL BE USED TO PREVENT MIGRATION OF FINES THROUGH LOUVER OPENINGS.

SOIL-MIX WALL GENERAL NOTES

1. FOR THE PROPOSED SOIL-MIX WALL ON THE NORTH SIDE, SLURRY MIX PROPORTIONS AND INSTALLATION PROCEDURES SHALL BE PROVIDED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NEW YORK ON SIGNED AND SEALED DESIGN AND INSTALLATION PROCEDURES. THE INSTALLATION PROCEDURES SHALL ACCOUNT FOR ALL IMPOSED LOADS, INCLUDING THOSE FROM THE EARTH, ADJACENT STRUCTURES, AND ADJACENT EQUIPMENT. SLURRY MIX PROPORTIONS, SLURRY INSTALLATION PROCEDURES, AND SLURRY PARAMETERS NECESSARY FOR STABILITY, INCLUDING BUT NOT LIMITED TO VISCOSITY, UNIT WEIGHT, FLUID LOSS, SAND CONTENT, AND PH, SHALL BE INDICATED ON THE INSTALLATION PROCEDURE. THE USE OF SLURRY TO SUPPORT EXCAVATIONS SHALL BE SUBJECT TO SPECIAL INSPECTION IN ACCORDANCE WITH CHAPTER 17 OF NYCBC.
2. THE SOIL-MIX WALL SHALL BE OF THE SIZES SHOWN ON THE CONTRACT DRAWINGS UNLESS OTHERWISE APPROVED BY THE EOR.
3. THE SOIL-MIX WALL SHALL EXTEND TO THE SPECIFIED DEPTH AS SHOWN FOR STABILITY AND TO REDUCE GROUNDWATER INFLOW.
4. THE SOIL-MIX ELEMENTS SHALL BE INSTALLED TO WITHIN 2 INCHES OF THEORETICAL LOCATION. SOIL-MIX ELEMENTS SHALL NOT DEVIATE MORE THAN 1 PERCENT FROM PLUMB.
5. SOIL-MIX WALL CONSTRUCTION SHALL BE AS GENERALLY INDICATED BELOW AND IN ACCORDANCE WITH PROJECT TECHNICAL SPECIFICATIONS.
6. SOIL-MIX WALL CONSTRUCTION SHALL BE PERFORMED AT THE LOCATIONS AND TO MINIMUM TIP ELEVATIONS INDICATED ON THESE DRAWINGS AS FOLLOWS:
7. EXCAVATION BELOW THE EXISTING GROUNDWATER LEVEL SHALL BE PERFORMED ONLY AFTER THE SOIL-MIX WALL HAS COMPLETED ITS ENCLOSURE, AND THE WATER LEVEL HAS BEEN SUMPED SUFFICIENTLY. EXCAVATION SHALL BE PERFORMED IN MAXIMUM 5-FOOT VERTICAL LIFTS AT A TIME. ONCE EACH LIFT IS EXCAVATED, THE SOE SPECIAL INSPECTOR & DESIGN ENGINEER SHALL INSPECT THE CONDITIONS OF THE EXPOSED SOIL-MIX WALL.
8. DURING EXCAVATION, IF ANY VOIDS OR DEFECTS ARE OBSERVED IN THE SOIL-MIX WALL, SUCH THAT THE WATERTIGHTNESS OF THE WALL MAY BE COMPROMISED, THE CONTRACTOR SHALL IMMEDIATELY REPAIR SUCH IMPERFECTIONS, SO THE SOIL-MIX WALL CAN PERFORM PER THE DESIGN INTENT. SUCH REPAIR MEASURES MAY CONSIST OF INJECTION GROUTING OR PATCHING, STEEL PLATES, GROUTED LAGGING BOARDS, OR ANOTHER METHOD APPROVED BY THE DESIGN ENGINEER OF RECORD.

NYC DEPARTMENT OF BUILDINGS NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OUTLINED IN THE 2022 NEW YORK CITY BUILDING CODE.
2. EXCAVATION AND FILL OPERATIONS SHALL BE CONDUCTED IN SUCH A MANNER THAT LIFE AND PROPERTY ARE NOT ENDANGERED AS PER SECTION 3304 OF THE NEW YORK CITY BUILDING CODE.
3. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF BUILDINGS AT LEAST 24 HOURS, BUT NO MORE THAN 48 HOURS PRIOR TO COMMENCING EXCAVATION, OR ON THE LAST BUSINESS DAY BEFORE THE COMMENCEMENT DATE AS PER SECTION 3304.3.1 OF THE NEW YORK CITY BUILDING CODE.
4. THE CONTRACTOR SHALL PROVIDE A WRITTEN NOTICE TO THE ADJACENT PROPERTY OWNER NOT LESS THAN 10 DAYS PRIOR TO THE SCHEDULED STARTING DATE OF EXCAVATION. THE WRITTEN NOTICE SHALL PROVIDE A DESCRIPTION OF THE WORK TO BE PERFORMED, THE TIMEFRAME AND SCHEDULE, AND THE CONTACT INFORMATION OF THE PERSON CAUSING THE EXCAVATION AND OF THE DEPARTMENT AS PER SECTION 3304.3.2 OF THE NEW YORK CITY BUILDING CODE.
5. ALL SIDES OR SLOPES OF EXCAVATIONS OR EMBANKMENTS SHALL BE INSPECTED AFTER RAINSTORMS, OR ANY OTHER HAZARD-INCREASING EVENT, AND SAFE CONDITIONS SHALL BE RESTORED AS PER SECTION 3304.5.1 OF THE NEW YORK CITY BUILDING CODE.
6. WATER CONDITIONS SHALL BE IN ACCORDANCE WITH SECTION 3303.14 OF THE NEW YORK CITY BUILDING CODE, INCLUDING: 3303.14.2 - PROTECTION OF FOUNDATIONS; 3303.14.3 - DRAINAGE OF EXCAVATIONS; AND 3303.14.5 - DEWATERING. WHERE DEWATERING IS REQUIRED, PERMITS SHALL BE OBTAINED FROM THE AGENCIES HAVING JURISDICTION.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE WEATHERPROOFING INTEGRITY OF ADJOINING STRUCTURES IN ACCORDANCE WITH SECTION 3309.9 OF THE NEW YORK CITY BUILDING CODE
8. ALL CONSTRUCTION FENCES SHALL COMPLY WITH THE REQUIREMENTS OUTLINED IN SECTION 3307.7 OF THE NEW YORK CITY BUILDING CODE AND SITE SAFETY PLANS (SSP) BY OTHERS.
9. ALL WORK CONTAINED HEREIN SHALL BE SUBJECT TO SPECIAL INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 AND SECTION 3304.5 OF THE NEW YORK CITY BUILDING CODE. SPECIAL INSPECTORS SHALL MEET THE QUALIFICATIONS OUTLINED IN THE RULES OF THE CITY OF NEW YORK, CHAPTER 101-06. REQUIRED SPECIAL INSPECTIONS INCLUDE:
   - 9.1. STEEL CONSTRUCTION - WELDING (BC 1705.2)
   - 9.2. EXCAVATIONS - SHEETING, SHORING, AND BRACING (BC 1705.25.3, 1817, AND 3304.4)
10. ALL SPECIAL INSPECTIONS ASSOCIATED WITH EXCAVATIONS - SHEETING, SHORING AND BRACING SHALL BE PERFORMED ON A CONTINUOUS BASIS UNLESS OTHERWISE APPROVED BY THE ENGINEER OF RECORD BASED ON THE CONDITIONS OBSERVED DURING CONSTRUCTION.
11. AN ACCREDITED SPECIAL INSPECTION FIRM SHALL BE RETAINED TO PERFORM THE REQUIRED SPECIAL INSPECTIONS.
12. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION ON SCOPE AND DETAILED REQUIREMENTS FOR INSPECTIONS AND TESTING PERTAINING TO THIS WORK.
13. REFER TO THE PROJECT SPECIFICATIONS AND CONTRACT DRAWINGS FOR INSPECTION AND TESTING REQUIREMENTS PERTAINING TO ALL OTHER WORK.

GENERAL EXCAVATION NOTES

1. SLOPED EXCAVATIONS SHALL BE PERMITTED WHERE ADEQUATE CLEARANCES EXIST.
2. EXCAVATIONS SHALL BE SLOPED IN ACCORDANCE WITH THESE DRAWINGS AND ALL APPLICABLE OSHA AND DOB STANDARDS.
3. SOIL SLOPES SHALL NOT EXCEED AN INCLINATION OF 1H:1.5V OR AS SHOWN ON PLANS. THE INCLINATION SHALL BE DECREASED SHOULD INSTABILITY SUCH AS RAVELING BE OBSERVED OR WHERE WATER IS FOUND FLOWING THROUGH THE SLOPE FACE.
4. STOCKPILING OF EXCAVATED MATERIAL SHALL NOT BE PERMITTED WITHIN 10'-0" OF THE TOP OF SLOPES OR SOE WALLS, OR OTHERWISE APPROVED BY THE EOR.
5. EXCAVATION WITHIN 10'-0" OF THE SITE PERIMETER SHALL NOT EXTEND MORE THAN 2'-0" BELOW THE BRACING LEVELS INDICATED ON THESE DRAWINGS UNTIL SUCH BRACING HAS BEEN INSTALLED, TESTED, AND PRELOADED, OR OTHERWISE APPROVED BY THE EOR.
6. EXCAVATION SHOULD BE MAINTAINED REASONABLY DRY FOR THE ENTIRE SOE AND FOUNDATION CONSTRUCTION DURATION. CONTRACTOR MUST USE APPROPRIATE MEANS AND METHODS SO AS NOT TO CAUSE ANY ADVERSE IMPACTS TO NEIGHBORING STRUCTURES AND SURROUNDING UTILITIES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDRESSING ALL WATER CONDITIONS PURSUANT TO SECTION 3303.14 OF THE NEW YORK CITY BUILDING CODE.
8. ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) PRELIMINARY FLOOD INSURANCE RATE MAP (FIRM) OF 2013, THE PROPOSED BUILDING FOOTPRINT FALLS WITHIN ZONE AE, A COASTAL FLOOD ZONE WITH A BASE FLOOD ELEVATION (BFE) OF 12. ACCORDING TO THE BUILDING CODE APPENDIX G, ZONE AE IS DEEMED AS AN AREA THAT REQUIRES SPECIAL FLOOD HAZARD CONSIDERATIONS.

BACKFILL NOTES

1. BACKFILL SHALL CONSIST OF CERTIFIED, CLEAN GRANULAR SOIL, FREE OF ORGANIC AND OTHER DELETERIOUS MATERIALS, IN ACCORDANCE WITH SECTION 1804.2 OF THE NEW YORK CITY BUILDING CODE, AND MEETING THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE SIZE	PERCENT PASSING BY WEIGHT
3-INCH	100
1/4-INCH	30 TO 75
NO.40	5 TO 40
NO.200	0 TO 10

2. MOLE ROCK SHALL NOT BE PERMITTED.
3. THE CONTRACTOR SHALL SUBMIT GRADATION TEST RESULTS AND MOISTURE DENSITY RELATIONSHIPS FOR ALL PROPOSED FILL MATERIALS.
4. ALL BACKFILL MATERIALS SHALL BE APPROVED BY THE PROJECT ENVIRONMENTAL AND GEOTECHNICAL ENGINEER PRIOR TO DELIVERY OR PLACEMENT.
5. BACKFILL SHALL BE PLACED IN HORIZONTAL LIFTS. THE THICKNESS OF LIFTS PRIOR TO COMPACTION SHALL NOT EXCEED 1'-0".
6. BACKFILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557 (MODIFIED PROCTOR).
7. COMPACTION SHALL BE VERIFIED BY THE SPECIAL INSPECTOR IN ACCORDANCE WITH ASTM D2922, AS APPLICABLE. TESTING SHALL BE PERFORMED AT INTERVALS OF ONE TEST PER 1,000 SQUARE FEET FOR EACH LIFT PLACED OR MORE FREQUENTLY IF REQUESTED BY THE SPECIAL INSPECTOR OR EOR.
8. FREE DRAINING GRAVEL OR CRUSHED STONE (NYSDOT ITEM 605.0901 UNDERDRAIN FILTER TYPE I OR AAHSTO NO. 57), LEAN CONCRETE, AND CONTROLLED LOW STRENGTH MATERIAL (CLSM) SHALL BE ACCEPTABLE ALTERNATES

MONITORING NOTES

1. REFER TO SOE-110 FOR MONITORING PLAN AND DETAILS.
2. MONITORING MUST CONFORM TO THE REQUIREMENTS OF SECTION 1704.20.1 AND 1814 OF THE NEW YORK CITY BUILDING CODE, THE PROJECT SPECIFICATIONS, AND THE REQUIREMENTS OUTLINED HEREIN.
3. ADJACENT PROPERTIES AND STRUCTURES TO BE MONITORED IN ACCORDANCE TO BC 3309.4.4 AND 3309.16.
4. OPTICAL SURVEY MONITORING POINTS ON SUPPORT OF EXCAVATION ELEMENTS MUST BE INSTALLED AT LOCATIONS DETERMINED IN CONSULTATION WITH THE OWNER'S GEOTECHNICAL AND SOE ENGINEERS. OPTICAL MONITORING POINTS MUST BE INSTALLED AND BASELINE READINGS BE TAKEN BEFORE COMMENCING EXCAVATION ACTIVITIES.
5. THE QUANTITY AND LOCATION OF OPTICAL MONITORING POINTS MAY BE REVISED AS REQUIRED BASED ON OBSERVED FIELD CONDITIONS.

DRAINAGE NOTES

1. CONTRACTOR SHALL IMPLEMENT PROPER DRAINAGE MEASURES AS TO PREVENT THE ACCUMULATION OF WATER OR WATER DAMAGE TO ANY FOUNDATIONS ON THE PREMISES OR TO ADJOINING PROPERTY.
2. NO CONDITION SHALL BE CREATED AS A RESULT OF CONSTRUCTION OR DEMOLITION OPERATIONS THAT WILL INTERFERE WITH NATURAL SURFACE DRAINAGE. WATER COURSES, DRAINAGE DITCHES, ETC., SHALL NOT BE OBSTRUCTED BY DEBRIS, REFUSE, WASTE BUILDING MATERIALS, EARTH, STONES, TREE STUMPS, BRANCHES, OR OTHER OBJECTS THAT MAY INTERFERE WITH SURFACE DRAINAGE OR CAUSE THE IMPOUNDMENT OF SURFACE WATERS.
3. ALL EXCAVATIONS SHALL BE DRAINED, AND THE DRAINAGE SHALL BE MAINTAINED AS LONG AS THE EXCAVATION CONTINUES OR REMAINS. WHERE NECESSARY, PUMPING SHALL BE USED, PROVIDED PROPER PERMITS ARE OBTAINED FROM THE NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ALL RELEVANT AGENCIES HAVING JURISDICTION.
4. DEWATERING IS NEEDED IN ORDER TO EXCAVATE, INSTALL SOE AND FOUNDATIONS. THE SOE IS NOT DESIGNED AS A GROUNDWATER CUTOFF SYSTEM. DEWATERING (BY OTHERS) SHALL BE PERFORMED IN ACCORDANCE TO THE NEW YORK CITY BUILDING CODE AND ALL LOCAL JURISDICTIONS.

ENERGY CODE NOTES

1. THE SCOPE OF WORK SHOWN HEREIN IS SOLELY FOR TEMPORARY CONSTRUCTION PURPOSES AND IS NOT SUBJECT TOT THE REQUIREMENTS OF THE 2020 NEW YORK CITY ENERGY CONSERVATION CONSTRUCTION CODE. REFER TO THE TABLE BELOW FOR TABULAR ANALYSIS.

WORK ITEMS	PROPOSED DESIGN VALUES	CODE-PRESCRIBED VALUE & CITATION
STEEL SOLDIER PILES/CORE BEAMS	N/A	N/A
TIMBER LAGGING	N/A	N/A
STEEL BRACING	N/A	N/A

TO THE BEST OF MY KNOWLEDGE, BELIEF, AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK.

PLOT PLAN

SCALE: 1/64" = 1'-0"

SOURCE:
"BROOKLYN QUADRANGLE MAP, NEW YORK 7.5-MINUTE SERIES", "JERSEY CITY QUADRANGLE MAP, NEW YORK 7.5-MINUTE SERIES", U.S. GEOLOGICAL SURVEY, 2011

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FUTURE GREEN STUDIO LANDSCAPE ARCHITECT
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BROOKLYN, NY 11231
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PLOT PLAN (NTS): BLOCK 2134 / LOT 150

PROJECT:
470 KENT II
BROOKLYN, NY 11249

DRAWING TITLE:
SUPPORT OF EXCAVATION GENERAL NOTES

DOB NOW Job # B00975270-S3

SEAL

ANASTASIOS PAPATHANASIOU
085629

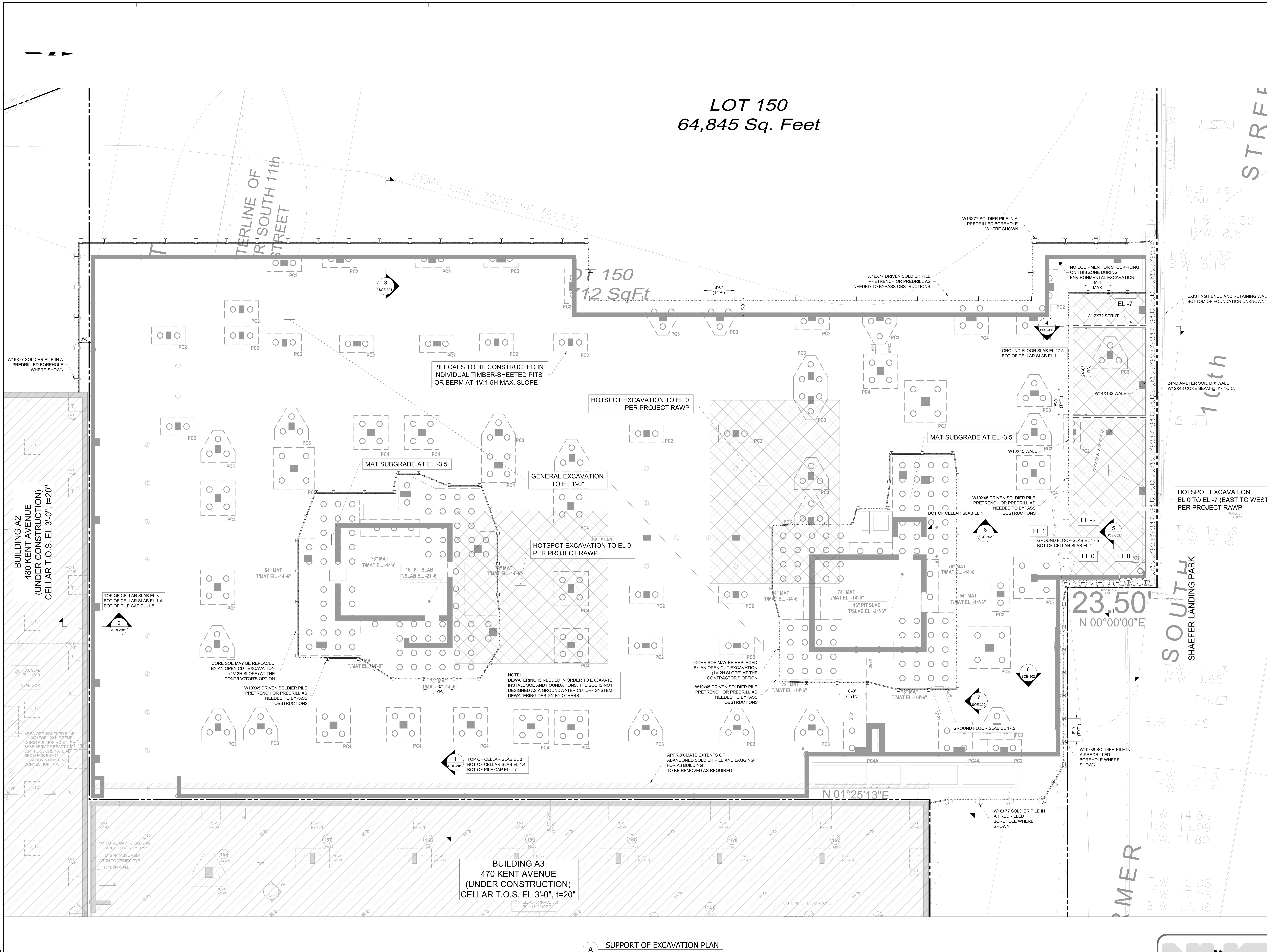
PROJ NO:	4302
SCALE:	NA
SHEET SIZE:	48"x36"
DWG NO:	SOE-001.00

B SCAN STICKER

PROGRESS PRINT - NOT FOR CONSTRUCTION

Arjana Hereni
APPROVED
Date: 05/22/2024

BASEPOINT



A SUPPORT OF EXCAVATION PLAN
Scale: 1/8" = 1'-0"

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ISSUES:

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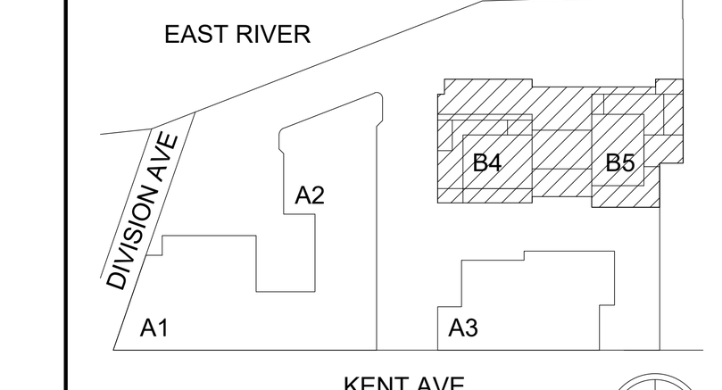
PLOT PLAN (NTS): BLOCK 2134 / LOT 150



PROJECT:
470 KENT II
BROOKLYN, NY 11249

DRAWING TITLE:
SUPPORT OF EXCAVATION PLAN

DOB NOW Job # B00975270-S3

SEAL

STATE OF NEW YORK — ANASTASIOS PAPATHANASIOU — 085629 — LICENSED PROFESSIONAL ENGINEER

PROJ NO:	4302
SCALE:	1/8" = 1'-0"
SHEET SIZE:	48"x36"
DWG NO:	SOE-101.00

B SCAN STICKER

PROGRESS PRINT - NOT FOR CONSTRUCTION

NYC Buildings
Arjana Hereni
APPROVED
Date: 05/22/2024

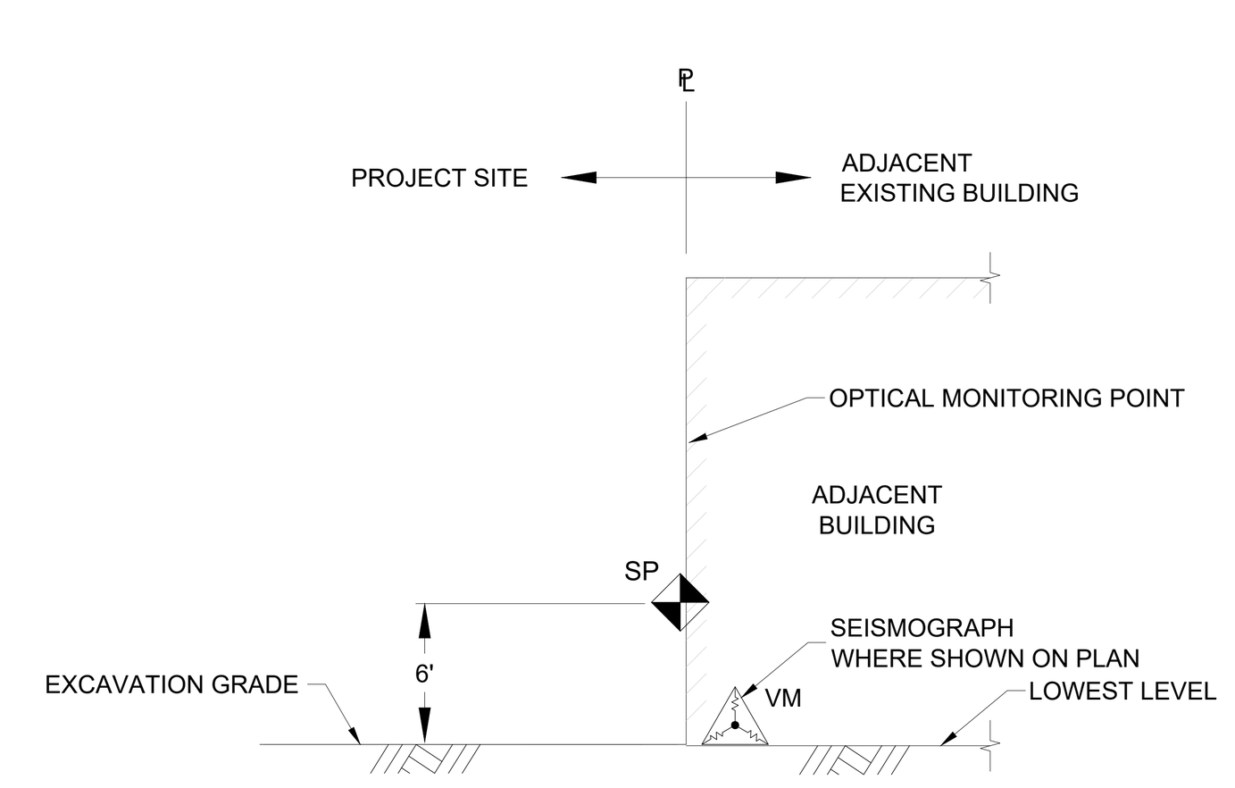
MONITORING NOTES

1. SURVEY MONITORING POINTS AND SEISMOGRAPHS SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE DRAWINGS.
2. PRIOR TO START OF WORK, PERFORM PRECONSTRUCTION CONDITIONS DOCUMENTATION OF ADJACENT STRUCTURES.
3. INSTALL SURVEY MONITORING POINTS ON ADJACENT BUILDINGS AND STRUCTURES AS SHOWN ON THIS DRAWING, AND NOT LESS THAN TWO POINTS PER WALL.
4. AT A MINIMUM, SURVEY MONITORING POINTS SHALL BE INSTALLED AT A MAXIMUM OF 25 FT INTERVALS AT THE TOP OF SOLDIER PILES AND SOIL-MIX COLUMNS.
5. MONITORING INTERVALS MAY BE INCREASED WHERE MOVEMENTS ARE FOUND TO EXCEED THE THRESHOLD LIMIT PRESCRIBED ALERT LEVELS.
6. IN THE EVENT THAT MONITORING INDICATES LATERAL MOVEMENT EXCEEDS THE LIMIT LEVELS DEFINED IN THE PROJECT SPECIFICATIONS AND IN THE TABLE BELOW, THE CONTRACTOR SHALL CEASE CONSTRUCTION ACTIVITIES. WHERE REQUIRED, THE CONTRACTOR SHALL PROVIDE STABILIZATION OF THE EXCAVATION SUPPORT SYSTEM VIA INSTALLATION OF TEMPORARY EARTHEN BERMS AND/OR ADDITIONAL BRACING. ADDITIONAL EXCAVATION ACTIVITIES SHALL NOT PROCEED WITHOUT THE AUTHORIZATION OF THE SOE ENGINEER OF RECORD AND ANY AGENCIES HAVING JURISDICTION.
7. ALL SURVEY MONITORING POINTS SHALL BEAR A UNIQUE IDENTIFICATION. AS-BUILT PLANS SHALL BE PREPARED FOR ALL SURVEY MONITORING POINTS INSTALLED. PLANS SHALL BE AMENDED AS REQUIRED DURING CONSTRUCTION FOR THE ABANDONMENT, REPLACEMENT, OR ADDITION OF NEW SURVEY MONITORING LOCATIONS. ALL MONITORING RESULTS SHALL BE PROVIDED TO THE CONSTRUCTION MANAGER AND ALL PARTIES WITHIN 24 HOURS OF TAKING READINGS.
8. THRESHOLD AND LIMIT VALUES:

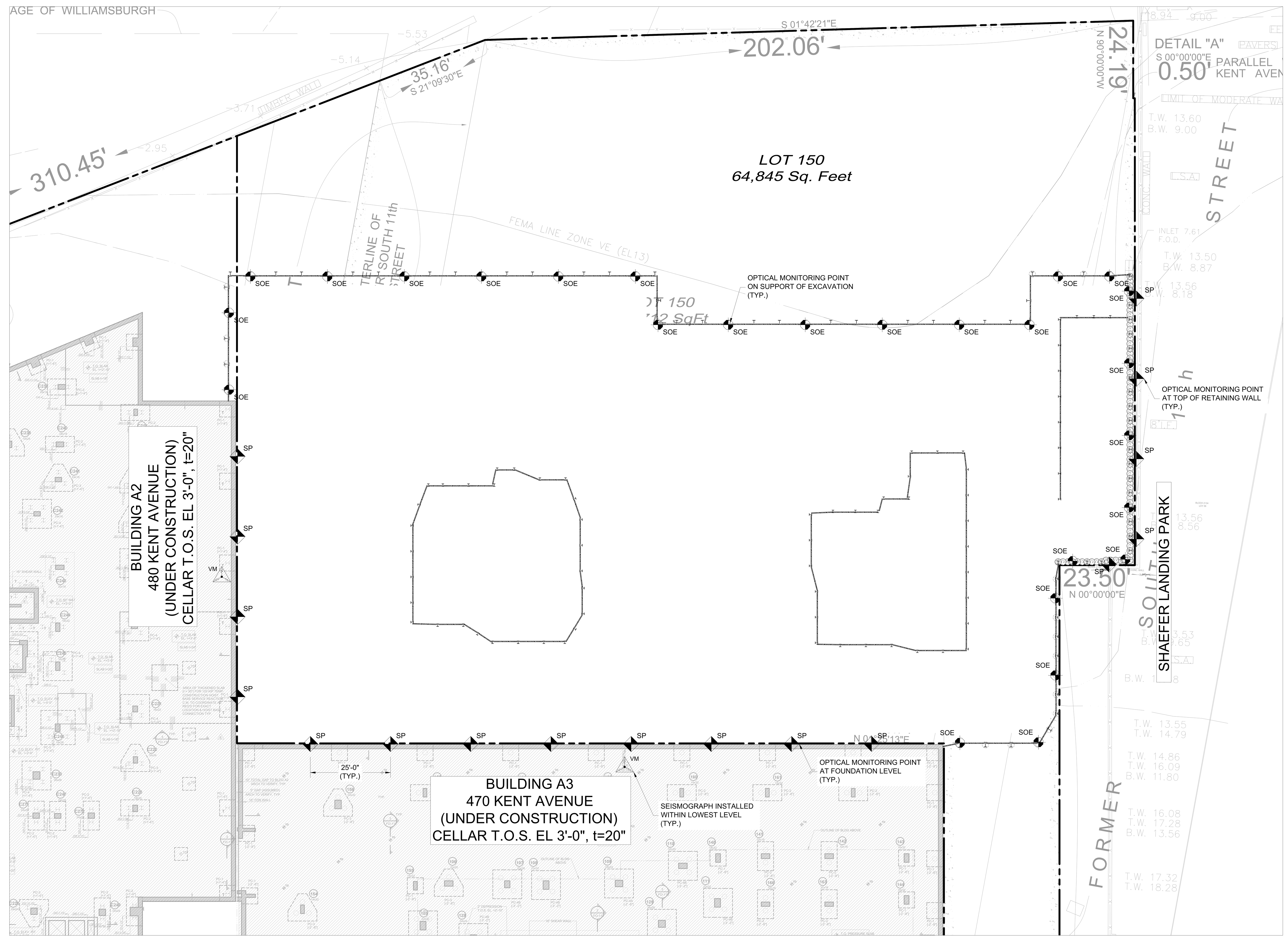
INSTRUMENT RESPONSIBILITY, INSTALLATION AND MONITORING SCHEDULE

SYMBOL	INSTRUMENTS	READING FREQUENCY	ALERT CRITERIA	LIMITING CRITERIA
VM	SEISMOGRAPH (ADJACENT BUILDINGS)	CONTINUOUS 15-MIN. HISTOGRAM SUPPLEMENTED WITH A WAVEFORM FOR EVENTS ABOVE THE THRESHOLD CRITERIA, MONITOR CONTINUOUSLY THROUGHOUT SOE INSTALLATION, GENERAL EXCAVATION AND FOUNDATION CONSTRUCTION.	0.5 IN/SEC	1.0 IN/SEC
SP	OPTICAL MONITORING POINT (BUILDINGS AND STRUCTURES)	MONITORING ALL POINTS (X, Y, Z POSITION) TWICE PER WEEK DURING EXCAVATION. MONITORING ALL POINTS (X, Y, Z POSITION) ONCE PER WEEK AFTER COMPLETING EXCAVATION UNTIL GROUND FLOOR IS CONSTRUCTED.	0.5 INCH	0.75 INCH
SOE	OPTICAL MONITORING POINT (SOIL-MIX WALL)		0.5 INCH	1.0 INCH
SOE	OPTICAL MONITORING POINT (CANTILEVER SOLDIER PILES)		1.0 INCH	2.0 INCH

9. IN THE EVENT THAT MONITORING INDICATES MOVEMENT EXCEEDS THE ABOVE DEFINED ALERT LEVELS (LATERAL OR VERTICAL), SOE EOR WILL EVALUATE THE READINGS AND INFORM THE CONTRACTOR IF THEY NEED TO CEASE EXCAVATION AND PROVIDE STABILIZATION OF THE EXCAVATION SUPPORT SYSTEM VIA INSTALLATION OF TEMPORARY EARTHEN BERMS AND/OR ADDITIONAL BRACING.
10. EXCEEDANCE ACTION PLAN:
   A. IF ANY MONITORING MEASUREMENT EXCEEDS ALLOWABLE LIMITS, THE OWNER, CONSTRUCTION MANAGER, AND CONTRACTOR WILL BE NOTIFIED AND THE FOLLOWING ACTIONS SHALL BE TAKEN.
      a. THE CONTRACTOR WILL IMMEDIATELY STOP WORK IN THE VICINITY OF THE EXCEEDANCE.
      b. INSPECT THE BUILDING (OR PORTIONS THEREOF) FOR POTENTIAL DAMAGE. INSPECTIONS SHALL BE MADE BY SPECIAL INSPECTION ENGINEER FOR STRUCTURAL STABILITY, THE CONTRACTOR, HIS ENGINEER, ARCHITECT, THE CONSTRUCTION MANAGER, OWNER'S ENGINEERS, AND THE ADJACENT BUILDING'S ENGINEERS.
      c. IMMEDIATE NOTIFICATION TO DOB IN CASE OF DAMAGE OR UNSAFE CONDITION.
      d. EXCAVATION AND FOUNDATION CONSTRUCTION PROCEDURES SHALL BE RE-ASSESSED AS NECESSARY TO MAINTAIN VIBRATION LEVELS AND MOVEMENTS WITHIN ACCEPTABLE LIMITS.
      e. WORK STOPPAGE TO ASSESS EXCAVATION METHODS AND TO INSPECT THE BUILDINGS IDENTIFIED HEREIN FOR DAMAGE IS AT THE OWNER'S DISCRETION.
      f. DEVELOP ALTERNATE METHODS AND PROCEDURES, SUBJECT TO THE REVIEW AND APPROVAL OF THE OWNER'S ENGINEERS AND THE ADJACENT BUILDING'S ENGINEERS.
      g. RESUME WORK USING THE AGREED UPON ALTERNATIVE METHOD.
      h. DOB WILL BE NOTIFIED OF EVENTS THAT EXCEED ALLOWABLE LIMITS AND OF CORRECTIVE MEASURES IMPLEMENTED TO MAINTAIN ACCEPTABLE LIMITS.
      i. MONITORING SHALL REMAIN IN PLACE AND WILL BE INSPECTED DURING ALL PHASES OF CONSTRUCTION.



1 BUILDING OPTICAL MONITORING
Scale: N.T.S.



A MONITORING PLAN
Scale: 1/16" = 1'-0"

COOKFOX

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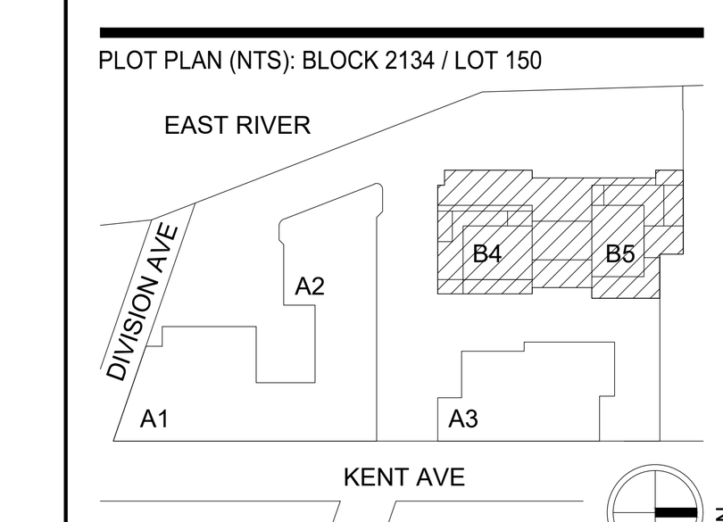
PLOT PLAN (NTS): BLOCK 2134 / LOT 150



PROJECT:
470 KENT II
BROOKLYN, NY 11249

DRAWING TITLE:
SUPPORT OF EXCAVATION MONITORING PLAN

DOB NOW Job # B00975270-S3

SEAL

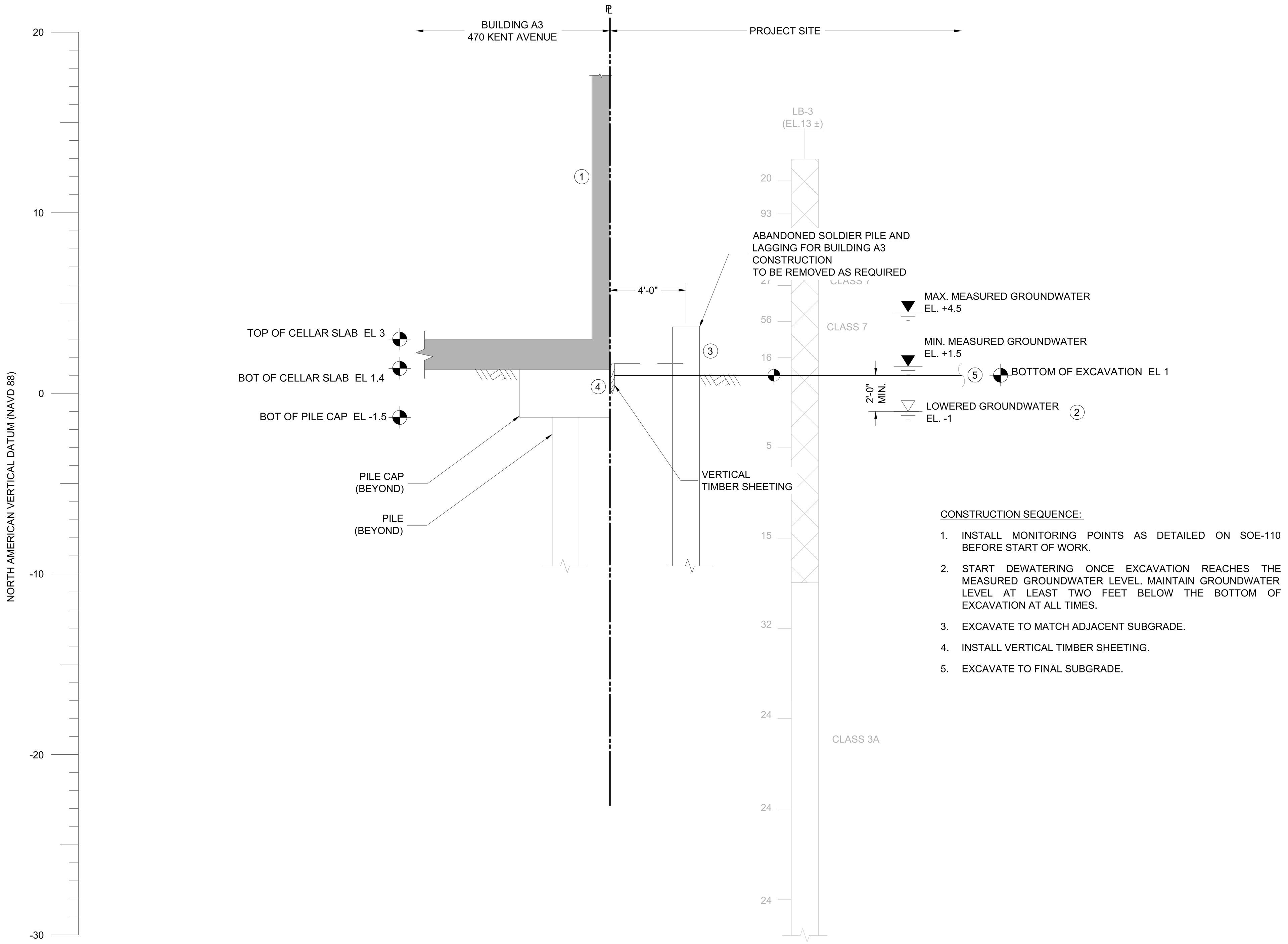
STATE OF NEW YORK · ANASTASIOS PAPATHANASIOU · 085629 · LICENSED PROFESSIONAL ENGINEER

PROJ NO: 4302
SCALE: 1/8" = 1'-0"
SHEET SIZE: 48"x36"
DWG NO: SOE-110.00

B SCAN STICKER

PROGRESS PRINT - NOT FOR CONSTRUCTION

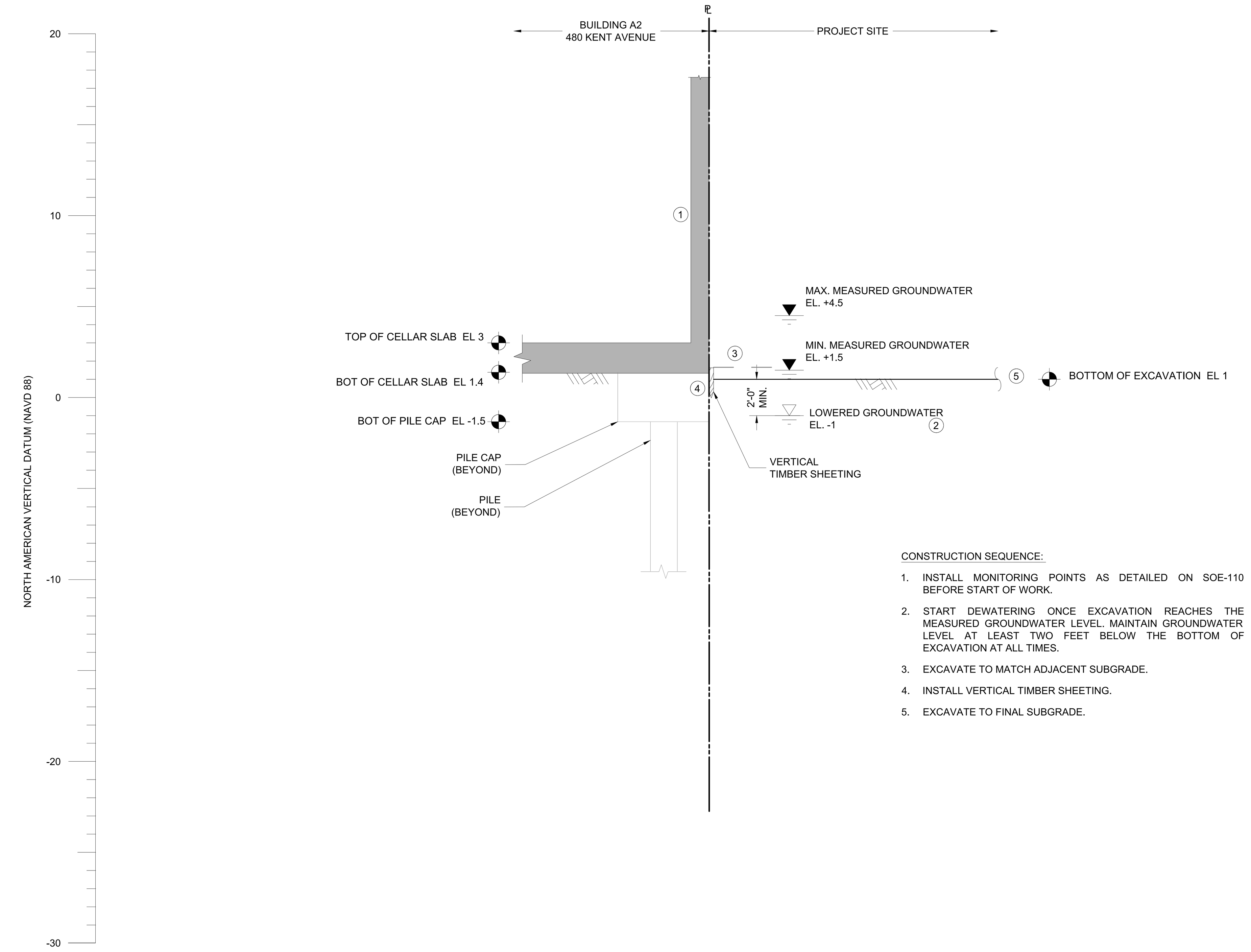
Arjana Hereni
APPROVED
Date: 05/22/2024



CONSTRUCTION SEQUENCE:

1. INSTALL MONITORING POINTS AS DETAILED ON SOE-110 BEFORE START OF WORK.
2. START DEWATERING ONCE EXCAVATION REACHES THE MEASURED GROUNDWATER LEVEL. MAINTAIN GROUNDWATER LEVEL AT LEAST TWO FEET BELOW THE BOTTOM OF EXCAVATION AT ALL TIMES.
3. EXCAVATE TO MATCH ADJACENT SUBGRADE.
4. INSTALL VERTICAL TIMBER SHEETING.
5. EXCAVATE TO FINAL SUBGRADE.

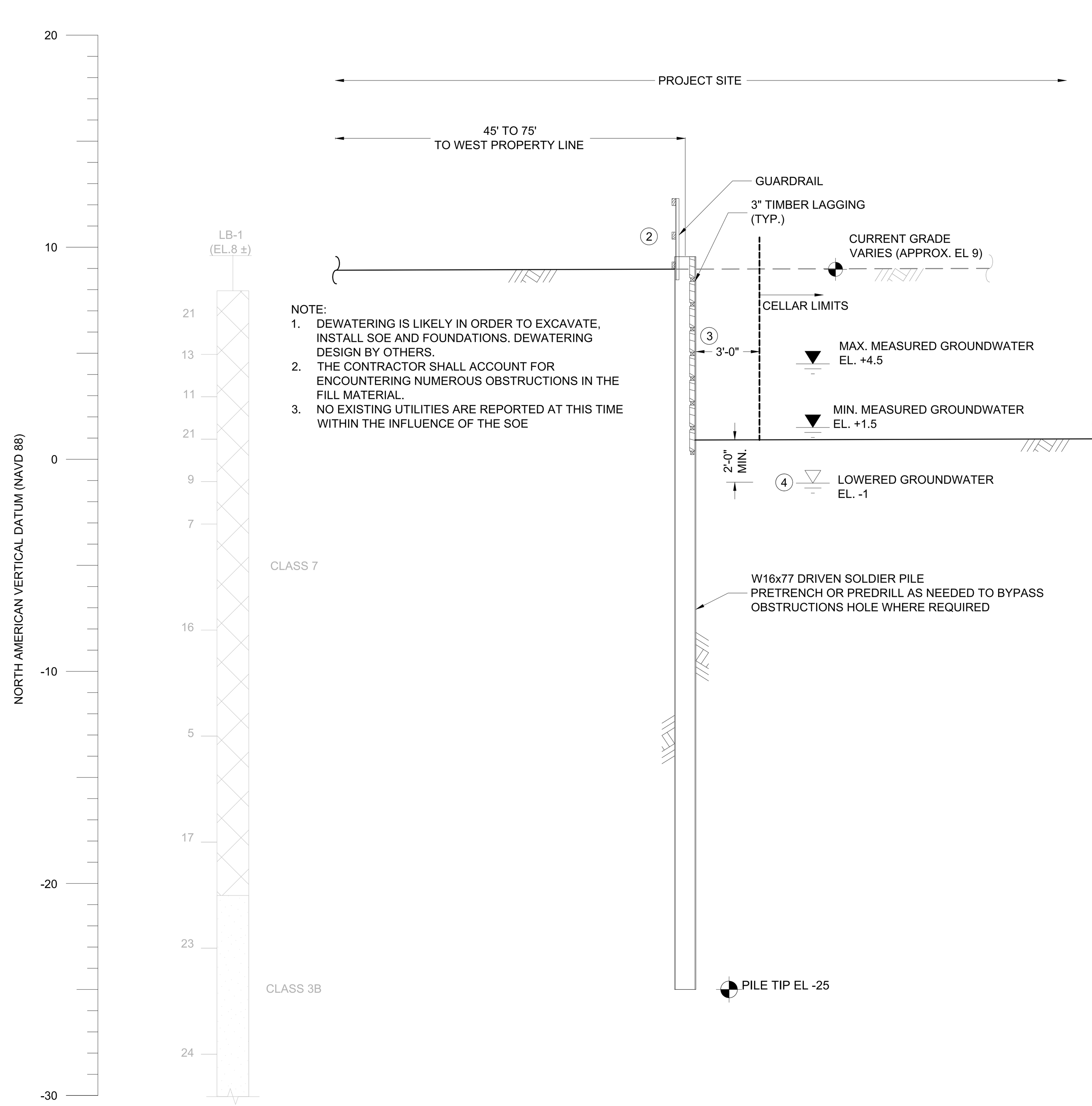
1 SECTION - FACING SOUTH
Scale: 1/4" = 1'-0"



CONSTRUCTION SEQUENCE:

1. INSTALL MONITORING POINTS AS DETAILED ON SOE-110 BEFORE START OF WORK.
2. START DEWATERING ONCE EXCAVATION REACHES THE MEASURED GROUNDWATER LEVEL. MAINTAIN GROUNDWATER LEVEL AT LEAST TWO FEET BELOW THE BOTTOM OF EXCAVATION AT ALL TIMES.
3. EXCAVATE TO MATCH ADJACENT SUBGRADE.
4. INSTALL VERTICAL TIMBER SHEETING.
5. EXCAVATE TO FINAL SUBGRADE.

2 SECTION - FACING WEST
Scale: 1/4" = 1'-0"

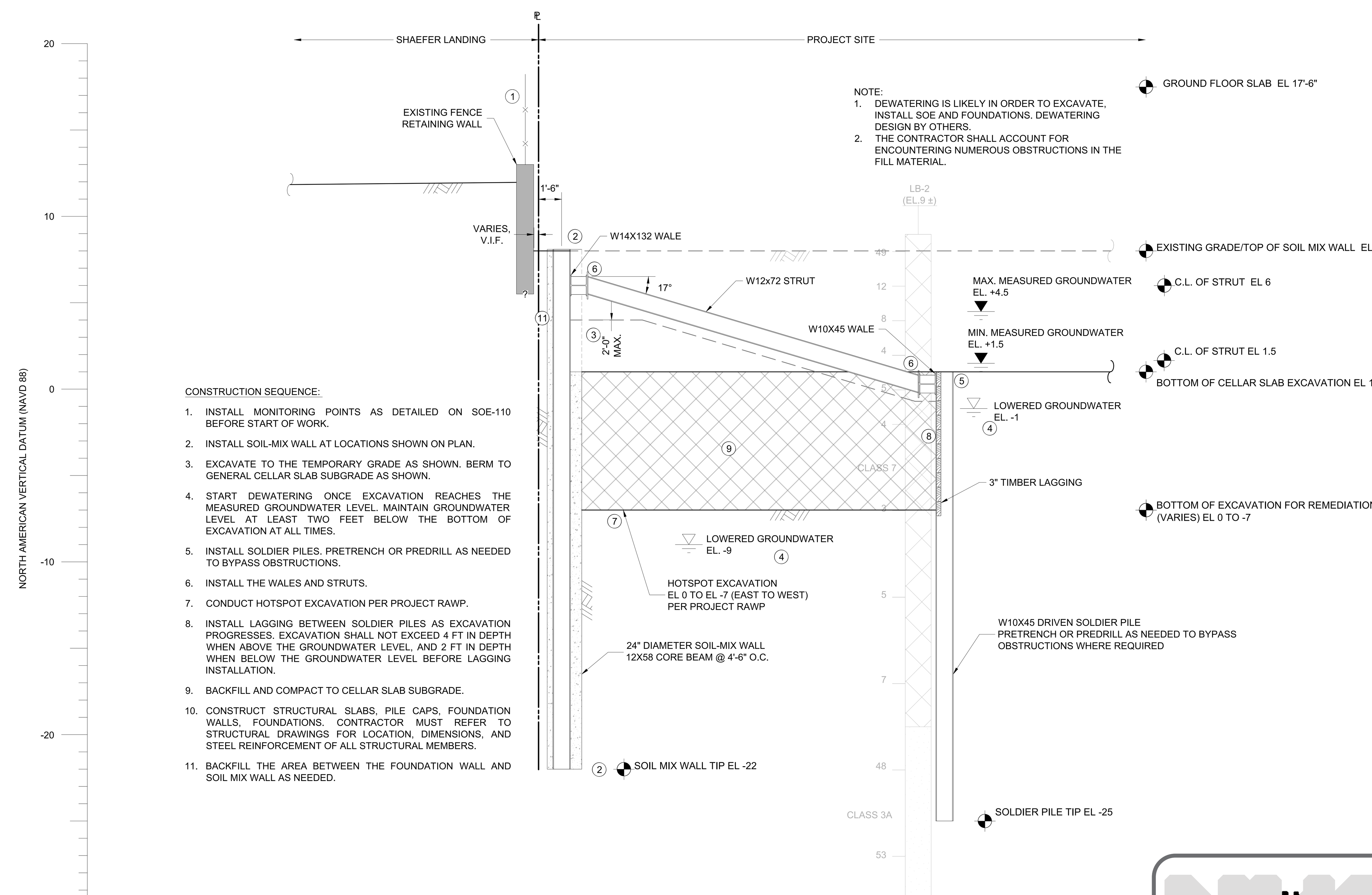


NOTE:
1. DEWATERING IS LIKELY IN ORDER TO EXCAVATE, INSTALL SOE AND FOUNDATIONS. DEWATERING DESIGN BY OTHERS.
2. THE CONTRACTOR SHALL ACCOUNT FOR ENCOUNTERING NUMEROUS OBSTRUCTIONS IN THE FILL MATERIAL.
3. NO EXISTING UTILITIES ARE REPORTED AT THIS TIME WITHIN THE INFLUENCE OF THE SOE

CONSTRUCTION SEQUENCE:

1. INSTALL MONITORING POINTS AS DETAILED ON SOE-110 BEFORE START OF WORK.
2. INSTALL SOLDIER PILES. PRETRENCH OR PREDRILL AS NEEDED TO BYPASS OBSTRUCTIONS.
3. INSTALL LAGGING AS EXCAVATION PROGRESSES. EXCAVATION SHALL NOT EXCEED 4 FT IN DEPTH WHEN ABOVE THE GROUNDWATER LEVEL, AND 2 FT IN DEPTH WHEN BELOW THE GROUNDWATER LEVEL BEFORE LAGGING INSTALLATION.
4. START DEWATERING ONCE EXCAVATION REACHES THE MEASURED GROUNDWATER LEVEL. MAINTAIN GROUNDWATER LEVEL AT LEAST TWO FEET BELOW THE BOTTOM OF EXCAVATION AT ALL TIMES.
5. EXCAVATE TO FINAL SUBGRADE.
6. CONSTRUCT STRUCTURAL SLABS, PILE CAPS, FOUNDATION WALLS, FOUNDATIONS. CONTRACTOR MUST REFER TO STRUCTURAL DRAWINGS FOR LOCATION, DIMENSIONS, AND STEEL REINFORCEMENT OF ALL STRUCTURAL MEMBERS.
7. BACKFILL THE AREA BETWEEN THE FOUNDATION WALL AND SOLDIER PILES.

3 SECTION - FACING NORTH
Scale: 1/4" = 1'-0"



NOTE:
1. DEWATERING IS LIKELY IN ORDER TO EXCAVATE, INSTALL SOE AND FOUNDATIONS. DEWATERING DESIGN BY OTHERS.
2. THE CONTRACTOR SHALL ACCOUNT FOR ENCOUNTERING NUMEROUS OBSTRUCTIONS IN THE FILL MATERIAL.

CONSTRUCTION SEQUENCE:

1. INSTALL MONITORING POINTS AS DETAILED ON SOE-110 BEFORE START OF WORK.
2. INSTALL SOIL-MIX WALL AT LOCATIONS SHOWN ON PLAN.
3. EXCAVATE TO THE TEMPORARY GRADE AS SHOWN. BERM TO GENERAL CELLAR SLAB SUBGRADE AS SHOWN.
4. START DEWATERING ONCE EXCAVATION REACHES THE MEASURED GROUNDWATER LEVEL. MAINTAIN GROUNDWATER LEVEL AT LEAST TWO FEET BELOW THE BOTTOM OF EXCAVATION AT ALL TIMES.
5. INSTALL SOLDIER PILES. PRETRENCH OR PREDRILL AS NEEDED TO BYPASS OBSTRUCTIONS.
6. INSTALL THE WALES AND STRUTS.
7. CONDUCT HOTSPOT EXCAVATION PER PROJECT RAWP.
8. INSTALL LAGGING BETWEEN SOLDIER PILES AS EXCAVATION PROGRESSES. EXCAVATION SHALL NOT EXCEED 4 FT IN DEPTH WHEN ABOVE THE GROUNDWATER LEVEL, AND 2 FT IN DEPTH WHEN BELOW THE GROUNDWATER LEVEL BEFORE LAGGING INSTALLATION.
9. BACKFILL AND COMPACT TO CELLAR SLAB SUBGRADE.
10. CONSTRUCT STRUCTURAL SLABS, PILE CAPS, FOUNDATION WALLS, FOUNDATIONS. CONTRACTOR MUST REFER TO STRUCTURAL DRAWINGS FOR LOCATION, DIMENSIONS, AND STEEL REINFORCEMENT OF ALL STRUCTURAL MEMBERS.
11. BACKFILL THE AREA BETWEEN THE FOUNDATION WALL AND SOIL MIX WALL AS NEEDED.

4 SECTION - FACING EAST
Scale: 1/4" = 1'-0"

Arjana Hereni
APPROVED
Date: 05/22/2024

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COOKFOX

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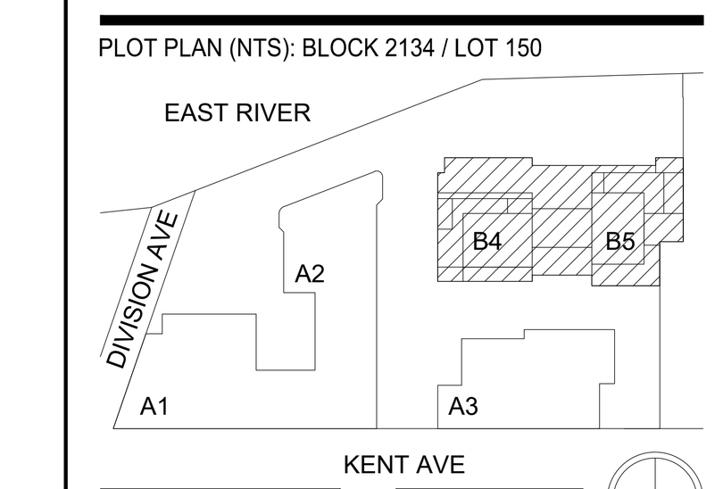
PLOT PLAN (NTS): BLOCK 2134 / LOT 150



PROJECT:
470 KENT II
BROOKLYN, NY 11249

DRAWING TITLE:
SUPPORT OF EXCAVATION SECTIONS

DOB NOW Job # B00975270-S3

SEAL	
STATE OF NEW YORK — ANASTASIOS PAPATHANASIOU — LICENSED PROFESSIONAL ENGINEER — 085629	PROJ NO: 4302
	SCALE: 1/8" = 1'-0"
	SHEET SIZE: 48"x36"
	DWG NO: SOE-301.00

B SCAN STICKER

BASEPOINT

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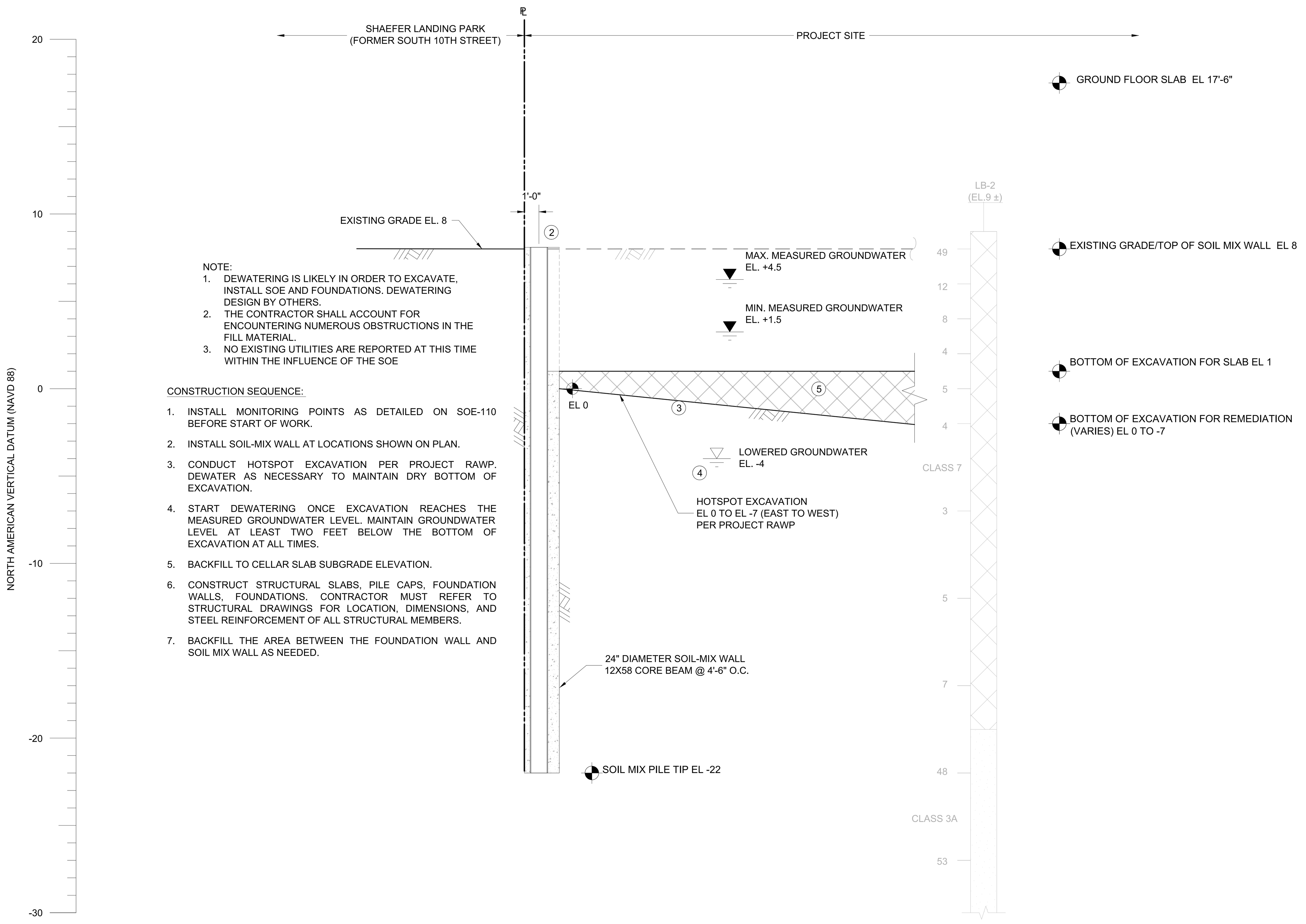
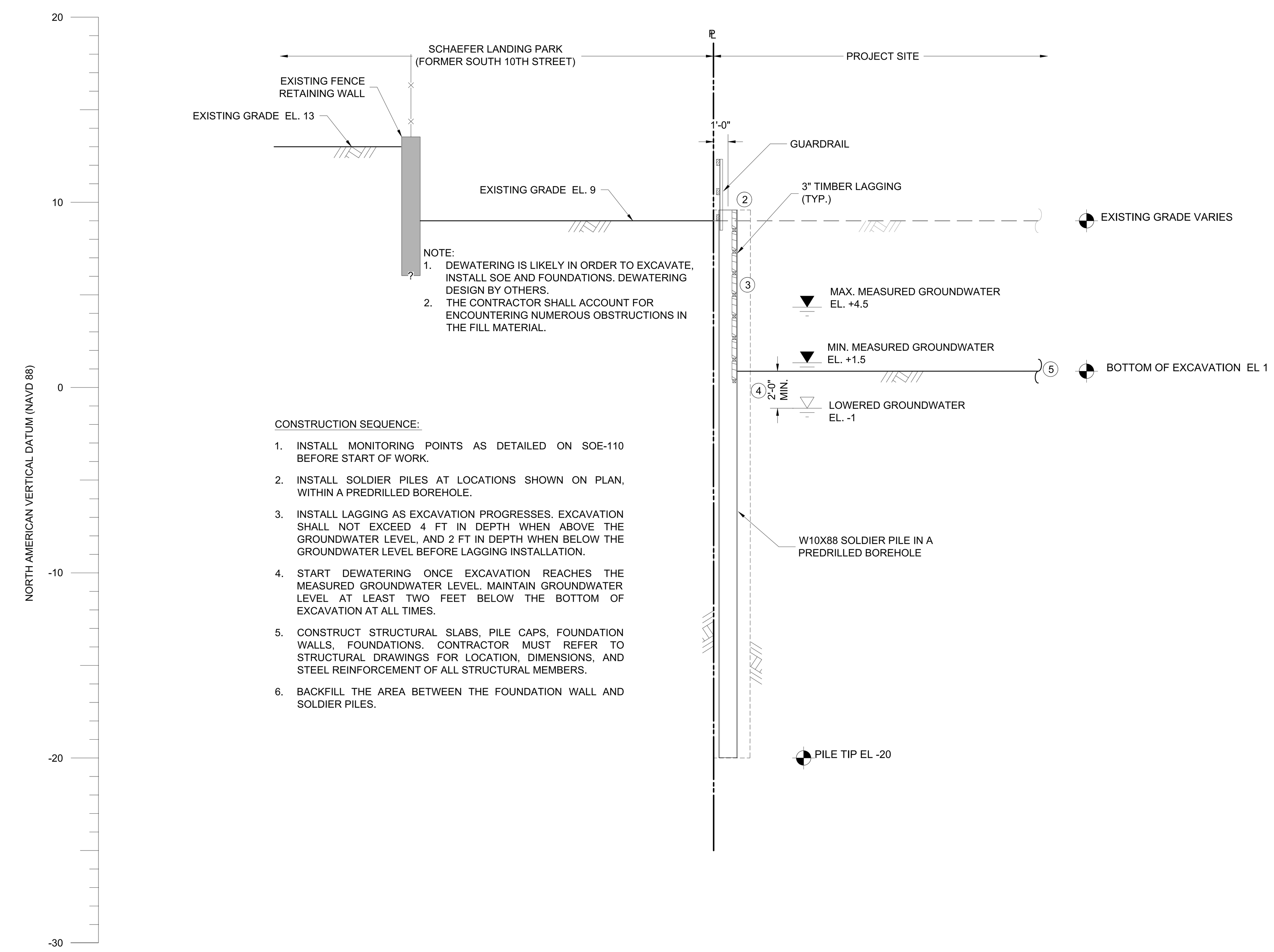


NOTE:
1. DEWATERING IS LIKELY IN ORDER TO EXCAVATE, INSTALL SOE AND FOUNDATIONS. DEWATERING DESIGN BY OTHERS.
2. THE CONTRACTOR SHALL ACCOUNT FOR ENCOUNTERING NUMEROUS OBSTRUCTIONS IN THE FILL MATERIAL.
3. NO EXISTING UTILITIES ARE REPORTED AT THIS TIME WITHIN THE INFLUENCE OF THE SOE

CONSTRUCTION SEQUENCE:
1. INSTALL MONITORING POINTS AS DETAILED ON SOE-110 BEFORE START OF WORK.
2. INSTALL SOIL-MIX WALL AT LOCATIONS SHOWN ON PLAN.
3. CONDUCT HOTSPOT EXCAVATION PER PROJECT RAWP. DEWATER AS NECESSARY TO MAINTAIN DRY BOTTOM OF EXCAVATION.
4. START DEWATERING ONCE EXCAVATION REACHES THE MEASURED GROUNDWATER LEVEL. MAINTAIN GROUNDWATER LEVEL AT LEAST TWO FEET BELOW THE BOTTOM OF EXCAVATION AT ALL TIMES.
5. BACKFILL TO CELLAR SLAB SUBGRADE ELEVATION.
6. CONSTRUCT STRUCTURAL SLABS, PILE CAPS, FOUNDATION WALLS, FOUNDATIONS. CONTRACTOR MUST REFER TO STRUCTURAL DRAWINGS FOR LOCATION, DIMENSIONS, AND STEEL REINFORCEMENT OF ALL STRUCTURAL MEMBERS.
7. BACKFILL THE AREA BETWEEN THE FOUNDATION WALL AND SOIL MIX WALL AS NEEDED.

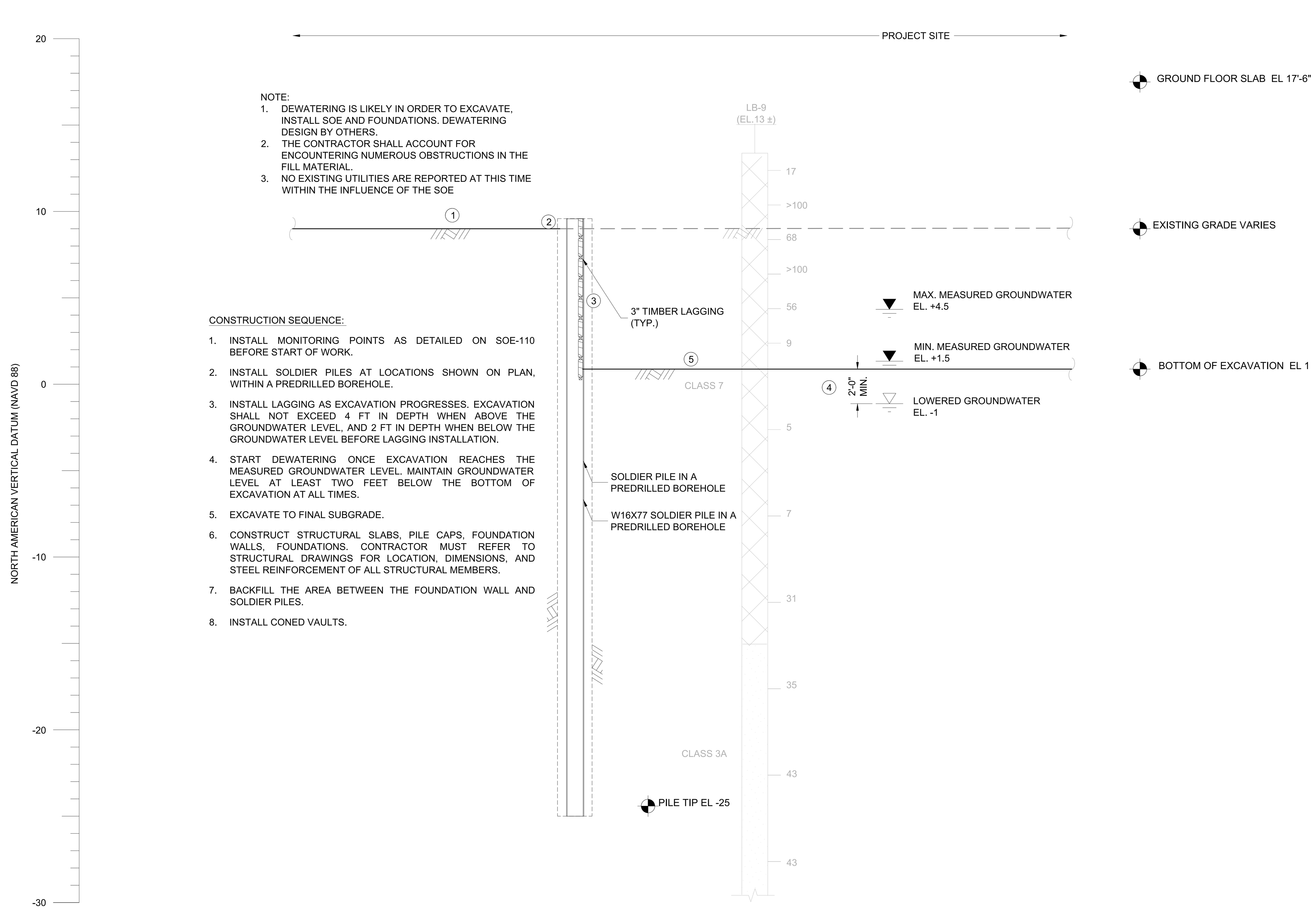
5 SECTION - FACING SOUTH
Scale: 1/4" = 1'-0"



NOTE:
1. DEWATERING IS LIKELY IN ORDER TO EXCAVATE, INSTALL SOE AND FOUNDATIONS. DEWATERING DESIGN BY OTHERS.
2. THE CONTRACTOR SHALL ACCOUNT FOR ENCOUNTERING NUMEROUS OBSTRUCTIONS IN THE FILL MATERIAL.

CONSTRUCTION SEQUENCE:
1. INSTALL MONITORING POINTS AS DETAILED ON SOE-110 BEFORE START OF WORK.
2. INSTALL SOLDIER PILES AT LOCATIONS SHOWN ON PLAN, WITHIN A PREDRILLED BOREHOLE.
3. INSTALL LAGGING AS EXCAVATION PROGRESSES. EXCAVATION SHALL NOT EXCEED 4 FT IN DEPTH WHEN ABOVE THE GROUNDWATER LEVEL, AND 2 FT IN DEPTH WHEN BELOW THE GROUNDWATER LEVEL BEFORE LAGGING INSTALLATION.
4. START DEWATERING ONCE EXCAVATION REACHES THE MEASURED GROUNDWATER LEVEL. MAINTAIN GROUNDWATER LEVEL AT LEAST TWO FEET BELOW THE BOTTOM OF EXCAVATION AT ALL TIMES.
5. CONSTRUCT STRUCTURAL SLABS, PILE CAPS, FOUNDATION WALLS, FOUNDATIONS. CONTRACTOR MUST REFER TO STRUCTURAL DRAWINGS FOR LOCATION, DIMENSIONS, AND STEEL REINFORCEMENT OF ALL STRUCTURAL MEMBERS.
6. BACKFILL THE AREA BETWEEN THE FOUNDATION WALL AND SOLDIER PILES.

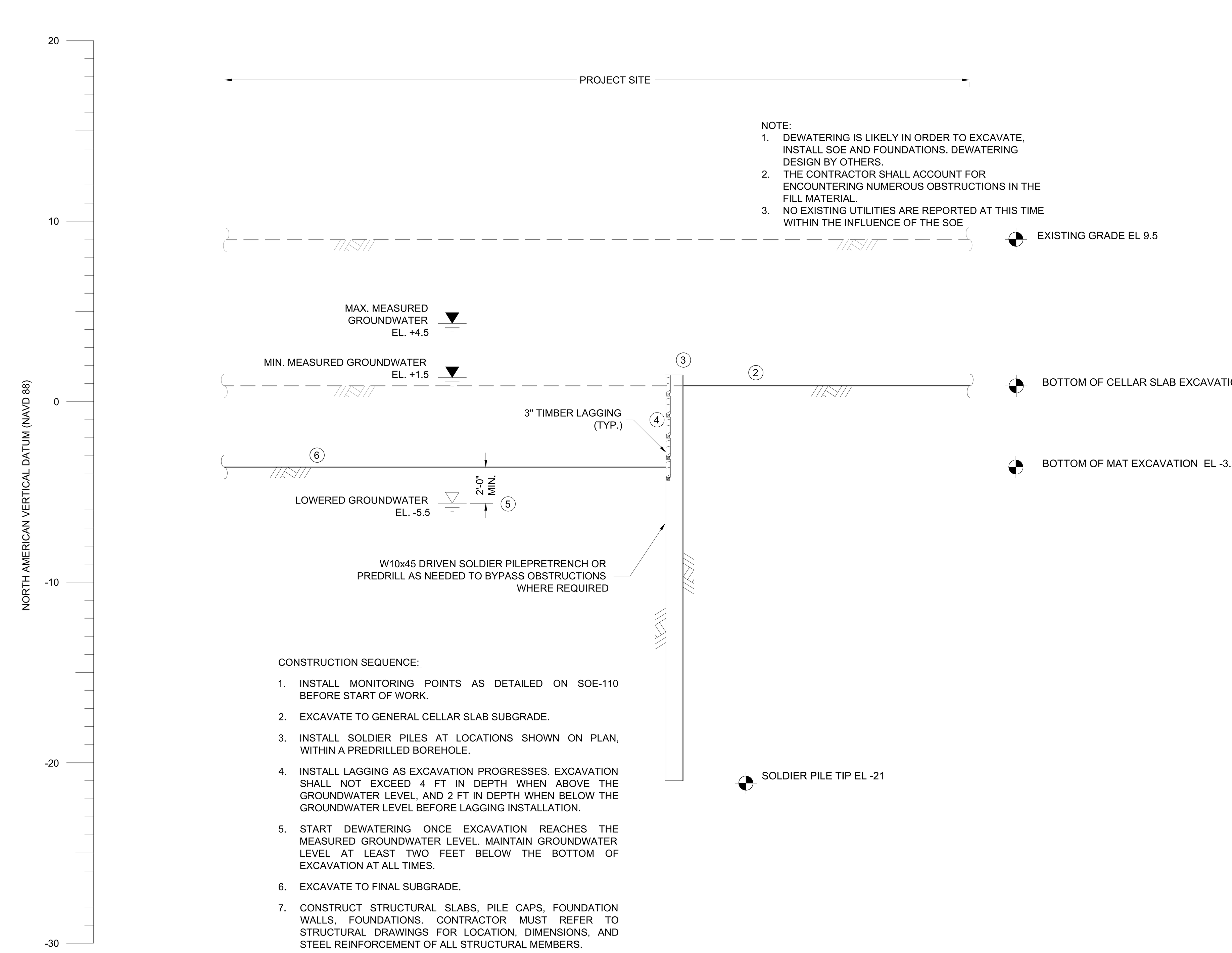
6 SECTION - FACING EAST
Scale: 1/4" = 1'-0"



NOTE:
1. DEWATERING IS LIKELY IN ORDER TO EXCAVATE, INSTALL SOE AND FOUNDATIONS. DEWATERING DESIGN BY OTHERS.
2. THE CONTRACTOR SHALL ACCOUNT FOR ENCOUNTERING NUMEROUS OBSTRUCTIONS IN THE FILL MATERIAL.
3. NO EXISTING UTILITIES ARE REPORTED AT THIS TIME WITHIN THE INFLUENCE OF THE SOE

CONSTRUCTION SEQUENCE:
1. INSTALL MONITORING POINTS AS DETAILED ON SOE-110 BEFORE START OF WORK.
2. INSTALL SOLDIER PILES AT LOCATIONS SHOWN ON PLAN, WITHIN A PREDRILLED BOREHOLE.
3. INSTALL LAGGING AS EXCAVATION PROGRESSES. EXCAVATION SHALL NOT EXCEED 4 FT IN DEPTH WHEN ABOVE THE GROUNDWATER LEVEL, AND 2 FT IN DEPTH WHEN BELOW THE GROUNDWATER LEVEL BEFORE LAGGING INSTALLATION.
4. START DEWATERING ONCE EXCAVATION REACHES THE MEASURED GROUNDWATER LEVEL. MAINTAIN GROUNDWATER LEVEL AT LEAST TWO FEET BELOW THE BOTTOM OF EXCAVATION AT ALL TIMES.
5. EXCAVATE TO FINAL SUBGRADE.
6. CONSTRUCT STRUCTURAL SLABS, PILE CAPS, FOUNDATION WALLS, FOUNDATIONS. CONTRACTOR MUST REFER TO STRUCTURAL DRAWINGS FOR LOCATION, DIMENSIONS, AND STEEL REINFORCEMENT OF ALL STRUCTURAL MEMBERS.
7. BACKFILL THE AREA BETWEEN THE FOUNDATION WALL AND SOLDIER PILES.
8. INSTALL CONED VAULTS.

7 SECTION - FACING SOUTH
Scale: 1/4" = 1'-0"



NOTE:
1. DEWATERING IS LIKELY IN ORDER TO EXCAVATE, INSTALL SOE AND FOUNDATIONS. DEWATERING DESIGN BY OTHERS.
2. THE CONTRACTOR SHALL ACCOUNT FOR ENCOUNTERING NUMEROUS OBSTRUCTIONS IN THE FILL MATERIAL.
3. NO EXISTING UTILITIES ARE REPORTED AT THIS TIME WITHIN THE INFLUENCE OF THE SOE

CONSTRUCTION SEQUENCE:
1. INSTALL MONITORING POINTS AS DETAILED ON SOE-110 BEFORE START OF WORK.
2. EXCAVATE TO GENERAL CELLAR SLAB SUBGRADE.
3. INSTALL SOLDIER PILES AT LOCATIONS SHOWN ON PLAN, WITHIN A PREDRILLED BOREHOLE.
4. INSTALL LAGGING AS EXCAVATION PROGRESSES. EXCAVATION SHALL NOT EXCEED 4 FT IN DEPTH WHEN ABOVE THE GROUNDWATER LEVEL, AND 2 FT IN DEPTH WHEN BELOW THE GROUNDWATER LEVEL BEFORE LAGGING INSTALLATION.
5. START DEWATERING ONCE EXCAVATION REACHES THE MEASURED GROUNDWATER LEVEL. MAINTAIN GROUNDWATER LEVEL AT LEAST TWO FEET BELOW THE BOTTOM OF EXCAVATION AT ALL TIMES.
6. EXCAVATE TO FINAL SUBGRADE.
7. CONSTRUCT STRUCTURAL SLABS, PILE CAPS, FOUNDATION WALLS, FOUNDATIONS. CONTRACTOR MUST REFER TO STRUCTURAL DRAWINGS FOR LOCATION, DIMENSIONS, AND STEEL REINFORCEMENT OF ALL STRUCTURAL MEMBERS.
8. BACKFILL THE AREA BETWEEN THE FOUNDATION WALL AND SOLDIER PILES.

8 SECTION - FACING WEST
Scale: 1/4" = 1'-0"

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BASEPOINT

COOKFOX

470 KENT II

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152 WEST 57TH ST, 45TH FLOOR
NEW YORK, NY 10019
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COOKFOX ARCHITECTS, DPC — ARCHITECT
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LANGAN — CIVIL ENGINEER
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NEW YORK, NY 10001
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SOCOTEC — ENERGY & ENVELOPE CONSULTANT
151 WEST 42ND ST,
NEW YORK, NY 10036
T: 212.689.5389

VAN DEUSEN & ASSOCIATES — ELEVATOR CONSULTANT
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EAST HANOVER, NJ 07936
T: 973.994.9220

FUTURE GREEN STUDIO — LANDSCAPE ARCHITECT
18 BAY STREET,
BROOKLYN, NY 11231
T: 347.518.1694

ISSUES:

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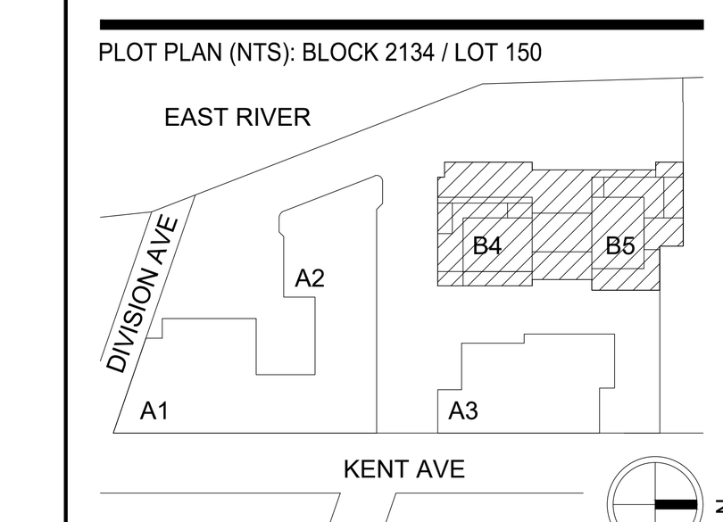
PLOT PLAN (NTS): BLOCK 2134 / LOT 150



PROJECT:
470 KENT II
BROOKLYN, NY 11249

DRAWING TITLE:
SUPPORT OF EXCAVATION SECTIONS

DOB NOW Job # B00975270-I1

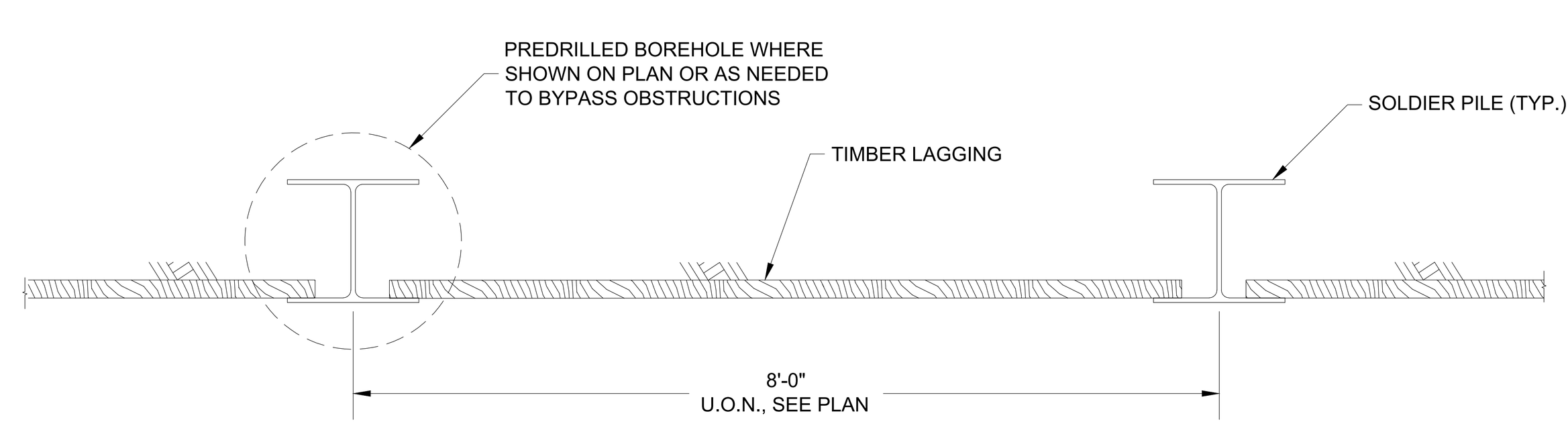
SEAL

PROJ NO: 4302
SCALE: 1/4" = 1'-0"
SHEET SIZE: 48"x36"
DWG NO:
SOE-302.00

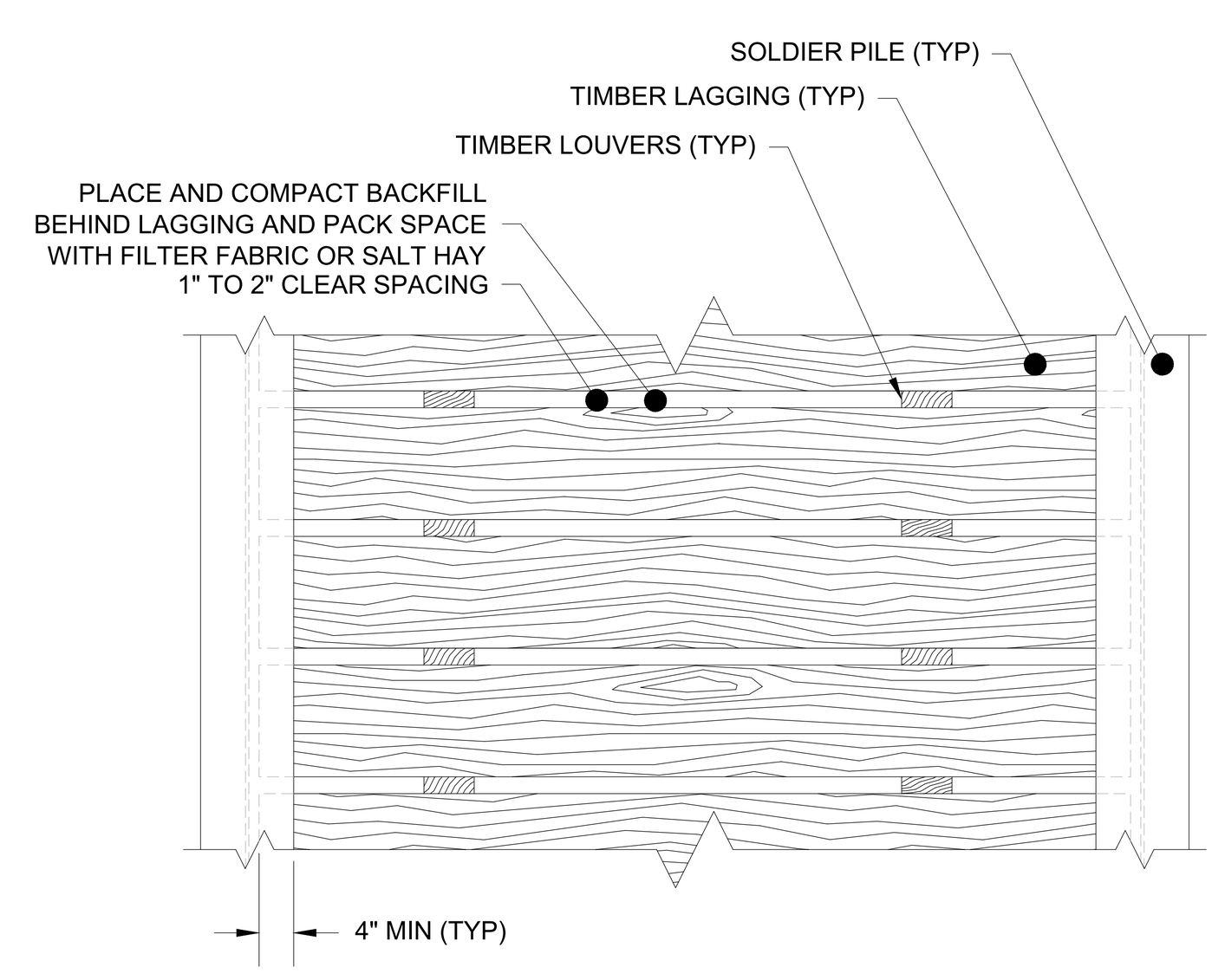
B SCAN STICKER

PROGRESS PRINT - NOT FOR CONSTRUCTION

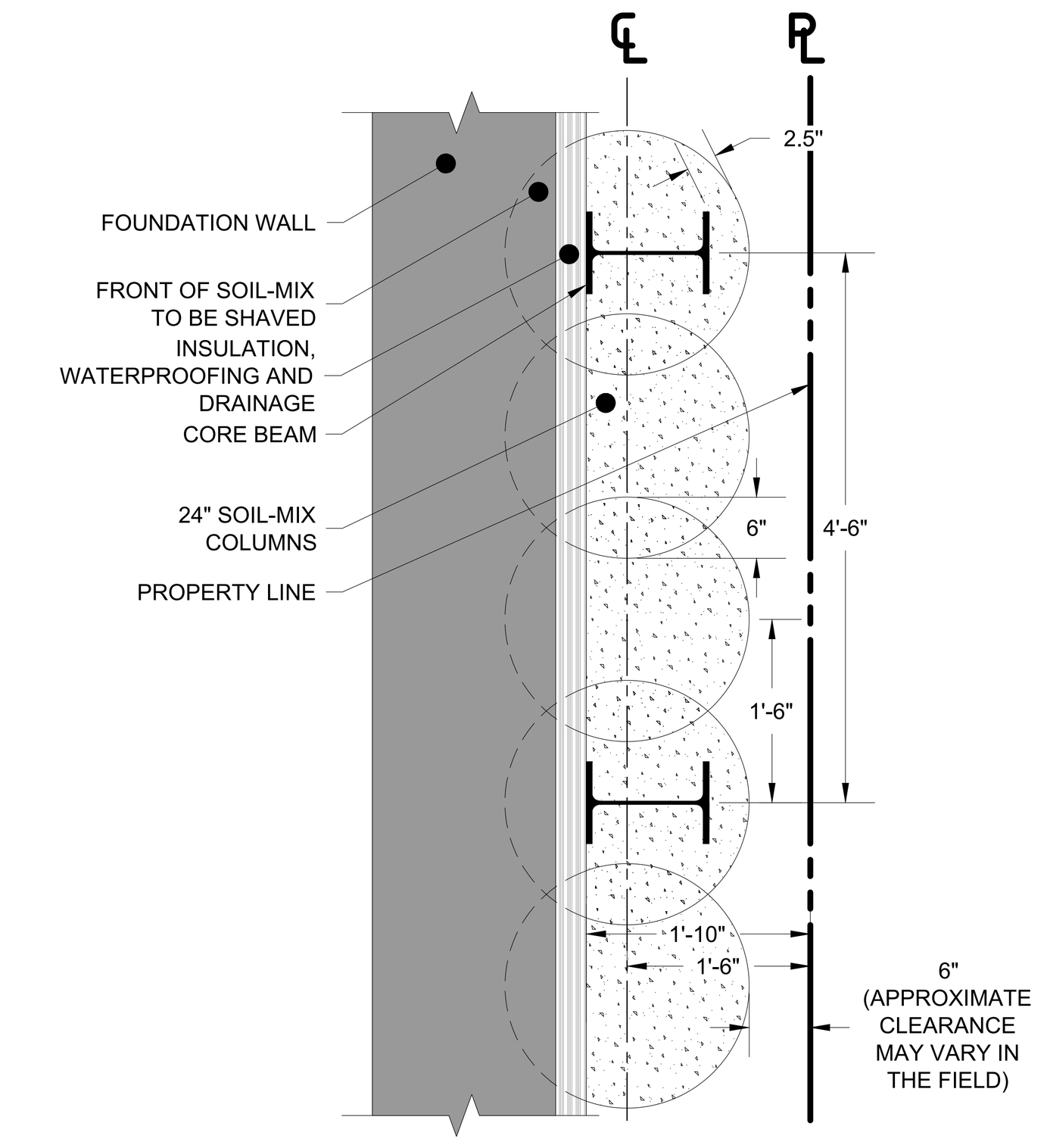
Arjana Hereni
APPROVED
Date: 05/22/2024



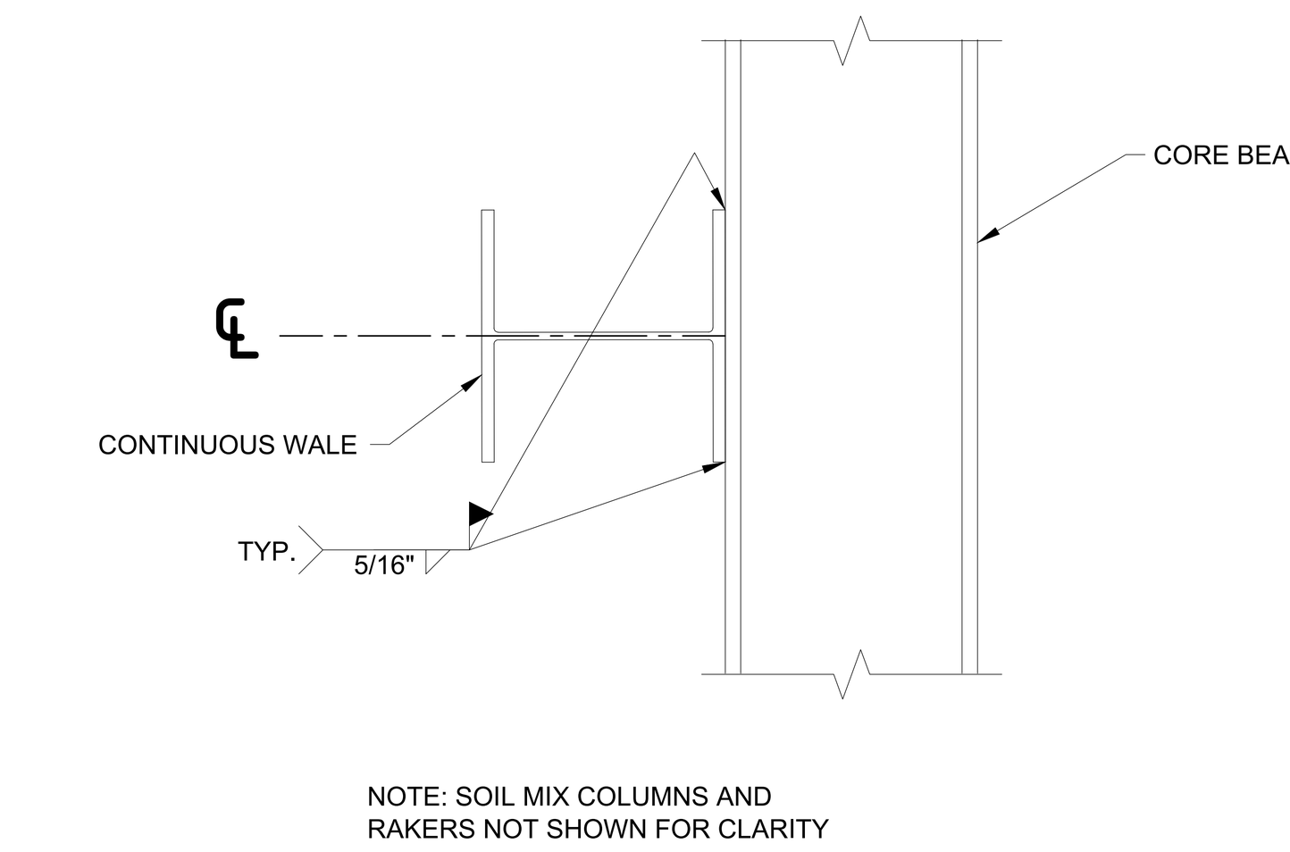
1 SOE-501 TYPICAL SOLDIER PILE DETAILS - PLAN
SCALE: NTS



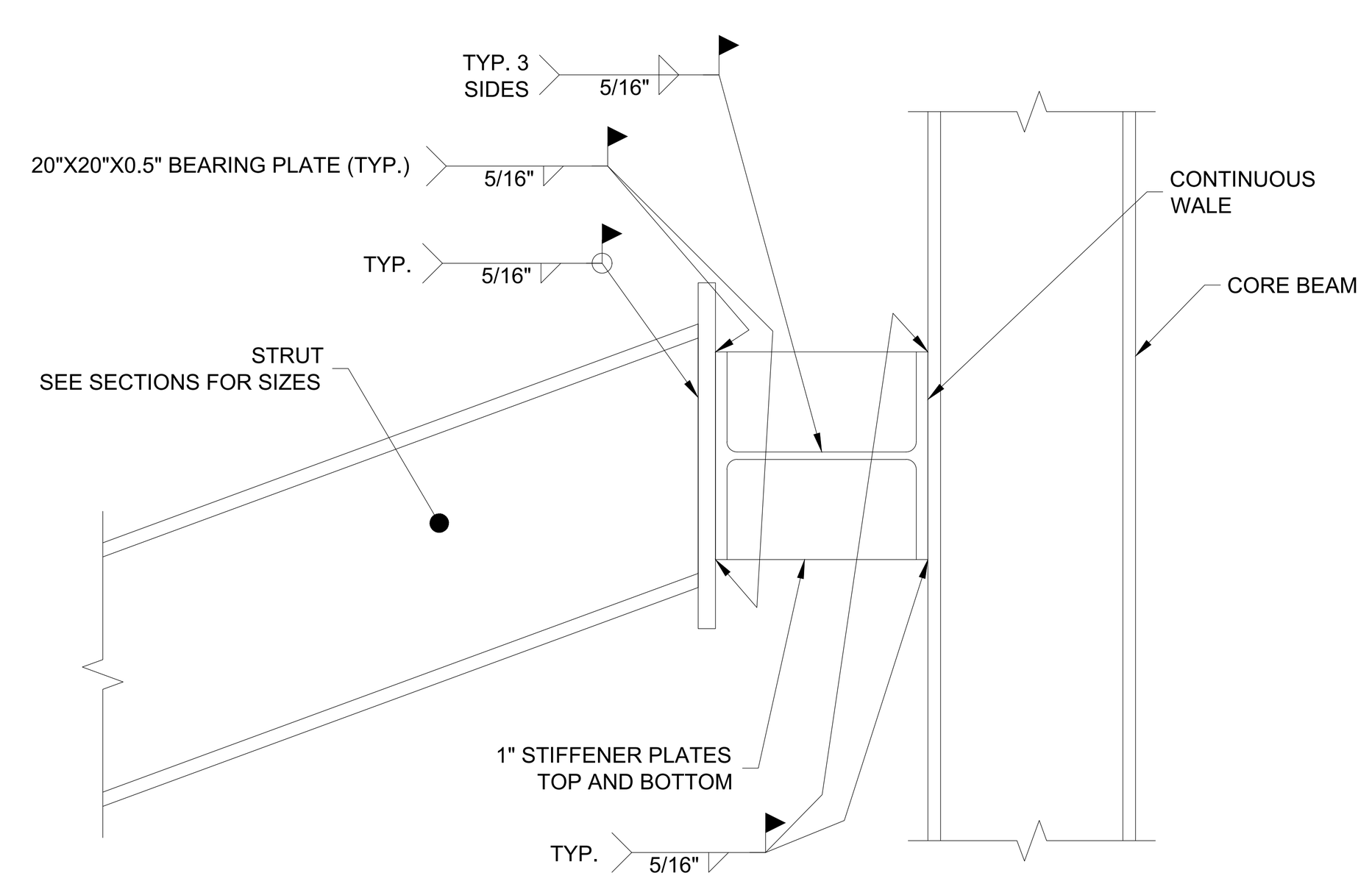
2 SOE-501 TYPICAL LAGGING INSTALLATION BETWEEN SOLDIER PILES
SCALE: NTS



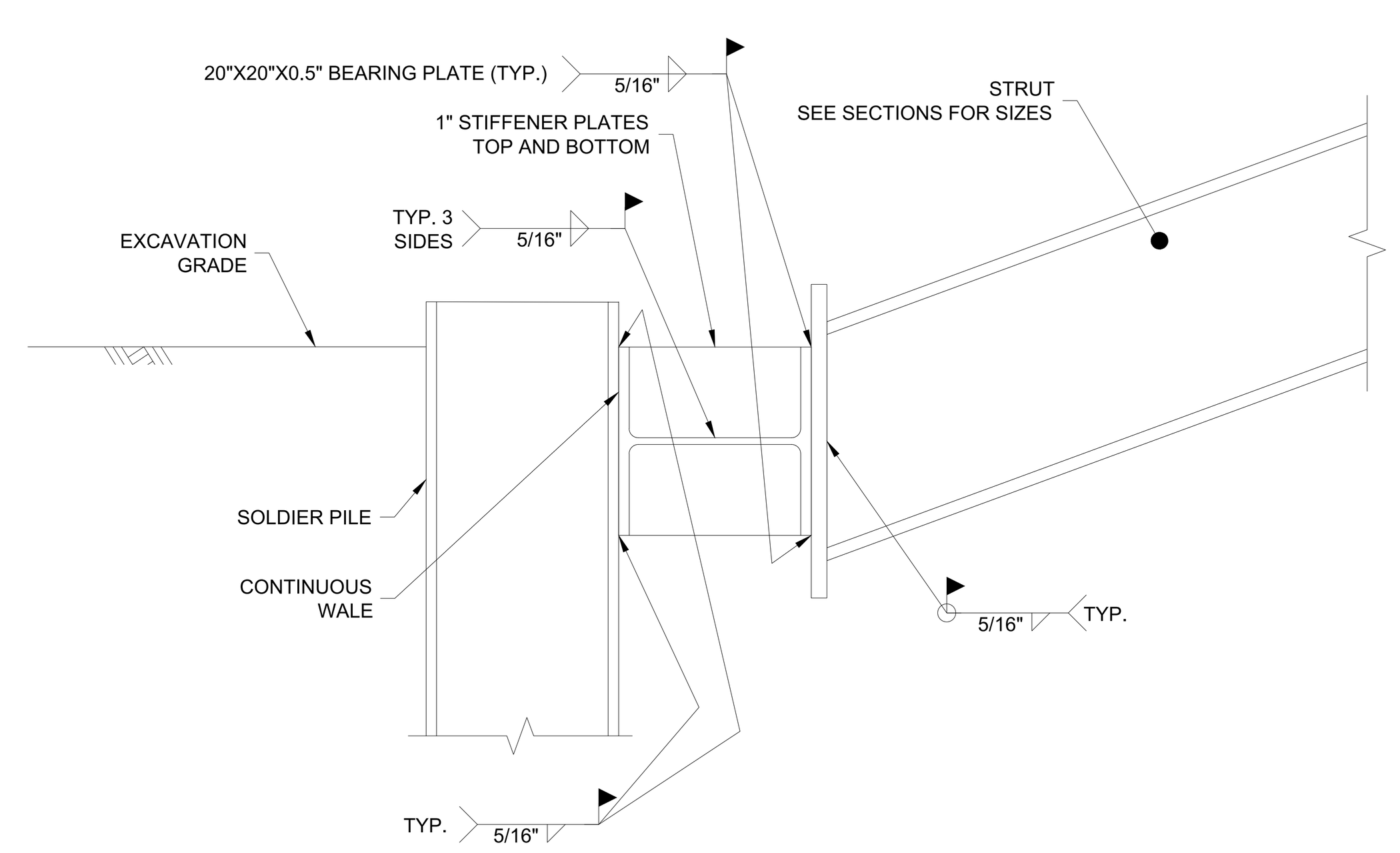
3 SOE-501 TYPICAL SOIL-MIX WALL - PLAN
SCALE: NTS



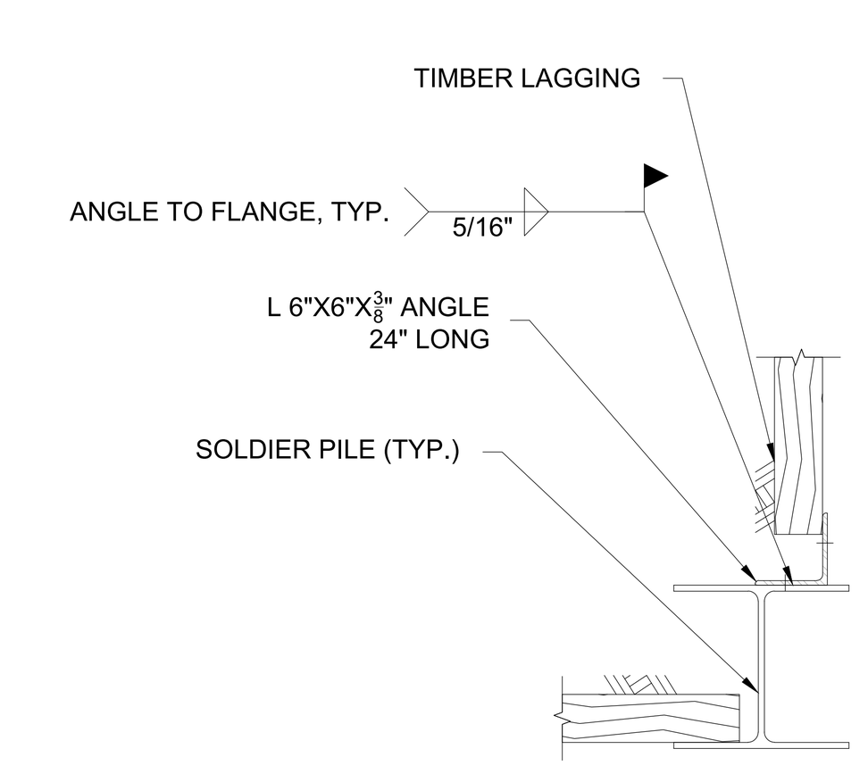
4 SOE-501 WALE-SOIL-MIX WALL CONNECTION
SCALE: N.T.S.



5 SOE-501 STRUT-WALE-CORE BEAM CONNECTION
SCALE: N.T.S.



6 SOE-501 STRUT-WALE-SOLDIER PILE CONNECTION
SCALE: N.T.S.



7 SOE-501 CONNECTION DETAIL-CORNER SOLDIER PILES
SCALE: N.T.S.

COOKFOX

470 KENT II

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ISSUES:

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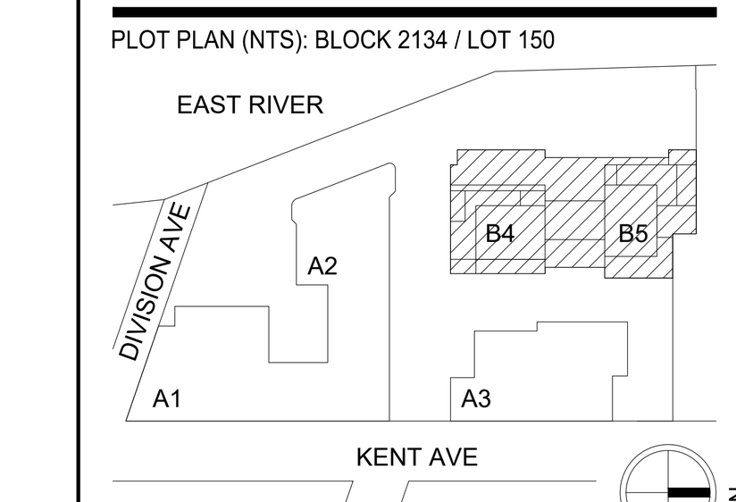
PLOT PLAN (NTS): BLOCK 2134 / LOT 150



PROJECT:
470 KENT II
BROOKLYN, NY 11249

DRAWING TITLE:
SUPPORT OF EXCAVATION SECTIONS

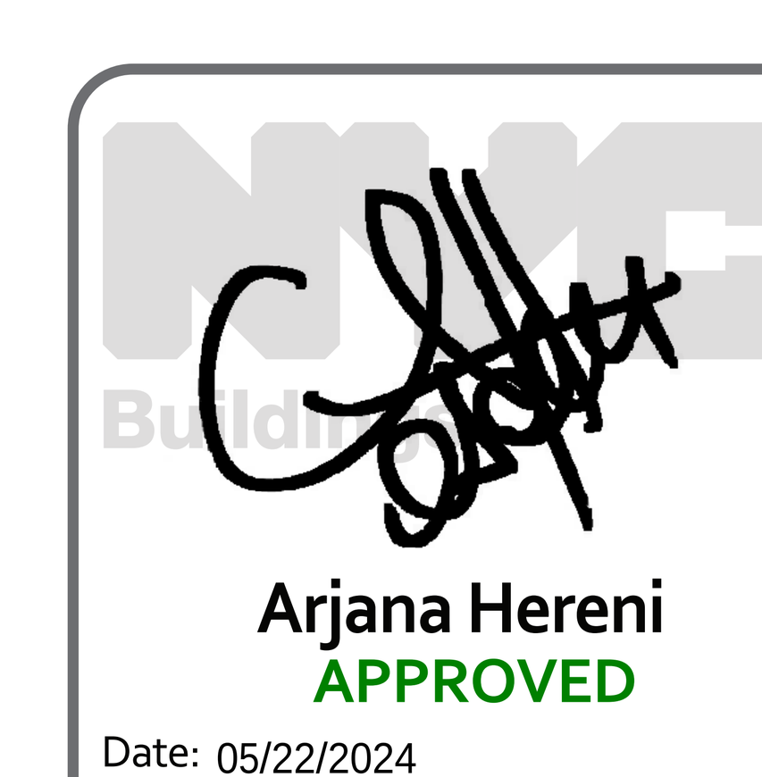
DOB NOW Job # B00975270-S3

SEAL

PROJ NO: 4302
SCALE: 1/4" = 1'-0"
SHEET SIZE: 48"x36"
DWG NO: SOE-302.00

B SCAN STICKER

PROGRESS PRINT - NOT FOR CONSTRUCTION



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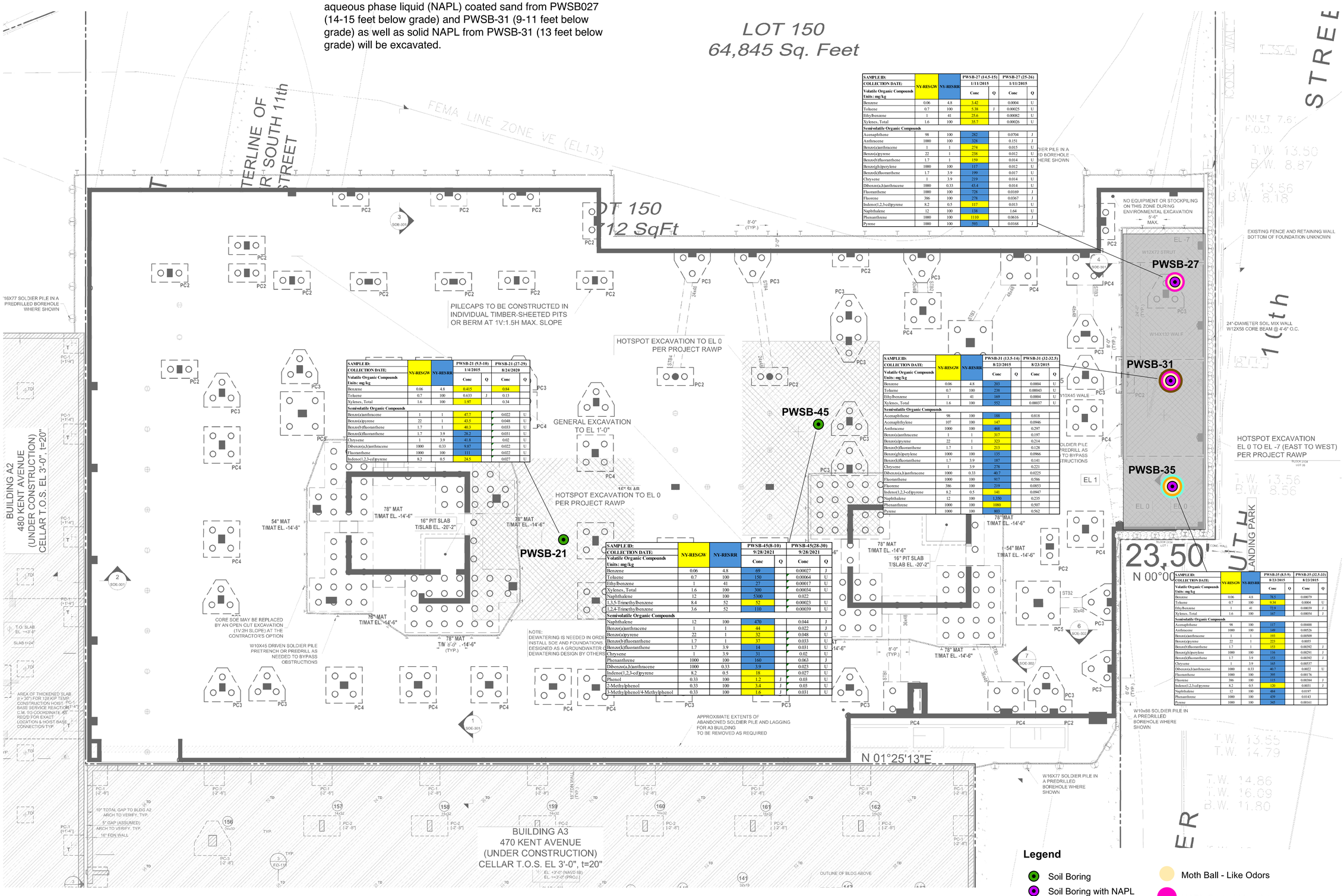
BASEPOINT

Attachment 2: Remedial Design Drawings

470 KENT AVENUE

In addition to excavation based on soil concentrations, non-aqueous phase liquid (NAPL) coated sand from PWSB027 (14-15 feet below grade) and PWSB-31 (9-11 feet below grade) as well as solid NAPL from PWSB-31 (13 feet below grade) will be excavated.



SAMPLE ID:	NY-RSGW	NY-RESRR	PWSB-21 (9.5-10)		PWSB-21 (27-29)	
COLLECTION DATE:			1/4/2015		8/24/2020	
Volatile Organic Compounds Units: mg/kg			Conc	Q	Conc	Q
Benzene	0.06	4.8	0.415		0.84	
Toluene	0.7	100	0.633	J	0.13	
Xylenes, Total	1.6	100	1.97		0.34	
Semivolatile Organic Compounds						
Benzo(a)anthracene	1	1	47.7		0.022	U
Benzo(a)pyrene	22	1	43.5		0.048	U
Benzo(b)fluoranthene	1.7	1	40.3		0.033	U
Benzo(k)fluoranthene	1.7	3.9	28.2		0.031	U
Chrysene	1	3.9	41.8		0.02	U
Dibenzo(a,h)anthracene	1000	0.33	9.87		0.022	U
Fluoranthene	1000	100	111		0.022	U
Indeno(1,2,3-cd)pyrene	8.2	0.5	24.5		0.027	U

SAMPLE ID:	NY-RSGW	NY-RESRR	PWSB-27 (14.5-15)		PWSB-27 (25-26)	
COLLECTION DATE:			1/11/2015		1/11/2015	
Volatile Organic Compounds Units: mg/kg			Conc	Q	Conc	Q
Benzene	0.06	4.8	3.42		0.0004	U
Toluene	0.7	100	5.38	J	0.00025	U
Ethylbenzene	1	41	25.6		0.00082	U
Xylenes, Total	1.6	100	35.7		0.00026	U
Semivolatile Organic Compounds						
Acenaphthene	98	100	282		0.0704	J
Anthracene	1000	100	326		0.151	J
Benzo(a)anthracene	1	1	274		0.015	U
Benzo(a)pyrene	22	1	238		0.012	U
Benzo(b)fluoranthene	1.7	1	159		0.014	U
Benzo(ghi)perylene	1000	100	117		0.012	U
Benzo(k)fluoranthene	1.7	3.9	199		0.017	U
Chrysene	1	3.9	219		0.014	U
Dibenzo(a,h)anthracene	1000	0.33	43.4		0.014	U
Fluoranthene	1000	100	728		0.0169	J
Fluorene	386	100	275		0.0367	J
Indeno(1,2,3-cd)pyrene	8.2	0.5	117		0.013	U
Naphthalene	12	100	138		1.64	U
Phenanthrene	1000	100	1110		0.0616	J
Pyrene	1000	100	593		0.0168	J

SAMPLE ID:	NY-RSGW	NY-RESRR	PWSB-31 (13.5-14)		PWSB-31 (32-32.5)	
COLLECTION DATE:			8/23/2015		8/23/2015	
Volatile Organic Compounds Units: mg/kg			Conc	Q	Conc	Q
Benzene	0.06	4.8	203		0.0004	U
Toluene	0.7	100	238		0.00043	U
Ethylbenzene	1	41	169		0.0004	U
Xylenes, Total	1.6	100	552		0.00037	U
Semivolatile Organic Compounds						
Acenaphthene	98	100	188		0.818	
Acenaphthylene	107	100	147		0.0946	
Anthracene	1000	100	468		0.297	
Benzo(a)anthracene	1	1	317		0.197	
Benzo(a)pyrene	22	1	323		0.214	
Benzo(b)fluoranthene	1.7	1	213		0.128	
Benzo(ghi)perylene	1000	100	135		0.0966	
Benzo(k)fluoranthene	1.7	3.9	187		0.141	
Chrysene	1	3.9	278		0.221	
Dibenzo(a,h)anthracene	1000	0.33	40.7		0.0225	
Fluoranthene	1000	100	917		0.586	
Fluorene	386	100	219		0.0853	
Indeno(1,2,3-cd)pyrene	8.2	0.5	141		0.0947	
Naphthalene	12	100	1350		0.235	
Phenanthrene	1000	100	1080		0.507	
Pyrene	1000	100	801		0.562	

SAMPLE ID:	NY-RSGW	NY-RESRR	PWSB-45(8-10)		PWSB-45(28-30)	
COLLECTION DATE:			9/28/2021		9/28/2021	
Volatile Organic Compounds Units: mg/kg			Conc	Q	Conc	Q
Benzene	0.06	4.8	69		0.00027	J
Toluene	0.7	100	150		0.00064	U
Ethylbenzene	1	41	27		0.00017	U
Xylenes, Total	1.6	100	300		0.00034	U
Naphthalene	12	100	5300		0.022	
1,3,5-Trimethylbenzene	8.4	52	52		0.00023	U
1,2,4-Trimethylbenzene	3.6	52	110		0.00039	U
Semivolatile Organic Compounds						
Naphthalene	12	100	470		0.044	J
Benzo(a)anthracene	1	1	44		0.022	J
Benzo(a)pyrene	22	1	32		0.048	U
Benzo(b)fluoranthene	1.7	1	37		0.033	U
Benzo(k)fluoranthene	1.7	3.9	14		0.031	U
Chrysene	1	3.9	31		0.02	U
Phenanthrene	1000	100	160		0.063	J
Dibenzo(a,h)anthracene	1000	0.33	3.9		0.023	U
Indeno(1,2,3-cd)pyrene	8.2	0.5	18		0.027	U
Phenol	0.33	100	1.2	J	0.03	U
2-Methylphenol	0.33	100	3.4	J	0.03	U
3-Methylphenol/4-Methylphenol	0.33	100	1.6	J	0.031	U

SAMPLE ID:	NY-RSGW	NY-RESRR	PWSB-35 (8.5-9)		PWSB-35 (32.5-33)	
COLLECTION DATE:			8/23/2015		8/23/2015	
Volatile Organic Compounds Units: mg/kg			Conc	Q	Conc	Q
Benzene	0.06	4.8	7.63		0.00079	
Toluene	0.7	100	9.34		0.0004	U
Ethylbenzene	1	41	72.9		0.00039	J
Xylenes, Total	1.6	100	167		0.00054	J
Semivolatile Organic Compounds						
Acenaphthene	98	100	117		0.00488	
Anthracene	1000	100	149		0.00526	
Benzo(a)anthracene	1	1	193		0.00509	
Benzo(a)pyrene	22	1	223		0.0055	
Benzo(b)fluoranthene	1.7	1	153		0.00392	J
Benzo(ghi)perylene	1000	100	116		0.00291	J
Benzo(k)fluoranthene	1.7	3.9	153		0.00392	J
Chrysene	1	3.9	165		0.00537	
Dibenzo(a,h)anthracene	1000	0.33	40.7		0.0022	U
Fluoranthene	1000	100	395		0.00176	
Fluorene	386	100	135		0.00384	J
Indeno(1,2,3-cd)pyrene	8.2	0.5	120		0.0031	J
Naphthalene	12	100	484		0.0197	
Phenanthrene	1000	100	439		0.0143	
Pyrene	1000	100	345		0.00161	

A SUPPORT OF EXCAVATION PLAN
Scale: 1/8" = 1'-0"

Notes:
NY-RESGW: New York NYCRR Part 375 Groundwater Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
NY-RESRR: New York NYCRR Part 375 Restricted-Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
Cells highlighted in yellow indicate a concentration above the NY-RESGW
Cells highlighted in blue indicate a concentration above the NY-RESRR
Q = Laboratory Data Qualifier
MDL = Maximum Detection Limit
For U qualified entries, the MDL is shown
U = Not detected at or above the MDL
J = The concentration is estimated
All results and MDLs are shown in milligrams per kilogram (mg/kg)

Legend

- Soil Boring
- Soil Boring with NAPL
- Remedial Excavation to 9 to 15 ft-bg (east to west)
- Moth Ball - Like Odors
- NAPL Coated Material
- NAPL Blebs and Sheen
- Solid NAPL
- Petroleum Odors

Reference: COOKFOX, 470 Kent II, Brooklyn, NY, Support of Excavation Plan, SOE-101.00, 3/26/2024

No.	Description	Date
1	per NYSDEC Comments	Date

TENEN ENVIRONMENTAL
Tenen Environmental, LLC
121 West 27th Street, Suite 702
New York, NY 10001
646-606-2332

470 Kent Avenue
Brooklyn, New York
Block 2134, Lots 1 & 150

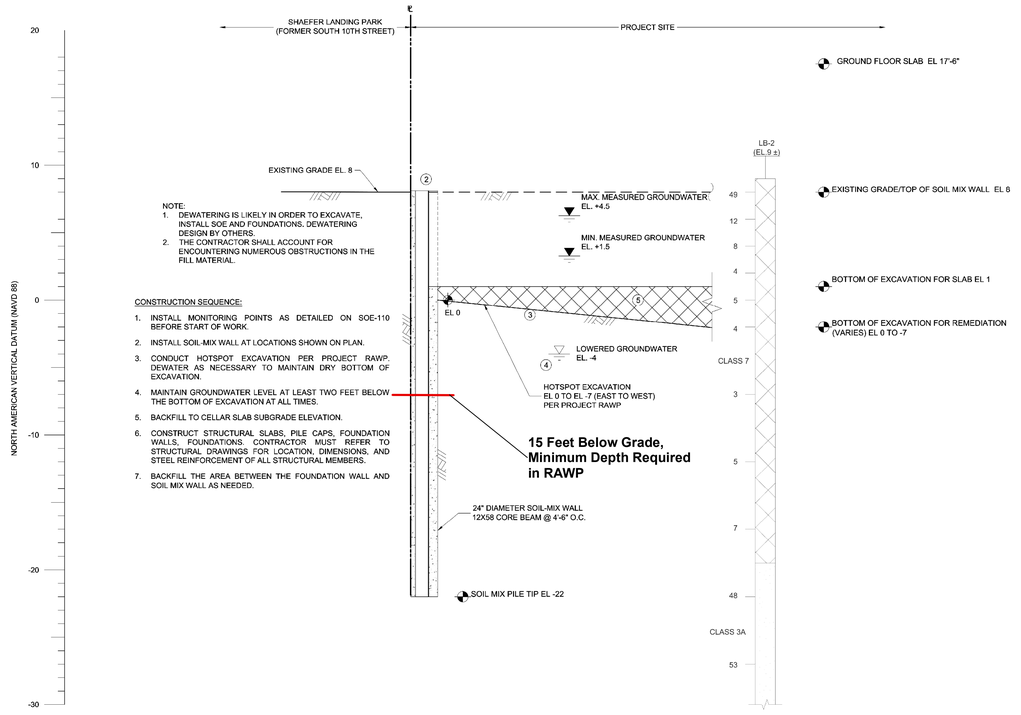
DRAWING TITLE:

SECANT PILE DESIGN, PLAN VIEW

PE Seal

Date	10/2/2024
Scale	1"=8'
Drawn By	LM
Checked By	MC

Figure 1



SECTION - FACING SOUTH

Scale: 1/4" = 1'-0"

Reference: COOKFOX, 470 Kent II, Brooklyn, NY, Support of Excavation Sections, SOE-302.00, 3/26/2024

470 KENT AVENUE

No.	Description	Date

TENEN ENVIRONMENTAL

Tenen Environmental, LLC
121 West 27th Street, Suite 702
New York, NY 10001
646-606-2332

470 Kent Avenue
Brooklyn, New York
Block 2134, Lots 1 & 150

DRAWING TITLE:

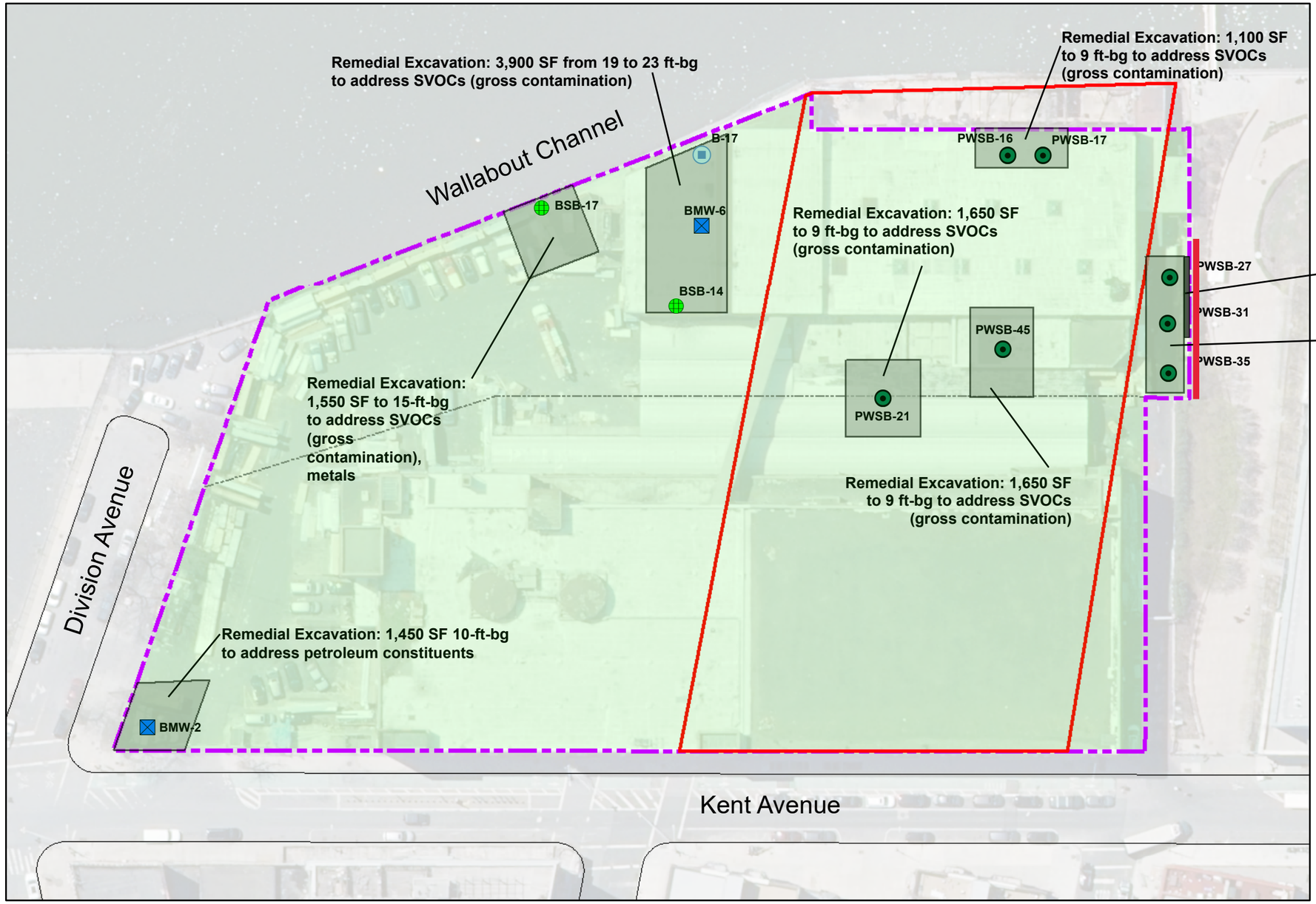
SECANT PILE DESIGN, SECTION VIEW

PE Seal

Date	10/2/2024
Scale	1"=4'
Drawn By	LM
Checked By	MC

Figure 2

Attachment 3: Referenced RAWP Figures



Secant Pile Wall to 15 ft-bg to Prevent NAPL Recontamination

Remedial Excavation: 1,600 SF to 9 to 15 ft-bg (east to west) to address SVOCs (gross contamination and NAPL)

Remedial Excavation: 2 ft-bg across the Site

Legend

- Geotechnical Borings
- Southern Soil Boring
- Groundwater Monitoring Well Location
- Northern MGP Boring
- Approximate Former MGP Boundary
- Site Boundary
- Lot Line
- Deep Remedial Excavation

0 30 60 120 Feet

Service Layer Credits: NYS ITS GIS Program Office

470 Kent Avenue
Brooklyn, New York
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Site

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F: (646) 606-2379

Drawn By	Checked By	Date	Scale
LM	MC	May 2023	As Noted

Drawing Title: **Extent of Remedial Excavation**

Drawing No: **Figure 8**