21 June 2021

Mr. Javier Perez-Maldonado
Project Manager
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Re: Interim Remedial Measures Work Plan – Addendum 1
23-30 Borden Avenue
Queens, New York
Langan Project No.: 100766601
NYSDEC BCP Site No. C241238

Dear Mr. Perez-Maldonado:

Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. (Langan) has prepared this addendum, on behalf of 23-30 Borden Owner LLC, to update the 3 April 2020 Interim Remedial Measures (IRM) Work Plan for the 23-30 Borden Avenue Development site located at 23-30 Borden Avenue in Queens, New York (the site). The IRM Work Plan (IRMWP) was approved by NYSDEC on 6 April 2020. The IRMWP approval letter is included as Attachment A.

The 3 April 2020 IRM Work Plan included the demolition of the former two-story warehouse building including the concrete building slab, selected concrete pile caps, and foundation timber pile elements. Slab demolition was completed in March 2021; however, demolition of pile caps and timber piles will be completed in conjunction with the tasks discussed herein. While the final Remedial Action Work Plan (RAWP) is being prepared and issued for public comment, 23-30 Borden Owner LLC plans to initiate early foundation construction activities across the Site. A description of the additional interim remedial measures is provided below. These activities will be conducted according to the methodologies and protocols outlined in the IRMWP, including the Construction Health and Safety Plan (CHASP) and Community Air Monitoring Program (CAMP) and Quality Assurance Project Plan (QAPP) provided in RIWP Appendices B and C, respectively. The Contractor will maintain soil erosion control and sediment control measures prior to and during work operations described herein in accordance with State and Local regulations and a NYSDEC approved Storm Water Pollution Prevention Plan (SWPPP) (Reference No. NYR11H122). The Contractor will ensure that all necessary permits are obtained prior to the commencement of any of the tasks discussed below.

Site Preparation

Site preparation will be completed by the Contractor and will include, but not be limited to, the establishment of work zones, mobilization of support facilities, construction of decontamination facilities including stone truck tracking pads, and implementation of site security measures (i.e., erection of security fencing around the Site and staging areas).

Testing of Existing Timber Piles

Up to approximately 30 timber piles historically installed for support of the former building will be evaluated for reuse and support of the proposed development. Timber piles will be exposed as part of the approved IRMWP pile demolition scope. Limited additional excavation will be required to expose the top several feet of each pile to visually assess the condition of each pile. Dynamic and/or static load testing will be completed on the exposed piles to assess the potential performance at each location. Geophysical testing, which would include drilling adjacent to a timber pile to assess pile length and conditions, may also be completed at several pile locations. Timber piles are located throughout the Site footprint and are shown on the foundation drawings provided in Attachment B. Soil disturbed during the testing of timber piles will be managed in accordance with the soils/materials management procedures detailed in Section 2.5 of the IRMWP.

Installation and Testing of Index Piles

The foundation of the future building will serve as part of the final remedy as an element of the site-wide cover system described in the May 2021 draft RAWP. Prior to Site work for the construction of foundation elements, up to approximately 30 index piles will be drilled and/or driven into the ground and load tested to confirm pile performance. Index pile locations will be selected from the pile locations shown on the foundation drawings provided in Attachment B. Soil disturbed during index pile installation and testing will be managed in accordance with the soils/materials management procedures detailed in Section 2.5 of the approved IRMWP.

Exploratory Test Pits and Excavation and Installation of Temporary Electrical Service

A series of shallow test pits and temporary trenching will be completed to assess subsurface conditions in future construction areas and to install temporary electrical service in the northern portion of the Site. Excavation during the IRM will not be completed in hotspots identified during the Remedial Investigation and proposed for excavation and offsite disposal in the draft RAWP. Excavation and off-site disposal of these hotspots and subsequent endpoint soil sample collection will be implemented under the forthcoming RAWP. Soil disturbed during test pits and trenching will be managed in accordance with the soils/materials management procedures detailed in Section 2.5 of the IRMWP.

Installation of Support-of-Excavation (SOE)

Three SOE systems consisting of bermed soil sloping, drilled soil mixing, and sheet piles will be installed as part of the IRM for the construction of pile caps, elevator pits, and other deep foundation elements in the north-central and northwestern portions of the Site. Support of excavation drawings are provided in Attachment C. Soil disturbed during SOE installation will be managed in accordance with the soils/materials management procedures detailed in Section 2.5 of the IRMWP.

Documentation of the additional interim remedial measures described above will be included in the Construction Completion Report in accordance with the IRMWP.

Should you have questions regarding this IRM Work Plan Addendum, please contact Langan.

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

Christopher McMahon, CHMM
Associate

Satyajit A. Vaidya, P.E.
Principal

CM:kn
Attachments: Attachment A – 3 April 2020 IRM Work Plan NYSDEC Approval Letter
Attachment B – Foundation Drawings
Attachment C – SOE Drawings

cc: Amanda Forsburg, Allyson Kritzer - Langan

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ATTACHMENT A

3 April 2020 IRM Work Plan NYSDEC Approval Letter

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau B
625 Broadway, 12th Floor, Albany, NY 12233-7016
P: (518) 402-9767 I F: (518) 402-9773
www.dec.ny.gov

April 6, 2020

23-30 Borden Owner LLC
c/o Innovo Property Group
1370 6th Avenue, 19th Floor
New York, New York 10019
Attention: Andrew Chung

Re: Interim Remedial Measures Work Plan
23-30 Borden Avenue Development
Site ID No. C241238
Long Island City, Queens County

Dear Mr. Chung:

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has reviewed the Interim Remedial Measure (IRM) Work Plan dated April 3, 2020 for the above referenced site. The IRM work plan is hereby approved.

As required by the Citizen Participation Plan, please ensure that a copy of the approved work plan (with this letter) is placed in all document repositories. All draft versions should be removed.

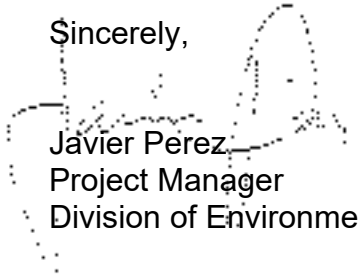
Please note that during the implementation of all the activities identified in the approved IRM work plan, the Volunteer consultant, LANGAN, should have on-site a full-time representative who is qualified to supervise the work done. LANGAN should notify the NYSDEC of any significant difficulties that may be encountered in implementing the approved work plan and should not modify the work plan unless first approved by the NYSDEC.

The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under the IRM work plan. In particular, the Volunteer and its contractor are responsible for the structural integrity of excavations, and protection of the

structural integrity of buildings, utilities, and other structures both onsite and offsite that may be adversely affected by those excavations. The Volunteer and its contractors must obtain any local, state or federal permits or approvals that may be required to perform work under the work plan. Furthermore, the Volunteer and its contractors are responsible for the implementation of all required, appropriate, or necessary health and safety measures during performance of work under the approved work plan.

Finally notify me at least one week prior to the start of field activities. Should you have any questions regarding this communication don't hesitate to contact me.

Sincerely,



Javier Perez
Project Manager
Division of Environmental Remediation

Ec: J. Grathwol
J. O'Connell
P. Foster
D. Tucholski
W. Kuehner
S. McLaughlin
S. Kim
A. Kritzer
C. McMahon
S. Ciambruschini
K. Nespolini

ATTACHMENT B

Foundation Drawings

LANGAN

THE LINE SHOWN AT LEFT IS EXACTLY ONE INCH LONG AT THIS SHEETS ORIGINAL PAGE SIZE

FOUNDATION GENERAL NOTES:

I - CODES

1. 2014 NYC CONSTRUCTION CODES (NYCBC).
2. AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS - AISC 360-05. AS MODIFIED BY REFERENCE STANDARDS SECTION 3502 OF THE N.Y.C. BUILDING CODE, 13TH EDITION.
3. AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" ACI 318-11 ("ACI") AS MODIFIED BY REFERENCE STANDARDS SECTION 3502 OF THE N.Y.C. BUILDING CODE.

II - MATERIALS

UNLESS OTHERWISE SHOWN OR NOTED ON DRAWINGS:

1. SHEAR CONNECTIONS:
   3/4" DIAMETER X 6" HEADED STUDS, U.O.N.
2. CAST-IN-PLACE CONCRETE:

FOUNDATIONS & PRESSURE SLABS:	6 KSI NORMAL WT.
SLABS ON GROUND:	5 KSI NORMAL WT.
FORMED SLABS:	8 KSI NORMAL WT.
COLUMNS AND WALLS:	6 KSI NORMAL WT.
ENCASEMENT OF STRUCTURAL STEEL:	5 KSI NORMAL WT.

3. REINFORCEMENT:

DEFORMED BARS:	#5 OR SMALLER: ASTM A615, GRADE 60 #6 OR LARGER: ASTM A615, GRADE 75
WELDED WIRE FABRIC:	ASTM A1064.

III - GENERAL

1. NOTES, TYPICAL DETAILS AND SCHEDULES APPLY TO ALL STRUCTURAL WORK UNLESS OTHERWISE NOTED. FOR CONDITIONS NOT SPECIFICALLY SHOWN, PROVIDE DETAILS OF A SIMILAR NATURE. VERIFY APPLICABILITY BY SUBMITTING SHOP DRAWINGS FOR REVIEW.
2. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS, ARCHITECTURAL AND MECHANICAL DRAWINGS. IF THERE IS A DISCREPANCY BETWEEN DRAWINGS IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER PRIOR TO PERFORMING WORK.
3. DO NOT SCALE DRAWINGS TO OBTAIN DIMENSIONAL INFORMATION.
4. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR WATER/DAMPROOFING AND FIREPROOFING DETAILS AND REQUIREMENTS.
5. DO NOT CUT OR ALTER ANY EXISTING STRUCTURAL MEMBERS WITHOUT WRITTEN AUTHORIZATION OF THE ENGINEER.
6. THESE DRAWINGS DO NOT DEFINE SCOPE OF CONTRACTS. SEE CONSTRUCTION MANAGER'S DOCUMENTS.
7. AT ALL TIMES THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONDITIONS OF THE JOBSITE INCLUDING SAFETY OF PERSONS AND PROPERTY. THE ARCHITECT'S OR ENGINEER'S PRESENCE OR REVIEW OF WORK DOES NOT INCLUDE THE ADEQUACY OF THE CONTRACTOR'S MEANS OR METHODS OF CONSTRUCTION.
8. SHORING, BRACING AND PROTECTION OF EXISTING AND ADJACENT STRUCTURES DURING CONSTRUCTION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. PROTECT AND MAINTAIN THE INTEGRITY OF ADJACENT STREETS, BUILDINGS AND STRUCTURES.
9. ALL EXISTING DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURES SHOWN ON THE DRAWINGS SHALL BE VERIFIED BY FIELD MEASUREMENTS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.
10. DRAWINGS HAVE BEEN PREPARED BASED ON AVAILABLE KNOWLEDGE OF EXISTING CONDITIONS. PRIOR TO PREPARATION OF SHOP DRAWINGS, CONTRACTOR SHALL VERIFY AND/OR DETERMINE SIZE, LOCATION, CONFIGURATION, ETC. OF EXISTING STRUCTURE EVERY PLACE WHERE NEW WORK IS TO ABUT, ATTACH, CLEAR, ETC. NOTIFY ENGINEER IN WRITING OF ANY AND ALL CONDITIONS WHICH DIFFER FROM THOSE SHOWN ON DRAWINGS.
11. REUSE OF SALVAGED MATERIALS IS NOT PERMITTED UNLESS SPECIFICALLY APPROVED BY ENGINEER IN WRITING.

IV - FOUNDATION NOTES

1. FOUNDATION SYSTEM IS A DEEP-TYPE CONSISTING OF DRIVEN OR DRILLED STEEL CLOSED-END PIPE PILES OR DRILLED, ROCK-SOCKETED CAISSONS WITH CAPACTIES NOTED ON DRAWINGS AS PER LANGAN MEMO "SUPPLEMENTAL GEOTECHNICAL INVESTIGATION REPORT" DATED SEPTEMBER 23, 2020.
2. NO BACKFILL SHALL BE PLACED AGAINST FOUNDATION WALLS UNLESS SUPPORTING SLABS ARE IN PLACE AND SET OR THE WALLS ARE ADEQUATELY BRACED.
3. UNDERPINNING OF THE EXISTING ADJACENT FOUNDATIONS MAY BE REQUIRED. ALL ENGINEERING, DESIGNS, AND MEANS AND METHODS OF CONSTRUCTION RELATED TO UNDERPINNING ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. DEWATERING OF THE SITE DURING CONSTRUCTION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR NOT TO UNDERMINE EXISTING FOUNDATIONS. METHOD OF DEWATERING AND CALCULATIONS FOR THE APPROPRIATE SYSTEM ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL FOUNDATIONS ARE TO BE CENTERED ON COLUMNS ABOVE, U.O.N.
6. PROVIDE DOWELS IN FOUNDATIONS FOR ALL WALLS, COLUMNS, AND SHEAR WALLS OF SAME NUMBER AND SIZE AS THE VERTICAL REINFORCEMENT ABOVE, U.O.N.
7. PROVIDE WATERSTOPS IN ALL VERTICAL CONSTRUCTION JOINTS IN BASEMENT WALLS.
8. ALL ROCK AND SOIL BEARING SURFACES SHALL BE INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER IMMEDIATELY PRIOR TO THE POURING OF CONCRETE.
9. SLABS ON GROUND SHALL BE PLACED ON SELECT GRANULAR FILL COMPACTED TO 95 PERCENT MAXIMUM MODIFIED DRY DENSITY PER ASTM D1557. SEE TYPICAL DETAIL.
10. FOUNDATION ELEVATIONS SHOWN ON THE DRAWINGS HAVE BEEN ESTIMATED USING THE GEOTECHNICAL REPORT. ACTUAL ELEVATIONS OF FOUNDATION BOTTOMS WILL BE DETERMINED BY FIELD CONDITIONS.

V - CONCRETE NOTES

1. REINFORCING STEEL SHALL HAVE A MINIMUM CLEAR COVER AS FOLLOWS, U.O.N. IN DRAWINGS:

CONCRETE POURED AGAINST EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER:	
#5 OR SMALLER	1 1/2"
#6 OR LARGER	2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
COLUMNS (MAIN REINFORCING)	2"
COLUMNS (TIES)	1 1/2"
SLABS, WALLS, JOISTS #14 OR #18 BARS	1 1/2"
#11 OR SMALLER	3/4"
BEAMS (STIRRUPS AND MAIN REINF)	1 1/2"

   CLEAR COVER SHALL BE CLEARLY SHOWN ON ALL REBAR DETAIL DRAWINGS.
2. ALL REINFORCEMENT SHALL BE SECURELY HELD IN POSITION WHILE PLACING CONCRETE. IF NECESSARY, ADDITIONAL BARS SHALL BE PROVIDED BY THE CONTRACTOR TO FURNISH SUPPORT.
3. THE CONTRACTOR SHALL VERIFY THE DIMENSIONS AND LOCATIONS OF ALL OPENINGS, PIPE SLEEVES, ETC. AS REQUIRED BY ALL TRADES, BEFORE THE CONCRETE IS POURED. THE CONTRACTOR SHALL CONSULT THE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS, AS WELL AS THE STRUCTURAL DRAWINGS FOR THE LOCATION, NUMBER, AND SIZE OF ALL OPENINGS, SLEEVES, ETC. HOWEVER, OPENINGS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE INSTALLED ONLY AFTER APPROVAL BY THE STRUCTURAL ENGINEER IS OBTAINED.
4. LOCATION OF ALL CONSTRUCTION JOINTS NOT SHOWN IN DRAWINGS SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO DETAILING OF REINFORCING. ALL CONSTRUCTION JOINTS TO BE CLEARLY SHOWN IN REBAR DETAIL DRAWINGS. ENGINEER MAY REQUIRE ADDITIONAL REINFORCING AT CONSTRUCTION JOINTS.
5. DIMENSIONS "Ld" AS NOTED ON DRAWINGS SHALL CORRESPOND TO THE FOLLOWING LENGTHS IN INCHES AS SHOWN IN THE TABLES BELOW.

BEAMS		
BAR SIZE	BOTTOM BARS	OTHER BARS
#3	13	17
#4	17	23
#5	22	28
#6	26	34
#7	38	49
#8	43	56
#9	48	63
#10	54	71
#11	60	78

COLUMNS	
BAR SIZE	Ld
#3	13
#4	17
#5	22
#6	26
#7	38
#8	43
#9	48
#10	54
#11	60

TABLE ASSUMPTIONS:

1. f'c = 5 ksi
2. A MINIMUM CLEAR COVER AS SHOWN IN NOTE 1 ABOVE
3. A MINIMUM CLEAR SPACING OF 3" BETWEEN ANY BARS
4. fy = 60 ksi
5. NORMAL WEIGHT CONCRETE
6. FOR WALLS:
   CASE 1 = CLEAR SPACING ≥ 2db AND CLEAR COVER ≥ db
   CASE 2 = OTHER THAN CASE 1

WALLS				
BAR SIZE	VERTICAL BARS		HORIZONTAL BARS	
	CASE 1	CASE 2	CASE 1	CASE 2
#3	13	20	17	25
#4	17	26	23	34
#5	22	32	28	42
#6	26	39	34	50
#7	38	56	49	73
#8	43	64	56	83
#9	48	72	63	94
#10	54	81	70	106
#11	60	90	78	117

SLABS / MATS			
BAR SIZE	THICKNESS 12" OR LESS	THICKNESS GREATER THEN 12"	
	ALL BARS	BOTTOM BARS	OTHER BARS
#3	13	13	17
#4	17	17	23
#5	22	22	28
#6	26	26	34
#7	56	56	73
#8	64	64	83
#9	72	72	94
#10	81	81	106
#11	90	90	117

FOR:	f'c = 3 ksi	Ld = 1.29 x TABLE VALUE
	f'c = 4 ksi	Ld = 1.12 x TABLE VALUE
	f'c = 6 ksi	Ld = 0.91 x TABLE VALUE
	f'c = 8 ksi	Ld = 0.79 x TABLE VALUE
	f'c ≥ 10 ksi	Ld = 0.71 x TABLE VALUE
FOR:	fy = 75 ksi	Ld = 1.25 x TABLE VALUE

6. ALL LAP SPLICES SHALL BE 1.3Ld UNLESS NOTED OTHERWISE ON DRAWINGS.
7. FOR LIGHTWEIGHT AGGREGATE CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3.
8. FOR EPOXY-COATED BARS, MULTIPLY THE TABULATED VALUES BY 1.5.
9. COMBINATIONS OF EFFECTS DUE TO CONCRETE STRENGTH, CONCRETE WEIGHT, STEEL STRENGTH AND EPOXY BARS ARE CUMULATIVE. Ld SHALL BE MULTIPLIED BY EACH FACTOR TO FIND THE CORRECT VALUE.
10. ACI DOES NOT PERMIT LAP SPLICES OF #14 OR #18 BARS. BARS OF THIS SIZE SHALL BE COUPLED BY ACCEPTABLE MECHANICAL MEANS.
11. DOWEL BAR SUBSTITUTIONS SHALL BE PERMITTED PROVIDED THAT MANUFACTURER'S DATA SUPPORTS FULL TENSION SPLICES.
12. ALL SLEEVES AND PENETRATIONS SHALL BE PROVIDED BY THE SUB-CONTRACTOR REQUIRING THE OPENING.
13. CONCRETE COLUMN LENGTH ADJUSTMENT FOR ELASTIC SHORTENING, SHRINKAGE AND CREEP EFFECTS SHALL BE DISCUSSED WITH THE CONCRETE CONTRACTOR.
14. MINIMUM EMBEDMENT FOR REBAR EPOXIED WITH HILTI HIT HY200 ADHESIVE SHALL BE AS FOLLOWS:

#3	-	0'-4 1/4"	#8	-	1'-1 1/2"
#4	-	0'-6 1/4"	#9	-	1'-3 3/4"
#5	-	0'-8"	#10	-	1'-5 3/4"
#6	-	0'-9 3/4"	#11	-	1'-8"
#7	-	0'-11 1/2"			

VI - INSPECTION AND TESTING

OWNER WILL ENGAGE AND PAY FOR A SPECIAL INSPECTOR AND AN INDEPENDENT TESTING AGENCY TO PERFORM SPECIAL INSPECTION AND TESTING AS SPECIFIED ON THE APPLICABLE SECTIONS OF THE NEW YORK CITY BUILDING CODE CHAPTER 17, SECTION 1704. TECHNICAL REPORT STATEMENT OF RESPONSIBILITY TR-1 FORM SHALL BE FILLED WITH THE BUILDING DEPARTMENT FOR APPROVAL OF SPECIAL INSPECTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE PRIOR NOTICE FOR COMPLETION OF INSPECTIONS. SEE LIST IN FILING ITEMS FOR REQUIRED STRUCTURAL SPECIAL INSPECTIONS.

X - ANCHORS IN CONCRETE AND MASONRY

1. POST INSTALLED ANCHORS SHALL BE USED ONLY WHERE SPECIFIED ON STRUCTURAL DRAWINGS.
2. THE INSTALLATION OF POST INSTALLED ANCHORS AS REPAIR FOR MISSING OR MISPLACED CAST IN-PLACE ANCHORS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD (EOR).
3. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE SHALL NOT BE CUT UNLESS APPROVED BY THE EOR.
4. POST-INSTALLED ANCHORS SPECIFIED ON THE DRAWINGS FORM THE BASIS OF DESIGN. SUBSTITUTIONS WITH EQUAL OR BETTER ANCHORS SHALL BE SUBMITTED FOR APPROVAL BY EOR.
5. SUBMITTAL OF ALL PROPOSED PRODUCTS, WITH TECHNICAL DATA AND CURRENT ICC-ESR REPORTS IS REQUIRED FOR REVIEW AND APPROVAL BY EOR. ADDITIONAL CALCULATIONS FOR SPECIFIC APPLICATIONS MAY BE REQUIRED BY THE EOR.
6. ALL ANCHORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII) IN CONJUNCTION WITH EDGE DISTANCE, SPACING AND EMBEDMENT DEPTH AS INDICATED ON THE DRAWINGS.
7. THE CONTRACTOR SHALL ARRANGE FOR A MANUFACTURER'S FIELD REPRESENTATIVE TO PROVIDE INSTALLATION TRAINING FOR ALL PRODUCTS TO BE USED, PRIOR TO COMMENCEMENT OF WORK. ONLY TRAINED INSTALLERS SHALL PERFORM POST INSTALLED ANCHOR INSTALLATION. A RECORD OF TRAINING SHALL BE KEPT ON SITE AND BE MADE AVAILABLE TO THE EOR AND INSPECTOR AS REQUESTED OR REQUIRED BY SPECIAL INSPECTION.
8. ADHESIVE ANCHORS INSTALLED IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATIONS TO SUPPORT SUSTAINED TENSION LOADS SHALL BE PERFORMED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI/CRSI (ACI 318). PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO COMMENCEMENT OF INSTALLATION.
9. ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS (ACI 318).
10. POST-INSTALLED ANCHORS UTILIZED IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E OR F SHALL ADDITIONALLY BE QUALIFIED PER THE PROVISIONS FOR EARTHQUAKE LOADING IN THE APPLICABLE ACCEPTANCE CRITERIA.

CONCRETE ANCHORS

11. MECHANICAL ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193 FOR CRACKED AND UNCRACKED CONCRETE.
12. ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED AND UNCRACKED CONCRETE.
13. 'CAST-IN-PLACE INSERTS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC446 FOR CRACKED AND UNCRACKED CONCRETE.

MASONRY ANCHORS

14. MECHANICAL ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC01 OR AC106.
15. ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC58.

POWDER ACTUATED FASTENERS

16. POWDER ACTUATED FASTENERS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC70.

3/16/2021 3:18:22 PM
G:_REVIT\190003.02-BORDEN AVE-SCHEME C-CENTRAL-R19_Leslie.Morris.rvt

DRAWING LIST:

SUPERSTRUCTURE SHEETS ARE INCLUDED FOR REFERENCE ONLY

STRUCTURAL SHEET INDEX.

SHEET NUMBER	SHEET NAME
000 - FOUNDATION GENERAL NOTES	
FO-001	GENERAL NOTES
FO-002	DESIGN LOADS AND FACTORS AND LOAD MAPS
100 - FOUNDATION FRAMING	
FO-110	FOUNDATION AND LEVEL 1 OVERALL FRAMING PLAN
FO-111	FOUNDATION AND LEVEL 1 FRAMING PLAN - ZONE I
FO-112	FOUNDATION AND LEVEL 1 FRAMING PLAN - ZONE II
FO-113	FOUNDATION AND LEVEL 1 FRAMING PLAN - ZONE III
FO-114	FOUNDATION AND LEVEL 1 FRAMING PLAN - ZONE IV
FO-115	FOUNDATION AND LEVEL P0 VERT. ACCESS STRUCT. FRAMING PLAN - ZONE V
FO-116	FOUNDATION AND LEVEL P0 VERT. ACCESS STRUCT. FRAMING PLAN - ZONE VI
FO-121	FOUNDATION DETAILS
FO-122	FOUNDATION DETAILS
FO-123	FOUNDATION SECTIONS
FO-124	FOUNDATION SECTIONS
FO-125	FOUNDATION SECTIONS
FO-131	FOUNDATION MAT REINF PLANS AND DETAILS
FO-132	FOUNDATION MAT REINF PLANS
FO-141	REFERENCE PILE AND CAISSON DETAILS
FO-151	CON ED VAULT FOUNDATION FRAMING
200 - SUPERSTRUCTURE GENERAL NOTES	
S-011	GENERAL NOTES
S-012	GENERAL NOTES, DESIGN LOADS AND FACTORS
S-013	LOAD MAPS
S-021	REFERENCE BUILDING SECTIONS
S-022	REFERENCE BUILDING ISOMETRICS
200 - SUPERSTRUCTURE FRAMING	
S-211	LEVEL 1 MEZZANINE FRAMING PLAN - ZONE I & II
S-220	LEVEL 2 OVERALL FRAMING PLAN
S-221	LEVEL 2 FRAMING PLAN - ZONE I
S-222	LEVEL 2 FRAMING PLAN - ZONE II
S-223	LEVEL 2 FRAMING PLAN - ZONE III
S-224	LEVEL 2 FRAMING PLAN - ZONE IV
S-225	LEVEL 2T FRAMING PLAN - ZONE IV
S-230	LEVEL 3 OVERALL FRAMING PLAN
S-231	LEVEL 3 FRAMING PLAN - ZONE I
S-232	LEVEL 3 FRAMING PLAN - ZONE II
S-233	LEVEL 3 FRAMING PLAN - ZONE III
S-234	LEVEL 3 FRAMING PLAN - ZONE IV
S-240	LEVEL 4 OVERALL FRAMING PLAN
S-241	LEVEL 4 FRAMING PLAN - ZONE I
S-242	LEVEL 4 FRAMING PLAN - ZONE II
S-243	LEVEL 4 FRAMING PLAN - ZONE III
S-244	LEVEL 4 FRAMING PLAN - ZONE IV
S-250	LEVEL 5 OVERALL FRAMING PLAN
S-251	LEVEL 5 FRAMING PLAN - ZONE I
S-252	LEVEL 5 FRAMING PLAN - ZONE II
S-253	LEVEL 5 FRAMING PLAN - ZONE III
S-254	LEVEL 5 FRAMING PLAN - ZONE IV
S-260	LEVEL 6 OVERALL FRAMING PLAN
S-261	LEVEL 6 FRAMING PLAN - ZONE I
S-262	LEVEL 6 FRAMING PLAN - ZONE II
S-263	LEVEL 6 FRAMING PLAN - ZONE III
S-264	LEVEL 6 FRAMING PLAN - ZONE IV
S-265	LEVEL 6 FRAMING PLAN - BULKHEAD
200 - SUPERSTRUCTURE VERTICAL ACCESS STRUCTURE FRAMING	
S-281	LEVEL P1-P2 VERTICAL ACCESS STRUCTURE FRAMING PLAN - ZONE VI
S-282	LEVEL P1-P2 VERTICAL ACCESS STRUCTURE FRAMING PLAN - ZONE V
S-283	LEVEL P3-P4 VERTICAL ACCESS STRUCTURE FRAMING PLAN - ZONE VI
S-284	LEVEL P3-P4 VERTICAL ACCESS STRUCTURE FRAMING PLAN - ZONE V
S-285	LEVEL P5 VERTICAL ACCESS STRUCTURE FRAMING PLAN - ZONE VI
S-286	LEVEL P5 VERTICAL ACCESS STRUCTURE FRAMING PLAN - ZONE V
S-287	LEVEL P6-P7 VERTICAL ACCESS STRUCTURE FRAMING PLAN - ZONE VI
S-288	LEVEL P6-P7 VERTICAL ACCESS STRUCTURE FRAMING PLAN - ZONE V

STRUCTURAL SHEET INDEX.

SHEET NUMBER	SHEET NAME
S-289	LEVEL P8-P9 VERTICAL ACCESS STRUCTURE FRAMING PLAN - ZONE VI
S-290	LEVEL P8-P9 VERTICAL ACCESS STRUCTURE FRAMING PLAN - ZONE V
S-291	LEVEL P10/ROOF VERTICAL ACCESS STRUCTURE FRAMING PLAN - ZONE VI
S-292	LEVEL P10/ROOF VERTICAL ACCESS STRUCTURE FRAMING PLAN - ZONE V
300 - SUPERSTRUCTURE PT LAYOUT	
S-301	LEVEL P1-P2 VERTICAL ACCESS STRUCTURE PT LAYOUT PLAN - ZONE VI
S-302	LEVEL P1-P2 VERTICAL ACCESS STRUCTURE PT LAYOUT PLAN - ZONE V
S-303	LEVEL P3-P4 VERTICAL ACCESS STRUCTURE PT LAYOUT PLAN - ZONE VI
S-304	LEVEL P3-P4 VERTICAL ACCESS STRUCTURE PT LAYOUT PLAN - ZONE V
S-305	LEVEL P5 VERTICAL ACCESS STRUCTURE PT LAYOUT PLAN - ZONE VI
S-306	LEVEL P5 VERTICAL ACCESS STRUCTURE PT LAYOUT PLAN - ZONE V
S-307	LEVEL P6-P7 VERTICAL ACCESS STRUCTURE PT LAYOUT PLAN - ZONE VI
S-308	LEVEL P6-P7 VERTICAL ACCESS STRUCTURE PT LAYOUT PLAN - ZONE V
S-309	LEVEL P8-P9 VERTICAL ACCESS STRUCTURE PT LAYOUT PLAN - ZONE VI
S-310	LEVEL P8-P9 VERTICAL ACCESS STRUCTURE PT LAYOUT PLAN - ZONE V
S-311	LEVEL P10/ROOF VERTICAL ACCESS STRUCTURE FRAMING PLAN - ZONE VI
S-312	LEVEL P10/ROOF VERTICAL ACCESS STRUCTURE FRAMING PLAN - ZONE V
400 - COLUMN SCHEDULE, BRACED FRAME ELEVATIONS, SHEAR WALL PLANS	
S-401	COLUMN SCHEDULE
S-402	COLUMN SCHEDULE & DETAILS
S-403	COLUMN SCHEDULE & DETAILS
S-411	LATERAL FRAMING ELEVATIONS
S-412	LATERAL FRAMING ELEVATIONS
S-431	SHEAR WALL PLANS
S-432	SHEAR WALL PLANS
S-433	SHEAR WALL PLANS
S-434	SHEAR WALL PLANS
S-451	SHEAR WALL ELEVATIONS
S-452	SHEAR WALL ELEVATIONS
S-453	SHEAR WALL ELEVATIONS
S-454	SHEAR WALL ELEVATIONS
S-461	TYPICAL SHEAR WALL DETAILS
500 - CONCRETE FRAMING DETAILS	
S-501	FRAMING DETAILS - CONCRETE
S-502	FRAMING DETAILS - CONCRETE
S-503	FRAMING DETAILS - CONCRETE
S-504	FRAMING DETAILS - CONCRETE
S-505	FRAMING DETAIL - CONCRETE BEAM SCHEDULE AND DETAILS
S-506	FRAMING DETAILS - LINK BEAMS
S-511	FRAMING DETAILS - POST TENSIONED CONCRETE
S-512	FRAMING DETAILS - POST TENSIONED CONCRETE
S-513	FRAMING DETAILS - POST TENSIONED CONCRETE
S-514	FRAMING DETAILS - POST TENSIONED CONCRETE
600 - STEEL AND DECK FRAMING DETAILS	
S-601	FRAMING DETAILS - STEEL
S-602	FRAMING DETAILS - STEEL
S-603	FRAMING DETAILS - STEEL
S-604	FRAMING DETAILS - STEEL
S-605	FRAMING DETAILS - STEEL
S-606	FRAMING DETAILS - DECK
S-607	FRAMING DETAILS - DECK
S-608	FRAMING DETAILS - DECK
S-621	SECTIONS
S-622	SECTIONS
S-623	SECTIONS
S-624	SECTIONS
S-631	SECTIONS - PRECAST FACADE
S-641	FRAMING DETAILS - STUDIO
700 - MASONRY DETAILS	
S-701	FRAMING DETAILS - MASONRY
S-702	FRAMING DETAILS - MASONRY

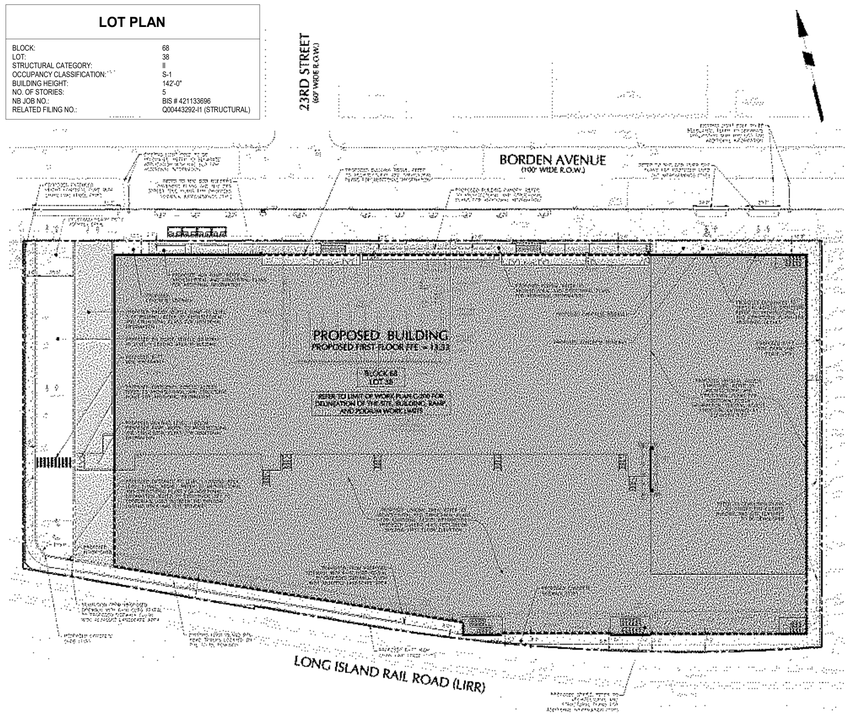
DOB FILING ITEMS & LOT PLAN:

FILING ITEMS

CONSTRUCTION DOCUMENTS COMPLY WITH BC 107.1, BC 107.7, BC 1603.1	DESIGN LOADS LISTED ON FO-002 COMPLY WITH BC 107.7 AND BC 1604.	PROGRESS INSPECTIONS: FOOTING AND FOUNDATION: BC 110.3.1
SCOPE OF WORK: FOUNDATION CONSTRUCTION FOR A NEW FIVE-STORY WAREHOUSE BUILDING AND ADJACENT FIVE-STORY VEHICLE ACCESS STRUCTURE BUILDINGS SHOWN WITHIN.	SPECIAL INSPECTIONS: CONCRETE - CAST-IN-PLACE: BC 1704.4 CONCRETE DESIGN MIX: BC 1905.3, BC 1913.5 (TR2) CONCRETE SAMPLING AND TESTING: BC 1905.6, BC 1913.10 (TR3)	TECHNICAL REPORTS: TR1, STATEMENT OF RESPONSIBILITY TR2, CONCRETE DESIGN MIX: BC 1905.6, 1913.10 TR3, CONCRETE SAMPLING AND TESTING: BC 1905.3, 1913.5
LOT DIAGRAM: SEE BELOW		

LOT PLAN

BLOCK:	68
LOT:	38
STRUCTURAL CATEGORY:	II
OCCUPANCY CLASSIFICATION:	S-1
BUILDING HEIGHT:	142'-0"
NO. OF STORIES:	5
NB JOB NO.:	BIS # 421133696
RELATED FILING NO.:	Q00443292-I1 (STRUCTURAL)



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GENERAL NOTES

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074933

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DOB#:	
DWG No:	FO-001.00

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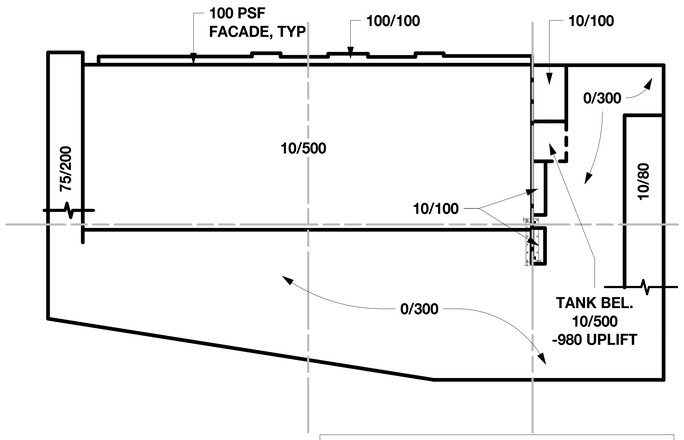
LOAD MAPS



LEGEND:

SUPERIMPOSED DEAD LOAD
INCLUDES CLG, FLOOR & MEP LOADS U.O.N. ON PLANS

YY/ZZ

TOTAL LIVE LOAD
* INDICATES ADDITIONAL 15PSF PARTITION LOAD

INDICATES LOAD AREA LIMITS

INDICATES CONCENTRATED LOAD (1000LBS)

1 LEVEL 1 LOAD MAP
SCALE: 1" = 60'-0"

DESIGN LOADS AND FACTORS

PEER REVIEW CHECKLIST - MAIN BUILDING

NYC DOB: STRUCTURES REQUIRING PEER REVIEW (SECTION 1617.2)	BUILDING CHARACTERISTICS	P.R. REQ'D
1. BUILDINGS INCLUDED IN STRUCTURAL OCCUPANCY CATEGORY IV AS DEFINED IN THIS CHAPTER AND MORE THAN 50,000 SQUARE FEET (4645 $M_{(2)}$) OF FRAMED AREA.	STRUCTURAL OCCUPANCY CATEGORY III (TABLE 1604.5)	NO
2. BUILDINGS WITH ASPECT RATIOS OF SEVEN OR GREATER.	GROUND FLOOR IS AT EL = +0'-0" ROOF IS AT EL. +146'-0" BUILDING WIDTH AT THE BOTTOM IS 305'; ASPECT RATIO = 1:2	NO
3. BUILDINGS GREATER THAN 600 FEET (183 M) IN HEIGHT OR MORE THAN 1,000,000 SQUARE FEET (92,903 $M_{(2)}$) IN GROSS FLOOR AREA.	BUILDING HEIGHT = 146 FEET TOTAL BUILDING GROSS FLOOR AREA = 545,000 GSF	NO
4. BUILDINGS TALLER THAN SEVEN STORIES WHERE ANY ELEMENT, EXCEPT FOR WALLS GREATER THAN 10 FEET (3,048 METERS) IN LENGTH, SUPPORTS IN AGGREGATE MORE THAN 15 PERCENT OF THE BUILDING AREA.	BUILDING NOT GREATER THAN SEVEN STORIES	NO
5. BUILDINGS DESIGNED USING NONLINEAR TIME HISTORY ANALYSIS OR WITH SPECIAL SEISMIC ENERGY DISSIPATION SYSETMS.	NOT APPLICABLE: TIME HISTORY ANALYSIS AND SEISMIC ENERGY DISSAPATION SYSTEMS NOT USED	NO
6. BUILDINGS DESIGNED FOR AREAS WITH 3,000 OR MORE OCCUPANTS IN ONE AREA IN CLOSE PROXIMITY, INCLUDING FIXED SEATING AND GRANDSTAND AREAS.	NOT APPLICABLE	NO
7. BUILDINGS WHERE A STRUCTURAL PEER REVIEW IS REQUESTED BY THE COMMISSIONER.	---	---

SEISMIC DESIGN CRITERIA - MAIN BUILDING

RISK CATEGORY:	II			[NYBC TABLE 1604.5]
SEISMIC IMPORTANCE FACTOR, I_e:	1.00			[NYBC TABLE 1604.5.2]
S_s = 0.281g	[NYBC 1613.5.1]	S_{DS} = 0.355g		**SITE SPECIFIC STUDY**
S_1 = 0.073g	[NYBC 1613.5.1]	S_{D1} = 0.136g		**SITE SPECIFIC STUDY**
SITE CLASS:	E			**SITE SPECIFIC STUDY**
SEISMIC DESIGN CATEGORY:	C			[NYBC TABLE 1613.5.6]
BASIC SEISMIC FORCE RESISTING SYSTEM:	STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE			
RESPONSE MODIFICATION COEFFICIENT, R =	3.00			[NYBC TABLE 1613.8]
BASE BUILDING HEIGHT, h_n =	142 ft			
TOTAL EFFECTIVE SEISMIC WEIGHT, W =	116,000 KIPS			
TOTAL DESIGN LATERAL BASE SHEAR, V =	3,650 KIPS			

WIND DESIGN CRITERIA - MAIN BUILDING

RISK CATEGORY: II	II	[NYBC TABLE 1604.5]
WIND LOAD IMPORTANCE FACTOR, I_w:	1.00	[NYBC TABLE 1604.5.2]
BUILDING TYPE:	ENCLOSED	[NYBC 1609.2]
BASIC WIND SPEED: 98 MPH		[NYBC 1609.3]
WIND EXPOSURE CATEGORY: B		[NYBC TABLE 1609.4]
TOTAL DESIGN LATERAL BASE SHEAR, V_x:	1,415 KIPS	
TOTAL DESIGN LATERAL BASE SHEAR, V_y:	2,176 KIPS	
COMPONENTS & CLADDING PRESSURES:	SEE DIAGRAM	

PEER REVIEW CHECKLIST - VEHICLE ACCESS STRUCTURE

NYC DOB: STRUCTURES REQUIRING PEER REVIEW (SECTION 1617.2)	BUILDING CHARACTERISTICS	P.R. REQ'D
1. BUILDINGS INCLUDED IN STRUCTURAL OCCUPANCY CATEGORY IV AS DEFINED IN THIS CHAPTER AND MORE THAN 50,000 SQUARE FEET (4645 $M_{(2)}$) OF FRAMED AREA.	STRUCTURAL OCCUPANCY CATEGORY II (TABLE 1604.5)	NO
2. BUILDINGS WITH ASPECT RATIOS OF SEVEN OR GREATER.	GROUND FLOOR IS AT EL = +0'-0" ROOF IS AT EL. +123'-0" BUILDING WIDTH AT THE BOTTOM IS 239'-0"; ASPECT RATIO = 1:2	NO
3. BUILDINGS GREATER THAN 600 FEET (183 M) IN HEIGHT OR MORE THAN 1,000,000 SQUARE FEET (92,903 $M_{(2)}$) IN GROSS FLOOR AREA.	BUILDING HEIGHT = 123 FEET TOTAL BUILDING GROSS FLOOR AREA = 140,000 GSF	NO
4. BUILDINGS TALLER THAN SEVEN STORIES WHERE ANY ELEMENT, EXCEPT FOR WALLS GREATER THAN 10 FEET (3,048 METERS) IN LENGTH, SUPPORTS IN AGGREGATE MORE THAN 15 PERCENT OF THE BUILDING AREA.	BUILDING NOT GREATER THAN SEVEN STORIES	NO
5. BUILDINGS DESIGNED USING NONLINEAR TIME HISTORY ANALYSIS OR WITH SPECIAL SEISMIC ENERGY DISSIPATION SYSTEMS.	NOT APPLICABLE; TIME HISTORY ANALYSIS AND SEISMIC ENERGY DISSAPATION SYSTEMS NOT USED	NO
6. BUILDINGS DESIGNED FOR AREAS WITH 3,000 OR MORE OCCUPANTS IN ONE AREA IN CLOSE PROXIMITY, INCLUDING FIXED SEATING AND GRANDSTAND AREAS.	BUILDING NOTE DESIGNED FOR AREAS WITH 3,000 OR MORE OCCUPANTS IN ONE AREA IN CLOSE PROXIMITY	NO
7. BUILDINGS WHERE A STRUCTURAL PEER REVIEW IS REQUESTED BY THE COMMISSIONER.	---	---

SEISMIC DESIGN CRITERIA - VEHICLE ACCESS STRUCTURE

RISK CATEGORY:	II			[NYBC TABLE 1604.5]
SEISMIC IMPORTANCE FACTOR, I_e:	1.00			[NYBC TABLE 1604.5.2]
S_s =	-	[NYBC 1613.5.1]	S_{DS} = 0.355g	**SITE SPECIFIC STUDY**
S_1 =	-	[NYBC 1613.5.1]	S_{D1} = 0.136g	**SITE SPECIFIC STUDY**
SITE CLASS:	E			[NYBC TABLE 1613.5.2]
SEISMIC DESIGN CATEGORY:	C			[NYBC TABLE 1613.5.6]
BASIC SEISMIC FORCE RESISTING SYSTEM:	ORDINARY REINFORCED CONCRETE SHEAR WALLS (FRAME SYSTEM)			
RESPONSE MODIFICATION COEFFICIENT, R =	5.00			[NYBC TABLE 1613.8]
BASE BUILDING HEIGHT, h_n =	142 ft			
TOTAL EFFECTIVE SEISMIC WEIGHT, W =	39,500 KIPS			
TOTAL DESIGN LATERAL BASE SHEAR, V =	783 KIPS			

WIND DESIGN CRITERIA - VEHICLE ACCESS STRUCTURE

RISK CATEGORY:	II	[NYBC TABLE 1604.5]
WIND LOAD IMPORTANCE FACTOR, I_w	1.00	[NYBC TABLE 1604.5.2]
BUILDING TYPE:	ENCLOSED	[NYBC 1609.2]
BASIC WIND SPEED:	98 MPH	[NYBC 1609.3]
WIND EXPOSURE CATEGORY:	B	[NYBC TABLE 1609.4]
TOTAL DESIGN LATERAL BASE SHEAR, V_x:	860 KIPS	
TOTAL DESIGN LATERAL BASE SHEAR, V_y:	356 KIPS	
COMPONENTS & CLADDING PRESSURES:	SEE DIAGRAM	

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DESIGN LOADS AND FACTORS AND LOAD MAPS

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074933

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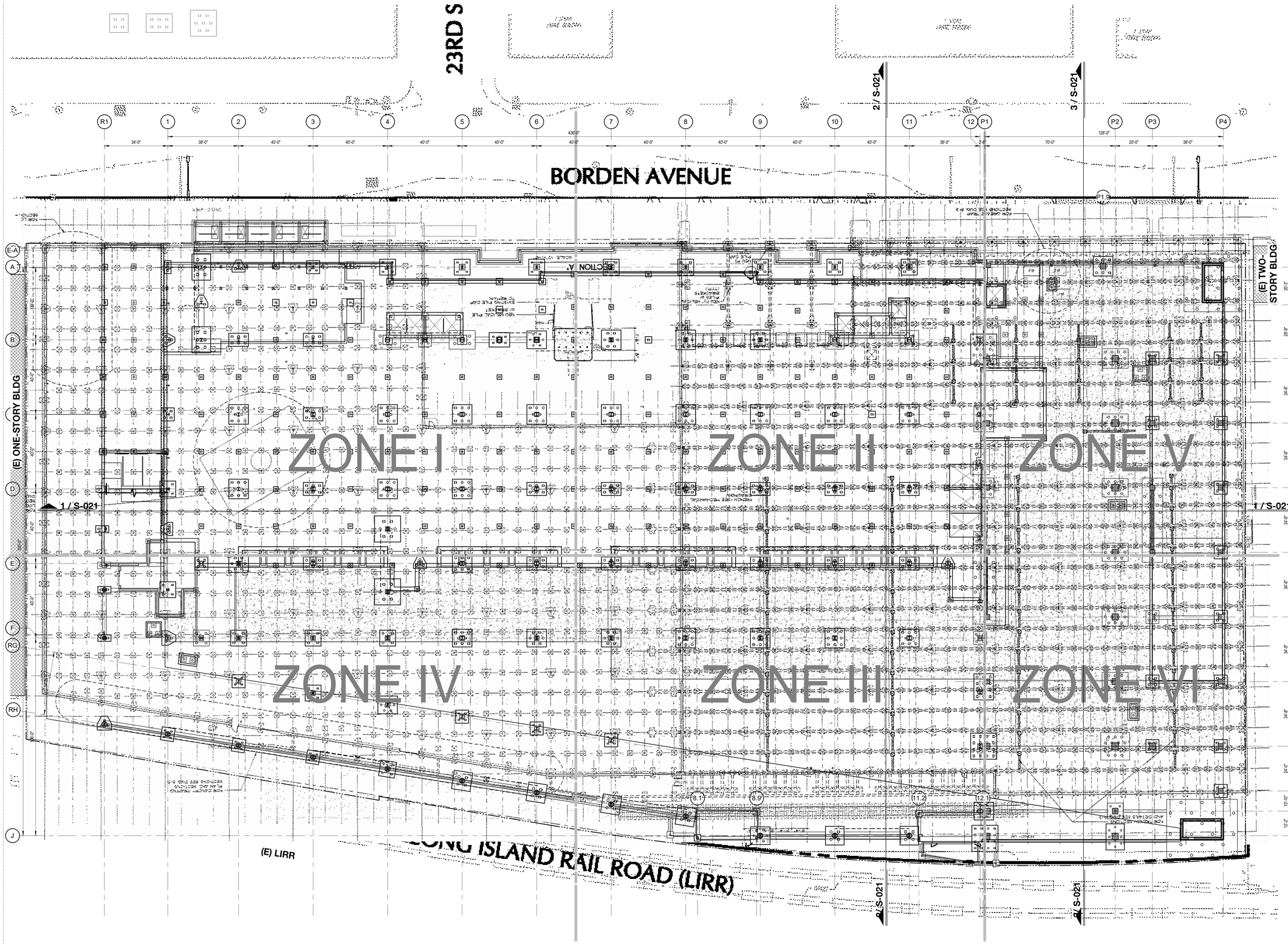

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NORTH

LEVEL 1 OVERALL FRAMING PLAN

SCALE: 1" = 20'-0"

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FOUNDATION AND LEVEL 1 OVERALL FRAMING PLAN

STEPHEN V DESIMONE, PE
074933

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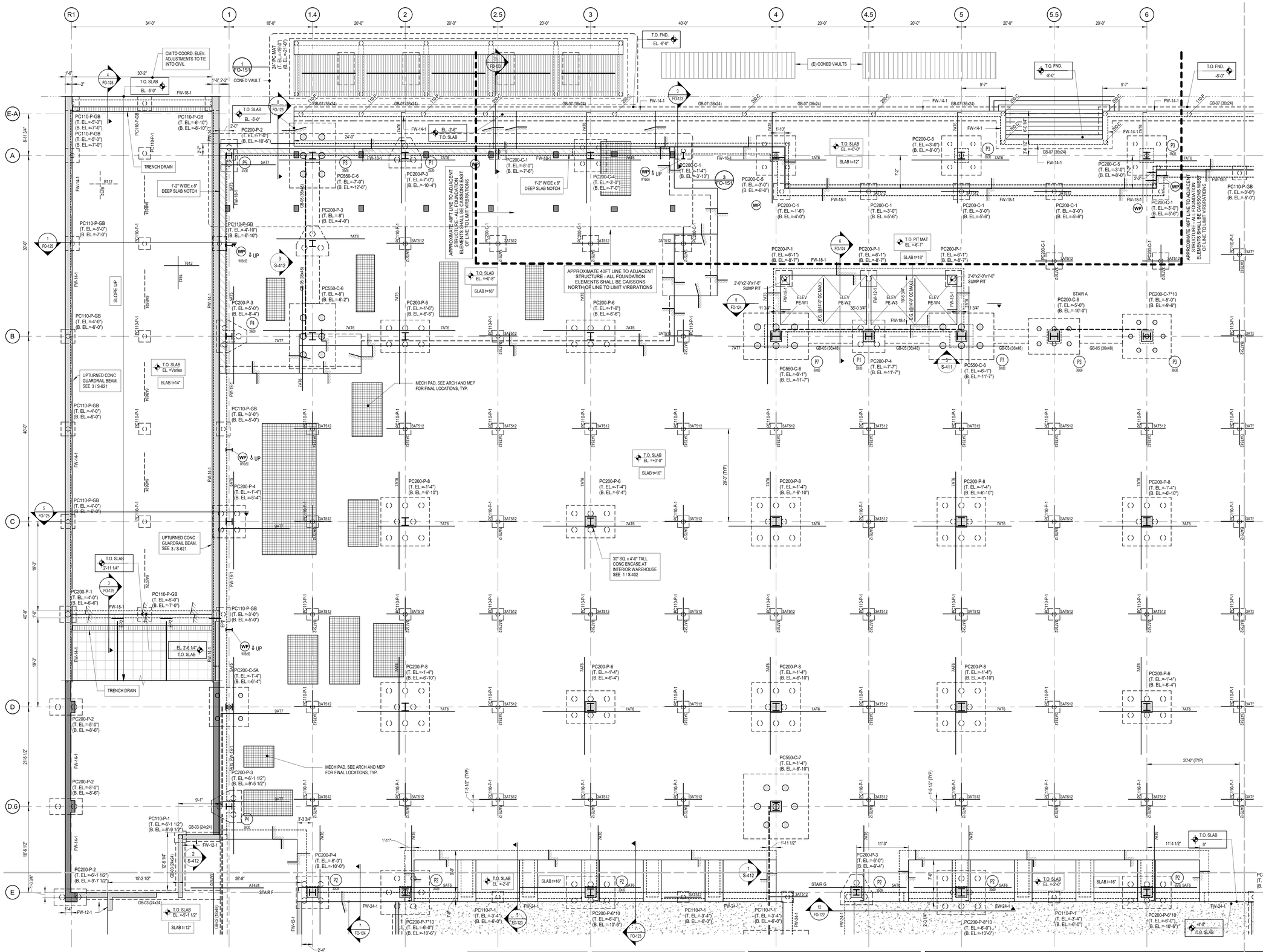

PIER SCHEDULE

MARK	SIZE	VERT. REINF.	TIES
P1	30x30	12#9	#4@12"
P2	30x39	12-#9	#4@12"
P3	36x36	16-#9	#4@12"
P4	39x30	12#9	#4@12"
P5	41x30	16-#9	#4@12"
P6	54x54	32-#9	#4@12"
P7	60x60	36#9	#4@12"

FDN WALL SCHEDULE

WALL MARK	THICKNESS	VERT. BARS (I.F.)	VERT. BARS (O.F.)	HORIZ. BARS (E.F.)
FW-8-1	8"	#4@12"	#4@12"	#4@12"
FW-12-1	1'-0"	#5@12"	#5@12"	#4@12"
FW-14-1	1'-2"	#5@12"	#5@12"	#5@12"
FW-18-1	1'-6"	#6@12"	#6@12"	#5@12"
FW-18-2	1'-6"	#7@12"	#6@12"	#5@12"
FW-24-1	2'-0"	#7@12"	#7@12"	#5@12"

GRADE BEAM SCHEDULE

MARK	SIZE (w x h)	BOT. BARS	TOP BARS	STIRRUPS SIZE	STIRRUPS SPACING	FACE BARS (1/2 E.F.)
GB-01	18x36	6-#8	6-#8	#4	2L-12"	4-#5
GB-02	18x48	6-#9	6-#9	#4	2L-12"	6-#5
GB-03	24x24	8-#8	8-#8	#4	2L-12"	2-#5
GB-04	24x36	8-#9	8-#9	#4	2L-9"	4-#5
GB-05	36x48	8-#11	8-#11	#4	4L-9"	6-#5
GB-06	48x48	10-#11	10-#11	#4	4L-9"	6-#5
GB-07	36x24	10-#9	10-#9	#4	4L-9"	2-#5

T.O. SLAB ELEV. U.O.N.:
0'-0" PROJECT
13'-4" NAVD88

SLAB BASIC REINF.:
12" & 14": #6@12" E.W. T&B
16": #7@12" E.W. T&B
8" SOG: WWF 4x4 D4xD4
6" SOG: WWF 6x6 W2.1xW2.1

SLAB THK & F'C
12", 14" & 16": F'C = 8KSI
6" & 8" SOG: F'C = 5KSI

DRAWING NOTES:

1. FOR GENERAL NOTES SEE S-000 SERIES.
2. ALL ELEVATIONS SHOWN ARE PROJECT/RELATIVE.
3. CONCRETE STRENGTH FOR PILE CAPS, WALLS AND SLABS SHALL BE F'C=6KSI U.O.N.
4. TOP AND BOTTOM OF FOUNDATION INDICATED THUS (T. EL. = -'-"/ AND (B. EL. = -'-").
5. FOR ELEVATIONS OF TOP OF SLAB SEE PLAN. MAINTAIN SLAB MINIMUM THICKNESS AT LOW POINTS - SEE ARCHITECTURAL DRAWINGS FOR SLOPES TO DRAIN.
6. OUTERMOST REINFORCING RUNS EAST-WEST. DETAILER TO CHECK ALL BAR CLEARANCES.
7. 'AB' INDICATES ADDITIONAL BOTTOM BARS. 'AT' INDICATES ADDITIONAL TOP BARS.
8. INDICATES CLOSED-END PIPE PILES OR ROCK-SOCKETED CAISSONS, SEE PILE CAP LEGEND FOR CONFIGURATION AND FO-141 FOR CONSTRUCTION DETAILS
9. INDICATES BRACED FRAME, SEE S-411 & S-412.
10. (WP) INDICATES WIND POST.
11. SLAB FINISH SHALL PROVIDE OVERALL F_F = 45 AND F_L = 35 w/ LOCAL MINIMUM OF F_F = 30 AND F_L = 24 IN ACCORDANCE WITH ASTM E1155. SLAB MIX SHALL NOT CONTAIN FLY ASH AND SHALL NOT BE AIR ENTRAINED. PROVIDE BLENDED AGGREGATE MIX TO MINIMUM CURLING AND SHRINKAGE. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS INCLUDING HARDENER.

PC200-P-4 (T. EL.=-1'-6") (B. EL.=-6'-6") — PILE/CAISSON COMPRESSION CAPACITY "P" INDICATED DRIVEN PIPE PILE "C" INDICATES DRILLED CAISSON; NUMBER OF PILES/CAISSONS IN CAP; TOP OF PC EL.; BOTTOM OF PC EL.

DENOTES FIXED-HEAD CONNECTION

DENOTES FREE-HEAD CONNECTION

PILE CAP LEGEND

NORTH

LEVEL 1 FRAMING PLAN - ZONE I

SCALE: 1/8" = 1'-0"

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FOUNDATION AND LEVEL 1 FRAMING PLAN - ZONE I

STEPHEN V DESIMONE, PE
074933

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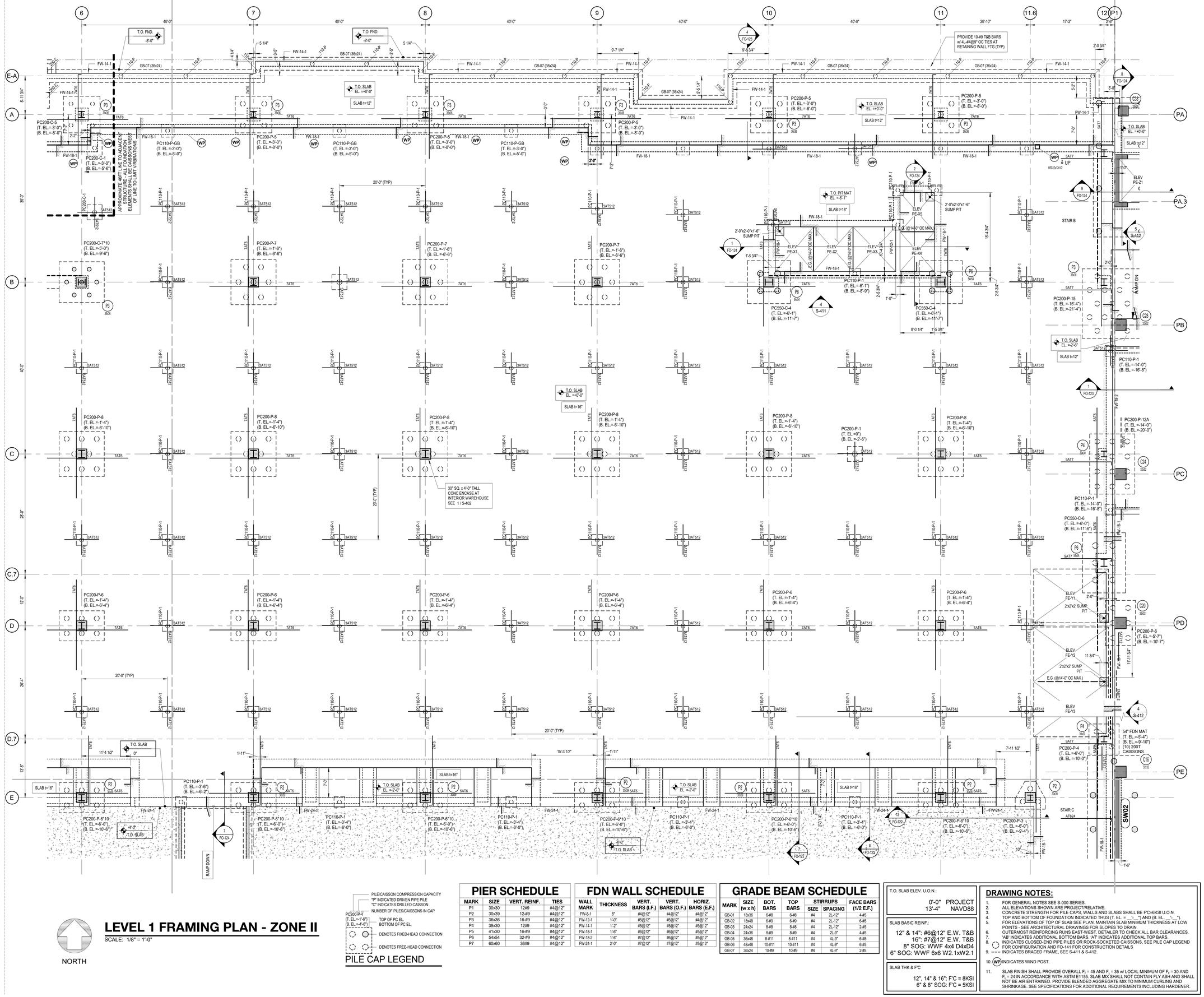

NORTH

LEVEL 1 FRAMING PLAN - ZONE II

SCALE: 1/8" = 1'-0"

PILE/CAISSON COMPRESSION CAPACITY
"P" INDICATED DRIVEN PIPE PILE
"C" INDICATES DRILLED CAISSON
NUMBER OF PILES/CAISSONS IN CAP
PC200-P-4 (T. EL.=-1'-6") (B. EL.=-4'-6") — TOP OF PC EL. BOTTOM OF PC EL.
DENOTES FIXED-HEAD CONNECTION
DENOTES FREE-HEAD CONNECTION

PILE CAP LEGEND

PIER SCHEDULE

MARK	SIZE	VERT. REINF.	TIES
P1	30x30	12#9	#4@12"
P2	30x39	12-#9	#4@12"
P3	36x36	16-#9	#4@12"
P4	39x30	12#9	#4@12"
P5	41x30	16-#9	#4@12"
P6	54x54	32-#9	#4@12"
P7	60x60	36#9	#4@12"

FDN WALL SCHEDULE

WALL MARK	THICKNESS	VERT. BARS (I.F.)	VERT. BARS (O.F.)	HORIZ. BARS (E.F.)
FW-8-1	8"	#4@12"	#4@12"	#4@12"
FW-12-1	1'-0"	#5@12"	#5@12"	#4@12"
FW-14-1	1'-2"	#5@12"	#5@12"	#5@12"
FW-18-1	1'-6"	#6@12"	#6@12"	#5@12"
FW-18-2	1'-6"	#7@12"	#6@12"	#5@12"
FW-24-1	2'-0"	#7@12"	#7@12"	#5@12"

GRADE BEAM SCHEDULE

MARK	SIZE (w x h)	BOT. BARS	TOP BARS	STIRRUPS SIZE	STIRRUPS SPACING	FACE BARS (1/2 E.F.)
GB-01	18x36	6-#8	6-#8	#4	2L-12"	4-#5
GB-02	18x48	6-#9	6-#9	#4	2L-12"	6-#5
GB-03	24x24	8-#8	8-#8	#4	2L-12"	2-#5
GB-04	24x36	8-#9	8-#9	#4	2L-9"	4-#5
GB-05	36x48	8-#11	8-#11	#4	4L-9"	6-#5
GB-06	48x48	10-#11	10-#11	#4	4L-9"	6-#5
GB-07	36x24	10-#9	10-#9	#4	4L-9"	2-#5

T.O. SLAB ELEV. U.O.N.:
0'-0" PROJECT
13'-4" NAVD88

SLAB BASIC REINF.:
12" & 14": #6@12" E.W. T&B
16": #7@12" E.W. T&B
8" SOG: WWF 4x4 D4xD4
6" SOG: WWF 6x6 W2.1xW2.1

SLAB THK & F'C
12", 14" & 16": F'C = 8KSI
6" & 8" SOG: F'C = 5KSI

DRAWING NOTES:

1. FOR GENERAL NOTES SEE S-000 SERIES.
2. ALL ELEVATIONS SHOWN ARE PROJECT/RELATIVE.
3. CONCRETE STRENGTH FOR PILE CAPS, WALLS AND SLABS SHALL BE F'C=6KSI U.O.N.
4. TOP AND BOTTOM OF FOUNDATION INDICATED THUS (T. EL. = -'-") AND (B. EL. = -'-").
5. FOR ELEVATIONS OF TOP OF SLAB SEE PLAN. MAINTAIN SLAB MINIMUM THICKNESS AT LOW POINTS - SEE ARCHITECTURAL DRAWINGS FOR SLOPES TO DRAIN.
6. OUTERMOST REINFORCING RUNS EAST-WEST. DETAILER TO CHECK ALL BAR CLEARANCES.
7. 'AB' INDICATES ADDITIONAL BOTTOM BARS. 'AT' INDICATES ADDITIONAL TOP BARS.
8. INDICATES CLOSED-END PIPE PILES OR ROCK-SOCKETED CAISSONS, SEE PILE CAP LEGEND FOR CONFIGURATION AND FO-141 FOR CONSTRUCTION DETAILS
9. INDICATES BRACED FRAME, SEE S-411 & S-412.
10. (WP) INDICATES WIND POST.
11. SLAB FINISH SHALL PROVIDE OVERALL F_F = 45 AND F_L = 35 w/ LOCAL MINIMUM OF F_F = 30 AND F_L = 24 IN ACCORDANCE WITH ASTM E1155. SLAB MIX SHALL NOT CONTAIN FLY ASH AND SHALL NOT BE AIR ENTRAINED. PROVIDE BLENDED AGGREGATE MIX TO MINIMUM CURLING AND SHRINKAGE. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS INCLUDING HARDENER.

23-30 BORDEN AVE.

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23-30 BORDEN AVE.
LONG ISLAND CITY, NY 11101

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FOUNDATION AND LEVEL 1 FRAMING PLAN - ZONE II

STEPHEN V DESIMONE, PE
074933

DOB NOW JOB #
Q00448025-I1

SCALE: As indicated
DATE: 3/12/2021
DCE#: 190003.02
DOB#:
DWG No:

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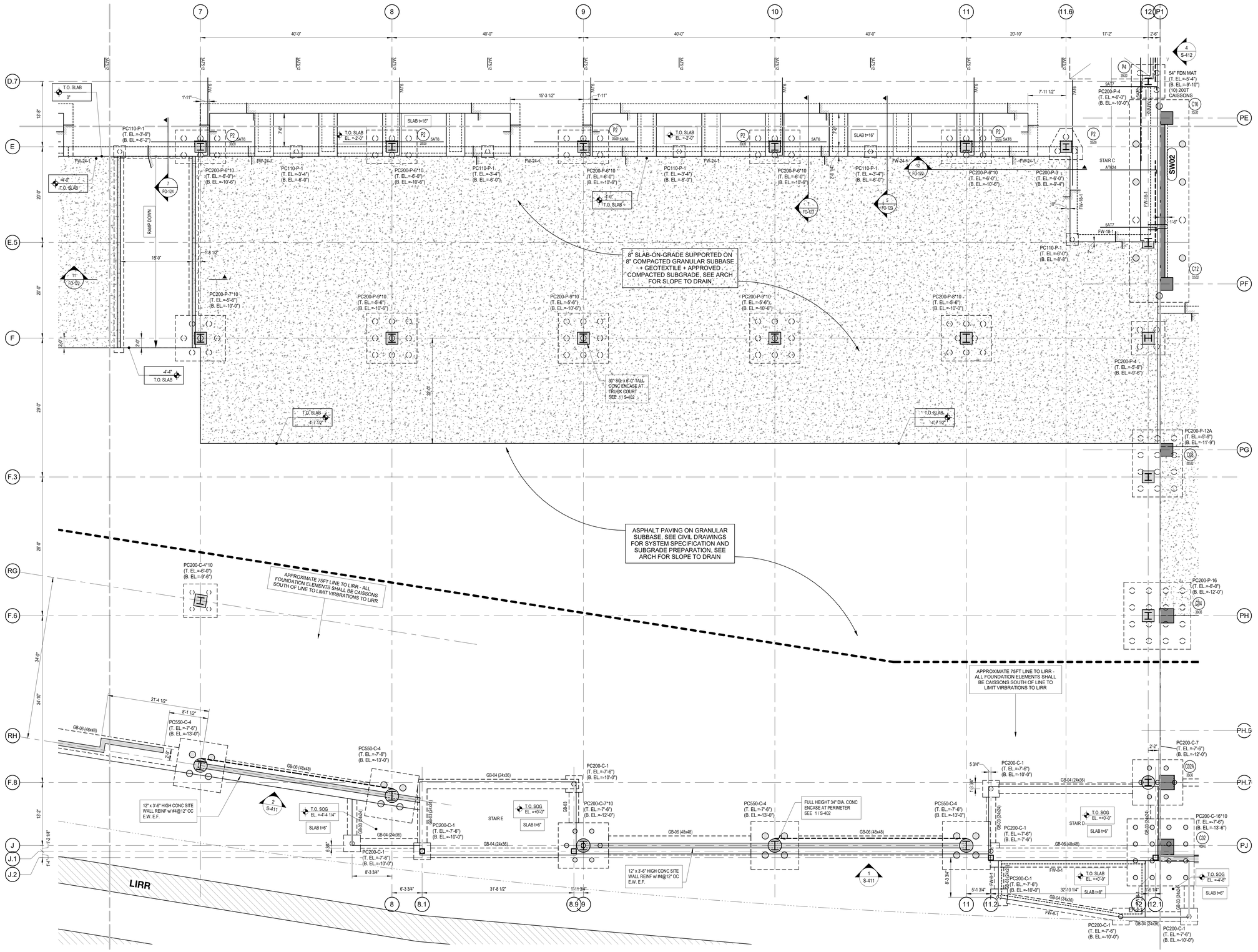

LEVEL 1 FRAMING PLAN - ZONE III

SCALE: 1/8" = 1'-0"

NORTH

PILE/CAISSON COMPRESSION CAPACITY
"P" INDICATED DRIVEN PIPE PILE
"C" INDICATES DRILLED CAISSON
NUMBER OF PILES/CAISSONS IN CAP
PC200-P-4 (T. EL.=-5'-6") (B. EL.=-9'-6")
TOP OF PC EL.
BOTTOM OF PC EL.
DENOTES FIXED-HEAD CONNECTION
DENOTES FREE-HEAD CONNECTION

PILE CAP LEGEND

PIER SCHEDULE

MARK	SIZE	VERT. REINF.	TIES
P1	30x30	12#9	#4@12"
P2	30x39	12-#9	#4@12"
P3	36x36	16-#9	#4@12"
P4	39x30	12#9	#4@12"
P5	41x30	16-#9	#4@12"
P6	54x54	32-#9	#4@12"
P7	60x60	36#9	#4@12"

FDN WALL SCHEDULE

WALL MARK	THICKNESS	VERT. BARS (I.F.)	VERT. BARS (O.F.)	HORIZ. BARS (E.F.)
FW-8-1	8"	#4@12"	#4@12"	#4@12"
FW-12-1	1'-0"	#5@12"	#5@12"	#4@12"
FW-14-1	1'-2"	#5@12"	#5@12"	#5@12"
FW-18-1	1'-6"	#6@12"	#5@12"	#5@12"
FW-18-2	1'-6"	#7@12"	#6@12"	#5@12"
FW-24-1	2'-0"	#7@12"	#7@12"	#5@12"

GRADE BEAM SCHEDULE

MARK	SIZE (w x h)	BOT. BARS	TOP BARS	STIRRUPS SIZE	STIRRUPS SPACING	FACE BARS (1/2 E.F.)
GB-01	18x36	6-#8	6-#8	#4	2L-12"	4-#5
GB-02	18x48	6-#9	6-#9	#4	2L-12"	6-#5
GB-03	24x24	8-#8	8-#8	#4	2L-12"	2-#5
GB-04	24x36	8-#9	8-#9	#4	2L-9"	4-#5
GB-05	36x48	8-#11	10-#11	#4	4L-9"	6-#5
GB-06	48x48	10-#11	10-#11	#4	4L-9"	6-#5
GB-07	36x24	10-#9	10-#9	#4	4L-9"	2-#5

T.O. SLAB ELEV. U.O.N.:
0'-0" PROJECT
13'-4" NAVD88

SLAB BASIC REINF.:
12" & 14": #6@12" E.W. T&B
16": #7@12" E.W. T&B
8" SOG: WWF 4x4 D4xD4
6" SOG: WWF 6x6 W2.1xW2.1

SLAB THK & F'C
12", 14" & 16": F'C = 8KSI
6" & 8" SOG: F'C = 5KSI

DRAWING NOTES:

1. FOR GENERAL NOTES SEE S-000 SERIES.
2. ALL ELEVATIONS SHOWN ARE PROJECT RELATIVE.
3. CONCRETE STRENGTH FOR PILE CAPS, WALLS AND SLABS SHALL BE F'C=6KSI U.O.N.
4. TOP AND BOTTOM OF FOUNDATION INDICATED THUS (T. EL. = -x'-x") AND (B. EL. = -x'-x").
5. FOR ELEVATIONS OF TOP OF SLAB SEE PLAN. MAINTAIN SLAB MINIMUM THICKNESS AT LOW POINTS - SEE ARCHITECTURAL DRAWINGS FOR SLOPES TO DRAIN.
6. OUTERMOST REINFORCING RUNS EAST-WEST. DETAILER TO CHECK ALL BAR CLEARANCES.
7. 'AB' INDICATES ADDITIONAL BOTTOM BARS. 'AT' INDICATES ADDITIONAL TOP BARS.
8. ◯ INDICATES CLOSED-END PIPE PILES OR ROCK-SOCKETED CAISSONS, SEE PILE CAP LEGEND FOR CONFIGURATION AND FO-141 FOR CONSTRUCTION DETAILS
9. ⊢⊣ INDICATES BRACED FRAME, SEE S-411 & S-412.
10. (WP) INDICATES WIND POST.
11. SLAB FINISH SHALL PROVIDE OVERALL F_F = 45 AND F_L = 35 w/ LOCAL MINIMUM OF F_F = 30 AND F_L = 24 IN ACCORDANCE WITH ASTM E1155. SLAB MIX SHALL NOT CONTAIN FLY ASH AND SHALL NOT BE AIR ENTRAINED. PROVIDE BLENDED AGGREGATE MIX TO MINIMUM CURLING AND SHRINKAGE. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS INCLUDING HARDENER.

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FOUNDATION AND LEVEL 1 FRAMING PLAN - ZONE III

STEPHEN V DESIMONE, PE
074933

DOB NOW JOB #
Q00448025-I1

SCALE: As indicated
DATE: 3/12/2021
DCE#: 190003.02
DOB#:
DWG No:

FO-113.00

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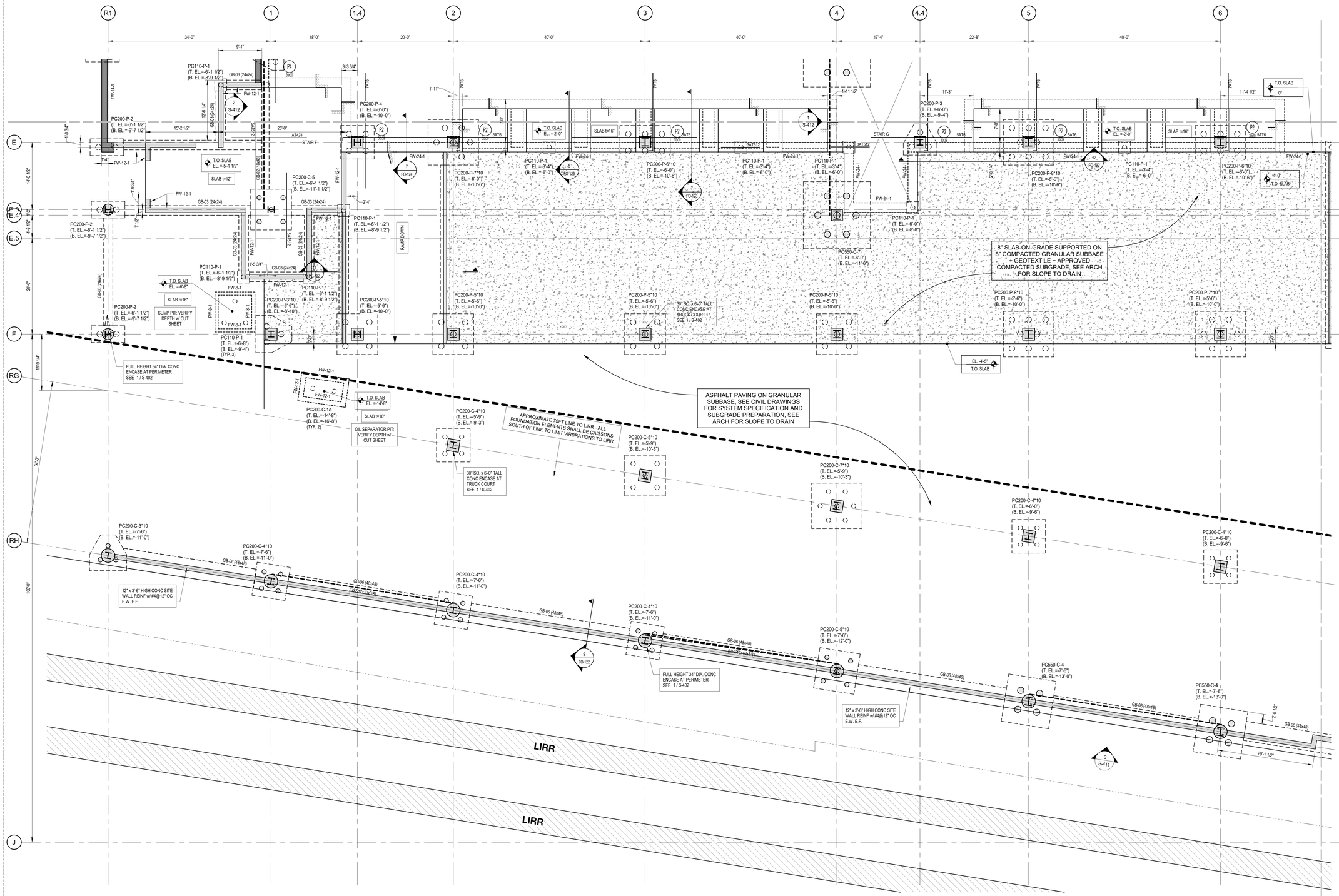

LEVEL 1 FRAMING PLAN - ZONE IV

SCALE: 1/8" = 1'-0"

NORTH

PILE/CAISSON COMPRESSION CAPACITY
"P" INDICATED DRIVEN PIPE PILE
"C" INDICATES DRILLED CAISSON
NUMBER OF PILES/CAISSONS IN CAP
PC200-P-4 (T. EL.=-1'-6") (B. EL.=-4'-6")
TOP OF PC EL
BOTTOM OF PC EL.
DENOTES FIXED-HEAD CONNECTION
DENOTES FREE-HEAD CONNECTION

PILE CAP LEGEND

PIER SCHEDULE

MARK	SIZE	VERT. REINF.	TIES
P1	30x30	12#9	#4@12"
P2	30x39	12-#9	#4@12"
P3	36x36	16-#9	#4@12"
P4	39x30	12#9	#4@12"
P5	41x30	16-#9	#4@12"
P6	54x54	32-#9	#4@12"
P7	60x60	36#9	#4@12"

FDN WALL SCHEDULE

WALL MARK	THICKNESS	VERT. BARS (I.F.)	VERT. BARS (O.F.)	HORIZ. BARS (E.F.)
FW-8-1	8"	#4@12"	#4@12"	#4@12"
FW-12-1	1'-0"	#5@12"	#5@12"	#4@12"
FW-14-1	1'-2"	#5@12"	#5@12"	#5@12"
FW-18-1	1'-6"	#6@12"	#6@12"	#5@12"
FW-18-2	1'-6"	#7@12"	#5@12"	#5@12"
FW-24-1	2'-0"	#7@12"	#7@12"	#5@12"

GRADE BEAM SCHEDULE

MARK	SIZE (w x h)	BOT. BARS	TOP BARS	STIRRUPS		FACE BARS (1/2 E.F.)
				SIZE	SPACING	
GB-01	18x36	6-#8	6-#8	#4	2L-12"	4-#5
GB-02	18x48	6-#9	6-#9	#4	2L-12"	6-#5
GB-03	24x24	8-#8	8-#8	#4	2L-12"	2-#5
GB-04	24x36	8-#9	8-#9	#4	2L-9"	4-#5
GB-05	36x48	8-#11	8-#11	#4	4L-9"	6-#5
GB-06	48x48	10-#11	10-#11	#4	4L-9"	6-#5
GB-07	36x24	10-#9	10-#9	#4	4L-9"	2-#5

T.O. SLAB ELEV. U.O.N.:
0'-0" PROJECT
13'-4" NAVD88

SLAB BASIC REINF.:
12" & 14": #6@12" E.W. T&B
16": #7@12" E.W. T&B
8" SOG: WWF 4x4 D4xD4
6" SOG: WWF 6x6 W2.1xW2.1

SLAB THK & F'C
12", 14" & 16": F'C = 8KSI
6" & 8" SOG: F'C = 5KSI

DRAWING NOTES:

1. FOR GENERAL NOTES SEE S-000 SERIES.
2. ALL ELEVATIONS SHOWN ARE PROJECT/RELATIVE.
3. CONCRETE STRENGTH FOR PILE CAPS, WALLS AND SLABS SHALL BE F'C=6KSI U.O.N.
4. TOP AND BOTTOM OF FOUNDATION INDICATED THUS (T. EL. = "-'-.-") AND (B. EL. = "-'-.-")
5. FOR ELEVATIONS OF TOP OF SLAB SEE PLAN. MAINTAIN SLAB MINIMUM THICKNESS AT LOW POINTS - SEE ARCHITECTURAL DRAWINGS FOR SLOPES TO DRAIN.
6. OUTERMOST REINFORCING RUNS EAST-WEST. DETAILER TO CHECK ALL BAR CLEARANCES.
7. "AB" INDICATES ADDITIONAL BOTTOM BARS. "AT" INDICATES ADDITIONAL TOP BARS.
8. INDICATES CLOSED-END PIPE PILES OR ROCK-SOCKETED CAISSONS, SEE PILE CAP LEGEND FOR CONFIGURATION AND FO-141 FOR CONSTRUCTION DETAILS
9. INDICATES BRACED FRAME, SEE S-411 & S-412.
10. (WP) INDICATES WIND POST.
11. SLAB FINISH SHALL PROVIDE OVERALL F_f = 45 AND F_l = 35 w/ LOCAL MINIMUM OF F_f = 30 AND F_l = 24 IN ACCORDANCE WITH ASTM E1155. SLAB MIX SHALL NOT CONTAIN FLY ASH AND SHALL NOT BE AIR ENTRAINED. PROVIDE BLENDED AGGREGATE MIX TO MINIMUM CURLING AND SHRINKAGE. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS INCLUDING HARDENER.

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FOUNDATION AND LEVEL 1 FRAMING PLAN - ZONE IV

STEPHEN V DESIMONE, PE
074933

DOB NOW JOB #
Q00448025-I1

SCALE: As indicated
DATE: 3/12/2021
DCE#: 190003.02
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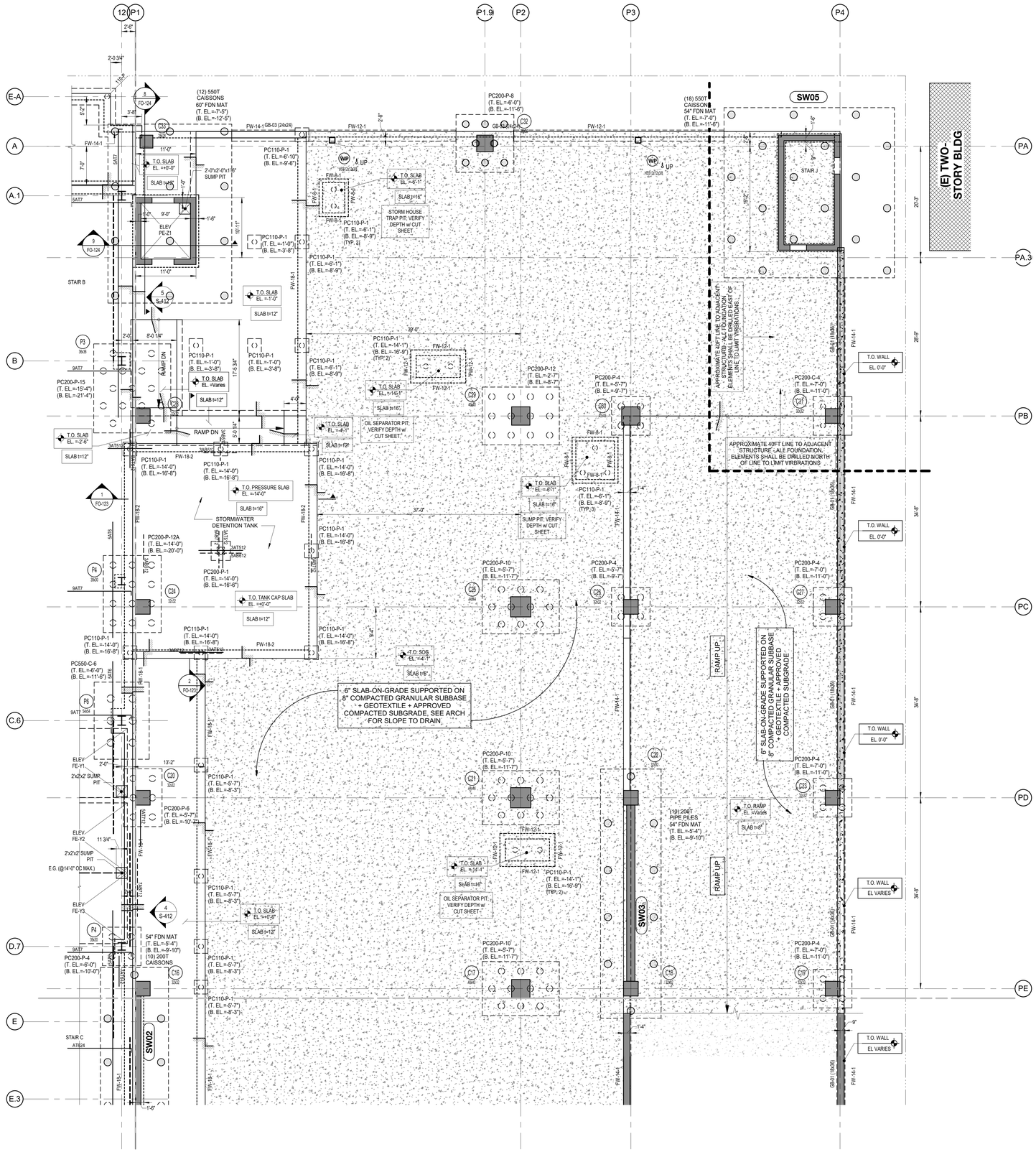

LEVEL T1-T2 FRAMING PLAN - ZONE V

SCALE: 1/8" = 1'-0"

NORTH

PILE/CAISSON COMPRESSION CAPACITY
"P" INDICATED DRIVEN PIPE PILE
"C" INDICATES DRILLED CAISSON
NUMBER OF PILES/CAISSONS IN CAP
PC200-P-4 (T. EL.=-1'-6") (B. EL.=-4'-6")
TOP OF PC EL.
BOTTOM OF PC EL.
DENOTES FIXED-HEAD CONNECTION
DENOTES FREE-HEAD CONNECTION

PILE CAP LEGEND

DURABILITY REQUIREMENTS:

1. COVER FOR MILD REINFORCEMENT: TOP BARS = 2", BOTTOM BARS = 1".
2. CORROSION INHIBITOR ADMIXTURE, MINIMUM 3 GAL/CY.
3. CONCRETE: MINIMUM F'C = 6,000 PSI, MINIMUM W/C RATIO = 0.40, 7.5% AIR ENTRAINMENT, MINIMUM 15% FLY ASH.
4. ELASTOMERIC TRAFFIC-BEARING MEMBRANE OR TRAFFIC TOPPING OVER FULL FLOOR PLATE.

FDN WALL SCHEDULE

WALL MARK	THICKNESS	VERT. BARS (I.F.)	VERT. BARS (O.F.)	HORIZ. BARS (E.F.)
FW-A-1	8"	#4@12"	#4@12"	#4@12"
FW-12-1	1'-0"	#5@12"	#5@12"	#4@12"
FW-14-1	1'-2"	#5@12"	#5@12"	#5@12"
FW-18-1	1'-6"	#6@12"	#6@12"	#5@12"
FW-18-2	1'-6"	#7@12"	#6@12"	#5@12"
FW-24-1	2'-0"	#7@12"	#7@12"	#5@12"

GRADE BEAM SCHEDULE

MARK	SIZE (w x h)	BOT. BARS	TOP BARS	STIRRUPS SIZE	STIRRUPS SPACING	FACE BARS (1/2 E.F.)
GB-01	18x36	6-#8	6-#8	#4	2L-12"	4-#5
GB-02	18x48	6-#9	6-#9	#4	2L-12"	6-#5
GB-03	24x24	8-#8	8-#8	#4	2L-12"	2-#5
GB-04	24x36	8-#9	8-#9	#4	2L-9"	4-#5
GB-05	36x48	8-#11	8-#11	#4	4L-9"	6-#5
GB-06	48x48	10-#11	10-#11	#4	4L-9"	6-#5
GB-07	36x24	10-#9	10-#9	#4	4L-9"	2-#5

TOP OF SLAB ELEVATION U.O.N.: SEE PLAN

SLAB THICKNESS U.O.N.: 8" PT

SLAB CONCRETE STRENGTH: 6 KSI

SLAB BASIC TOP BARS U.O.N.: SEE PLAN

SLAB BASIC BOTTOM BARS U.O.N.: #5@18"

POST-TENSION TENDON LAYOUT: SEE PLAN

DRAWING NOTES:

1. FOR GENERAL NOTES SEE DRAWINGS S-000 SERIES.
2. ALL ELEVATIONS SHOWN ARE PROJECT/RELATIVE.
3. CONCRETE STRENGTH FOR FOOTINGS, WALLS AND SLABS SHALL BE F'C=6KSI U.O.N.
4. MAINTAIN SLAB MINIMUM THICKNESS AT LOW POINTS. SEE ARCHITECTURAL DRAWINGS FOR SLOPES TO DRAIN.
5. FOR TYPICAL FOUNDATION SECTIONS AND DETAILS SEE FO-120 SERIES.
6. FOR TYPICAL CONCRETE COLUMN DETAILS SEE DRAWING S-402.
7. FOR TYPICAL SUPERSTRUCTURE CONCRETE DETAILS SEE S-500 SERIES.
8. NO CORE DRILLING FOR PIPE PENETRATIONS OR INSTALLATION OF METAL STRUCTURES IS PERMITTED. PLACEMENT OF ALL PIPE SLEEVES, SLOTS AND ANCHORS SHALL BE DIMENSIONED AND COORDINATED WITH ALL TRADES AND APPROVED BY ARCHITECT, MECHANICAL AND STRUCTURAL ENGINEERS PRIOR TO POURING CONCRETE.
9. DETAILER TO CHECK ALL BAR CLEARANCES.
10. OUTERMOST REINFORCING RUNS EAST-WEST.
11. 'AB' INDICATES ADDITIONAL BOTTOM BARS. 'AT' INDICATES ADDITIONAL TOP BARS.
12. INDICATES CLOSED-END PIPE PILES OR ROCK-SOCKETED CAISSONS, SEE PILE CAP LEGEND FOR CONFIGURATION. PILE/CAISSON COMPRESSION CAPACITIES SHALL BE:
    - A. 110 TON PIPE PILE = 10.75" DIA. x 0.375" THK. w/ 4,000PSI CONC. FILL
    - B. 200 TON PIPE PILE = 14.00" DIA. x 0.500" THK. w/ 4,000PSI CONC. FILL
    - C. 200 TON CAISSON = 10.75" DIA. x 0.375" THK. w/ 1-#18 GR75 & 5,000PSI CONC. FILL
    - D. 550 TON CAISSON = 16.00" DIA. x 0.500" THK. w/ 3-#20 GR75 & 7,500PSI CONC. FILL
13. COLUMN SIZES AND COLUMN SCHEDULE REFER TO S-402
14. PT BEAMS SIZES AND REINFORCEMENT REFER TO S-505
15. SHEARWALL REINFORCEMENT REFER TO S-43X SERIES
16. SHEARWALL OPENINGS AND ELEVATIONS REFER TO S-45X SERIES

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LONG ISLAND CITY, NY 11101

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FOUNDATION AND LEVEL P0 VERT. ACCESS STRUCT. FRAMING PLAN - ZONE V

STEPHEN V DESIMONE, PE 074933

DOB NOW JOB # Q00448025-I1

SCALE: As indicated
DATE: 3/12/2021
DCE#: 190003.02
DOB#:
DWG No:

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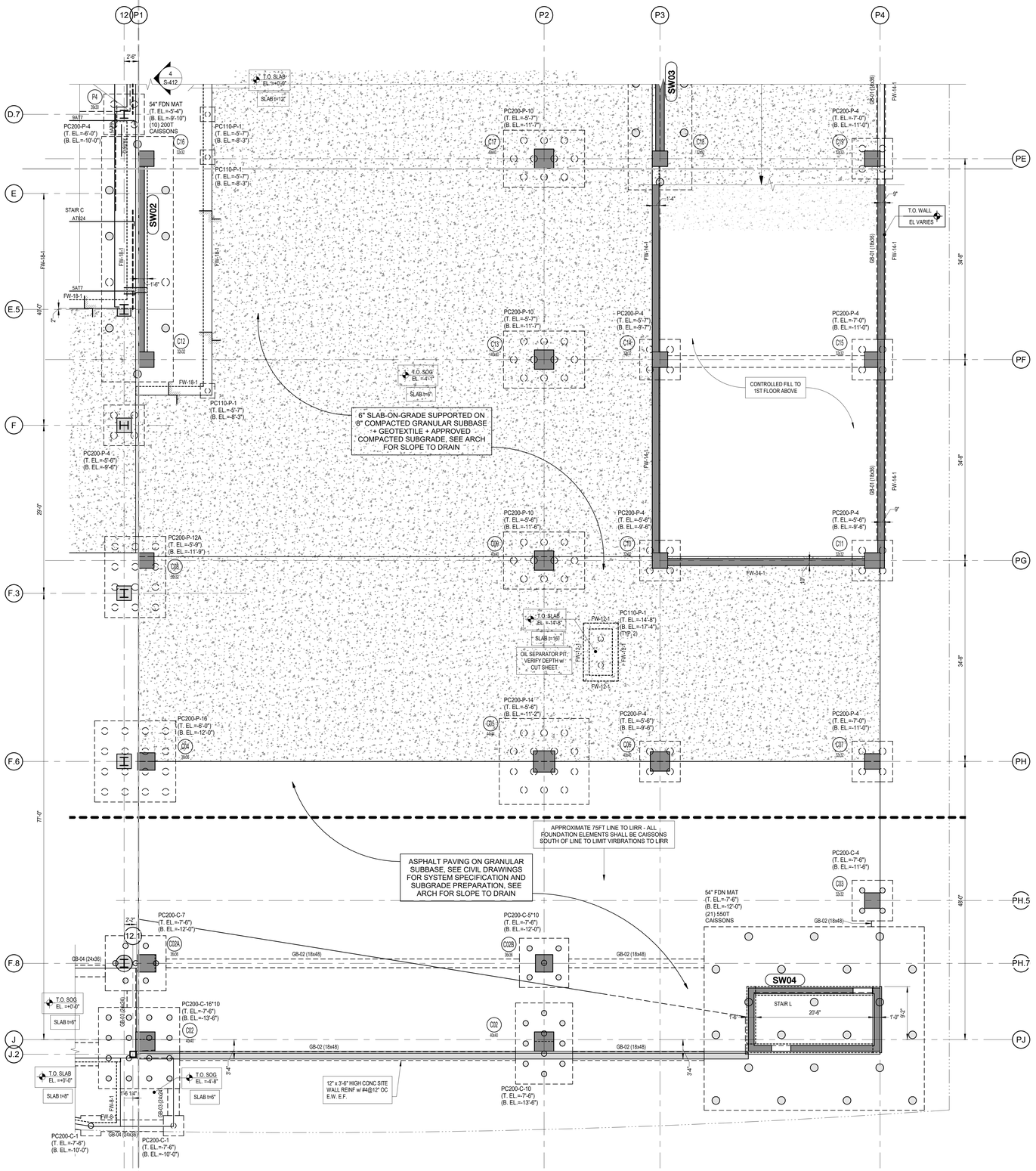

LEVEL T1-T2 GARAGE FRAMING PLAN - ZONE VI

SCALE: 1/8" = 1'-0"

NORTH

PILE/CAISSON COMPRESSION CAPACITY
"P" INDICATED DRIVEN PIPE PILE
"C" INDICATES DRILLED CAISSON
NUMBER OF PILES/CAISSONS IN CAP
PC200-P-4 (T. EL.=-1'-6") (B. EL.=-4'-6") — TOP OF PC EL. BOTTOM OF PC EL.
DENOTES FIXED-HEAD CONNECTION
DENOTES FREE-HEAD CONNECTION

PILE CAP LEGEND

DURABILITY REQUIREMENTS:

1. COVER FOR MILD REINFORCEMENT: TOP BARS = 2", BOTTOM BARS = 1".
2. CORROSION INHIBITOR ADMIXTURE, MINIMUM 3 GAL/CY.
3. CONCRETE: MINIMUM F'C = 6,000 PSI, MINIMUM W/C RATIO = 0.40, 7.5% AIR ENTRAINMENT, MINIMUM 15% FLY ASH.
4. ELASTOMERIC TRAFFIC-BEARING MEMBRANE OR TRAFFIC TOPPING OVER FULL FLOOR PLATE.

FDN WALL SCHEDULE

WALL MARK	THICKNESS	VERT. BARS (I.F.)	VERT. BARS (O.F.)	HORIZ. BARS (E.F.)
FW-8-1	8"	#4@12"	#4@12"	#4@12"
FW-12-1	1'-0"	#5@12"	#5@12"	#4@12"
FW-14-1	1'-2"	#5@12"	#5@12"	#5@12"
FW-18-1	1'-6"	#6@12"	#6@12"	#5@12"
FW-18-2	1'-6"	#7@12"	#5@12"	#5@12"
FW-24-1	2'-0"	#7@12"	#7@12"	#5@12"

GRADE BEAM SCHEDULE

MARK	SIZE (w x h)	BOT. BARS	TOP BARS	STIRRUPS SIZE	STIRRUPS SPACING	FACE BARS (1/2 E.F.)
GB-01	18x36	6-#6	6-#6	#4	2L-12"	4-#5
GB-02	18x48	6-#9	6-#9	#4	2L-12"	6-#5
GB-03	24x24	8-#8	8-#8	#4	2L-12"	2-#5
GB-04	24x36	8-#9	8-#9	#4	2L-9"	4-#5
GB-05	30x48	8-#11	8-#11	#4	4L-9"	6-#5
GB-06	48x48	10-#11	10-#11	#4	4L-9"	6-#5
GB-07	30x24	10-#9	10-#9	#4	4L-9"	2-#5

TOP OF SLAB ELEVATION U.O.N.: SEE PLAN

SLAB THICKNESS U.O.N.: 8" PT

SLAB CONCRETE STRENGTH: 6 KSI

SLAB BASIC TOP BARS U.O.N.: SEE PLAN

SLAB BASIC BOTTOM BARS U.O.N.: #5@18"

POST-TENSION TENDON LAYOUT: SEE PLAN

DRAWING NOTES:

1. FOR GENERAL NOTES SEE DRAWINGS S-000 SERIES.
2. ALL ELEVATIONS SHOWN ARE PROJECTRELATIVE
3. CONCRETE STRENGTH FOR FOOTINGS, WALLS AND SLABS SHALL BE F'C=6KSI U.O.N.
4. MAINTAIN SLAB MINIMUM THICKNESS AT LOW POINTS. SEE ARCHITECTURAL DRAWINGS FOR SLOPES TO DRAIN.
5. FOR TYPICAL FOUNDATION SECTIONS AND DETAILS SEE FO-120 SERIES.
6. FOR TYPICAL CONCRETE COLUMN DETAILS SEE DRAWING S-402.
7. FOR TYPICAL SUPERSTRUCTURE CONCRETE DETAILS SEE S-500 SERIES.
8. NO CORE DRILLING FOR PIPE PENETRATIONS OR INSTALLATION OF METAL STRUCTURES IS PERMITTED. PLACEMENT OF ALL PIPE SLEEVES, SLOTS AND ANCHORS SHALL BE DIMENSIONED AND COORDINATED WITH ALL TRADES AND APPROVED BY ARCHITECT, MECHANICAL AND STRUCTURAL ENGINEERS PRIOR TO POURING CONCRETE.
9. DETAILER TO CHECK ALL BAR CLEARANCES.
10. OUTERMOST REINFORCING RUNS EAST-WEST.
11. 'AB' INDICATES ADDITIONAL BOTTOM BARS, 'AT' INDICATES ADDITIONAL TOP BARS.
12. INDICATES CLOSED-END PIPE PILES OR ROCK-SOCKETED CAISSONS, SEE PILE CAP LEGEND FOR CONFIGURATION. PILE/CAISSON COMPRESSION CAPACITIES SHALL BE:
    - A. 110 TON PIPE PILE = 10.75" DIA. x 0.375" THK. w/ 4,000PSI CONC. FILL
    - B. 200 TON PIPE PILE = 14.00" DIA. x 0.500" THK. w/ 4,000PSI CONC. FILL
    - C. 200 TON CAISSON = 10.75" DIA. x 0.375" THK. w/ 1-#18 GR75 & 5,000PSI CONC. FILL
    - D. 550 TON CAISSON = 16.00" DIA. x 0.500" THK. w/ 3-#20 GR75 & 7,500PSI CONC. FILL
13. COLUMN SIZES AND COLUMN SCHEDULE REFER TO S-402
14. PT BEAMS SIZES AND REINFORCEMENT REFER TO S-505
15. SHEARWALL REINFORCEMENT REFER TO S-43X SERIES
16. SHEARWALL OPENINGS AND ELEVATIONS REFER TO S-45X SERIES

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New York, NY 10018
212-447-6770

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New York, NY 10001
212-479-5400

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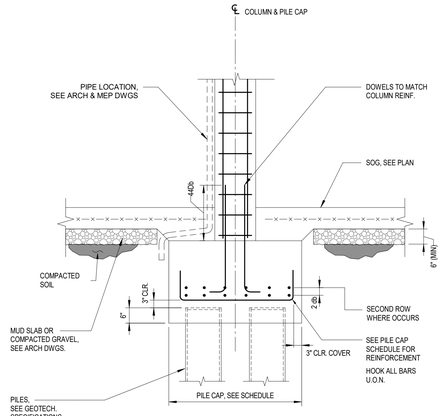
FOUNDATION AND LEVEL P0
VERT. ACCESS STRUCT.
FRAMING PLAN - ZONE VI

STEPHEN V DESIMONE, PE
074933

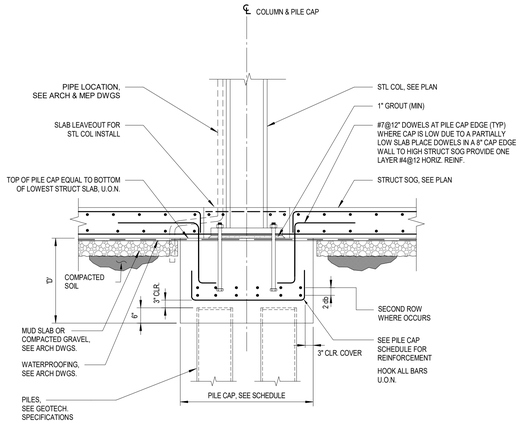
DOB NOW JOB #
Q00448025-I1

SCALE: As indicated
DATE: 3/12/2021
DCE#: 190003.02
DOB#:
DWG No:

FO-116.00

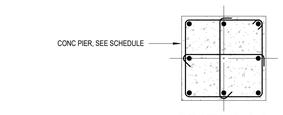


SUPPORTING CONCRETE COLUMN

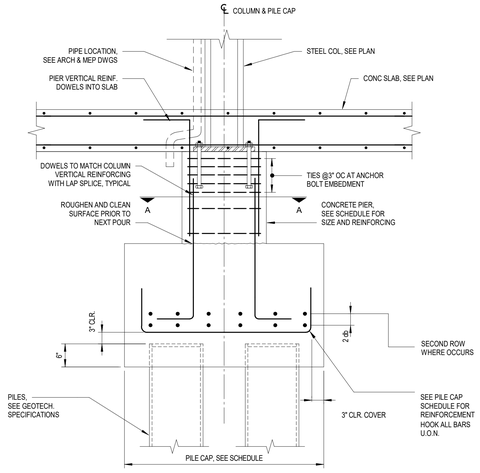


SUPPORTING STEEL COLUMN

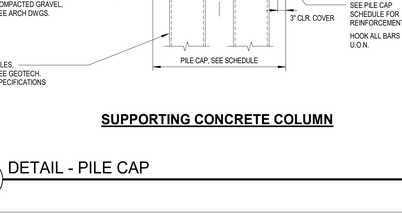
2 DETAIL - PILE CAP



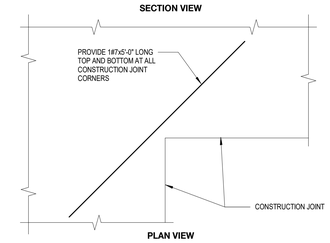
SECTION A-A



4 DETAIL - STEEL COLUMN ON CONCRETE PIER

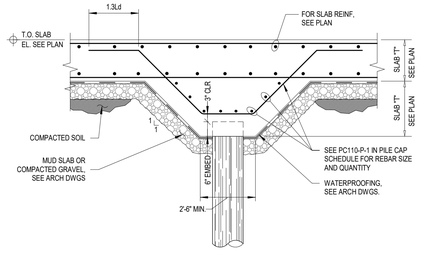


SECTION VIEW

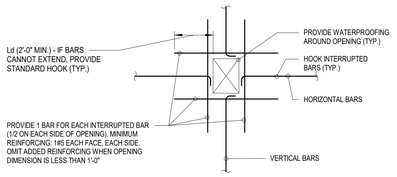


PLAN VIEW

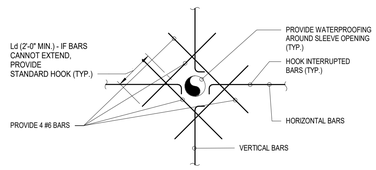
9 DETAIL - STRUC. SOG CONSTRUCTION JOINT



3 DETAIL - PC110-P-1 SLAB CONNECTION

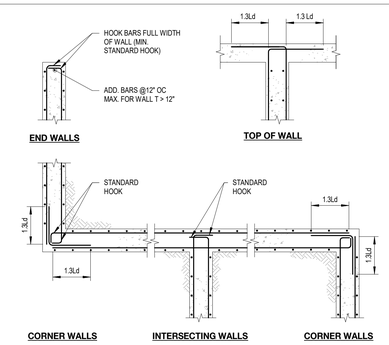


MECHANICAL DUCT OPENING



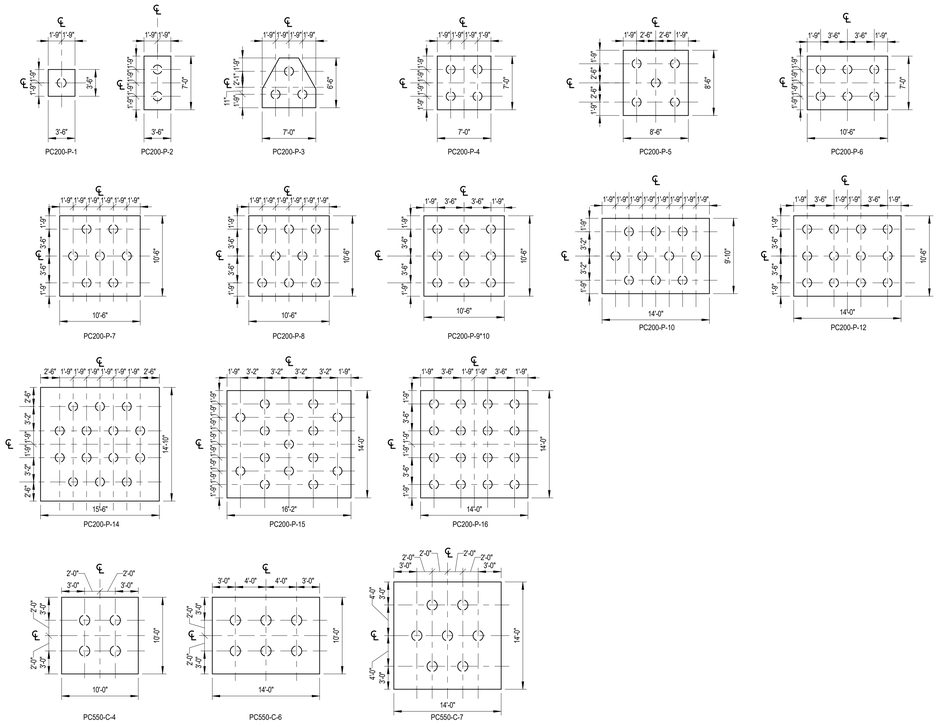
PIPE SLEEVE OPENING

7 DETAIL - REINF AT WALL OPENING



NOTE: CORNER BARS TO MATCH SIZE AND SPACING OF HORIZONTALBARS IN WALLS.

8 DETAIL - WALL INTERSECTION REINF.



PC SCHEDULE - DRIVEN

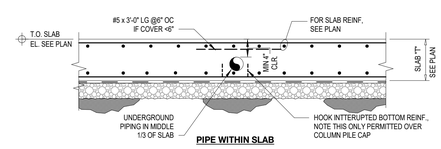
MARK	THICKNESS	LONG BARS	SHORT BARS	REMARKS
PC110-P-1	32"	8-#6	8-#6	SEE DETAIL 3/FO-121
PC110-P-GB	24"	8-#6	8-#6	3'-0" L x 3'-0" W
PC200-P-1	30"	8-#7	8-#7	
PC200-P-2	42"	6-#8	10-#8	
PC200-P-3	40"	10-#9	3 WAYS	
PC200-P-3*10	40"	10-#9	3 WAYS	
PC200-P-4	48"	12-#8	12-#8	
PC200-P-5	60"	11-#9	11-#9	
PC200-P-5*10	54"	14-#9	14-#9	
PC200-P-6	60"	14-#9	18-#9	
PC200-P-6*10	54"	15-#9	18-#9	
PC200-P-7	60"	15-#9	15-#9	
PC200-P-7*10	54"	15-#9	15-#9	
PC200-P-8	66"	18-#9	18-#9	
PC200-P-8*10	54"	22-#9	22-#9	
PC200-P-9*10	60"	22-#9	22-#9	
PC200-P-10	72"	24-#9	24-#9	
PC200-P-12	72"	32-#9	32-#9	
PC200-P-12A	72"	15-#11	20-#11	SEE PC200-P-12 FOR LAYOUT; 12-#8 E.W. TOP
PC200-P-14	68"	20#10	21#10	
PC200-P-15	72"	16-#11	16-#11	16-#10 E.W. TOP
PC200-P-16	72"	22-#11	22-#11	14-#8 E.W. TOP; F'C=10KSI

PC SCHEDULE - CAISSONS

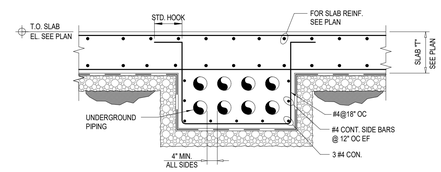
MARK	THICKNESS	LONG BARS	SHORT BARS	REMARKS
PC200-C-1	30"	8-#7	8-#7	
PC200-C-1A	24"	8-#7	8-#7	SEE DETAIL 3/FO-121
PC200-C-3*10	42"	12-#8	3 WAYS	SEE PC200-P-3 FOR LAYOUT
PC200-C-4	48"	12-#8	12-#8	SEE PC200-P-4 FOR LAYOUT
PC200-C-4*10	42"	12-#8	12-#8	
PC200-C-5	60"	11-#9	11-#9	SEE PC200-P-5 FOR LAYOUT
PC200-C-5*10	54"	12-#9	12-#9	
PC200-C-5A	60"	11-#9	11-#9	SEE PC200-P-5 FOR LAYOUT; REINF. PLACED AT T&B
PC200-C-6	60"	14-#9	18-#9	SEE PC200-P-6 FOR LAYOUT; REINF. PLACED AT T&B
PC200-C-7	54"	14-#9	14-#9	SEE PC200-P-7 FOR LAYOUT; 12-#8 E.W. TOP
PC200-C-7*10	54"	15-#9	15-#9	REINF. PLACED AT T&B
PC200-C-10	72"	24-#9	24-#9	SEE PC200-P-10 FOR LAYOUT
PC200-C-16*10	72"	44-#11 [2L]	44-#11 [2L]	SEE PC200-P-16 FOR LAYOUT; 14-#8 E.W. TOP
PC550-C-4	66"	16-#10	16-#10	REINF. PLACED AT T&B
PC550-C-6	66"	24-#10	26-#10	REINF. PLACED AT T&B
PC550-C-7	66"	29-#10	29-#10	REINF. PLACED AT T&B

NOTE:
ALL PC550-C-X SHALL BE F'C=10KSI
*10 INDICATES F'C=10KSI CONCRETE
SEE FO-141 FOR FIXED-HEAD CONNECTION DETAILS

1 PILE CAP DETAILS



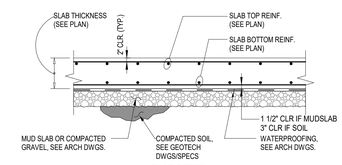
PIPE WITHIN SLAB



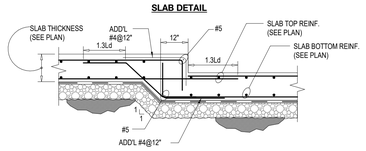
CONDUIT BELOW SLAB

NOTE:
SEE GEOTECH REPORT FOR UTILITY SUPPORT REQUIREMENTS, DESIGN OF SLAB HANGERS IS BY OTHERS.

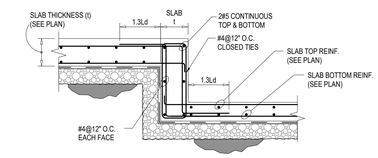
6 DETAIL - ENCASEMENT OF PIPE BELOW STRUCT SLAB ON GRADE



SLAB DETAIL



SLAB STEP DETAIL - LESS THAN 12"



SLAB STEP DETAIL - MORE THAN 12" BUT LESS THAN 48"

5 DETAIL - STRUCTURAL SLAB ON GRADE

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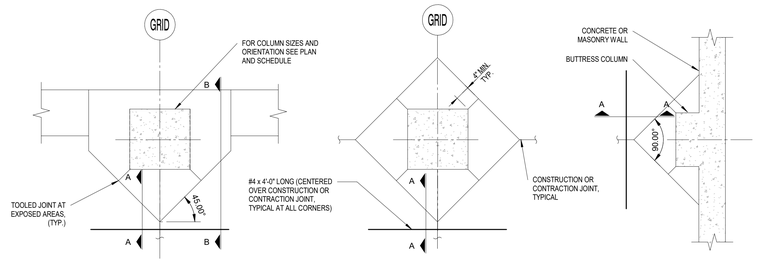
FOUNDATION DETAILS

STEPHEN V DESIMONE, PE
074933

DOB NOW JOB #
Q00448025-I1

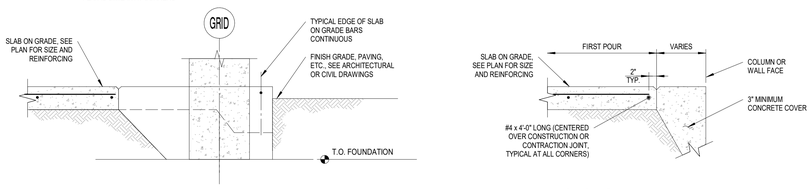
SCALE:	As indicated
DATE:	3/12/2021
DCE#:	190003.02
DOB#:	
DWG No:	FO-121.00



PLAN AT EXTERIOR COLUMN
PLAN IS SIMILAR AT CORNERS

PLAN AT INTERIOR COLUMN

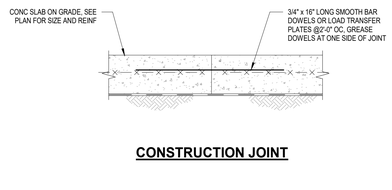
PLAN AT WALL PILASTER



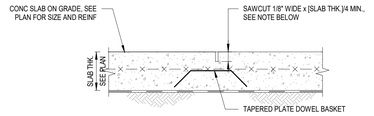
SECTION B-B

SECTION A-A

4 DETAIL - ISOLATION JOINTS IN SLAB-ON-GRADE



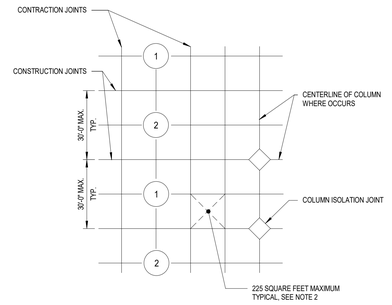
CONSTRUCTION JOINT



NOTES: SAWING MUST OCCUR AS SOON AS CONCRETE SURFACE IS FIRM ENOUGH TO AVOID BEING DAMAGED, BUT NO LATER THAN 12 HOURS AFTER CONCRETE HAS BEEN POURED.

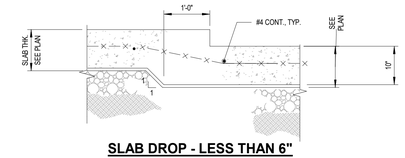
CONTRACTION JOINT

3 TYPICAL JOINT DETAIL FOR SLAB-ON-GRADE



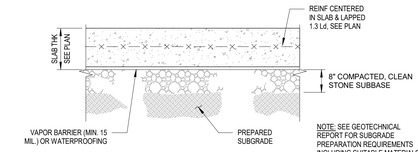
NOTES:
1. SLAB SHALL BE POURED IN STRIP PATTERN: (1) = FIRST POUR (2) = SECOND POUR
2. STRIPS TO BE DIVIDED BY CONSTRUCTION JOINTS AT THE CENTER LINE OF COLUMNS WHERE THEY OCCUR AND SUBDIVIDED AS REQUIRED INTO AREAS NOT EXCEEDING 225 SQUARE FEET BY CONTRACTION JOINTS.
3. IN AREAS WHERE COLUMNS DO NOT OCCUR PROVIDE CONSTRUCTION AND CONTRACTION JOINTS AS ABOVE.
4. CONTRACTORS SHALL OBTAIN ARCHITECT'S APPROVAL FOR ALL JOINT LOCATIONS

2 CONTROL JOINT LAYOUT FOR SLAB-ON-GRADE



SLAB DROP - LESS THAN 6"

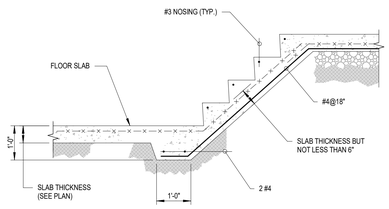
SLAB DROP - MORE THAN 6" BUT LESS THAN 12"



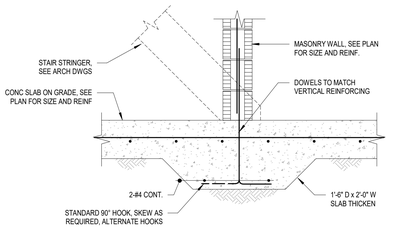
NOTE: SEE GEOTECHNICAL REPORT FOR SUBGRADE PREPARATION REQUIREMENTS INCLUDING SUITABLE MATERIALS AND COMPACTION PROCEDURES.

TYPICAL SLAB CONSTRUCTION

1 TYPICAL SLAB-ON-GRADE DETAIL



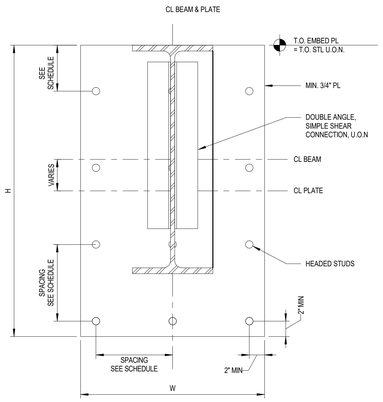
6 TYPICAL DETAIL OF STEPS IN SLAB-ON-GRADE

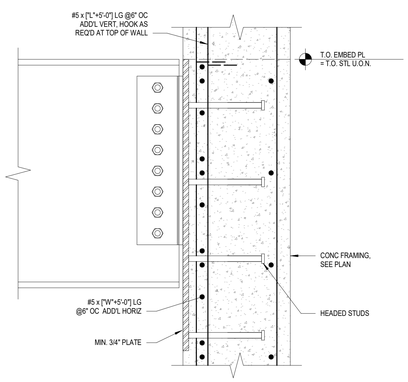


5 TYPICAL THICKENED SLAB ON GRADE

EMBED PLATE SCHEDULE					
TYPE	W x H x T	# OF STUDS (COLs x ROWS)	STUD SPACING	TOP EDGE DISTANCE	CAPACITY (KIPS)
EP1	14"x20"x1/2"	4 (2x2)	16"	2"	40
EP2	14"x20"x1/2"	4 (2x2)	12"	5"	43
EP3	10"x20"x1/2"	4 (2x2)	14"	4"	50
EP4	16"x40"x1/2"	8 (2x4)	9"	10"	110

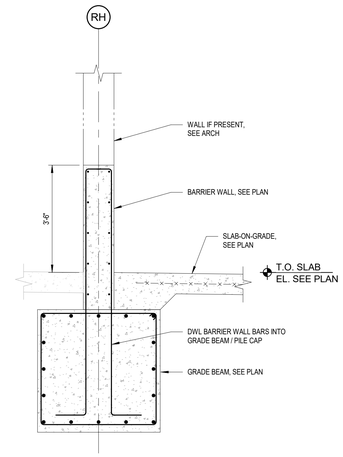
NOTES:
1. CAPACITY SHOWN IS LRFD/FACTORED.
2. ALL STUDS TO BE 3/4" DIAMETER x 8" LONG ASTM A108 HEADED STUDS



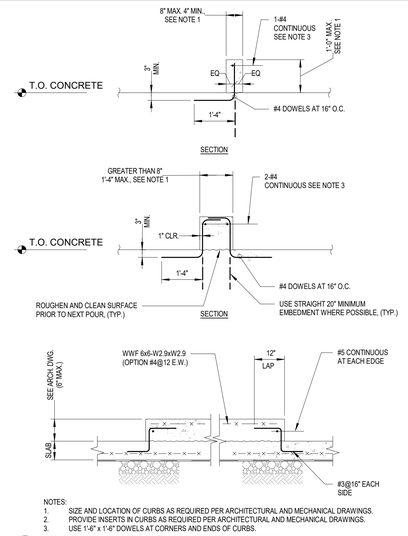


TYPICAL EMBED PLATE

14 EMBED PLATES

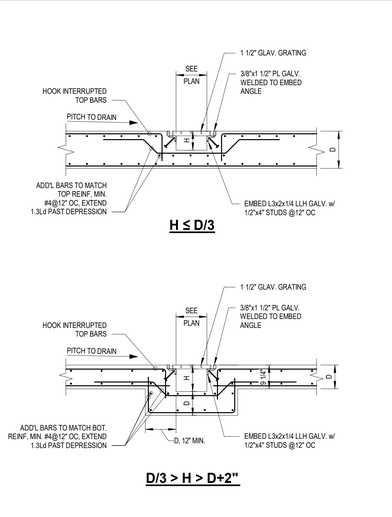


9 CONC SITE WALL



NOTES:
1. SIZE AND LOCATION OF CURBS AS REQUIRED PER ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. PROVIDE INSERTS IN CURBS AS REQUIRED PER ARCHITECTURAL AND MECHANICAL DRAWINGS.
3. USE 1'-6" x 1'-6" DOWELS AT CORNERS AND ENDS OF CURBS.

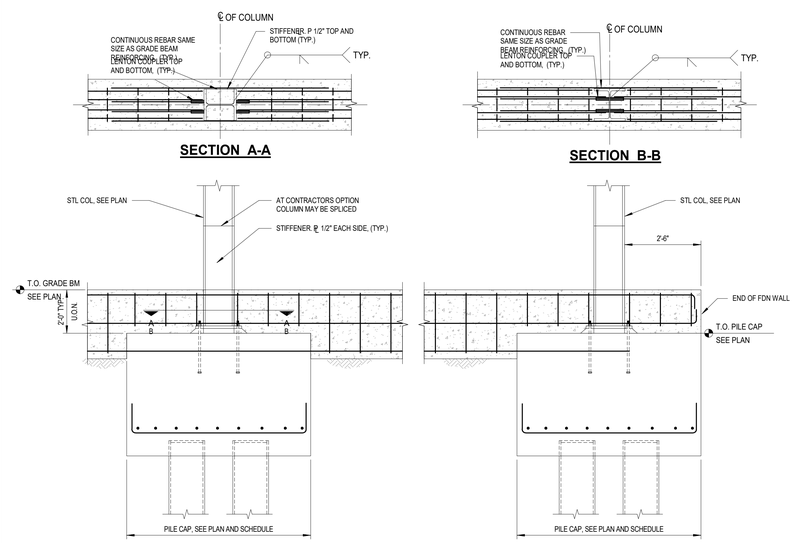
8 TYPICAL CURB AND PAD DETAILS



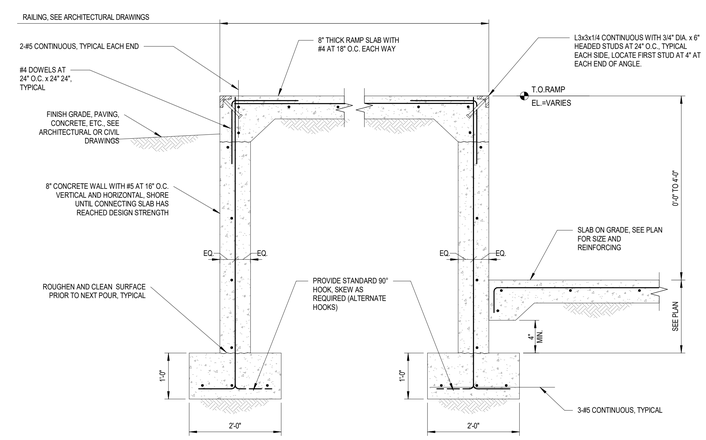
H ≤ D/3

D/3 > H > D+2"

7 TYPICAL TRENCH DRAIN



12 DETAIL - REINF INTERFACE @ STL COL



11 DETAIL - RAMP ON GRADE

23-30 BORDEN AVE.

INNOVO PROPERTY GROUP
23-30 BORDEN AVE.
LONG ISLAND CITY, NY 11101

No.	Date	Description
1	7/31/2020	Design Development
2	8/28/2020	DD Addendum
3	12/11/2020	Issued For Permit
4	1/15/2020	PROGRESS CONSTRUCTION DOCUMENTS
6	3/12/2021	Issued for Construction

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New York, NY 10001
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ISSUED FOR CONSTRUCTION

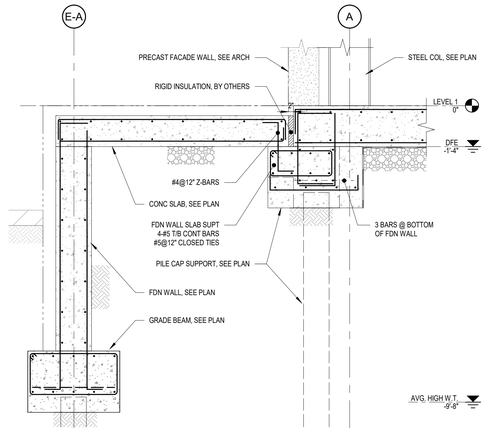
FOUNDATION DETAILS

STEPHEN V DESIMONE, PE
074933

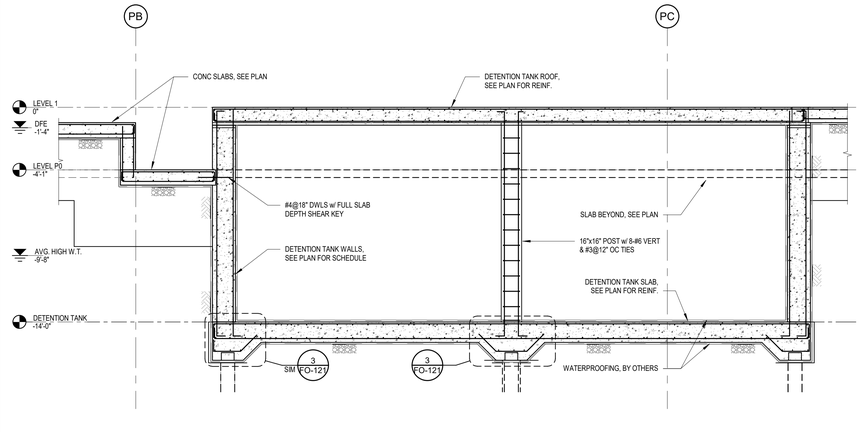
SCALE:	As indicated
DATE:	3/12/2021
DCE#:	190003.02
DOB#:	
DWG No:	FO-122.00

DOB NOW JOB # Q00448025-I1

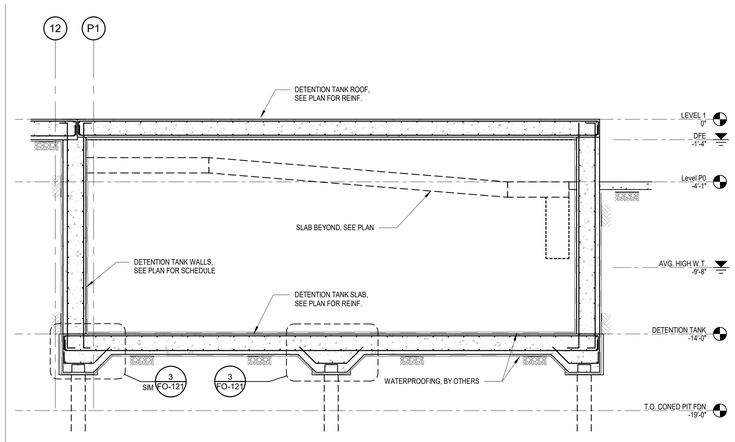
THE LINE SHOWN AT LEFT IS EXACTLY ONE INCH LONG AT THIS SHEETS ORIGINAL PAGE SIZE



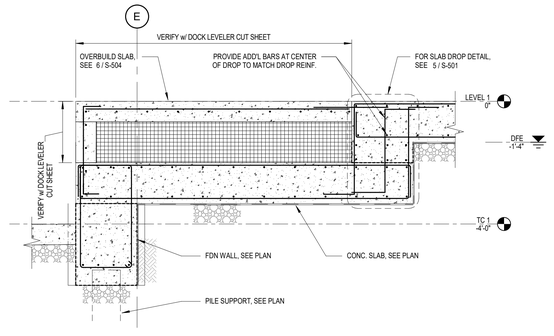
3 SECTION - NORTH ENTRY TERRACE 1
SCALE: 1/2" = 1'-0"



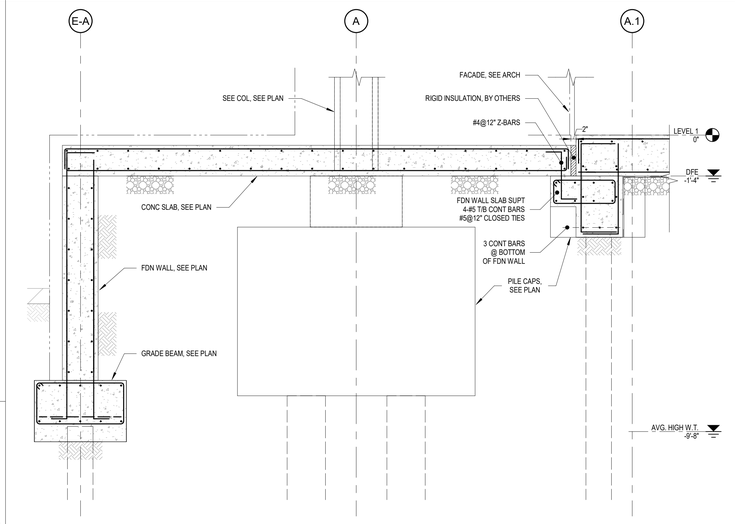
2 SECTION - DETENTION TANK
SCALE: 1/4" = 1'-0"



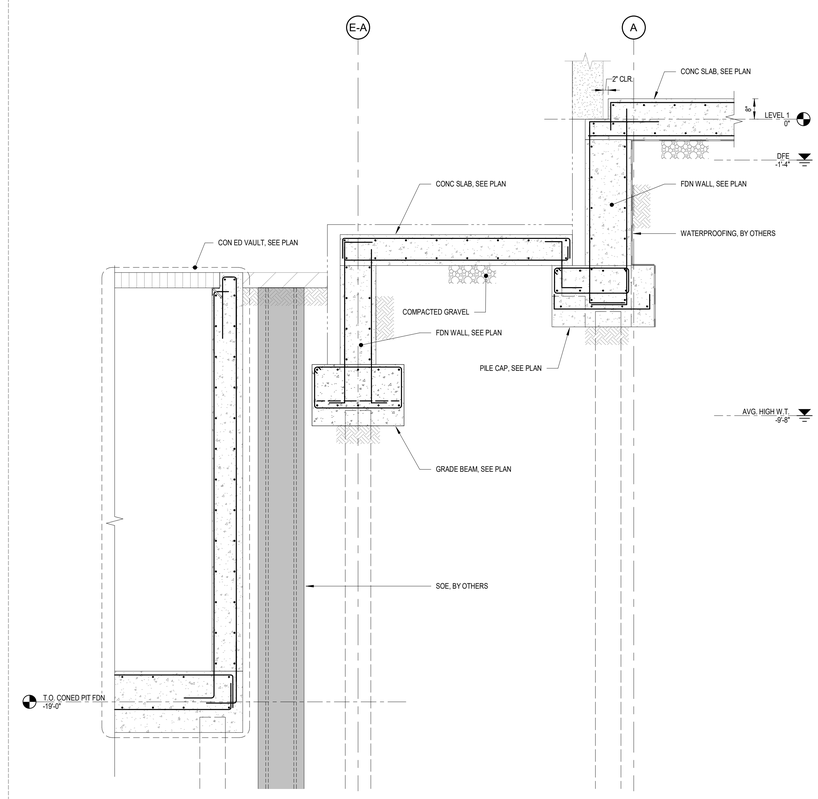
1 SECTION - DETENTION TANK
SCALE: 1/4" = 1'-0"



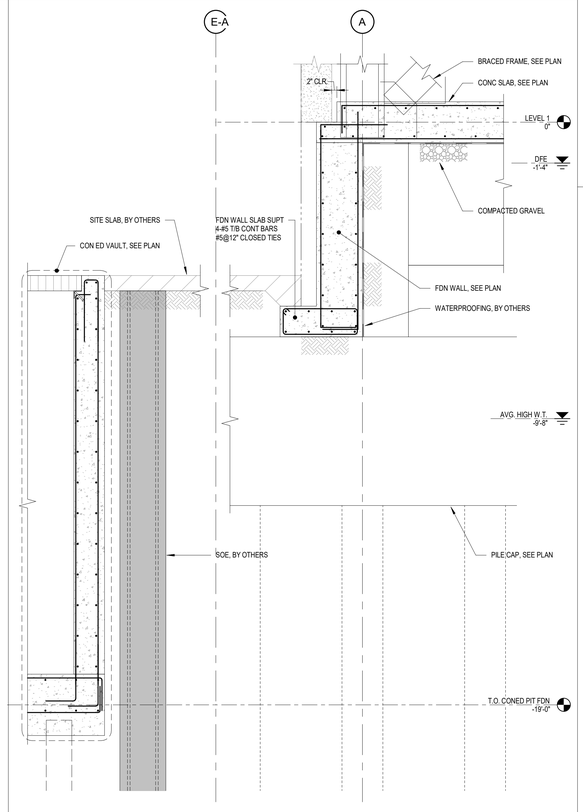
5 SECTION - SOUTH DOCK PIT
SCALE: 1/2" = 1'-0"



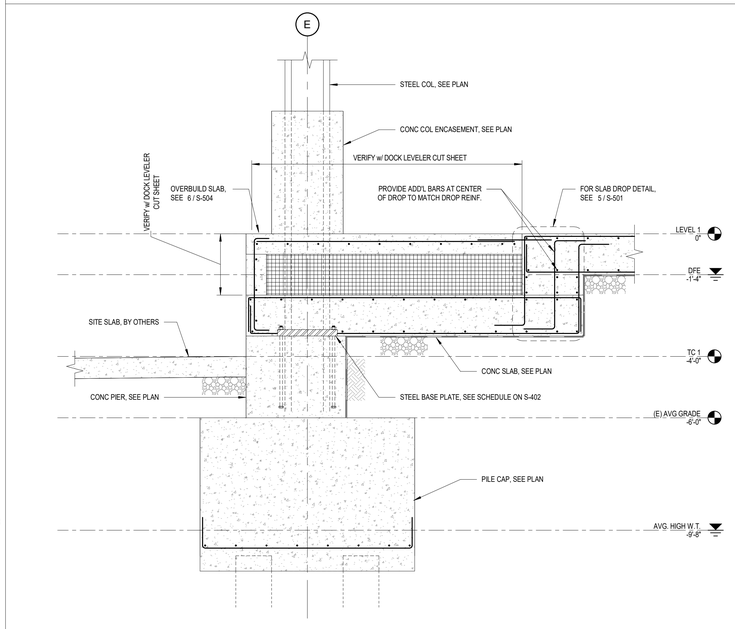
4 SECTION - NORTH ENTRY TERRACE 2
SCALE: 1/2" = 1'-0"



9 SECTION - NORTH ENTRY TERRACE 3
SCALE: 1/2" = 1'-0"



8 SECTION - NORTH ENTRY TERRACE 4
SCALE: 1/2" = 1'-0"



7 SECTION - SOUTH DOCK PIT @ PILE CAP
SCALE: 1/2" = 1'-0"

3/15/2021 3:19:51 PM
G:_REVIT\190003.02-BORDEN AVE SCHEME C-CENTRAL-R19_Leslie.Morris.rvt

23-30 BORDEN AVE.

INNOVO PROPERTY GROUP
23-30 BORDEN AVE.
LONG ISLAND CITY, NY 11101

No.	Date	Description
4	1/15/2020	PROGRESS CONSTRUCTION DOCUMENTS
6	3/12/2021	Issued for Construction

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ISSUED FOR CONSTRUCTION

FOUNDATION SECTIONS

STEPHEN V DESIMONE, PE
074933

DOB NOW JOB #
Q00448025-I1

SCALE:	As indicated
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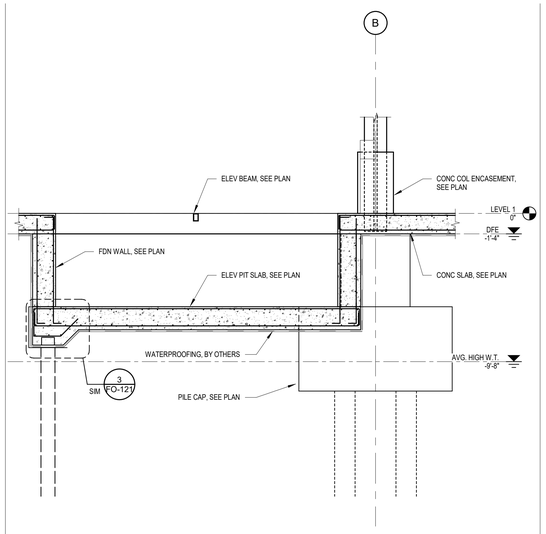
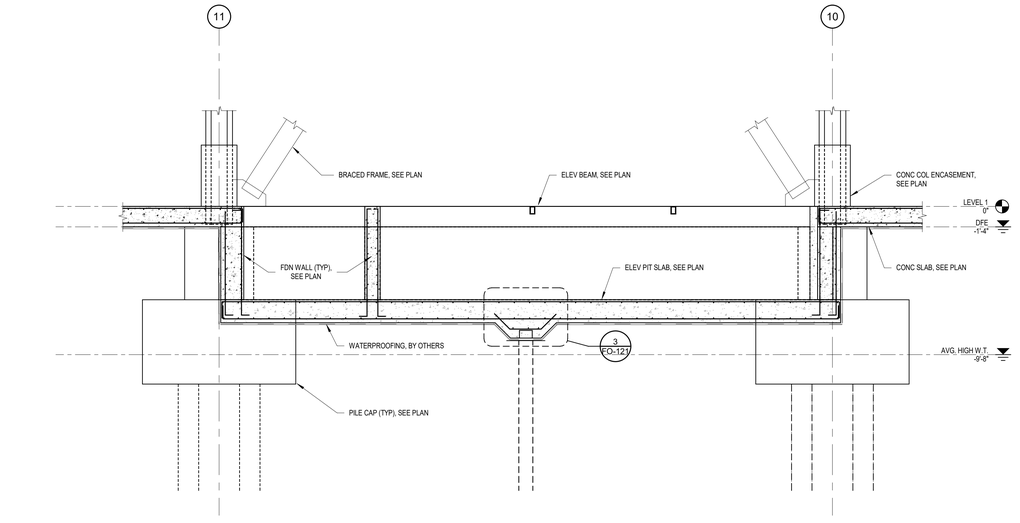
DWG No:	

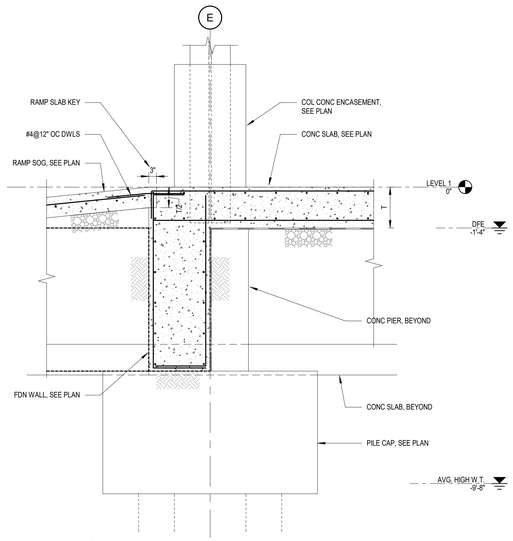
FO-123.00



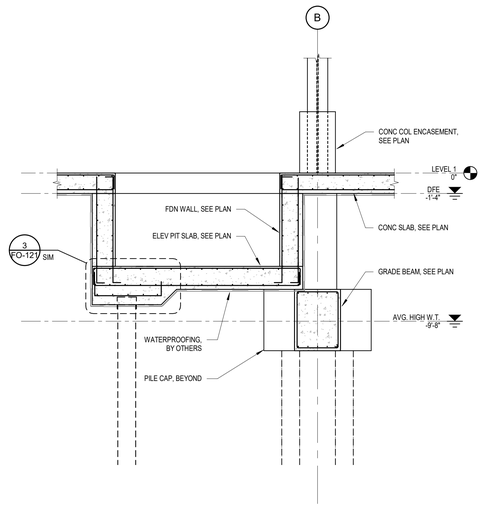
2 ELEV PIT EAST 2
SCALE: 1/4" = 1'-0"



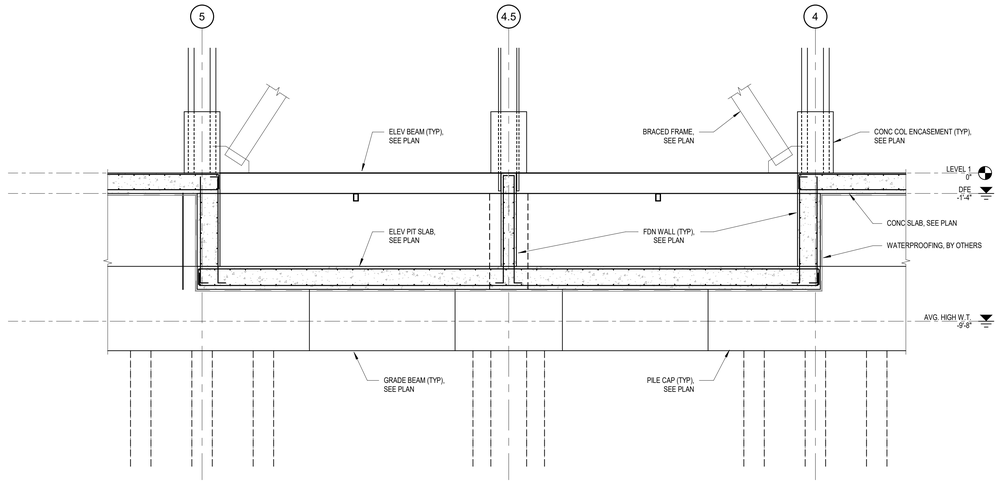
1 ELEV PIT EAST 1
SCALE: 1/4" = 1'-0"



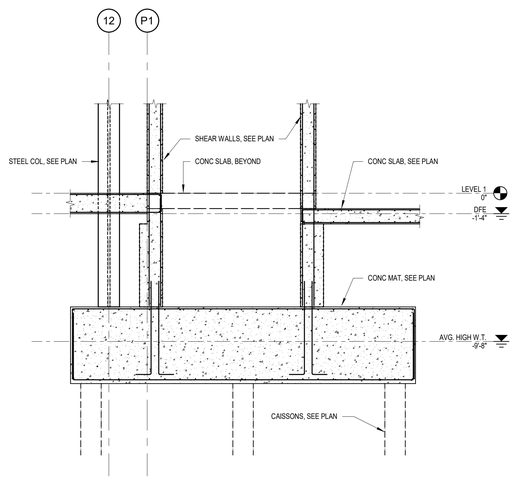
7 SECTION - SOUTH DOCK RAMP
SCALE: 1/2" = 1'-0"



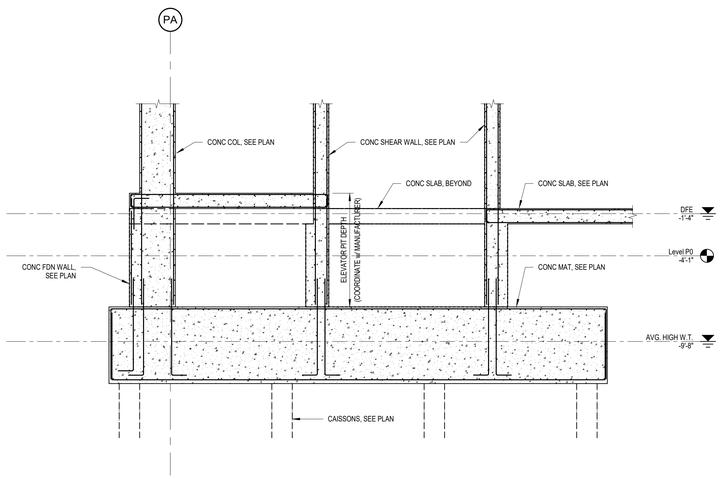
6 ELEV PIT CENTER 2
SCALE: 1/4" = 1'-0"



5 ELEV PIT CENTER 1
SCALE: 1/4" = 1'-0"



9 ELEV PIT GARAGE 1
SCALE: 1/4" = 1'-0"



8 ELEV PIT GARAGE 2
SCALE: 1/4" = 1'-0"

23-30 BORDEN AVE.

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STEPHEN V DESIMONE, PE
074933

SCALE:	As indicated
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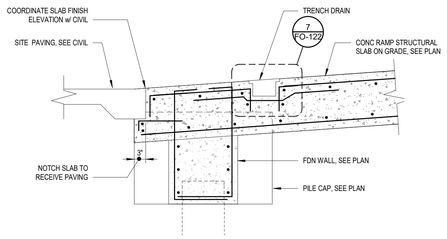
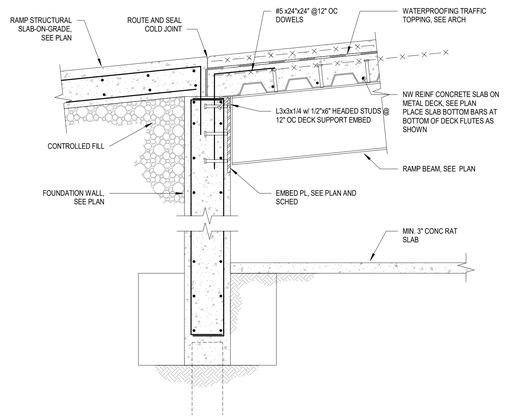
DOB#:	
DWG No:	

FO-124.00

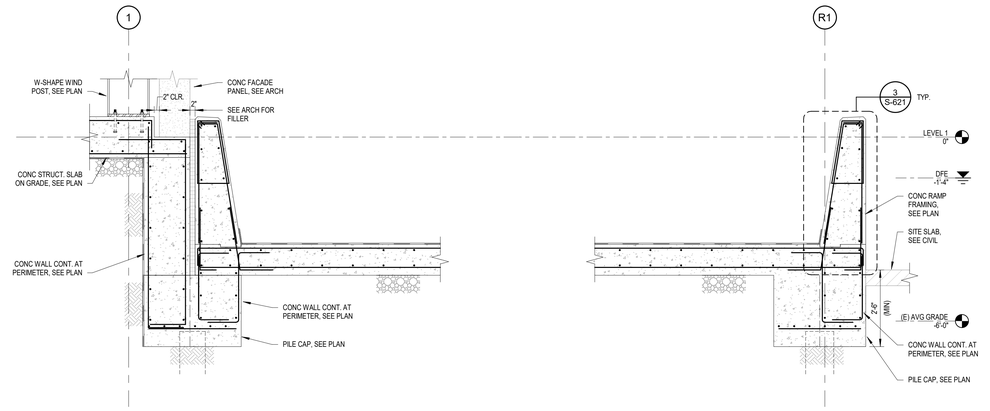
DOB NOW JOB #
Q00448025-I1



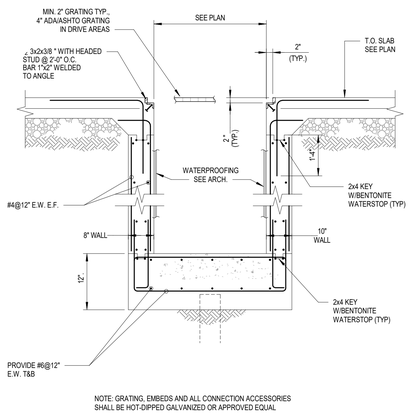
4 SECTION - RAMP TRANSITION AT GRADE
SCALE: 3/4" = 1'-0"



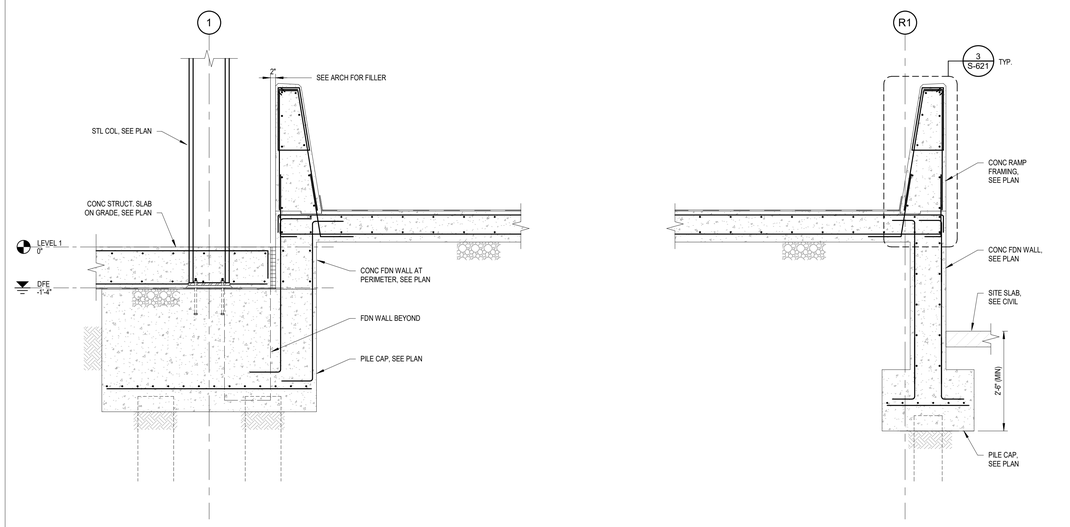
3 SECTION - RAMP CONC TO STEEL TRANSITION
SCALE: 3/4" = 1'-0"



1 SECTION - TRUCK RAMP ON GRADE
SCALE: 1/2" = 1'-0"



8 DETAIL - SUMP PIT
SCALE: 1/2" = 1'-0"



5 SECTION - TRUCK RAMP ON GRADE
SCALE: 1/2" = 1'-0"

23-30 BORDEN AVE.

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6	3/12/2021	Issued for Construction

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STEPHEN V DESIMONE, PE
074933

DOB NOW JOB #
Q00448025-I1

SCALE:	As indicated
DATE:	03/11/21
DCE#:	190003.02
DOB#:	
DWG No:	FO-125.00

ATTACHMENT C

SOE Drawings

LANGAN

THE LINE SHOWN AT LEFT IS EXACTLY ONE INCH LONG AT THIS SHEETS ORIGINAL PAGE SIZE

GENERAL NOTES:

1. BASE FIGURE REPRODUCED FROM:
   - A 6 NOVEMBER 2020 BOUNDARY AND TOPOGRAPHIC SURVEY PREPARED BY CONTROL POINT ASSOCIATES, INC. P.C.;
   - A NEW BUILDING FOUNDATION PLAN PREPARED BY DESIMONE PROVIDED TO LANGAN ON 23 FEBRUARY 2021;
   - A 23 JUNE 2000 FORMER BUILDING FOUNDATION PLAN PREPARED BY VALERIO ASSOCIATES, P.C;
   - A 12 MARCH 2021 GRADING AND DRAINAGE PLAN (SCHEME B) PREPARED BY LANGAN.
2. PILE CAPS, GRADE BEAMS AND OTHER MISCELLANEOUS FOUNDATION ELEMENTS ASSOCIATED WITH THE FORMER ON-SITE BUILDING EXIST AT THE SITE. THE CONTRACTOR SHALL FIELD-VERIFY THE LOCATIONS OF THESE ELEMENTS. SEE NOTE 1 FOR REFERENCE TO THE 23 JUNE 2000 FOUNDATION PLAN ASSOCIATED WITH THE PREVIOUSLY EXISTING ON-SITE BUILDING.
3. ALL ELEVATIONS ARE APPROXIMATE. UNLESS OTHERWISE NOTED, ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88, WHICH IS 1.1 FEET ABOVE THE NATIONAL GEODETIC SURVEY VERTICAL DATUM OF 1929, NGVD29. (MEAN SEA LEVEL MEASURED AT SANDY HOOK, NJ).
4. INFORMATION INDICATED ON THESE DRAWINGS REGARDING THE SITE AND ADJACENT STREETS, SIDEWALKS, VEGETATED AREAS, AND RAILROAD TRACKS IS APPROXIMATE AND HAS BEEN INFERRED FROM THE SURVEY REFERENCED IN NOTE 1.
5. THE TEMPORARY SUPPORT OF EXCAVATION (TSOE) SYSTEM ALONG THE ADJACENT STREET IS DESIGNED TO SUSTAIN AN EQUIVALENT SURFACE SURCHARGE LOAD UP TO 300 PSF.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING HIS WORK SUCH THAT NO DAMAGE OR ADVERSE IMPACTS TO THE NEIGHBORING STRUCTURES, STREETS, SIDEWALKS, AND UTILITIES RESULT, AND FOR PERFORMING NEIGHBORING/BORDERING STRUCTURE MONITORING DURING EXCAVATION AND EXCAVATION SUPPORT CONSTRUCTION TO KEEP HIMSELF CONTINUOUSLY INFORMED OF THEIR CONDITIONS.
7. CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING ON-SITE AND OFF-SITE UTILITIES. EXISTING UTILITIES IMPACTED BY CONSTRUCTION ACTIVITY SHALL BE RELOCATED AS NECESSARY AND PROTECTED AT ALL TIMES. ANY IMPACTED UTILITIES SHALL BE RESTORED, AS NECESSARY, TO THE FULL SATISFACTION OF THE UTILITY OWNER FOLLOWING COMPLETION OF WORK NEAR THE UTILITY. EXISTING CON-EDISON VAULT INFORMATION SHOWN ON THE DRAWINGS IS BASED ON CURRENTLY AVAILABLE INFORMATION. THE CONTRACTOR SHALL FIELD VERIFY LOCATION AND EXTENTS.
8. CONTRACTOR SHALL PROTECT ALL EARTH SLOPES FROM EROSION, FACIAL INSTABILITY, AND WATER RUN-OFF.
9. THE PROVISIONS OF THE LATEST NEW YORK CITY BUILDING (NYC BLDG) CODE SHALL GOVERN THE EXCAVATION AND TSOE CONSTRUCTION ACTIVITIES AND RELATED SPECIAL INSPECTION WORK. THE FULL SCOPE OF WORK SHOULD BE DETERMINED BY THE CONTRACTOR BY SITE REVIEW PRIOR TO BIDDING.
10. CONTRACTOR SHALL PROVIDE ADVANCE NOTICE TO NYCDOB, MTA-LIRR, AND NEIGHBORING PROPERTY / BUILDING OWNERS PER THE REQUIREMENTS OF THE NYC BLDG CODE PRIOR TO COMMENCEMENT OF WORK.
11. CONTRACTOR'S WORKERS' SAFETY AND SITE LOGISTICS ARE BEYOND THE SCOPE OF THESE DRAWINGS AND ARE NOT ADDRESSED HEREIN. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THESE ITEMS.
12. THE GROUNDWATER DEWATERING SYSTEM IS BEYOND THE SCOPE OF THESE DRAWINGS AND IS NOT ADDRESSED HEREIN. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DEWATERING, AND FOR MAKING APPROPRIATE USE OF THE TSOE SYSTEM AS A SUPPLEMENTAL MEANS OF PREVENTING GROUNDWATER LEVEL DRAWDOWN BEYOND SITE LIMITS.
13. SHOULD FIELD CONDITIONS CONFLICT WITH THOSE INDICATED ON THESE DRAWINGS, THE TSOE DESIGN ENGINEER OF RECORD SHALL BE IMMEDIATELY NOTIFIED, SO ANY IMPACTS TO THE DESIGN CAN BE ASSESSED AND THE REQUIRED DESIGN CHANGES CAN BE MADE.
14. A QUALIFIED SPECIAL INSPECTION AGENCY CONTRACTED BY THE OWNER SHALL PERFORM SPECIAL INSPECTION OF THE EXCAVATION SUPPORT WORK IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 1704.20 OF THE NYC BLDG CODE.
15. REFER TO PLANS FILED UNDER #Q00448025 FOR DEMONSTRATION OF PROJECT COMPLIANCE WITH ENERGY CODE REQUIREMENTS.
16. THE APPLICABLE PROVISIONS OF NYC BUILDING CODE CHAPTERS 16, 18, AND 33 SHALL APPLY TO TSOE CONSTRUCTION. NOTE THAT UNDERPINNING IS NOT PROPOSED OR CALLED FOR IN THESE DRAWINGS, AND IS THEREFORE NOT REQUIRED.
17. ADJACENT BUILDING FOUNDATION CONDITIONS AND EXTENTS SCHEMATICALLY REPRESENTED IN THESE DRAWINGS ARE BASED ON THE CURRENTLY AVAILABLE INFORMATION OBTAINED FROM FIELD OBSERVATIONS AND AVAILABLE NYCDOB RECORD DRAWINGS. CONTRACTOR SHALL VERIFY THESE CONDITIONS IN THE FIELD, AS NECESSARY.
18. THE FOLLOWING DRAWINGS ARE INCLUDED IN THIS SET:

DWG NO.	TITLE
SOE-100.00	EXCAVATION SUPPORT NOTES
SOE-200.00	EXCAVATION SUPPORT PLAN
SOE-300.00	EXCAVATION SUPPORT PART PLANS AND SECTIONS
SOE-301.00	EXCAVATION SUPPORT PART PLANS AND SECTIONS
SOE-400.00	EXCAVATION SUPPORT DETAILS
SOE-401.00	EXCAVATION SUPPORT DETAILS

SPECIAL INSPECTIONS:

- STRUCTURAL STEEL - WELDING
- EXCAVATIONS - SHEETING, SHORING, AND BRACING
- CONCRETE DESIGN MIX
- CONCRETE SAMPLING AND TESTING

ENERGY CODE NOTES:

WORK ITEMS	PROPOSED DESIGN VALUES
SHEET PILES WALL	N/A
WALERS	N/A
CROSS BRACES	N/A
CORNER BRACES	N/A
SOIL-MIX WALL	N/A
TIMBER SHEETING	N/A
SOLDIER PILES AND LAGGING	N/A

TO THE BEST OF MY KNOWLEDGE, BELIEF, AND PROFESSIONAL JUDGEMENT, THIS APPLICATION IS IN COMPLIANCE WITH THE ECCCNYS 2010.

PROTECTION OF NEIGHBORING/BORDERING STRUCTURES:

1. PRIOR TO START OF ANY TSOE SYSTEM INSTALLATION, EXCAVATION, OR DEWATERING WORK, PRE-CONSTRUCTION EXISTING CONDITIONS DOCUMENTATION SHALL BE PERFORMED FOR STRUCTURES NEIGHBORING/BORDERING THE SITE.
2. PRIOR TO START OF ANY TSOE SYSTEM INSTALLATION, EXCAVATION, OR DEWATERING WORK, NEIGHBORING STRUCTURE MONITORING INSTRUMENTATION SHALL BE ESTABLISHED. MONITORING INSTRUMENTATION SHALL, AT A MINIMUM, INCLUDE SEISMOGRAPH VIBRATION MONITORS, CRACK-MONITORING GAUGES, AND SURVEY CONTROL POINTS.
3. THE CONTRACTOR SHALL PERFORM EXCAVATION, EXCAVATION SUPPORT INSTALLATION, AND ALL OTHER RELATED WORK SUCH THAT NO ADVERSE IMPACTS OR LOSS OF SUPPORT RESULTS TO ANY NEIGHBORING/BORDERING BUILDINGS, STRUCTURES, SIDEWALKS, STREETS, UTILITIES, OR OTHER IMPROVEMENTS (ALL COLLECTIVELY REFERRED TO AS "STRUCTURES"). THE CONTRACTOR SHALL ESTABLISH ALL NECESSARY MONITORING MEASURES AND MONITOR THE NEIGHBORING/BORDERING STRUCTURES TO KEEP THE CONTRACTOR CONTINUOUSLY INFORMED OF THE CONDITIONS OF THE NEIGHBORING/BORDERING STRUCTURES DURING EXCAVATION AND EXCAVATION SUPPORT CONSTRUCTION WORK. THE CONTRACTOR SHALL MAKE MODIFICATIONS TO THE MEANS AND METHODS, AS NECESSARY, TO ENSURE NO ADVERSE IMPACTS TO THE ADJACENT STRUCTURES RESULT DUE TO CONTRACTOR'S WORK. IF ANY THRESHOLD LIMITS SPECIFIED IN THE PROJECT TECHNICAL SPECIFICATIONS OR NEIGHBORING STRUCTURE DOCUMENTATION AND MONITORING PLAN ARE EXCEEDED AT NEIGHBORING/BORDERING STRUCTURES, THE ACTIONS SPECIFIED IN THE NEIGHBORING STRUCTURE DOCUMENTATION AND MONITORING PLAN SHALL BE FOLLOWED.
4. CONTRACTOR SHALL COMPLY WITH ANY PROJECT-SPECIFIC DOCUMENTATION AND MONITORING REQUIREMENTS SPECIFIED BY MTA-LIRR.

EXCAVATION SUPPORT GENERAL PROCEDURE NOTES:

1. THE DESIGN INTENT OF THE SUPPORT OF EXCAVATION SYSTEM IS TO RETAIN AND SUPPORT THE SOIL, STRUCTURES, AND SURCHARGES BEHIND THE SYSTEM WITHOUT CAUSING ADVERSE IMPACTS TO THE ADJACENT STRUCTURES. EXCAVATION AND ANY REQUIRED RAINWATER / GROUNDWATER PUMPING SHALL BE PERFORMED SUCH THAT NO LOSS OF GROUND, LOSS OF SUPPORT, OR ANY OTHER ADVERSE IMPACTS TO THE NEIGHBORING / BORDERING STRUCTURES RESULT.
2. ONLY AFTER THE REQUIRED PERMITS HAVE BEEN OBTAINED AND THE NEIGHBORING / BORDERING STRUCTURE DOCUMENTATION AND PROTECTION PROCEDURES HAVE BEEN IMPLEMENTED, THE CONTRACTOR SHALL PROCEED WITH SUPPORT OF EXCAVATION SYSTEM CONSTRUCTION AND EXCAVATION AS GENERALLY INDICATED ON THESE SHEETS AND IN ACCORDANCE WITH THE PROJECT TECHNICAL SPECIFICATIONS.
3. PRIOR TO START OF ANY EXCAVATION WORK AT THE SITE, A KICK-OFF MEETING SHALL BE ARRANGED BETWEEN THE CONSTRUCTION MANAGER, EXCAVATION CONTRACTOR, SUPPORT OF EXCAVATION DESIGN ENGINEER, AND TSOE INSPECTOR TO DISCUSS THE CONTRACTOR EXCAVATION SEQUENCE AND TO CONFIRM IT MEETS REQUIREMENTS ON THESE DRAWINGS.
4. AFTER COMPLETING THE ABOVE ITEMS, EXCAVATION AND SHEET PILE WALL, SOIL-MIX WALL, WALER, AND BRACE CONSTRUCTION CAN COMMENCE SEQUENTIALLY, BUT CONCURRENTLY, THROUGHOUT THE SITE PROVIDED THE FOLLOWING CONDITIONS ARE MET:
   A. SLOPES SHALL BE MAINTAINED BETWEEN DIFFERENT EXCAVATION LEVELS ACROSS THE SITE AT MAXIMUM 1V:1.5H (U.O.N.).
   B. EXCAVATION AT ANY LOCATION IN FRONT OF TSOE SYSTEM SHALL NOT EXTEND DEEPER THAN 2 FEET BELOW A WALER LEVEL UNTIL ALL THE REQUIRED INTERNAL AND CORNER BRACES HAVE BEEN INSTALLED WITHIN A MINIMUM LATERAL DISTANCE OF 20 FEET.
   C. A BERM SHALL BE MAINTAINED IN FRONT OF THE SUPPORT OF EXCAVATION SYSTEM AT ALL TIMES UNTIL THE LATERAL AND CORNER BRACES HAVE BEEN INSTALLED, AS NECESSARY, AND ALL INTERNAL BRACES ARE PRELOADED, AS NECESSARY. THE MINIMUM WIDTH OF THE BERM (I.E., DISTANCE INTO THE SITE FROM THE FACE OF THE SUPPORT OF EXCAVATION SYSTEM) SHALL BE EQUAL TO THE DIFFERENCE BETWEEN THE CURRENT ELEVATION AND FINAL EXCAVATION LEVEL AT THAT LOCATION.
5. IF TSOE SYSTEM ALIGNMENT COINCIDES WITH AN EXISTING TIMBER PILE, THE CONTRACTOR SHALL CONTACT THE TSOE DESIGN ENGINEER AND REQUEST A CHANGE IN THE TSOE ALIGNMENT TO AVOID THE TIMBER PILE. ALL FORMER BUILDING PILE CAPS AND GRADE BEAMS INTERFERING WITH TSOE ALIGNMENT SHALL BE DEMOLISHED AND REMOVED.
6. CONTRACTOR SHALL PUMP PERCHED AN / OR GROUNDWATER AS NEEDED TO FACILITATE EXCAVATION AND FOUNDATION CONSTRUCTION WORK AT THE SITE IN DRY CONDITIONS.
7. INTERNAL BRACES SHALL BE REMOVED ONLY AFTER THE EXCAVATION IS BACKFILLED WITHIN 2 FEET OF THE BRACE LEVEL OR UNTIL SUFFICIENT PORTIONS OF THE PROPOSED STRUCTURE ARE CONSTRUCTED, SUCH THAT THE BELOW-GRADE WALLS ARE SUFFICIENTLY BRACED AS DETERMINED BY THE STRUCTURAL ENGINEER.
8. EXCAVATION SUPPORT PROCEDURES PRESENTED ON THESE DRAWINGS ARE MINIMUM REQUIREMENTS ONLY. ALTHOUGH USUALLY SMALL, GROUND MOVEMENT AND ADJACENT BUILDING SETTLEMENTS NEARLY ALWAYS ACCOMPANY EXCAVATION SUPPORT CONSTRUCTION AND DEWATERING WORK PERFORMED BELOW AND IMMEDIATELY ADJACENT TO EXISTING STRUCTURES, EVEN WHEN SUCH WORK IS PERFORMED VERY CAREFULLY AND USING PROPER MEANS AND METHODS. THE AMOUNT OF GROUND MOVEMENTS AND RESULTING SETTLEMENTS, IF ANY, VARY BASED ON THE TYPE OF ADJACENT STRUCTURES, THE TYPES AND DEPTHS OF THEIR FOUNDATIONS, FOUNDATION CONDITIONS, CLASS OF SOILS / ROCK UPON WHICH THEY ARE SUPPORTED, THE PRESENCE OR ABSENCE OF GROUNDWATER, THE RESERVE FOUNDATION CAPACITY OF THE ORIGINAL FOUNDATIONS, AND THE EXCELLENCE AND CARE OF THE CONTRACTOR'S WORKMANSHIP. BY USING THESE DRAWINGS TO COMPLETE THE SUPPORT OF EXCAVATION WORK, THE CONTRACTOR AND OWNERSHIP UNDERSTAND THIS INHERENT RISK AND ASSUME ALL RESPONSIBILITY FOR THE EFFECT OF ANY SETTLEMENTS OR OTHER ADVERSE IMPACTS THAT MIGHT OCCUR TO THE ADJACENT STRUCTURES, AND FOR PERFORMING ANY RELATED REMEDIAL WORK.

SHEET PILE WALL

1. SHEET PILES SHALL BE OF THE SIZES SHOWN ON THE CONTRACT DRAWINGS, UNLESS OTHERWISE APPROVED BY THE TSOE DESIGN ENGINEER.
2. SHEET PILES SHALL BE INSTALLED WITHIN 2 INCHES OF THE THEORETICAL LOCATION. SHEET PILES SHALL NOT DEVIATE MORE THAN 1 PERCENT FROM PLUMB.
3. INSTALLATION PROCEDURE:
   a. FIELD-LOCATE EXISTING STRUCTURES AND UTILITIES TO VERIFY NECESSARY CLEARANCES.
   b. PRE-TRENCH AS REQUIRED ALONG ALIGNMENT TO CLEAR OBSTRUCTIONS AND VERIFY UTILITY CLEARANCES. WHERE PRE-TRENCHING IS PERFORMED, TRENCHES SHALL BE BACKFILLED WITH PROPERLY COMPACTED FILL OR CONTROLLED LOW STRENGTH MATERIAL (CLSM) HAVING AN UNCONFINED COMPRESSIVE STRENGTH AT 28-DAYS NOT EXCEEDING 75 PSI.
   c. SET PILING RIG AT DESIRED LOCATION AND PLUMB THE SHEETING PRIOR TO DRIVING.
   d. DRIVE SHEETING USING APPROVED HAMMER OR HYDRAULIC PRESS TO REQUIRED MINIMUM DEPTHS SHOWN ON THE TSOE DRAWINGS.
   e. VIBRATION AND SURVEY MONITORING SHALL BE PERFORMED DURING INSTALLATION. INSTALLATION SHALL BE CEASED IF VIBRATION LIMITS OR SETTLEMENTS AT THE ADJACENT STRUCTURES EXCEED THE THRESHOLD LIMITS SPECIFIED IN THE PROJECT TECHNICAL SPECIFICATIONS OR NEIGHBORING STRUCTURE DOCUMENTATION AND MONITORING PLAN.

SOIL-MIX WALL

1. ALL SOIL-MIX COLUMNS SHALL MEET THE MINIMUM STRENGTH REQUIREMENTS INDICATED ON THE CONTRACT DRAWINGS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURATE LAYOUT OF SOIL-MIX COLUMNS, INCLUDING ANY NECESSARY SURVEYING. THE CONTRACTOR SHALL ALSO BE SOLELY RESPONSIBLE FOR DESIGNING THE SOIL MIX PROPERTIONS SUCH THAT THE IN-SITU MATERIAL PROVIDES THE MINIMUM COMPRESSIVE STRENGTH SPECIFIED HEREIN AND RESULTS IN AN IMPERMEABLE BARRIER PREVENTING LATERAL FLOW OF WATER THROUGH THE SOIL MIX TSOE WALL. THE CONTRACTOR SHALL INSTALL A TRIAL SECTION AT THE SITE IF NECESSARY AND CONFIRM THE MIX DESIGN PROPOSED BY THE CONTRACTOR WILL MEET THE DESIGN INTENT.
3. SINGLE OR MULTI-SHAFT MIXING EQUIPMENT SHALL MECHANICALLY MIX SOIL AND CEMENT SLURRY TO PROVIDE THE FULL DIMENSIONS OF THE SYSTEM INDICATED ON THE CONTRACT DRAWINGS.
4. THE MIXING SHAFTS SHALL HAVE MIXING AUGERS AND/OR BLADES (PADDLES) CONFIGURED IN SUCH A MANNER THAT THEY ARE CAPABLE OF THOROUGHLY BLENDING THE IN-SITU SOIL AND CEMENT SLURRY INTO A HOMOGENEOUS SOIL-CEMENT MIXTURE.
5. MIXING EQUIPMENT SHALL HAVE SUITABLE TORQUE AND CROWD TO MAINTAIN THE REQUIRED TOOL (SHAFT) ROTATIONAL SPEED AND PENETRATION/WITHDRAWAL RATES ACROSS THE HEIGHT OF SOIL-MIX COLUMNS.
6. THE EQUIPMENT SHALL BE EQUIPPED WITH SENSORS TO MONITOR THE PENETRATION/WITHDRAWAL RATES, ROTATIONAL SPEED, AND CEMENT SLURRY INJECTION RATE. THE OUTPUT FROM THESE SENSORS MUST BE VISIBLE TO THE OPERATOR AND THE OWNER'S TSOE SPECIAL INSPECTOR DURING INSTALLATION.
7. THE EQUIPMENT SHALL BE EQUIPPED WITH A DEPTH-MEASURING DEVICE TO ALLOW THE TSOE SPECIAL INSPECTOR TO CONFIRM DEPTH DURING CONSTRUCTION.
8. SOIL-MIX COLUMNS SHALL BE INSTALLED TO WITHIN 2 INCHES OF THEORETICAL LOCATION AND DEVIATIONS FROM PLUMB SHALL NOT EXCEED 1 PERCENT DURING INSTALLATION.
9. THE MIXING SYSTEM SHALL UTILIZE A CEMENT-MIXING PLANT THAT COMBINES DRY MATERIALS AND WATER IN PREDETERMINED PROPORTIONS. THE MIXING PLANT SHALL CONSIST OF A SLURRY MIXER, SLURRY AGITATOR, SLURRY PUMP, BATCHING SCALES, AND A COMPUTER CONTROL UNIT. DRY MATERIALS SHALL BE STORED IN SILOS. AUTOMATIC BATCH SCALES SHALL BE USED TO ACCURATELY DETERMINE MIX PROPORTIONS FOR WATER, CEMENT, AND POZZOLANS OR ADDITIVES, IF USED, BY WEIGHT DURING SLURRY PREPARATION. CALIBRATION OF MIXING COMPONENTS SHALL BE DONE AT THE BEGINNING OF THE PROJECT AND AFTER EACH MOVEMENT OF THE MIXING PLANT. THE CALIBRATION DATA SHALL BE PROVIDED TO THE TSOE SPECIAL INSPECTOR.
10. SOIL-MIX COLUMN INSTALLATION SHALL BE SEQUENCED TO ENSURE A CONTIGUOUS OVERLAPPING WALL SECTION (6-INCH MINIMUM OVERLAP). THE SOIL-MIX WALL IS COMPRISED OF SINGLE PRIMARY COLUMNS SPACED BETWEEN SECONDARY COLUMNS. THE CENTER-TO-CENTER SPACING OF INDIVIDUAL SOIL-MIX COLUMNS SHALL BE AS SHOWN ON THE CONTRACT DRAWINGS.
11. PRIMARY COLUMNS SHALL BE COMPRISED OF TRUE SOIL-MIX COLUMNS CONSTRUCTED USING MIXING AUGERS AND/OR BLADES (PADDLES) THROUGH THE OVERBURDEN SOILS AND SHALL EXTEND BETWEEN ELEVATIONS SHOWN ON THE CONTRACT DRAWINGS.
12. SECONDARY COLUMNS SHALL BE COMPRISED OF REINFORCED ELEMENTS DRILLED SIMILAR TO PRIMARY COLUMNS WITH A CORE BEAM "WET SET" FOLLOWING MIXING. WHERE REQUIRED, CORE BEAMS SHALL BE PUSHED-IN-PLACE USING A TRACKHOE OR SIMILAR EQUIPMENT. CARE SHALL BE TAKEN TO MAINTAIN THE VERTICAL ALIGNMENT OF THE REINFORCEMENT.
13. CEMENT INJECTION, TOOL PLUNGE, AND ROTATION RATES SHALL BE ADJUSTED AS NECESSARY TO PROVIDE SOIL-MIX COLUMNS CAPABLE OF PROVIDING SUFFICIENT GROUNDWATER CUT-OFF AND STRENGTH.
14. COMPRESSIVE STRENGTH: PRIMARY AND SECONDARY COLUMNS SHALL ATTAIN A MINIMUM UNCONFINED COMPRESSIVE STRENGTH OF 250 PSI AT 28 DAYS. COMPRESSION TESTING SHALL BE IN ACCORDANCE WITH ASTM C39.
15. SOIL MIXING SHALL BE CONDUCTED SUCH THAT THERE IS NO HEAVE, SETTLEMENT, OR LOSS OF SUPPORT TO ADJACENT STRUCTURES.
16. REMEDIAL GROUTING SHALL BE PERFORMED, AS REQUIRED, TO SEAL ANY INTERFACES IN INSTANCES OF UNDESIRABLE GROUNDWATER SEEPAGE OR WHERE THERE IS EVIDENCE OF VOIDS.
17. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR MATERIALS AND INSTALLATION PROCEDURES.

TYPICAL SOLDIER PILE AND LAGGING INSTALLATION:

1. SOLDIER PILE AND LAGGING CONSTRUCTION SHALL BE PERFORMED AS GENERALLY INDICATED ON THESE DRAWINGS AND IN ACCORDANCE WITH PROJECT TECHNICAL SPECIFICATION SECTIONS 312300 AND 314000. DRIVEN SOLDIER PILES SHALL BE USED AT LEAST 75 FEET AWAY FROM THE LIRR TRACKS AND AT LEAST 40 FEET AWAY FROM OTHER SETTLEMENT-SENSITIVE STRUCTURES; USE DRILLED SOLDIER PILES OTHERWISE.
2. DRILLED SOLDIER PILE INSTALLATION PROCEDURE:
   a. DRILL TEMPORARY STEEL CASINGS HAVING THE MINIMUM CASING DIAMETERS OF 2 FEET TO THE MINIMUM SOLDIER PILE TIP ELEVATIONS SPECIFIED ON THESE DRAWINGS USING DUPLEX INTERNAL LIQUID FLUSH DRILLING TECHNIQUES. CONTRACTOR SHALL ENSURE NO LOSS OF GROUND RESULTS DURING CASING INSTALLATION.
   b. DRILL SOCKET HAVING THE MINIMUM DIAMETER OF 2 FEET INDICATED ON THESE DRAWINGS. REFER TO DRAWING DETAILS FOR MINIMUM SOCKET LENGTH.
   c. CLEAN EACH SOCKET AND CASING COMPLETELY.
   d. INSTALL AND CENTER THE STEEL SOLDIER PILE IN EACH CASING TO THE MINIMUM REQUIRED TIP ELEVATION.
   e. FILL EACH CASING AND THE SPACE AROUND EACH SOLDIER PILE WITH MINIMUM 4,000 PSI GROUT FROM THE PILE TIP TO THE PROPOSED BOTTOM OF EXCAVATION, AND ABOVE EXCAVATION LEVEL WITH MINIMUM 250 PSI CEMENT-SAND-MIX FLOWABLE FILL OR APPROVED EQUIVALENT, WHILE SIMULTANEOUSLY REMOVING EACH SECTION OF STEEL CASING. MAINTAIN THE LEVEL OF FILL INSIDE THE CASING AT LEAST 5 FEET ABOVE THE CASING TIP DURING CASING REMOVAL. EXCAVATE AND INSTALL TIMBER LAGGING TO FINAL EXCAVATION DEPTH AS FOLLOWS:
      - SELECTIVELY EXCAVATE IN FRONT OF EACH PROPOSED LAGGING BAY TO THE MINIMUM WIDTH NEEDED TO BE ABLE TO EXCAVATE AND INSTALL LAGGING WITHOUT CAUSING LOSS OF SUPPORT TO THE ADJACENT SIDEWALK. SIMULTANEOUS EXCAVATION SHALL BE LIMITED TO EVERY FOURTH LAGGING BAY.
      - PLACE LAGGING BOARDS BETWEEN SOLDIER BEAMS WITH TIMBER LOUVERS BETWEEN THE BOARDS TO MAINTAIN A 1-TO-2-INCH CLEAR SPACING BETWEEN THE BOARDS. COMPACTED FILL SHALL BE PLACED BEHIND THE TIMBER LAGGING AND THE CLEAR SPACE BETWEEN THE LAGGING BOARDS SHALL BE PACKED WITH SALT HAY OR A FILTER FABRIC.

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APPROVED
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EXCAVATION SUPPORT NOTES

SATYAJIT A. VAIDYA
NY PE No.: 089797

STATE OF NEW YORK — SATYAJIT A. VAIDYA — 089797 — LICENSED PROFESSIONAL ENGINEER
5-19-2021

SCALE:	N/A
DATE:	3/12/2021
KSS#:	2019-22683.001
DOB#:	Q00464879-I1
DWG No:	

SOE-100.00

1 OF 6

DOB#: Q00464879-I1

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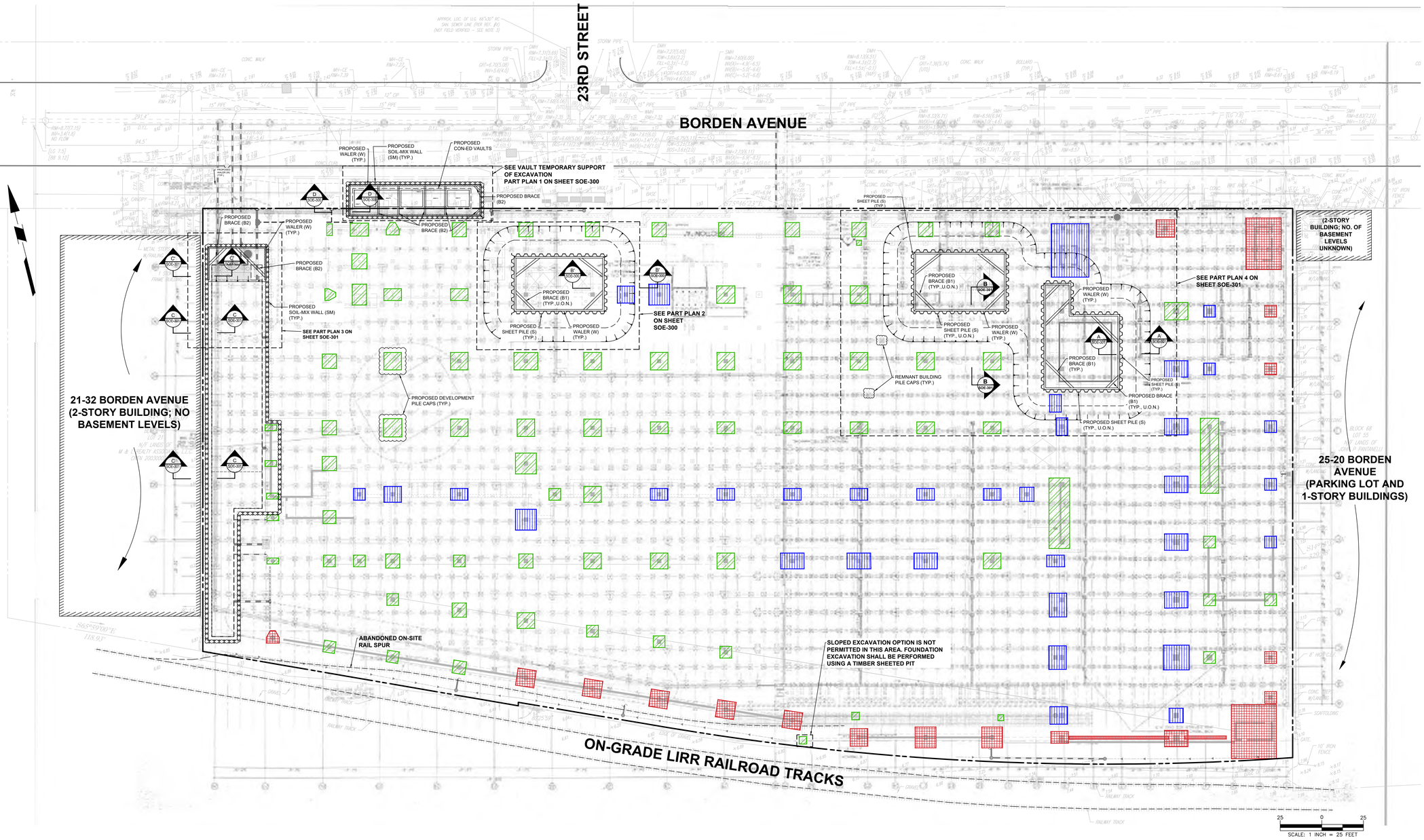

NOTES:

1. FOR TSOE PART PLANS, SEE SHEETS SOE-300.00 AND SOE-301.00.
2. FOR ALL MEMBER SIZES, SEE SHEETS SOE-400.00 AND SOE-401.00.
3. PROPOSED TSOE ON THE SOUTHERN PORTION OF THE SITE SHOWN ON THESE DRAWINGS ASSUMES THE ABANDONED RAIL SPUR WILL BE REMOVED. REMOVAL TO BE COORDINATED BY THE CONTRACTOR WITH MTA LIRR.
4. ALL GRADE BEAM AND UTILITY EXCAVATIONS SHALL BE PROPERLY SLOPED WHERE SPACE PERMITS, OR TIMBER SHEETED PITS OR SOLDIER PILES AND LAGGING TSOE SHOULD BE USED.

LEGEND:

PILE CAP EXCAVATIONS TO BE PROPERLY SLOPED WHERE SPACE PERMITS OR TO BE PERFORMED USING SHEETED PITS OR SOLDIER PILES AND LAGGING TSOE. SEE DETAILS ON SHEET SOE-400

PILE CAP EXCAVATIONS TO BE PERFORMED USING STEEL SHEET PILES OR SOIL MIX WALLS. SEE DETAILS ON SHEET SOE-401

PILE CAP EXCAVATIONS TO BE PERFORMED USING SOIL MIX WALLS. SEE DETAILS ON SHEET SOE-401

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EXCAVATION SUPPORT PLAN

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SCALE:	1" = 25'
DATE:	3/12/2021
KSS#:	2019-22683.001
DOB#:	Q00464879-I1
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2 OF 6

DOB#: Q00464879-I1

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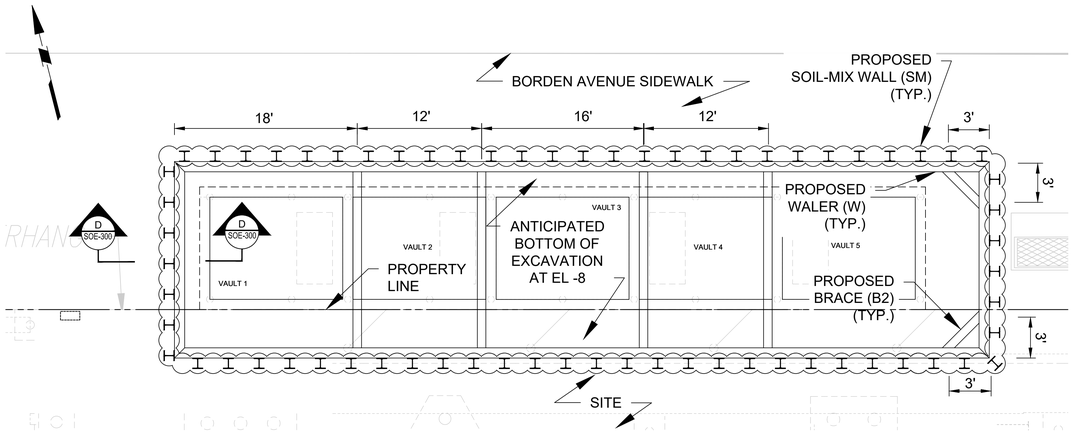

TSOE CONSTRUCTION SEQUENCE:

1. INSTALL SOIL-MIX WALL. EXCAVATE TO NO DEEPER THAN 2 FEET BELOW THE PROPOSED CROSS BRACE LEVEL. INSTALL WALERS AND CROSS BRACES.
2. EXCAVATE TO THE PROPOSED VAULT SUBGRADE ELEVATION.
3. CONSTRUCT VAULT FOUNDATION SLAB.
4. AFTER THE VAULT FOUNDATION SLAB CONCRETE ATTAINS FULL STRENGTH, CONSTRUCT VAULT 1, VAULT 3 AND VAULT 5.
5. BACKFILL BETWEEN THE TSOE SYSTEM AND THE INSTALLED VAULTS TO THE TOP OF THE VAULT FOUNDATION WALL.
6. CUT AND REMOVE CROSS BRACES. INSTALL VAULT 2 AND VAULT 4.
7. AFTER VAULT CONSTRUCTION IS COMPLETE, BACKFILL BETWEEN THE TSOE SYSTEM AND THE VAULT.
8. CUT DOWN SOIL-MIX WALL ELEMENTS AND SOLDIER BEAMS 2 FEET BELOW SIDEWALK LEVEL, BACKFILL THE SPACES WITH COMPACTED FILL, AND SUBSEQUENTLY RESTORE SIDEWALK AS NECESSARY.

PART PLAN 1
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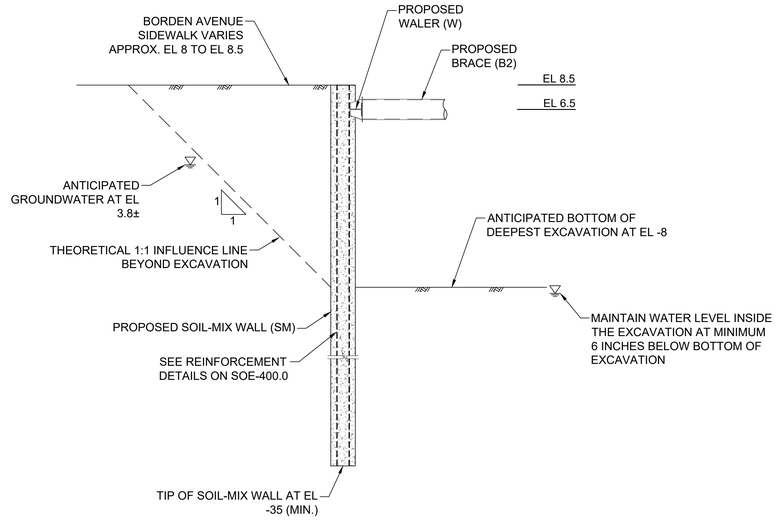

SECTION D-D
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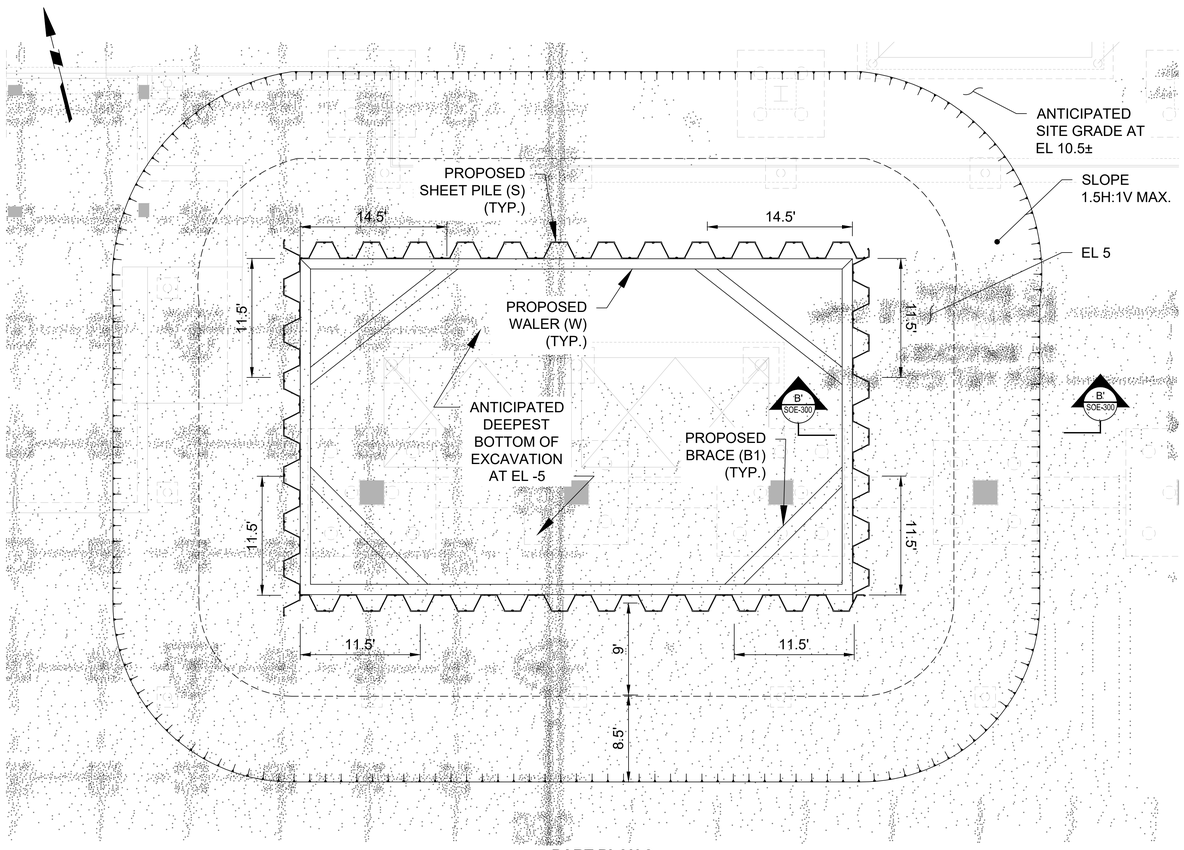

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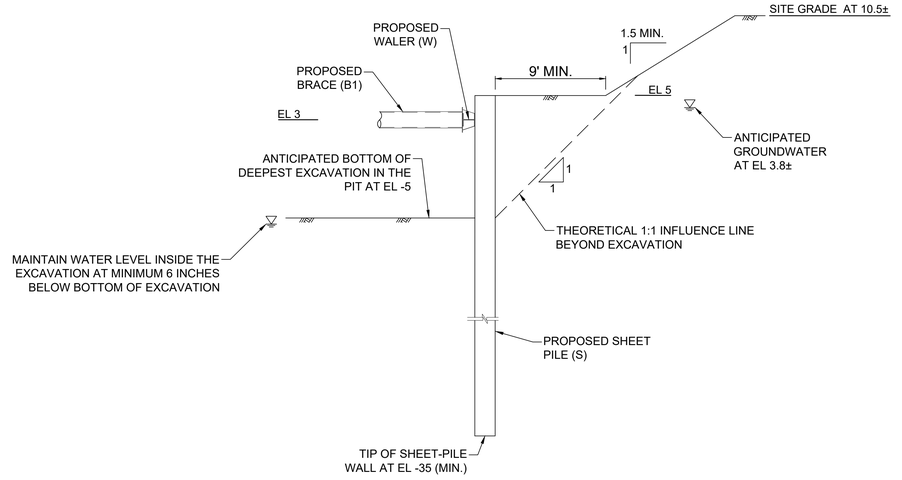

TSOE CONSTRUCTION SEQUENCE:

1. EXCAVATE TO ELEVATION 5 AS SHOWN IN THE FIGURE.
2. INSTALL SHEET-PILE WALLS AND EXCAVATE TO A MAXIMUM OF 2 FEET BELOW PROPOSED WALER AND CORNER BRACE LEVEL.
3. INSTALL WALER AND CORNER BRACE.
4. EXCAVATE TO DESIGN EXCAVATION DEPTH.

SECTION B'-B'
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SATYAJIT A. VAIDYA
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3 OF 6

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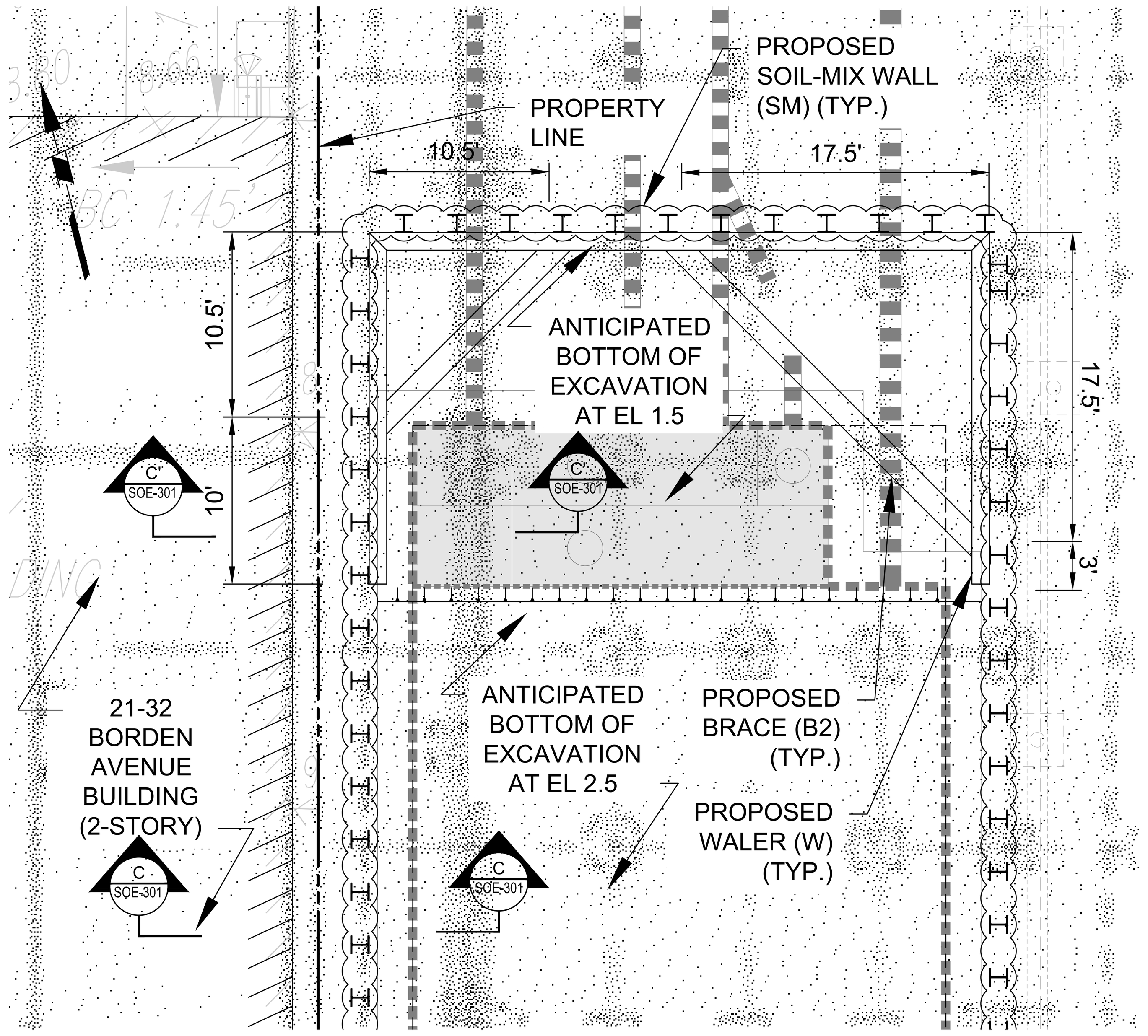

PART PLAN 3
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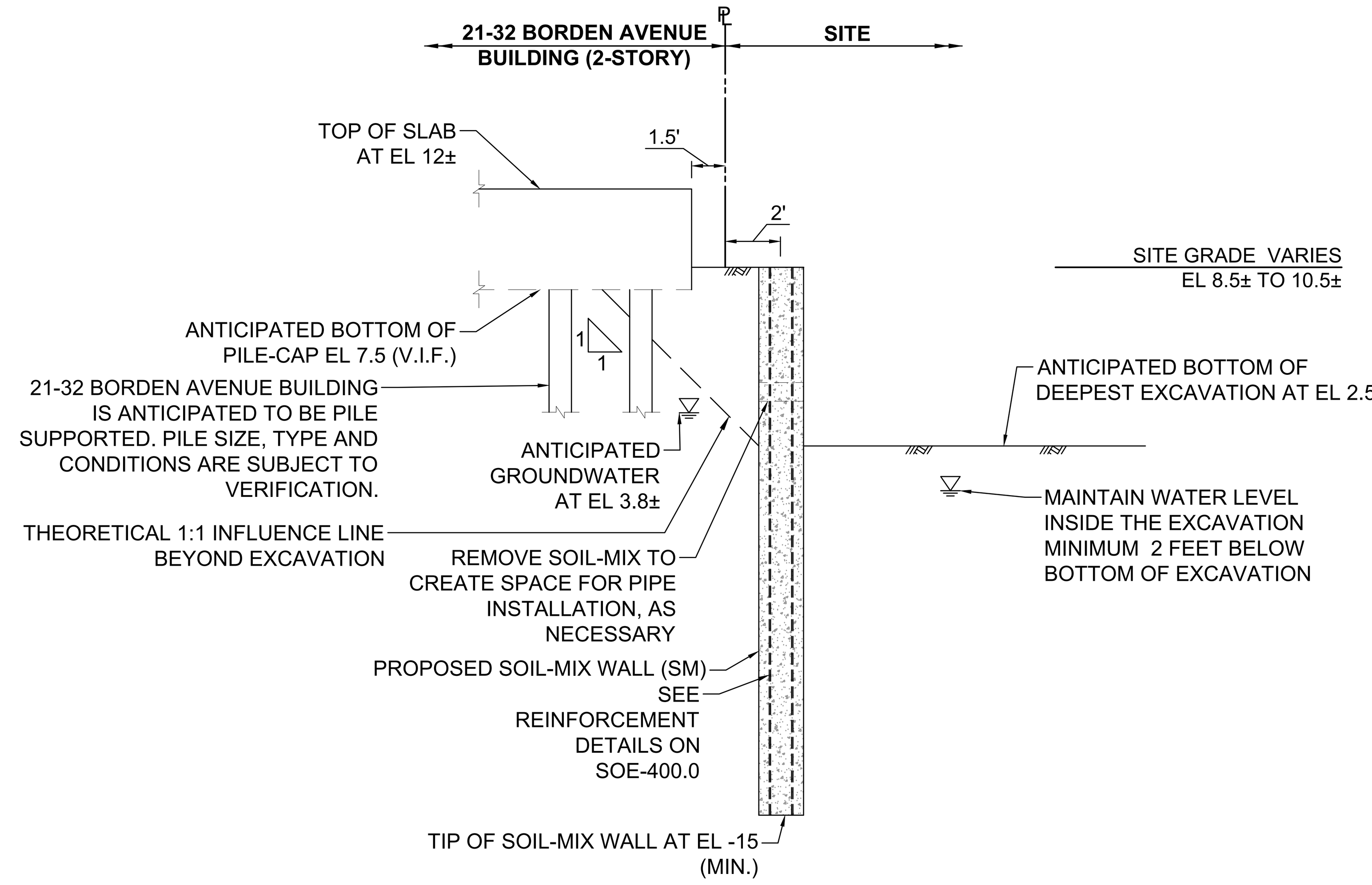

TSOE CONSTRUCTION SEQUENCE:

1. INSTALL SOIL-MIX WALL WALLS.
2. EXCAVATE TO DESIGN EXCAVATION DEPTH.

SECTION C-C
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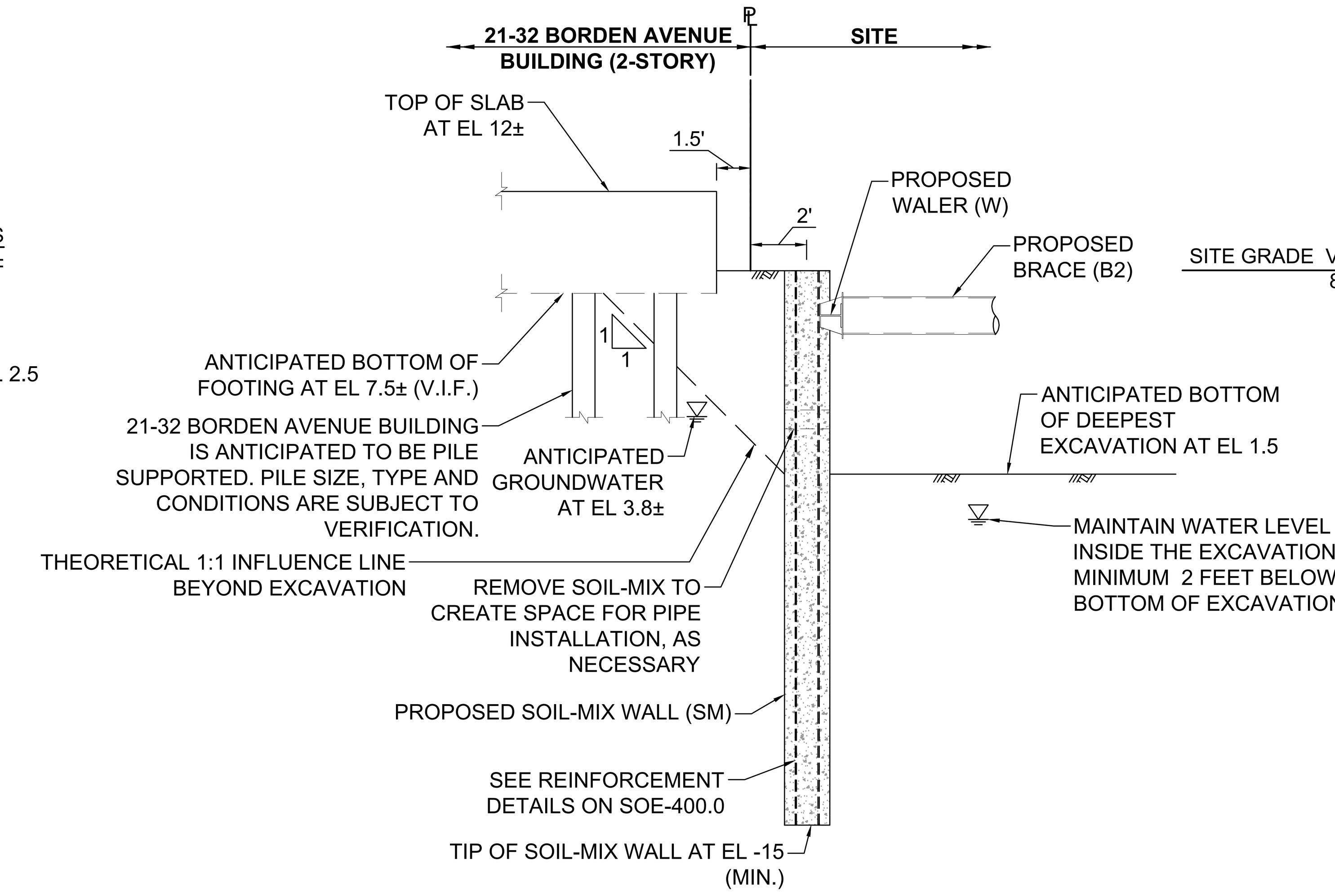

TSOE CONSTRUCTION SEQUENCE:

1. INSTALL SOIL-MIX WALL WALLS AND EXCAVATE TO A MAXIMUM OF 2 FEET BELOW PROPOSED WALER AND CORNER BRACE LEVEL.
2. INSTALL WALER AND CORNER BRACE.
3. EXCAVATE TO DESIGN EXCAVATION DEPTH.

SECTION C'-C'
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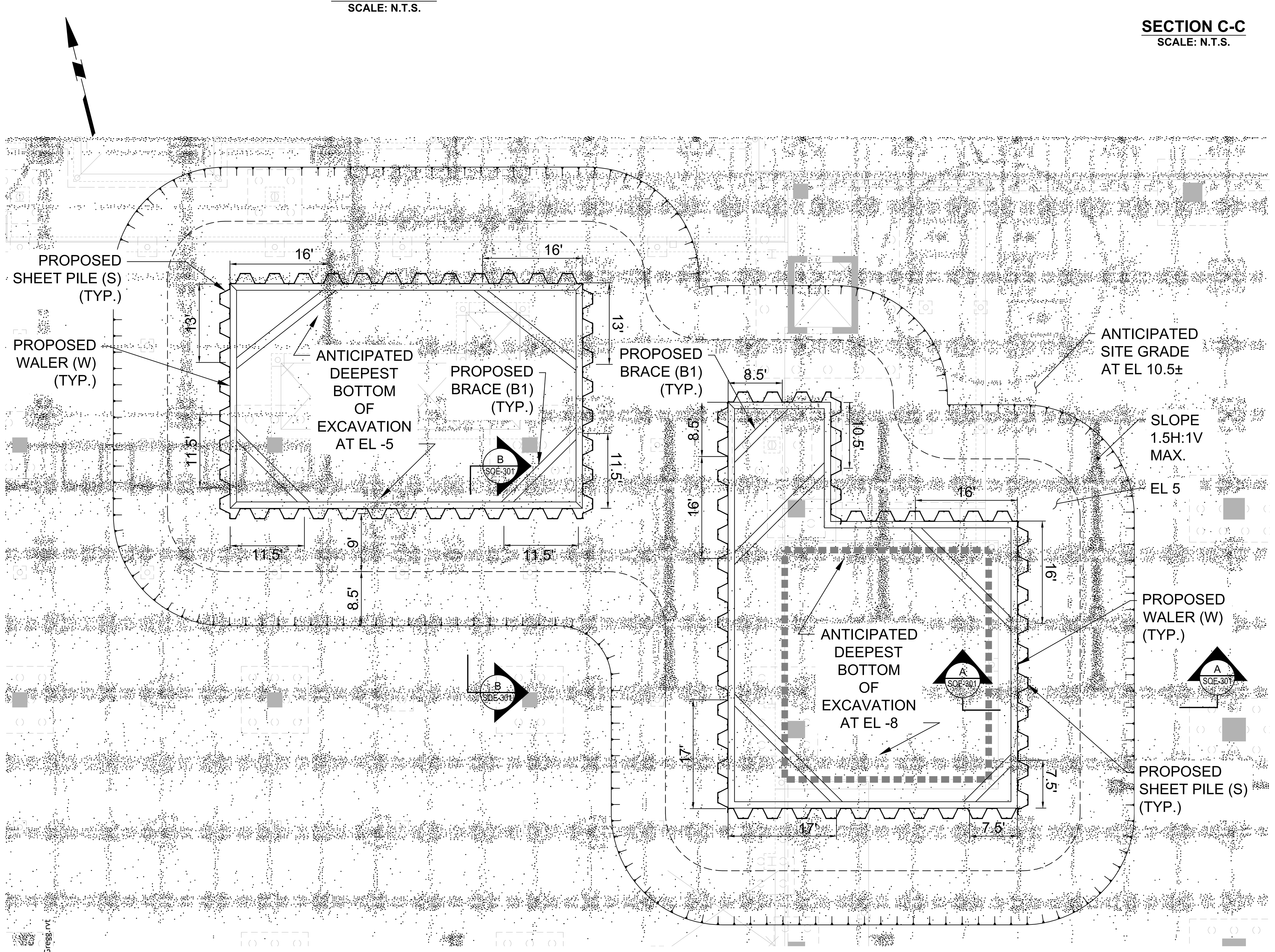

TSOE CONSTRUCTION SEQUENCE:

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2. INSTALL SHEET-PILE WALLS AND EXCAVATE TO A MAXIMUM OF 2 FEET BELOW PROPOSED WALER AND CORNER BRACE LEVEL.
3. INSTALL WALER AND CORNER BRACE.
4. EXCAVATE TO DESIGN EXCAVATION DEPTH.

PART PLAN 4
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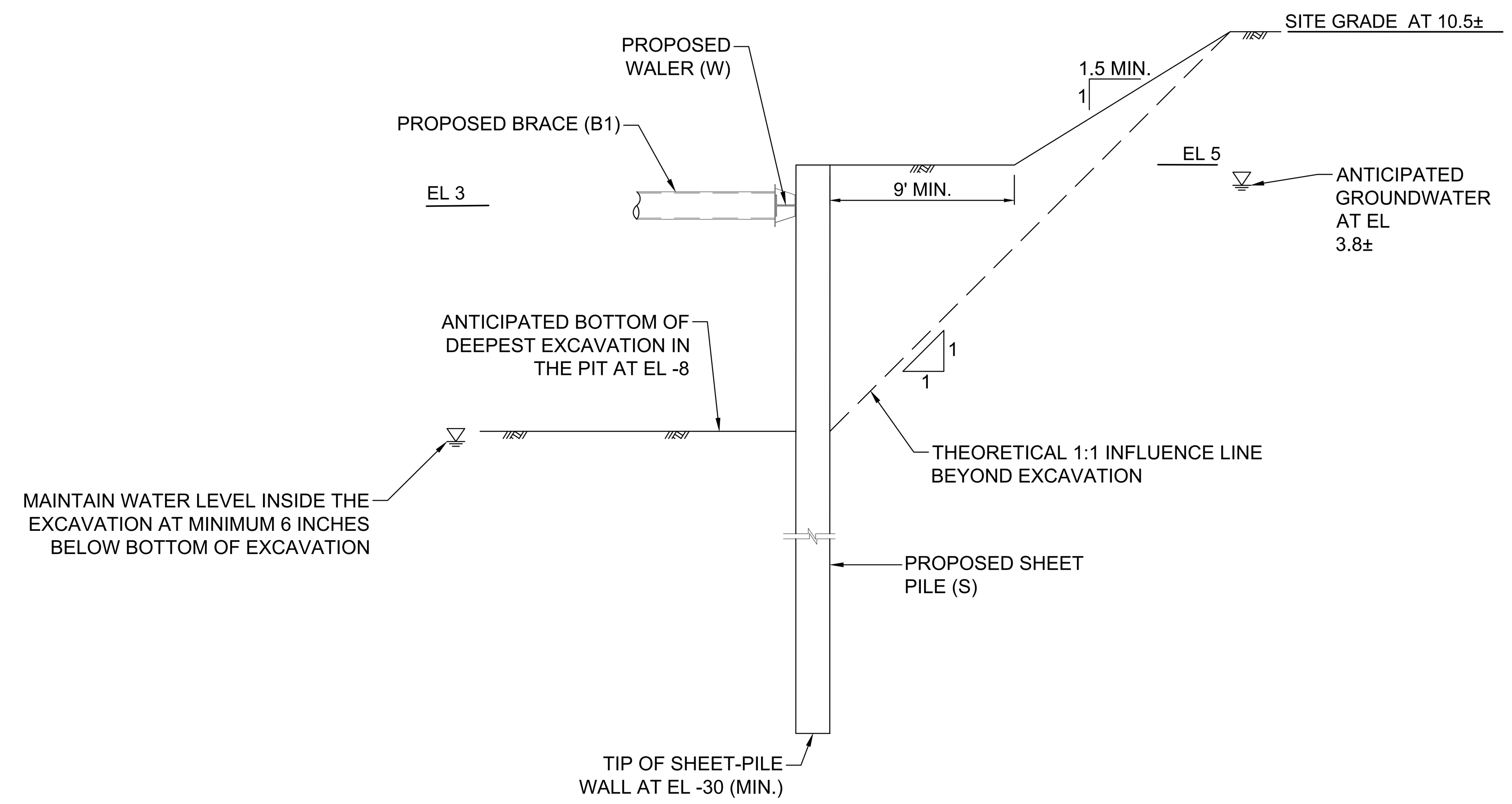

SECTION A-A
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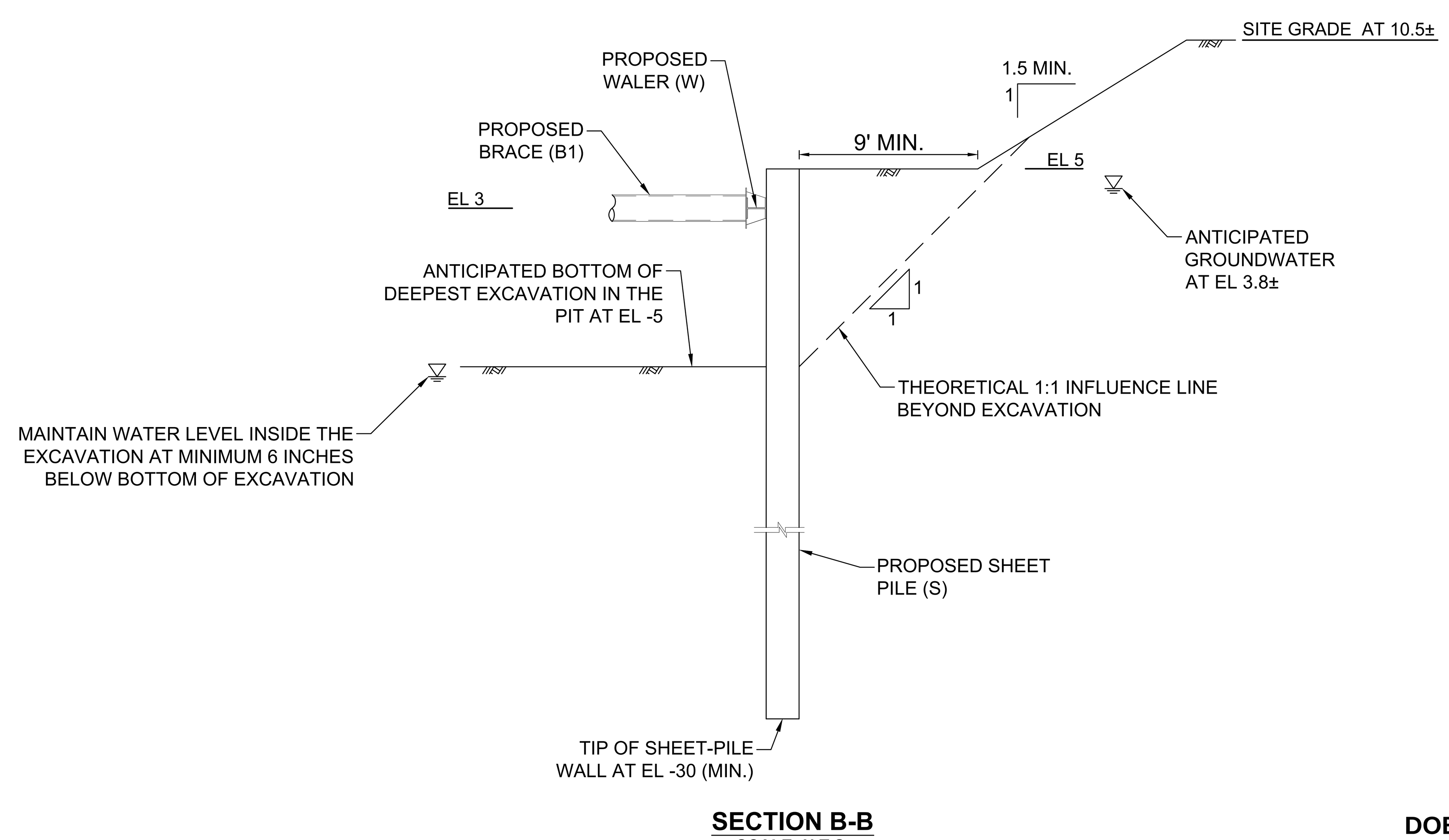

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4 OF 6

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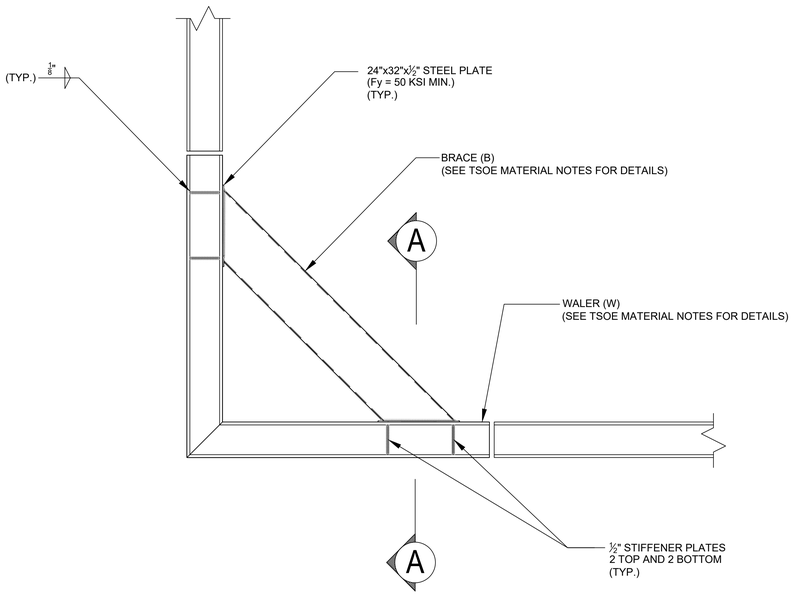
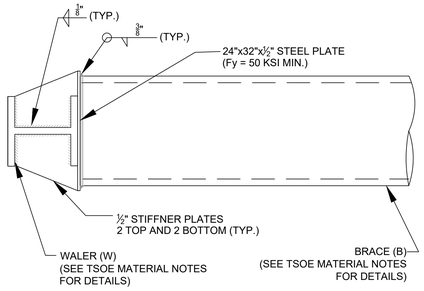


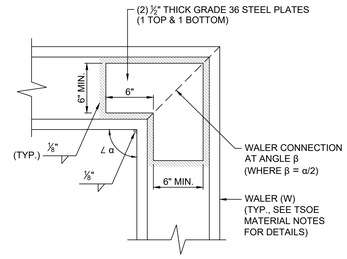
PLAN VIEW

DETAIL: TYPICAL WALER-TO-CORNER BRACE CONNECTION

SCALE: N.T.S.

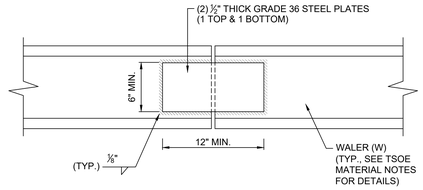


SECTION A-A



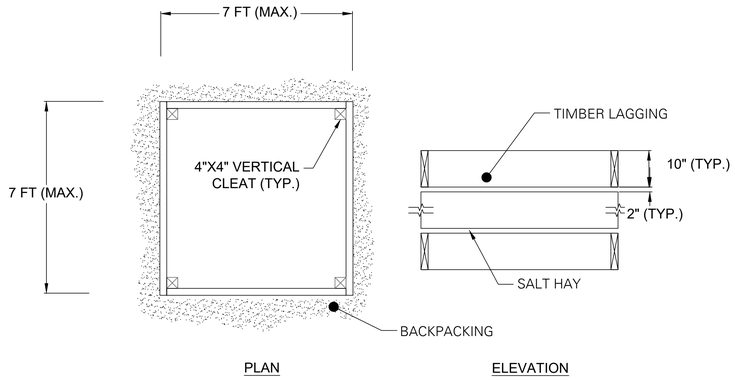
DETAIL: TYPICAL WALER-TO-WALER CONNECTION AT CORNERS

SCALE: N.T.S.



DETAIL: TYPICAL WALER-TO-WALER CONNECTION

SCALE: N.T.S.



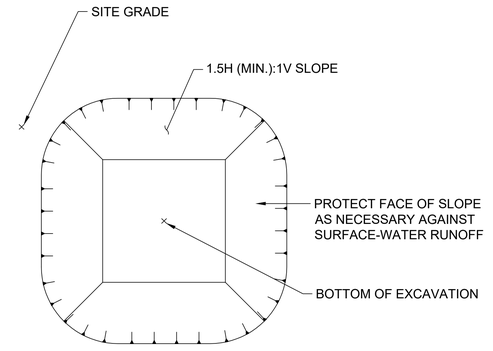
NOTE:

1. SHEETED PIT EXCAVATION CAN BE USED WHEN ADEQUATE SPACE IS NOT AVAILABLE AND WHEN THE BOTTOM OF EXCAVATION LEVEL DOES NOT EXTEND BELOW EL 3; LOCALIZED DEWATERING WILL BE REQUIRED BELOW ABOUT EL 4.

DETAIL: TYPICAL SHEETED PIT EXCAVATION

SCALE: N.T.S.

Required Minimum Thickness of Timber Sheeting (inches)								
		Span (ft)						
		4	5	6	7	8	9	10
Depth (ft)	4	3	3	3	3	4	4	5
	5	3	3	3	4	4	4	5
	6	3	3	3	4	4	4	5
	7	3	3	3	4	4	5	5
	8	3	3	3	4	4	5	5
	9	3	3	3	4	4	5	5
	10	3	3	3	4	4	5	5
	11	3	3	3	4	4	5	5
	12	3	3	4	4	5	5	6
	13	3	3	4	4	5	5	6
	14	3	3	4	4	5	5	6
	15	3	3	4	4	5	5	6
	16	3	3	4	4	5	5	6
	17	3	3	4	4	5	6	6
	18	3	3	4	5	5	6	6
	19	3	4	4	5	5	6	7
	20	3	4	4	5	5	6	7
	30	4	4	5	6	7	7	8

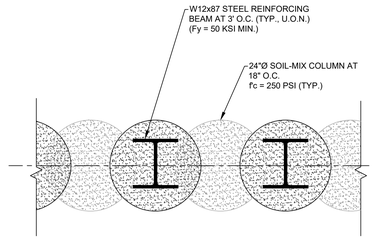


NOTE:

1. SLOPED EXCAVATION CAN BE USED WHEN ADEQUATE SPACE IS AVAILABLE WITHOUT UNDERMINING ADJACENT STRUCTURES OR CONSTRUCTION AND WHEN THE BOTTOM OF EXCAVATION LEVEL DOES NOT EXTEND BELOW EL 3; LOCALIZED DEWATERING WILL BE REQUIRED BELOW ABOUT EL 4

DETAIL: TYPICAL SLOPED EXCAVATION

SCALE: N.T.S.

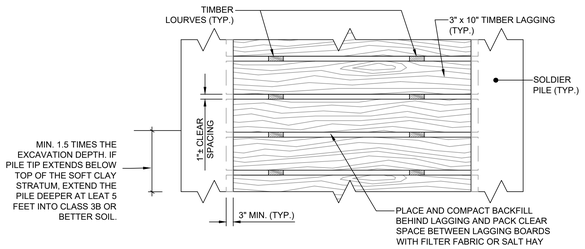


DETAIL: TYPICAL SOIL-MIX WALL DETAIL (WESTERN DETENTION TANK AND CON-ED VAULT AREA)

SCALE: N.T.S.

TEMPORARY SUPPORT OF EXCAVATION (TSOE) MATERIAL NOTES:

1. SHEET PILES (S)
   - AZ 52-700, ASTM A572 GRADE 60 STEEL
2. SOIL MIX WALL (SM)
   - SOIL MIX COLUMNS: MINIMUM 250 PSI AT 28 DAYS
   - REINFORCING BEAMS: W12X87, ASTM A572 GRADE 50 STEEL
3. SOLDIER PILES: W12X53, ASTM A572 GRADE 50 STEEL
4. WALER (W)
   - W: W14x90, ASTM A572 GRADE 50 STEEL
   - 1/2" THICK, A36 STEEL STIFFENER PLATES
5. TEMPORARY INTERNAL BRACING (B)
   - B1: STEEL PIPE CORNER BRACE: 16.0" DIA. X 0.625" THICK, ASTM A572 GRADE 50 STEEL
   - B2: STEEL PIPE CORNER BRACE: 10.75" DIA. X 0.5" THICK, ASTM A572 GRADE 50 STEEL
6. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH ASTM A36 USING E70 LOW HYDROGEN ELECTRODES AND SHALL CONFORM TO THE RELEVANT CODES OF THE AMERICAN WELDING SOCIETY (AWS).



DETAIL: TYPICAL LAGGING AND SOLDIER PILE CONNECTION

SCALE: N.T.S.

23-30 BORDEN AVE.

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LONG ISLAND CITY, NY 11101

No.	Date	Description
1	05/14/2021	NYC DOB RE-SUBMISSION

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Date: 06/08/2021

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EXCAVATION SUPPORT DETAILS

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5-14-2021

SCALE:	N.T.S.
DATE:	3/12/2021
KSS#:	2019-22683.001
DOB#:	Q00464879-I1
DWG No:	

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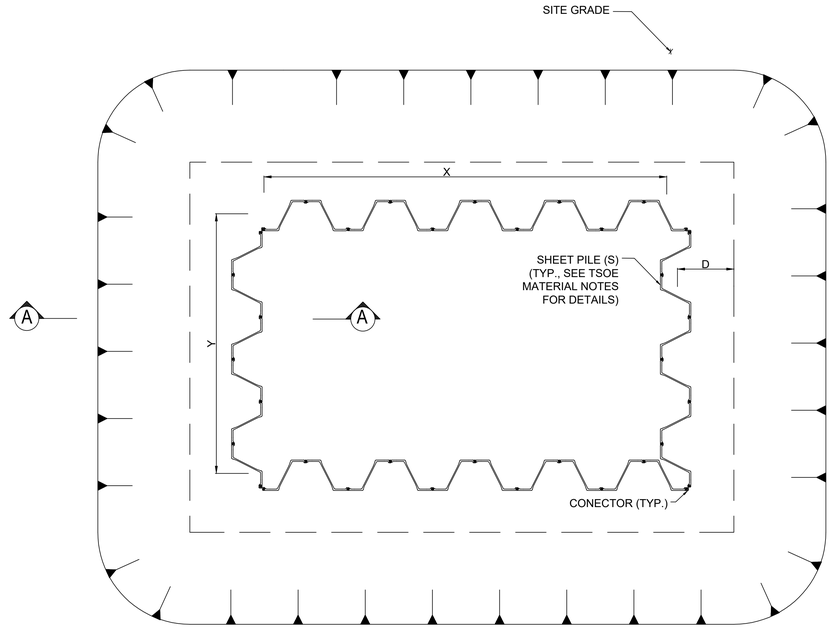
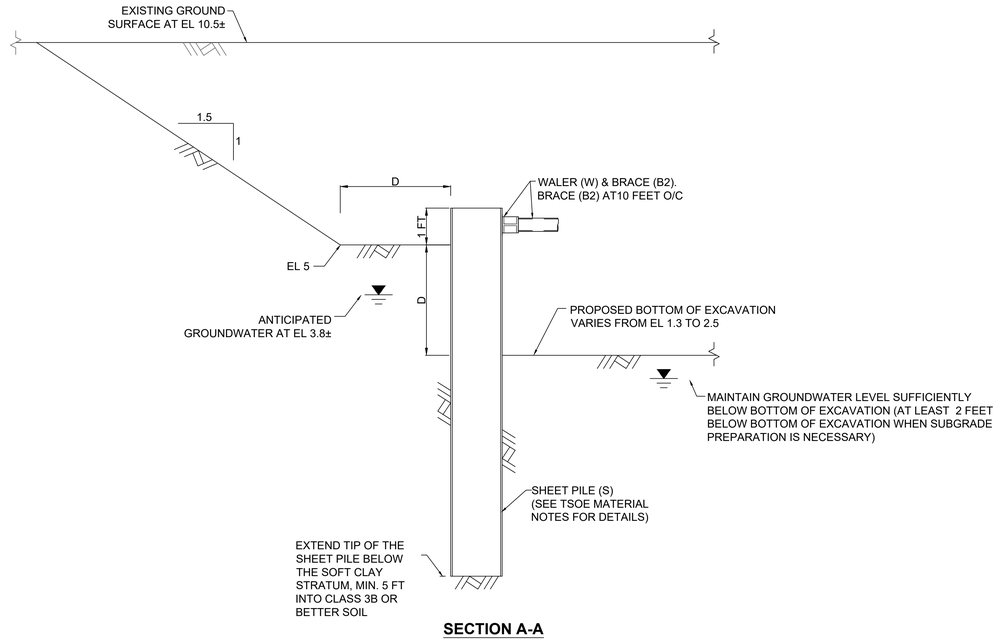
5 OF 6

DOB#: Q00464879-I1



NOTE: WALERS AND CORNER BRACES ARE NOT SHOWN FOR CLARITY

PLAN
SCALE: N.T.S.

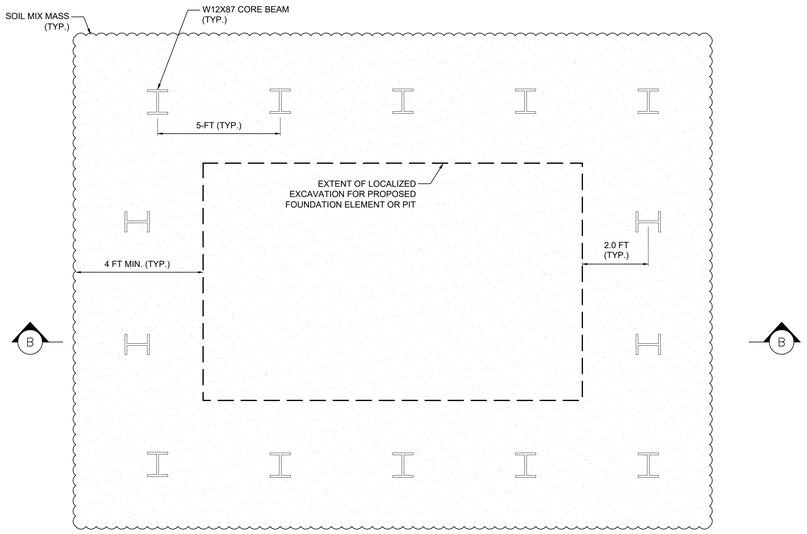


SECTION A-A
SCALE: N.T.S.

NOTE:

1. DRIVEN SHEET PILES SHALL BE USED AT LEAST 75 FEET AWAY FROM THE LIRR TRACKS AND AT LEAST 40 FEET AWAY FROM OTHER ADJACENT SETTLEMENT-SENSITIVE STRUCTURES. A CLOSED SHEETING SYSTEM, SUCH AS A SHEET PILE WALL TSOE SYSTEM, SHALL BE USED WHEN THE BOTTOM OF PROPOSED EXCAVATION IS BELOW EL 3

DETAIL: SOE OPTION FOR LOCALIZED EXCAVATION FROM GENERAL SUBGRADE: SHEET PILE
SCALE: N.T.S.



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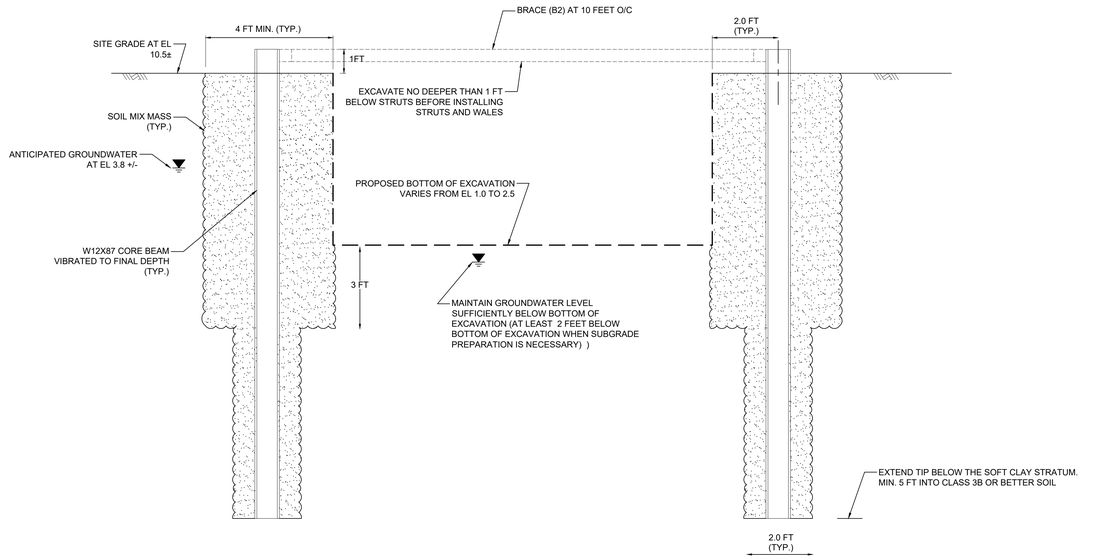
PLAN
SCALE: N.T.S.



NOTE:

1. A CLOSED SHEETING SYSTEM, SUCH AS A DRILLED SOIL MIX WALL TSOE SYSTEM, SHALL BE USED WHEN THE BOTTOM OF PROPOSED EXCAVATION IS BELOW EL 3. DRILLED SOIL MIX WALL TSOE SYSTEM SHALL BE USED WHEN THE INSTALLATION LOCATION IS WITHIN 75 FEET OF THE LIRR TRACKS OR WITHIN 40 FEET OF OTHER ADJACENT SETTLEMENT-SENSITIVE STRUCTURES.

SECTION B-B
SCALE: N.T.S.

DETAIL: SOE OPTION FOR LOCALIZED EXCAVATION FROM GENERAL SUBGRADE: SOIL MIXING
SCALE: N.T.S.

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6 OF 6

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