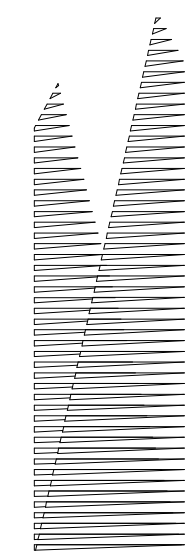


STRUCTURAL DRAWING LIST

SHEET NUMBER	SHEET NAME	SHEET NUMBER	SHEET NAME	SHEET NUMBER	SHEET NAME	ABBREVIATION AND SYMBOLS			
S0 SERIES: GENERAL		S1 SERIES: STRUCTURAL PLANS		S5 SERIES: STRUCTURAL DETAILS		ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
S0-000	COVER SHEET & DRAWING LIST	S1-5001	LEVEL 50 FRAMING PLAN SECTOR 1	S5-0101	FOUNDATION DETAILS I	ADDL	ADDITIONAL	SPEC(S)	SPECIFICATION(S)
S0-0000	ISOMETRIC VIEWS	S1-5101	TOP OF CROWN	S5-0102	FOUNDATION DETAILS II	ADJ	ADJACENT	STD	STANDARD
S0-0001	ABBREVIATIONS AND SYMBOLS	S1-C001	DEPRESSED CORE PIT PLAN	S5-0103	FOUNDATION DETAILS III	ALT	ALTERNATE	STL	STEEL
S0-0002	STRUCTURAL GENERAL NOTES I	S1-C100	COMPOSITE PLAN CELLAR LEVEL ALL SECTORS	S5-0104	FOUNDATION DETAILS IV	APPRX	APPROXIMATE	STR	STRUCTURE
S0-0003	STRUCTURAL GENERAL NOTES II	S1-C101	CELLAR FRAMING PLAN SECTOR 1	S5-0105	TYPICAL CONCRETE SLAB DETAILS	ARCH	ARCHITECT OR ARCHITECTURAL	STRCTL	STRUCTURAL
S0-0010	TOWER CONSTRUCTION GUIDELINES	S1-C104	CELLAR FRAMING PLAN SECTOR 4	S5-0106	TYPICAL CONCRETE TWO-WAY SLAB DETAILS	BT	BOTTOM OF	SYM	SYMMETRICAL
SK-205	COVER SHEET & DRAWING LIST	S1-C107	CELLAR FRAMING PLAN SECTOR 7	S5-0201	TYPICAL CONCRETE COLUMN DETAILS I	B/B	BACK TO BACK	T	TENSION
SK-222	COVER SHEET & DRAWING LIST			S5-0202	TYPICAL CONCRETE COLUMN DETAILS II	BLDG	BUILDING	T&B	TOP AND BOTTOM
SK-223	COVER SHEET & DRAWING LIST			S5-0203	TYPICAL CONCRETE COLUMN DETAILS III	BLK	BLOCK	T/	TOP OF
				S5-0204	TYPICAL CONCRETE COLUMN DETAILS IV	BLKG	BLOCKING	TEMP	TEMPERATURE OR TEMPORARY
				S5-0205	TYPICAL CONCRETE COLUMN DETAILS V	BM	BEAM	TEN	TENSION
						BOT	BOTTOM	THK	THICK OR THICKNESS
						BRDG	BRIDGING	TYP	TYPICAL
						BRG	BEARING	UON	UNLESS OTHERWISE NOTED
						BTWN	BETWEEN	V	SHEAR
						C	COMPRESSION	VERT	VERTICAL
						C/C	CENTER TO CENTER	VIF	VERIFY IN FIELD
						CIP	CAST-IN-PLACE	W/	WITH
						CL	CENTER LINE	W/O	WITHOUT
						CLR	CLEAR OR CLEARANCE	WD	WOOD
						CMU	CONCRETE MASONRY UNIT	WP	WORK POINT
						COL	COLUMN	WFFG	WATERPROOFING
						COMP	COMPRESSION	WS	WATERSTOP
						CONC	CONCRETE	WWR	WELDED WIRE REINFORCEMENT
						CONN	CONNECTION(S)		
						CONST	CONSTRUCTION		
						CONT	CONTINUOUS		
						db	REINFORCING BAR DIAMETER		
						DBL	DOUBLE		
						DEG	DEGREE(S)		
						DET	DETAIL		
						DIA	DIAMETER		
						DIAG	DIAGONAL		
						DIM(S)	DIMENSION(S)		
						DL	DEAD LOAD		
						DWG(S)	DRAWING(S)		
						DWL	DOWEL(S)		
						EA	EACH		
						ECC	ECCENTRICITY		
						EF	EACH FACE		
						EL	ELEVATION		
						ELEC	ELECTRICAL		
						ENGR	ENGINEER		
						EOS	EDGE OF SLAB		
						EQ	EQUAL		
						EQUIP	EQUIPMENT		
						EW	EACH WAY		
						EXP	EXPANSION		
						EXST	EXISTING		
						EXT	EXTERIOR		
						F/F	FACE TO FACE		
						FIN	FINISH(ED)		
						FLR	FLOOR		
						FND	FOUNDATION		
						FP	FIREPROOF(ING)		
						FS	FACE SIDE		
						FTG	FOOTING		
						GA	GAGE, GAUGE		
						GALV	GALVANIZED		
						GB	GRADE BEAM		
						GEN	GENERAL		
						GR	GRADE		
						HK	HOOK		
						HORIZ	HORIZONTAL		
						HP	HIGH POINT		
						HT	HEIGHT		
						ID	INSIDE DIAMETER		
						IF	INSIDE FACE		
						INFO	INFORMATION		
						INT	INTERIOR		
						INTRM	INTERMEDIATE		
						JOIST(S)	JOIST(S)		
						JT	JOINT		
						K	KIPS (1,000 POUNDS)		
						KLF	KIP PER LINEAR FOOT		
						KSF	KIP PER SQUARE FOOT		
						LL	LIVE LOAD		
						LLH	LONG LEG HORIZONTAL		
						LLV	LONG LEG VERTICAL		
						LONG	LONGITUDINAL		
						LP	LOW POINT		
						LW	LIGHTWEIGHT		
						LWC	LIGHTWEIGHT CONCRETE		
						M	MOMENT		
						MATL	MATERIAL		
						MAX	MAXIMUM		
						MC	MOMENT CONNECTION(S)		
						MECH	MECHANICAL		
						MEP	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION		
						MEZZ	MEZZANINE		
						MFR	MANUFACTURER		
						MID	MIDDLE		
						MIN	MINIMUM		
						MISC	MISCELLANEOUS		
						NIC	NOT IN CONTRACT		
						NO	NUMBER		
						NOM	NOMINAL		
						NS	NEAR SIDE		
						NTS	NOT TO SCALE		
						NW	NORMAL WEIGHT		
						NWC	NORMALWEIGHT CONCRETE		
						OC	ON CENTER		
						OD	OUTSIDE DIAMETER		
						OF	OUTSIDE FACE		
						OH	OPPOSITE HAND		
						OPNG(S)	OPENING(S)		
						OPP	OPPOSITE		
						OSL	OUTSTANDING LEG		
						P/T	POST-TENSIONED		
						PC	PIECE		
						PCY	POUNDS PER CUBIC YARD		
						PERP	PERPENDICULAR		
						PG	PLATE GIRDER		
						PL	PLATE		
						PRC	PRECAST		
						PRLL	PARALLEL		
						PSF	POUNDS PER SQUARE FOOT		
						PSI	POUNDS PER SQUARE INCH		
						PT	POINT		
						RAD	RADIUS		
						REF	REFERENCE		
						REINF	REINFORCE(D) (ING) OR (MENT)		
						REQD	REQUIRED		
						SCHED	SCHEDULE(D)		
						SOL	SUPERIMPOSED DEAD LOAD		
						SECT	SECTION		
						SER	STRUCTURAL ENGINEER OF RECORD		
						SF	SQUARE FOOT (FEET)		
						SHT	SHEET		
						SIM	SIMILAR		
						SOG	SLAB ON GRADE		
						SP	SPACE		

HUDSON YARDS - TOWER C

501 WEST 30TH STREET
NEW YORK, NY



Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

Mechanical, Electrical, Plumbing, Fire Protection
Javas Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.550.9300 FAX: 212.269.5894

RE/ISSUE FOR FLING	02/04/2013	A
ISSUE FOR FLING	09/19/2012	
Rev	Description	Drawn

Key Plan

Date:	
Project No:	1776.10
Drawn By:	Author
Sheet Number:	

HYE -TC -S0-0001

ABBREVIATIONS AND SYMBOLS

Drawing Number

S0-0001

S-001.01

GR GENERAL REQUIREMENTS

- GR-1 AS USED IN THESE GENERAL NOTES:
"DRAWINGS" MEANS THE LATEST STRUCTURAL DESIGN DRAWINGS, UON.
"SPECIFICATIONS" MEANS THE LATEST PROJECT SPECIFICATIONS, UON.
"CONTRACT DOCUMENTS" IS DEFINED AS THE DESIGN DRAWINGS AND THE SPECIFICATIONS.
"SER" IS DEFINED AS THE STRUCTURAL ENGINEER OF RECORD FOR THE STRUCTURE IN ITS FINAL CONDITION.
"DESIGN PROFESSIONALS" IS DEFINED AS THE OWNER'S ARCHITECT AND SER.
"MEP" INCLUDES, BUT IS NOT LIMITED TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION.
"CONTRACTOR" IS DEFINED TO INCLUDE ANY OF THE FOLLOWING: GENERAL CONTRACTOR AND THEIR SUBCONTRACTORS, CONSTRUCTION MANAGER AND THEIR SUBCONTRACTORS, STRUCTURAL STEEL FABRICATOR OR STRUCTURAL STEEL ERECTOR.
"BASE BUILDING STRUCTURE" IS DEFINED AS THE STRUCTURAL FRAME DESIGNED BY THORNTON TOMASETTI.
"STRUCTURE IN ITS FINAL CONDITION" MEANS ALL STRUCTURAL ELEMENTS SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS ARE INSTALLED AND COMPLETELY CONNECTED AND INSPECTED WITH NO OUTSTANDING NON-COMPLIANCE ISSUES.
- GR-2 THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE STRUCTURAL WORK WITH THE ARCHITECTURAL, CIVIL, MEP CONTRACT DOCUMENTS, AS WELL AS ANY OTHER APPLICABLE TRADES.
- GR-3 THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE UNTIL THE CONSTRUCTION OF THE STRUCTURE REACHES ITS FINAL CONDITION. TEMPORARY STABILITY OF THE SLOPING COLUMNS DURING CONSTRUCTION AND BEFORE THE UPPER SLAB OF THE COLUMN LIFT IS CAST AND CURCED, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- GR-4 THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND REMOVAL OF TEMPORARY BRACING AND CONSTRUCTION SUPPORTS, FOR NEW AND EXISTING STRUCTURES, AS NECESSARY TO COMPLETE THE PROJECT. NO PORTION OF THE PROJECT WHILE UNDER CONSTRUCTION IS INTENDED TO BE STABLE IN THE ABSENCE OF THE CONTRACTOR'S TEMPORARY SUPPORTS AND BRACES. CONTRACTOR SHALL RETAIN A STRUCTURAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED TO DESIGN TEMPORARY BRACING AND CONSTRUCTION SUPPORTS. TEMPORARY BRACING SHALL CONSIDER LATERAL FORCES FROM SLOPED COLUMNS.
DESIGN ASSUMES THAT EACH ELEVATED SLAB IS FULLY DETAILED AND POURED PRIOR TO POURING CONCRETE SLABS ON SUBSEQUENT FLOORS. ALSO ALL GRADE BEAMS AND BACKFILL MUST BE IN PLACE PRIOR TO POURING ELEVATED SLABS.
- GR-5 LATERAL LOAD RESISTANCE AND STABILITY OF THE STRUCTURE IN ITS FINAL CONDITION IS PROVIDED BY SHEAR WALLS AND BRACED FRAMES (TERRAZZOMA ROOF) AND LATERAL STABILITY OF OTHER ELEMENTS IS PROVIDED THROUGH FLOOR SLABS, ROOF DECK, AND IN FLOOR BRACING.
- GR-6 THE SPECIFICATIONS ARE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS AND SHALL BE USED IN CONJUNCTION WITH THE STRUCTURAL DRAWINGS.
- GR-7 THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS AND COORDINATE WITH THE STRUCTURAL DRAWINGS, ARCHITECTURAL DRAWINGS, DRAWINGS FROM OTHER CONSULTANTS, PROJECT SHOP DRAWINGS AND FIELD CONDITIONS.
- GR-8 IN CASES OF CONFLICT BETWEEN DRAWINGS AND/OR SPECIFICATIONS AND OTHER DISCIPLINES OR EXISTING CONDITIONS, CONTRACTOR SHALL NOTIFY THE DESIGN PROFESSIONALS AND OBTAIN CLARIFICATION PRIOR TO BIDDING AND PROCEEDING WITH WORK.
- GR-9 APPLY DETAIL S, SECTIONS, AND NOTES ON THE DRAWINGS WHERE CONDITIONS ARE SIMILAR TO THOSE INDICATED BY DETAIL, DETAIL, TITLE OR NOTE.
- GR-10 ONLY USE DIMENSIONS INDICATED ON THE DRAWINGS. DO NOT SCALE DRAWINGS.
- GR-11 ASSUME EQUAL SPACING BETWEEN ESTABLISHED DIMENSIONS, IF NOT INDICATED ON DRAWINGS.
- GR-12 CENTERLINES OF COLUMNS AND FOUNDATIONS COINCIDE WITH GRID LINE INTERSECTIONS, UON.
- GR-13 CENTERLINES OF GRADE BEAMS AND WALLS COINCIDE WITH CENTERLINES OF FOUNDATIONS, UON.
- GR-14 CENTERLINES OF FRAMING MEMBERS COINCIDE WITH COLUMN CENTERLINES, UON.
- GR-15 THE CONTRACTOR SHALL PROTECT EXISTING FACILITIES, STRUCTURES AND UTILITIES FROM DAMAGE.
- GR-16 THE CONTRACTOR SHALL VERIFY THAT CONSTRUCTION LOADS DO NOT EXCEED THE CAPACITY OF THE STRUCTURE AT THE TIME THE LOAD IS APPLIED.
- GR-17 THE CONTRACTOR SHALL COORDINATE THE BOTTOM OF BASE PLATE ELEVATIONS WITH THE AS-BUILT TOP OF SUPPORT ELEVATIONS.
- GR-18 THE CONTRACTOR SHALL VERIFY ALL OPENING SIZES AND LOCATIONS WITH OTHER DISCIPLINES. THE DRAWINGS DO NOT SHOW ALL OPENINGS REQUIRED. ADDITIONAL OPENINGS, BLOCKOUTS AND SLEEVES MAY BE REQUIRED BY OTHER DISCIPLINES AND SHALL BE CONSTRUCTED USING THE TYPICAL DETAILS AND/OR THE CRITERIA INDICATED ON THE DRAWINGS. OPENINGS REQUIRED BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS MUST BE APPROVED BY THE STRUCTURAL ENGINEER.
- GR-19 ELEVATIONS INDICATED ON STRUCTURAL DRAWINGS ARE BASED ON A PROJECT DATUM INDICATED ON THE ARCHITECTURAL DRAWINGS.
- GR-20 SEE ARCHITECTURAL, CIVIL, MEP, AND VERTICAL TRANSPORTATION, CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION RELATING TO THE COORDINATION OF STRUCTURAL COMPONENTS INCLUDING, BUT NOT LIMITED TO:

CIVIL:
SITING OF BUILDING GRID LINES WITH RESPECT TO CITY BENCHMARKS
SITE PREPARATION
BACKFILLING MATERIALS AND REQUIREMENTS
PAVING AND SITE ELEMENTS OUTSIDE OF BUILDING ENVELOPE
NEW AND EXISTING SITE UTILITIES

ARCHITECTURAL:
PLAN DIMENSIONS AND PROJECT DATUM
SLAB EDGE DIMENSIONS
FINISH ELEVATIONS
WATERPROOFING AND DAMP-PROOFING DETAILS
RAMP GEOMETRY, PITS, SLAB SLOPES AND DEPRESSIONS
EMBEDMENTS, INSERTS, BLOCKOUTS, ETC.
EXACT OPENING SIZES FOR PIPES, DUCTS, ETC.
CONCRETE FINISHES AND TOPPING SLABS
CONCRETE CURBS AND HOUSEKEEPING PAVS
INTERIOR NON-STRUCTURAL MASONRY PARTITIONS
FIRE RATINGS
METAL PAN STAIRS AND SUPPORTS
OPERABLE PARTITIONS

MEP:
PIPE AND DUCT SIZES FOR OPENING AND SLEEVE COORDINATION
FLOOR DRAINS
UNDERFLOOR AND PERIMETER DRAINAGE SYSTEMS
EQUIPMENT CURBS
CONDUITS AND EMBEDMENTS IN WALLS AND SLABS

VERTICAL TRANSPORTATION:
INSERTS, HANGERS, TRENCHES, PITS, CONDUITS IN WALLS AND SLABS
EQUIPMENT SUPPORT
EQUIPMENT SUPPORT, ELEVATOR DIVIDER BEAMS, EMBEDMENTS, AND ANCHOR BOLTS.

CD CODES AND DESIGN CRITERIA

- CD-1 PERFORM ALL CONSTRUCTION IN CONFORMANCE WITH THE BUILDING AND DESIGN CODES REFERENCED WITHIN THESE DOCUMENTS. THE PROJECT DOCUMENTS REFER TO THE FOLLOWING CODES AND STANDARDS, UON:
- 2008 NYC BUILDING CODE
- STRUCTURAL CONCRETE:
"BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
THE AMERICAN CONCRETE INSTITUTE (ACI 318-2008)
- CONCRETE MASONRY:
"BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES"
THE AMERICAN CONCRETE INSTITUTE (ACI 530-2008)
- STRUCTURAL STEEL:
"SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", [MARCH 9, 2005 THIRTEENTH EDITION] CONFORMING TO THE PROVISIONS OF LOAD RESISTANCE FACTOR DESIGN,
BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC-LRFD)
- CD-2 LIVE LOADS:
OFFICES/FLOORS 100 LBS./SQ. FT. (REDUCIBLE, INCLUDES PARTITIONS)
EXIT FACILITIES 100 LBS./SQ. FT.
TERRACE 100 LBS./SQ. FT.
RETAIL AREAS 100 LBS./SQ. FT.
KITCHEN 100 LBS./SQ. FT.
CAFETERIA 100 LBS./SQ. FT.
AUDITORIUM 100 LBS./SQ. FT.
LIGHT STORAGE AREA 100 LBS./SQ. FT.
LOADING DOCK 250 LBS./SQ. FT. OR ASHOTO HS20-44
MECHANICAL ROOMS 150 LBS./SQ. FT. OR ACTUAL WEIGHT
ROOFS (INCLUDING GREEN ROOF) 30 LBS./SQ. FT. (UNREDUCED)
- CD-3 SUPERIMPOSED DEAD LOADS:
- ASSUMED SUPERIMPOSED DEAD LOADS**
- PLAZA 350 PSF FILL
PLATFORM LEVEL AT TOWER 50 PSF FLOOR FINISH
30 PSF HUNG MECHANICAL
PLATFORM LEVEL AT RETAIL 30 PSF FLOOR FINISH
30 PSF HUNG MECHANICAL
TYPICAL RETAIL FLOORS 30 PSF FLOOR FINISH
30 PSF HUNG MECHANICAL
CEILING
25 PSF PARTITIONS
10 PSF HUNG MECHANICAL/CEILING
TYPICAL OFFICE FLOORS 12 PSF RAISED FLOOR
10 PSF HUNG MECHANICAL/CEILING
PARTITIONS INCLUDED IN THE LIVE LOAD SEE ABOVE
- AMENITY/ASSEMBLY FLOORS 30 PSF FLOOR FINISH
25 PSF PARTITIONS
10 PSF HUNG MECHANICAL/CEILING
MECHANICAL FLOORS 20 PSF HUNG BELOW MECHANICAL/CEILING
50 PSF HUNG ABOVE MECHANICAL/CEILING
ROOF 50 PSF TAPERED FILL
15 PSF ROOFING AND INSULATION
15 PSF HUNG MECHANICAL/CEILING
20 PSF
- FACADE WEIGHT

- CD-4 SNOW LOADS:
FLAT ROOF SNOW LOAD (P_f): 20 PSF
GROUND SNOW LOAD (P_g): 25 PSF
SNOW EXPOSURE FACTOR (C_e): 0.9
SNOW LOAD IMPORTANCE FACTOR (I_s): 1.0
THERMAL FACTOR (C_t): 1.0
SNOW DRIFTING PER CODE
- CD-5 WIND LOAD DESIGN DATA
MAIN WIND FORCE RESISTING SYSTEM PER RWID REPORT JUNE 2012
- COMPONENT AND CLADDING DESIGN PRESSURES PER RWID REPORT JUNE 2012
- ROOF EFFECTIVE WIND AREA = 10 SF
ROOF# 33 PSF ROOF EDGE # 52 PSF ROOF CORNER# 71 PSF
- CD-6 SEISMIC LOAD DESIGN DATA:
SEISMIC IMPORTANCE FACTOR (I_s) 1.0
S_s 0.365
S₁ 0.071
SDS 0.232
SD1 0.080
SITE CLASS C
SEISMIC DESIGN CATEGORY B
LATERAL SYSTEM DESCRIPTION SHEARWALL
SEISMIC RESPONSE COEFFICIENT (C_s) 0.0128
RESPONSE MODIFICATION FACTOR (R) 5 (NOT DETAILED FOR SEISMIC RESISTANCE)
ANALYSIS PROCEDURE DESCRIPTION EQUIVALENT LATERAL FORCE
DESIGN BASE SHEAR 5150 kips
- CD-7 IN CASES WHERE THE CONTRACTOR DETERMINES THAT SUSPENDED OR FLOOR MOUNTED MEP EQUIPMENT LOADS EXIST WHICH EXCEED DESIGN LOADS INDICATED ON CONTRACT DOCUMENTS, CONTRACTOR SHALL SUBMIT LOAD DATA TO DESIGN PROFESSIONALS FOR REVIEW PRIOR TO PROCEEDING WITH WORK.
- CD-8 DISTRIBUTE THE MAXIMUM LOAD HUNG FROM ANY STRUCTURAL MEMBER FOR MEP DUCTWORK, PIPING ETC OVER THE MEMBER'S TRIBUTARY AREA IN A WAY THAT THE DESIGN SUPERIMPOSED DEAD LOADS LISTED IN CONTRACT DOCUMENTS ARE NOT EXCEEDED. THE CONTRACTOR SHALL COORDINATE THE LOADS OF ALL TRADES AND PROVIDE ADDITIONAL SUPPORT OR DISTRIBUTION FRAMING AS REQUIRED TO ACHIEVE THE ALLOWABLE LOAD DISTRIBUTION.
- CD-9 ESCALATOR SUPPORTS AND PITS ARE BASED ON ESCALATOR TYPES INDICATED ON ARCHITECTURAL CONTRACT DOCUMENTS. CONTRACTOR SHALL SUBMIT FOR REVIEW ANY PLANNED CHANGE TO ESCALATORS TO DESIGN PROFESSIONALS PRIOR TO SUBMITTING CORRESPONDING STRUCTURAL SHOP DRAWINGS FOR ACTION.
- CD-10 ELEVATOR GUIDERAIL SUPPORTS, MACHINE ROOMS, PITS, AND PENTHOUSES ARE BASED ON ELEVATOR TYPES INDICATED ON ARCHITECTURAL CONTRACT DOCUMENTS. CONTRACTOR SHALL SUBMIT FOR REVIEW ANY PLANNED CHANGE TO ELEVATORS TO DESIGN PROFESSIONALS PRIOR TO SUBMITTING CORRESPONDING STRUCTURAL SHOP DRAWINGS FOR ACTION.
- CD-11 STRUCTURAL COMPONENTS ARE NOT DESIGNED FOR VIBRATING EQUIPMENT. MOUNT VIBRATING EQUIPMENT ON VIBRATION ISOLATORS.
- CD-12 SERVICEABILITY
- LIVE LOAD DEFLECTION IS LESS THAN [L/360]
- LONG-TERM TOTAL DEFLECTION IS LESS THAN [L/240]
- EXTERIOR SPANDRELS HAVE BEEN DESIGNED TO LIMIT LIVE LOAD MIDSPAN VERTICAL DEFLECTION TO 1/[360] OF THE SPAN OR [3/8]", WHICHEVER IS LESS.
- EXTERIOR SPANDRELS HAVE BEEN DESIGNED TO LIMIT DEAD PLUS SUPERIMPOSED DEAD LOAD PLUS CURTAIN WALL WEIGHT PLUS LIVE LOAD MIDSPAN VERTICAL DEFLECTION TO 1/[240] OF THE SPAN OR 1/[2]", WHICHEVER IS LESS.
- LATERAL DRIFT DUE TO [WIND] LOADS IS LESS THAN OR EQUAL TO H/400
- THE SEISMIC STORY DRIFT SHALL NOT EXCEED 0.02 OF THE TOTAL STORY HEIGHT.
- VIBRATION: BASIC FLOOR FRAMING HAS BEEN DESIGNED FOR A MAXIMUM FLOOR SYSTEM MEAN ACC EVARATION OF 0.5% g USING DAMPING OF 3%.
- CD-13 CONNECTIONS OF SYSTEMS DESIGNED BY CONTRACTOR'S ENGINEER SUCH AS, BUT NOT LIMITED TO, CLADDING, STAIRS, ELEVATORS, ESCALATORS, PRECAST STADIA, AND MEP LOADS, ARE ASSUMED TO IMPOSE VERTICAL AND/OR HORIZONTAL LOADS ON THE BASE BUILDING STRUCTURAL MEMBERS WITHOUT GENERATING TORSION IN THE SUPPORTING STRUCTURAL MEMBERS. CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING ALL SUPPLEMENTARY BRACING MEMBERS AS REQUIRED TO PREVENT TORSION ON THE BASE BUILDING STRUCTURE.
- CD-14 FOR FIRE RATING AND FIREPROOFING ASSEMBLY EVALUATIONS, CONSIDER THE FOLLOWING ASSEMBLIES RESTRAINED: COMPOSITE WIDE-FLANGE STEEL FRAMING, INTERIOR BAYS OF CONTINUOUS CAST-IN-PLACE CONCRETE CONSTRUCTION. CONSIDER ALL OTHER ASSEMBLIES UNRESTRAINED.

SS STRUCTURAL STEEL

- SS-1 STEEL MATERIALS SHALL CONFORM TO THE FOLLOWING MINIMUM REQUIREMENTS UNLESS OTHERWISE NOTED ON THE CONTRACT DOCUMENTS:
- ROLLED SHAPES AND CHANNELS: ASTM A572 OR A992, MIN. YIELD STRENGTH 50 KSI
ANGLES FOR TRUSSES AND BRACES: ASTM A36 MIN YIELD STRENGTH 36 KSI
MISCELLANEOUS ANGLES: ASTM A36
HOLLOW STRUCTURAL SECTIONS: ASTM A500 GRADE B, MIN YIELD STRENGTH 42 KSI FOR ROUND AND 46 KSI FOR RECTANGULAR HSS
SEAMLESS PIPE: ASTM A53 GRADE B, TYPE S, MIN YIELD STRENGTH 35 KSI
PLATES: ASTM A572, GRADE 50
- SS-2 CONNECTION MATERIAL SHALL CONFORM TO THE FOLLOWING MINIMUM REQUIREMENTS OR AS NEEDED FOR CONNECTION DESIGN:
- ANGLES: ASTM A36
WTs: ASTM A992
PLATES: ASTM A36
MINIMUM YIELD STRENGTH 36 KSI
BOLTS: ASTM A325 OR A490
NUTS: ASTM A563
WASHERS: ASTM F436
ANCHOR RODS: ASTM F1554 GRADE 65 WITH WELDABILITY SUPPLEMENT S1
HEADED STUDS: ASTM A 108, GRADE 1010 THROUGH 1020 HEADED STUD TYPE, COLD-FINISHED CARBON STEEL, AWS D1.1, TYPE B, 3/4" DIAMETER E70XX
- WELD ELECTRODES:
- SS-3 WHERE NO CAMBER IS INDICATED, FABRICATE BEAMS SO THAT ANY NATURAL CAMBER IS UPWARD AFTER ERECTION.
- SS-4 SPLICES SHALL BE ALLOWED ONLY AT LOCATIONS SPECIFICALLY INDICATED ON THE STRUCTURAL DRAWINGS UNLESS APPROVED OTHERWISE BY THE SER IN WRITING.
- SS-5 FOR STEEL MEMBERS AND EMBEDMENTS EXPOSED TO WEATHER, PROVIDE HOT-DIPPED GALVANIZED FINISH.
- SS-6 PROVIDE HOLES IN ALL STEEL AS REQUIRED TO PREVENT ANY ACCUMULATION OF WATER. ALL PENETRATIONS THROUGH MAIN MEMBERS SHALL NOT EXCEED 1/16" DIA. AND SHALL BE GROUND SMOOTH. THESE DRAINS MUST BE KEPT CLEAN AND OPEN.
- SS-7 SHOW ALL COPES, HOLES, OPENINGS AND MODIFICATIONS REQUIRED IN STRUCTURAL STEEL MEMBERS FOR ERECTION OR THE WORK OF OTHER TRADES ON THE SHOP DRAWINGS FOR APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER.
- SS-8 FIELD MODIFICATION OF STRUCTURAL STEEL IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE ARCHITECT AND STRUCTURAL ENGINEER.
- SS-9 THE CONTRACTOR SHALL SUBMIT A STEEL ERECTION PROCEDURE, PREPARED UNDER THE SUPERVISION OF A STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE LOCATION OF THE PROJECT (THE CONTRACTOR'S ENGINEER FOR REVIEW BY THE STRUCTURAL ENGINEER OF RECORD. THIS PROCEDURE MUST INCLUDE THE PROPOSED SURVEY REQUIRED BY THE STEEL SPECIFICATIONS. SURVEY SHALL INCLUDE SURVEY OF ALL SLOPED COLUMNS AT EACH LEVEL BEFORE AND AFTER CONCRETE POURS.
- SS-10 STEEL USING COMPLETE JOINT PENETRATION GROOVE WELDS THAT FUSE THROUGH THE THICKNESS OF THE FLANGE OR WEB SHALL HAVE A MINIMUM CHARTY V-NOTCH IMPACT TESTING VALUE AS FOLLOWS:
- A. ASTM A616M HOT-ROLLED SHAPES WITH A FLANGE THICKNESS EXCEEDING 2 INCHES AND BUILT-UP HEAVY SHAPES WITH PLATES EXCEEDING 2 INCHES IN THICKNESS: 20 FT-LB @ 70 DEG. F
B. REGARDLESS OF THICKNESS, ALL TRUSSES, LATERAL SYSTEM MEMBERS (INCLUDING COLUMNS, WIND BRACERS, BRACES, ETC.): 20 FT-LB @ 70 DEG. F
C. STEEL EXPOSED TO TEMPERATURES IN SERVICE BELOW 50 DEG. F: 25 FT-LB @ 40 DEG. F
D. WELD METAL: 20 FT-LB @ MINUS 20 DEG. F AND 40 FT-LB @ 70 DEG. F
E. WELD METAL EXPOSED TO TEMPERATURE 50 IN SERVICE BELOW 50 DEG. F: 25 FT-LB @ MINUS 40 DEG. F
F. TESTING IS TO BE IN ACCORDANCE WITH ASTM A616M, SUPPLEMENTARY REQUIREMENT S30, CHARTY V-NOTCH IMPACT TEST FOR STRUCTURAL SHAPES - ALTERNATE CORE LOCATION, AT ROLLED SHAPES AND ASTM A673 FOR PLATES, AT ANY PERMITTED LOCATIONS.

FN FOUNDATIONS

- FN-1 THE FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL REPORT BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, P.C., DATED MAY 17TH 2012.
- FN-2 FOUNDATIONS HAVE BEEN DESIGNED BASED ON THE DESIGN VALUES PROVIDED IN THE GEOTECHNICAL REPORT. SEE GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS AND INFORMATION. DESIGN VALUES SHALL BE FIELD VERIFIED BY QUALIFIED GEOTECHNICAL ENGINEER RETAINED BY THE OWNER.
- FN-3 THE CONTRACTOR SHALL VERIFY FOUNDATION INSTALLATION AND CONSTRUCTION IS IN CONFORMANCE WITH THE RECOMMENDATIONS OUTLINED IN THE GEOTECHNICAL REPORT.
- FN-4 CONTRACTOR SHALL BE RESPONSIBLE TO ADEQUATELY PROTECT ALL EXCAVATION, WHERE NECESSARY, SHEET AND SHORE THE EXCAVATION WITH ALL REQUIRED TIEBACKS AND BRACING AS DETERMINED BY CONTRACTOR'S STRUCTURAL ENGINEER.
- FN-5 PROVIDE BRACING FOR ALL BASEMENT FOUNDATION WALLS PRIOR TO BACKFILLING. THIS BRACING SHALL REMAIN IN PLACE UNTIL ALL SLABS AND BEAMS FRAMING INTO WALL HAVE BEEN PLACED AND HAVE ATTAINED 100% OF THEIR DESIGN STRENGTH.
- FN-6 DO NOT BACKFILL AGAINST CANTILEVER RETAINING WALLS UNTIL THE CONCRETE HAS ATTAINED 100% OF ITS DESIGN STRENGTH.

CM CONCRETE MATERIALS

- CM-1 CONCRETE STRENGTH SHALL MEET THE 28-DAY OR 90-DAY COMPRESSIVE STRENGTHS (F_c), NOTED IN THE DWG NOTES. SEE HSC NOTES FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- CM-2 PROVIDE NORMALWEIGHT CONCRETE WITH CURED DENSITY OF 145 +/- 5 PCF, AND AGGREGATE CONFORMING TO ASTM C33, UON. WHERE INDICATED, PROVIDE LIGHTWEIGHT CONCRETE WITH CURED DENSITY OF 112 +/- 3 PCF AND AGGREGATE CONFORMING TO ASTM C330.
- CM-3 THE USE OF CALCIUM CHLORIDE AND OTHER CHLORIDE CONTAINING AGENTS IS PROHIBITED. THE USE OF RECYCLED CONCRETE IS PROHIBITED. PLACEMENT WITHIN AND CONTACT BETWEEN ALUMINUM ITEMS, INCLUDING ALUMINUM CONDUIT, AND CONCRETE IS PROHIBITED.
- CM-4 ALL CAST-IN-PLACE CONCRETE WILL EXPERIENCE DIFFERING VARIATIONS OF CRACKING. ANY ELEMENT EXPOSED TO DIRECT WEATHER AND/OR TEMPERATURE VARIATIONS DURING CONSTRUCTION OR IN THE FINAL CONDITION IS TO BE TREATED AND REGULARLY MAINTAINED TO PREVENT PROPAGATION OF CRACKS AND WATER PENETRATION. THE CONTRACTOR SHALL DEVELOP A REGULAR MAINTENANCE PROGRAM AND SUBMIT IT TO THE OWNER.
- CM-5 CONCRETE PUDDLING IS REQUIRED IN THE FLOORS AT ALL COLUMNS AND WALLS WHERE THE CONCRETE COMPRESSIVE STRENGTH (F_c) OF THE COLUMN OR WALL ABOVE OR BELOW THE FLOOR IS GREATER THAN 1.4 TIMES THE CONCRETE COMPRESSIVE STRENGTH OF THE FLOOR.
AT CONTRACTOR'S OPTION: FLOORS WHERE COMPRESSIVE STRENGTH IS CALLED OUT AS 6,000 PSI, CAN BE POURED WITH 17,000 PSI CONCRETE IN ORDER TO AVOID PUDDLING WHEN COLUMNS AND/OR WALLS HAVE A SPECIFIED STRENGTH OF 10,000 PSI. SEE DETAIL ON SS-6202.
- CM-6 REFER TO TOWER HIGH STRENGTH CONCRETE NOTES FOR ALL HIGH STRENGTH CONCRETE (HSC) REQUIREMENTS.

RE CONCRETE REINFORCEMENT

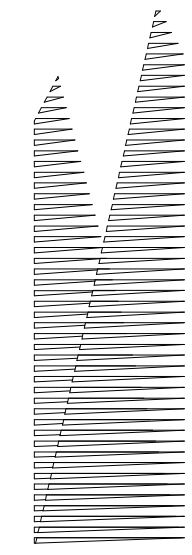
- RE-1 ALL CONCRETE SHALL INCLUDE REINFORCEMENT. IF REINFORCEMENT IS NOT SPECIFICALLY INDICATED ON THE DRAWINGS VERIFY WITH THE STRUCTURAL ENGINEER.
- RE-2 REINFORCEMENT SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES UON:
DEFORMED BARS: ASTM A615 GRADE 75 #9 AND LARGER
ASTM A615 GRADE 60 ALL OTHER BARS
WELDABLE COATED BARS: ASTM A705
EPOXY COATED DEFORMED BARS: ASTM A615 / A775
WELDED WIRE REINFORCEMENT: ASTM A1185
EPOXY COATED WELDED WIRE REINFORCEMENT: ASTM A1185 / A884
DYWIDAG THREADBARS: ASTM A722 GRADE 150
- RE-3 DETAIL REINFORCEMENT BASED ON THE PROJECT REQUIREMENTS, ACI-318 AND ACI-315, UON.
- RE-4 WHERE A 90-DEG, 135-DEG OR 180-DEG HOOK IS GRAPHICALLY INDICATED, PROVIDE CORRESPONDING ACI STANDARD HOOKS UON.
- RE-5 DOWELS SHALL MATCH SIZE AND SPACING OF MAIN REINFORCEMENT UON.
- RE-6 REINFORCEMENT SHALL HAVE CONCRETE PROTECTION (CLEAR COVER) PER ACI 318 UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- RE-7 LAP REINFORCEMENT AS SPECIFICALLY DETAILED ON THE DRAWINGS. SEE LAP SPLICE AND EMBEDMENT SCHEDULE.
- RE-8 UNLESS OTHERWISE NOTED ALL LAP SPLICES ARE TO BE TENSION LAP SPLICES PER LAP SPLICE AND EMBEDMENT SCHEDULE.
- RE-9 PROVIDE MECHANICAL SPLICES FOR BARS LARGER THAN #11 OR WHERE INDICATED. PROVIDE TENSILE, PRE-QUALIFIED, WELDED OR THREADED MECHANICAL SPLICES UON.
- RE-10 LAP WELDED WIRE REINFORCEMENT TWO PANEL SPACINGS, UON.
- RE-11 PROVIDE LAP LOCATIONS AS FOLLOWS, UON:
A. GRADE BEAM / WALL (TOP HORIZONTAL REINFORCEMENT): AT CENTER OF SPAN
B. GRADE BEAM / WALL (BOTTOM HORIZONTAL REINFORCEMENT): AT SUPPORTS
C. WALL, INSIDE FACE (VERTICAL REINFORCEMENT): AT SUPPORT
D. WALL, OUTSIDE FACE (VERTICAL REINFORCEMENT): AT MIDHEIGHT OF WALL
E. UNLESS OTHERWISE NOTED, TERMINATE BARS AT DISCONTINUOUS ENDS WITH STANDARD HOOKS.
- RE-12 PROVIDE EPOXY COATED REINFORCEMENT AND ACCESSORIES IN AREAS OF DIRECT EXPOSURE TO THE ENVIRONMENT, CHEMICALS, OR DE-ICING FOR THE AREAS INDICATED ON THE DRAWINGS.
- CJ CONCRETE CONSTRUCTION JOINTS
- CJ-1 PROVIDE CONSTRUCTION JOINTS IN ACCORDANCE WITH ACI-318. SUBMIT SHOP DRAWINGS SHOWING PROPOSED CONSTRUCTION JOINT LOCATIONS, DETAILS AND THE PLACEMENT SEQUENCE FOR THE STRUCTURAL ENGINEER'S APPROVAL PRIOR TO PROCEEDING WITH WORK.
- CJ-2 NO HORIZONTAL CONSTRUCTION JOINTS WILL BE PERMITTED IN BEAMS, UPTURNED BEAMS, WALLS AND SLABS UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS OR APPROVED IN WRITING BY THE DESIGN PROFESSIONALS PRIOR TO CONSTRUCTION.
- CJ-3 PLACE VERTICAL CONSTRUCTION JOINTS TO PROVIDE A 60 FT MAXIMUM LENGTH OF CONCRETE PLACEMENT AND LOCATE AS FOLLOWS:
A. FOUNDATION WALLS: MINIMUM OF 8 FT FROM ANY WALL INTERSECTION, PLASTER, PIER, OR WALL OPENING.
B. BEAMS AND GRADE BEAMS: WITHIN THE MIDDLE THIRD OF THE CLEAR SPAN AVOIDING LAP SPLICES, SUBJECT TO SER APPROVAL.
- CJ-4 PROVIDE CONTINUOUS WATERSTOPS AT ALL CONSTRUCTION JOINTS EXPOSED TO SOIL OR WATER, AS DESCRIBED IN THE SPECIFICATIONS.

PT POST-TENSIONED CONCRETE

- PT-1 POST-TENSIONING STRAND: ASTM A416, GRADE 270, LOW RELAXATION TYPE, 1/2" INCH DIAMETER, 7-WIRE STRAND, UNBONDED, UON.
- PT-2 TENDONS SHALL BE PLASTIC SHEATHED, GREASED, AND RUST PROTECTED. PROVIDE COMPLETE WATERTIGHT ENCAPSULATION SYSTEM FOR PRESTRESSING STEEL, ANCHORAGES, AND COUPLINGS.
- PT-3 POST-TENSIONING FORCES INDICATED ON THE STRUCTURAL DRAWINGS ARE THE REQUIRED FINAL EFFECTIVE FORCES AFTER ALL IMMEDIATE AND LONG-TERM LOSSES.
- PT-4 PROPER TENDON LOCATION SHALL HAVE PRIORITY OVER ALL OTHER MATERIALS AND TRADES. RELOCATING TENDONS CAN ONLY BE DONE WITH WRITTEN APPROVAL FROM THE SER.
- PT-5 THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE STRUCTURAL ENGINEER WHERE SLAB TENDONS INTERFERE WITH BEAM TENDONS. RELOCATING SLAB TENDONS CAN ONLY BE DONE WITH WRITTEN APPROVAL FROM THE SER.
- PT-6 THE STRESSING OF SLAB TENDONS SHALL BE PERMITTED ONLY AFTER THE CONCRETE HAS ATTAINED AT LEAST 75 PERCENT OF THE SPECIFIED COMPRESSIVE STRENGTH / A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI.
- PT-7 POST-INSTALLED ANCHORS SHALL NOT PENETRATE MORE THAN 3/4" INCH INTO SLAB UNLESS SPECIAL PRECAUTIONS ARE USED TO INDICATE LOCATIONS OF ALL TENDONS. POST-INSTALLED ANCHORS INTO POST-TENSIONED SLABS SHALL NOT BE PERMITTED WITHOUT PRIOR WRITTEN APPROVAL FROM THE SER.
- PT-8 CORING OF POST-TENSIONED SLABS SHALL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL FROM THE SER.
- PT-9 THE CONTRACTOR SHALL COORDINATE THE LOCATION OF EMBEDDED ITEMS WITH POST-TENSIONING MATERIAL SUPPLIER AND RESOLVE ANY CONFLICTS PRIOR TO INSTALLATION.
- PT-10 LOCATION OF ALL SLAB TENDONS SHALL BE PERMANENTLY MARKED ON THE FINISHED SLAB SURFACE BY A METHOD ACCEPTABLE TO THE ARCHITECT.

HUDSON YARDS - TOWER C

501 WEST 30TH STREET
NEW YORK, NY



Client Related Companies
60 Columbus Circle
New York, NY 10023
New York, NY 10022
TEL: 212.801.1000 FAX: XXX-XXX-XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

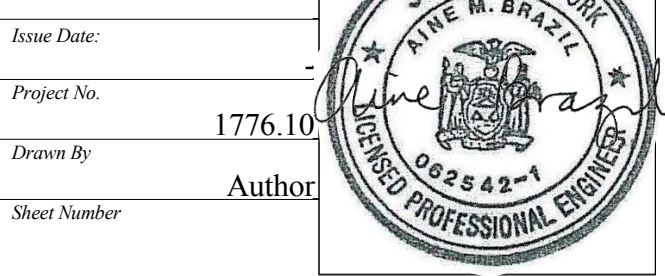
Construction Manager
Construction Manager Name
Address
Address
TEL: XXX-XXX-XXXX FAX: XXX-XXX-XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

Mechanical, Electrical, Plumbing, Fire Protection
Javis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.550.9300 FAX: 212.269.5894

RE-ISSUE FOR FILING	02/04/2013	
ISSUE FOR FILING	09/19/2012	
No.	Description	Date

Any Plan



HYE-TC -S0-0002

Damian Titus

Buildings

APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION

Date/Time: Feb 6, 2013 - 3:21 PM

NYC Development Hub

STRUCTURAL GENERAL NOTES I

Drawing Number
S0-0002
Drawing Title
S-002.01

STRUCTURAL GENERAL NOTES II
C:\Users\CPender\Documents\1010234\HCE\Bldg
2/6/2013 11:28:31 AM

MA MASONRY

- MA-1 LOAD BEARING AND BACKUP WALL CONCRETE MASONRY CONSTRUCTION SHALL CONFORM TO THE FOLLOWING MATERIAL STANDARDS:
- CONCRETE BLOCK: ASTM C90, NORMALWEIGHT - TYPE I
MORTAR: ASTM C270, TYPE S OR M PORTLAND CEMENT / LIME ONLY (USE TYPE M MORTAR WHEN MASONRY IS IN DIRECT CONTACT WITH SOIL; TYPE S IN ALL OTHER CONDITIONS)
GROUT: ASTM C475 (MINIMUM 28 DAY COMPRESSIVE STRENGTH 2000 PSI)
REINFORCEMENT: ASTM A615, GRADE 60
JOINT REINFORCEMENT: ASTM A82, TRUSS OR LADDER TYPE
EXTERIOR JT REINF: GALVANIZE PER ASTM A153
INTERIOR JT REINF: GALVANIZE PER ASTM A641
TYPICAL: GALVANIZE PER ASTM A641
RELATIVE HUMIDITY >75%
- MA-2 THE MINIMUM COMPRESSIVE STRENGTH OF THE MASONRY (F' M) SHALL BE 1,500 PSI, UON, AS DETERMINED IN ACCORDANCE WITH THE ABOVE REFERENCED SPECIFICATIONS FOR MASONRY STRUCTURES.
- MA-3 CALCIUM CHLORIDE SHALL NOT BE USED IN MORTAR OR GROUT.
- MA-4 PROVIDE FULL FACE SHELL MORTAR COVERAGE ON MASONRY UNIT HORIZONTAL AND VERTICAL (BED AND HEAD) FACE SHELL JOINTS.
- MA-5 PROVIDE FULL MORTAR COVERAGE ON WEBS AROUND ALL GROUTED CELLS.
- MA-6 LAY MASONRY UNITS IN RUNNING BOND UON WITH UNITS DESIGNED TO ALIGN WITH WEBS IN EACH COURSE.
- MA-7 REFER TO PLANS AND DETAILS FOR BONDED JOINT REQUIREMENTS AT WALL CORNERS AND INTERSECTIONS. WHERE REQUIRED, INTERLOCK WALLS WITH METAL TIES, ANCHORS OR PREFABRICATED JOINT REINFORCEMENT UON ON DRAWINGS OR SEE SPECIFICATIONS.
- MA-8 GROUT SOLID CELLS WITH REINFORCEMENT. GROUT SOLID CELLS IN BELOW GRADE CONSTRUCTION WHERE MASONRY IS IN CONTACT WITH SOIL.
- MA-9 GROUT MINIMUM OF ONE (1) CELL WITH REINFORCEMENT AT EACH SIDE OF ALL OPENINGS.SEE DRAWINGSFOR ADDITIONAL REINFORCEMENT REQUIREMENTS.
- MA-10 WHERE STRAP ANCHORS ARE REQUIRED BY DRAWINGS OR SPECIFICATIONS, LOCATE THEM AT DIFFERENT BED JOINTS THAN THOSE RECEIVING HORIZONTAL JOINT REINFORCEMENT.
- MA-11 WHERE REQUIRED, LAP HORIZONTAL JOINT REINFORCEMENT BY AT LEAST 6 INCHES.
- MA-12 PLACE GROUT BY THE LOW-LIFT METHOD. MAXIMUM GROUT POUR SHALL BE 4 FEET.

SC STRUCTURAL STEEL CONNECTIONS

- SC-1 ALL STEEL DETAILS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", AISC-LOAD AND RESISTANCE FACTOR DESIGN.
- SC-2 ALL CONNECTIONS, UNLESS INDICATED AS BEING FULLY DESIGNED ON THE STRUCTURAL DRAWINGS, SHALL BE DESIGNED AND DETAILED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE WHERE THE PROJECT IS LOCATED. THE DESIGN AND DETAILING SHALL COMPLY WITH ALL APPLICABLE CODES AND SPECIFICATION SECTIONS.
- SC-3 UNLESS OTHERWISE NOTED, DETAILS INDICATED ON DRAWINGS INDICATE GENERAL CRITERIA FOR DESIGN AND DETAILING OF CONNECTIONS. DETAILS INDICATED ON DRAWINGS ARE NOT INTENDED TO CONVEY COMPLETE CONNECTOR SIZES, PLATE SIZES, WELD SIZES, NUMBER OF BOLTS, OR ANY OTHER SPECIFIC INFORMATION THAT IS OBTAINED THROUGH DESIGNING OF AN INDIVIDUAL CONNECTION FOR A GIVEN SET OF LOADS. THESE DETAILS DO NOT SHOW ERECTION AIDS. PROVIDE ERECTION AIDS AS REQUIRED AND REMOVE THEM AFTER WORK IS COMPLETE.
- SC-4 SUBMIT CONNECTIONS NOT SPECIFICALLY DETAILED ON THE DRAWINGS TO THE SER FOR REVIEW PRIOR TO REVIEW OF SHOP DRAWINGS. FOR BIDDING PURPOSES, WHERE NO MOMENT IS INDICATED ON DRAWINGS PROVIDE FULL MOMENT CAPACITY OF MEMBER (3 Fy Zi) AND WHERE NO VERTICAL SHEAR IS INDICATED ON DRAWINGS PROVIDE FULL SHEAR CAPACITY (.54 Fy d tw).
- SC-5 ALTERNATE CONNECTIONS TO THOSE SHOWN ON DRAWINGS WILL ONLY BE CONSIDERED ACCEPTABLE IF CONTRACTOR FORMALLY SUBMITS ALTERNATES AND THE SER APPROVES THE SUBMITTAL.
- SC-6 FOR CONNECTION DESIGN AND DETAILING, SET CONNECTION WORK POINT AT INTERSECTION OF MEMBER CENTERLINES, UON.
- SC-7 DESIGN ALL CONNECTIONS FOR FORCES INDICATED ON THE DRAWINGS. CONNECTION DESIGN FORCES INDICATED ON THE DRAWINGS ARE FACTORED UON.
- SC-8 DESIGN OF MEMBERS IS BASED ON ASSUMPTION OF 3/4-INCH DIAMETER AND 1-INCH DIAMETER A325 OR A490 BOLTS. USE NO MORE THAN TWO BOLT DIAMETERS, ONE GRADE PER DIAMETER, SKIP ONE SIZE BETWEEN DIAMETERS.
- SC-9 BEAM CONNECTION DESIGN NOTES
- SEE PLANS FOR BEAM REACTIONS AND MOMENTS THAT ARE LARGER THAN THE VALUE SHOWN IN SCHEDULES.
- DEVELOP THE LARGER OF THE BEAM SHEAR REACTION SCHEDULED, SHOWN ON PLANS OR SHOWN ON ELEVATIONS.
- DEVELOP THE LARGER OF THE MOMENT SCHEDULED, SHOWN ON PLANS OR SHOWN ON ELEVATIONS.
- DEVELOP THE LARGER OF THE AXIAL FORCE DENOTED AS P OR TF SHOWN ON PLANS OR SHOWN ON ELEVATIONS. SEE STEEL BEAM LEGEND.
- WHERE NO AXIAL FORCE IS SHOWN ALL BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM AXIAL FORCE EQUALTO 5% OF THE VERTICAL SHEAR REACTION ACTING CONCURRENTLY WITH THE VERTICAL BEAM SHEAR.
- ALL BEAM REACTIONS, AXIAL FORCES AND MOMENTS ACT CONCURRENTLY. UON, BEAM REACTIONS ACT IN GRAVITY DIRECTION WHILE AXIAL FORCES AND MOMENTS ARE TO BE CONSIDERED REVERSIBLE.
- EXCEPT WHERE "SNUG TIGHT" INSTALLATION IS SPECIFICALLY PERMITTED ON DRAWINGS or "SLIP CRITICAL" DETAILING IS REQUIRED, ALL HIGH STRENGTH BOLTS SHALL BE INSTALLED AS FULL PRETENSIONED BOLTS.
- AT A MINIMUM ALL BOLTED MOMENT AND AXIAL CONNECTION SHALL HAVE PRETENSIONED BOLTS IN STANDARD HOLES.
- BOLTED MOMENT CONNECTIONS AT CANTILEVERS AND BACKSPANS SHALL USE SLIP CRITICAL BOLTS.
- DO NOT USE OVERSIZED OR SLOTTED HOLES FOR ANY CONNECTIONS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR APPROVED IN WRITING BY THE SER.
- SC-10 ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF THE STRUCTURAL WELDING CODE, ANSI/AWS D1.1, LATEST EDITION. ALL WELD SIZES SHALL BE THE LARGER OF THE SIZE REQUIRED BY CONNECTION FORCES, THE MINIMUM SIZE PER ANSI/AWS D1.1, OR 3/16 INCH MINIMUM FILLET WELD UON. ANY WELD SIZES SHOWN ON THE DESIGN DRAWINGS ARE CONSIDERED EFFECTIVE WELD SIZES AND SHALL BE INCREASED IN ACCORDANCE WITH AWS AS REQUIRED BY GAPS OR SKEWS BETWEEN COMPONENTS.
- SC-11 USE RUNOFF TABS AT ALL BEVEL AND FULL PENETRATION WELDS. REMOVE RUNOFF TABS BY NEAT CUTS AFTER WELD IS COMPLETED. GRIND SMOOTH WHERE REQUIRED BY DETAIL.
- SC-12 WHERE REQUIRED BY DETAIL REMOVE WELD BACK UP BARS AND GRIND SMOOTH AFTER WELD IS COMPLETED.
- SC-13 FOR TRUSS DETAILING USE A MINIMUM BOLT SPACING OF 3 TIMES THE BOLT DIAMETER AND A MINIMUM EDGE DISTANCE OF 2 INCHES. ALSO REFER TO TYPICAL DETAILS.
- SC-14 DESIGN, DETAIL, FURNISH AND INSTALL STIFFENERS, CONTINUITY PLATES, DOUBLER PLATES, OR OTHER NECESSARY ADDITIONAL LOCAL STRENGTHENING MEASURES AS REQUIRED. MEMBER SIZES INDICATED ON THE DRAWINGS ARE BASED ON MEMBER BEHAVIOR AWAY FROM CONNECTIONS.

PA POST-INSTALLED ANCHORS

- PA-1 EPOXY-ANCHORED REINFORCING BAR SYSTEMS:
- HIT RE 500 EPOXY ADHESIVE ANCHOR HILTI, TULSA, OK
HIT RE 500-SD EPOXY ADHESIVE ANCHOR HILTI, TULSA, OK
- OVERHEAD AND/OR CONSTANT TENSION EPOXY ANCHOR INSTALLATIONS NOT SHOWN ON THE DRAWINGS SHALL NOT BE PERMITTED UNLESS EACH CONDITION IS REVIEWED AND APPROVED IN WRITING BY THE SER.
- PA-2 ALTERNATIVE SYSTEM EQUIVALENT TO OR EXCEEDING THE PROPERTIES OF THE SYSTEM ABOVE WILL BE CONSIDERED.
- PA-3 FIELD DRILLED EXPANSION ANCHOR SYSTEMS:
- KWIK BOLT 3 HILTI, TULSA, OK
KWIK TZ FOR CRACKED CONCRET HILTI, TULSA, OK
- PA-4 ALTERNATIVE SYSTEM EQUIVALENT TO OR EXCEEDING THE PROPERTIES OF THE SYSTEM ABOVE WILL BE CONSIDERED.
- PA-5 ANCHORS ARE TO BE MINIMUM 3/4" DIAMETER WITH A MINIMUM EMBEDMENT OF 6". UON.
- PA-6 INSTALL ANCHORS TO MEET THE REQUIREMENTS INDICATED IN THE CONTRACT DOCUMENTS AND THE MANUFACTURER'S RECOMMENDATIONS.
- PA-7 LOCATE, BY NON-DESTRUCTIVE MEANS, AND AVOID ALL EXISTING REINFORCEMENT PRIOR TO INSTALLATION OF ANCHORS. IF EXISTING REINFORCING LAYOUT PROHIBITS THE INSTALLATION OF ANCHORS AS INDICATED IN THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE DESIGN PROFESSIONALS IMMEDIATELY.
- PA-8 INSTALL MASONRY ANCHORS IN SOLID MASONRY OR IN HOLLOW MASONRY THAT HAS BEEN GROUTED SOLID AT LEAST ONE COURSE ABOVE AND ONE COURSE BELOW THE ANCHOR. UON.

SI SPECIAL INSPECTIONS:

- SI-1 THE FOLLOWING STRUCTURAL ITEMS REQUIRE SPECIAL TESTING AND/OR INSPECTIONS
- STRUCTURAL STEEL – WELDING
STRUCTURAL STEEL – ERECTION & BOLTING
CONCRETE – CAST-IN-PLACE
CONCRETE – PRECAST
CONCRETE – PRESTRESSED
CONCRETE TEST CYLINDERS
CONCRETE DESIGN MIX
FOOTING AND FOUNDATION
PILE FOUNDATIONS & DRILLED PIER INSTALLATION

DOB DEPARTMENT OF BUILDINGS NOTES:

- DOB-1 STRUCTURAL DESIGN: BUILDING, STRUCTURES, AND PARTS THEREOF ARE DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH STRENGTH DESIGN, LOAD AND RESISTANCE FACTOR DESIGN, ALLOWABLE STRESS DESIGN, EMPIRICAL DESIGN, OR CONVENTIONAL CONSTRUCTION METHODS, AS PER REQUIREMENTS OF 2008 NYC BUILDING CODE, BC 1604. REFER TO STRUCTURAL DRAWINGS FOR FURTHER INFORMATION.
- DOB-2 SOILS AND FOUNDATIONS: BUILDING AND FOUNDATION SYSTEM DESIGNED AS PER REQUIREMENTS OF BC 1801.
- DOB-3 FOOTINGS AND FOUNDATIONS: FOOTINGS AND FOUNDATIONS DESIGNED AS PER REQUIREMENTS OF BC 1805.
- DOB-4 SEISMIC DESIGN PROVISIONS: CONCRETE COMPONENTS THAT RESIST SEISMIC FORCES DESIGNED AS PER REQUIREMENTS OF BC 1910 AND LL 17/95.

BN BID NOTES

- BN-1 THE CONTRACTOR'S BIDS SHALL INCLUDE ADD/DEDUCT UNIT PRICES FOR EACH OF THE ITEMS LISTED. THE COST FOR ANY UNUSED PORTIONS OF THE LISTED QUANTITIES SHALL BE CREDITED TO THE OWNER.
- THIS MATERIAL SHALL BE IN ADDITION TO THAT INDICATED ON THE CONTRACT DOCUMENTS. THE BID PRICE SHALL PROVIDE FOR THE DETAILING, FABRICATION, DELIVERY, AND INSTALLATION OF THE MATERIAL IN THE BUILDING IN SUCH SIZES AND FORMS AS THE ARCHITECT AND THE EOR/MAY DIRECT, WITHOUT ADDITIONAL COST TO THE OWNER.
- BN-2 THE CONCRETE CONTRACTOR SHALL INCLUDE IN THE BASE BID THE IN-PLACE COST OF THE FOLLOWING ITEMS: (CY=CUBIC YARDS, NW=NORMAL WT CONCRETE)
- A. 30 CY OF NWC WITH f'c= 14,000 PSI.
30 CY OF NWC WITH f'c= 12,000 PSI.
30 CY OF NWC WITH f'c= 10,000 PSI.
60 CY OF NWC WITH f'c= 8,000 PSI.
150 CY OF NWC WITH f'c= 6,000 PSI.
- B. 100 TONS OF REINFORCING BARS - SIZES #4 THROUGH #8.
- C. 100 TONS OF REINFORCING BARS - SIZES #9 THROUGH #11.
- D. 10 TONS OF PRESTRESSING STRANDS
- E. FOR BEAMS SHOWN ON PLANS BUT NOT LABELLED ASSUME THE FOLLOWING:
FOR POST TENSIONED BEAMS ASSUME A: 9PTB01
FOR REINFORCED CONCRETE BEAMS ASSUME A: 9B04
(ASSUME WORST CASE IF NO INDICATION IS PROVIDED)
- F. FOR EMBEDDED PLATES DEPICTED ON DOCUMENTS BUT NOT YET SIZED ASSUME A 20"x20"x1" THICK PLATE WITH 9"-7/8" DIA. X 8" LONG HEADED STUDS ARRANGED IN A 3X3 GRID AT 8" O.C. IN ADDITION, PROVIDE AN ALLOWANCE FOR 200 SUCH PLATES FOR MISC STEEL CONNECTIONS.
- BN-4 CONTRACT DOCUMENTS ISSUED FOR BID ARE NOT ISSUED FOR CONSTRUCTION UNLESS SPECIFICALLY NOTED AS "ISSUED FOR CONSTRUCTION".

ALT ALTERNATE SCHEME NOTES

- ALT-1 VARIOUS ITEMS SHOWN ON THE BASE FILIGREE SCHEME, THAT MAY NOT ALWAYS BE DUPLICATE D ON THE ALTERNATE SCHEME, SUCH AS BUT NOT LIMITED TO: EMBEDDED PLATES, CONCRETE FILL, TOPPING, CURBS, STEEL BEAMS, DOWELS, BMU TRACK SUPPORTS ETC, ARE ALSO APPLICABLE TO THE ALTERNATE POST-TENSIONED SCHEME. ANY LOCAL ADDITIONAL REINFORCING SHOWN AT THESE DETAILS ON THE BASE SCHEME SHALL ALSO BE APPLICABLE TO THE ALT SCHEME.



Damian Titus

Buildings

APPROVED

Under Directive 2 of 1975

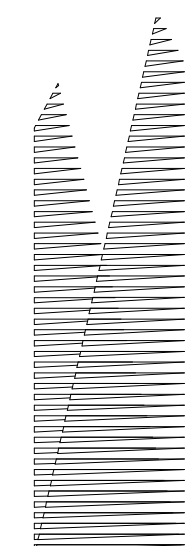
AMENDED APPLICATION

Date/Time: Feb 6, 2013 – 3:21 PM

NYC Development Hub

HUDSON YARDS -
TOWER C

501 WEST 30TH STREET
NEW YORK, NY



Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801
Mechanical, Electrical, Plumbing, Fire Protection
James Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.550.9300 FAX: 212.269.5894

	RE-ISSUE FOR FILING	02/04/2013
	ISSUE FOR FILING	09/19/2012
No.	Description	Date

Key Plan

Date:	
Project No.	1776.10
Drawn By	Author
Sheet Number	

HYE -TC -S0-0003

Drawing Title

STRUCTURAL GENERAL
NOTES II

Drawing Number

S0-0003

S-003.01

501 WEST 30TH STREET
NEW YORK, NY

Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PCArchitects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526

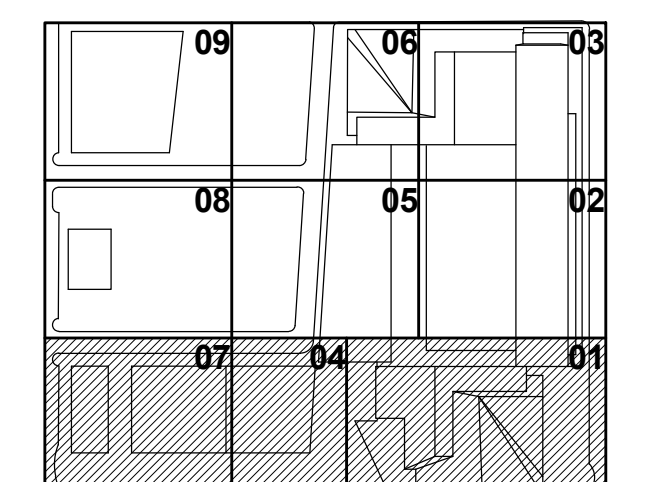
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

Mechanical, Electrical, Plumbing, Fire Protection.
Jaros Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894



	RE-ISSUE FOR FILING	02/04/2013
	ISSUE FOR FILING	09/19/2012
No.	Description	Date

Key Point




Issue Date: _____

Project No. 1776.10

Drawn By _____

Sheet Number _____



HYE -TC -S1-C100

COMPOSITE PLAN CELLAR LEVEL ALL SECTORS

S1-C100
Scan Drawing Number
S-004.01

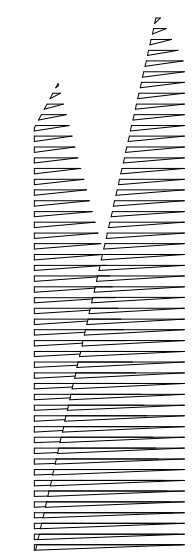
SHEET 4 OF 43

© 2011 KODJ MEDICAL FOUNDATION • 600 CLAYTON RD. • BILLY, GA 30106

S1-C100 COMPOSITE PLAN CELLAR LEVEL ALL SECTORS
2/4/2013 4:49:53 PM C:\Users\CBrunder\Documents\20130204 DOB set.mt

HUDSON YARDS -
TOWER C

501 WEST 30TH STREET
NEW YORK, NY



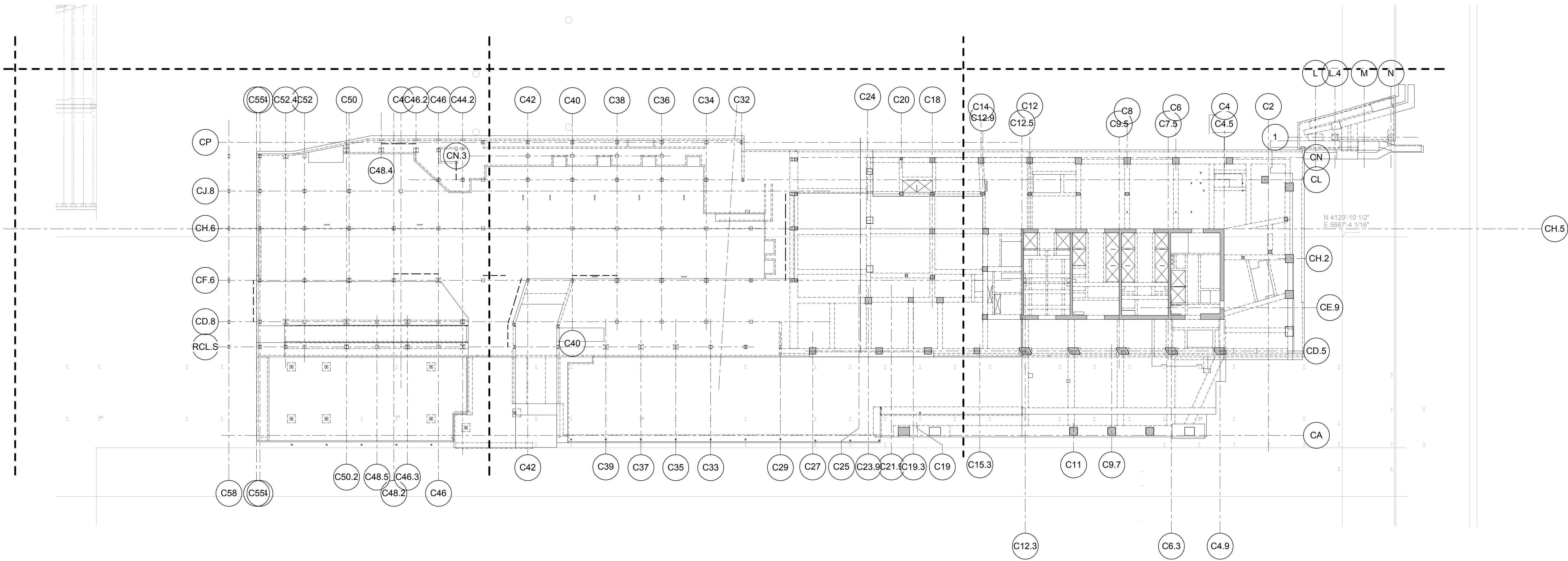
Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

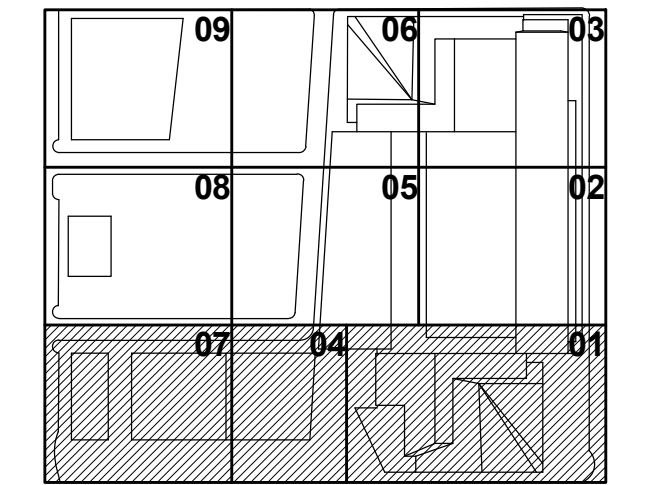
Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

Mechanical, Electrical, Plumbing, Fire Protection
Jarvis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894



	RE-ISSUE FOR FILING	02/04/2013
	ISSUE FOR FILING	09/19/2012
No.	Description	Date

Key Plan



Issue Date: _____
Project No: 1776.10
Drawn By: _____
Sheet Number: _____
Drawing Title: _____

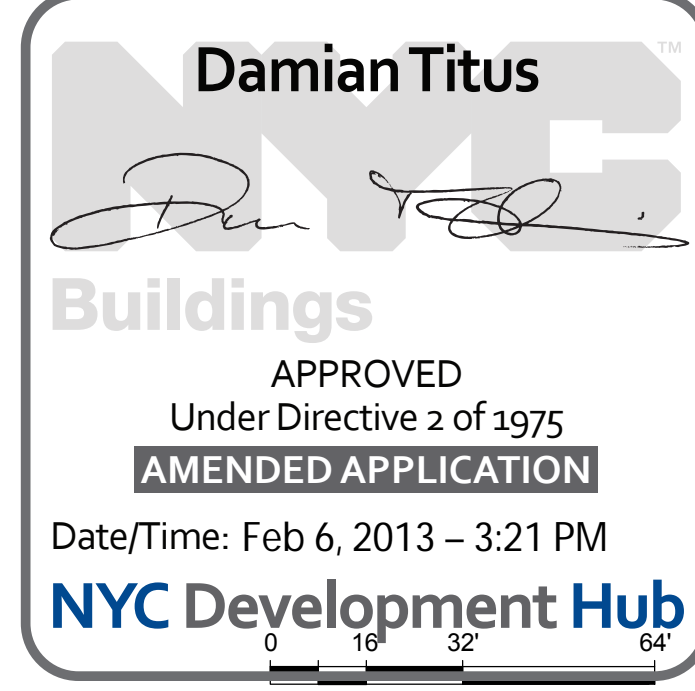
HYE-TC-S1-0000

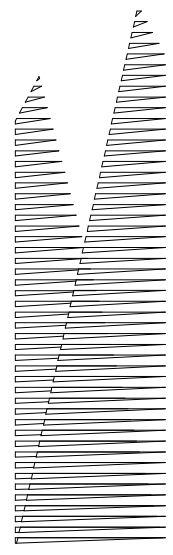
**COMPOSITE PLAN
GROUND FLOOR
ALL SECTORS**

Drawing Number
S1-0000

S-005.01

SHEET 5 OF 41





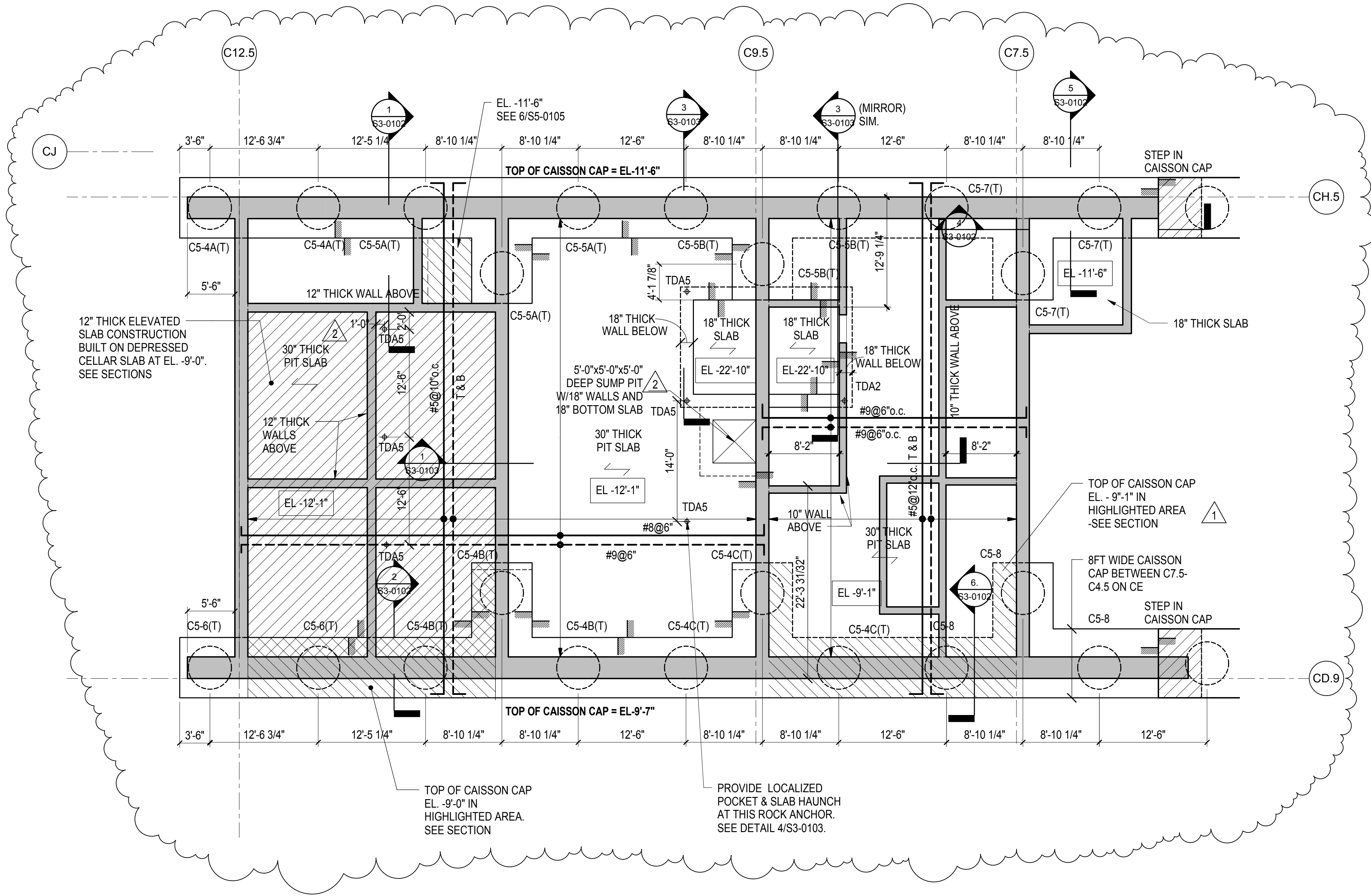
Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

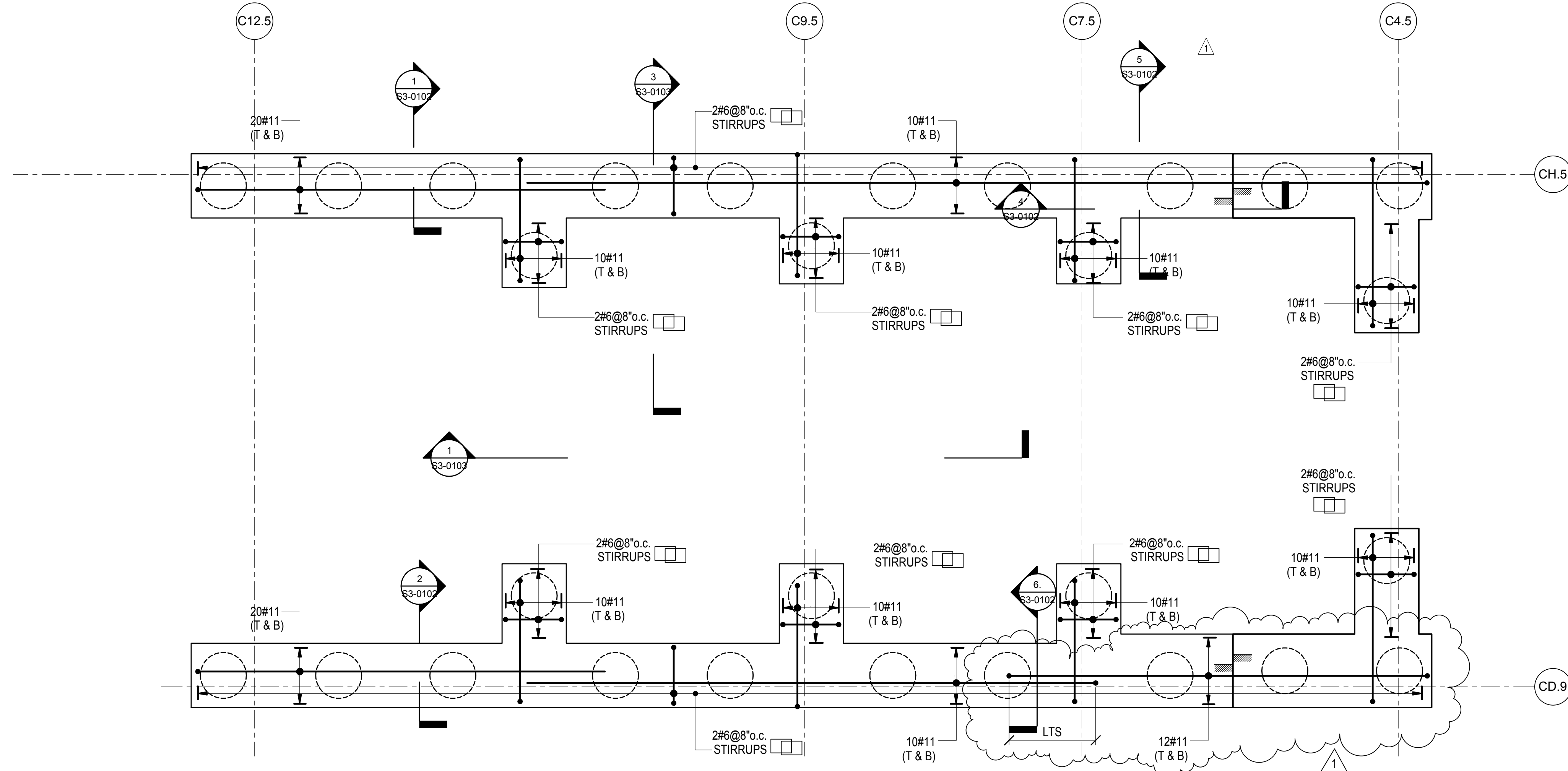
Construction Manager
Construction Manager Name
Address
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

Mechanical, Electrical, Plumbing, Fire Protection
Jarvis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894



1 DEPRESSED CORE PIT PLAN
1/8" = 1'-0"

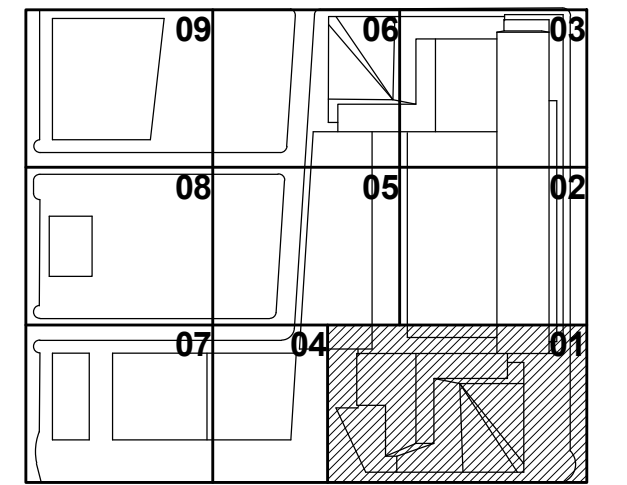


2 CAISSON CAP REINFORCING LAYOUT
1/8" = 1'-0"

RE-ISSUE FOR FILING	02/04/2013
ISSUE FOR FILING	09/19/2012

No.	Description	Date
-----	-------------	------

Key Plan



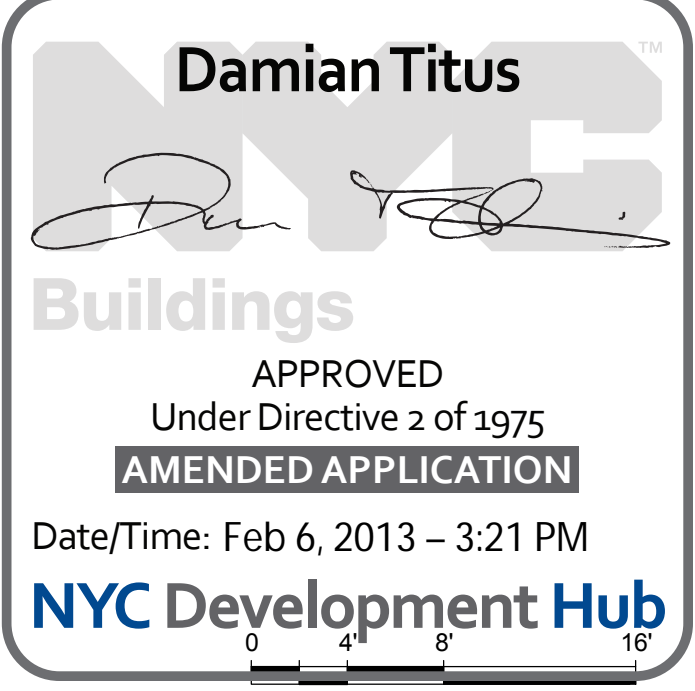
Drawn Date: 08/01/12
Project No: 1776.10
Drawn By: Author
Sheet Number: 10

HYE-TC-S1-C001

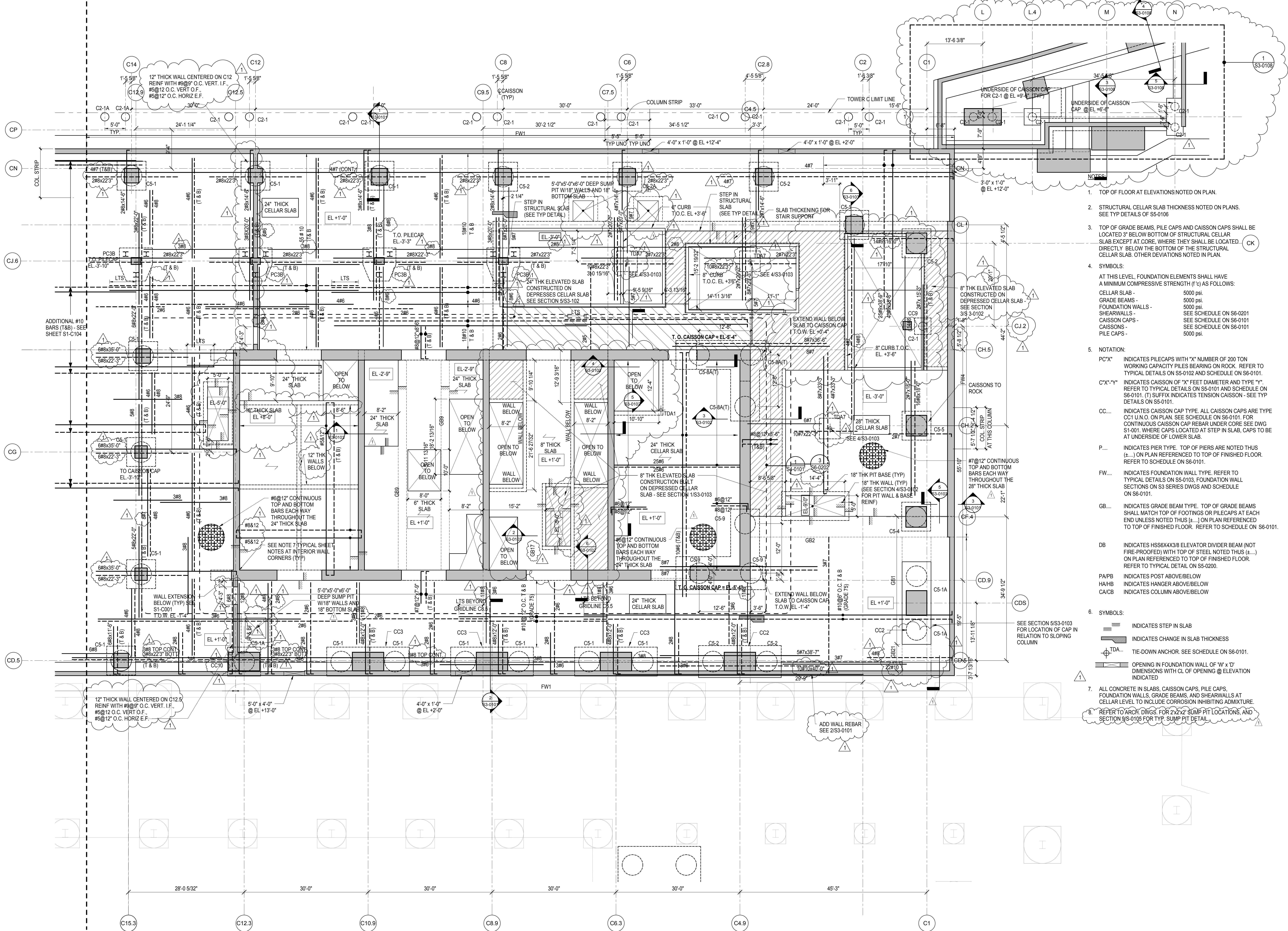
DEPRESSED CORE PIT
PLAN

Drawing Number
S1-C001

S-007.01



© 2013 KOHN PEDERSEN FOX ASSOCIATES P.C. All rights reserved.



REINFORCEMENT PLAN NOTES:

1. SLAB BOTTOM BAR CLEAR COVER 2"
2. SLAB TOP BAR CLEAR COVER 1 1/2"
3. TWO-WAY SLAB BAR PLACEMENT:
1. N-S DIRECTION OUTER LAYER
2. E-W DIRECTION INNER LAYER
4. ONE-WAY SLAB BAR PLACEMENT:
1. TOP AND BOTTOM BARS PARALLEL TO SPAN DIRECTION
2. SHRINKAGE AND TEMPERATURE BARS PERPENDICULAR TO SPAN DIRECTION
5. SEE TYPICAL SLAB DETAILS ON S5-0106
6. FOR COLUMN STRIP WIDTH SEE TOP BARS LEGEND
7. FOR SLAB CORNERS SUPPORTED BY BEAMS OR WALLS, SEE TYPICAL BEAM / WALL SUPPORTED SLAB EXTERIOR CORNER DETAIL

TYPICAL SHEET NOTES

NOT TO SCALE

TOP BAR LEGEND NOTES:

1. NUMBER/SIZE/LENGTH OF MIDDLE STRIP BARS SHOWN IN ONE DIRECTION ONLY
SAME NOTATION APPLIES IN PERPENDICULAR DIRECTION
2. CENTERLINE OF COLUMN MAY NOT COINCIDE W/ GRIDLINES
SEE DRAWINGS FOR OFFSET DIMENSION
3. HOOK ALL TOP BARS THAT PASS THROUGH COLUMN AT EXTERIOR SUPPORT WITH
90° STANDARD HOOK OR IF NECESSARY USE 180° STANDARD HOOK

TOP BAR REINF. LEGEND

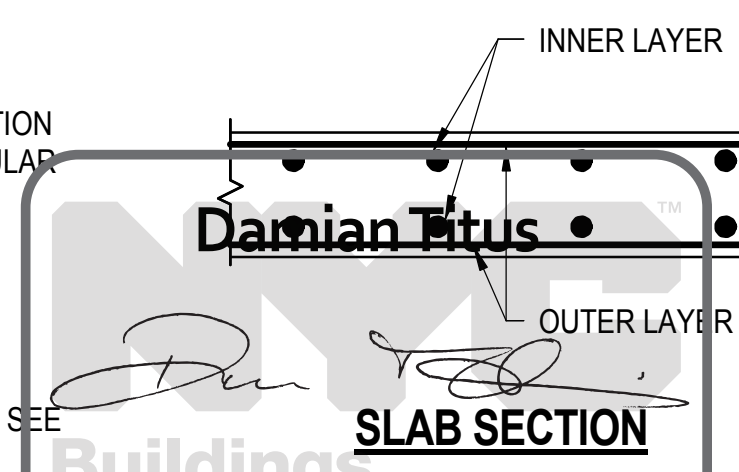
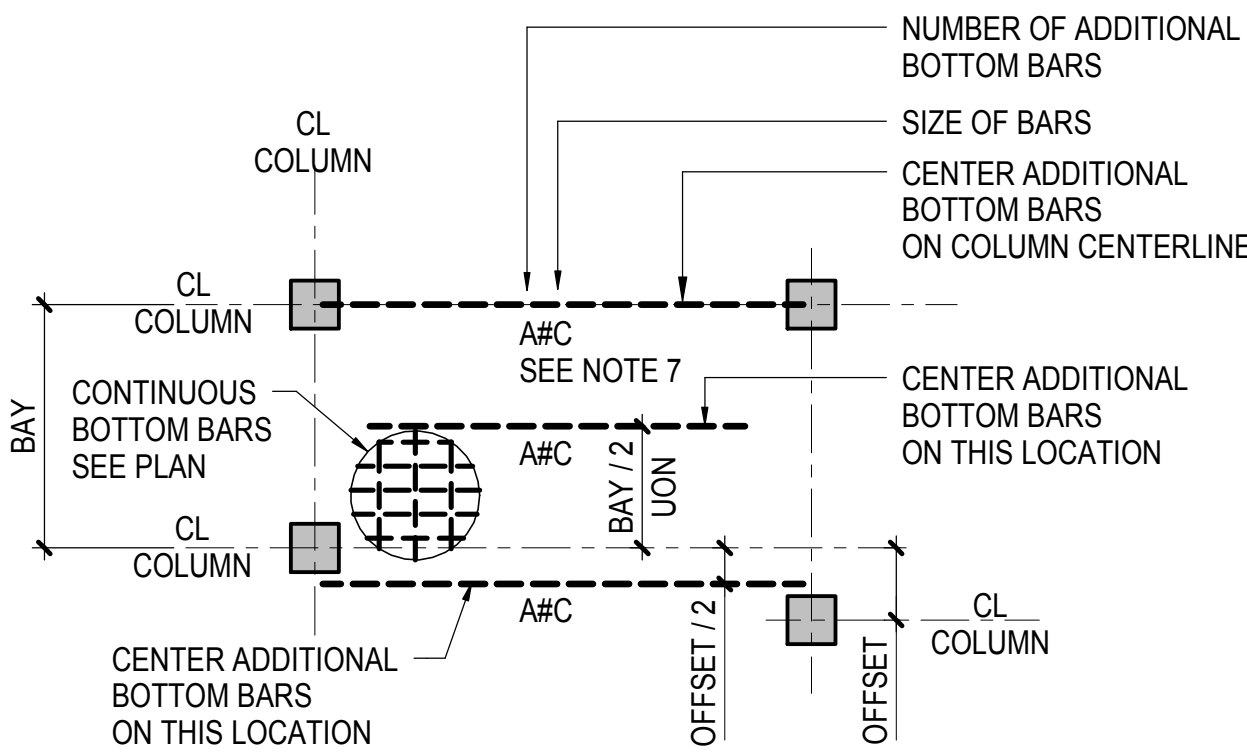
NOT TO SCALE

BOTTOM BAR LEGEND NOTES:

1. NUMBER / SIZE / LENGTH OF BARS SHOWN IN ONE DIRECTION ONLY
SAME NOTATIONS APPLY IN PERPENDICULAR DIRECTION
2. CENTERLINE OF COLUMN MAY NOT COINCIDE W/ GRIDLINES
SEE DRAWINGS FOR OFFSET DIMENSION
3. PLACE ADDITIONAL BARS AT SAME SPACING OF CONTINUOUS BARS AND MIDWAY
BETWEEN CONTINUOUS BARS, UON
4. ALL CONTINUOUS BOTTOM BARS TO EXTEND WITHIN 2 INCHES OF SLAB EDGE
5. A MINIMUM OF 2 BOTTOM BARS MUST EXTEND THROUGH THE COLUMN JOINT
IN EACH DIRECTION
6. AT EXTERIOR SUPPORT HOOK 2 BOTTOM BARS THAT PASS THROUGH COLUMN
WITH 90° STANDARD HOOK OR IF NECESSARY USE 180° STANDARD HOOK.
7. FOR BOTTOM BAR LENGTHS SEE TYPICAL TWO WAY SLAB DETAILS

BOTTOM BAR REINF. LEGEND

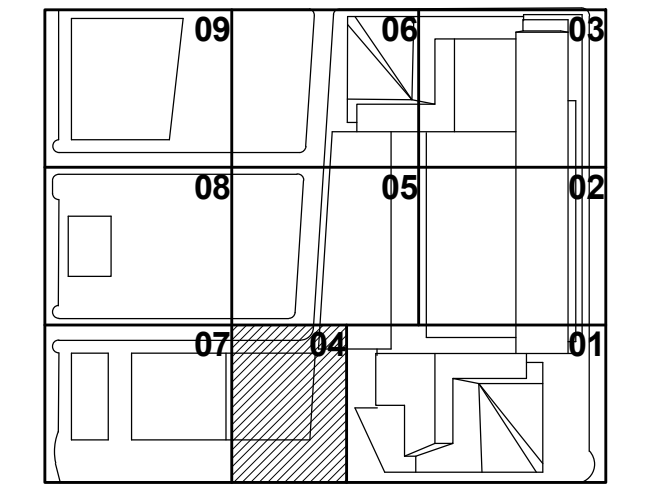
NOT TO SCALE



APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION

Date/Time: Feb 6, 2013 - 3:21 PM

NYC Development Hub



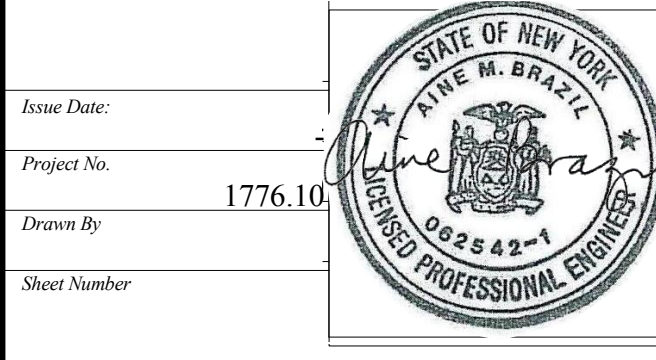
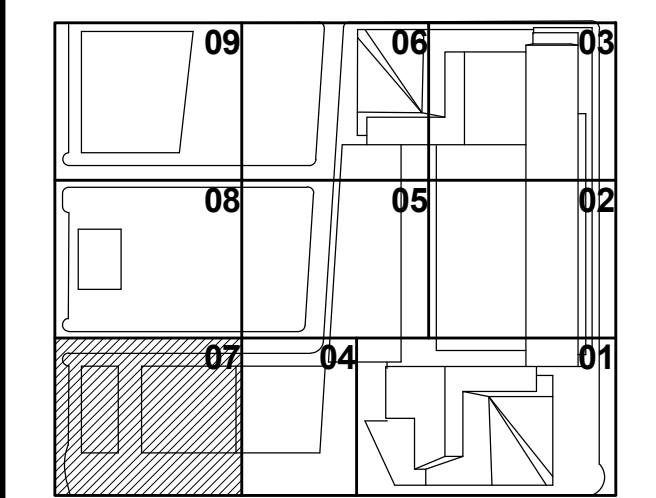
HYE-TC-S1-C101

CELLAR FRAMING PLAN
SECTOR 1

S1-C101

S-008.01

SHEET 7 OF 41



HYE-TC-S1-C104

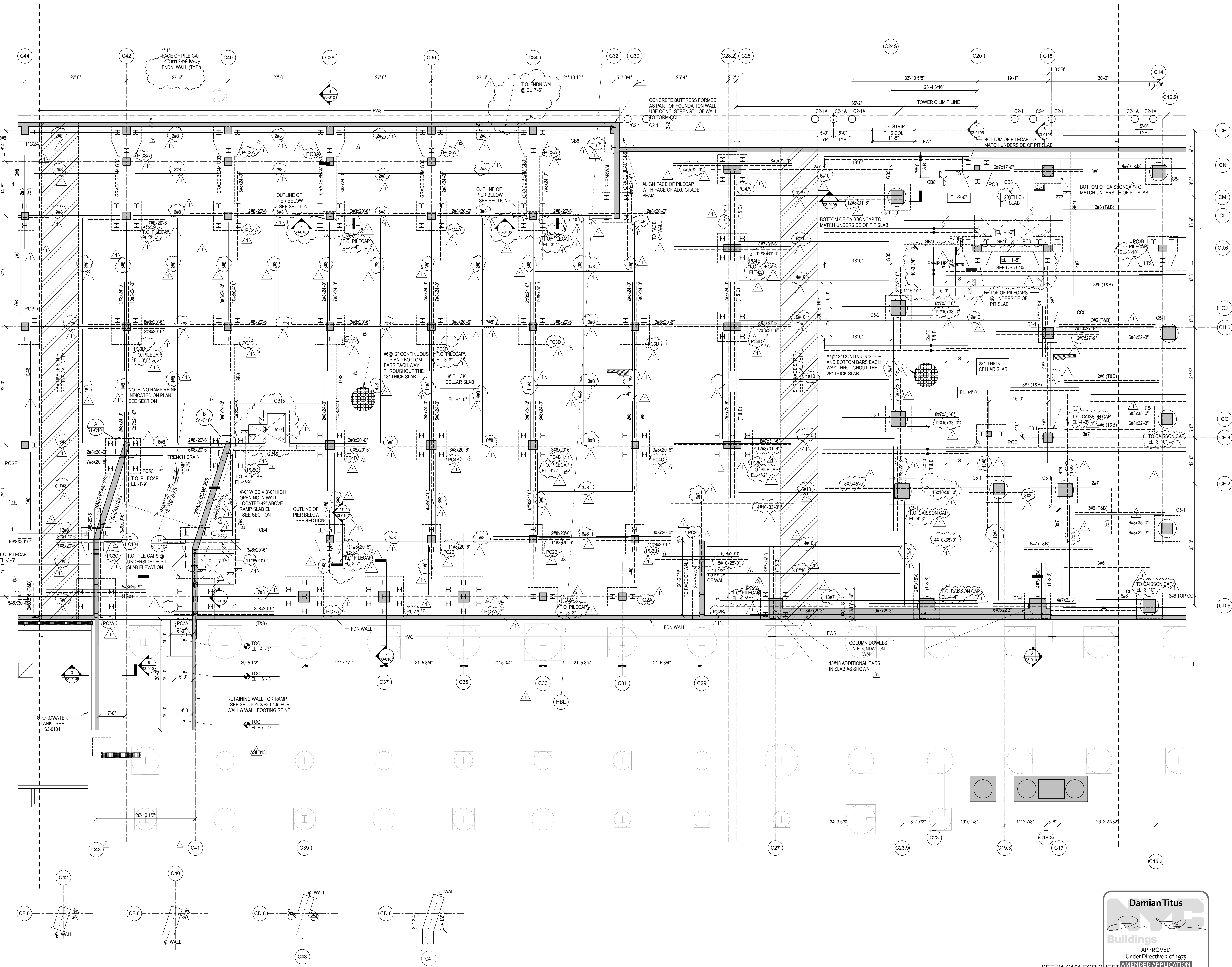
CELLAR FRAMING PLAN
SECTOR 4

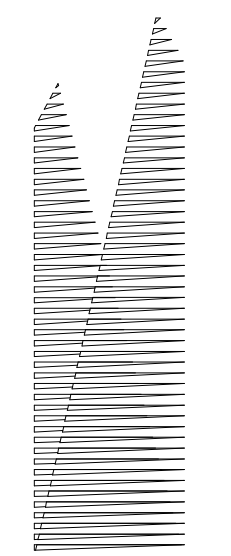
SI-C104
Drawing Number

S-009.01
SHEET 8 OF 41

Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date/Time: Feb 6, 2013 - 3:21 PM
NYC Development Hub

SEE S1-C101 FOR SHEET
SLAB NOTES



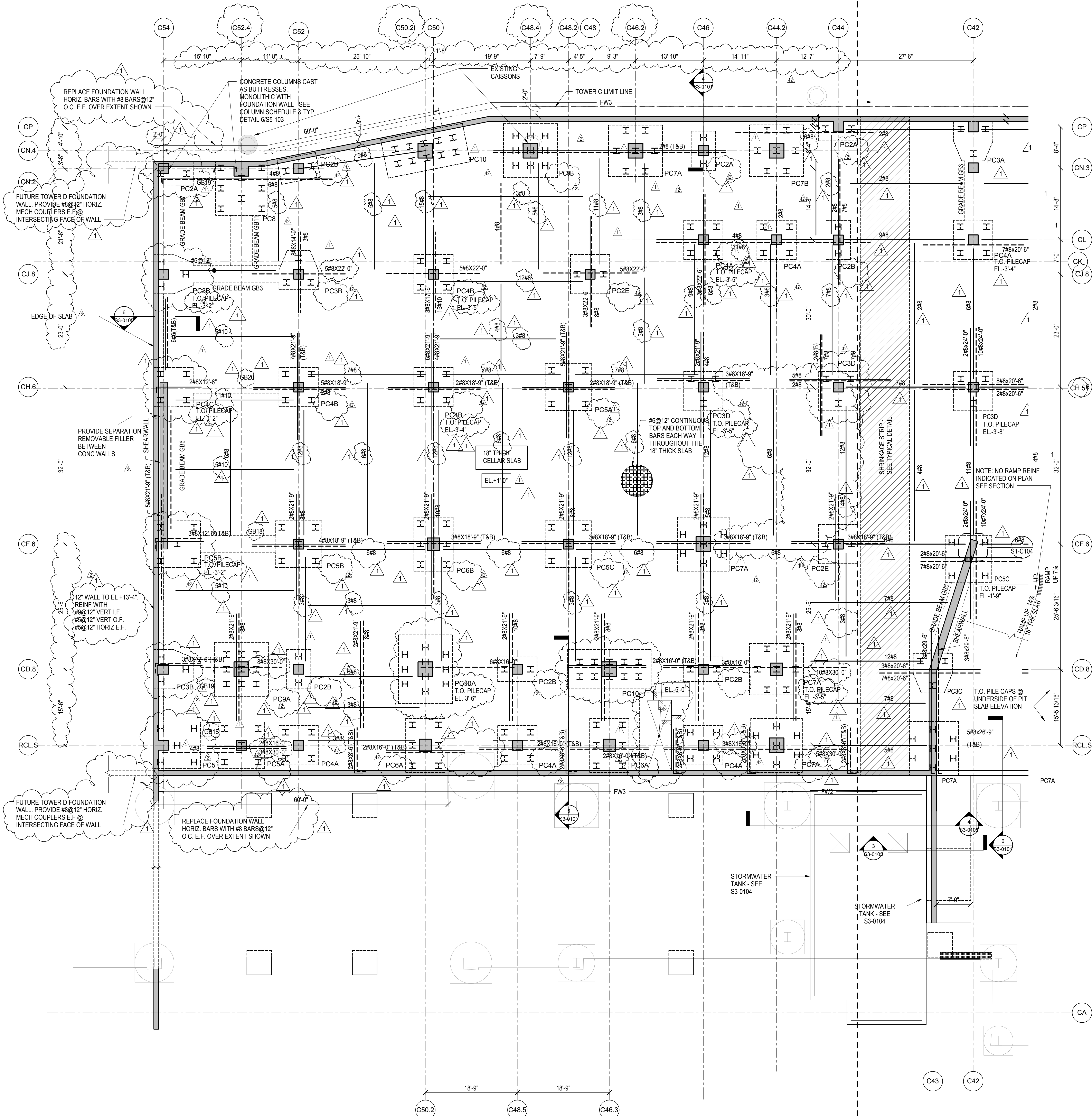


Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXXX.XXXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

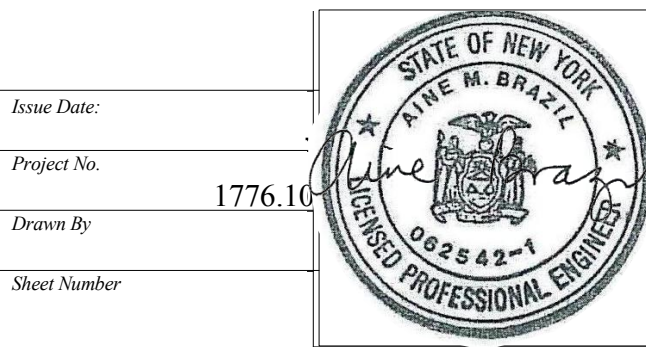
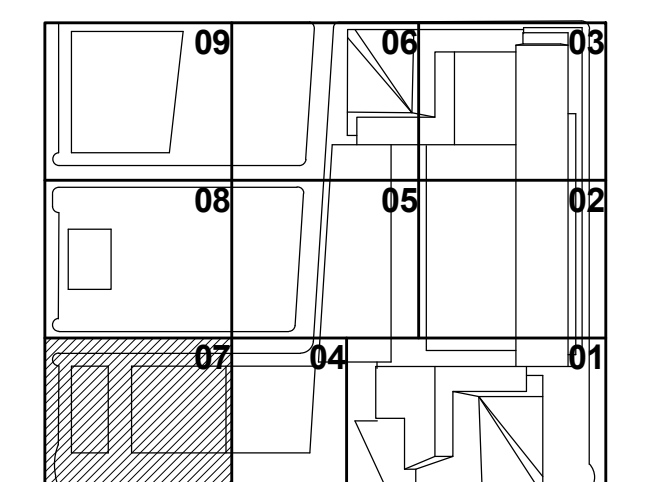
Construction Manager
Construction Manager Name
Address
Address
Address
TEL: XXXX.XXXX.XXXX FAX: XXXX.XXXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801
Mechanical, Electrical, Plumbing, Fire Protection
Jarvis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894



RE-ISSUE FOR FILING	02/04/2013	
ISSUE FOR FILING	09/19/2012	
No.	Description	Date

Key Plan



HYE-TC-S1-C107

CELLAR FRAMING PLAN
SECTOR 7

Sheet Number
S1-C107

Sheet Title
S-0101

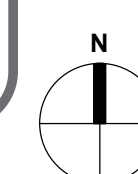
SHEET 9 OF 41

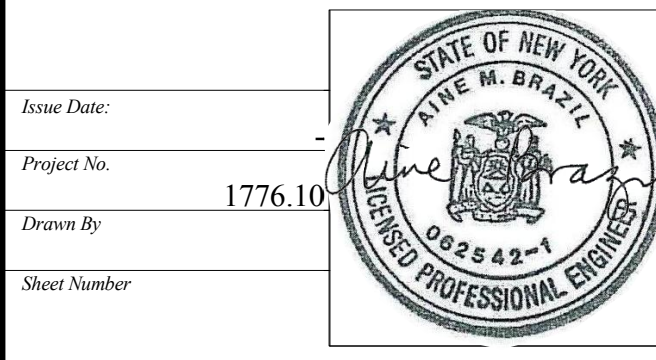
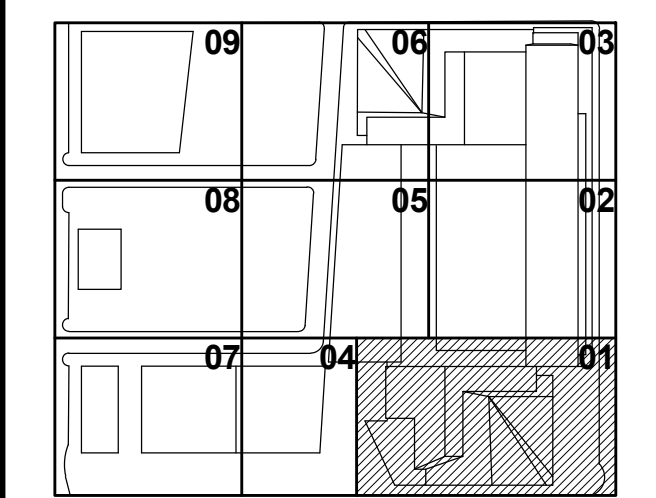
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
SEE S1-C101 FOR SHAMENED APPLICATION
Date/Time: Feb 6, 2013 - 3:21 PM
NYC Development Hub

SEE S1-C101 FOR SHAMENED APPLICATION

Date/Time: Feb 6, 2013 - 3:21 PM

NYC Development Hub



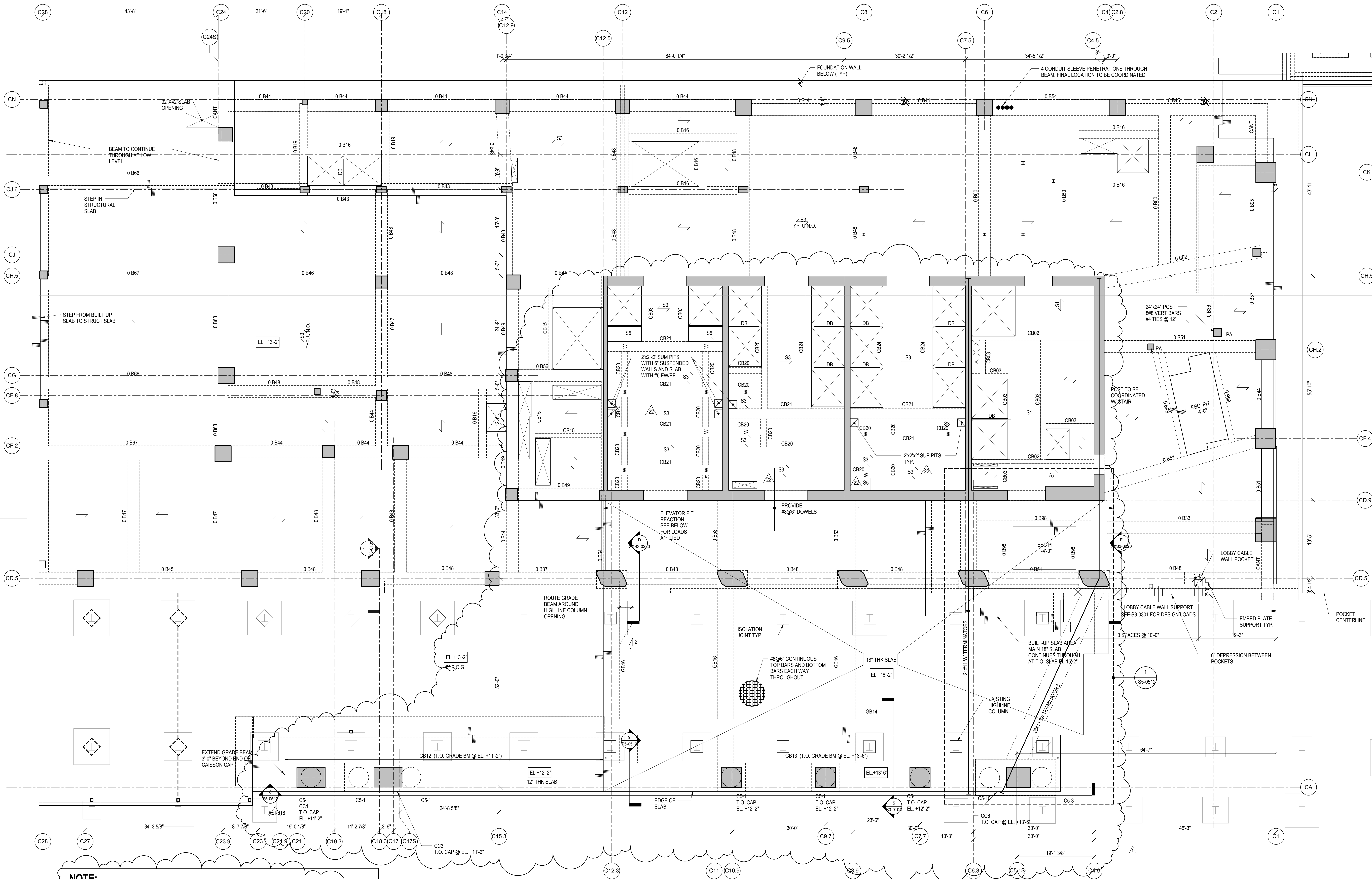


HYE-TC-S1-0001

GROUND FLOOR
FRAMING PLAN SECTOR 1

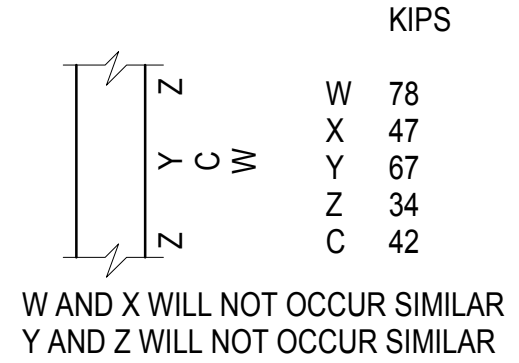
Drawing Number
S1-0001

S-011.01 SHEET 10 OF 41



NOTE:
18" THICK STRUCTURAL SLAB CAST ON GRADE BETWEEN GL'S C4-C12.5 & CA-CD.9 SHALL BE CAST WITH THE SAME CONCRETE STRENGTH AS THE REST OF THE TOWER FLOOR, AND SHALL BE POURED IN SEQUENCE WITH THE REST OF THE FLOOR AND NOT AS COME-BACK WORK. PROVIDE TYP SLAB ADDITIONAL REINF AROUND ISOLATION JOINTS. NO OPENINGS, TRENCHES OR OTHER LEAVE-OUTS ARE PERMITTED WITHOUT THE APPROVAL OF THE E.O.R.

ELEVATOR PIT REATIONS DESIGN LOADS INDICATED BY 'W' ABOVE. LOADS INCLUDE IMPACT



NOTES:

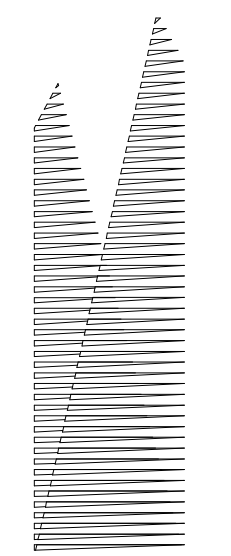
- TOP OF STRUCTURAL SLAB IS AT ELEVATION 16'-0".
[Symbol] INDICATES CHANGE IN TOP OF STRUCTURAL SLAB ELEVATION.
- TYPICAL SLAB TO BE 9" THICK FILIGREE SLAB. SLABS ARE EITHER 9" SOLID (INDICATED AS F9S - #) OR 9" VOIDED (INDICATED AS F9V - #). SEE PLAN FOR SLAB DESIGNATIONS. SEE S5-0203 FOR SCHEDULE AND DETAILS.
- AT THIS FLOOR, SLAB SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (F'c) OF 8,000 PSI. REFER TO TYP DETAILS FOR CONCRETE PUDDLING IN VICINITY OF HIGH-STRENGTH COLUMNS.
[Symbol] INDICATES A CONVENTIONALLY FORMED CAST IN PLACE SLAB. SEE S5-0202 FOR SCHEDULE AND DETAILS.
- FOR ADDITIONAL INFORMATION, REFER TO THE FOLLOWING DRAWINGS:
GENERAL NOTES S6 SERIES DRAWINGS
FOUNDATION DETAILS S3 SERIES DRAWINGS
COLUMN SCHEDULES AND DETAILS S6 SERIES DRAWINGS
SHEARWALL DETAILS S6 SERIES DRAWINGS
CONCRETE SUPERSTRUCTURE DETAILS S5 SERIES DRAWINGS
STEEL SUPERSTRUCTURE DETAILS S5 SERIES DRAWINGS
- SYMBOLS:
[Symbol] INDICATES ADDITIONAL TOP REINFORCING BARS. REFER TO TYPICAL DETAILS ON S5 SERIES DRAWINGS.

- [Symbol] INDICATES ADDITIONAL BOTTOM REINFORCING BARS. REFER TO TYPICAL DETAILS ON S5 SERIES DRAWINGS.
 - [Symbol] INDICATES 'X' CAMBER UPWARD WHEN DIFFERS FROM CAMBER SPECIFIED IN GENERAL NOTES.
 - [Symbol] INDICATES STEP IN SLAB
 - [Symbol] INDICATES CHANGE IN SLAB THICKNESS
6. NOTATION:
- XB. INDICATES REINFORCED CONCRETE BEAM AT FLOOR X. REFER TO BEAM SCHEDULE ON S6 SERIES DRAWINGS. REFER TO TYPICAL DETAIL ON S5 SERIES DRAWINGS.
 - XPTB. INDICATES POST-TENSIONED REINFORCED CONCRETE BEAM AT FLOOR X. REFER TO BEAM SCHEDULE ON S6 SERIES DRAWINGS. REFER TO TYPICAL DETAIL ON S5 SERIES DRAWINGS.
 - DB. INDICATES HSS 8x4x1/4 ELEVATOR DIVIDER BEAM (NOT FIRE-PROOFED). REFER TO TYPICAL DETAIL ON S4 SERIES DRAWINGS.
 - CA/CB PA/PB HA/HB TW INDICATES COLUMN ABOVE/BELOW. INDICATES POST ABOVE/BELOW. INDICATES HANGER ABOVE/BELOW. INDICATES TRANSFER WALL SEE S3-0210 SERIES.

Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date/Time: Feb 6, 2013 - 3:21 PM
NYC Development Hub

HUDSON YARDS -
TOWER C

501 WEST 30TH STREET
NEW YORK, NY



Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

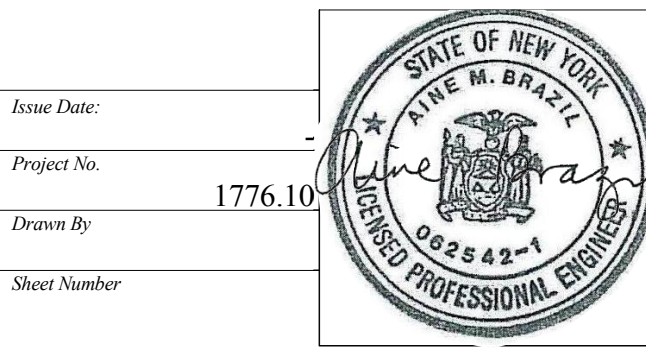
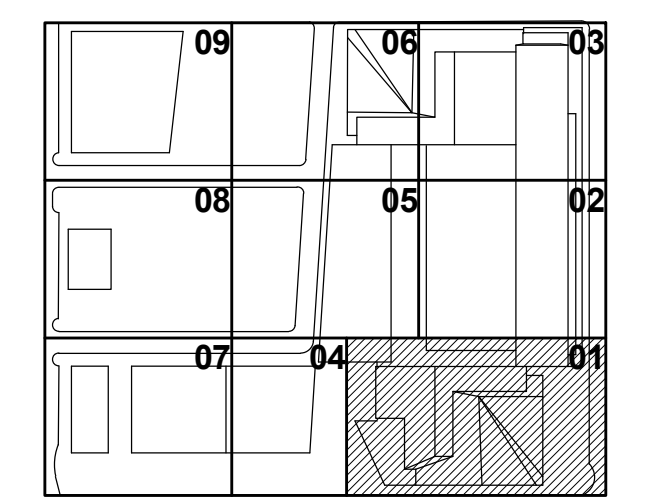
Construction Manager
Construction Manager Name
Address
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

Mechanical, Electrical, Plumbing, Fire Protection
Janus Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894

RE-ISSUE FOR FILING 02/04/2013
No. Description Year

Key Plan



Drawn By: 1776.10
Checked By:
Date: 2/6/2013

Project No. 1776.10
Sheet Number
Drawing Title

HYE-TC-S1-0004

Ground Floor Framing Plan Sector 4

Under Directive 2 of 1975

AMENDED APPLICATION

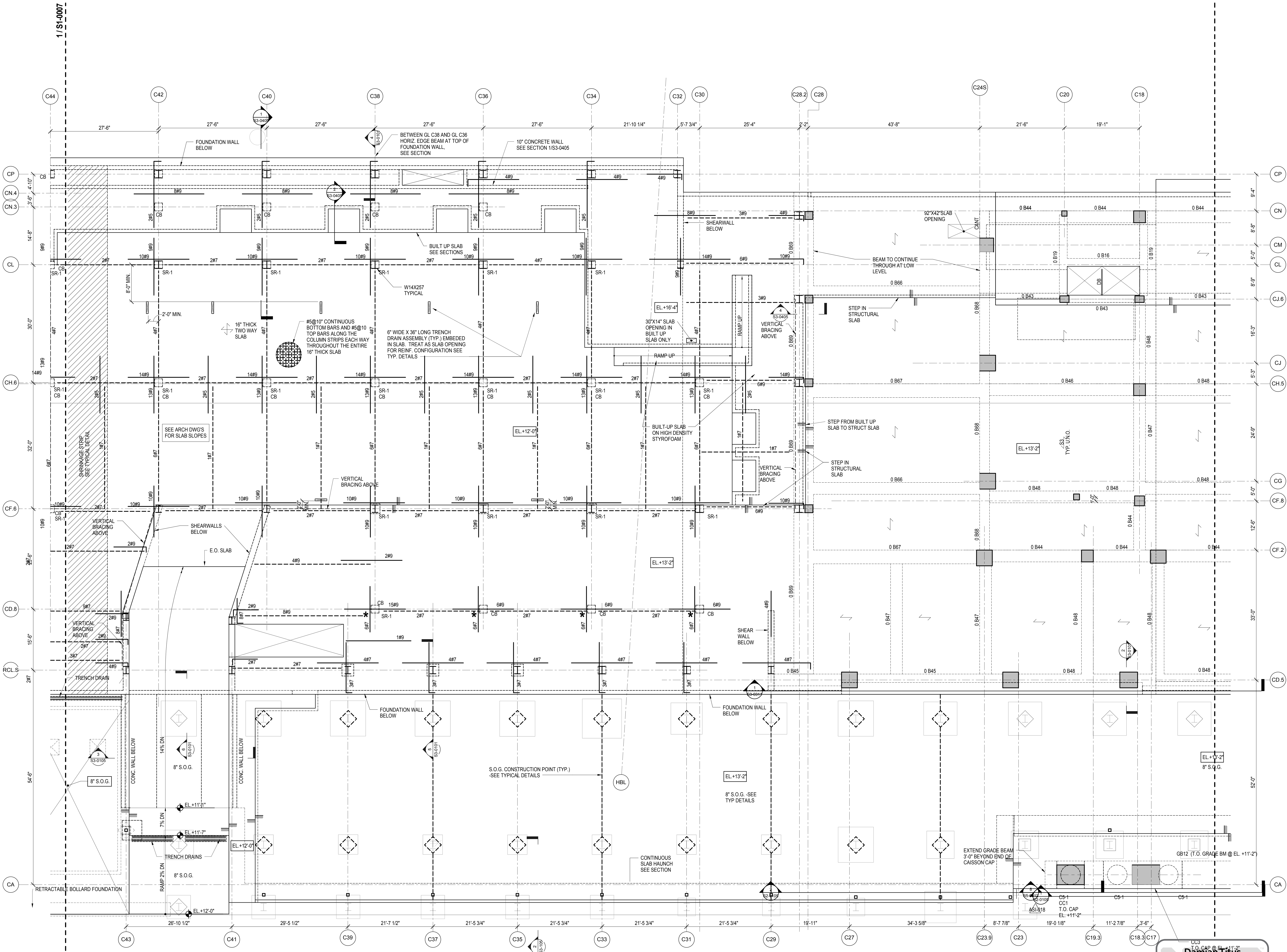
Date/Time: Feb 6, 2013 - 3:21 PM

NYC Development Hub

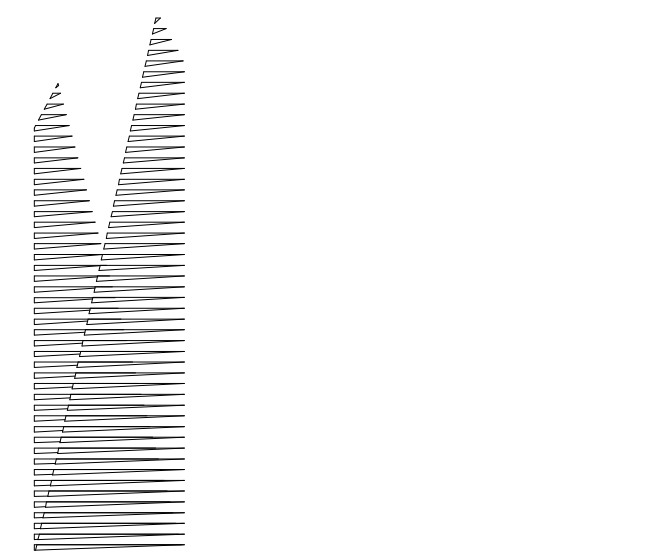
10

Sheet 11 of 41

© 2013 KOHN PEDERSEN FOX ASSOCIATES P.C. All rights reserved.



CC3
Damian Titus
Professional Engineer
SEE S1-0001 & S1-0007 FOR SHEET NOTES
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date/Time: Feb 6, 2013 - 3:21 PM
NYC Development Hub



Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10017
TEL: 917.661.7800 FAX: 718.661.7801

Mechanical, Electrical, Plumbing, Fire Protection
James Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894

- GENERAL NOTES:
1. TOP OF STRUCTURAL SLAB IS AT ELEVATION NOTED ON PLAN.
 2. TYPICAL TWO WAY SLAB THICKNESS NOTED ON PLAN.
 3. _SF_ INDICATES A CONVENTIONALLY FORMED CAST IN PLACE SLAB. SEE S3-0202 FOR SCHEDULE AND DETAILS.
 4. AT THIS FLOOR, SLAB SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f_c) OF 5,000 PSI.
 5. FOR ADDITIONAL INFORMATION, REFER TO THE FOLLOWING DRAWINGS:

GENERAL NOTES

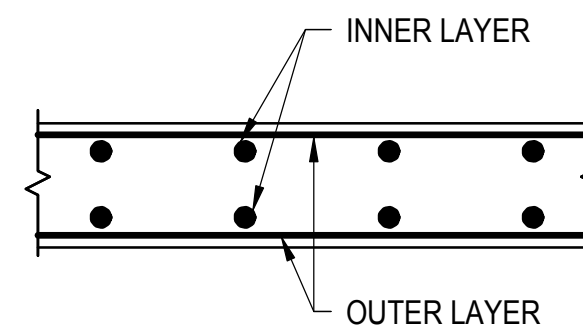
S0 SERIES DRAWINGS	S0 SERIES DRAWINGS
FOUNDATION DETAILS	S3 SERIES DRAWINGS
COLUMN AND SHEARWALL DETAILS	S5 SERIES DRAWINGS
COLUMN AND SHEARWALL SCHEDULES	S6 SERIES DRAWINGS
CONCRETE SUPERSTRUCTURE DETAILS	S5 SERIES DRAWINGS
STEEL SUPERSTRUCTURE DETAILS	S5 SERIES DRAWINGS

6. SYMBOLS:
- INDICATES ADDITIONAL TOP REINFORCING BARS. REFER TO TYPICAL DETAILS ON S5 SERIES DRAWINGS.
 - INDICATES ADDITIONAL BOTTOM REINFORCING BARS. REFER TO TYPICAL DETAILS ON S5 SERIES DRAWINGS.
 - INDICATES X° CAMBER UPWARD WHEN DIFFERS FROM CAMBER SPECIFIED IN GENERAL NOTES.
 - INDICATES STEP IN SLAB
 - INDICATES CHANGE IN SLAB THICKNESS
 - SR- INDICATES SLAB PUNCHING SHEAR REINF. SEE TYPICAL DETAIL & SCHEDULE

7. NOTATION:
- XB. INDICATES REINFORCED CONCRETE BEAM AT FLOOR X. REFER TO BEAM SCHEDULE ON SX SERIES DRAWINGS. REFER TO TYPICAL DETAIL ON S6 SERIES DRAWINGS.
 - XPTB. INDICATES POST-TENSIONED REINFORCED CONCRETE BEAM AT FLOOR X. REFER TO BEAM SCHEDULE ON SX SERIES DRAWINGS. REFER TO TYPICAL DETAIL ON S6 SERIES DRAWINGS.
 - DB. INDICATES HSS 8x4x1/4 ELEVATOR DIVIDER BEAM (NOT FIRE-PROOFED). REFER TO TYPICAL DETAIL ON S5 SERIES DRAWINGS.
 - CA/CB INDICATES COLUMN ABOVE/BELOW.
 - PAPB INDICATES POST ABOVE/BELOW.
 - HA/HB INDICATES HANGER ABOVE/BELOW.
 - TW INDICATES TRANSFER WALL SEE S3-210 SERIES.
 - 8. 8" THICK SLAB ON GRADE SHALL BE REINFORCED WITH #5 @ 9" O.C. T&B (TYP.). REFER TO TYPICAL S.O.G. DETAILS ON S5-0204

REINFORCEMENT PLAN NOTES:

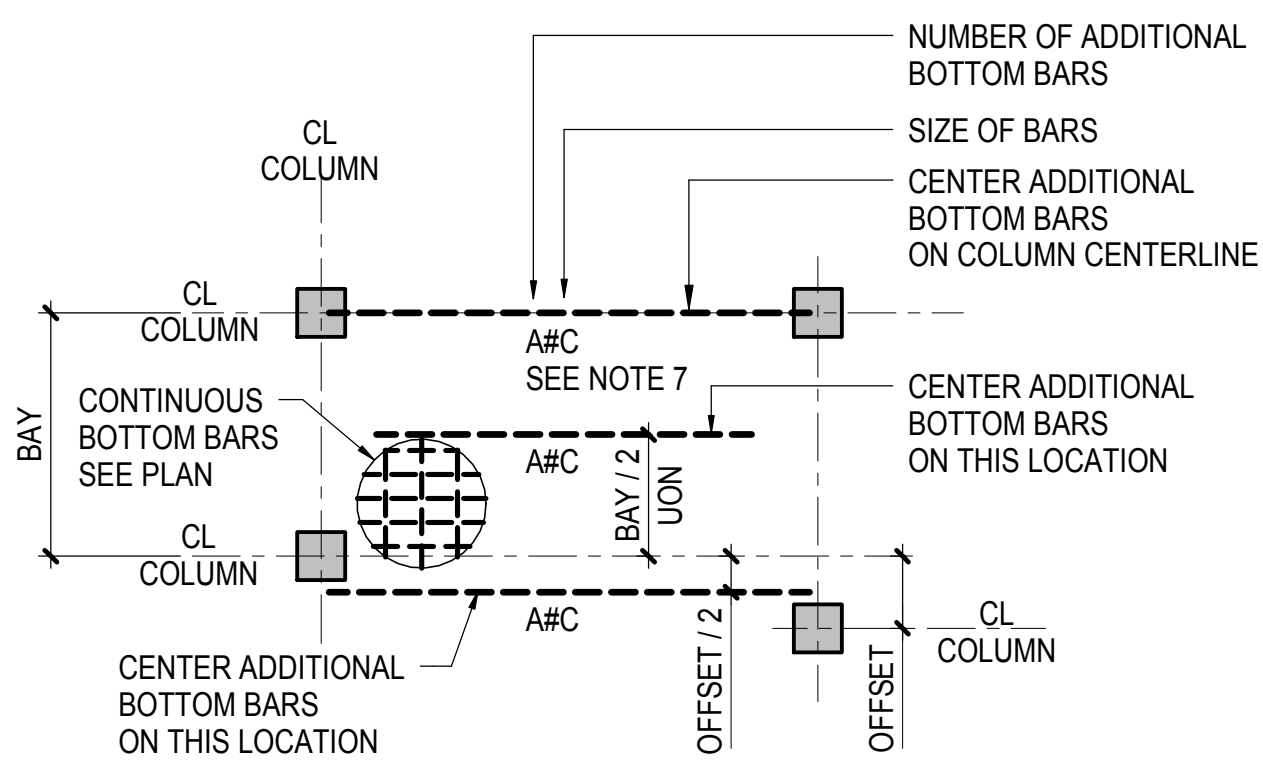
1. SLAB BOTTOM BAR CLEAR COVER 2"
2. SLAB TOP BAR CLEAR COVER 1 1/2"
3. TWO-WAY SLAB BAR PLACEMENT:
1. N-S DIRECTION OUTER LAYER
2. E-W DIRECTION INNER LAYER
4. ONE-WAY SLAB BAR PLACEMENT:
1. TOP AND BOTTOM BARS PARALLEL TO SPAN DIRECTION
2. SHRINKAGE AND TEMPERATURE BARS PERPENDICULAR TO SPAN DIRECTION
5. SEE TYPICAL SLAB DETAILS ON S5-0106
6. FOR COLUMN STRIP WIDTH SEE TOP BARS LEGEND
7. FOR SLAB CORNERS SUPPORTED BY BEAMS OR WALLS, SEE TYPICAL BEAM / WALL SUPPORTED SLAB EXTERIOR CORNER DETAIL.



SLAB SECTION

TYPICAL SHEET NOTES

NOT TO SCALE

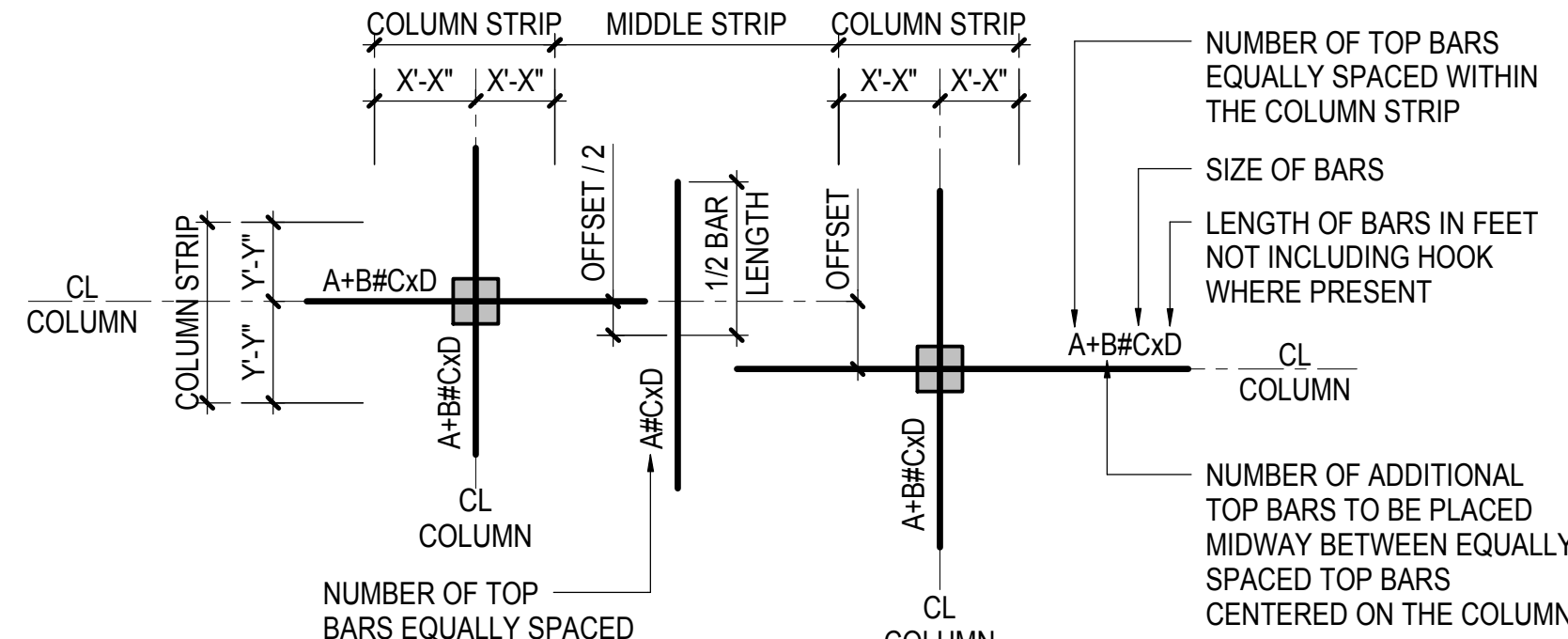


BOTTOM BAR LEGEND NOTES:

1. NUMBER / SIZE / LENGTH OF BARS SHOWN IN ONE DIRECTION ONLY SAME NOTATIONS APPLY IN PERPENDICULAR DIRECTION
2. CENTERLINE OF COLUMN MAY NOT COINCIDE W/ GRIDLINES SEE DRAWINGS FOR OFFSET DIMENSION
3. PLACE ADDITIONAL BARS AT SAME SPACING OF CONTINUOUS BARS AND MIDWAY BETWEEN CONTINUOUS BARS, UON
4. ALL CONTINUOUS BOTTOM BARS TO EXTEND WITHIN 2 INCHES OF SLAB EDGE
5. A MINIMUM OF 2 BOTTOM BARS MUST EXTEND THROUGH THE COLUMN JOINT IN EACH DIRECTION
6. AT EXTERIOR SUPPORT HOOK 2 BOTTOM BARS THAT PASS THROUGH COLUMN WITH 90° STANDARD HOOK OR IF NECESSARY USE 180° STANDARD HOOK.
7. FOR BOTTOM BAR LENGTHS SEE TYPICAL TWO WAY SLAB DETAILS

BOTTOM BAR REINF. LEGEND

NOT TO SCALE



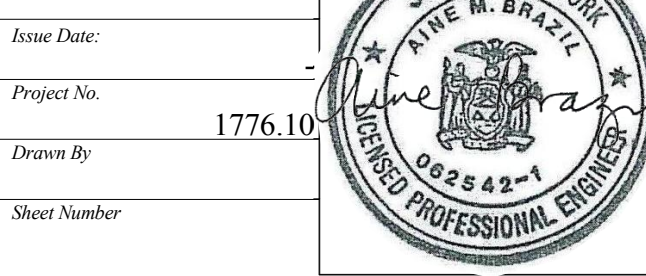
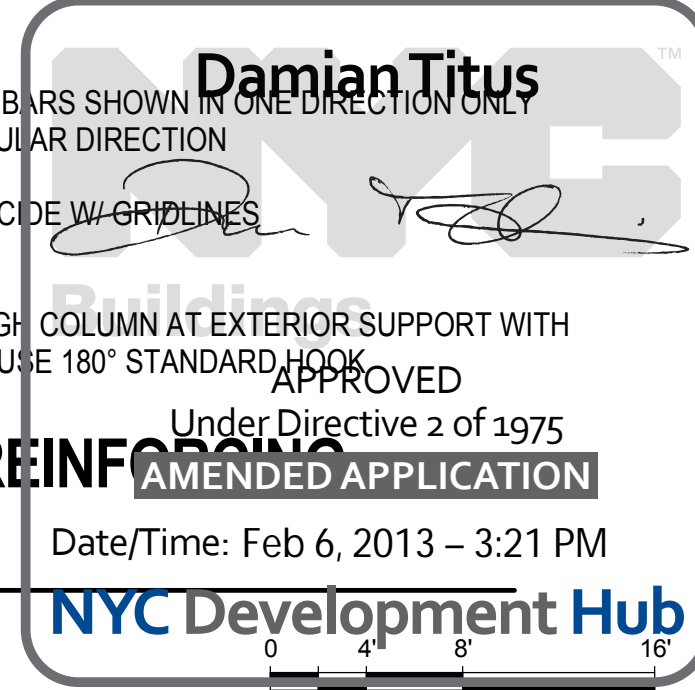
TOP BAR LEGEND NOTES:

1. NUMBER/SIZE/LENGTH OF MIDDLE STRIP BARS SHOWN IN ONE DIRECTION ONLY SAME NOTATION APPLIES IN PERPENDICULAR DIRECTION
2. CENTERLINE OF COLUMN MAY NOT COINCIDE W/ GRIDLINES SEE DRAWINGS FOR OFFSET DIMENSION
3. HOOK ALL TOP BARS THAT PASS THROUGH COLUMN AT EXTERIOR SUPPORT WITH 90° STANDARD HOOK OR IF NECESSARY USE 180° STANDARD HOOK

* INDICATES SHEAR REINFORCEMENT

TOP BAR REINF. LEGEND

NOT TO SCALE



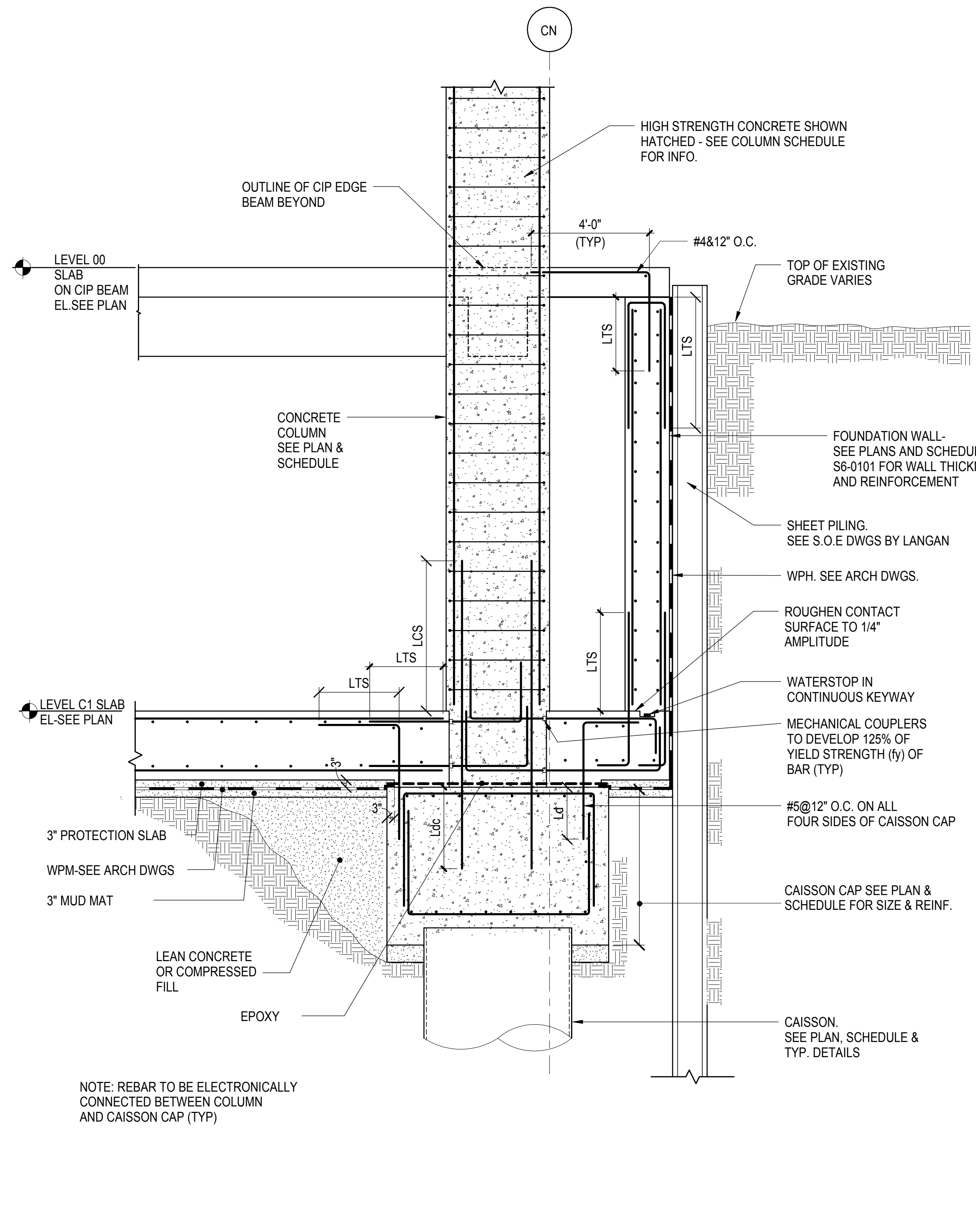
HYE-TC-S1-0007

GROUND FLOOR
FRAMING PLAN SECTOR 7

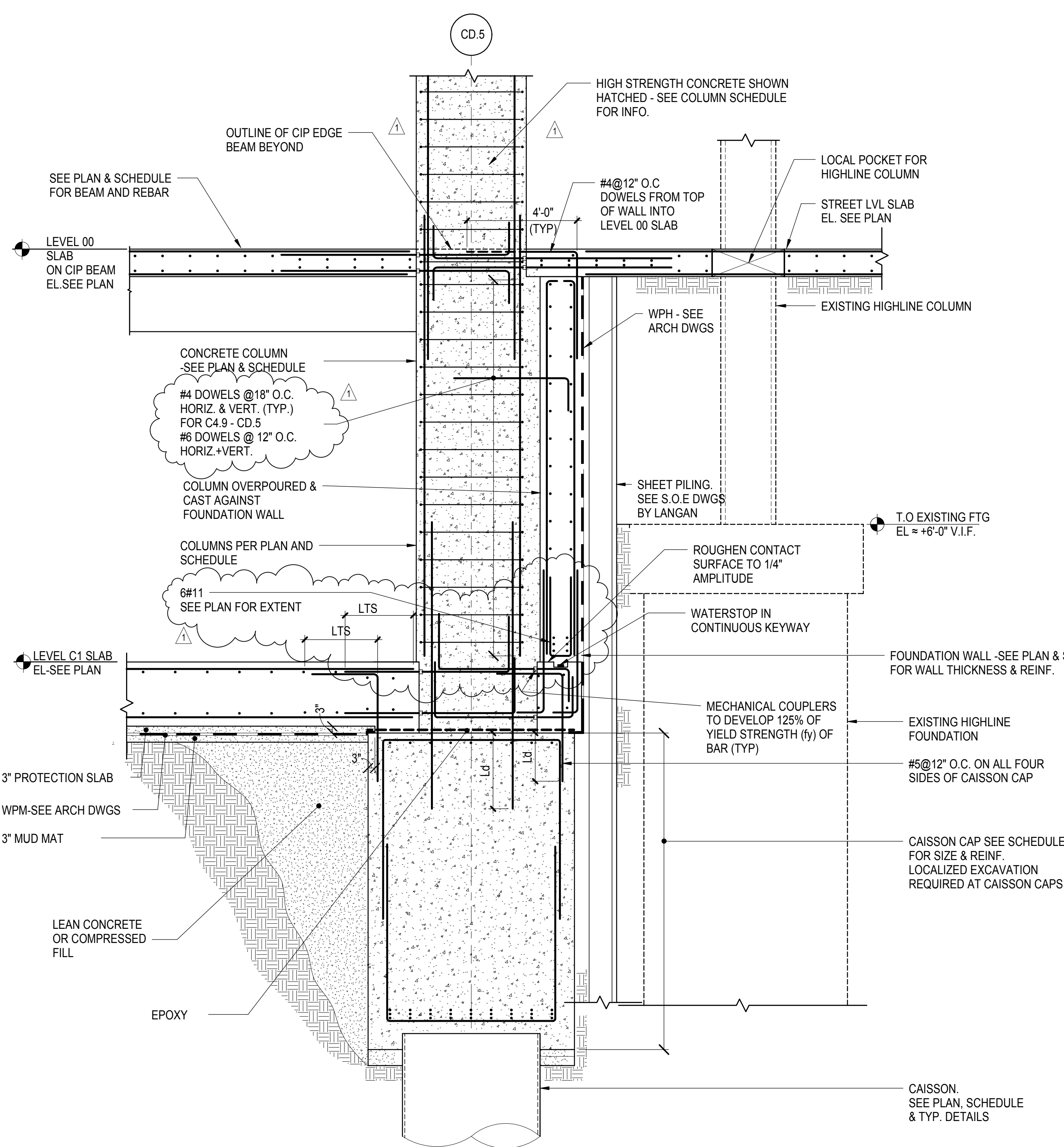
Drawing Number
S1-0007

S-014.00

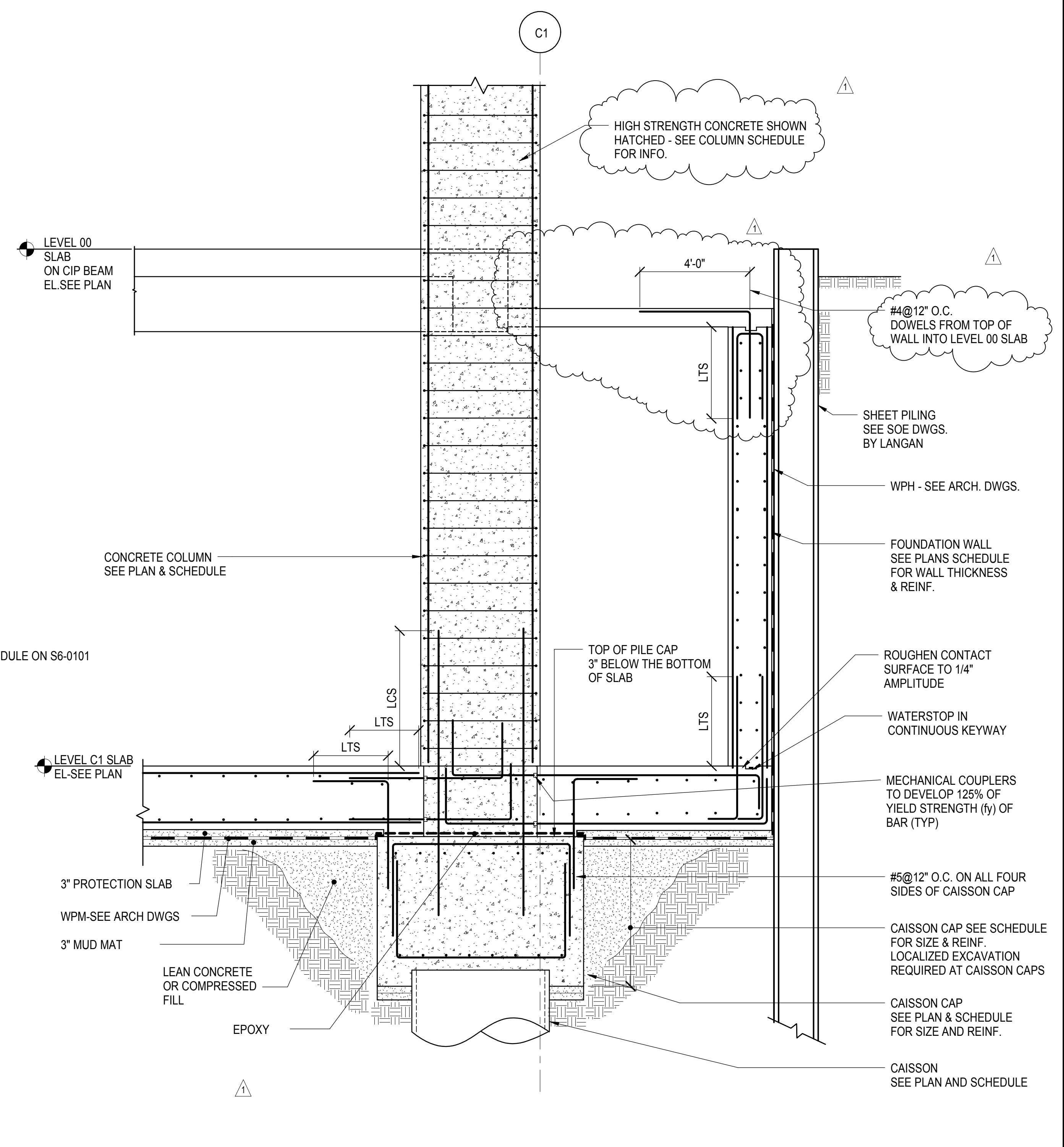
SHEET 12 OF 41



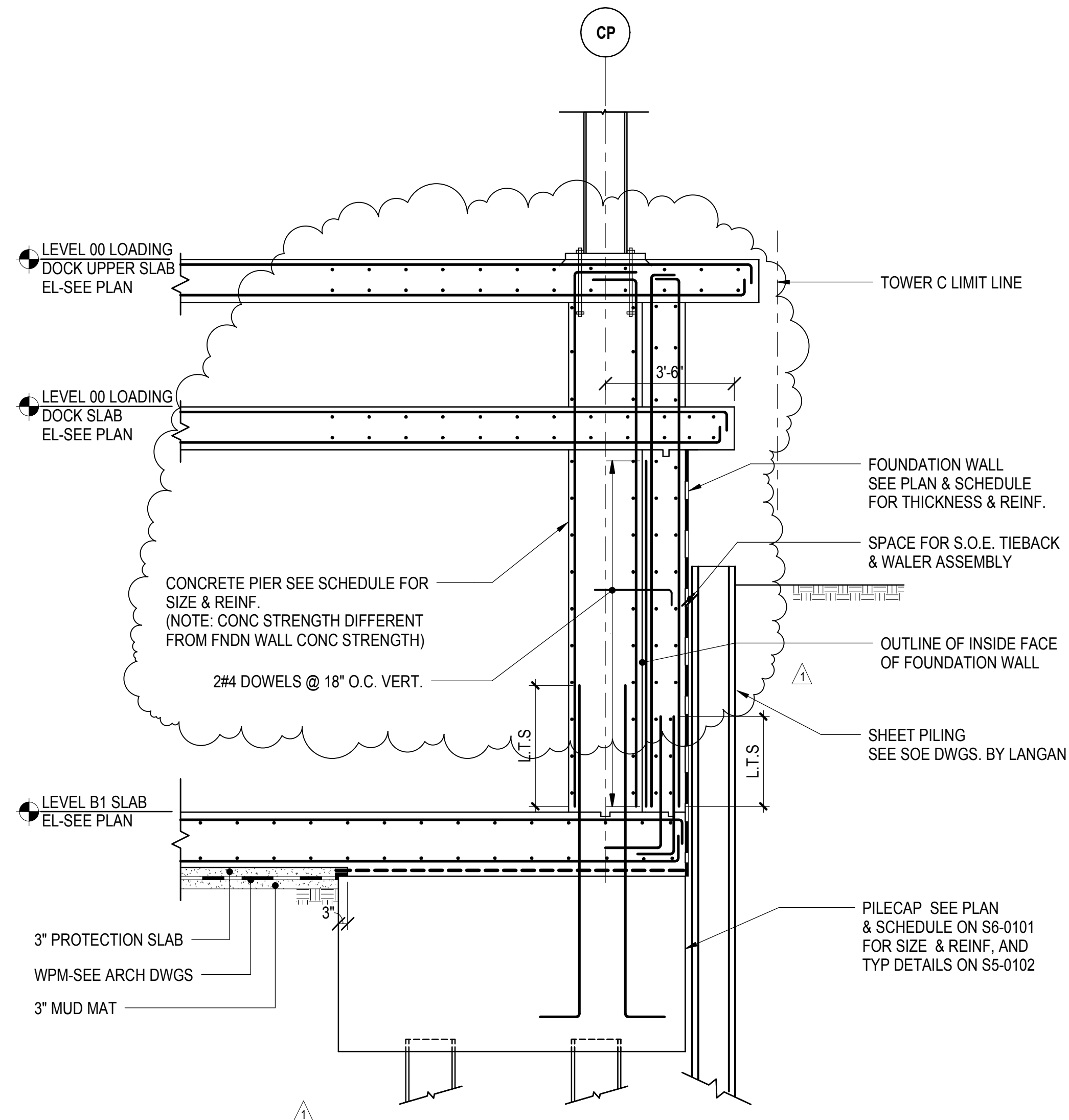
1 TYPICAL SECTION @ GRIDLINE CN TOWER COLUMNS
3/8" = 1'-0"



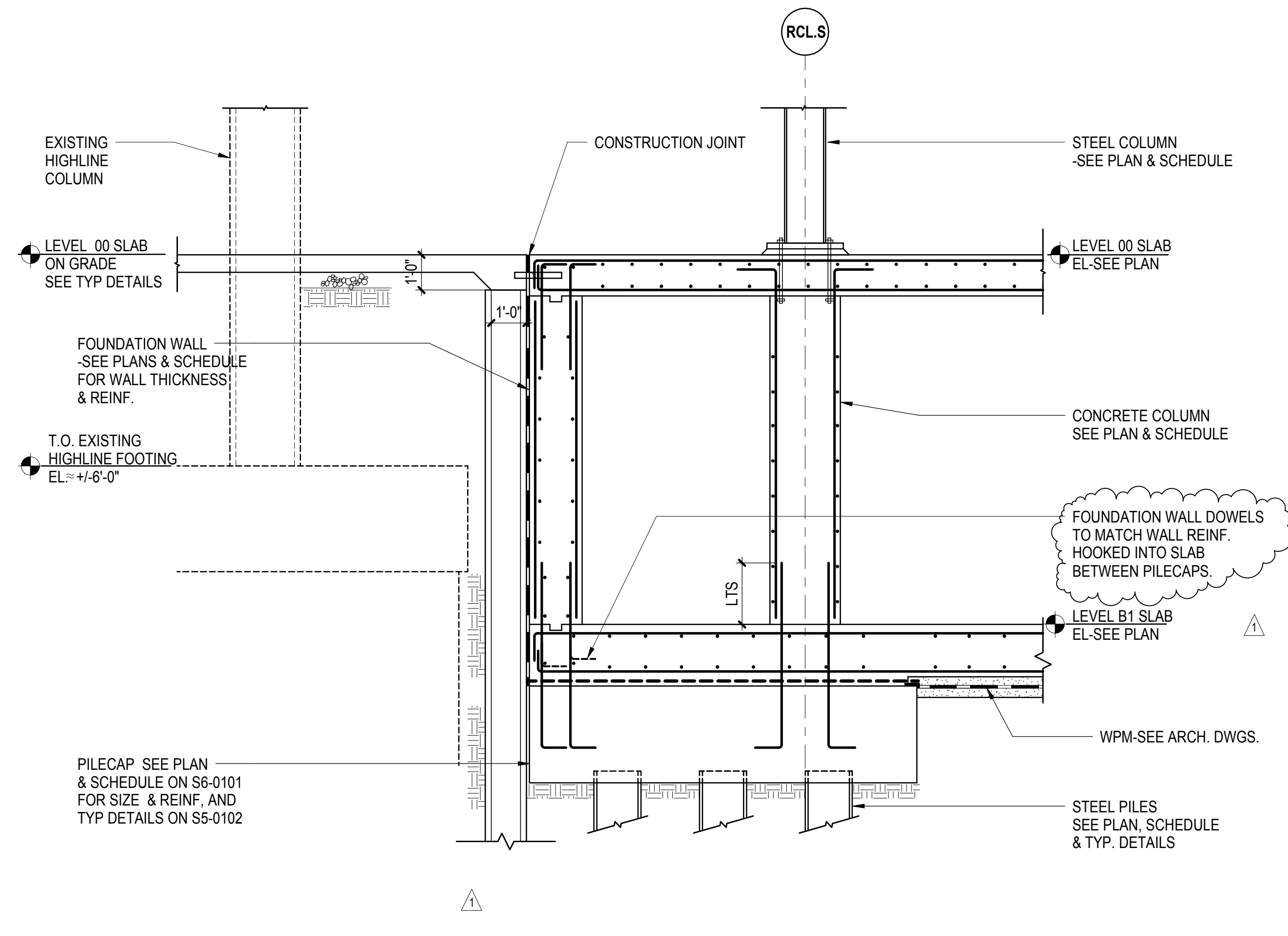
2 TYPICAL SECTION @ GRIDLINE CD.5 TOWER COLUMNS
3/8" = 1'-0"



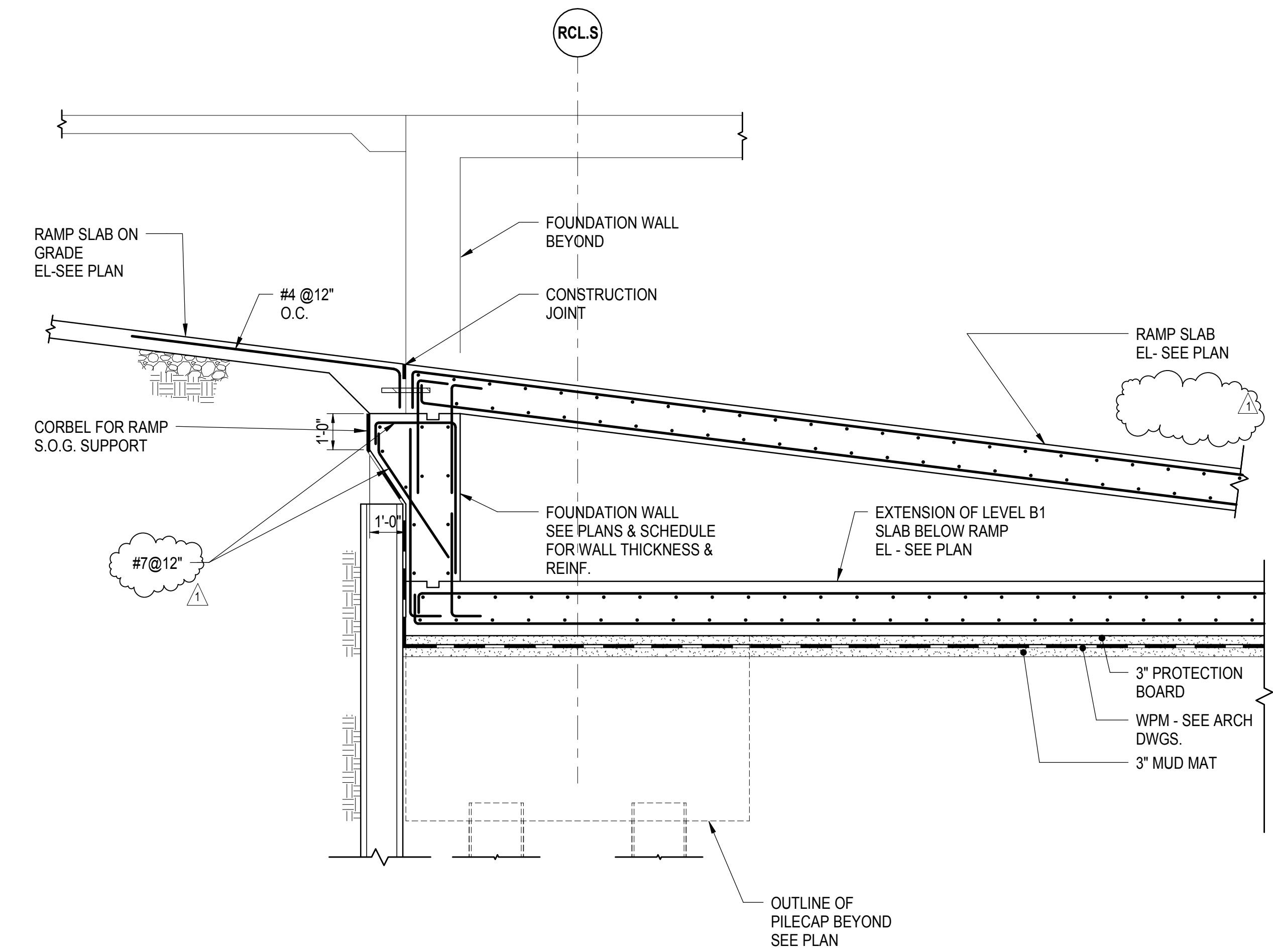
3 TYPICAL SECTION @ GRIDLINE C1 TOWER COLUMNS
3/8" = 1'-0"



4 TYPICAL SECTION @ GRIDLINE CP (TERRAFIRMA) COLUMNS
3/8" = 1'-0"



5 TYPICAL SECTION THROUGH SOUTH FOUNDATION WALL (TERRAFIRMA)
3/8" = 1'-0"



6 TYPICAL SECTION THROUGH SOUTH FOUNDATION WALL @ RAMP (TERRAFIRMA)
3/8" = 1'-0"

Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date/Time: Feb 6, 2013 - 3:21 PM
NYC Development Hub

HUDSON YARDS - TOWER C

501 WEST 30TH STREET
NEW YORK, NY

Client
Related Companies
60 Columbus Circle
New York, NY 10023
Tel: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
Tel: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
Tel: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
111 West 42nd Street
New York, New York 10036
Tel: 212.977.6500 FAX: 212.956.2526

Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
Tel: 917.661.7800 FAX: 718.661.7801

Mechanical, Electrical, Plumbing, Fire Protection
James Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
Tel: 212.530.9300 FAX: 212.269.5894

RE-USE FOR FILING 02/04/2013
ISSUE FOR FILING 09/19/2012
No Description Date

Key Plan

Title Date: 08/01/12
Project No: 1776.10
Drawing No: S-074.01
Sheet Number

HYE-TC-S3-0101

Drawing Title

FOUNDATION SECTIONS I

Drawing Number

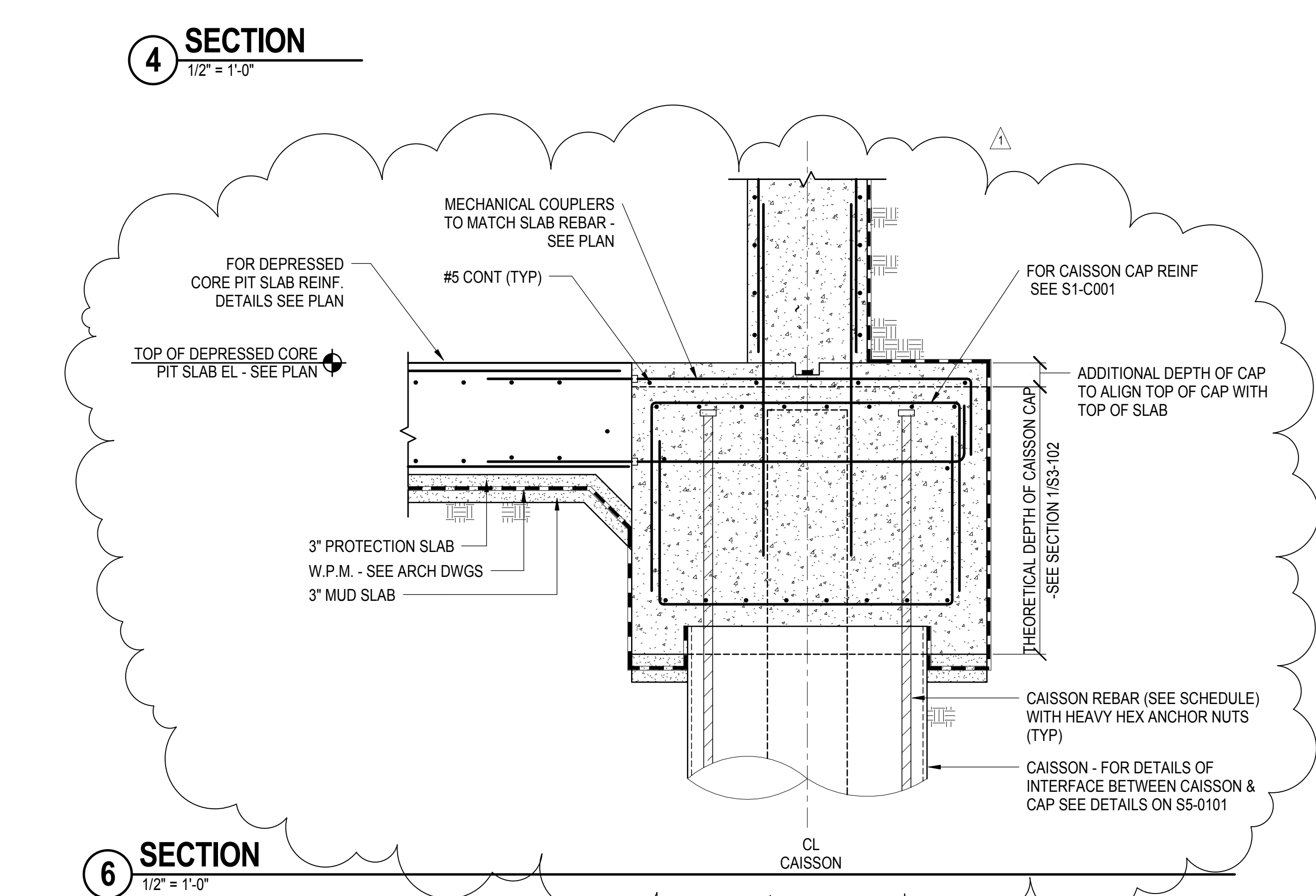
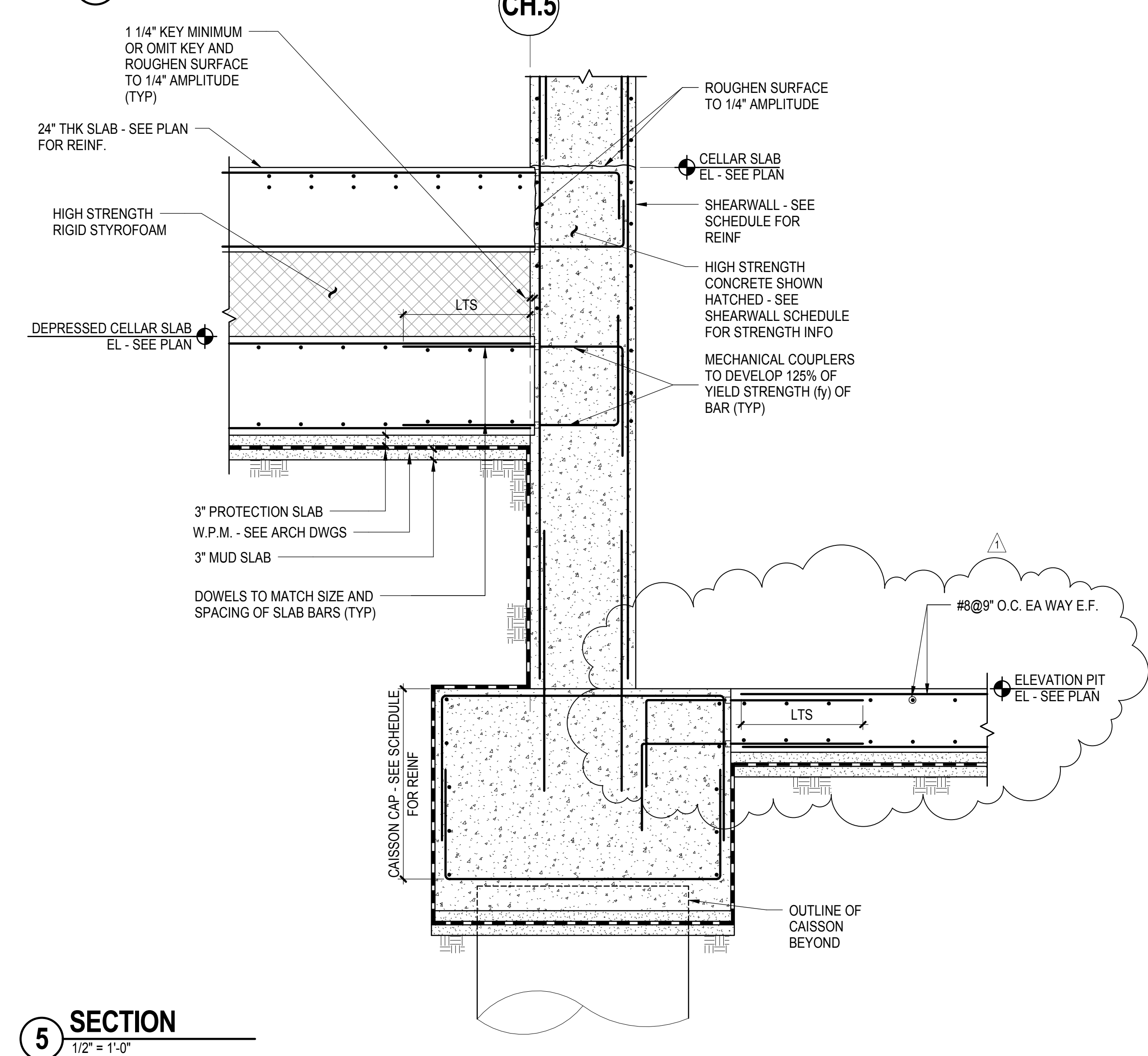
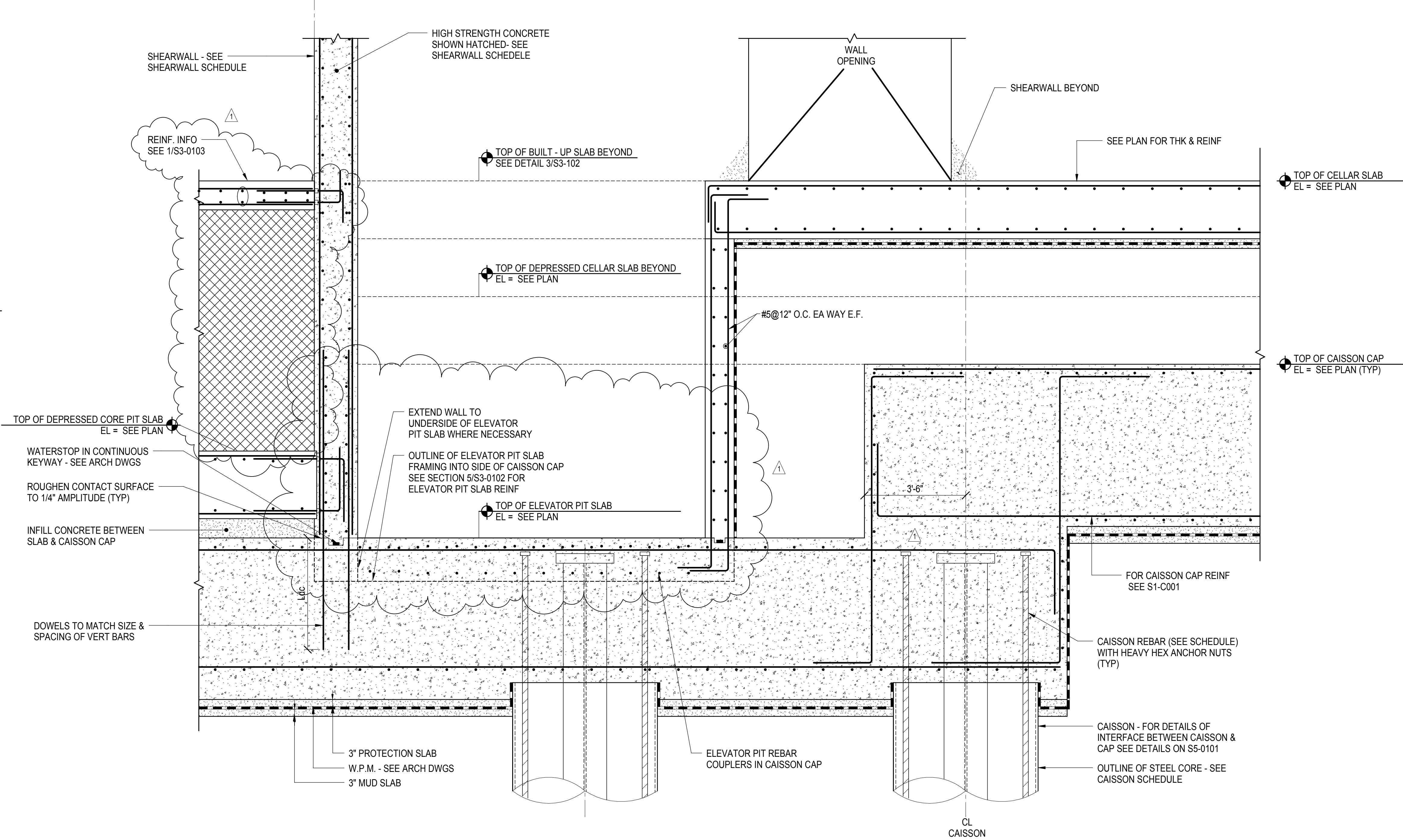
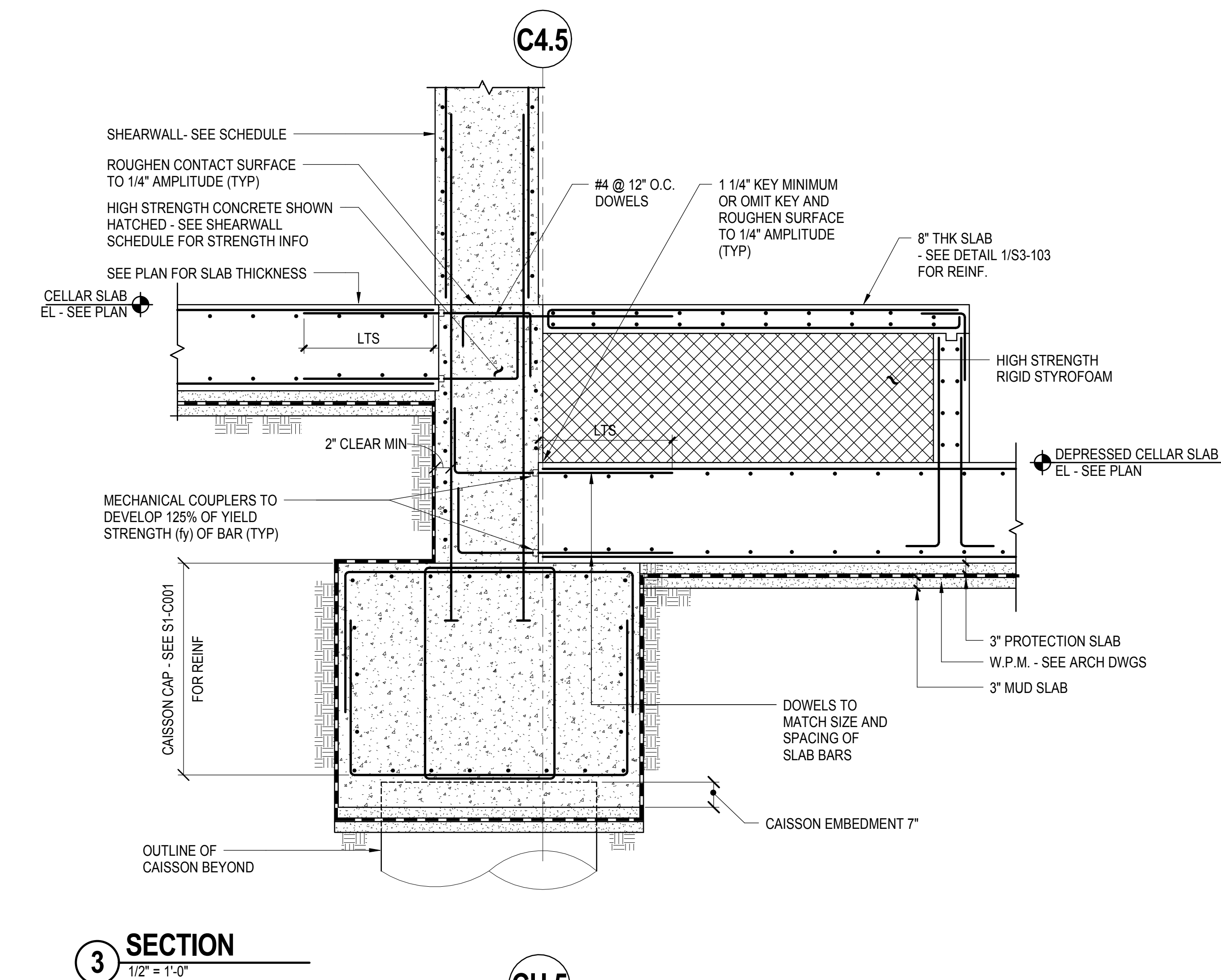
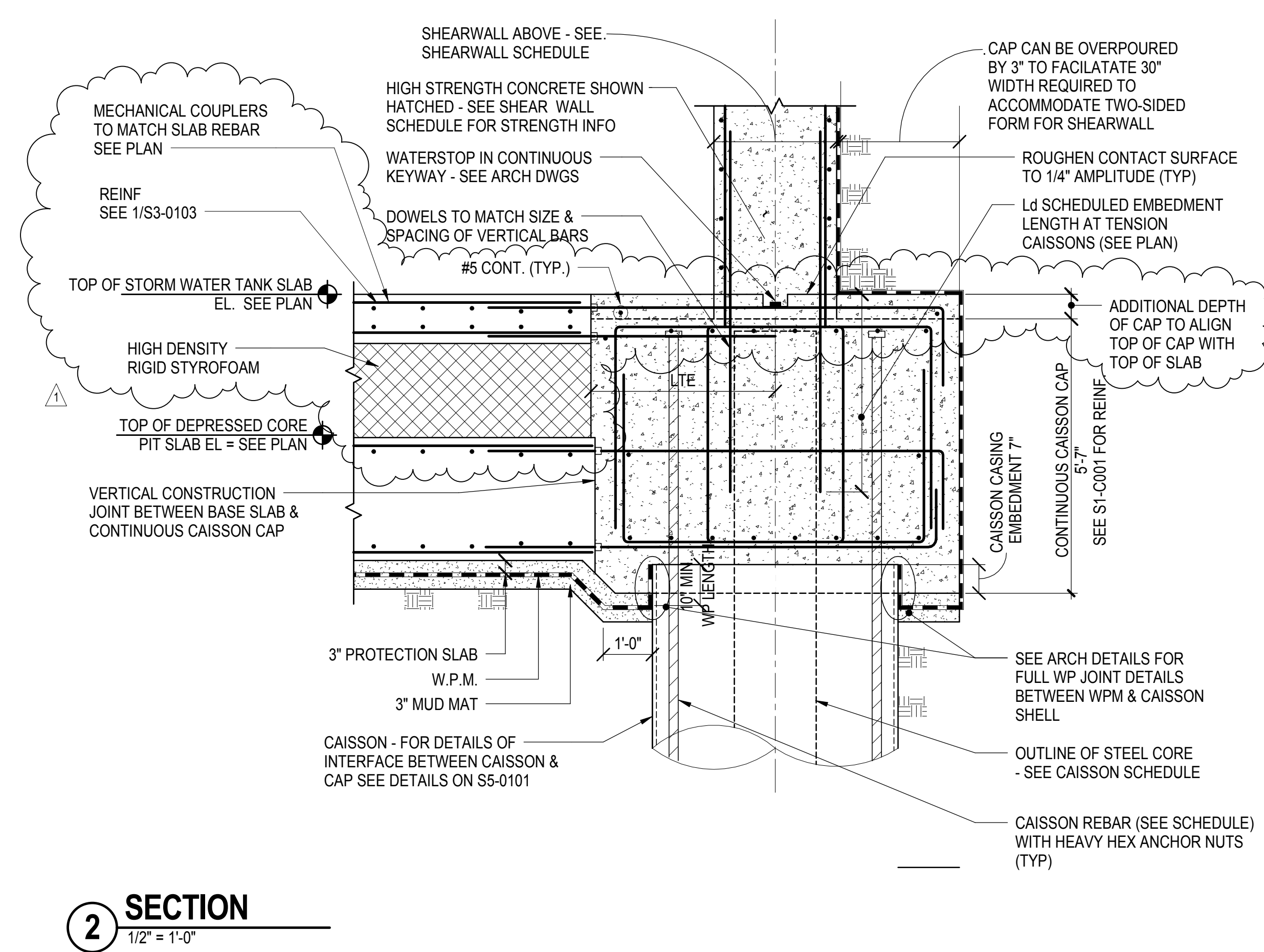
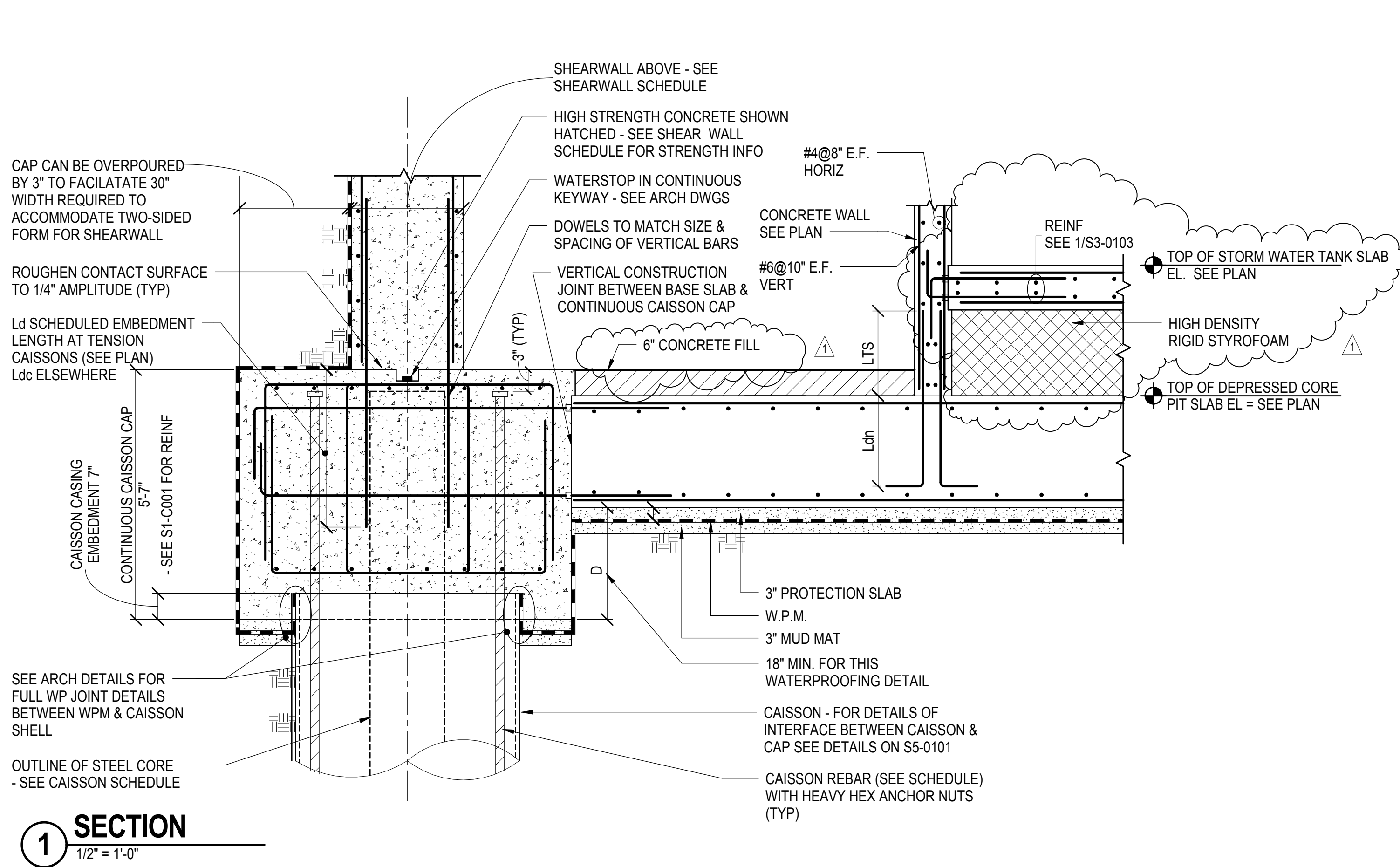
S3-0101

S-074.01

SHEET 13 OF 41

© 2013 KOHN PEDERSEN FOX ASSOCIATES P.C. All rights reserved.

FOUNDATION SECTIONS
C:\Users\KJ\Documents\20130204_D08.dwg
2/4/2013 3:01:20 PM
S3-0102



Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date/Time: Feb 6, 2013 - 3:21 PM
NYC Development Hub

HUDSON YARDS - TOWER C

501 WEST 30TH STREET
NEW YORK, NY

Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

Mechanical, Electrical, Plumbing, Fire Protection
Jarvis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894

RE-ISSUE FOR FILING	02/04/2013	1
ISSUE FOR FILING	09/19/2012	
No.	Description	Date

Key Plan

Issue Date: 08/01/12
Project No: 1776.10
Drawn By:
Sheet Number:
Drawing Title:

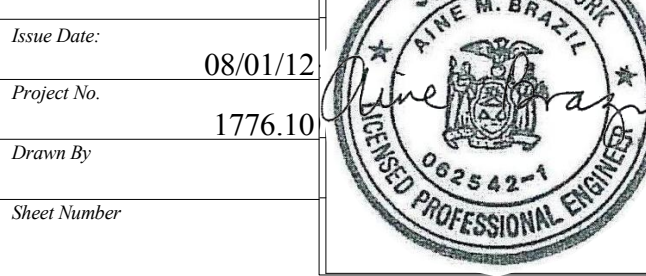
HYE-TC-S3-0102

FOUNDATION SECTIONS II

Drawing Number:
S3-0102
Sheet Number:
S-075.01
SHEET 14 OF 41

RE-ISSUE FOR FILING	02/04/2013	
ISSUE FOR FILING	09/19/2012	
No.	Description	Date

Key Plan

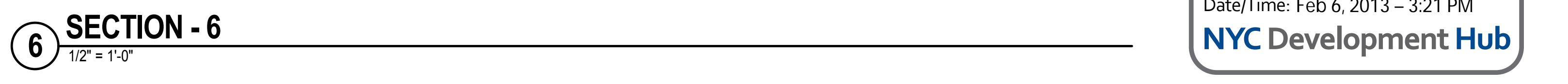
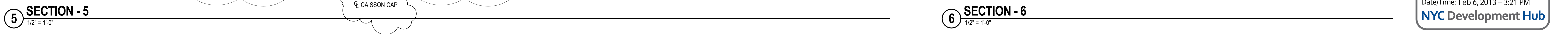
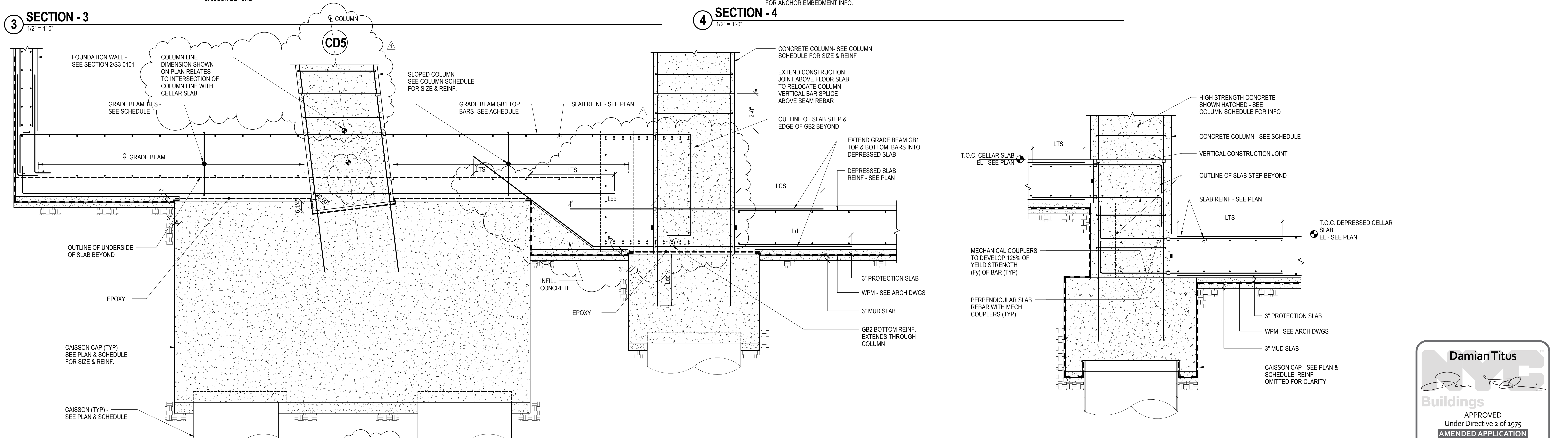
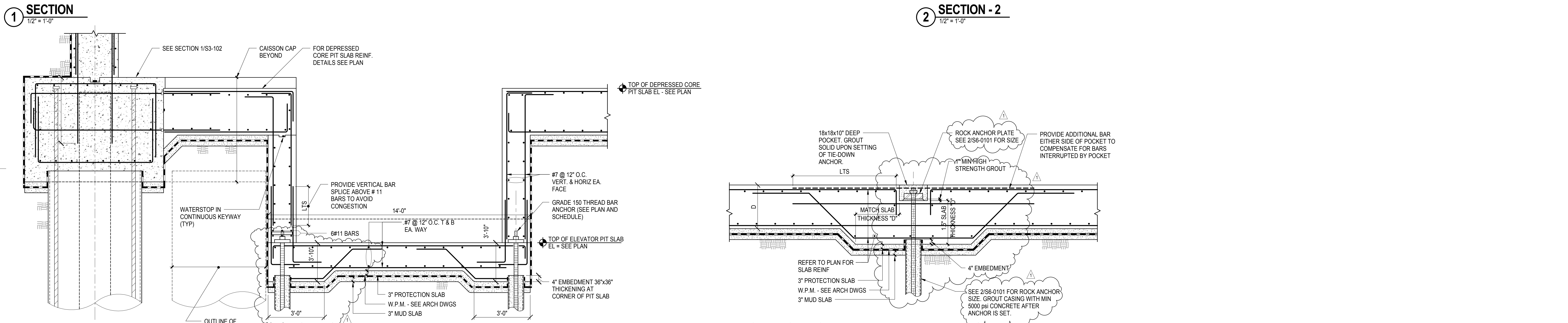
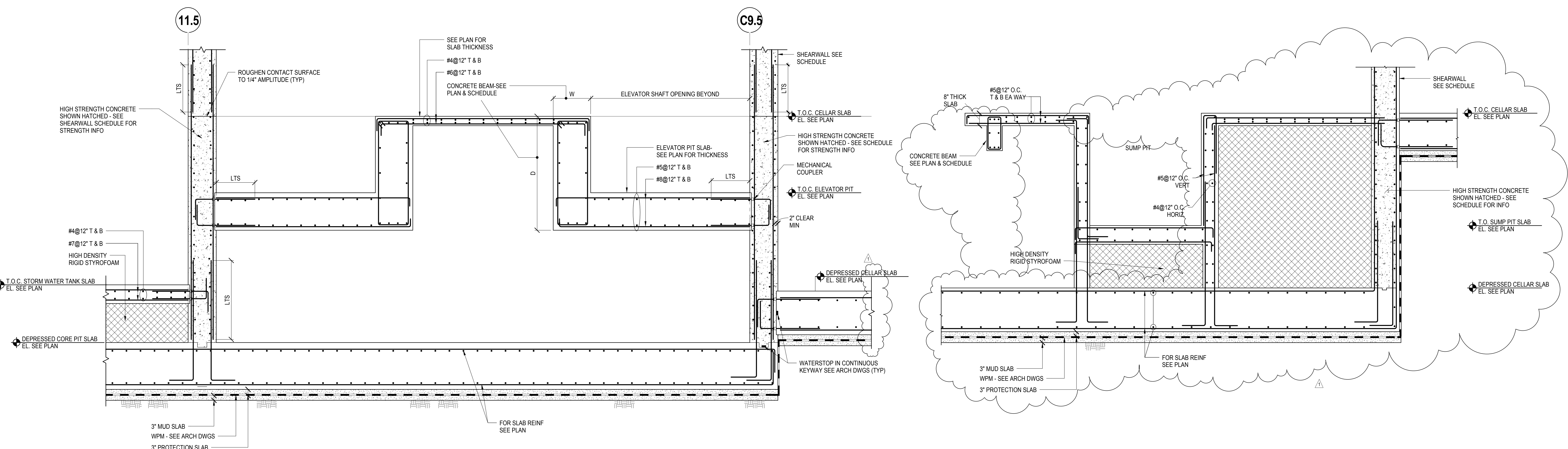


HYE-TC-S3-0103

FOUNDATION SECTIONS
III

Foundation Number
S3-0103

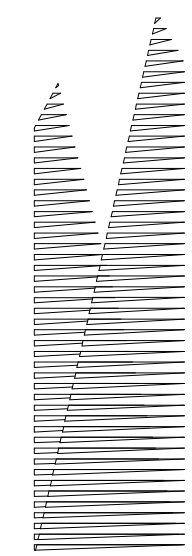
S-076.01 SHEET 15 OF 41



Damian Titus

Buildings

APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date/Time: Feb 6, 2013 - 3:21 PM
NYC Development Hub



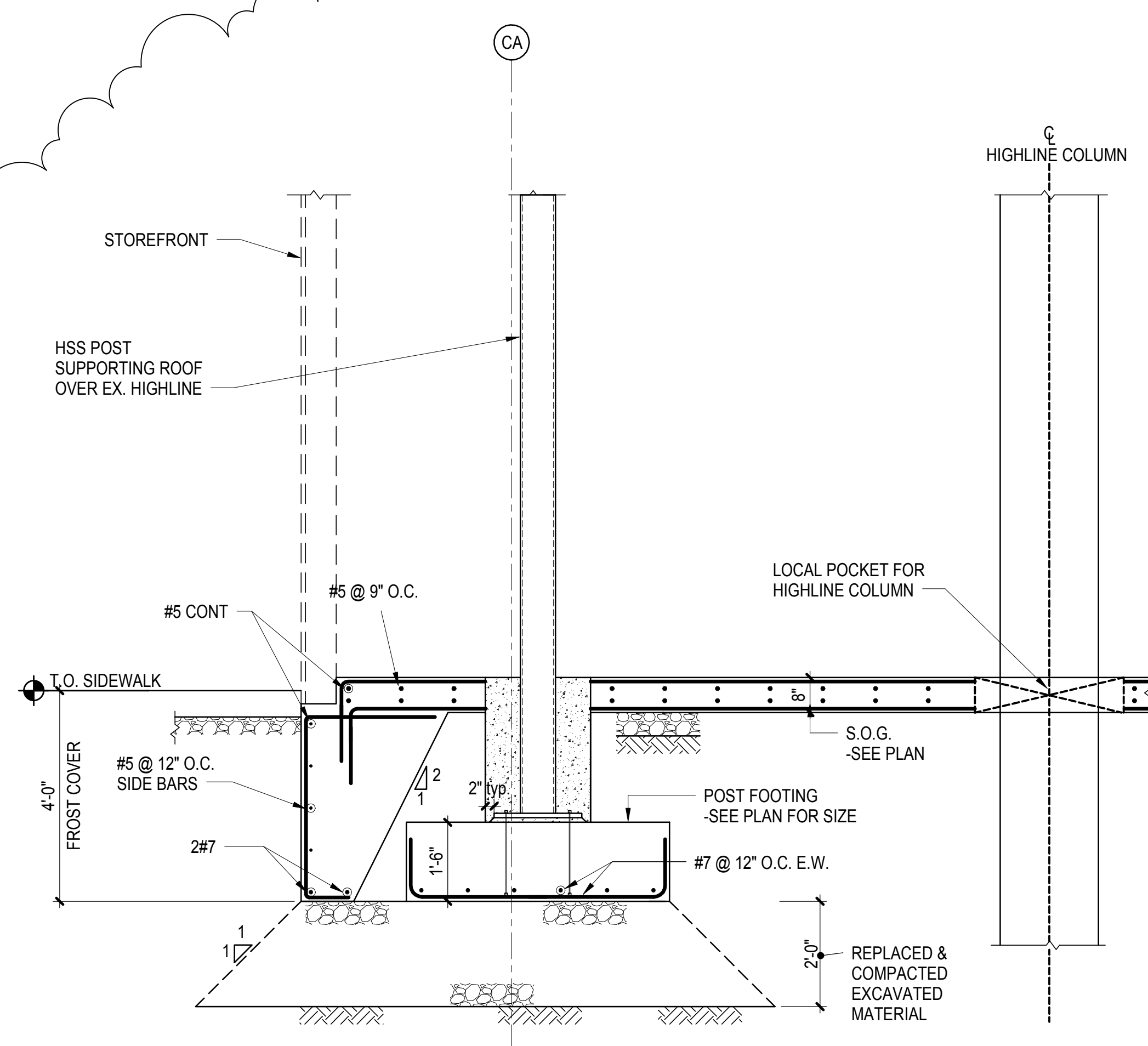
Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

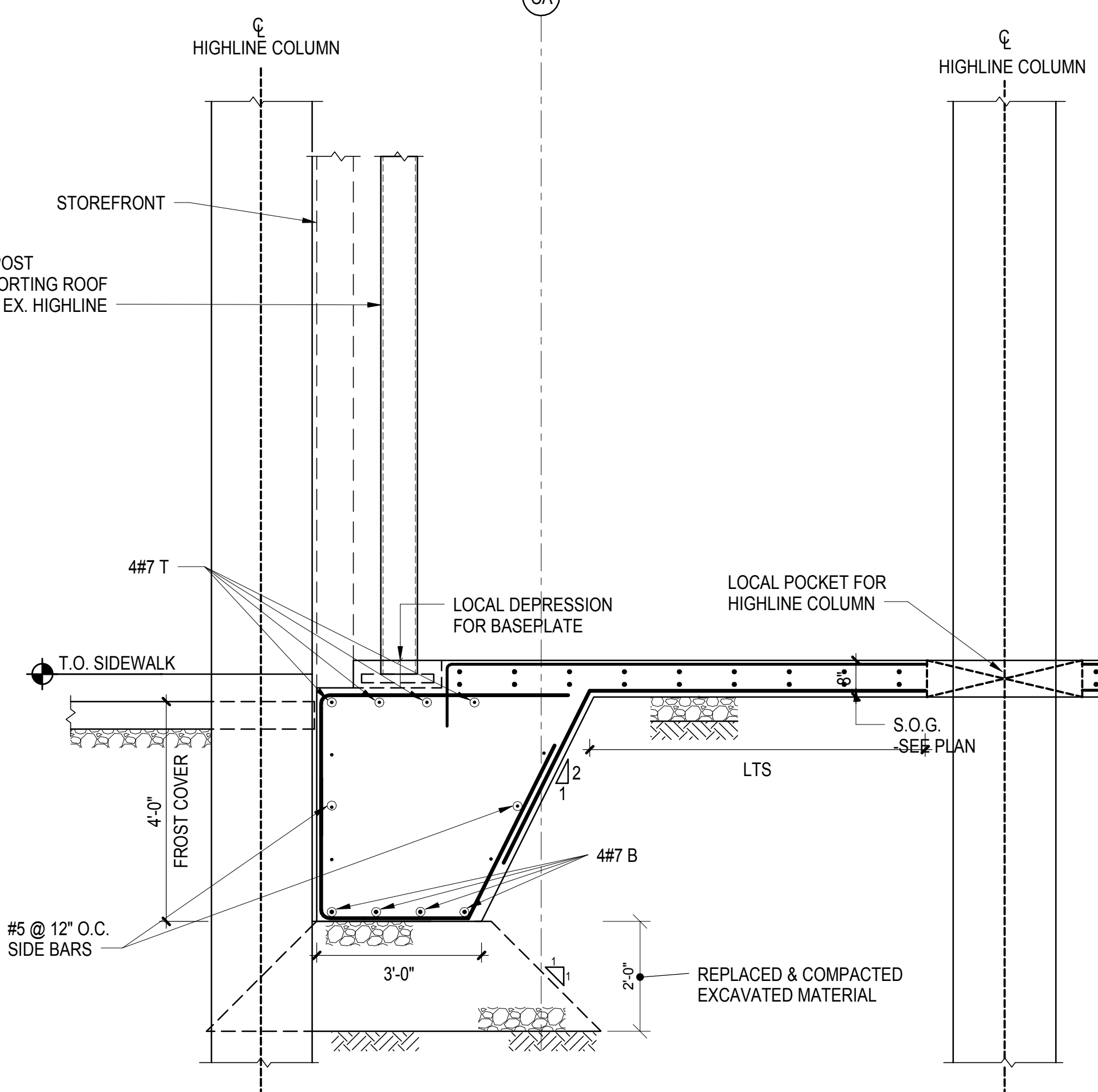
Construction Manager
Construction Manager Name
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

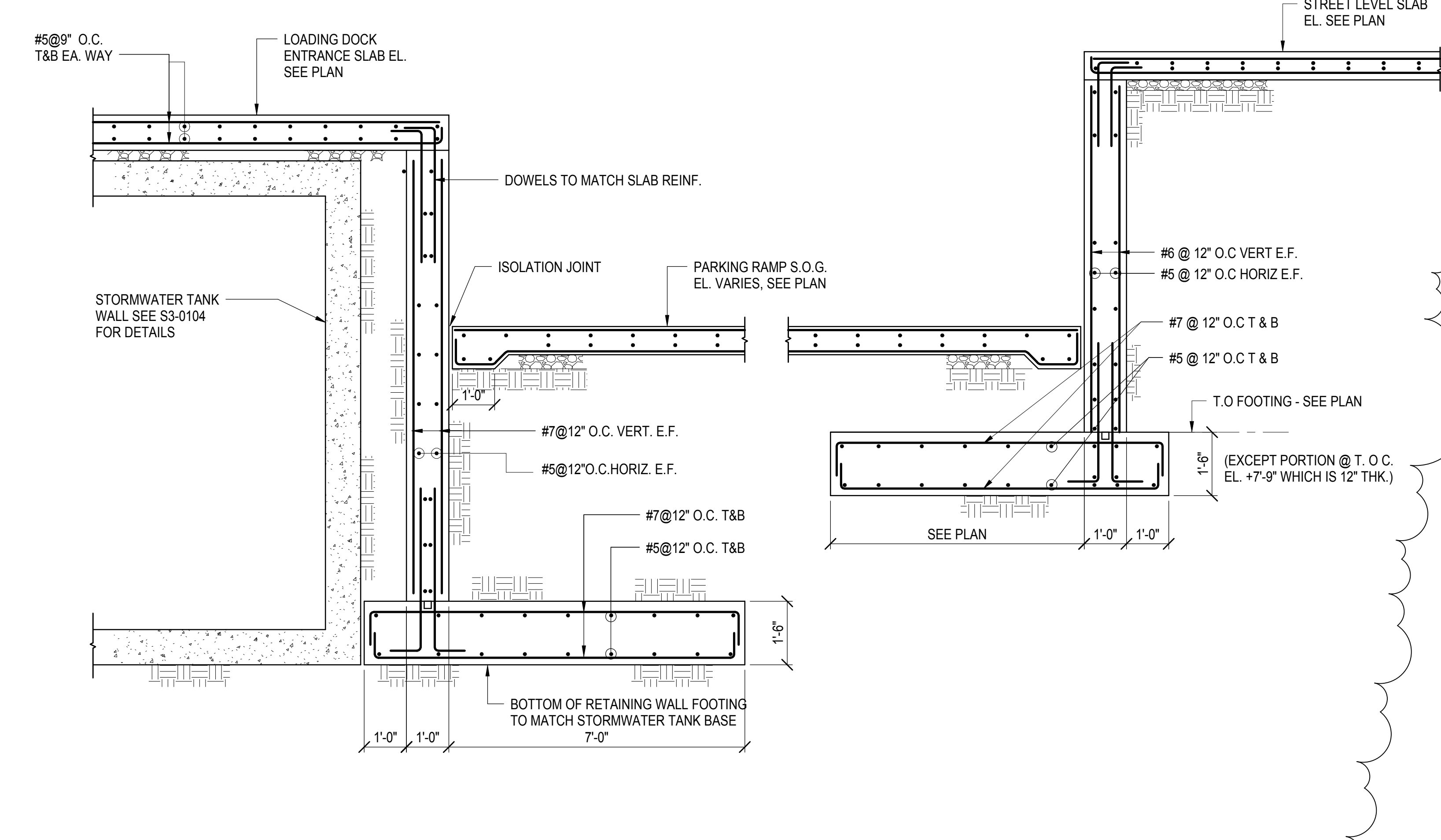
Mechanical, Electrical, Plumbing, Fire Protection
Jarvis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894



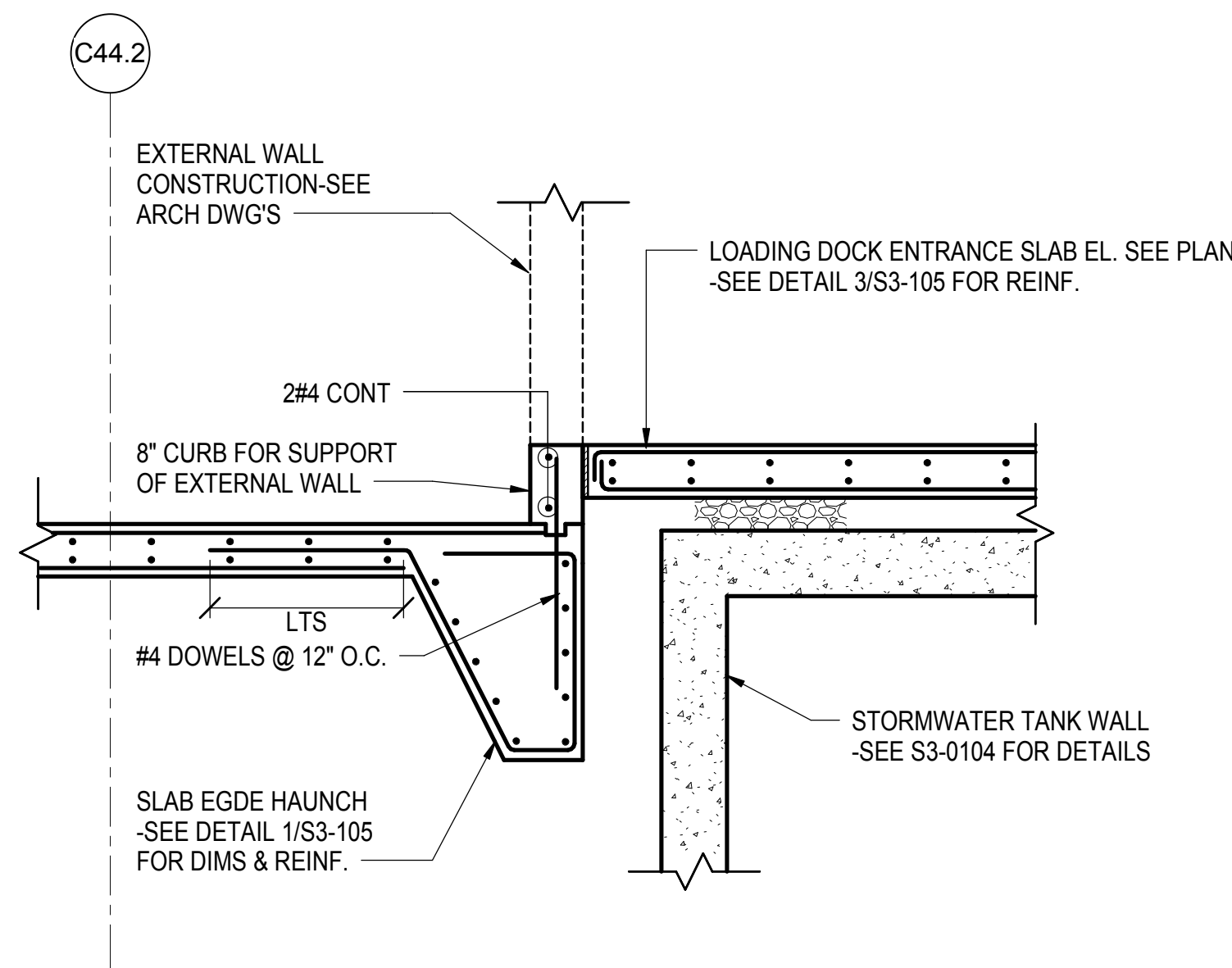
1 SECTION
1/2" = 1'-0"



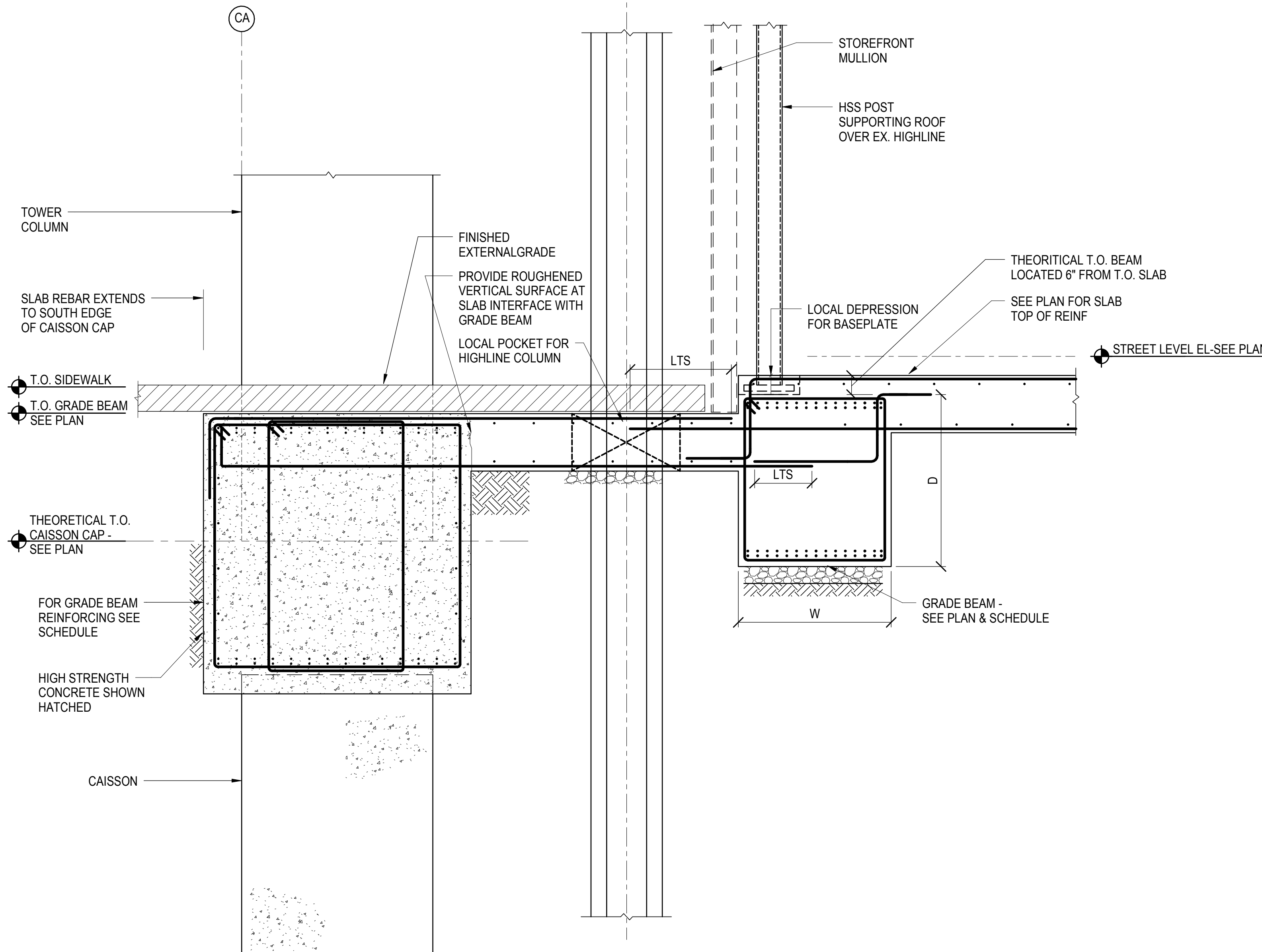
2 SECTION
1/2" = 1'-0"



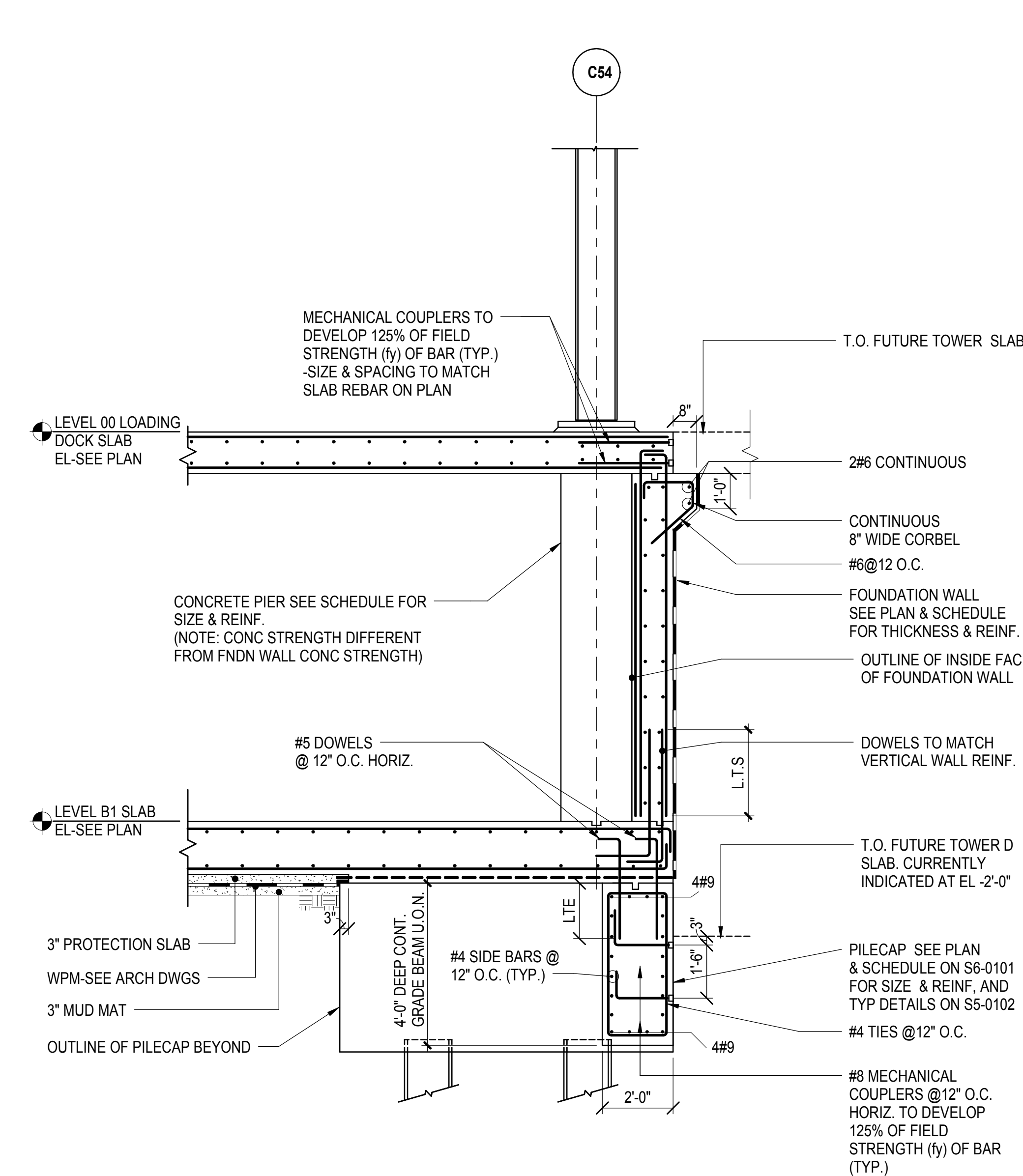
3 TYPICAL SECTION THROUGH SOUTH
FOUNDATION WALL (TERRAFIRMA)
1/2" = 1'-0"



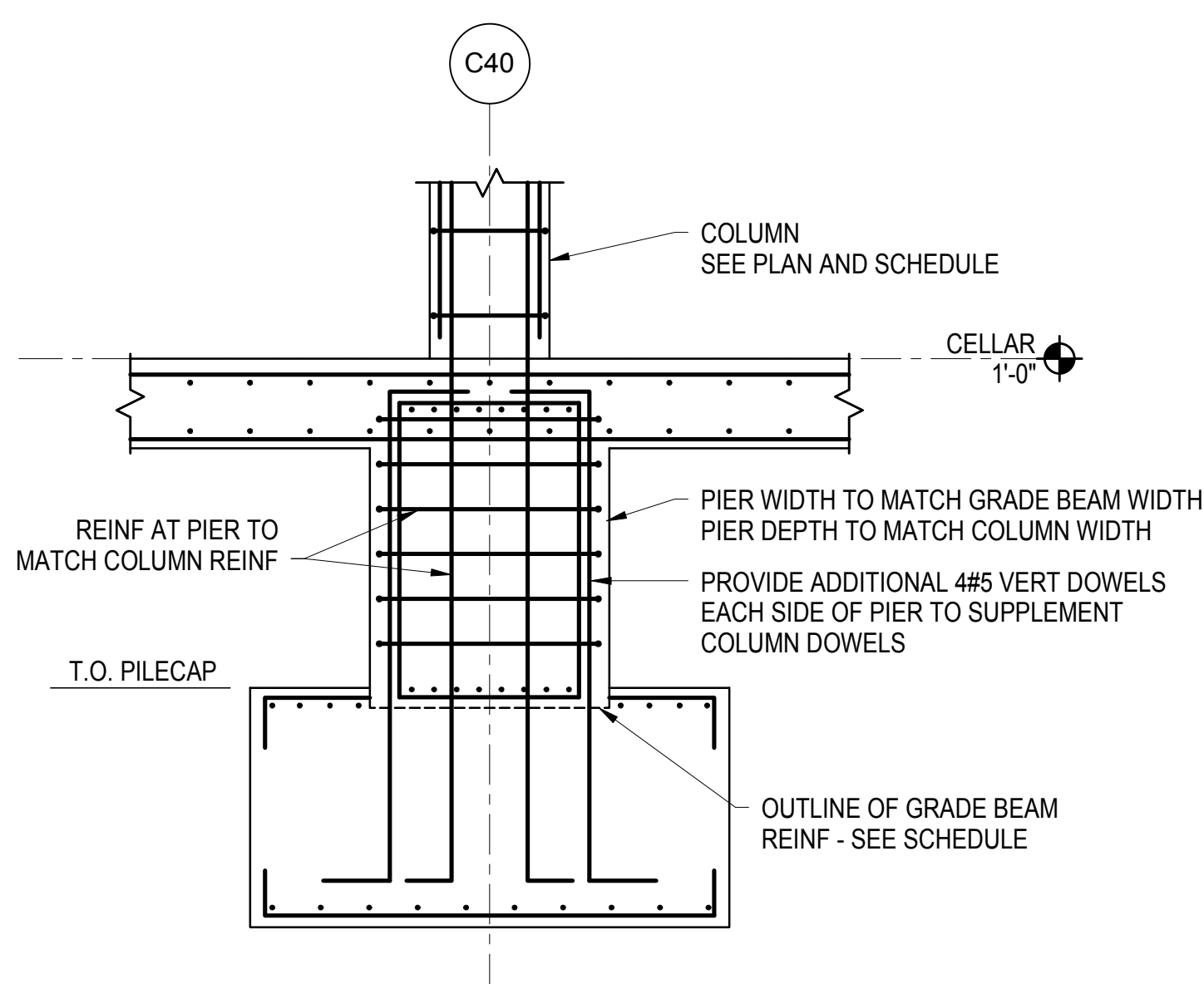
4 SECTION
1/2" = 1'-0"



5 SECTION
1/2" = 1'-0"



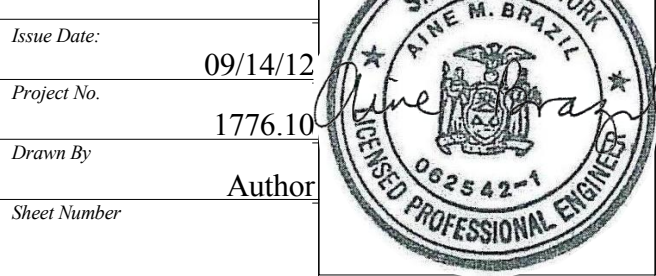
6 TYPICAL SECTION @ GRIDLINE C54 (TERRAFIRMA)
COLUMNS
NOT TO SCALE



7 SECTION - TYP PIER DETAIL (REINF LAYOUT ONLY)
NOT TO SCALE

	RE-ISSUE FOR FILING	02/04/2013
	ISSUE FOR FILING	09/19/2012
No.	Description	Date

Key Plan



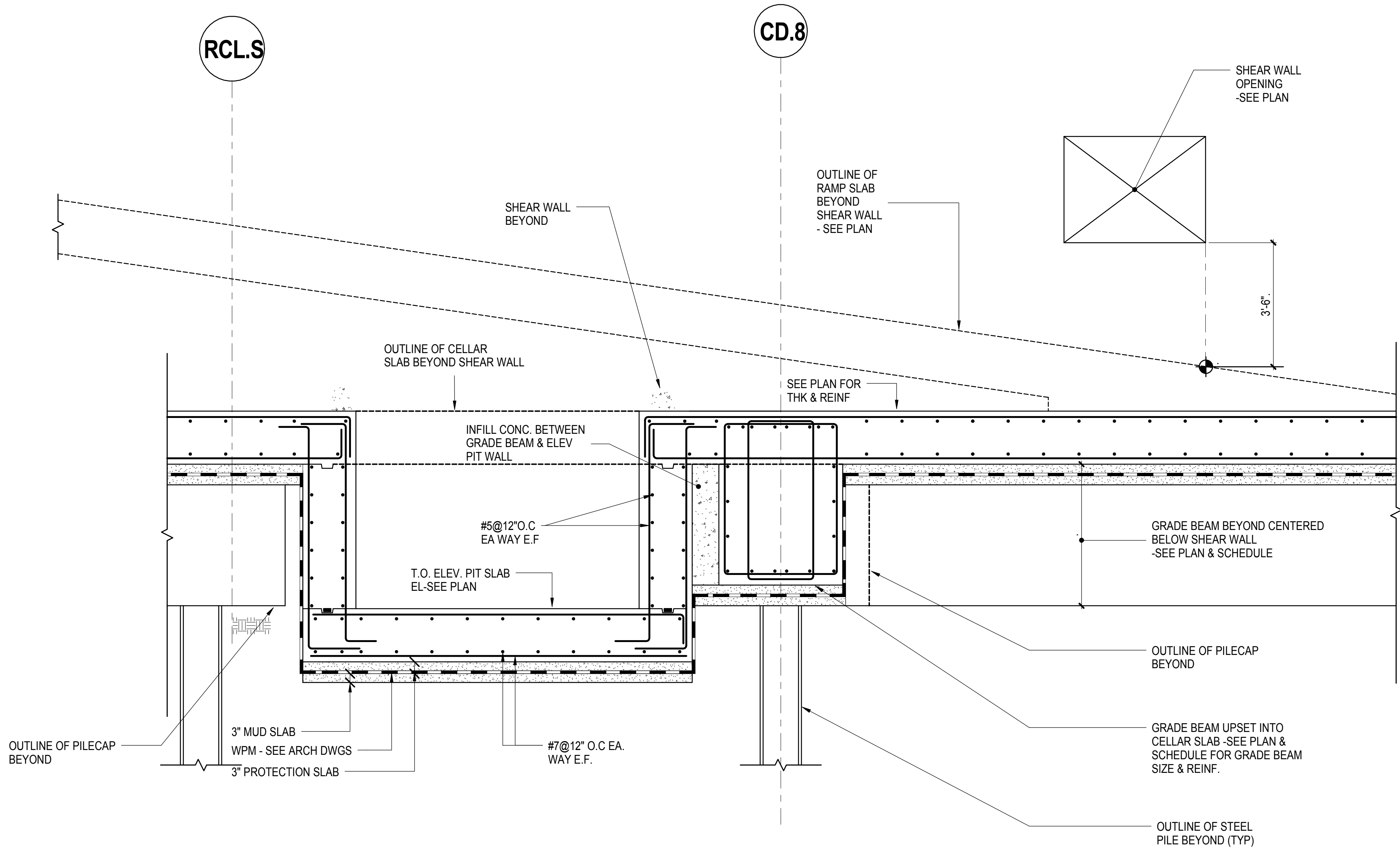
HYE -TC -S3-0105

FOUNDATION SECTIONS V

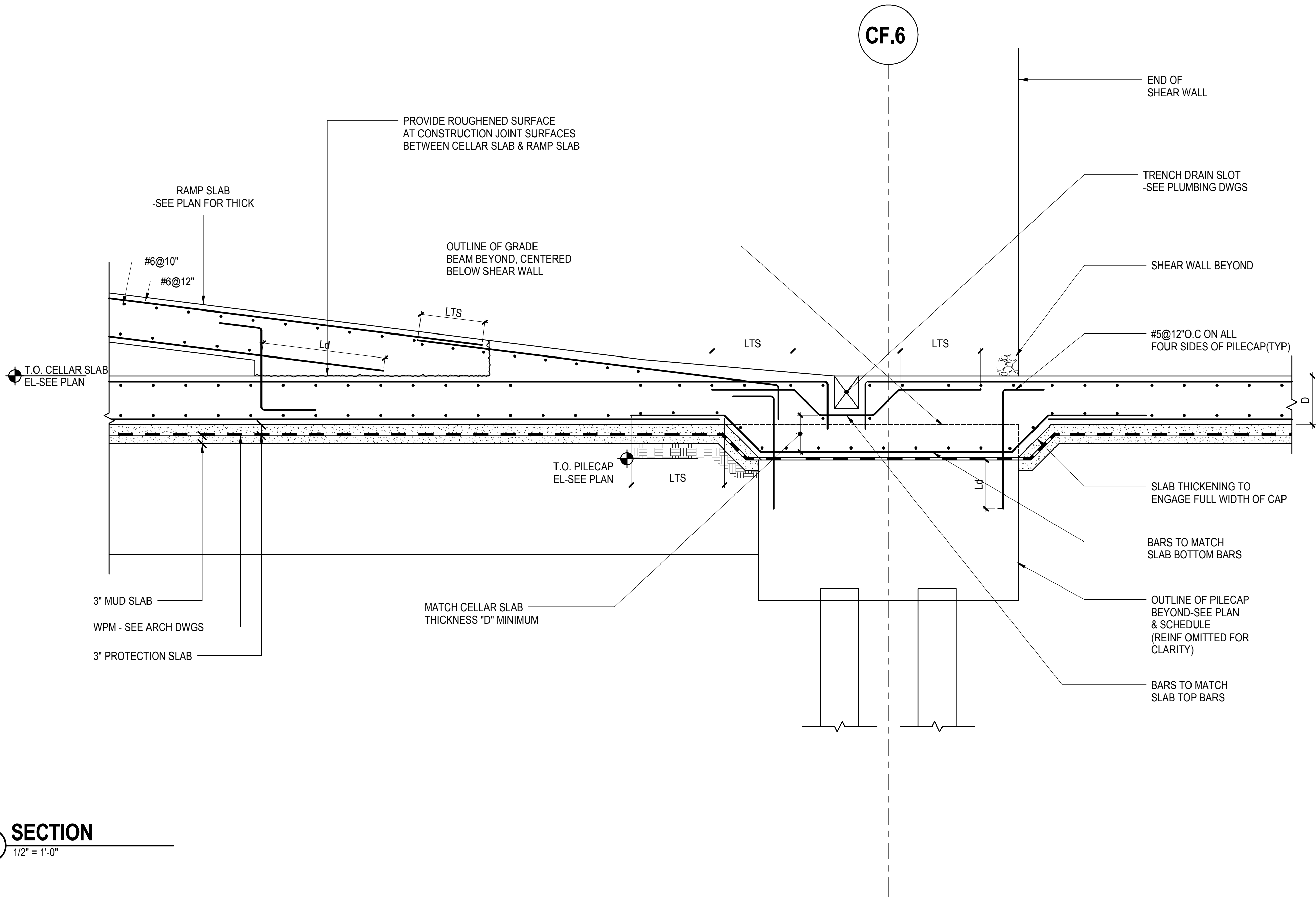
Drawing Number
S3-0105

S-078.01 SHEET 17 OF 41

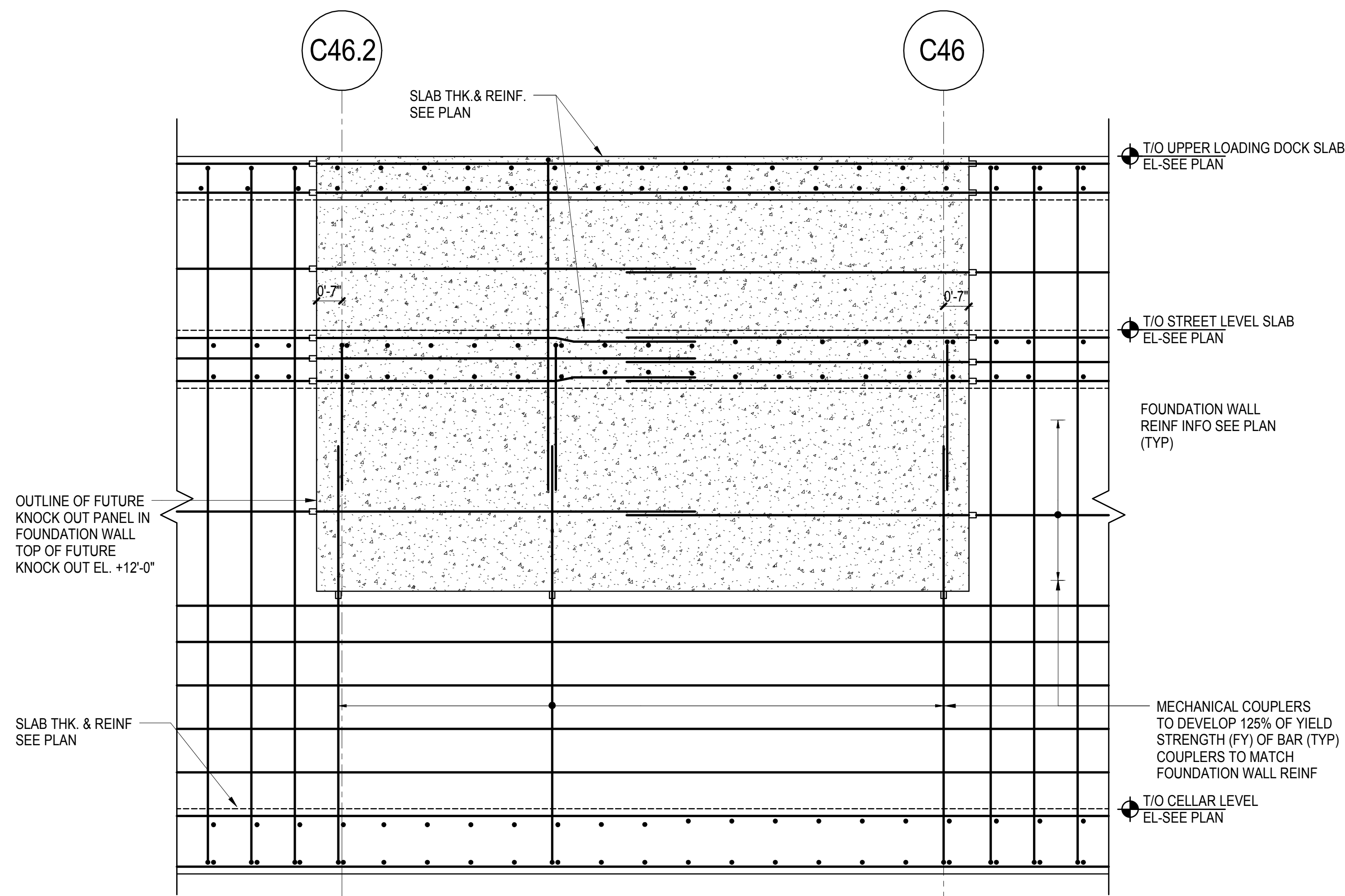
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date/Time: Feb 6, 2013 - 3:21 PM
NYC Development Hub



1 SECTION
1/2" = 1'-0"



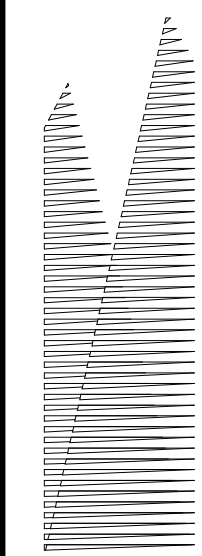
2 SECTION
1/2" = 1'-0"



4 SECTION
1/2" = 1'-0"

HUDSON YARDS - TOWER C

501 WEST 30TH STREET
NEW YORK, NY



Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PCArchitects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

Mechanical, Electrical, Plumbing, Fire Protection
Jarvis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894

RE-ISSUE FOR FILING		02/04/2013
No.	Description	Date

Key Plan

Issue Date: 12/12/12
Project No: 1776.10
Drawn By: Author
Sheet Number



HYE -TC -S3-0107

Drawing Title

FOUNDATION SECTIONS VII

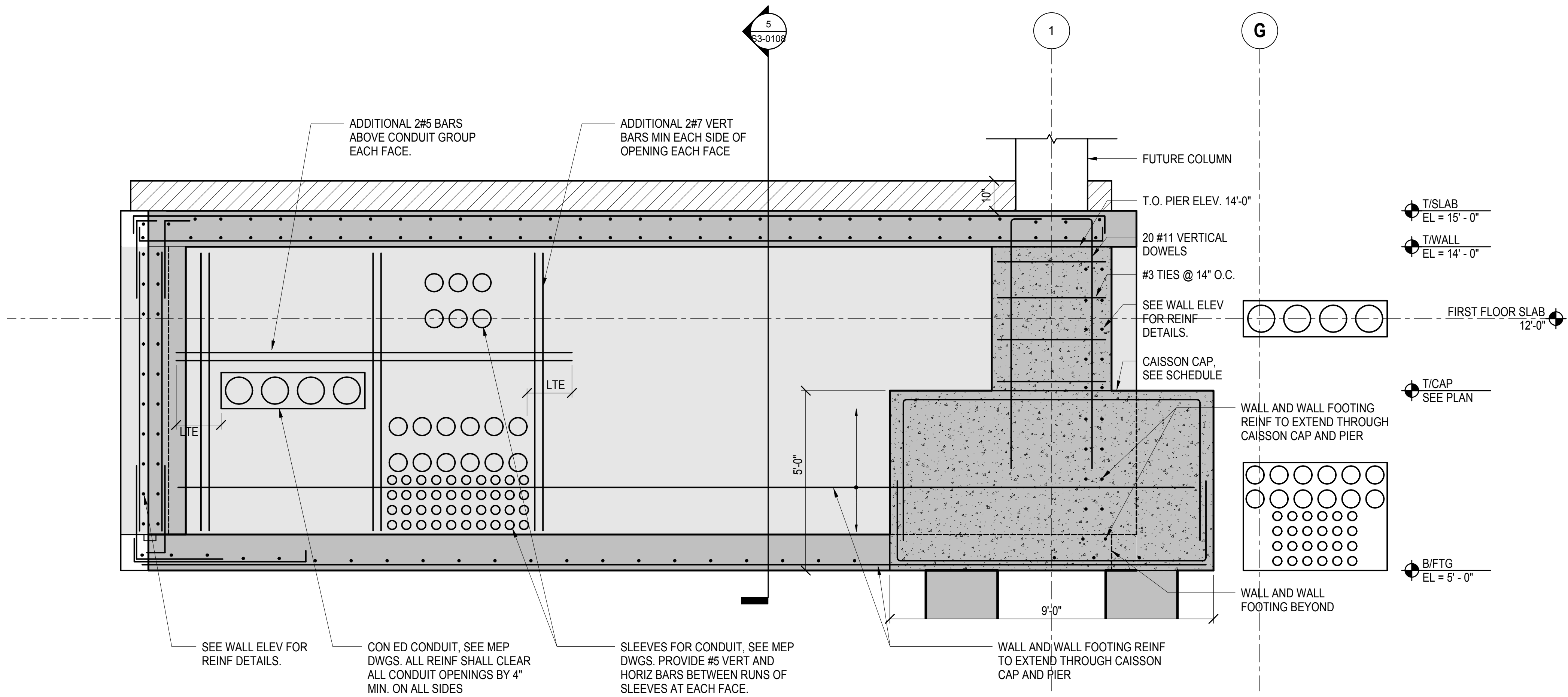
Drawing Number

S3-0107

S-085.00

Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date/Time: Feb 6, 2013 - 3:21 PM
NYC Development Hub

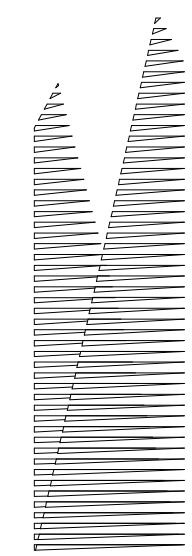




1 ELEVATION OF EAST FOUNDATION WALL
1/2\" = 1'-0"

HUDSON YARDS -
TOWER C

501 WEST 30TH STREET
NEW YORK, NY



Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

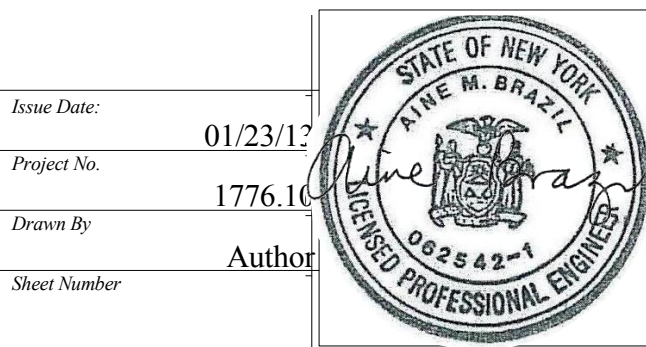
Construction Manager
Construction Manager Name
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

Mechanical, Electrical, Plumbing, Fire Protection
Jarvis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894

RE-ISSUE FOR FILING	
No.	Description
02/04/2013	Final

Key Plan

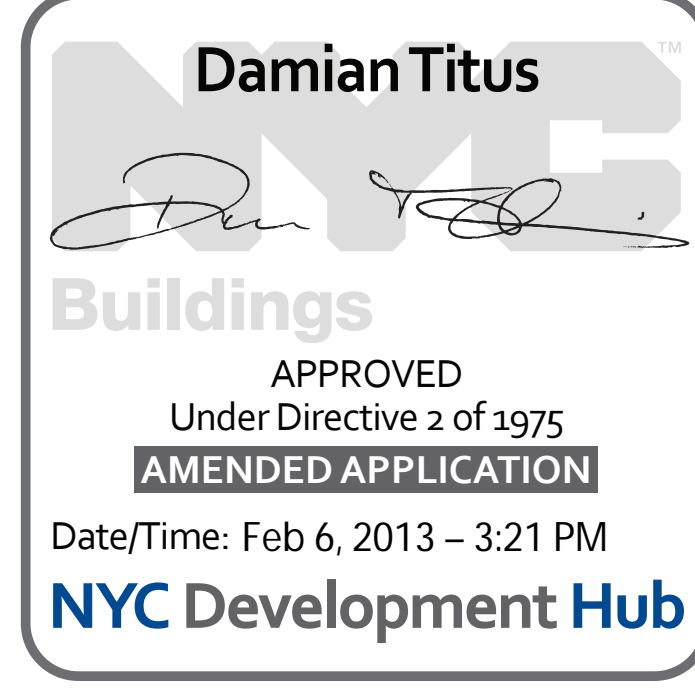


HYE-TC-S3-0109

FOUNDATION SECTIONS
IX

Drawing Number
S3-0109

Sheet Number
S-087.00



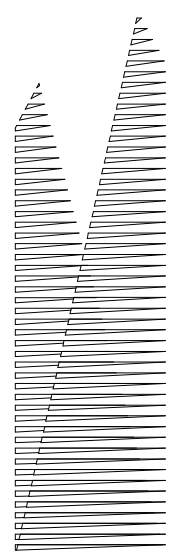
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION

Date/Time: Feb 6, 2013 - 3:21 PM

NYC Development Hub

HUDSON YARDS -
TOWER C

501 WEST 30TH STREET
NEW YORK, NY



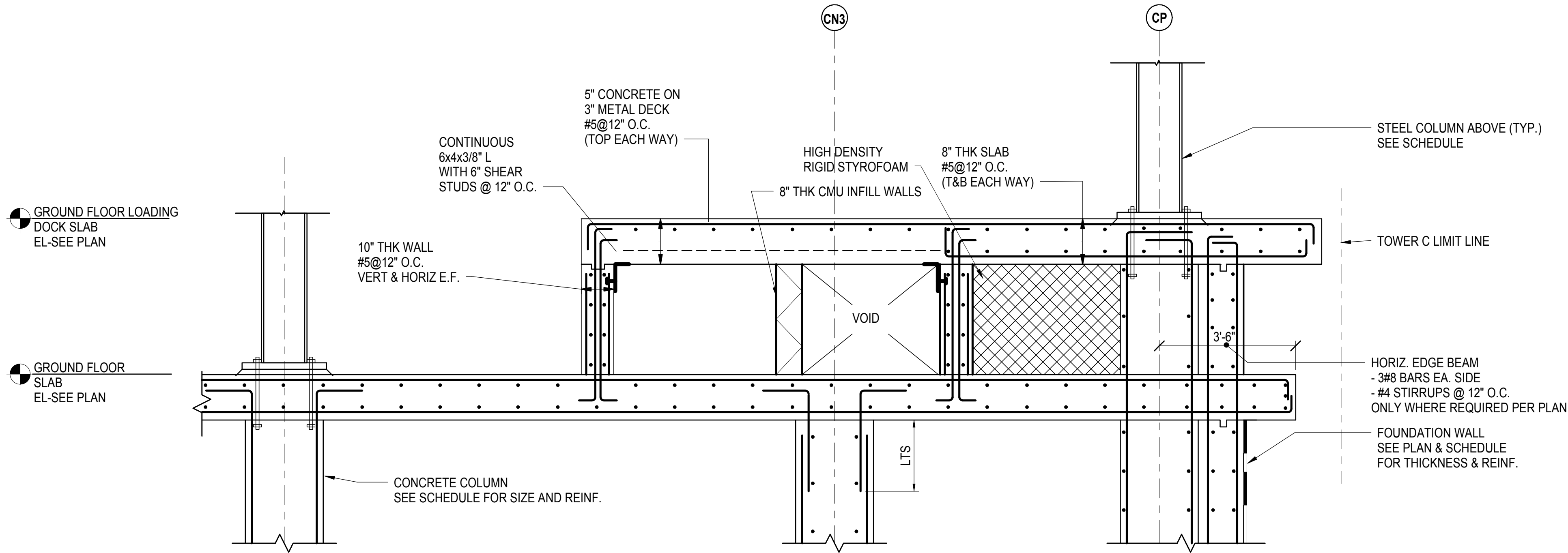
Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

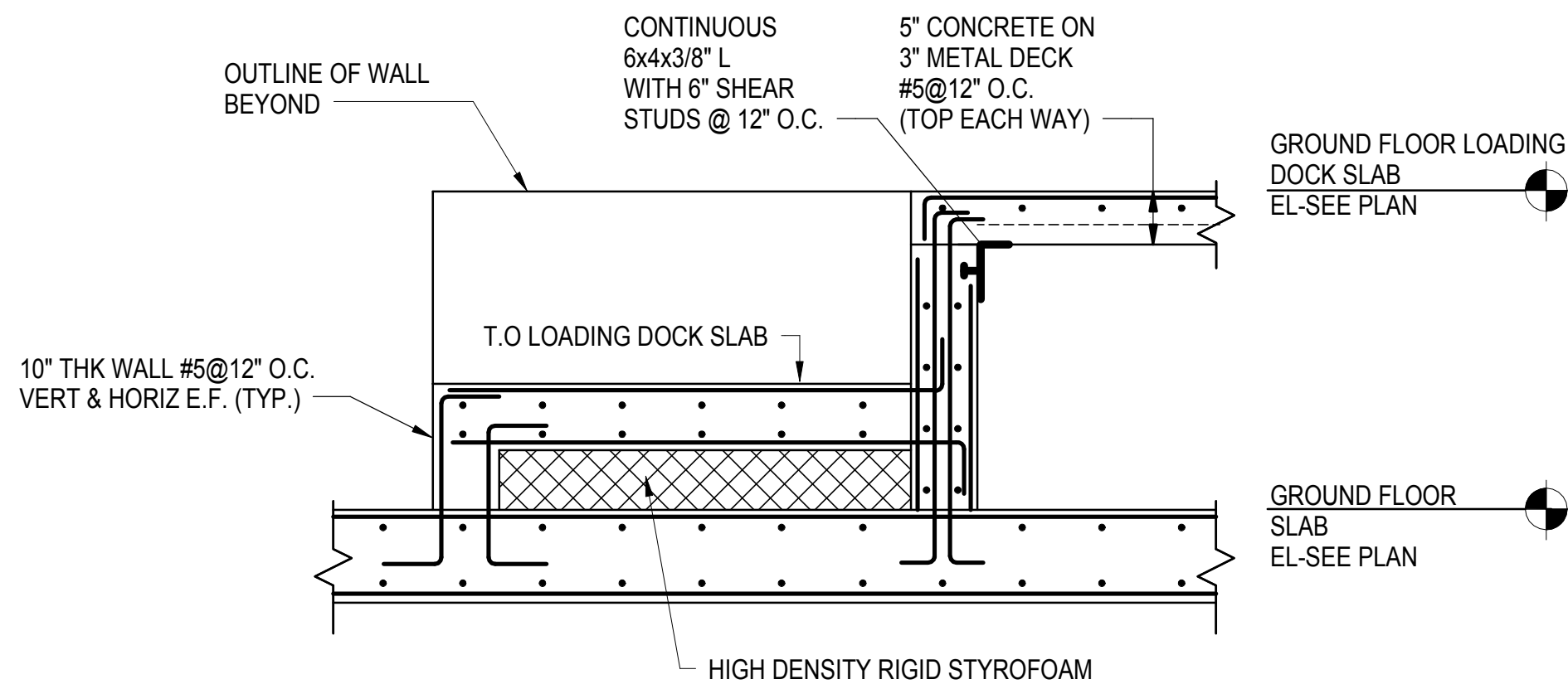
Construction Manager
Construction Manager Name
Address
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PCArchitects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

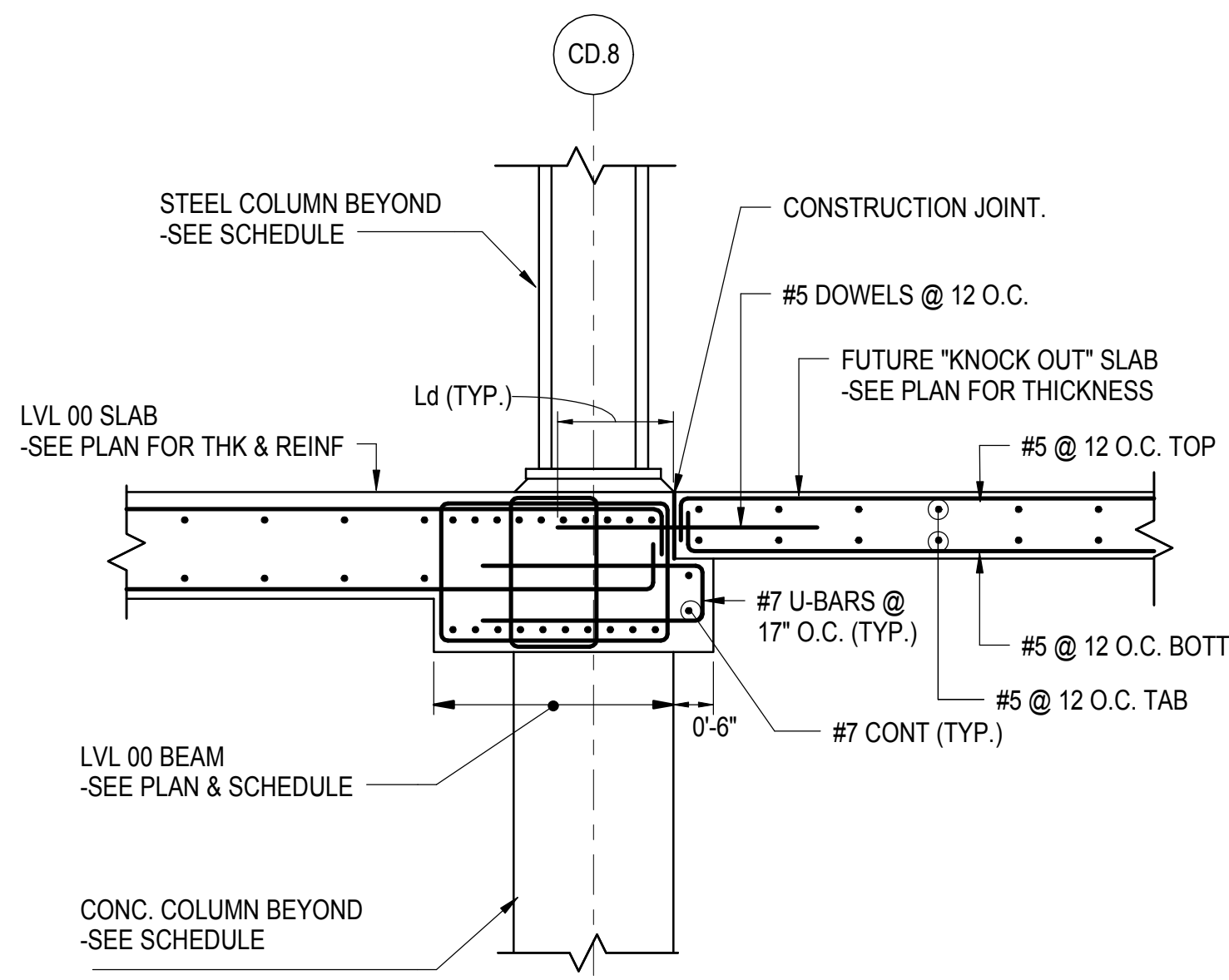
Mechanical, Electrical, Plumbing, Fire Protection
Jarvis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894



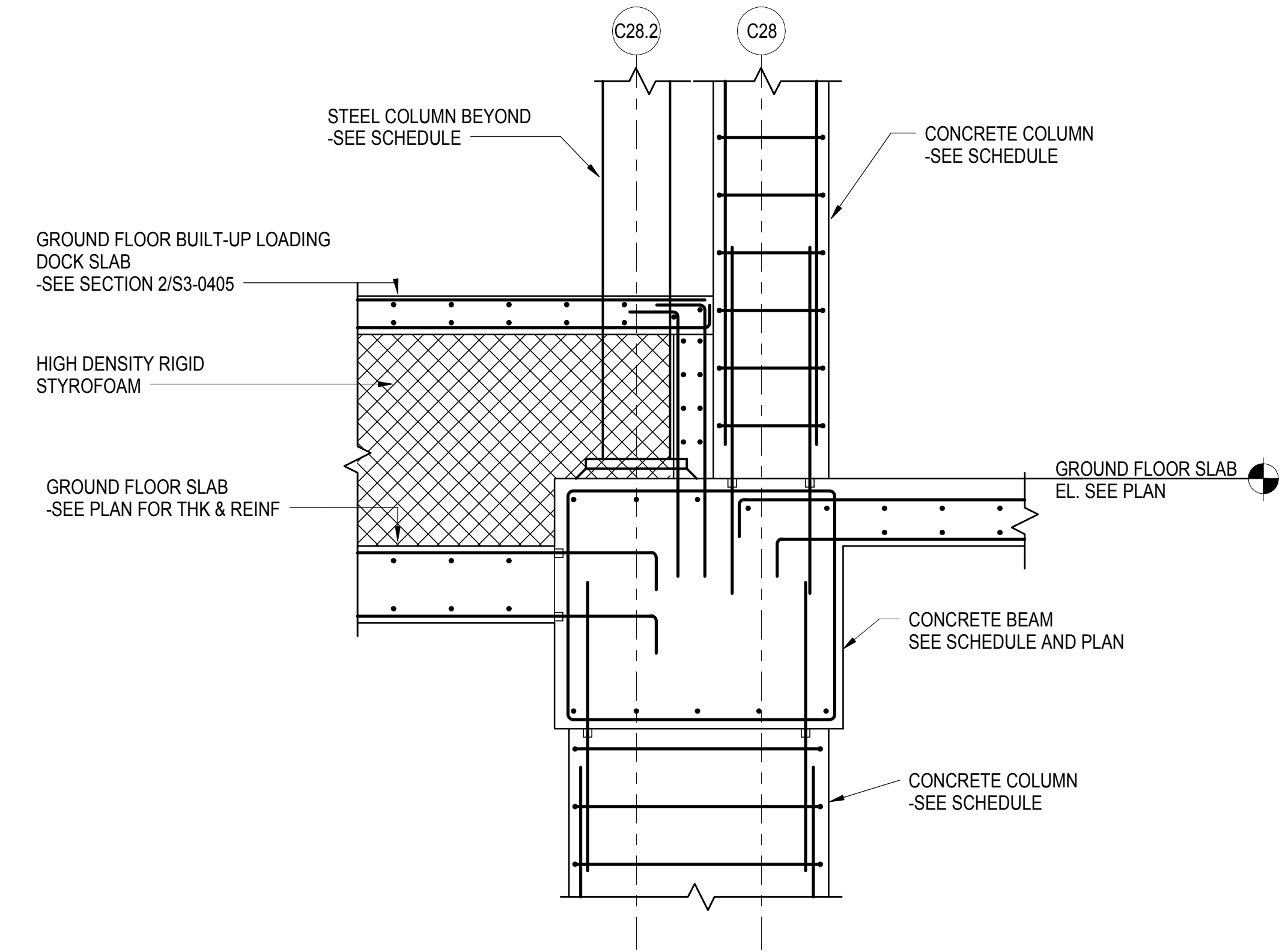
1 SECTION
1/2" = 1'-0"



2 SECTION
1/2" = 1'-0"



3 SECTION
1/2" = 1'-0"



4 SECTION
1/2" = 1'-0"

RE-ISSUE FOR FILING		02/04/2013
No.	Description	Date

Key Plan

Issue Date: 09/14/12
Project No: 1776.10
Drawn By: Author:
Sheet Number:



HYE -TC -S3-0405

Drawing Title

TERRAFIRMA SECTIONS V

Drawing Number

S3-0405

S-103.00

SHEET 22 OF 41



HUDSON YARDS -
TOWER C

501 WEST 30TH STREET
NEW YORK, NY

Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

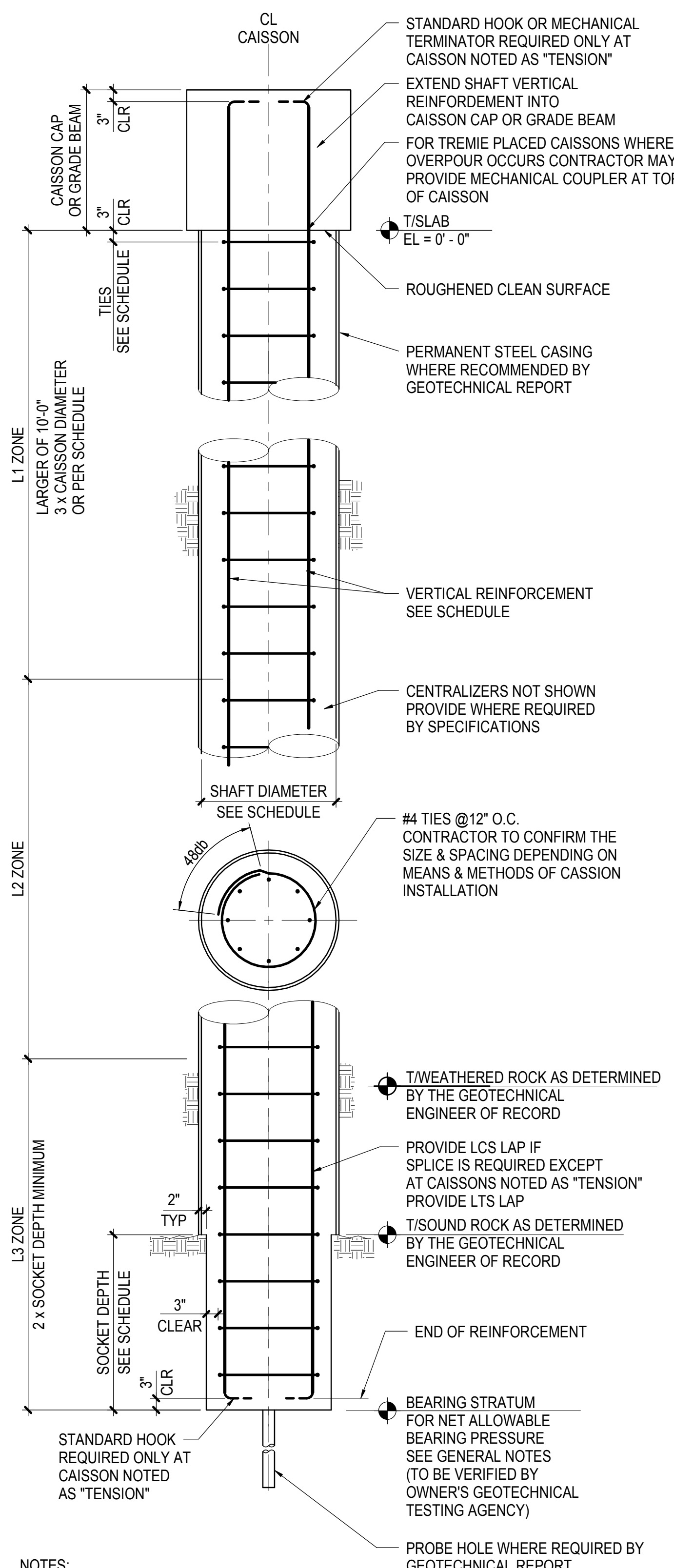
Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

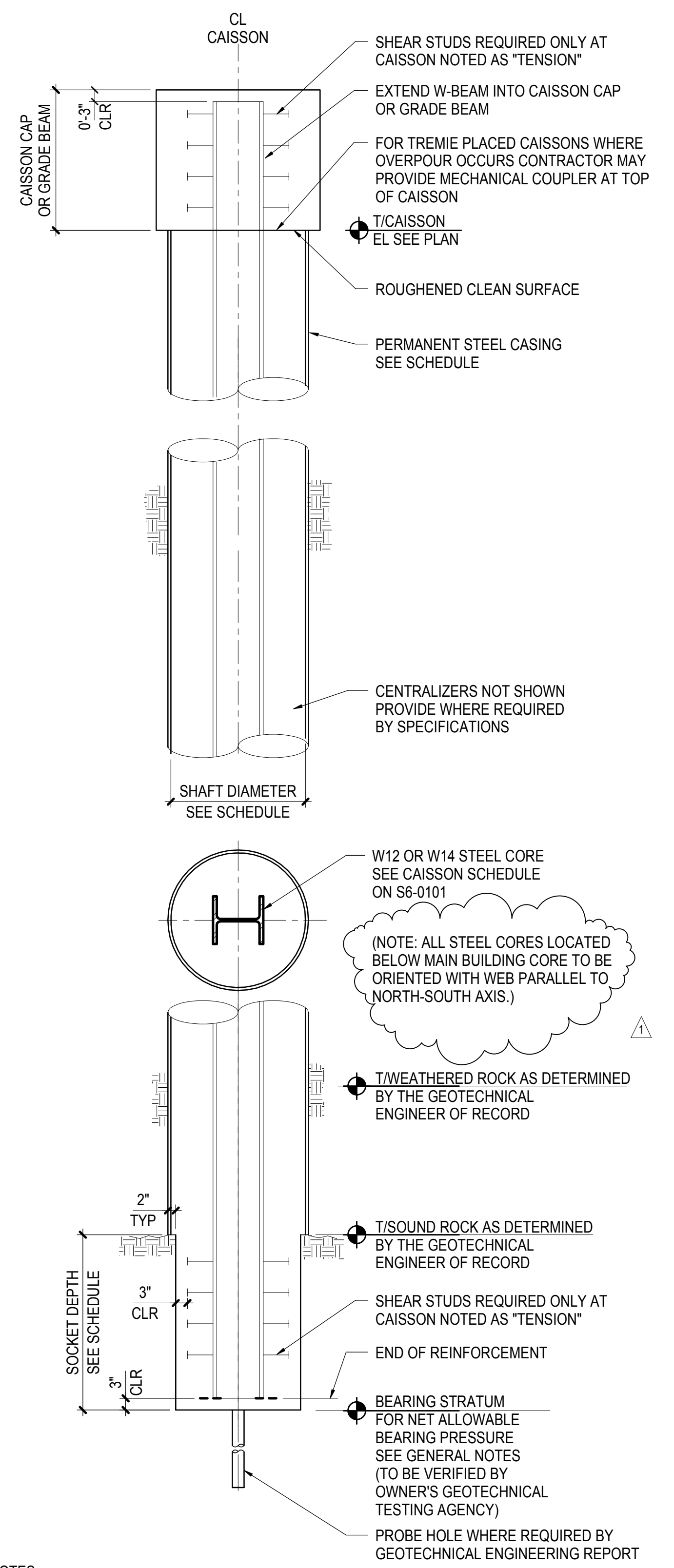
Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526

Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

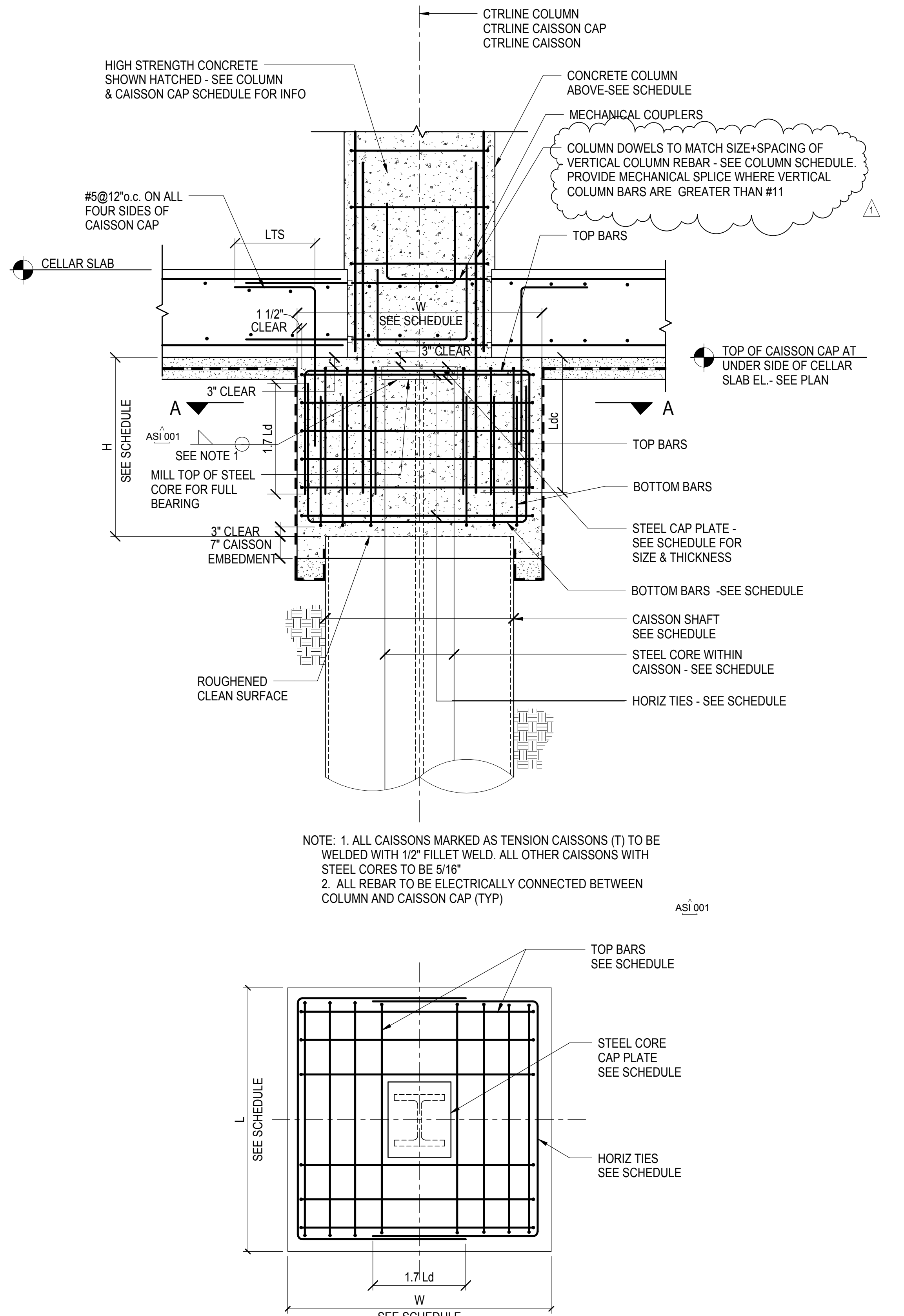
Mechanical, Electrical, Plumbing, Fire Protection
Jarvis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894



- NOTES:
- OWNER'S GEOTECHNICAL TESTING AGENCY SHALL VERIFY BEARING STRATA AT CAISSON
 - WHERE PROBE HOLES ARE REQUIRED, USE A MINIMUM DIAMETER AS NOTED IN GEOTECHNICAL REPORT AND A MINIMUM DEPTH OF 8 FEET GROUT EACH PROBE HOLE PRIOR TO INSTALLING CAISSON



- NOTES:
- OWNER'S GEOTECHNICAL TESTING AGENCY SHALL VERIFY BEARING STRATA AT CAISSON
 - WHERE PROBE HOLES ARE REQUIRED, USE A MINIMUM DIAMETER AS NOTED IN GEOTECHNICAL REPORT AND A MINIMUM DEPTH OF 8 FEET GROUT EACH PROBE HOLE PRIOR TO INSTALLING CAISSON
 - FOR CAISSONS WHICH INCLUDE STEEL CORES AND REBAR, ADOPT DETAILS FROM 1 & 2 / SS-0101.

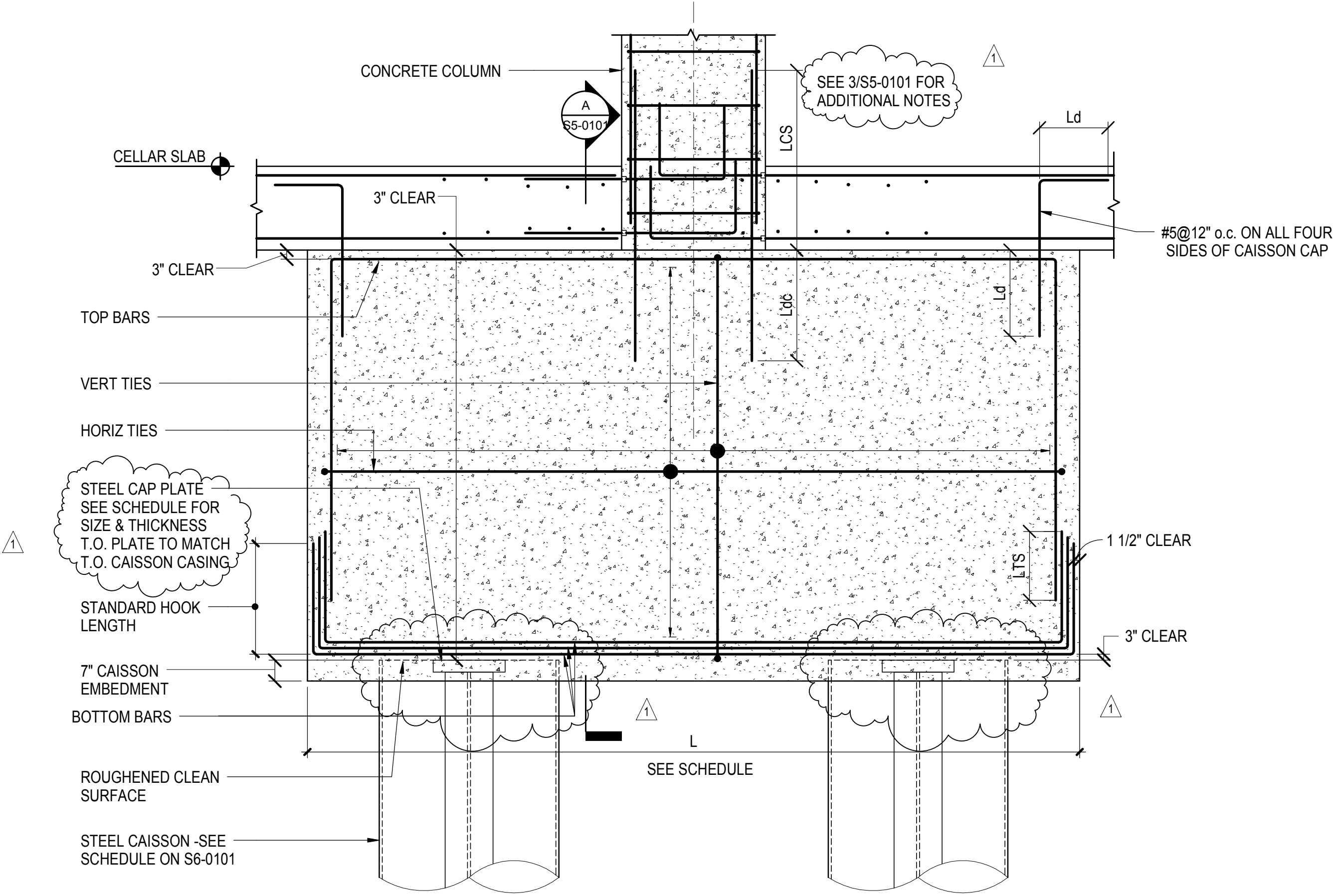


VIEW A-A

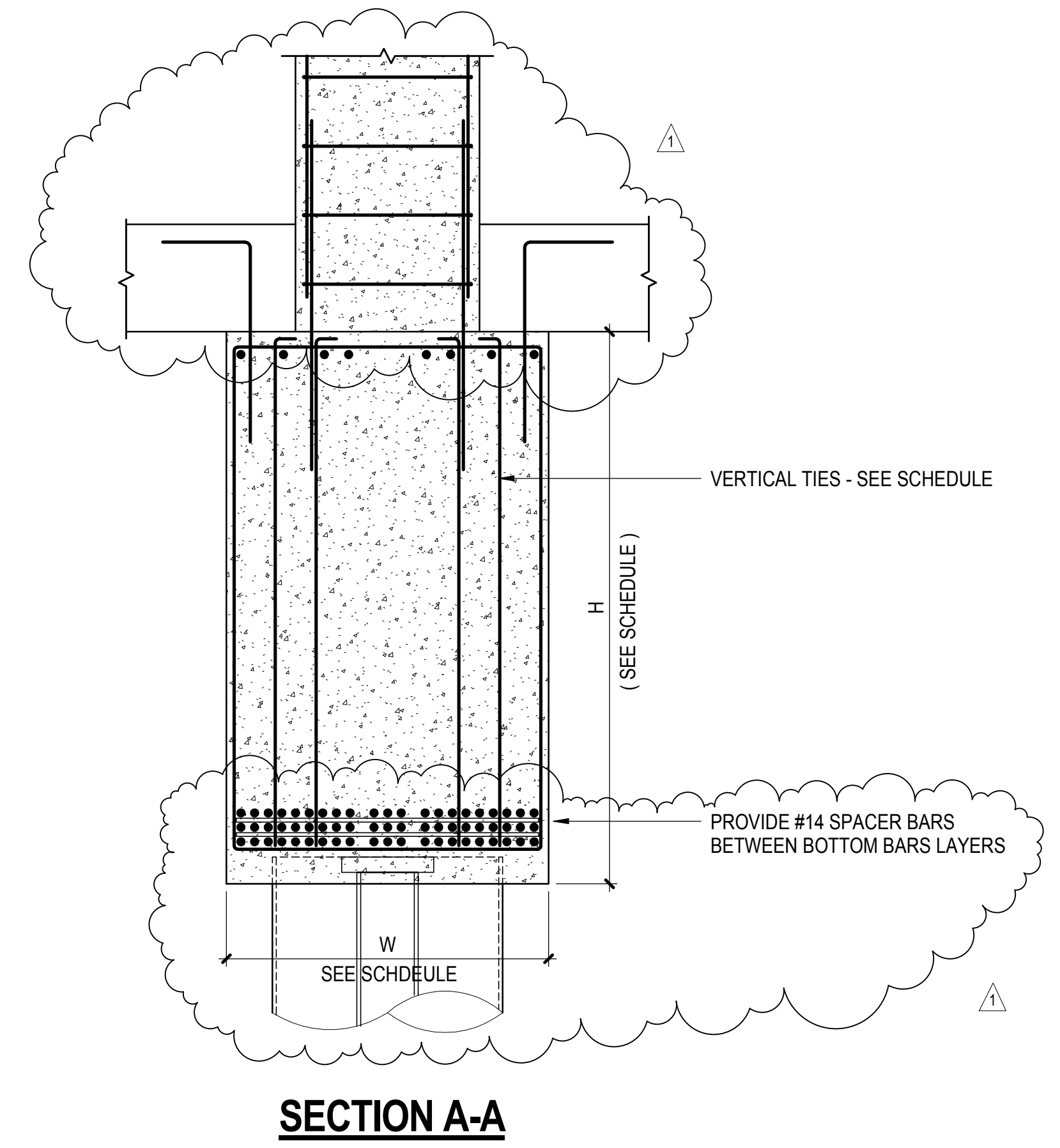
1 TYPICAL SOCKETED CAISSON IN CASED SHAFT - REBAR REINFORCED
NOT TO SCALE

2 TYPICAL SOCKETED CAISSON INCASED SHAFT - STEEL CORE REINFORCED
NOT TO SCALE

3 SINGLE CAISSON CAP REINFORCING LAYOUT
1/2" = 1'-0"



4 TWIN CAISSON CAP REINF LAYOUT
3/8" = 1'-0"

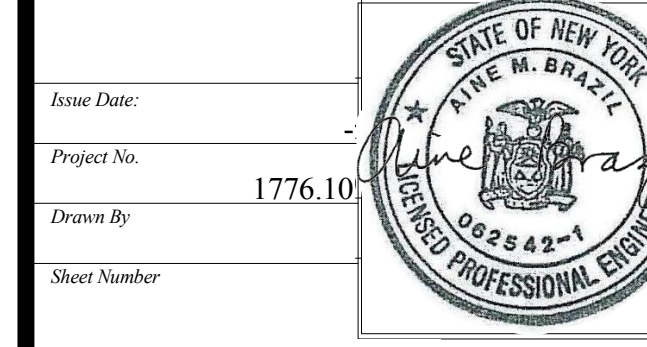


5 CAISSON CORE SHEAR STUD SPACING DETAIL
1 1/2" = 1'-0"

Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date/Time: Feb 6, 2013 - 3:21 PM
NYC Development Hub

	RE-ISSUE FOR FILING	02/04/2013
	ISSUE FOR FILING	09/19/2012
No.	Description	Date

Key Plan

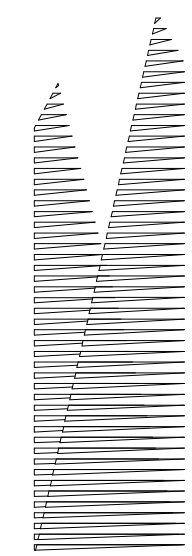


HYE-TC-SS-0101

FOUNDATION DETAILS I

Drawing Number
SS-0101

S-105.01 SHEET 24 OF 41



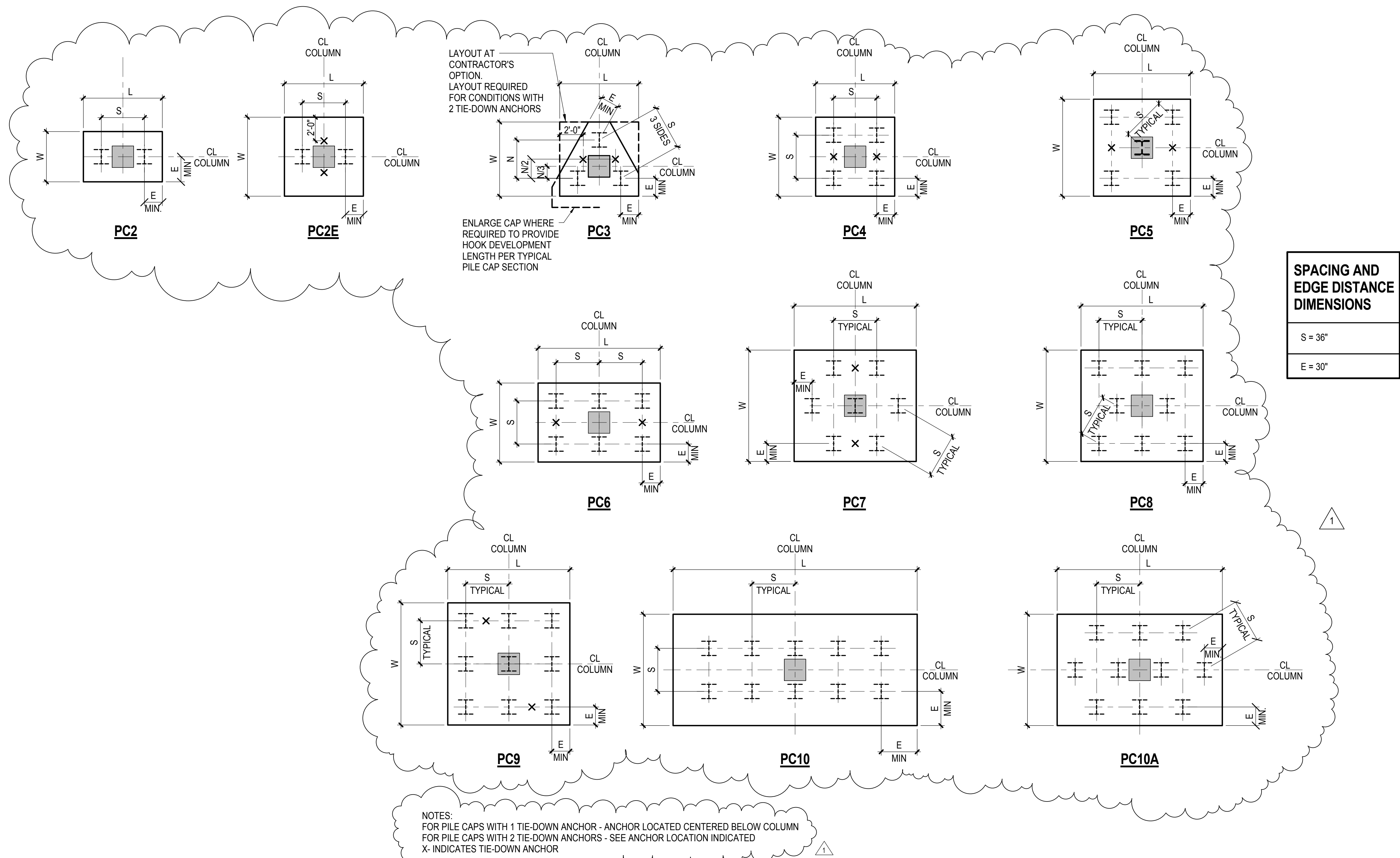
Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

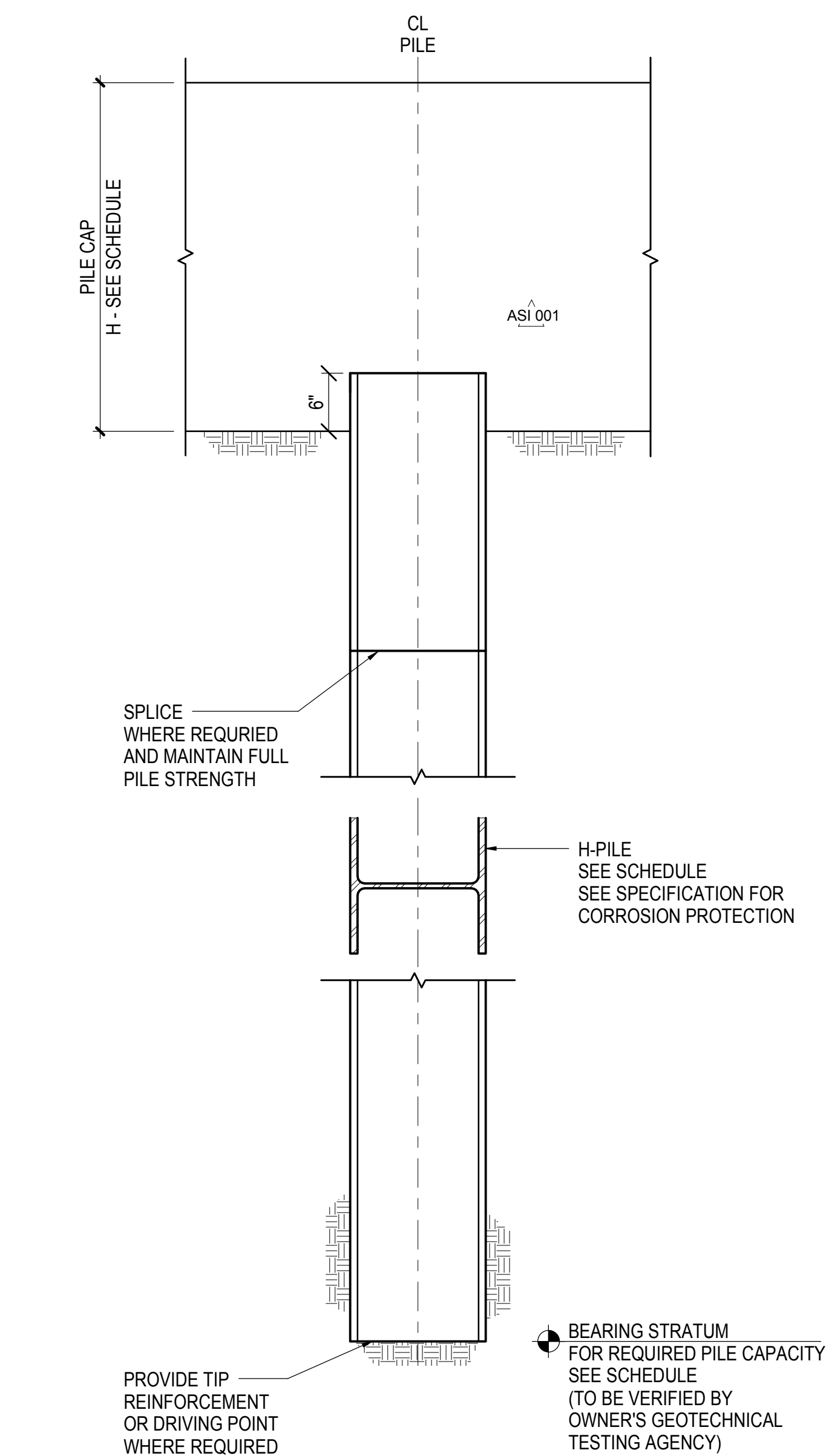
Construction Manager
Construction Manager Name
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

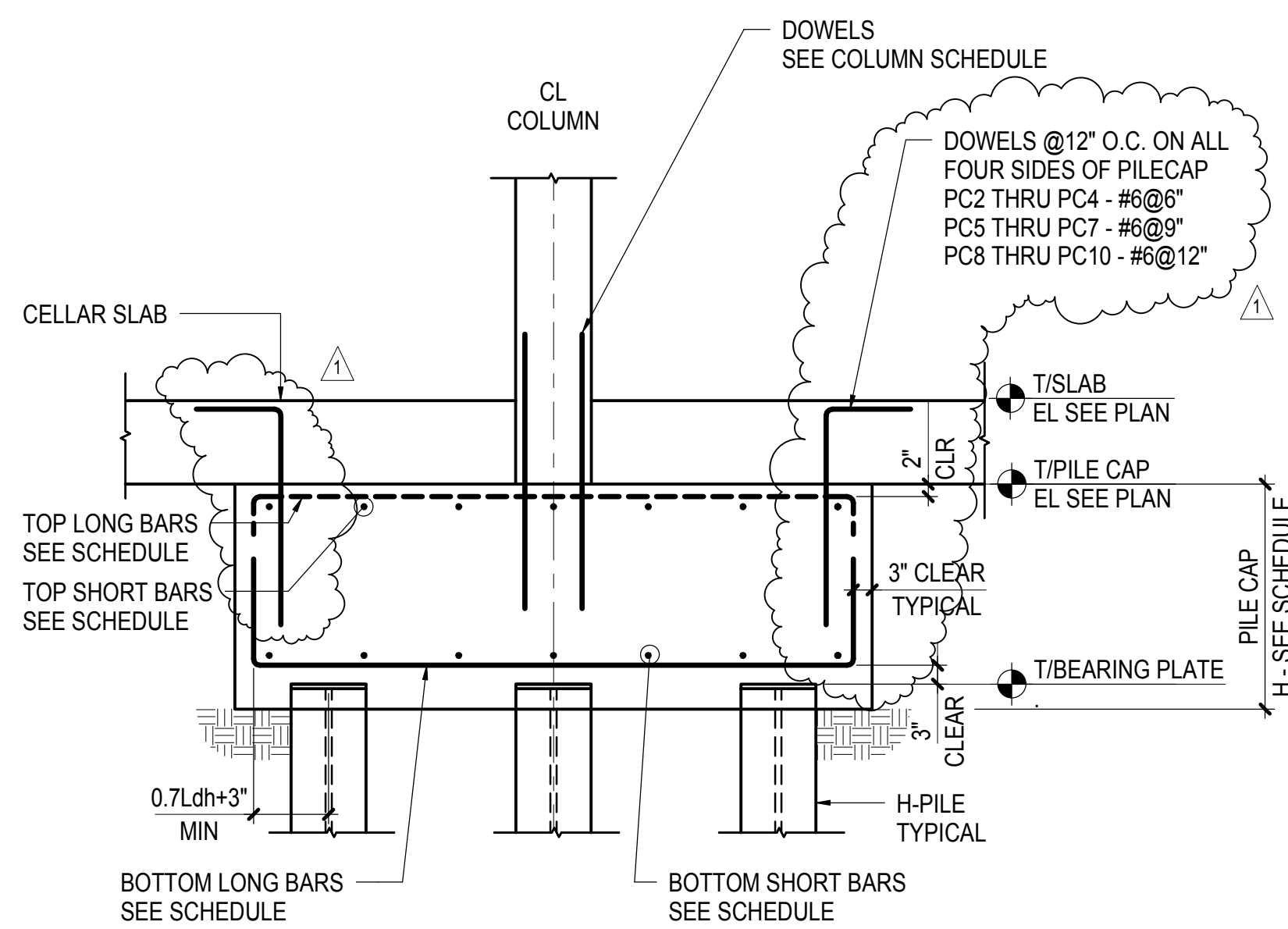
Mechanical, Electrical, Plumbing, Fire Protection
Jarvis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894



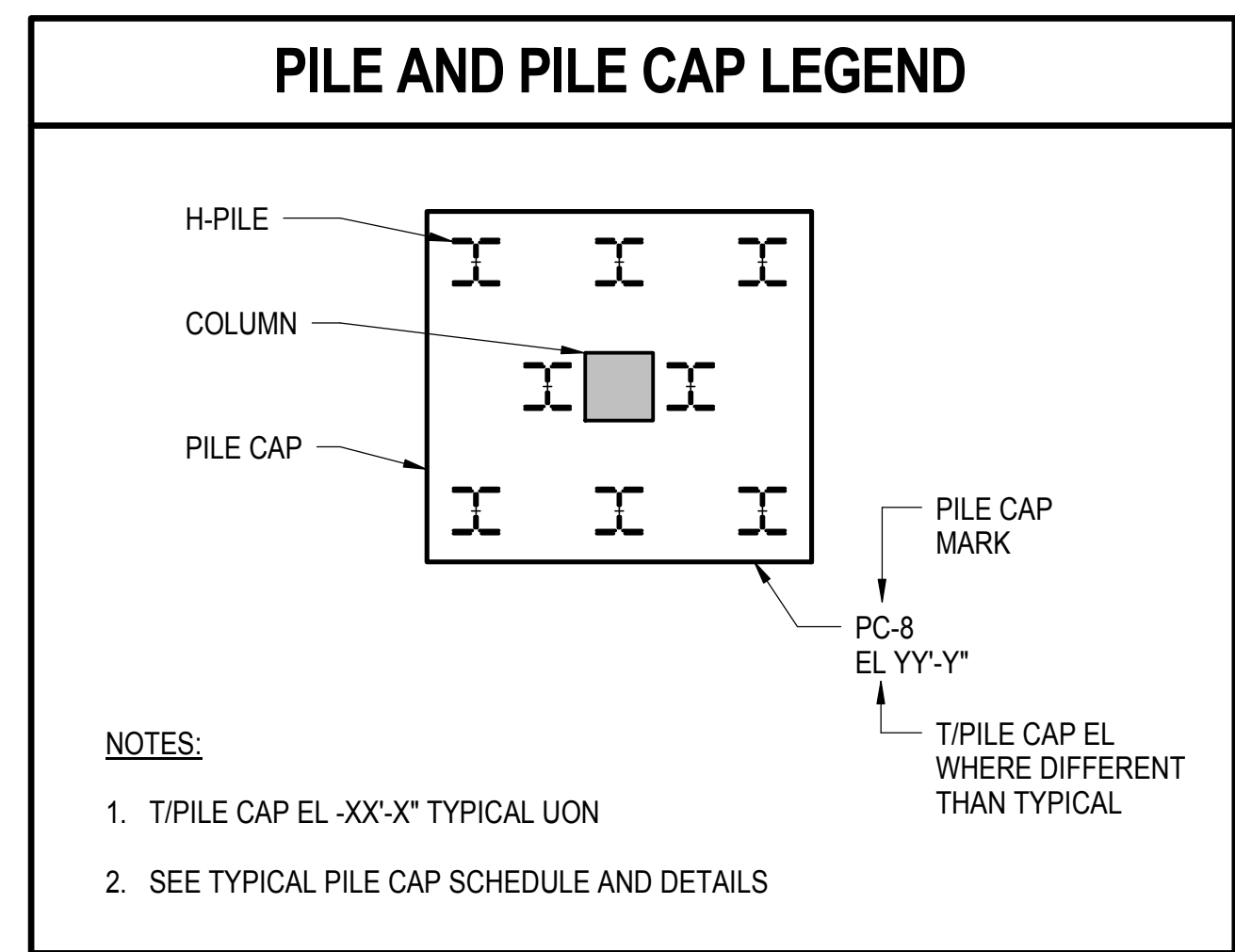
1 STEEL PILE CAP LAYOUT DETAILS
NOT TO SCALE



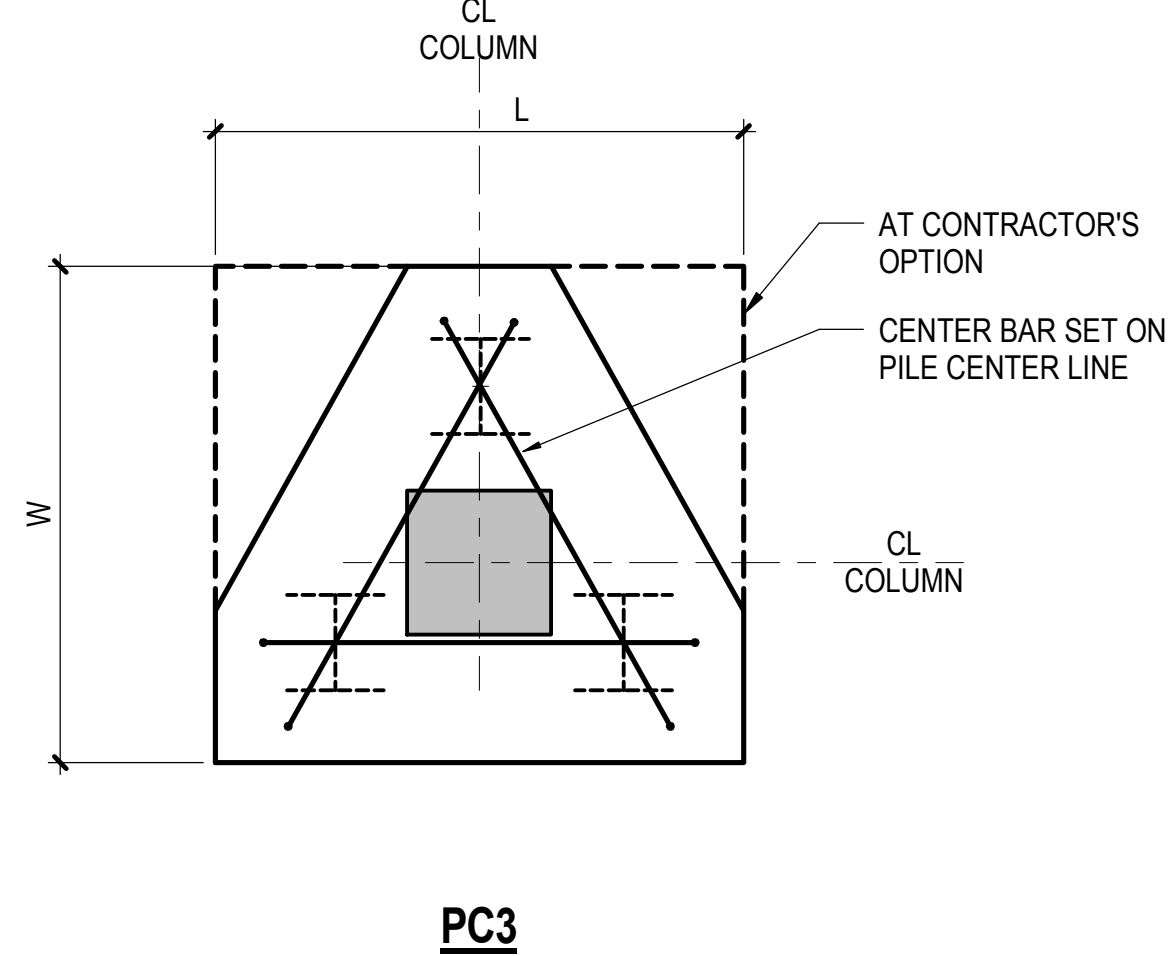
2 TYPICAL STEEL PILE DETAIL
NOT TO SCALE



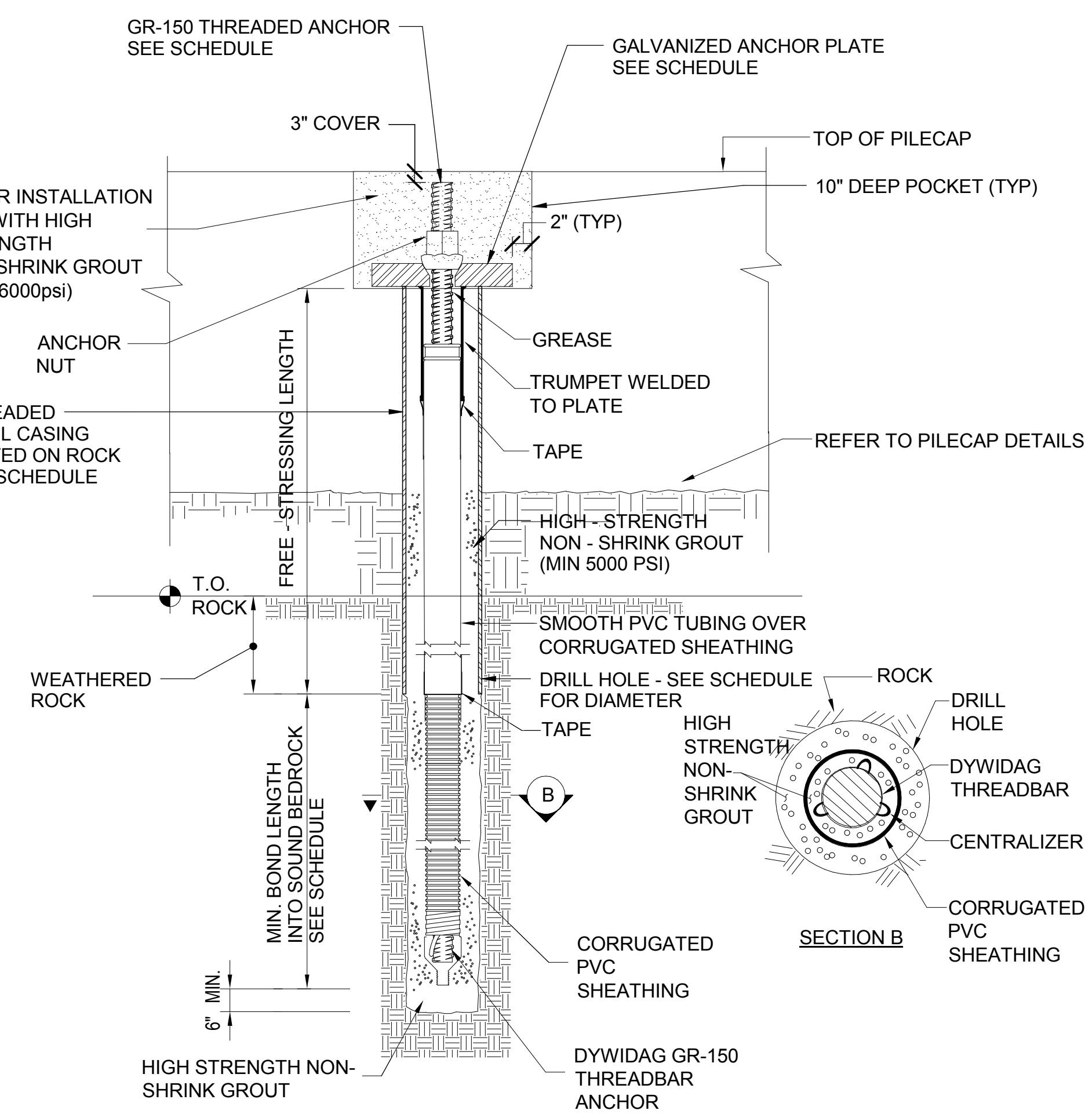
3 TYPICAL STEEL PILE CAP SECTION - CONCRETE COLUMN
NOT TO SCALE



4 PILE AND PILE CAP LEGEND
NOT TO SCALE



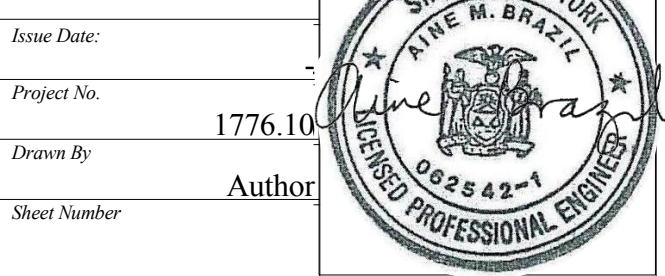
5 THREE PILE REINFORCEMENT LAYOUT
NOT TO SCALE



6 TYPICAL PILECAP THREADED ROCK ANCHOR DETAIL
3/4" = 1'-0"

RE-ISSUE FOR FILING	02/04/2013	
ISSUE FOR FILING	09/19/2012	
No.	Description	Date

Key Plan



HYE -TC -S5-0102

Drawing Title

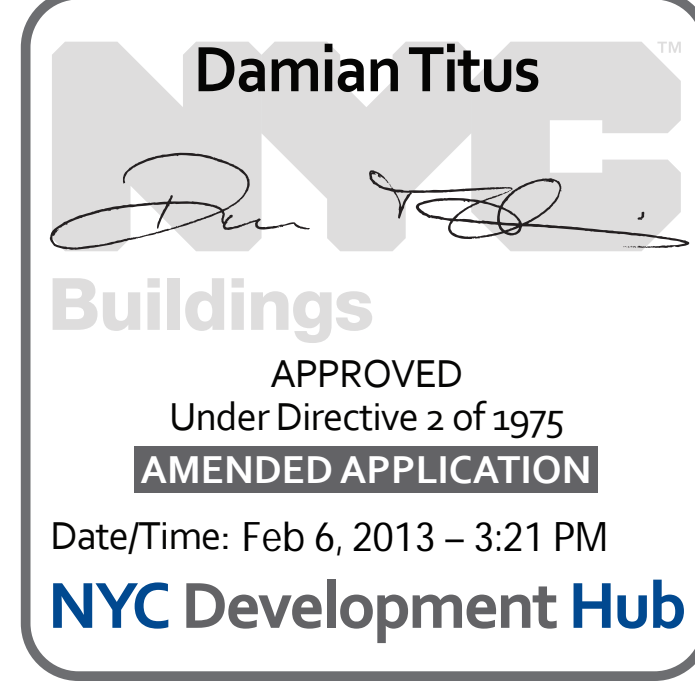
FOUNDATION DETAILS II

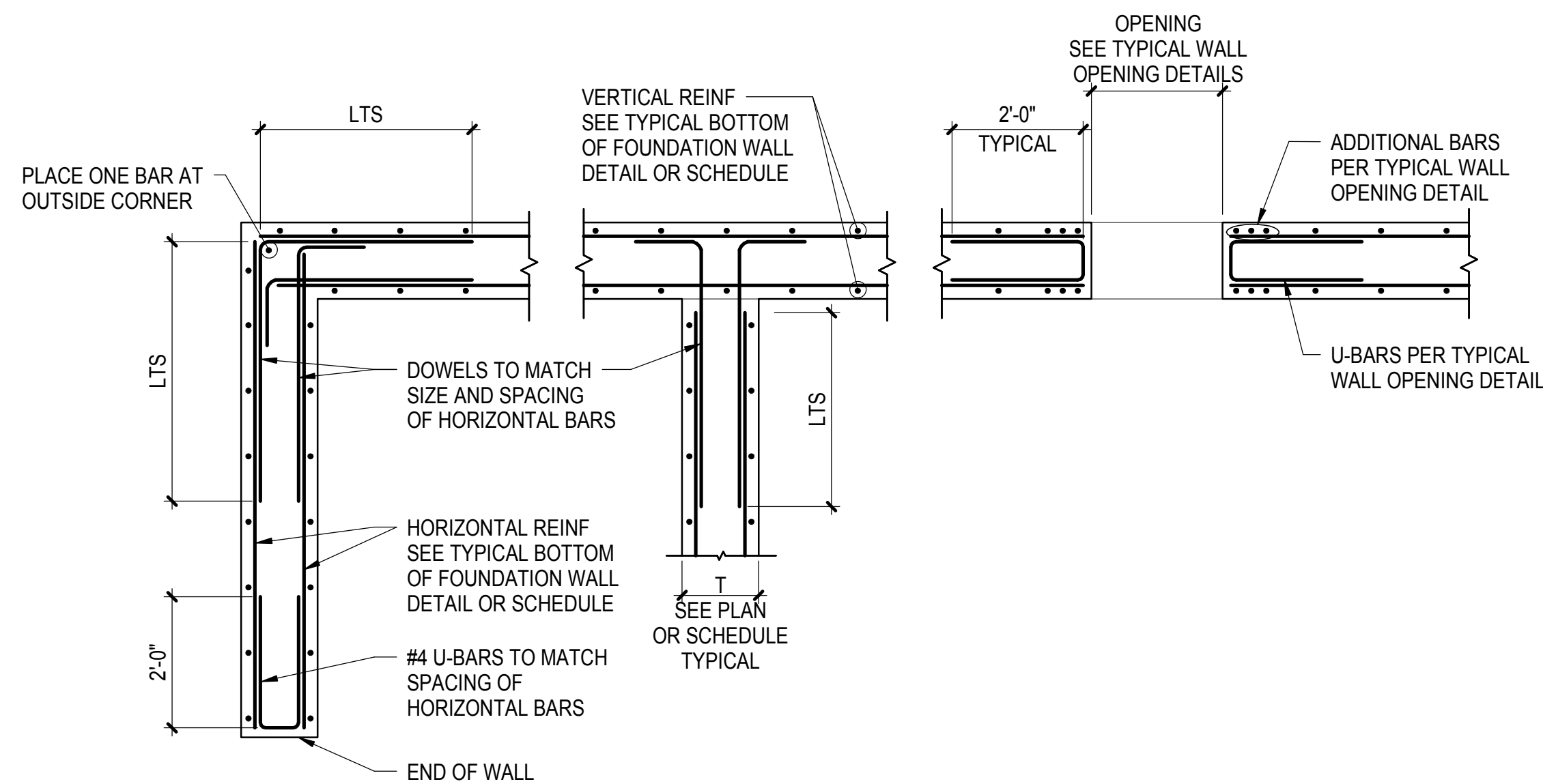
Drawing Number

S5-0102

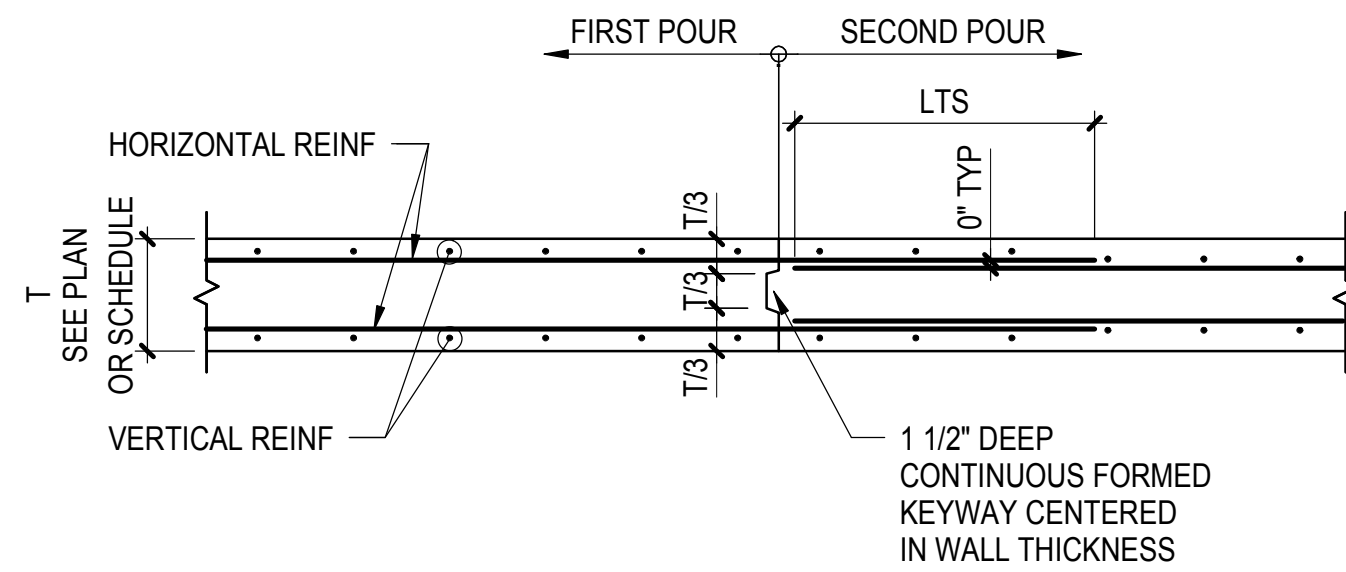
S-106.01

SHEET 25 OF 41



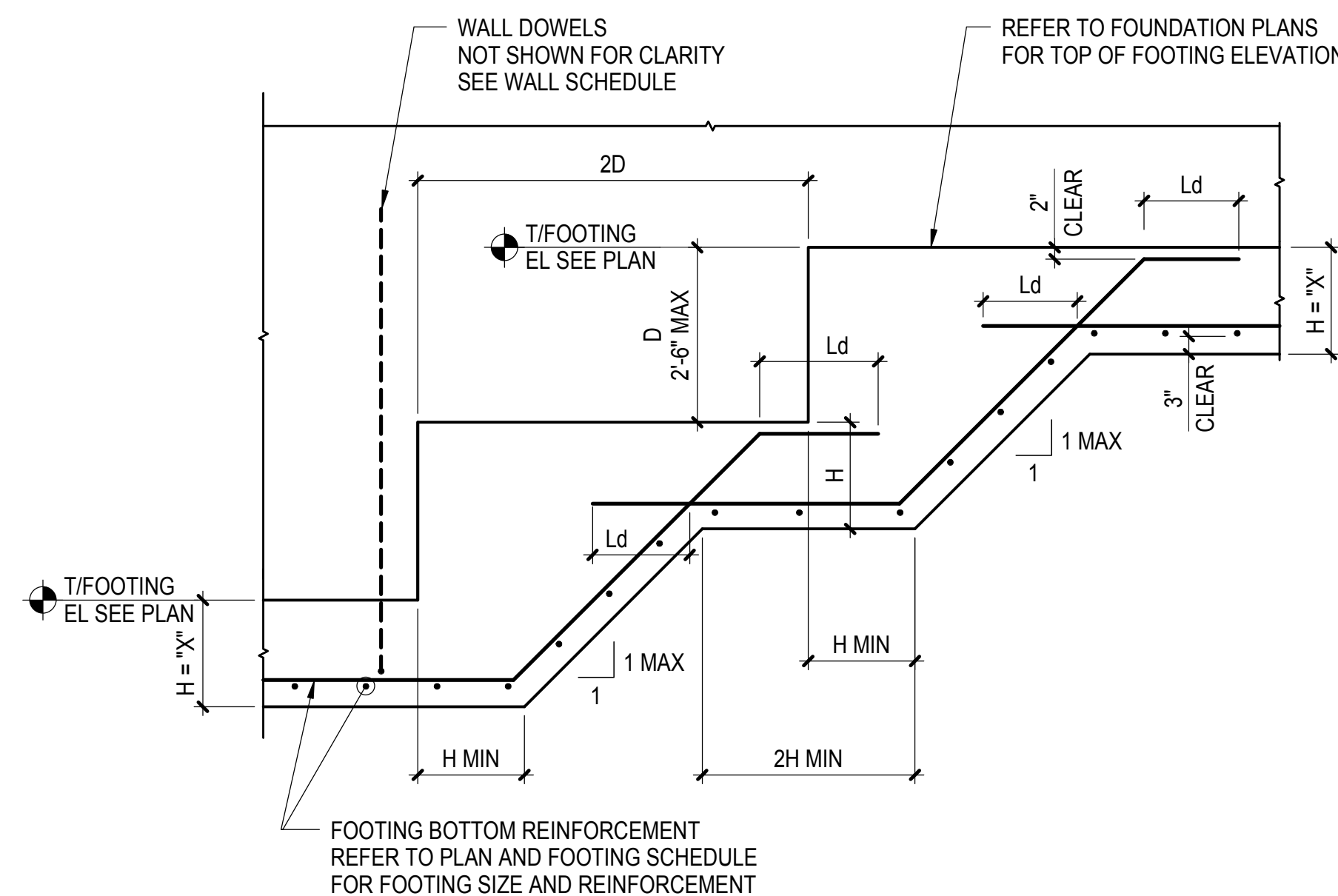


1 TYPICAL FOUNDATION WALL DETAIL - PLAN
NOT TO SCALE

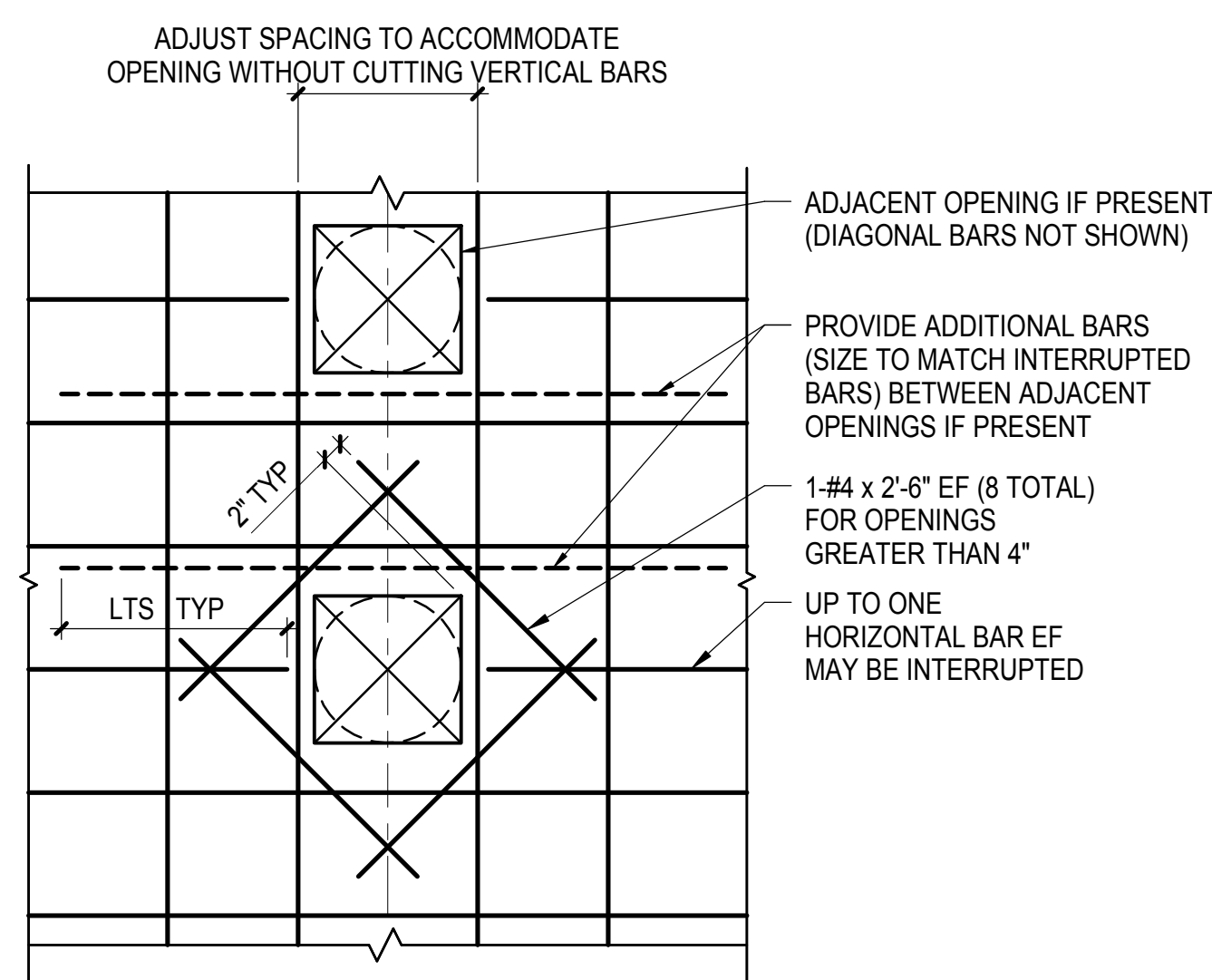


- NOTES:
1. SEE ARCHITECTURAL DOCUMENTS FOR WATERSTOP REQUIREMENTS
 2. SEE GENERAL NOTES FOR CONSTRUCTION JOINT MAXIMUM SPACING

2 TYPICAL VERTICAL CONSTRUCTION JOINT IN CONCRETE WALL
NOT TO SCALE

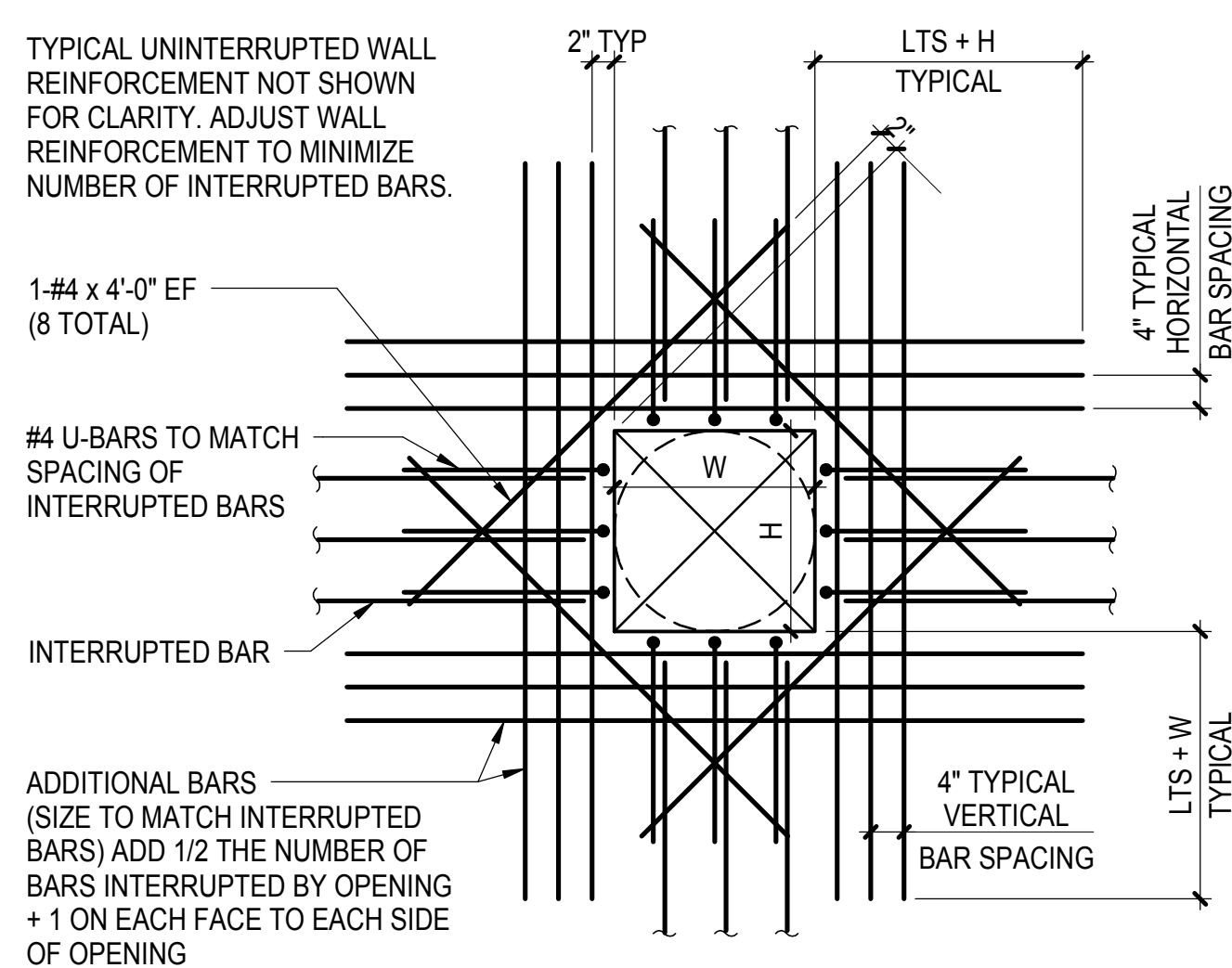


3 TYPICAL STEPPED WALL FOOTING DETAIL
NOT TO SCALE

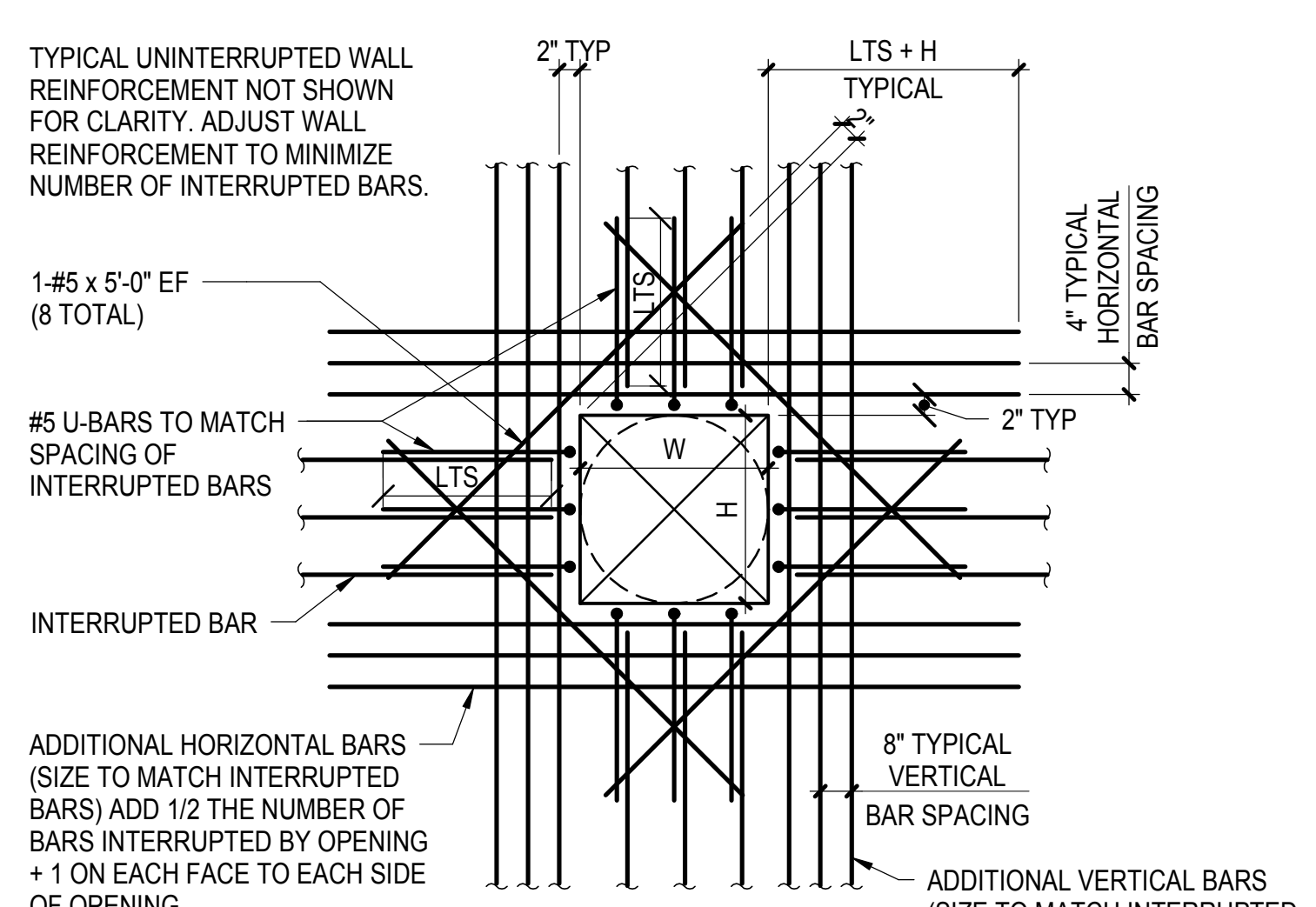


OPENING LESS THAN 10"

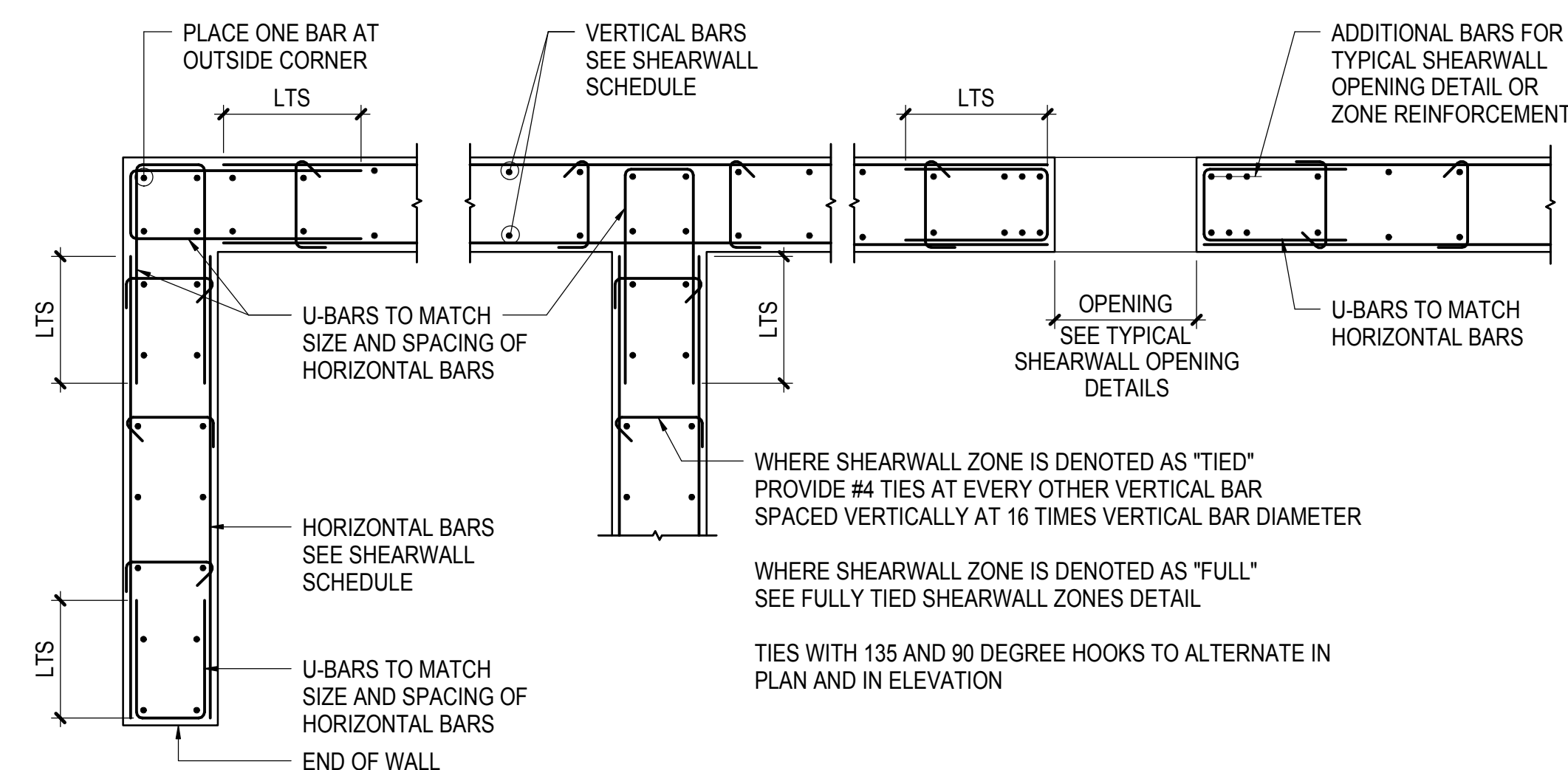
- NOTES:
1. MINIMUM CLEAR DISTANCE BETWEEN OPENINGS IS 2 TIMES MAXIMUM OPENING SIZE
 2. FOR OPENINGS NOT SHOWN ON STRUCTURAL DRAWINGS, CONTRACTOR TO SUBMIT LOCATIONS AND SPACING TO STRUCTURAL ENGINEER FOR WRITTEN APPROVAL



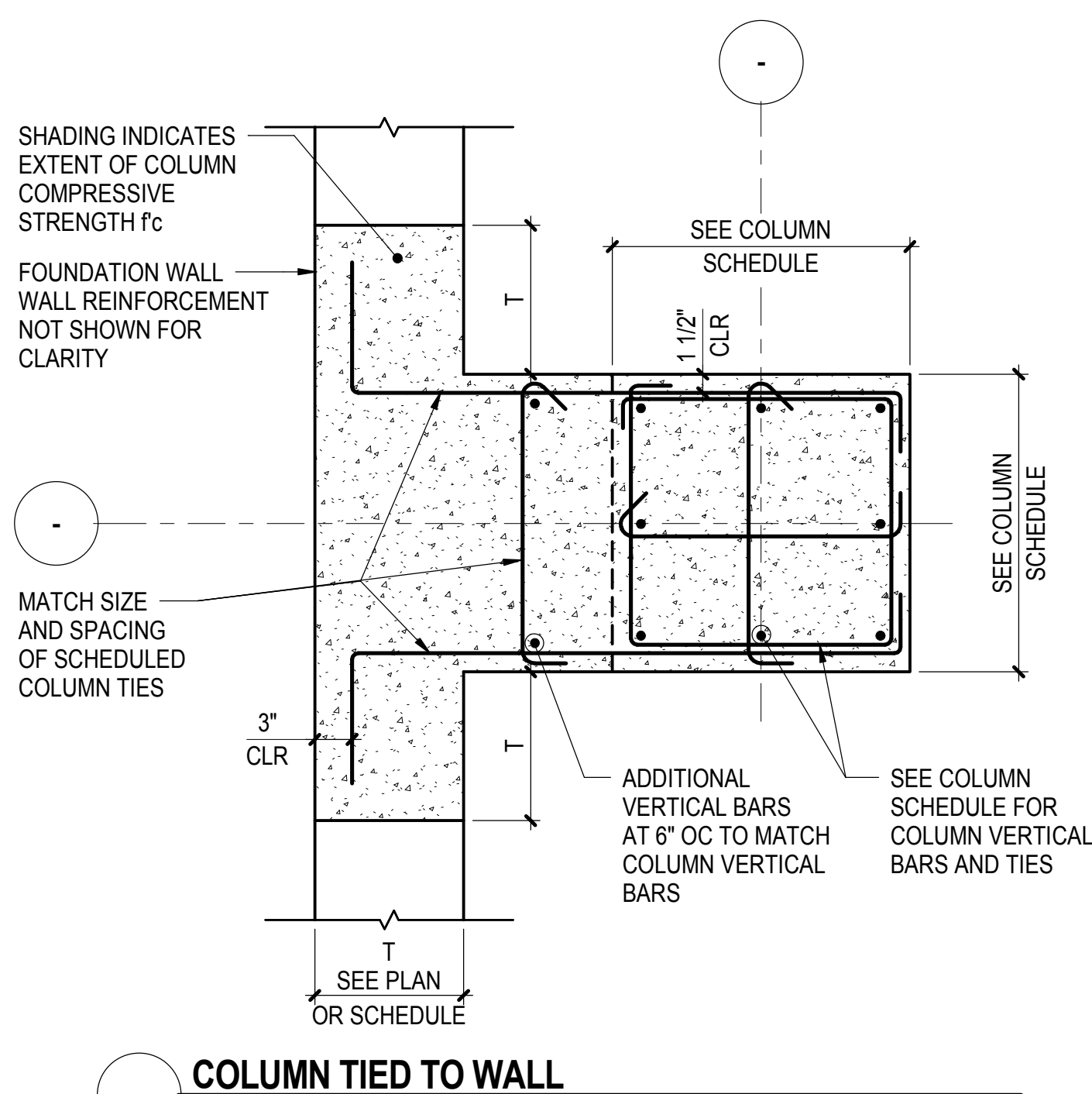
OPENING 10" TO 30"



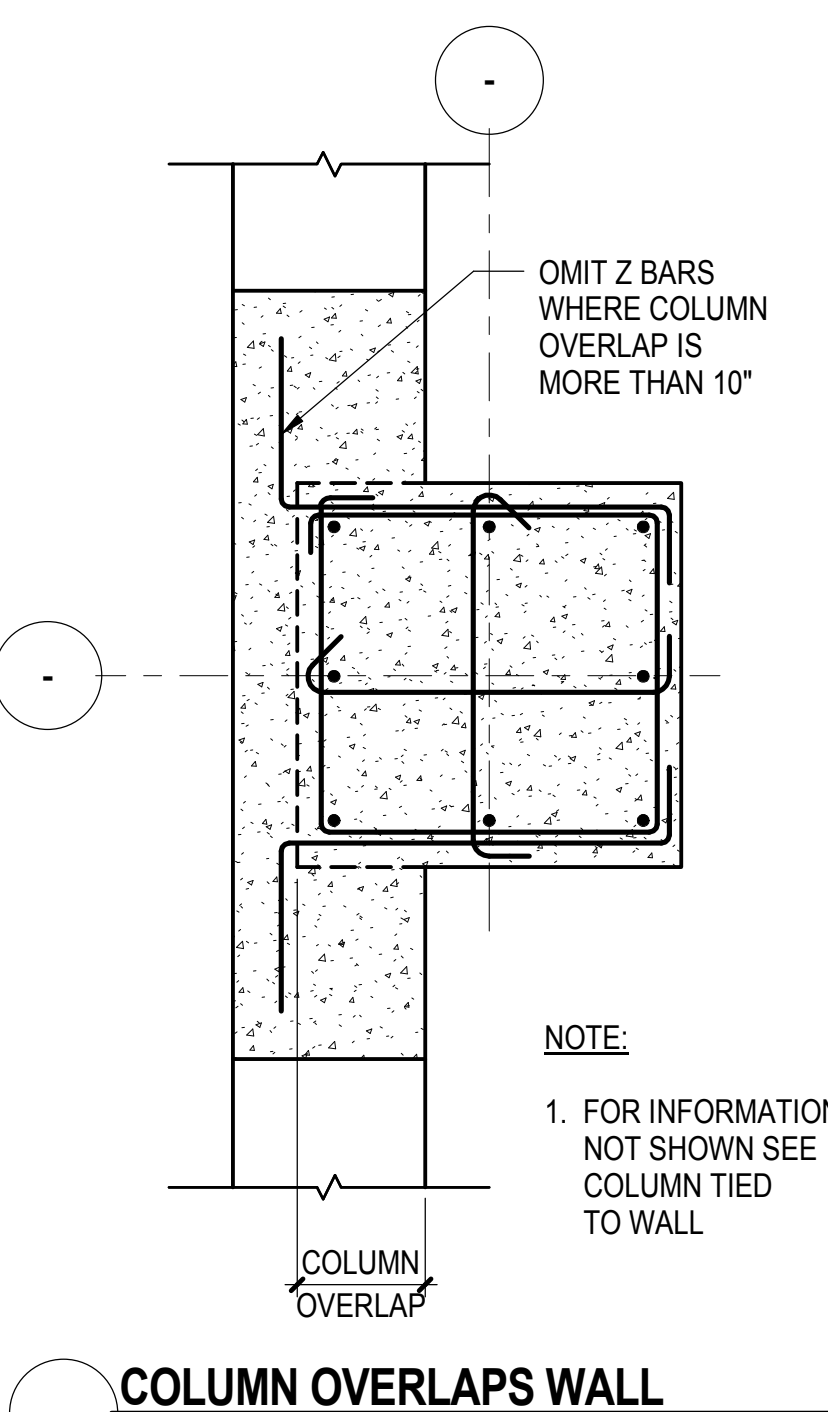
OPENING 3' TO 5' WIDE



5 TYPICAL REINFORCEMENT ARRANGEMENT - PLAN
NOT TO SCALE

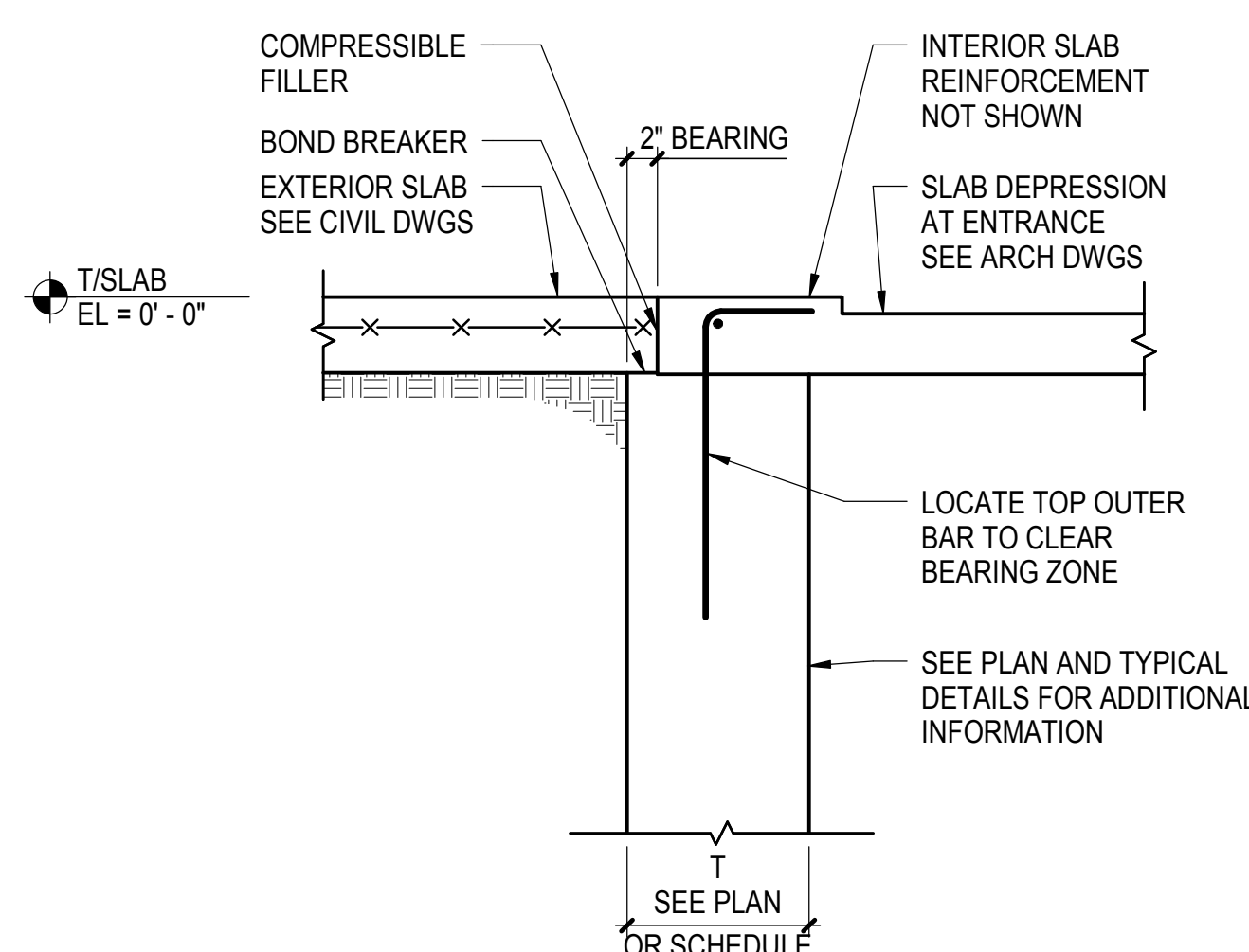


COLUMN TIED TO WALL

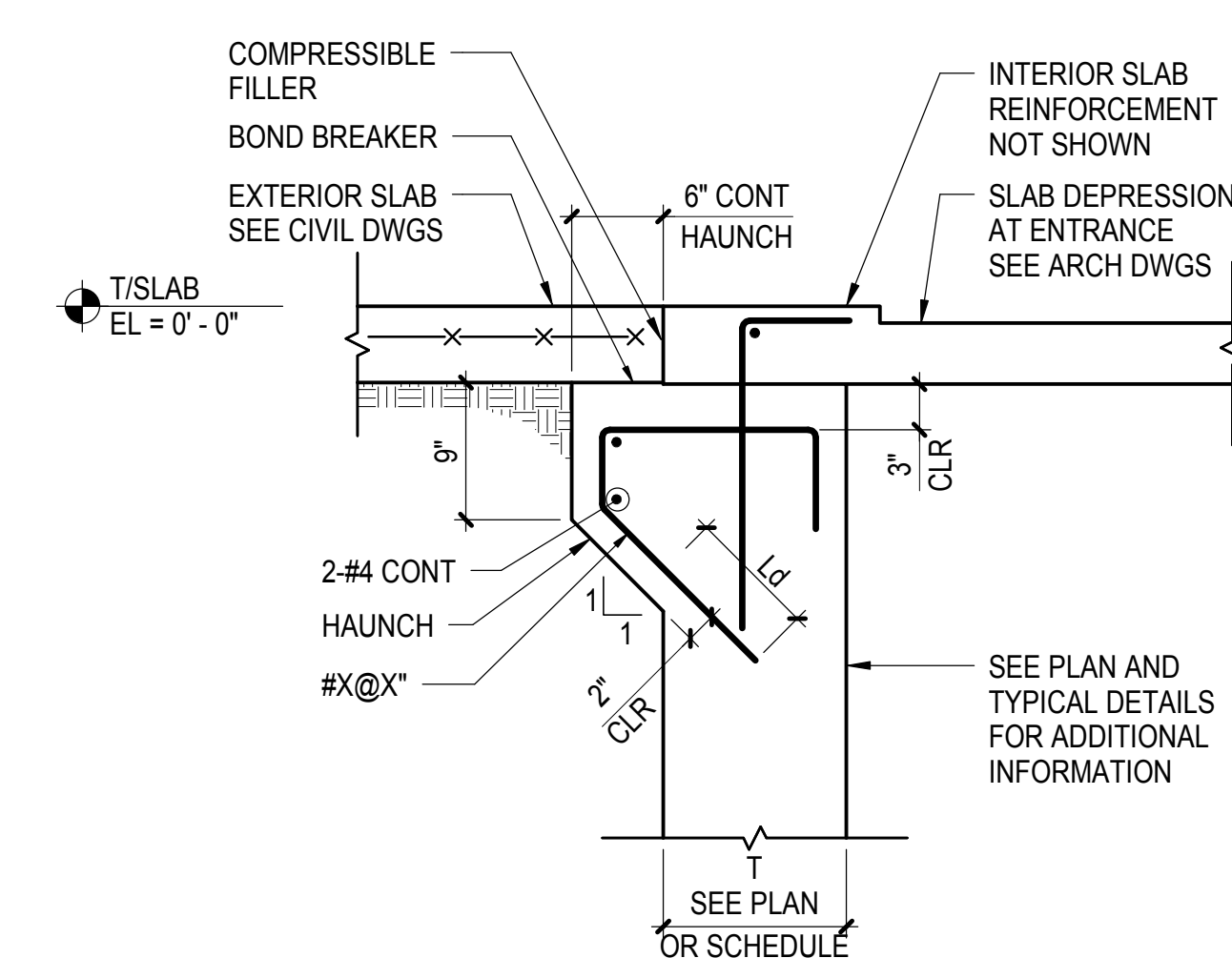


COLUMN OVERLAPS WALL

6 COLUMN OR PIER AT FOUNDATION WALL
NOT TO SCALE



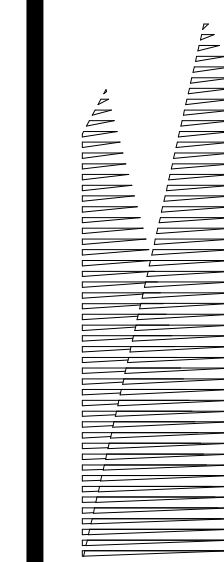
7 TYPICAL SECTION AT ENTRANCE
NOT TO SCALE



8 TYPICAL SECTION AT ENTRANCE WITH HAUNCH
NOT TO SCALE

HUDSON YARDS - TOWER C

501 WEST 30TH STREET
NEW YORK, NY



Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

Mechanical, Electrical, Plumbing, Fire Protection
Jarvis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894

	RE-ISSUE FOR FILING	02/04/2013
	ISSUE FOR FILING	09/19/2012
No.	Description	Date

Key Plan

Issue Date: _____
Project No: 1776.10
Drawn By: _____
Sheet Number: _____
Author: _____

HYE-TC-S5-0103

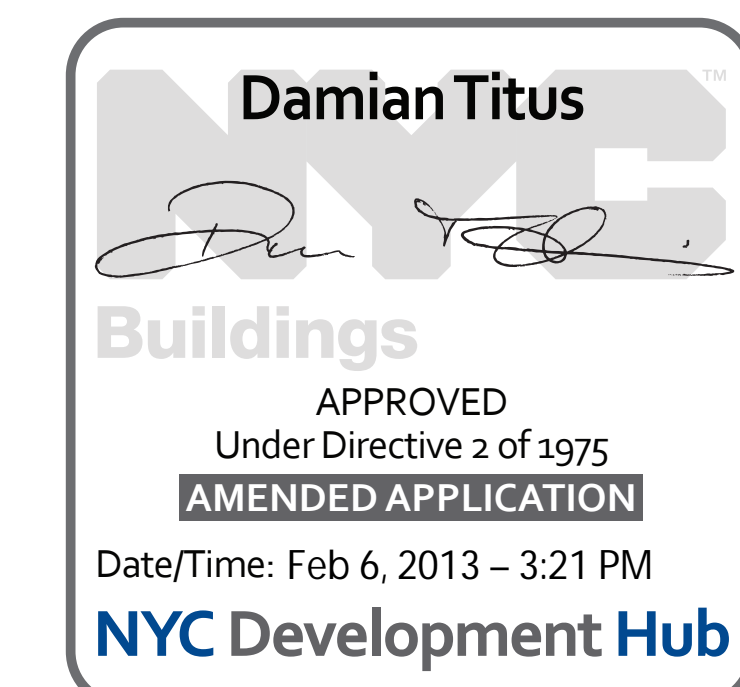
Drawing Title

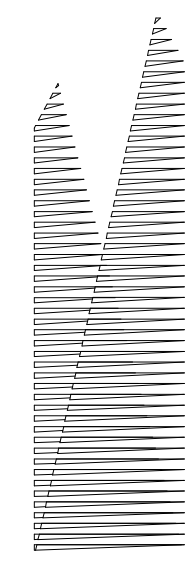
FOUNDATION DETAILS III

Drawing Number
S5-0103

Sheet (Drawing Number)
S-107.01

SHEET 26 OF 41





Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801
Mechanical, Electrical, Plumbing, Fire Protection
Jarvis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894

	RE-ISSUE FOR FILING	02/04/2013
	ISSUE FOR FILING	09/19/2012
No.	Description	Date

Key Plan

Date:	
Project No:	1776.10
Drawn By:	Author
Sheet Number	

HYE -TC -S5-0104

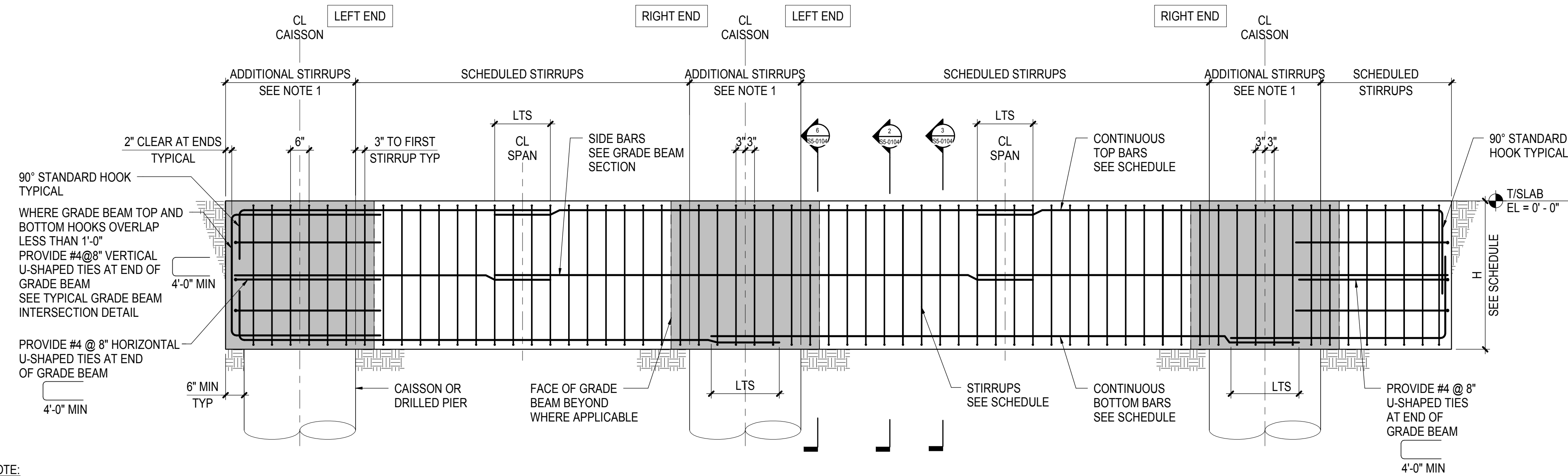
Drawing Title

FOUNDATION DETAILS IV

Drawing Number
S5-0104

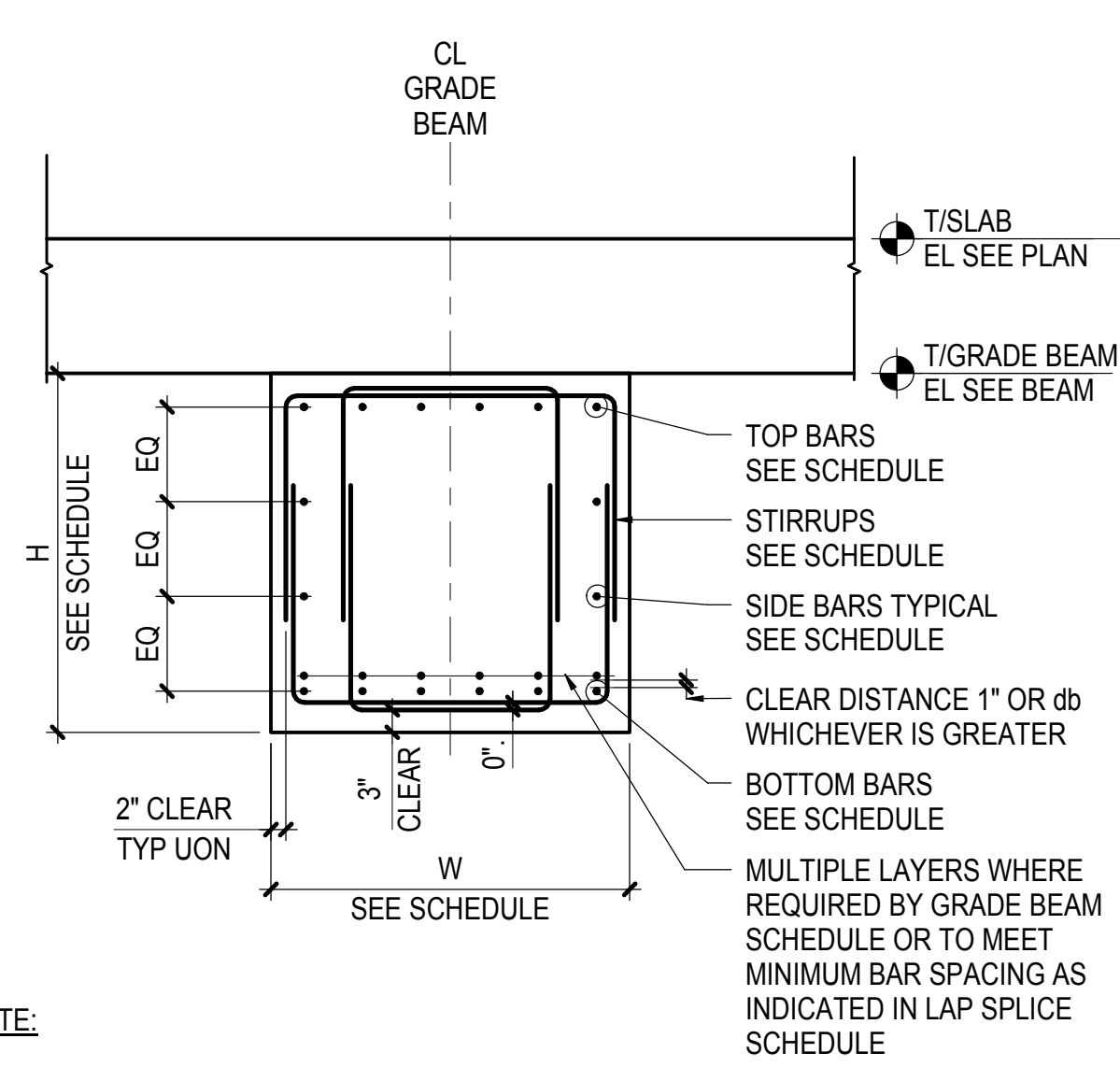
S-108.01

SHEET 27 OF 41



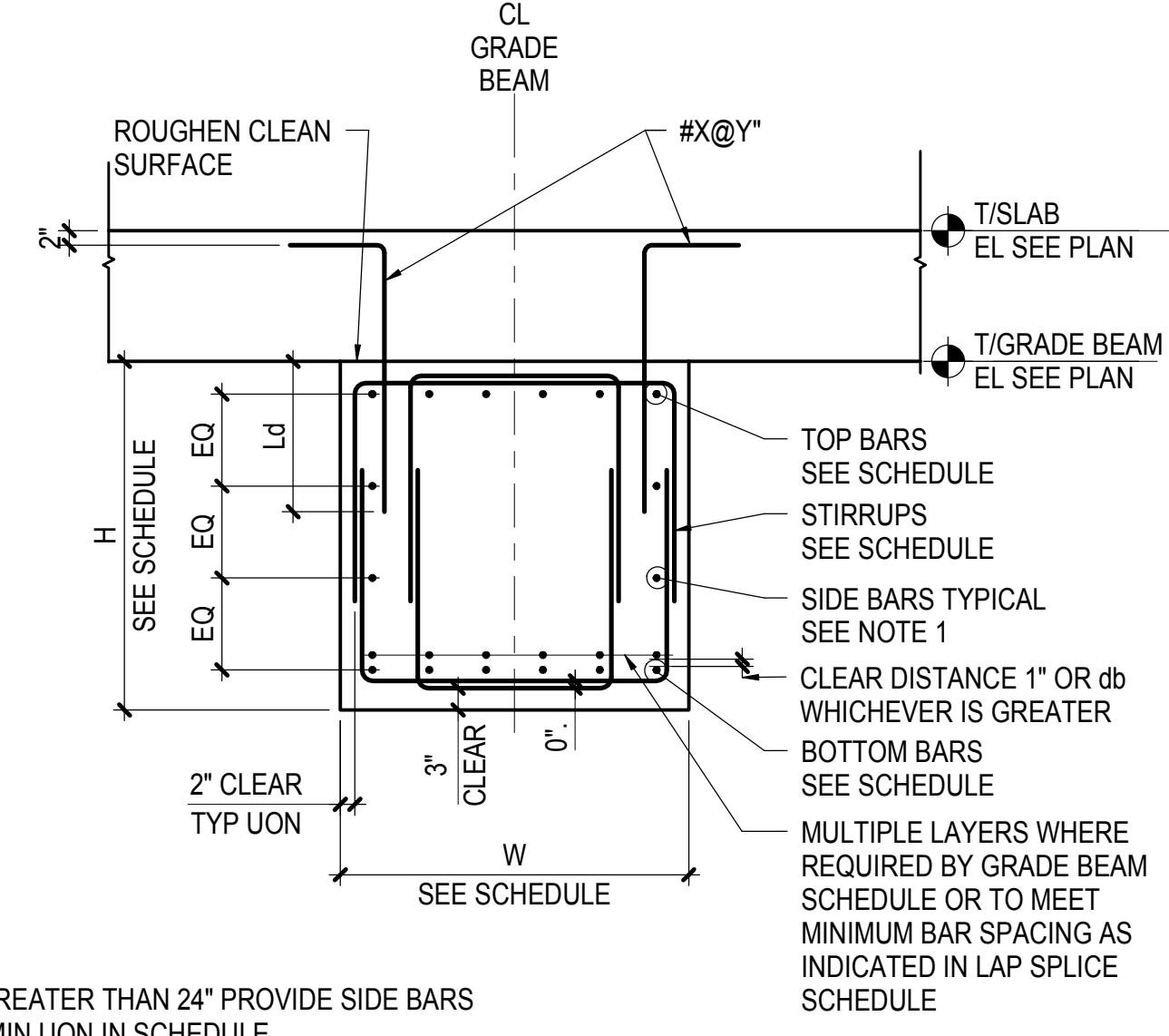
1 TYPICAL GRADE BEAM ELEVATION

NOT TO SCALE



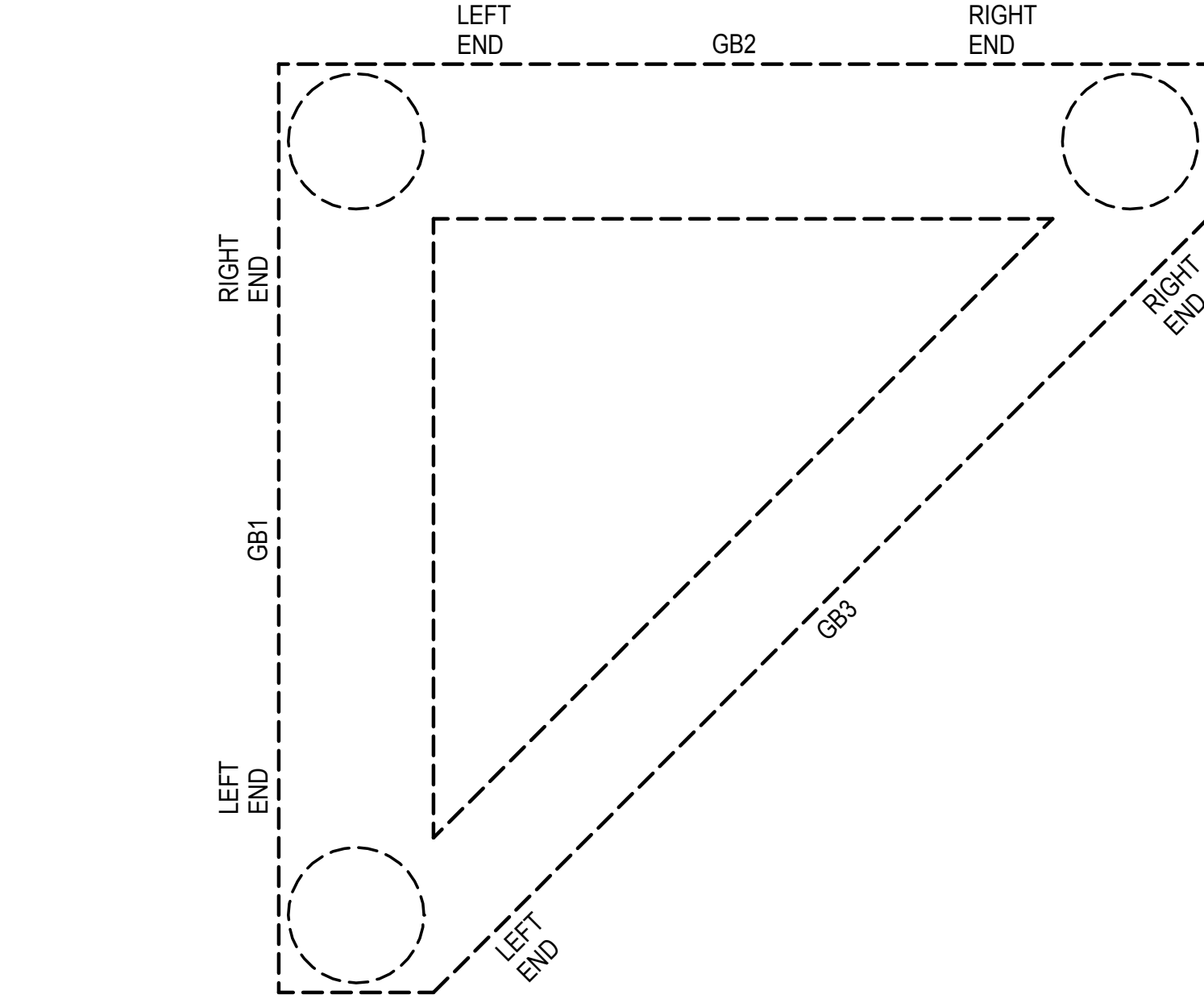
2 GRADE BEAM SECTION - TYPICAL

NOT TO SCALE



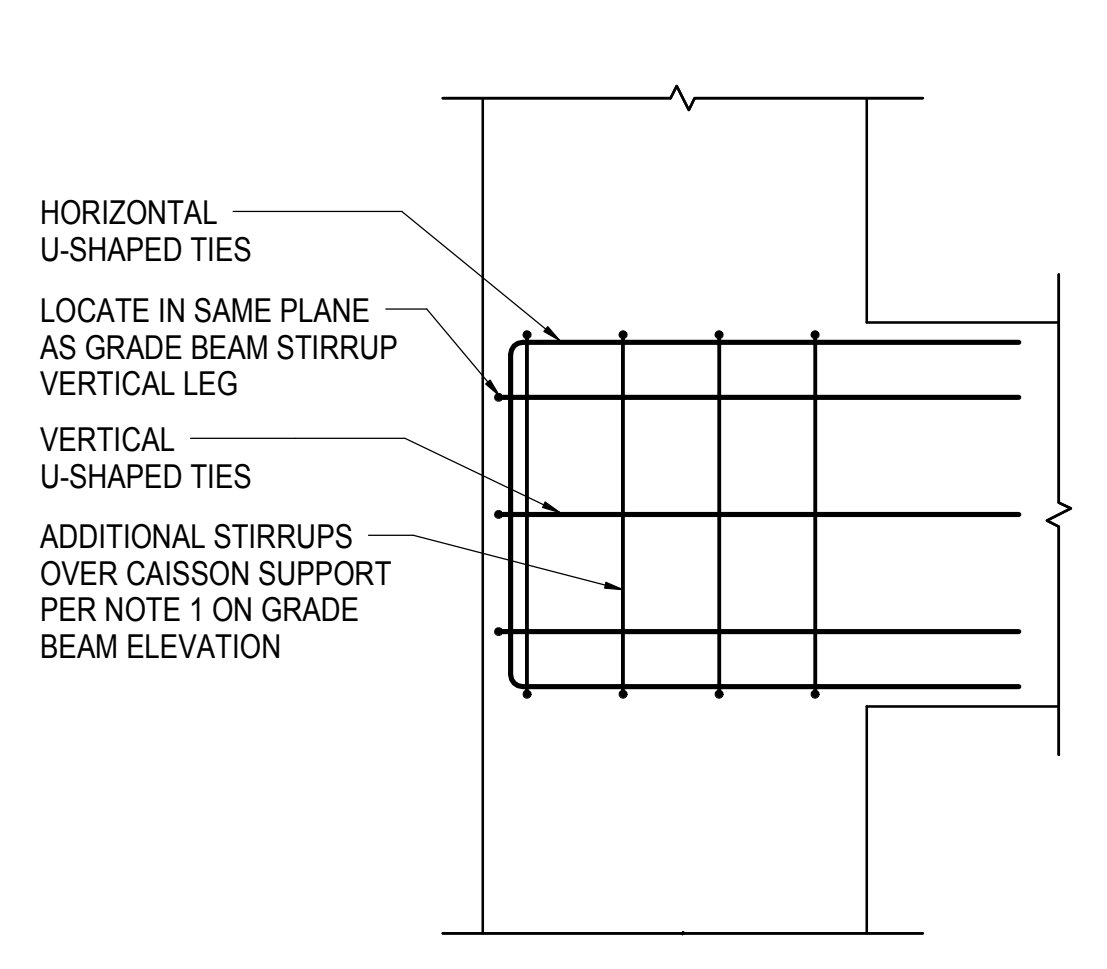
3 GRADE BEAM SECTION - BASE SHEAR TRANSFER CONDITION

NOT TO SCALE

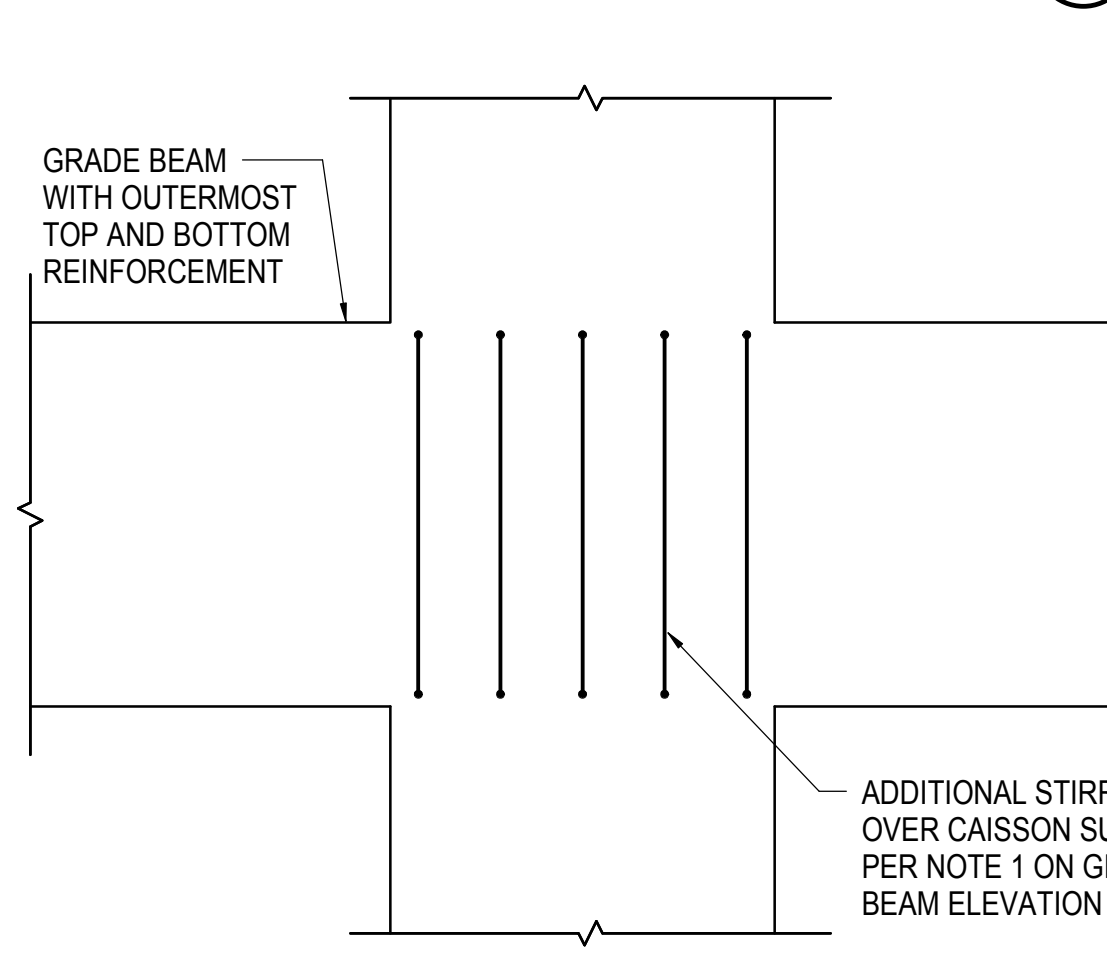


4 GRADE BEAM ORIENTATION KEY PLAN

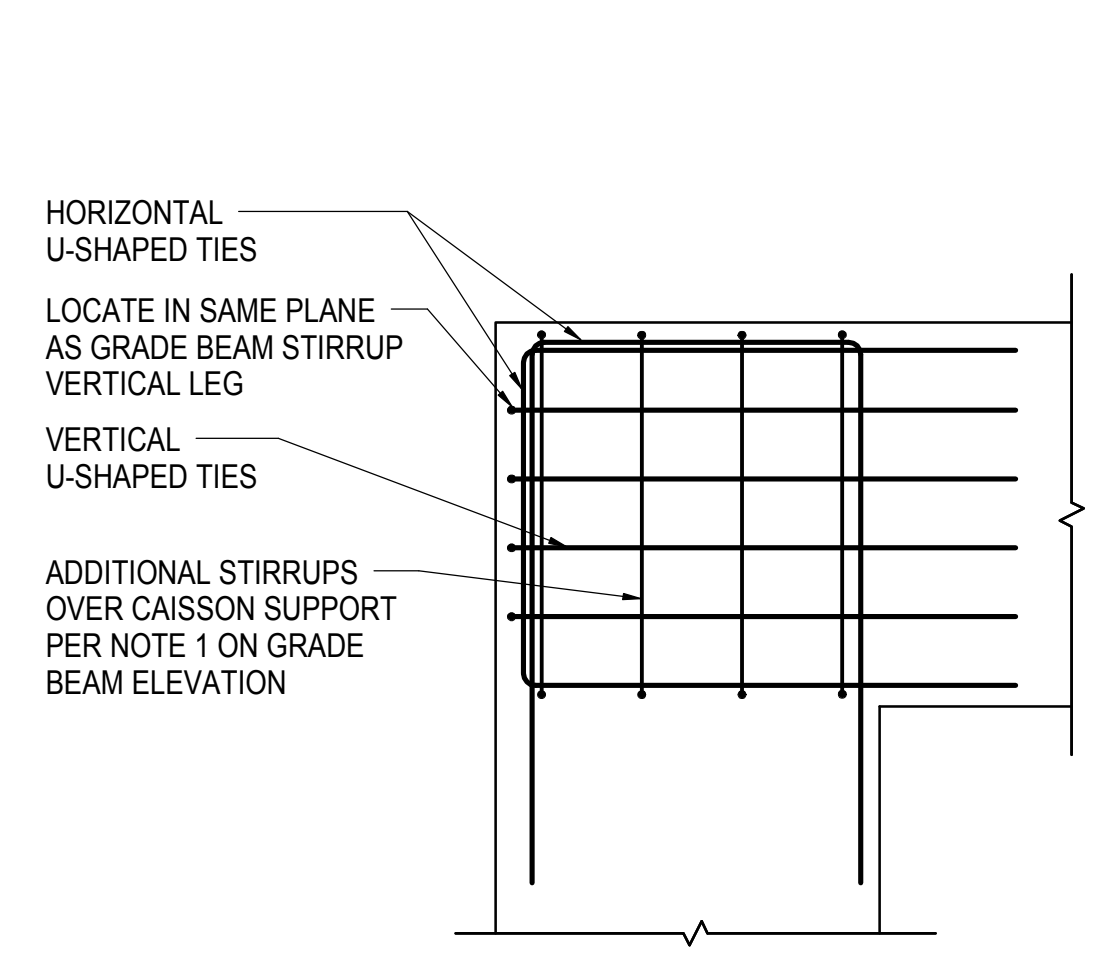
NOT TO SCALE



GRADE BEAM - T-INTERSECTION



GRADE BEAM - INTERIOR INTERSECTION



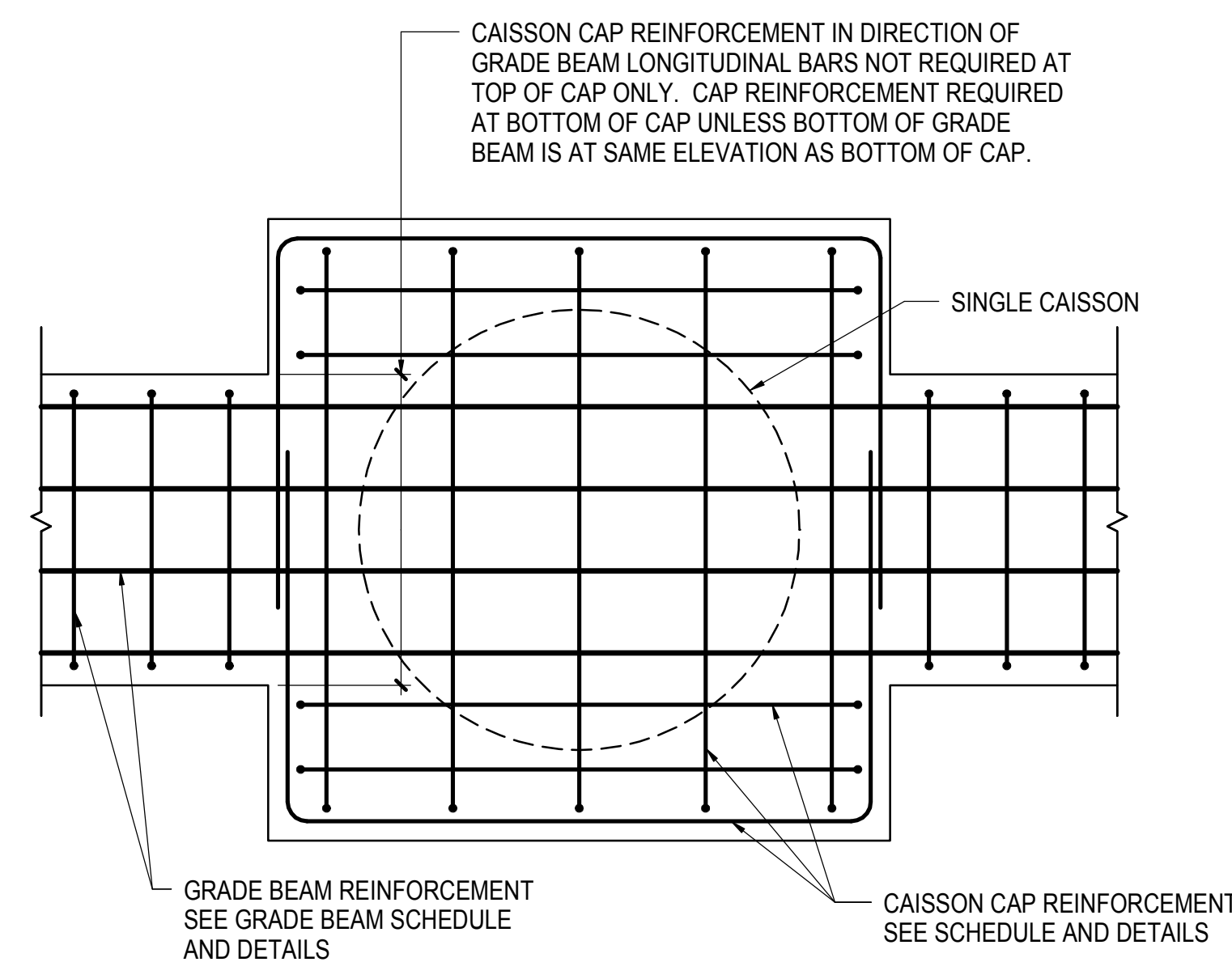
GRADE BEAM - CORNER CONDITION

NOTES:

- GRADE BEAM LONGITUDINAL REINFORCEMENT AND STIRRUPS NOT SHOWN FOR CLARITY
- FOR U-SHAPED TIES SEE TYPICAL GRADE BEAM ELEVATION

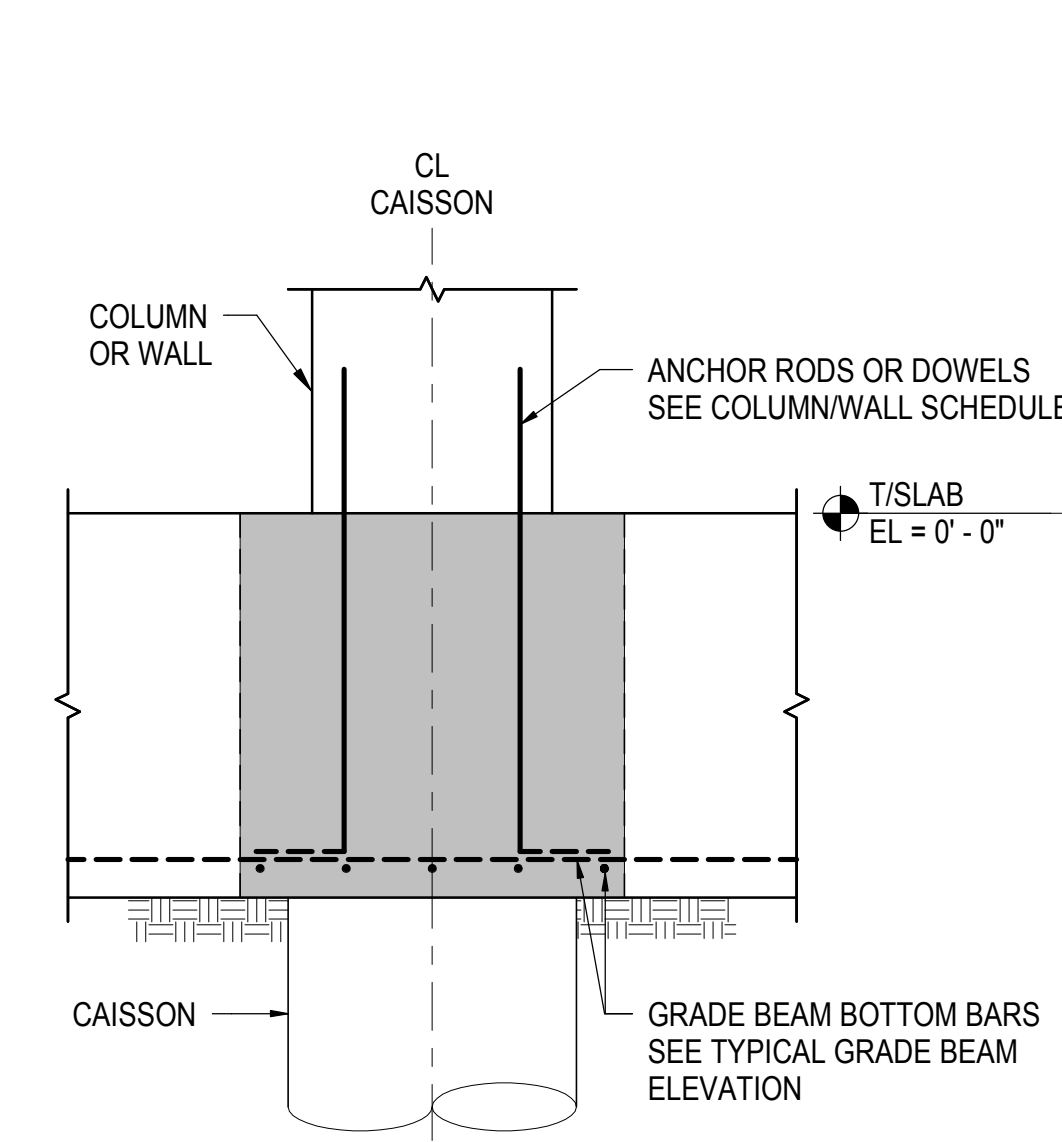
5 TYPICAL GRADE BEAM INTERSECTION PLAN DETAILS

NOT TO SCALE



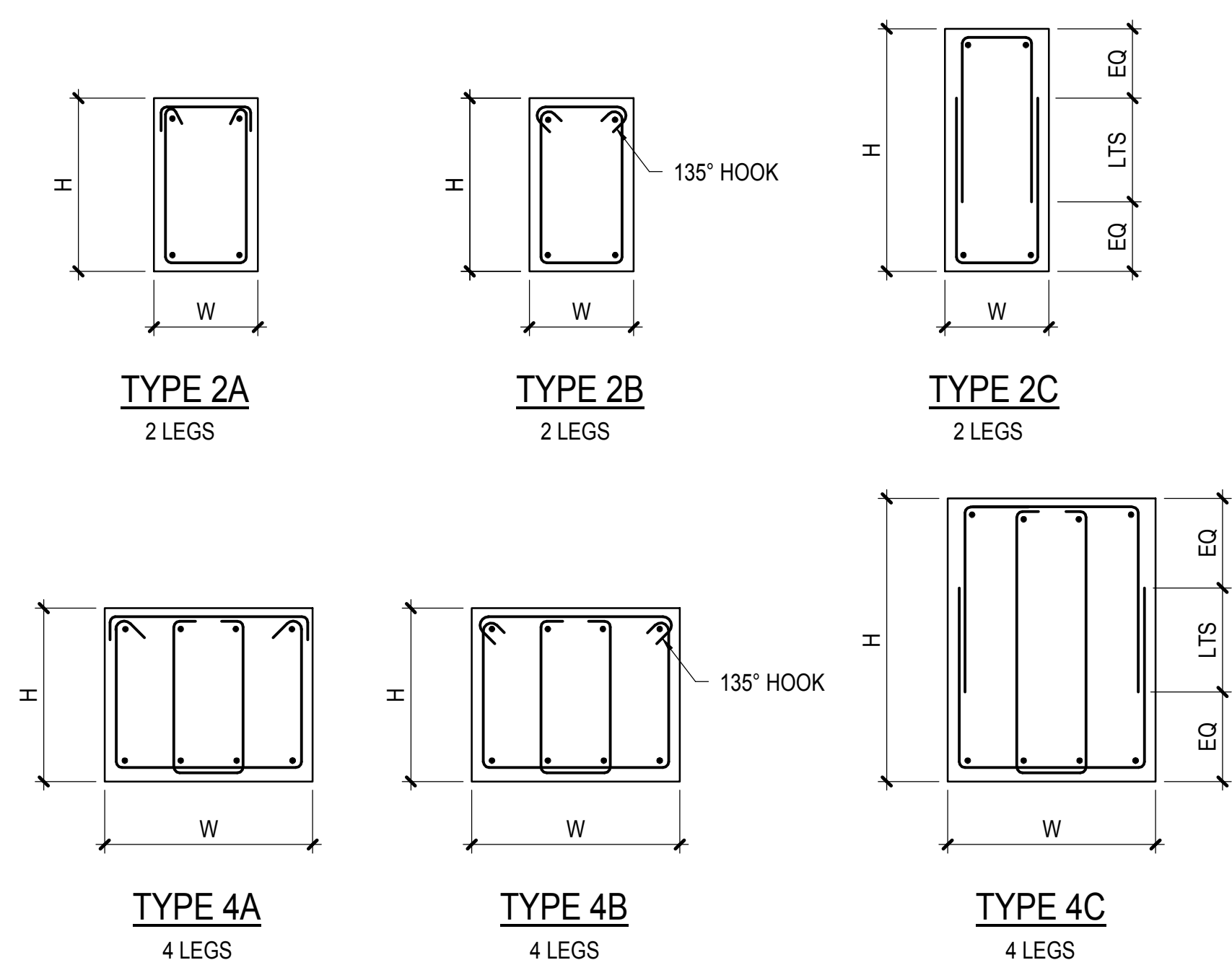
7 CAISSON CAP AT GRADE BEAM - PLAN

NOT TO SCALE



8 TYPICAL GRADE BEAM DETAIL AT COLUMN / WALL INTERSECTION

NOT TO SCALE



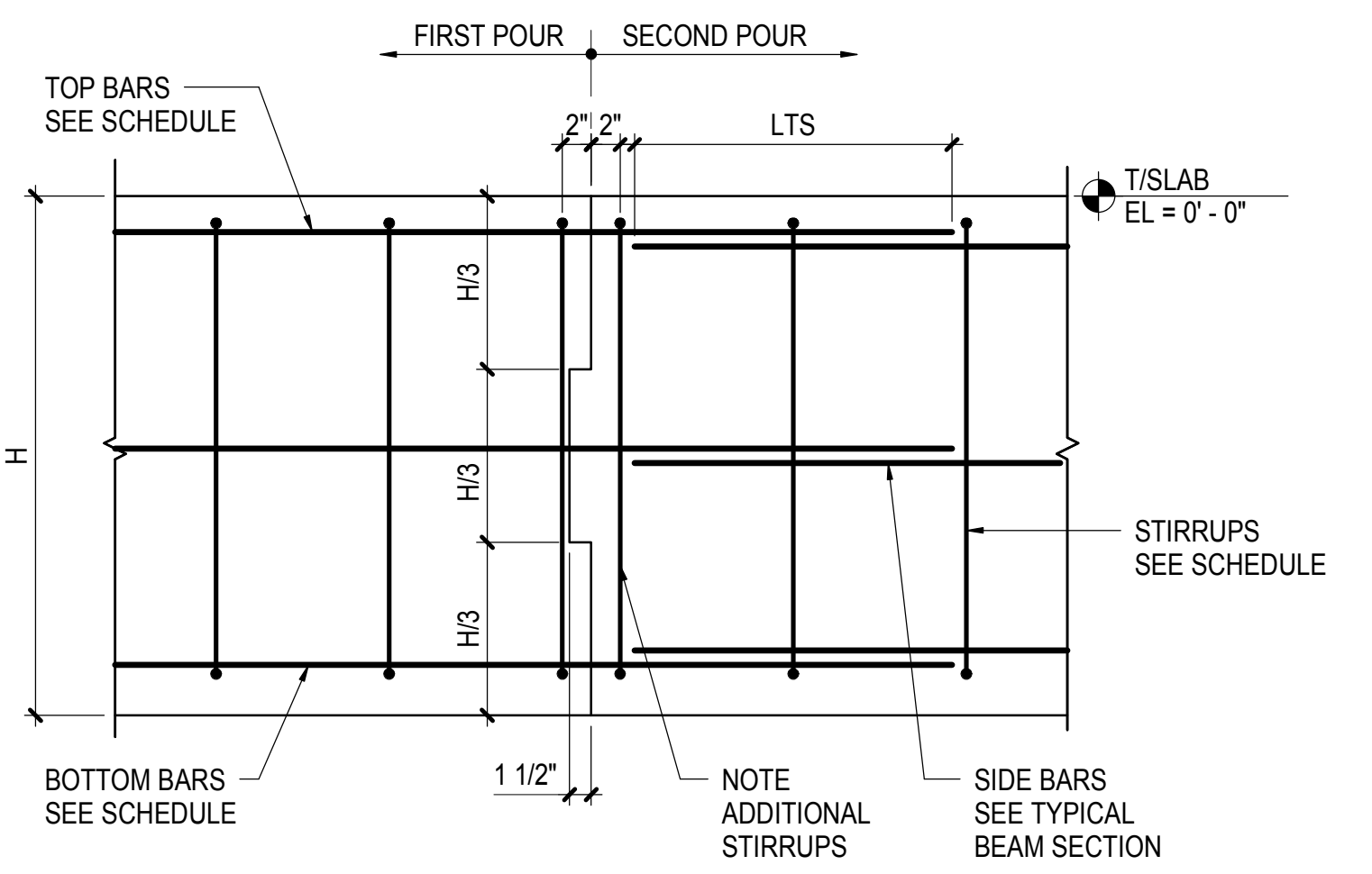
9 GRADE BEAM STIRRUP TYPES

NOT TO SCALE

- CONSTRUCTION JOINTS SHALL NOT BE PLACED AT FACE OF GRADE BEAMS WITHOUT WRITTEN APPROVAL FROM SER
- SLAB ON GRADE NOT SHOWN FOR CLARITY

6 TYPICAL GRADE BEAM INTERIOR INTERSECTION DETAIL

NOT TO SCALE

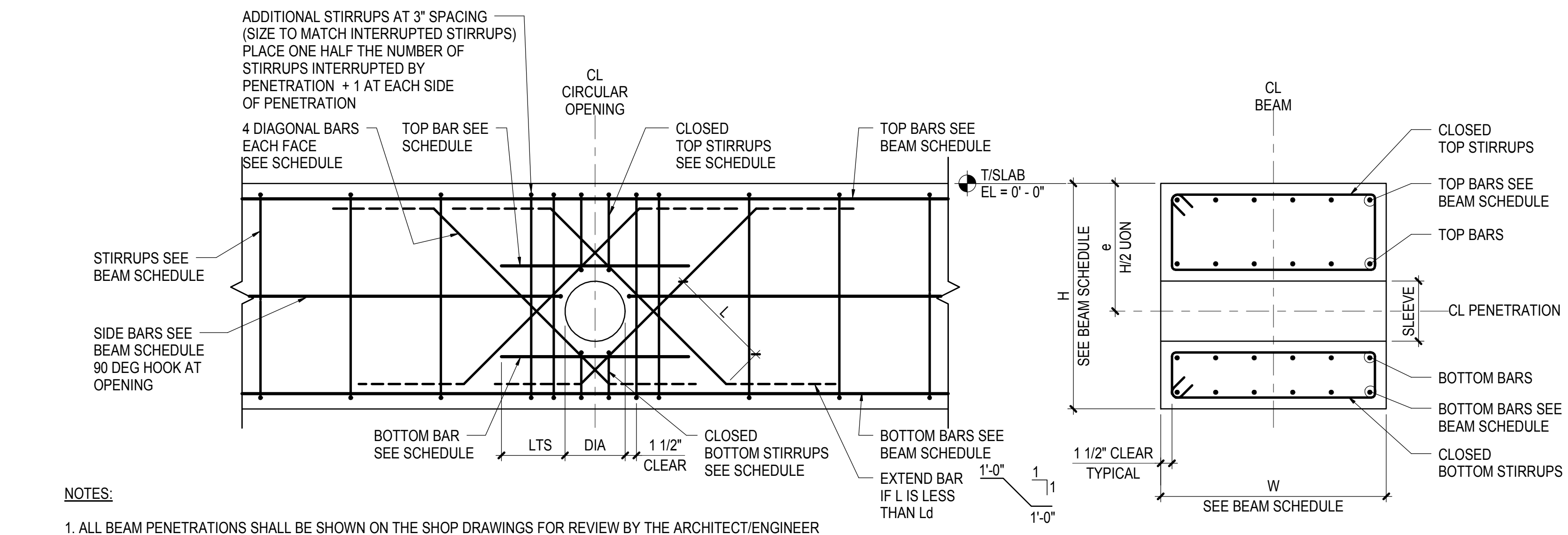


NOTES:

- CONTRACTOR SHALL SUBMIT CONCRETE CONSTRUCTION JOINT LAYOUT FOR REVIEW AND APPROVAL (REFER TO GENERAL NOTES AND SPECIFICATIONS) PRIOR TO REINFORCEMENT SUBMITTAL
- HORIZONTAL CONSTRUCTION JOINTS ARE NOT PERMITTED WITHOUT WRITTEN APPROVAL FROM SER

10 TYPICAL GRADE BEAM CONSTRUCTION JOINT - ELEVATION

NOT TO SCALE



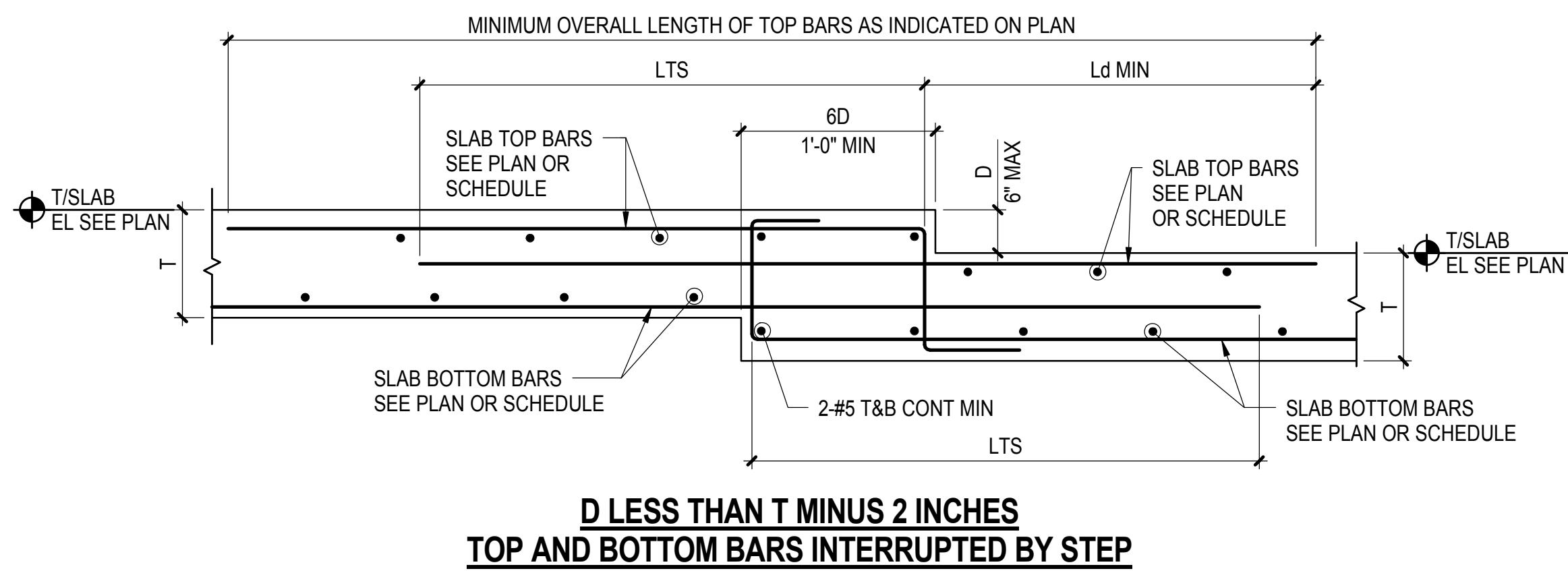
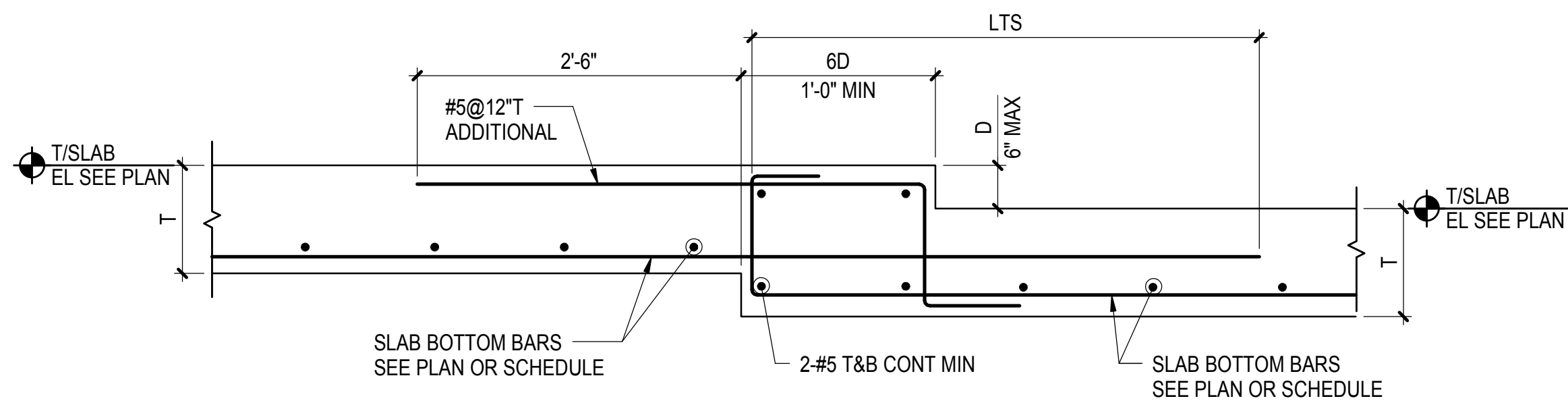
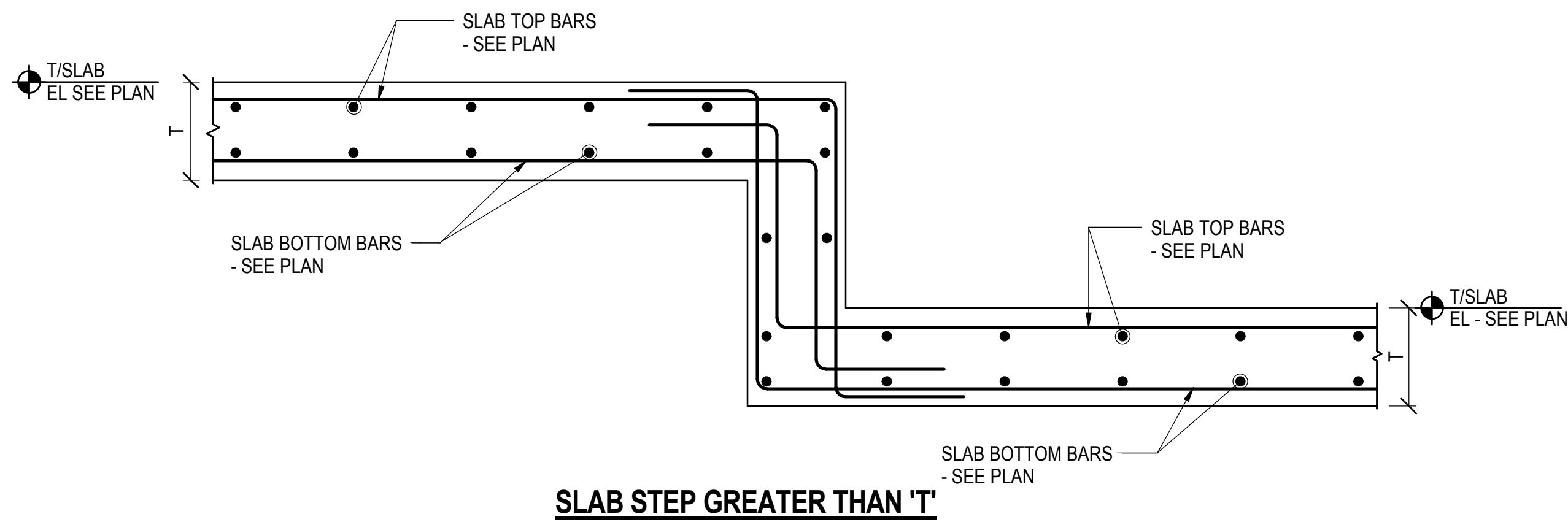
11 TYPICAL GRADE BEAM SLEEVE - ELEVATION

NOT TO SCALE

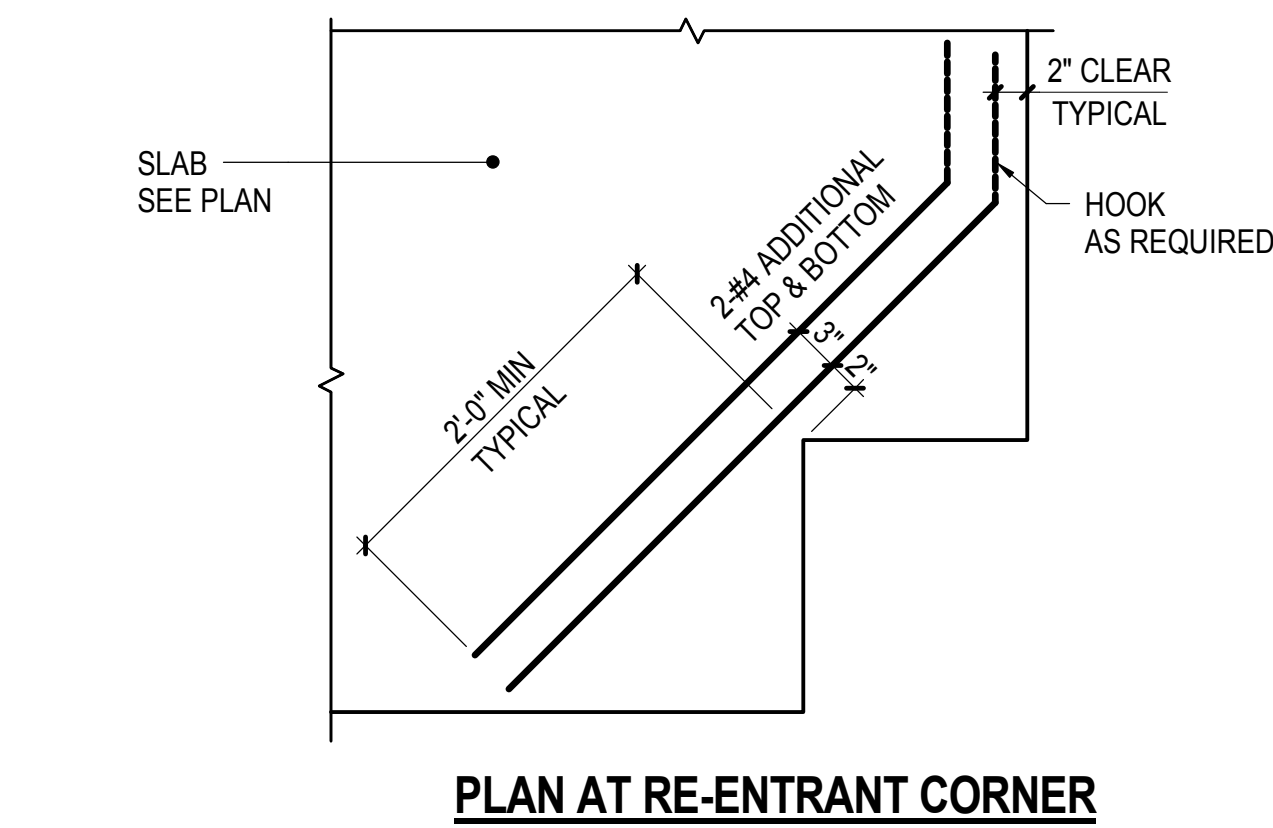
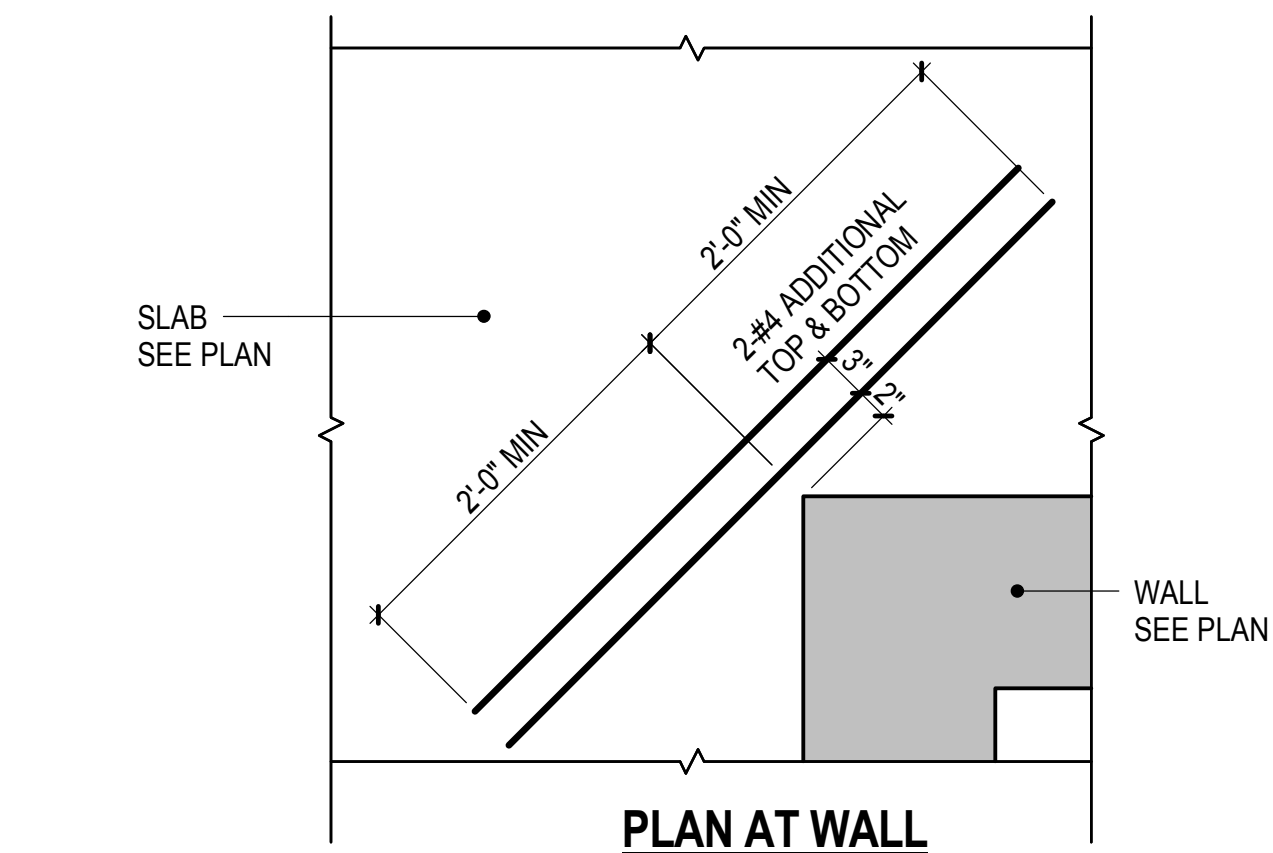
NOTES:

- ALL BEAM PENETRATIONS SHALL BE SHOWN ON THE SHOP DRAWINGS FOR REVIEW BY THE ARCHITECT/ENGINEER. NO PENETRATIONS SHALL BE MADE WITHOUT PRIOR REVIEW BY THE ARCHITECT AND WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER
- THESE DETAILS SHALL BE USED IN CONJUNCTION WITH CONCRETE BEAM PENETRATION SCHEDULE
- THE MINIMUM CLEAR SPACE BETWEEN TWO ADJACENT PENETRATIONS SHALL BE GREATER OF THE LARGEST PENETRATION DIMENSION OR TWO TIMES THE BEAM DEPTH
- THE MINIMUM CLEAR DIMENSION BETWEEN THE EDGE OF A PENETRATION AND THE FACE OF SUPPORT SHALL BE THE DEPTH OF THE BEAM
- SEE STRUCTURAL DRAWINGS FOR PENETRATIONS. GENERAL CONTRACTOR SHALL VERIFY QUANTITY, SIZE, AND LOCATION OF ALL PENETRATIONS WITH MEP DRAWINGS. NOTIFY STRUCTURAL ENGINEER IN WRITING OF ANY DISCREPANCIES FOR REVIEW AND APPROVAL
- NO ADDITIONAL REINFORCEMENT IS REQUIRED FOR OPENINGS WITH 4" DIAMETER OR SMALLER PROVIDED NO BEAM REINFORCEMENT IS INTERRUPTED AND MINIMUM CONCRETE COVER IS PROVIDED AROUND ALL BARS. IT IS ACCEPTABLE TO ADJUST BEAM REINFORCEMENT WITHIN MAXIMUM SPACING LIMITS FOR STIRRUPS OR SIDE BARS

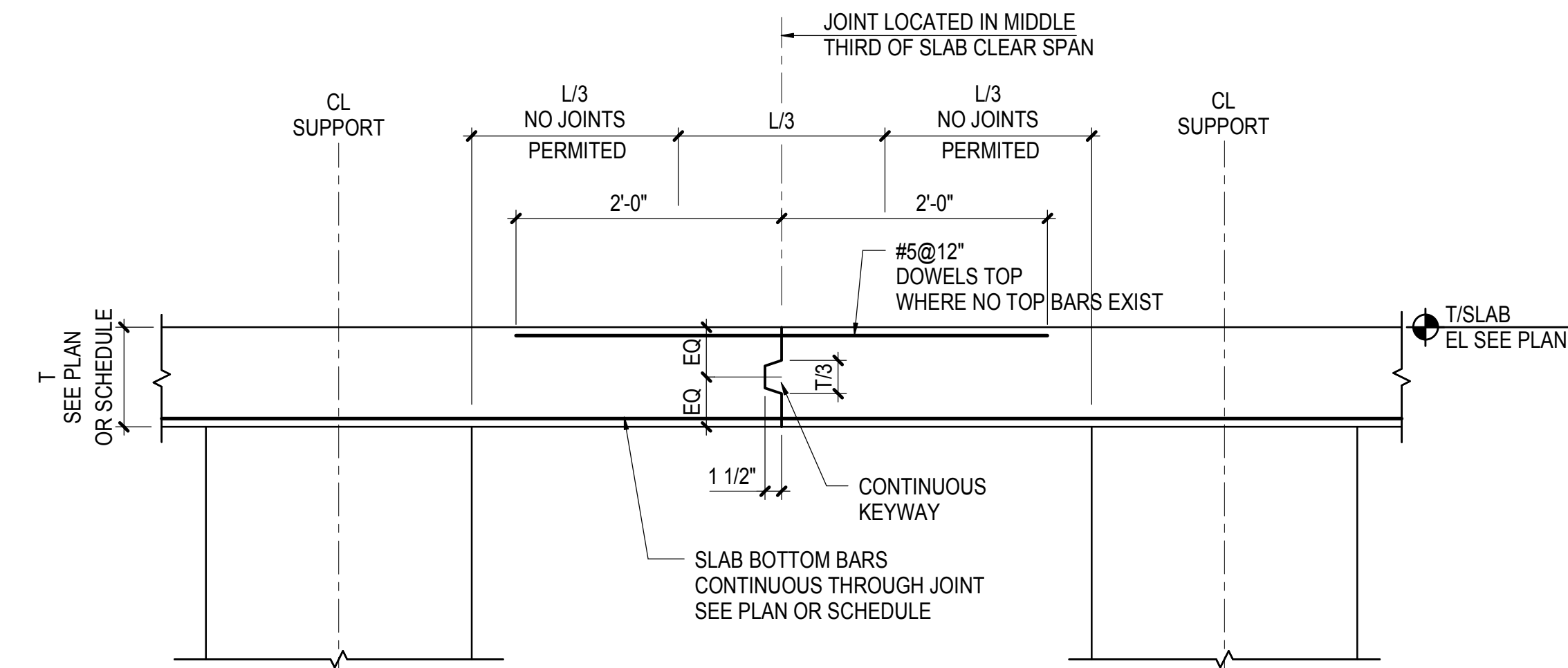
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date/Time: Feb 6, 2013 - 3:21 PM
NYC Development Hub



1 TYPICAL STEP IN SLAB DETAILS
NOT TO SCALE



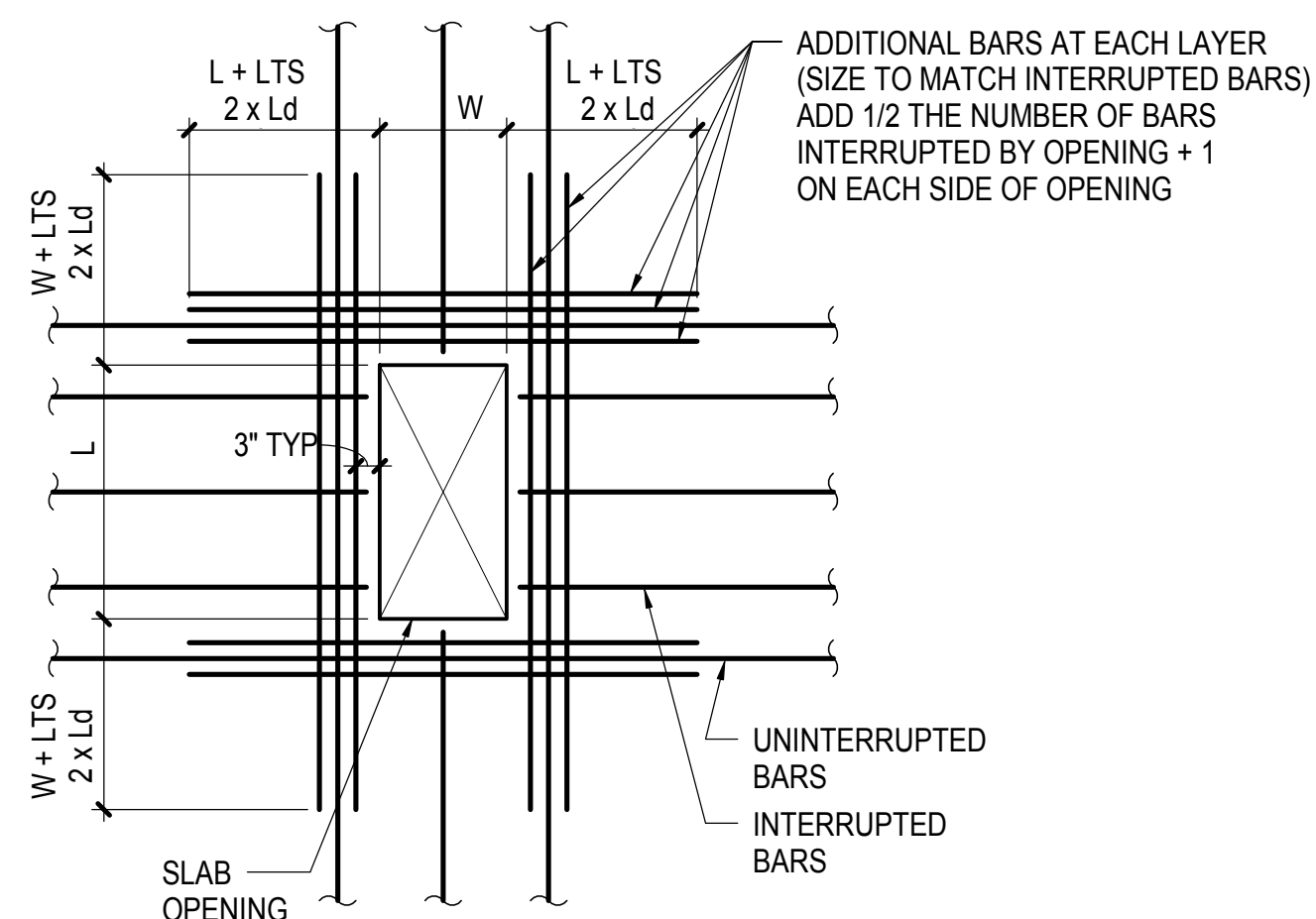
3 TYPICAL CORNER SLAB DETAILS
NOT TO SCALE



- NOTES:
1. CONTRACTOR SHALL SUBMIT CONSTRUCTION JOINT LAYOUT PLAN FOR SER APPROVAL
 2. FOR SLAB REINFORCEMENT NOT SHOWN, SEE PLAN OR SCHEDULE

7 TYPICAL SLAB CONSTRUCTION JOINT
NOT TO SCALE

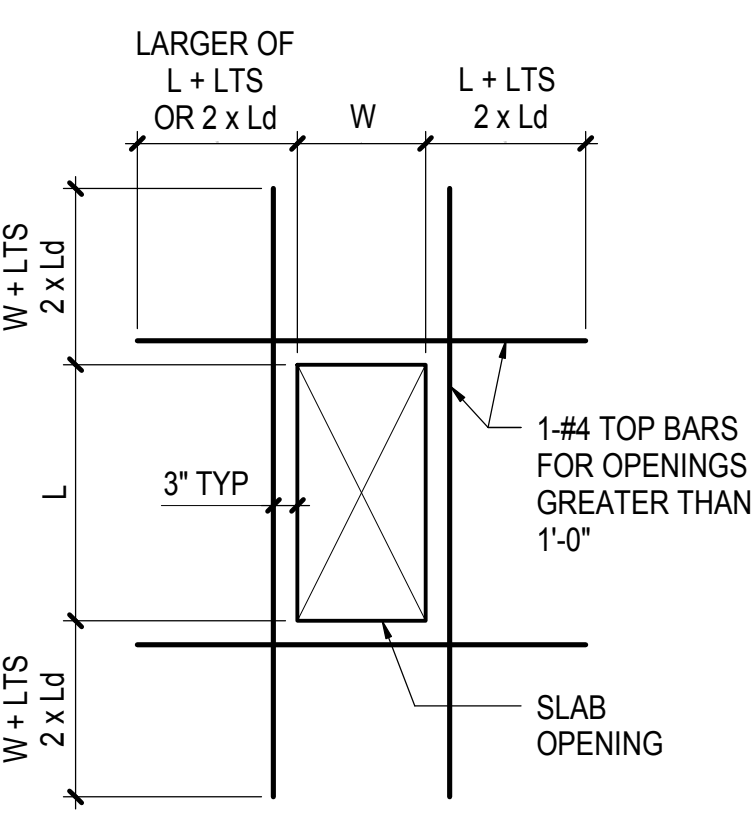
- NOTES:
1. REFER TO PLANS FOR ADDITIONAL BARS AROUND OPENINGS
 2. SEE STRUCTURAL DRAWINGS FOR QUANTITY AND LOCATIONS OF OPENINGS. CONTRACTOR SHALL VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH MEP DRAWINGS NOTIFY STRUCTURAL ENGINEER IN WRITING OF ANY DISCREPANCIES FOR REVIEW AND APPROVAL
 3. FOR TWO-WAY SLAB SEE TYPICAL TWO-WAY SLAB OPENING LIMITATIONS. FOR OPENING NOT MEETING LIMITATIONS OR GREATER THAN 3 FEET, SUBMIT OPENINGS TO SER FOR APPROVAL
 4. FOR ONE-WAY SLABS WHERE THE OPENING DIMENSION PERPENDICULAR TO THE DIRECTION OF THE SPAN IS GREATER THAN 2 FEET, SUBMIT OPENINGS TO SER FOR APPROVAL
 5. WHERE ADJACENT OPENINGS ARE NOT SEPARATED BY 2X THE LARGEST OPENING DIMENSION OR WOULD INTERRUPT THE ADDITIONAL REINFORCEMENT FROM THE ADJACENT OPENING, SUBMIT OPENINGS TO SER FOR APPROVAL



ADDITIONAL BARS WHERE BARS ARE INTERRUPTED
NOTES: ADDITIONAL BARS

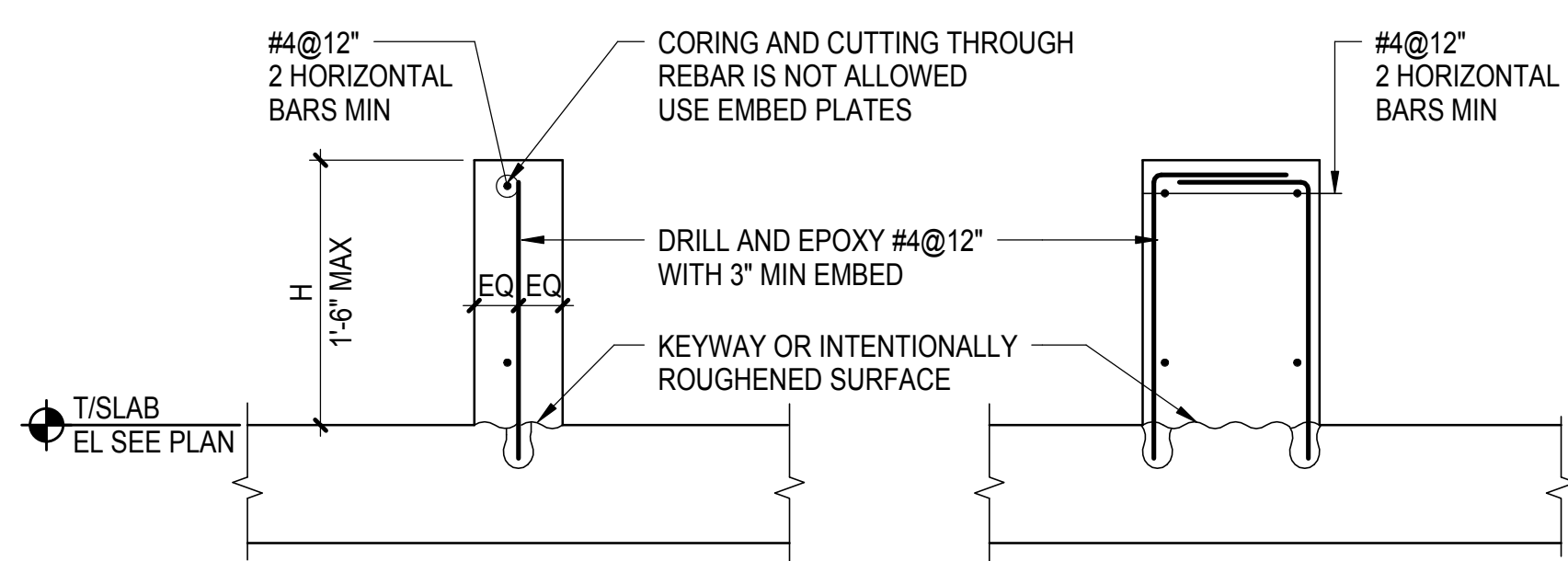
1. PROVIDE ADDITIONAL BARS ON EACH SIDE OF OPENING FOR TOP AND BOTTOM BARS THAT ARE INTERRUPTED BY OPENINGS. DISTRIBUTE REPLACEMENT BARS EQUALLY TO BOTH SIDES OF OPENING AT 3" SPACING
2. PROVIDE A MINIMUM OF 2 BARS EACH SIDE OF OPENING TOP AND BOTTOM WHERE NO TOP BARS ARE PRESENT, PROVIDE ADDITIONAL TOP BARS SHOWN ABOVE
3. AT CLUSTERED OPENINGS, PROVIDE THESE ADDITIONAL BARS AROUND THE CLUSTER PLUS THE ADDITIONAL BARS SHOWN IN THE CLUSTERED OPENING DETAIL

2 TYPICAL SLAB OPENING DETAILS
NOT TO SCALE



ADDITIONAL TOP BARS WHERE NO TOP BARS ARE PRESENT

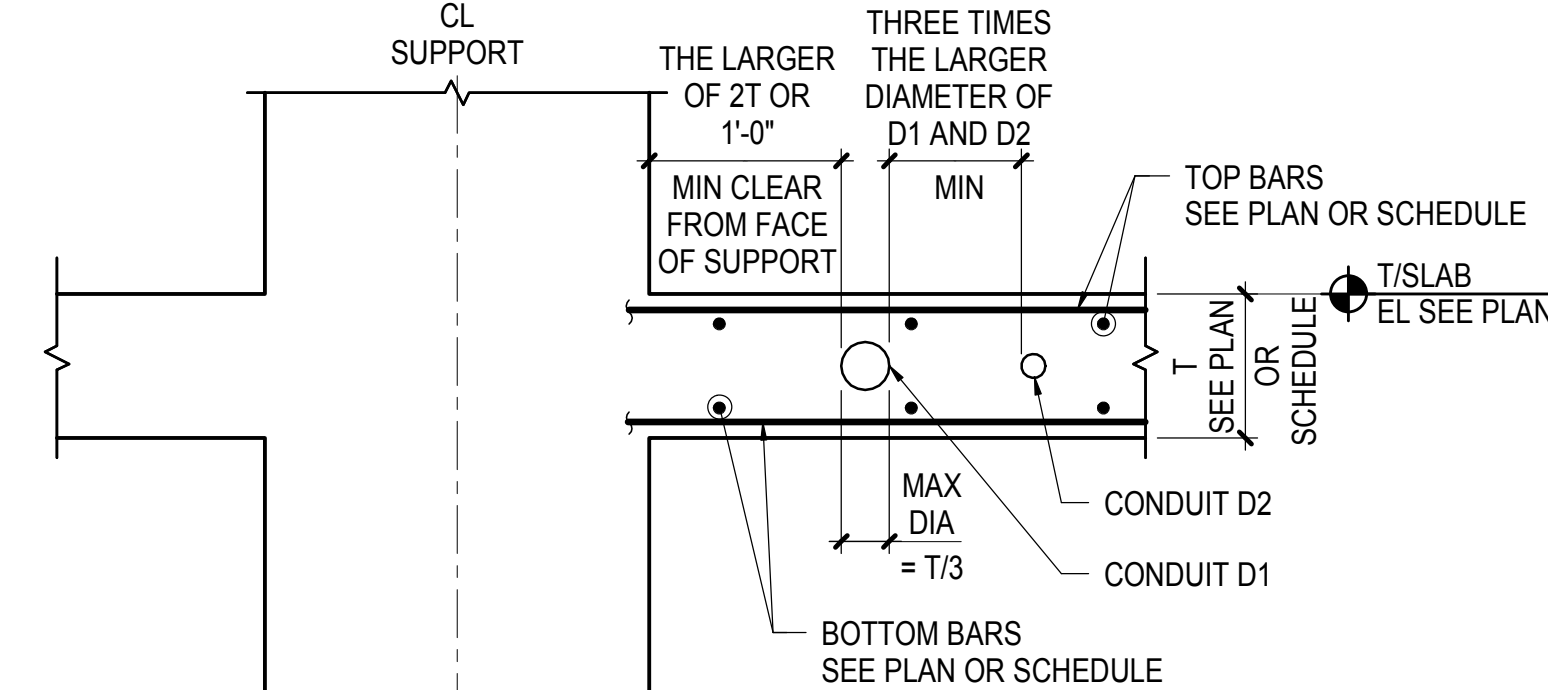
ADDITIONAL TOP BARS	
OPENING SIZE (LARGER DIMENSION OF OPENING)	TOP BARS ALL SIDE
0 - 12"	NONE
12" - 36"	1 - #4



CURB WIDTH - 4" MIN TO 7" MAX

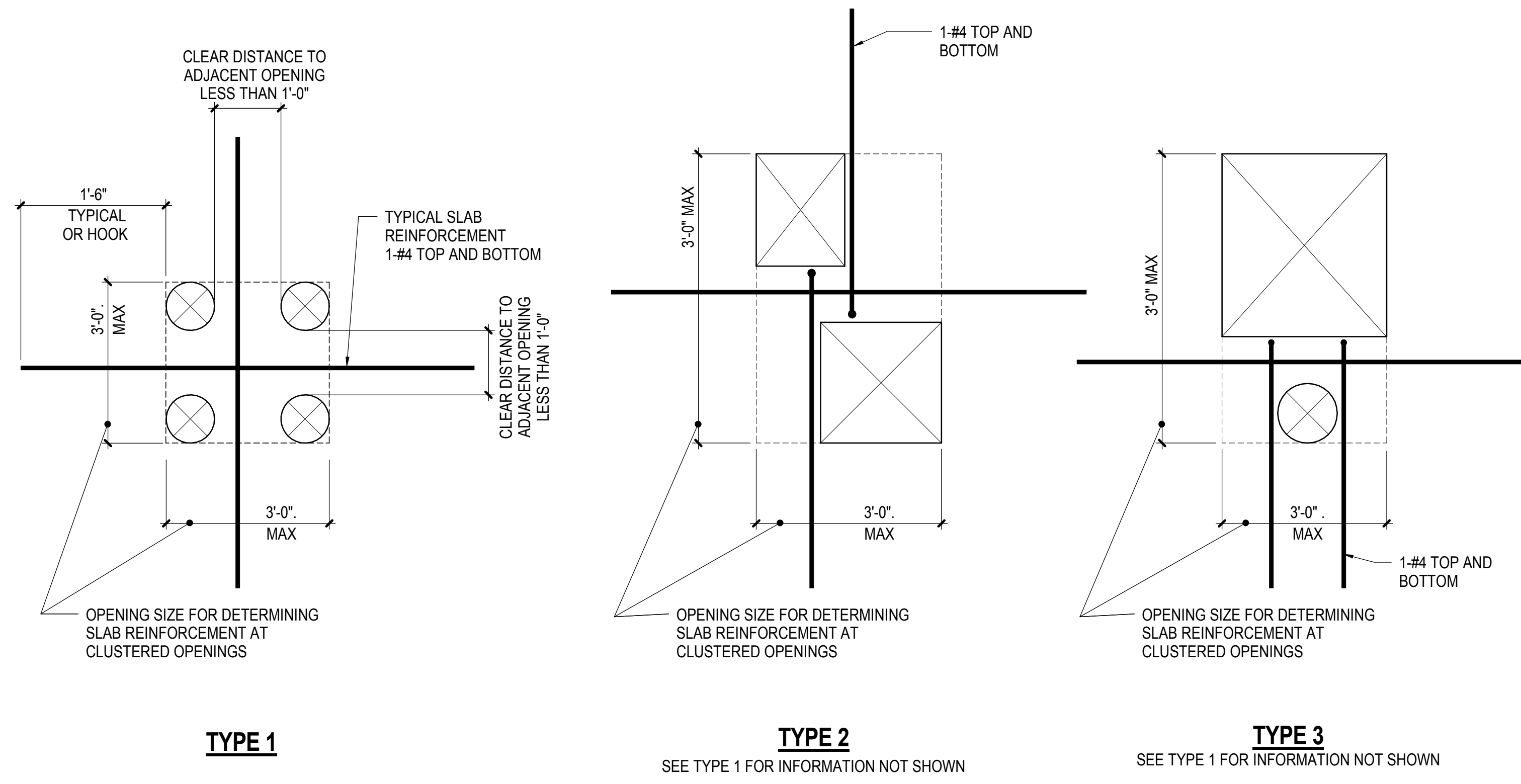
- NOTES:
1. FOR SIZE AND LOCATION SEE ARCH, MEP, OR STRUCTURAL DRAWINGS
 2. ROUGHEN SURFACE OF SLAB TO 1/4" AMPLITUDE CLEAN THOROUGHLY AND APPLY EPOXY BONDING COMPOUND IMMEDIATELY BEFORE CASTING CURB
 3. THIS DETAIL IS APPLICABLE AT CURBS FOR NON-STRUCTURAL ELEMENTS SUCH AS SKYLIGHTS, INTERIOR PARTITIONS AND INTERIOR RAILINGS
 4. SEE ARCH DRAWINGS FOR EMBEDDED PLATES AND BLOCKOUTS. REPLACE REINFORCEMENT INTERRUPTED BY BLOCKOUTS
 5. AT CONTRACTORS OPTION DRILLED & EPOXIED DOWELS MAY BE PERMITTED. BAR SIZE & SPACING MAY CHANGE DEPENDING ON EMBEDMENT REQUIRED. CONTRACTOR TO VERIFY WITH SER

5 TYPICAL CURB DETAILS (NOT SUBJECT TO LATERAL LOADS)
NOT TO SCALE



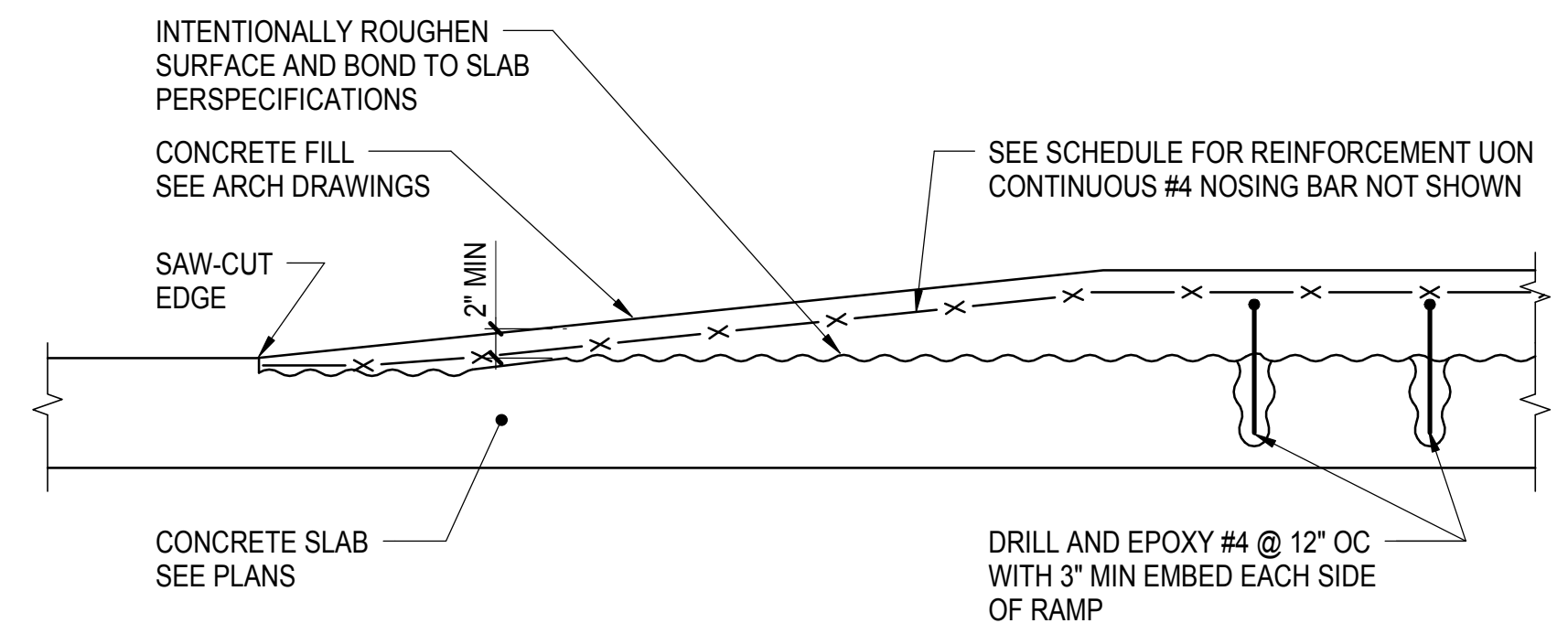
- NOTES:
1. PLACE CONDUITS BETWEEN TOP AND BOTTOM LAYER OF REINFORCEMENT CENTER WITHIN SLAB DEPTH
 2. CROSSOVER OF CONDUITS AND/OR PIPES IS NOT PERMITTED WITHOUT PRIOR WRITTEN APPROVAL BY SER
 3. USE OF ALUMINUM CONDUITS IS NOT PERMITTED
 4. ANY DEVIATIONS FROM THE ABOVE STATED CONDITIONS REQUIRE WRITTEN APPROVAL BY THE SER

8 TYPICAL CONDUITS IN SLAB
NOT TO SCALE

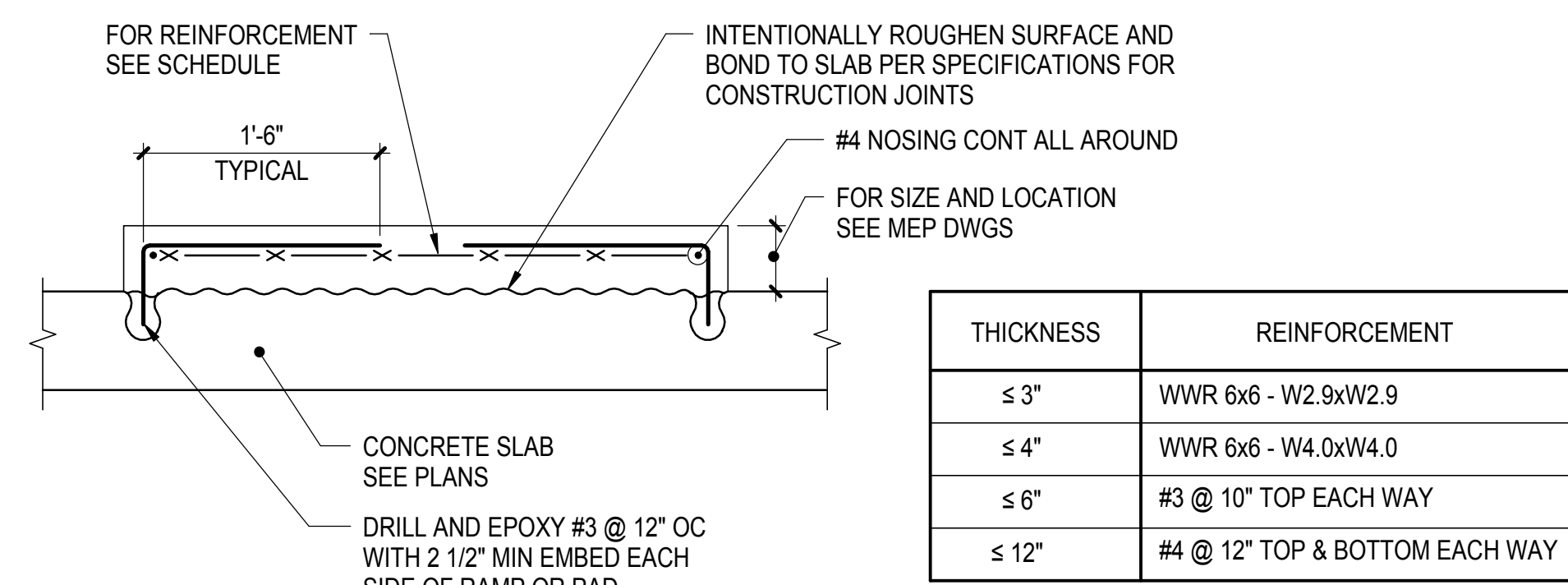


CLUSTERED OPENING ADDITIONAL REINFORCEMENT

- NOTES: CLUSTERED OPENINGS
1. THE REINFORCEMENT REQUIREMENTS AT CLUSTERED OPENING ARE IN ADDITION TO THE TYPICAL SLAB OPENING DETAIL REQUIREMENTS AROUND THE ENTIRE CLUSTER
 2. FOR ONE-WAY SLABS, WHEN CLUSTERED OPENING IS GREATER THAN 2 FEET, SUBMIT TO SER FOR APPROVAL
 3. FOR TWO-WAY SLABS, WHEN CLUSTERED OPENING DOES NOT MEET TWO-WAY SLAB OPENING LIMITATIONS OR IS GREATER THAN 3 FEET, SUBMIT TO SER FOR APPROVAL



DETAIL AT RAMP

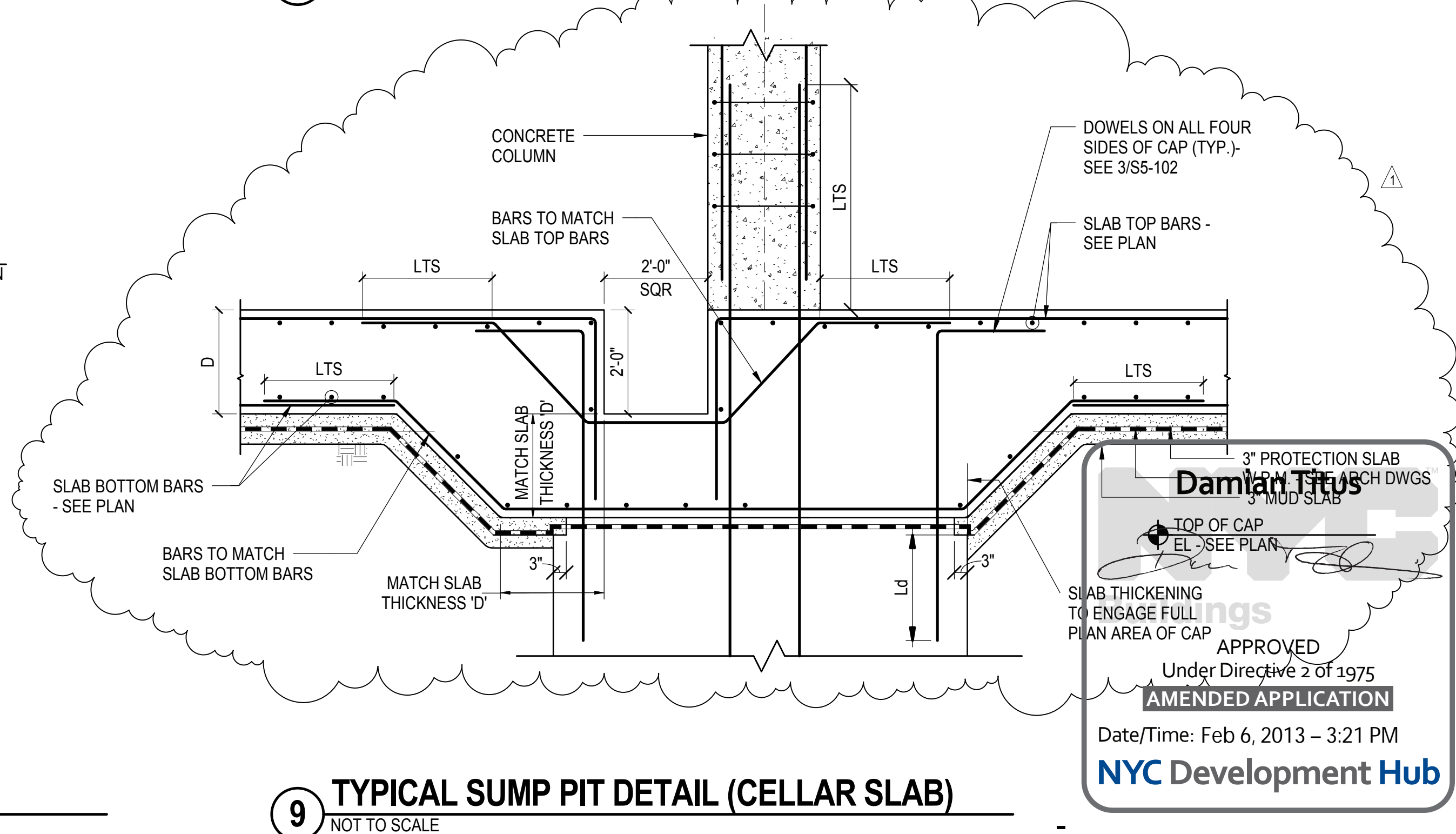


THICKNESS	REINFORCEMENT
≤ 3"	WWR 6x6 - W2.9xW2.9
≤ 4"	WWR 6x6 - W4.0xW4.0
≤ 6"	#3 @ 10" TOP EACH WAY
≤ 12"	#4 @ 12" TOP & BOTTOM EACH WAY

- NOTE:
1. THIS DETAIL IS NOT APPLICABLE TO GENERAL RAISED SLAB AREA HIGHER THAN 4" OTHER THAN MECHANICAL PADS AND HOUSEKEEPING PADS

SECTION AT RAMP OR PAD

6 TYPICAL DETAIL OF CONCRETE FILL HOUSEKEEPING PAD / MECHANICAL PAD / RAMP
NOT TO SCALE



9 TYPICAL SUMP PIT DETAIL (CELLAR SLAB)
NOT TO SCALE

HUDSON YARDS - TOWER C

501 WEST 30TH STREET
NEW YORK, NY

Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

Mechanical, Electrical, Plumbing, Fire Protection
Jarvis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894

RE-ISSUE FOR FILING 02/04/2013
ISSUE FOR FILING 09/19/2012
No Discrepancy

Key Plan

Date: 1776.10
Project No: 1776.10
Drawing No: 1776.10
Author: Damian Titus
Professional Engineer

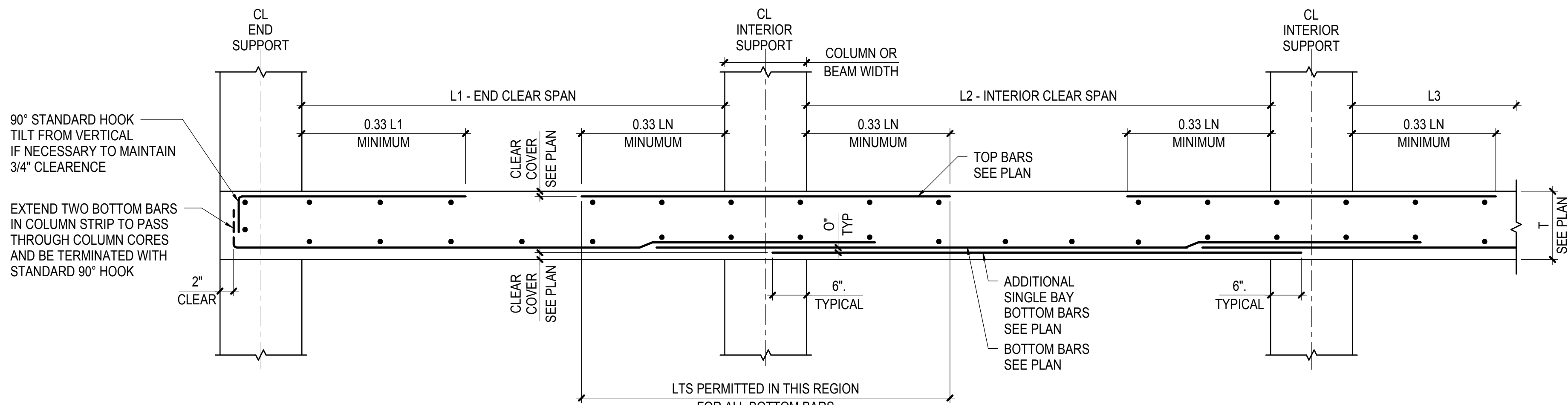
HYE-TC-S5-0105

TYPICAL CONCRETE SLAB DETAILS

SS-0105

S-109.01

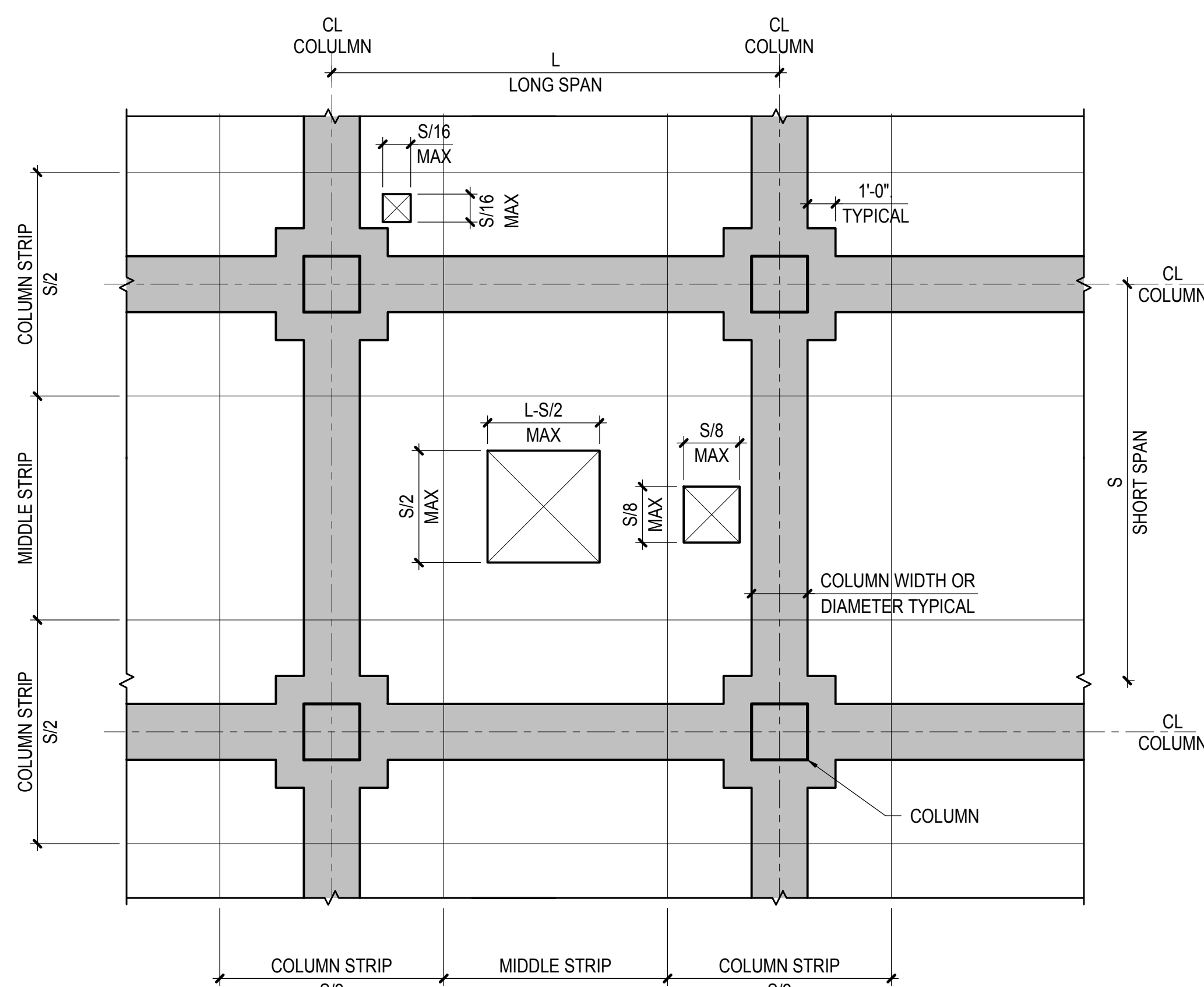
SHEET 28 OF 41



- NOTES:
1. LN DENOTES LARGER OF ADJACENT SPANS
 2. TOP BAR LENGTH TO BE LARGER OF LENGTH INDICATED ON PLAN AND LENGTH INDICATED ABOVE
 3. ADDITIONAL MULTI-BAY BOTTOM BARS TO BE SPICED AS SHOWN ABOVE AND EXTEND 6" INTO SUPPORT AT BAR END

1 TYPICAL TWO-WAY FLAT PLATE - COLUMN STRIP

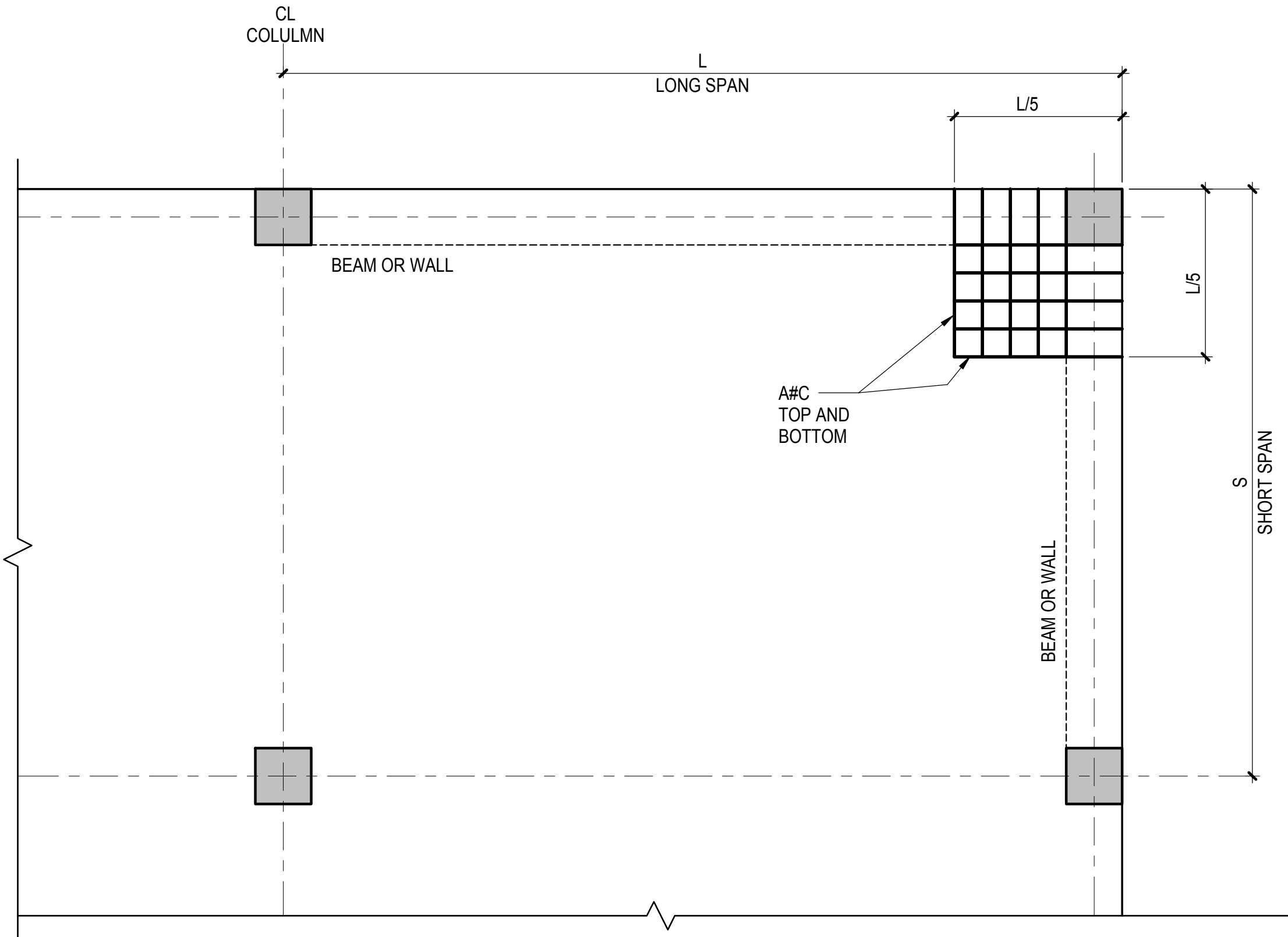
NOT TO SCALE



- NOTES:
1. INDICATES ZONE WHERE OPENINGS ARE NOT PERMITTED WITHOUT WRITTEN APPROVAL BY SER. OPENINGS NOT SHOWN ON STRUCTURAL DRAWINGS MUST BE COORDINATED AND APPROVED BY SER
 2. OPENINGS MEETING THE LIMITATIONS ABOVE SHALL BE PROVIDED WITH REINFORCEMENT AS SHOWN ON PLAN AND FOLLOWING TYPICAL SLAB OPENING DETAILS INCLUDING ADDITIONAL BARS FOR INTERRUPTED REINFORCEMENT
 3. OPENINGS SHALL BE SHOWN ON COORDINATED PENETRATOR DRAWINGS AND REINFORCEMENT SHOP DRAWINGS FOR SER REVIEW
 4. OPENINGS NOT MEETING THESE LIMITATIONS MUST BE SUBMITTED TO THE SER FOR COORDINATION, DESIGN, AND APPROVAL PRIOR TO SUBMITTING SHOP DRAWINGS

3 TYPICAL TWO-WAY SLAB OPENING LIMITATIONS

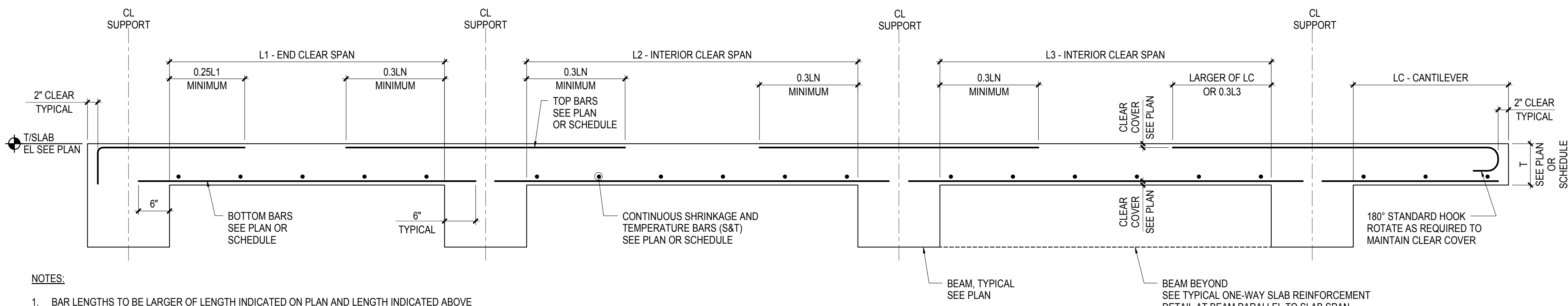
NOT TO SCALE



- NOTES:
1. SEE PLAN FOR SLAB REINFORCEMENT. BARS SHOWN ABOVE ARE ADDITIONAL TO THOSE SHOWN ON PLAN. BARS SHALL BE LOCATED IN SAME LAYERS AS SLAB REINFORCEMENT. BEAM TOP BARS TO BE LOCATED BELOW SLAB TOP BARS.
 2. ADDITIONAL BARS TO BE EQUALLY SPACED WITHIN EXTENT SHOWN ABOVE
 3. ADDITIONAL TOP BARS TO BE HOOKED INTO SUPPORT. ADDITIONAL BOTTOM BARS TO EXTEND 6" INTO SUPPORT

4 TYPICAL BEAM OR WALL SUPPORTED SLAB EXTERIOR CORNER DETAIL

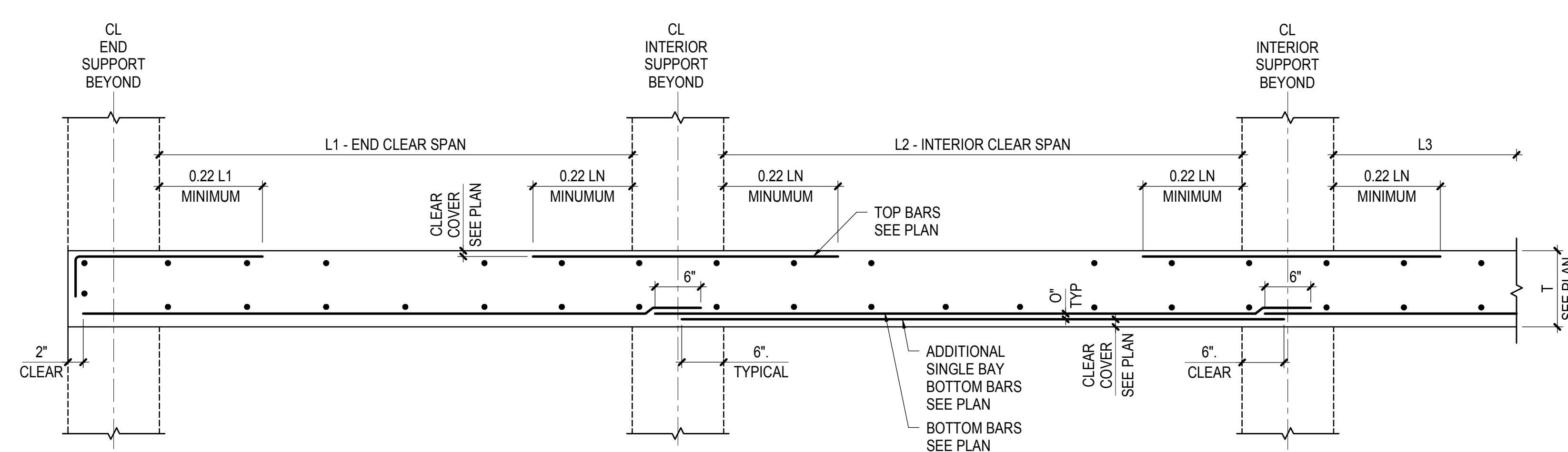
NOT TO SCALE



- NOTES:
1. BAR LENGTHS TO BE LARGER OF LENGTH INDICATED ON PLAN AND LENGTH INDICATED ABOVE
 2. LN DENOTES LARGER OF ADJACENT CLEAR SPANS
 3. WHERE REINFORCEMENT IS SHOWN IN A SCHEDULE PROVIDE GREATER AREA OF STEEL SCHEDULED FOR TOP BARS AT ADJACENT SPANS
 4. BEAM MAIN TOP BARS (NOT SHOWN, SEE TYPICAL BEAM SECTION) ARE BELOW PERPENDICULAR ONE-WAY SLAB TOP BARS

7 TYPICAL ONE-WAY SLAB ELEVATION

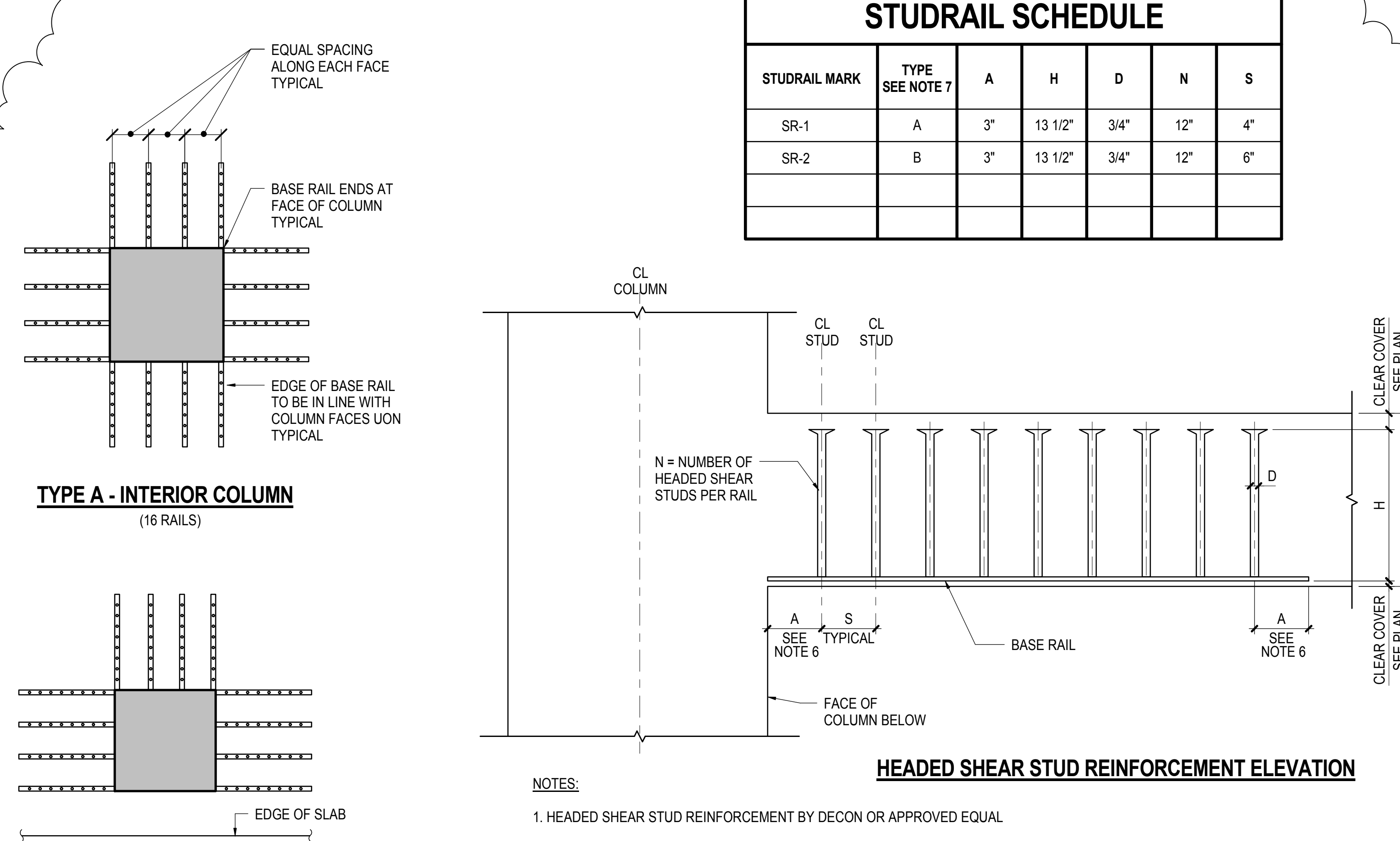
NOT TO SCALE



- NOTES:
1. LN DENOTES LARGER OF ADJACENT SPANS
 2. TOP BAR LENGTH TO BE LARGER OF LENGTH INDICATED ON PLAN AND LENGTH INDICATED ABOVE
 3. ADDITIONAL MULTI-BAY BOTTOM BARS TO BE SPICED AS SHOWN ABOVE AND EXTEND 6" INTO SUPPORT AT BAR END

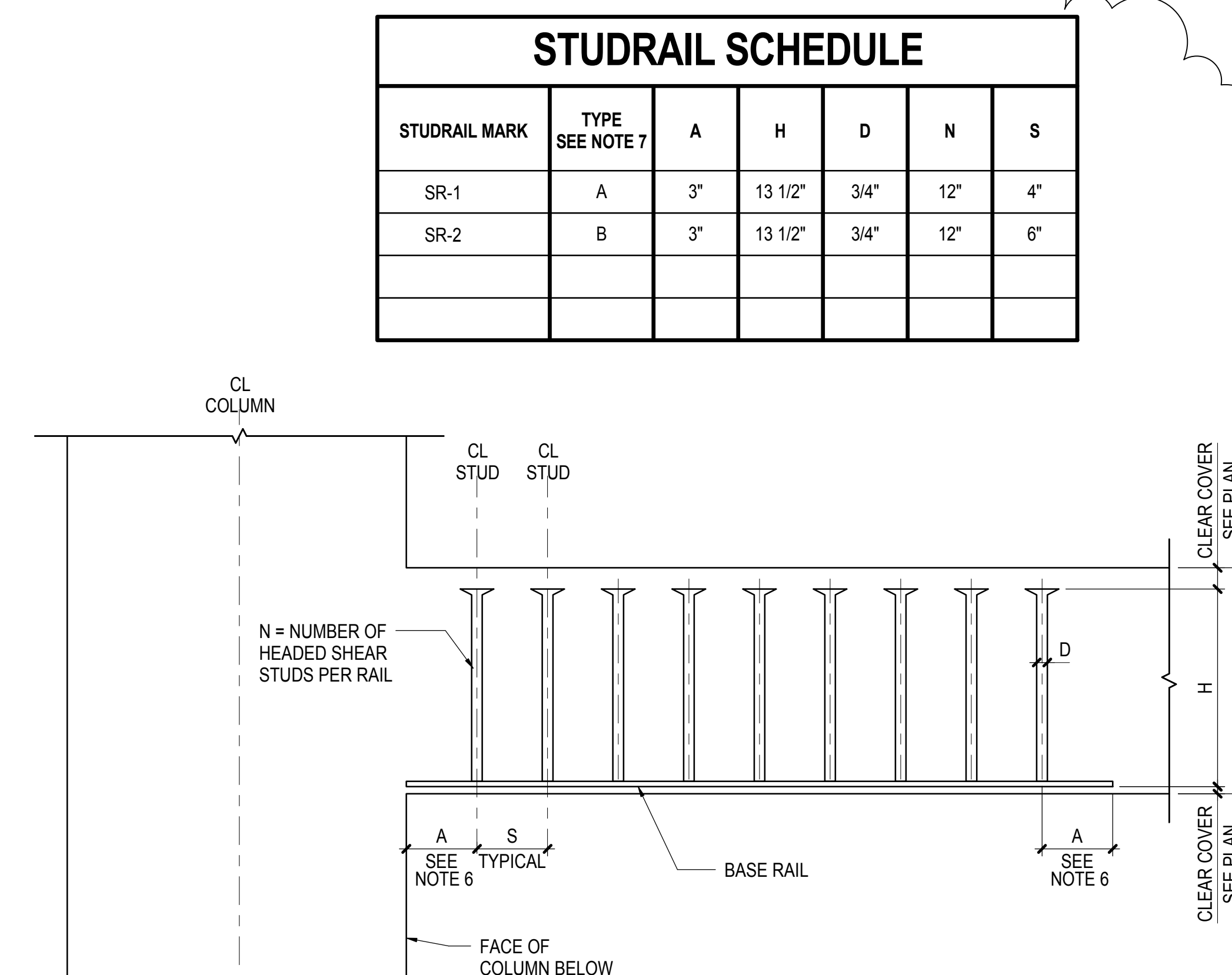
2 TYPICAL TWO-WAY FLAT PLATE - MIDDLE STRIP

NOT TO SCALE



HEADED SHEAR STUD REINFORCEMENT TYPE - PLAN ARRANGEMENT

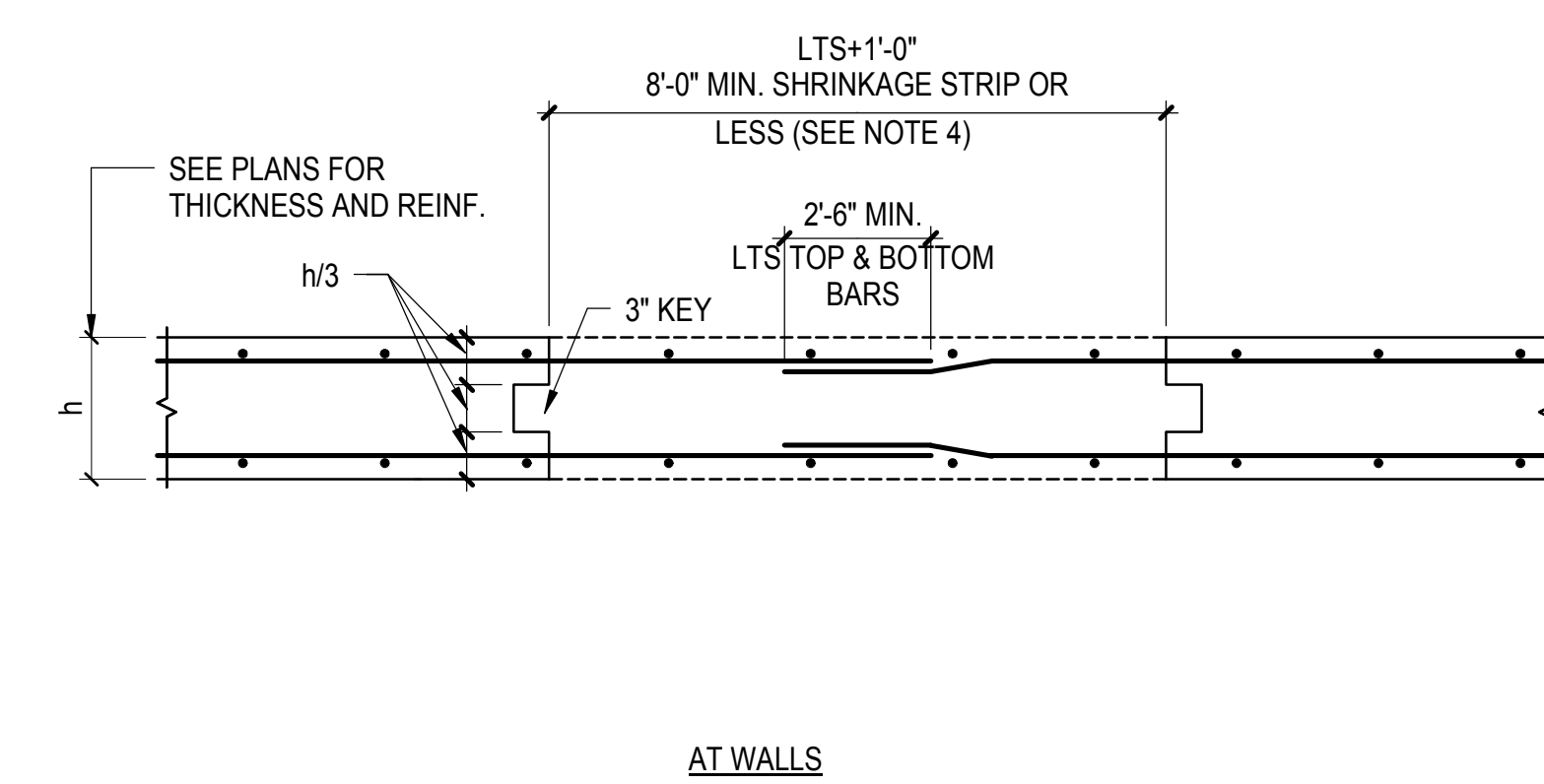
NOT TO SCALE



HEADED SHEAR STUD REINFORCEMENT ELEVATION AND SCHEDULE

6 HEADED SHEAR STUD REINFORCEMENT ELEVATION AND SCHEDULE

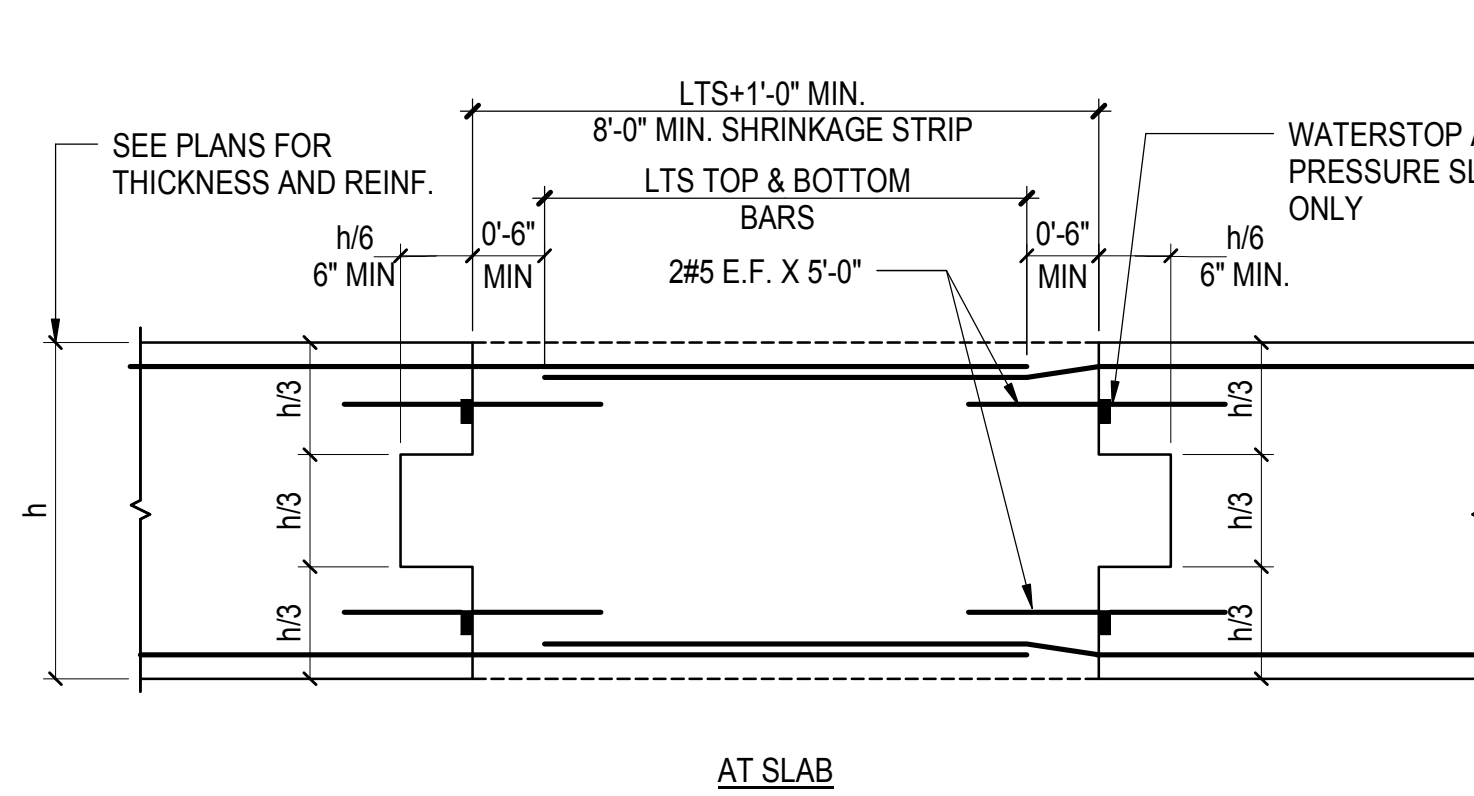
NOT TO SCALE



- NOTES:
1. CONTRACTOR SHALL WAIT AT LEAST 56 DAYS FROM THE TIME THE LAST POUR ON A FLOOR HAS OCCURRED, BEFORE CASTING SHRINKAGE STRIPS AT THAT PARTICULAR FLOOR.

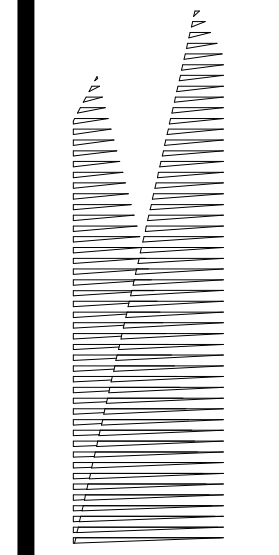
8 TYPICAL SHRINKAGE STRIP DETAIL

NOT TO SCALE



HUDSON YARDS - TOWER C

501 WEST 30TH STREET
NEW YORK, NY



Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

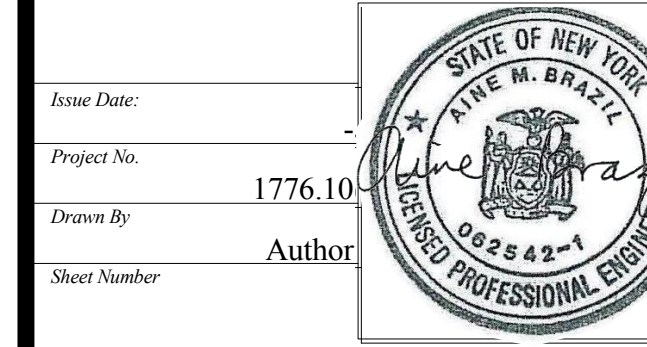
Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801
Mechanical, Electrical, Plumbing, Fire Protection
Jarvis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894

RE/ISSUE FOR FILING	02/04/2013
ISSUE FOR FILING	09/19/2012
By	Disruption
For	Draw

Key Plan

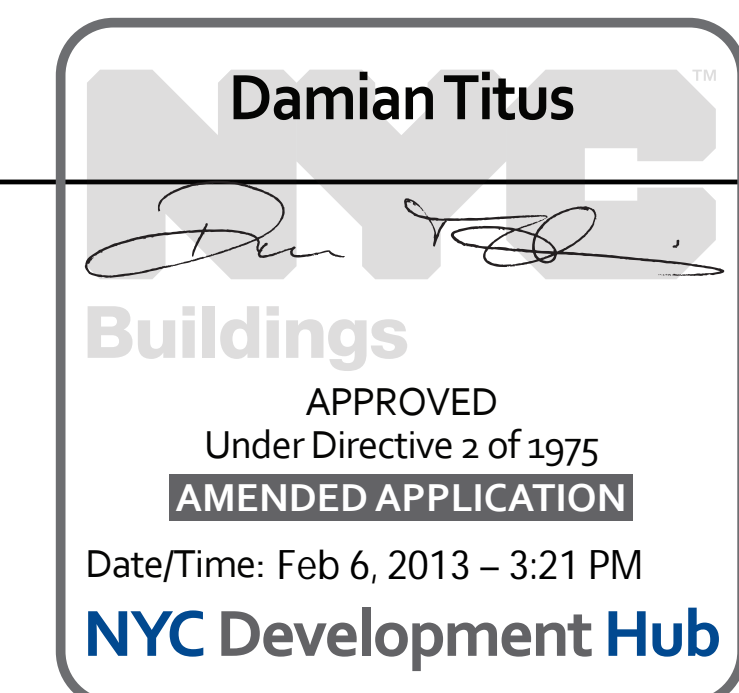


HYE -TC -S5-0106

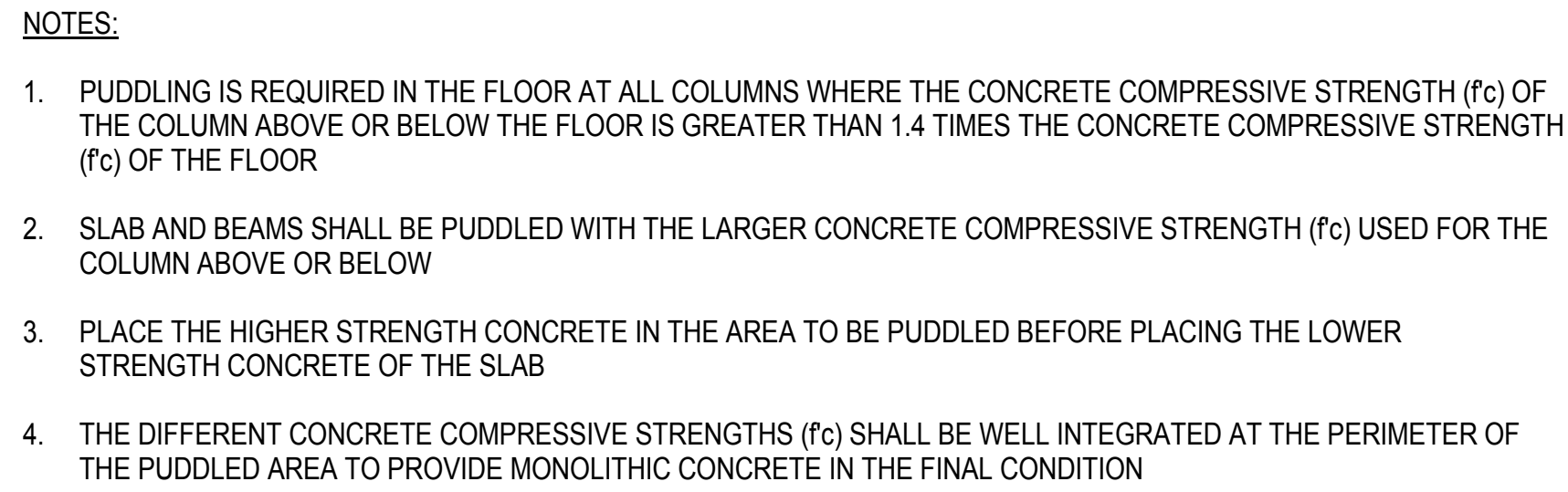
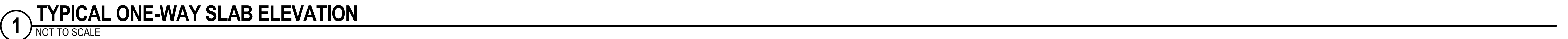
TYPICAL CONCRETE TWO-WAY SLAB DETAILS

Drawing Number
S5-0106

S-110.01 SHEET 29 OF 41



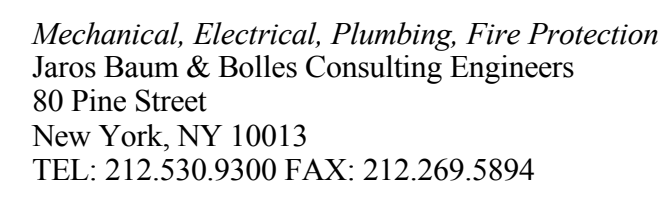
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date/Time: Feb 6, 2013 - 3:21 PM
NYC Development Hub



3 TYPICAL ONE-WAY SLAB / BEAM PUDDLING PLAN
NOT TO SCALE

[illegible]

4 ONE-WAY SLAB SCHEDULE



RE-ISSUE FOR FILING		02/04/2013
No.	Description	Date

Key Point

Issue Date:	
Project No.	1776.10
Drawn By	Author
Sheet Number	



HYF-TC-S5-0202

THE

TYPICAL CONCRETE ONE-WAY SLAB DETAILS AND SCHEDULE

S5-0202

B-Scan Drawing Number
S-122.00

SHEET 31 OF 41



PILE CAP SCHEDULE										f'c = SEE DWG NOTES
PILE CAP MARK	PILE TYPE	H (IN)	L (IN)	W (IN)	REINFORCEMENT				# OF TIE DOWN ANCHORS	
					BOTTOM LONG BARS	BOTTOM SHORT BARS	TOP LONG BARS	TOP SHORT BARS		
PC2	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	-	-	0	
PC2A	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	8#11	8#11	1 x TDA1	
PC2B	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	8#11	8#11	1 x TDA4	
PC2C	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	8#11	8#11	1 x TDA7	
PC2D	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	8#11	8#11	1 x TDA4	
PC2E	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	8#11	8#11	2 x TDA4	
PC3	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	-	-	0	
PC3A	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	8#11	8#11	1 x TDA1	
PC3B	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	8#11	8#11	1 x TDA4	
PC3C	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	8#11	8#11	1 x TDA5	
PC3D	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	8#11	8#11	2 x TDA4	
PC4	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	-	-	0	
PC4A	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	8#11	8#11	1 x TDA4	
PC4B	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	8#11	8#11	1 x TDA5	
PC4C	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	8#11	8#11	1 x TDA6	
PC4D	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	8#11	8#11	1 x TDA7	
PC4E	HP W14X117	4'-0"	8'-0"	5'-0"	8#11	8#11	8#11	8#11	2 x TDA4	
PC5	HP W14X117	4'-4"	9'-6"	9'-6"	12#11	16#11	-	-	0	
PC5A	HP W14X117	4'-4"	9'-6"	9'-6"	12#11	16#11	12#11	16#11	2 x TDA1	
PC5B	HP W14X117	4'-4"	9'-6"	9'-6"	12#11	16#11	12#11	16#11	2 x TDA3	
PC5C	HP W14X117	4'-4"	9'-6"	9'-6"	12#11	16#11	12#11	16#11	2 x TDA4	
PC6	HP W14X117	5'-2"	11'-0"	8'-0"	12#11	14#11	-	-	0	
PC6A	HP W14X117	5'-2"	11'-0"	8'-0"	12#11	14#11	12#11	14#11	1 x TDA1	
PC6B	HP W14X117	5'-2"	11'-0"	8'-0"	12#11	14#11	12#11	14#11	1 x TDA 4	
PC6C	HP W14X117	5'-2"	11'-0"	8'-0"	12#11	14#11	12#11	14#11	2 x TDA6	
PC7	HP W14X117	5'-2"	11'-0"	10'-6"	14#11	14#11	-	-	0	
PC7A	HP W14X117	5'-2"	11'-0"	10'-6"	14#11	14#11	14#11	14#11	2 x TDA1	
PC7B	HP W14X117	5'-2"	11'-0"	10'-6"	14#11	14#11	14#11	14#11	2 x TDA4	
PC8	HP W14X117	5'-2"	11'-0"	10'-6"	14#11	16#11	-	-	0	
PC8A	HP W14X117	5'-6"	11'-0"	11'-0"	16#11	16#11	16#11	16#11	2 x TDA1	
PC8B	HP W14X117	5'-6"	11'-0"	11'-0"	16#11	16#11	16#11	16#11	2 x TDA4	
PC10	HP W14X117	7'-2"	17'-0"	8'-0"	22#11	30#11	-	-	0	
PC10A	HP W14X117	7'-2"	14'-0"	11'-0"	22#11	22#11	22#11	22#11	1 x TDA1	

- NOTES:
- TOP OF PILE CAP SHALL BE AT UNDERSIDE OF CELLAR SLAB U.N.O.
 - REFER TO DWG S5-0102 FOR TYPICAL PILECAP & ROCK ANCHOR DETAILS
 - SEE ROCK ANCHOR SCHEDULE (THIS DWG.) FOR ROCK ANCHOR INFO.

1 PILE CAP SCHEDULE

NOT TO SCALE

GRADE BEAM SCHEDULE												f'c = SEE DWG NOTES
GRADE BEAM MARK	CONCRETE STRENGTH (ksi)	SIZE		REINFORCEMENT				STIRRUPS			REMARKS	
		W (IN)	H (IN)	LEFT END TOP BARS	RIGHT END TOP BARS	BOTTOM BARS	SIDE BARS EACH FACE SEE NOTE 3	TYPE	SIZE	SPACING EACH END		
GB1	SEE PLAN	84	42	18#11	18#11	18#11	-	2A	#4	22"	-	
GB2	SEE PLAN	60	74	20#11	20#11	20#11	10#11	4A	#4	12"	TOP & BOTI BARS IN TWO LAYERS	
GB3	SEE PLAN	42	48	14#11	14#11	6#9	-	4A	#4	12"	TOP BARS IN TWO LAYERS	
GB4	SEE PLAN	52	48	22#11	22#11	11#7	-	4A	#4	12"	TOP BARS IN TWO LAYERS	
GB5	SEE PLAN	42	60	15#11	15#11	6#7	-	4A	#4	9"	TOP BARS IN TWO LAYERS	
GB6	SEE PLAN	42	48	6#9	6#9	8#9	-	2A	#4	10"	-	
GB7	SEE PLAN	54	60	25#11	25#11	10#7	-	4A	#4	5"	TOP BARS IN TWO LAYERS	
GB8	SEE PLAN	42	60	10#11	10#11	8#9	-	2A	#4	8"	-	
GB9	SEE PLAN	24	73	4#6	4#6	14#11	-	4A	#4	12"	BOTT BARS IN TWO LAYERS	
GB10	SEE PLAN	24	80	12#11	12#11	12#11	-	2A	#4	12"	TOP & BOTI BARS IN TWO LAYERS	
GB11	SEE PLAN	52	62	34#11	34#11	8#8	-	2A	#4	12"	TOP BARS IN TWO LAYERS	
GB12	10	84	48	22#11	22#11	20#11	6#11	8A	#4	10"	TOP & BOTI BARS IN TWO LAYERS	
GB13	10	84	76	22#11	22#11	20#11	10#11	8A	#4	10"	TOP & BOTI BARS IN TWO LAYERS	
GB14	8	48	54	30#11	30#11	30#11	6#11	4A	#4	12"	TOP & BOTI BARS IN THREE LAYERS	
GB15	SEE PLAN	30	42	6#10	6#10	6#8	-	2A	#4	12"	-	
GB16	8	48	32	16#11	16#11	16#11	4#11	4A	#4	6"	-	
GB17	SEE PLAN	10	24	3#9	3#9	6#8	-	2A	#4	12"	-	
GB18	SEE PLAN	42	52	13#11	13#11	6#8	-	2A	#4	8"	-	
GB19	SEE PLAN	24	48	7#11	7#11	6#8	-	2A	#4	12"	-	
GB20	SEE PLAN	30	48	8#11	8#11	6#8	-	4A	#4	12"	-	
GB21	SEE PLAN	84	28	6#8	6#8	12#11	-	2A	#4	12"	-	

- NOTES:
- SEE PLAN FOR TOP OF GRADE BEAM ELEVATION
 - LEFT END AND RIGHT END OF BEAM ARE DEFINED ON BEAM ORIENTATION KEY PLAN
 - SEE TYPICAL GRADE BEAM SECTION DETAIL WHERE NO SIDE BARS ARE INDICATED

REINFORCEMENT LEGEND:

NUMBER OF BARS

BAR SIZE

BAR LENGTH

3-#9x7'-2"

4 GRADE BEAM SCHEDULE

ROCK ANCHOR SCHEDULE										
TIE DOWN ANCHOR DESIGNATION	TENSIONING FORCE	MIN. ANCHOR DIA.	CASING		ROCK SOCKET		ANCHOR PLATE			
			OD (in)	t (in)	NOMINAL DIA (in)	MIN. SOCKET LENGTH (ft)	D (in)	W (in)	t (in)	
TDA1	140	1.375	7	0.408	5.5	13	10	10	3	
TDA2	170	1.75	7	0.408	5.5	14	10	10	3	
TDA3	220	1.75	7	0.408	5.5	16	11	11	3	
TDA4	300	2.25	9.625	0.545	8	17	13	13	3 1/2	
TDA5	350	2.25	9.625	0.545	8	18	14	14	3 1/2	
TDA6	400	2.5	9.625	0.545	8	20	14	14	4	
TDA7	500	3	9.625	0.545	8	22	16	16	4	

- NOTES:
- CASING TO BE 80 ksi API N80 OILFIELD SECONDARY WITH FLUSH JOINT THREADS.
 - CASING CAP TO BE GRADE 50 MIN.
 - ANCHORS TO BE GRADE 150.
 - REFER TO DWG S5-0102 FOR TYPICAL ROCK ANCHOR DETAILS.

2 ROCK ANCHOR SCHEDULE

FOUNDATION WALL SCHEDULE									
MARK	CONCRETE STRENGTH f'c (PSI)	LEVEL X	T WALL THICKNESS (INCH)	CLEAR COVER (INCH)	OUTSIDE BARS	INSIDE BARS	HORIZONTAL CONTINUOUS BARS (E.F.)	REMARKS	
FW1	5000	C1	14	3	#6 @ 12"	#6 @ 10"	#6 @ 12"		
FW2	5000	C1	12	3	#5 @ 12"	#5 @ 10"	#5 @ 12"		
FW3	5000	C1	12	3	#5 @ 12"	#5 @ 9"	#5 @ 12"		
FW4	5000	C1	20	3	#6 @ 12"	#10 @ 10"	#6 @ 12"		
FW5	5000	C1	36	3	#8 @ 16"	#8 @ 16"	#8 @ 16"		

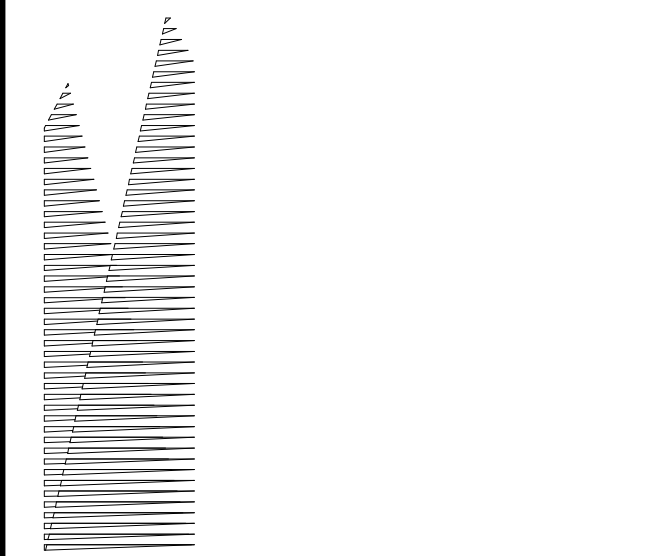
3 FOUNDATION WALL SCHEDULE

CAISSON CAP SCHEDULE										
MARK	CONCRETE STRENGTH (ksi)	SIZE			REINFORCEMENT				REMARKS	
		W	L	H	BOTTOM BARS	TOP BARS	HORIZONTAL TIES	VERTICAL TIES		
CC1	12	7'-0"	7'-0"	5'-0"	#4@8"	#4@8"	#4@8"	#4@8" (2 LEGS)	-	
CC2	12	7'-9"	20'-0"	13'-4"	54#11	8#8	#5@8" (8 LEGS)	#5@8" (8 LEGS)	BOTTOM BARS IN 3 LAYERS	
CC3	12	7'-0"	20'-0"	12'-0"	54#11	8#8	#5@8" (8 LEGS)	#5@8" (8 LEGS)	BOTTOM BARS IN 3 LAYERS	
CC4	12	7'-6"	20'-0"	12'-0"	54#11	8#8	#5@8" (8 LEGS)	#5@8" (8 LEGS)	BOTTOM BARS IN 3 LAYERS	
CC5	12	5'-0"	5'-0"	5'-0"	#4@8"	#4@8"	#4@8"	#4@8" (2 LEGS)	-	
CC6	12	9'-0"	20'-0"	14'-6"	70#11	8#8	#5@8" (8 LEGS)	#5@8" (8 LEGS)	BOTTOM BARS IN 3 LAYERS	
CC7	5	4'-0"	9'-0"	5'-0"	12#11	4#8	#4@8" (4 LEGS)	#4@8" (4 LEGS)	-	
CC8	5	4'-0"	4'-0"	5'-0"	#4@8"	#4@8"	#4@8"	#4@8" (2 LEGS)	-	
CC9	10	4'-0"	4'-0"	5'-0"	#4@8"	#4@8"	#4@8"	#4@8" (2 LEGS)	-	
CC10	12	8'-0"	7'-0"	5'-0"	#4@8"	#4@8"	#4@8"	#4@8" (2 LEGS)	-	

- NOTES:
- REFER TO DWG S5-0101 FOR TYPICAL CAISSON CAP DETAILS.
 - CONTINUOUS CAISSON CAP FOR SUPPORT OF CORE SHOWN ON S1-C001 TO BE 12 KSI CONCRETE STRENGTH.

5 CAISSON CAP SCHEDULE

CAISSON SCHEDULE														
MARK	CONCRETE STRENGTH (ksi)	SIZE		SOCKET DEPTH		REINFORCEMENT				STEEL CORE CAP PLATE DIMS			NOTES	
		SHAFT DIAMETER	PERMANENT CASING	DEPTH (Baseline)	CASING EMBEDMENT	STEEL CORES	SHEAR STUDS (Tension Caissons Only)	VERT REBAR	EXTENT OF REBAR BELOW CASING IN SOUND ROCK	WIDTH (B)	DEPTH (D)	THICKNESS (t)		
C2-1	10	24"	3/4"	11'-0"+5'-0"	0	-	-	-	7#18	-	-	-		
C2-1A	12	24"	3/4"	13'-0"+5'-0"	0	-	-	-	7#18	-	-	-		
C3-1	10	36"	3/4"	15'-0"+5'-0"	0	W12x120	-	-	-	18"	20"	2.5"		
C5-1	10	60"	3/4"	16'-0"+5'-0"	0	W14x145	-	-	-	18"	20"	2.5"		
C5-1A	12	60"	3/4"	16'-0"+5'-0"	0	W14x145	-	-	-	18"	20"	2.5"		
C5-2	10	60"	3/4"	19'-0"+5'-0"	0	W14x257	-	-	-	20"	24"	3"		
C5-2A	12	60"	3/4"	19'-0"+5'-0"	0	W14x257	-	-	-	20"	24"	3"		
C5-3	12	60"	3/4"	23'-0"+5'-0"	0	W14x311	-	-	-	20"	24"	3"		
C5-4	10	60"	3/4"	22'-0"+5'-0"	0	W14x398	-	-	-	22"	26"	3"		
C5-4A	12	60"	3/4"	22'-0"+5'-0"	0	W14x398	228	312	23x2 1/2 Ø (GR.150) + 8#18	20'-0"	22"	26"	3"	REBAR IN TWO RINGS #18 - INSIDE RING
C5-4B	10	60"	3/4"	22'-0"+5'-0"	0	W14x398	0	108	22#18	18'-0"	22"	26"	3"	
C5-4C	10	60"	3/4"	22'-0"+5'-0"	0	W14x398	0	48	22#18	15'-0"	22"	26"	3"	
C5-5	10	60"	3/4"	23'-0"+5'-0"	0	W14x500	-	-	-	24"	30"	4"		
C5-5A	10	60"	3/4"	23'-0"+5'-0"	0	W14x500	168	264	22#18	20'-0"	24"	30"	4"	
C5-5B	10	60"	3/4"	23'-0"+5'-0"	0	W14x500	48	144	10#11	18'-0"	24"	30"	4"	
C5-6	12	60"	3/4"	19'-0"+5'-0"	0	W14x257	84	168	23x2 1/2 Ø (GR.150)	20'-0"	20"	24"	3"	PROVIDE #7 @6" MIN TIES WITHIN SOCKET
C5-7	12	60"	3/4"	27'-0"+5'-0"	0	W14x500	0	84	23x2 1/2 Ø (GR.150)	15'-0"	24"	30"	4"	
C5-8	12	60"	3/4"	32'-0"+5'-0"	0	W14x605	-	-	23x2 1/2 Ø (GR.150)	18'-0"	26"	32"	4"	
C5-8A	12	60"	3/4"	29'-0"+5'-0"	0	W14x605	0	48	23x2 1/2 Ø (GR.150)	18'-0"	26"	32"	4"	
C5-9	12	60"	3/4"	32'-0"+5'-0"	0	W14x730	-	-	23x2 1/2 Ø (GR.150) + 8#18	17'-0"	26"	34"	5"	REBAR IN TWO RINGS #18 - INSIDE RING
C5-10	12	60"	3/4"	25'-0"+5'-0"	0	W14x398	-	-	-	22"	26"	3"		



Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

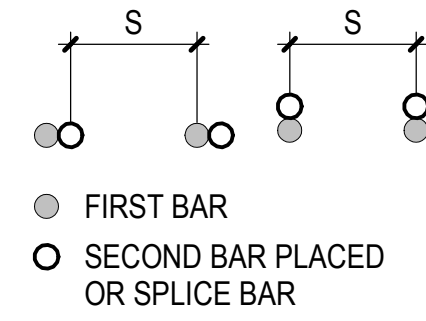
Mechanical, Electrical, Plumbing, Fire Protection
Javis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894

CAISSON REINFORCEMENT LAP SPLICE LENGTH SCHEDULE (INCHES)				
BAR SIZE	MIN BAR SPACING (INCHES)	TENSION (LTS)		COMPRESSION (LCS)
		f _c = 10 KSI	f _c = 12 KSI	
#5	2.125	20	20	19
#6	2.250	24	24	23
#7	2.375	35	35	27
#8	2.500	39	39	30
#9	2.875	55	55	43
#10	3.250	63	63	49
#11	3.625	69	69	54

DEVELOPMENT LENGTH SCHEDULE (INCHES)																														
BAR SIZE	MIN BAR SPACING (INCHES) (MAX OF db+1" OR 2db)	TENSION												COMPRESSION																
		NOTED AS Ld ON DRAWINGS												NOTED AS Ldh ON DRAWINGS																
		f _c (PSI)												f _c (PSI)																
		3000	4000	5000	6000	7000	8000	9000	10,000	11,000	12,000	3000	4000	5000	6000	7000	8000	9000	10,000	11,000	12,000	3000	4000	5000	6000	7000	8000	9000	10,000	11,000
#3	1.375	17	15	13	12	12	12	12	12	12	9	8	7	6	6	6	6	6	6	6	9	8	8	8	8	8	8	8	8	8
#4	1.500	22	19	17	16	15	14	13	12	12	11	10	9	8	8	7	7	6	6	6	11	10	9	9	9	9	9	9	9	9
#5	1.625	28	24	22	20	18	17	16	15	15	14	12	11	10	9	9	8	8	8	8	14	12	12	12	12	12	12	12	12	12
#6	1.750	33	29	26	24	22	21	19	18	18	18	17	15	13	12	11	11	10	9	9	17	15	14	14	14	14	14	14	14	14
#7	1.875	48	42	38	34	32	30	28	27	27	27	20	17	15	14	13	12	12	11	11	20	17	16	16	16	16	16	16	16	16
#8	2.000	55	48	43	39	36	34	32	30	30	30	22	19	17	16	15	14	13	12	12	22	20	19	18	18	18	18	18	18	
#9	2.375	76	68	60	55	52	48	45	43	43	43	32	28	25	23	22	20	19	18	18	32	28	27	27	27	27	27	27	27	
#10	2.625	88	77	68	63	58	54	52	49	49	49	35	32	28	25	24	23	22	20	20	35	32	29	29	29	29	29	29	29	
#11	2.875	98	84	75	69	64	60	57	54	54	54	39	34	30	28	27	24	23	22	22	39	34	33	33	33	33	33	33	33	

LAP SPLICE NOTES:

- TABULATED VALUES ARE PER ACI-08 REQUIREMENTS FOR NORMALWEIGHT CONCRETE. THE VALUES ON THIS SHEET DO NOT APPLY TO LIGHTWEIGHT CONCRETE.
- SEE TYPICAL DETAILS FOR CLEAR COVER.
- MINIMUM BAR SPACING DIAGRAM - "S"



- WHERE ACTUAL CONDITIONS DIFFER FROM THE CLEAR COVER SHOWN ON THE TYPICAL DETAILS OR DIFFER FROM PROVIDED SCHEDULED BAR SIZE, MINIMUM SPACING AND/OR f_c LENGTHS SHALL BE ADJUSTED ONLY WITH THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.
- TABULATED VALUES ARE FOR NON-EPOXY COATED REINFORCEMENT. FOR EPOXY COATED REINFORCEMENT MULTIPLY VALUES BY 1.3 FOR "TOP BARS" AND 1.5 FOR ALL OTHER REINFORCEMENT.
- WHERE BARS OF DIFFERENT SIZES ARE LAP SPICED IN TENSION, THE LAP LENGTH SHALL BE THE TENSION LAP SPLICE LENGTH (LTS) OF THE SMALLER BAR.
- WHERE BARS OF DIFFERENT SIZES ARE LAP SPICED IN COMPRESSION, THE COMPRESSION LAP LENGTH (LCS) SHALL BE THE LARGER OF THE COMPRESSION DEVELOPMENT LENGTH (Ldc) OF THE LARGER BAR OR THE COMPRESSION LAP SPLICE LENGTH OF THE SMALLER BAR.
- "TOP BARS" ARE DEFINED PER ACI HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE. "OTHER BARS" ARE ALL BARS FOR WHICH THIS DOES NOT APPLY.
- FOUNDATION WALL LAP SPLICES ARE BASED ON A MINIMUM 2 INCH CLEAR COVER. IF CLEAR COVER IS REDUCED ON INTERIOR FACE, LAP SPLICES MUST BE REVISED.
- TABULATED VALUES FOR REBAR fy = 60 ksi FOR BARS #6 AND SMALLER, fy = 75 ksi FOR BARS #8 AND LARGER.

COLUMN REINFORCEMENT LAP SPLICE LENGTH SCHEDULE (INCHES)											
BAR SIZE	MIN BAR SPACING (INCHES)	TENSION (LTS)									COMPRESSION (LCS)
		f _c = 4 KSI	f _c = 5 KSI	f _c = 6 KSI	f _c = 7 KSI	f _c = 8 KSI	f _c = 9 KSI	f _c = 10 KSI	f _c = 11 KSI	f _c = 12 KSI	
#5	2.125	31	28	26	24	22	21	20	20	20	19
#6	2.250	37	34	31	28	27	25	24	24	24	23
#7	2.375	54	49	45	41	39	36	35	35	35	27
#8	2.500	62	56	51	47	44	42	39	39	39	30
#9	2.875	88	79	72	67	59	55	55	55	55	43
#10	3.250	99	89	80	75	70	67	63	63	63	49
#11	3.625	109	98	89	83	78	73	69	69	69	54

GRADE BEAM/BEAM REINFORCEMENT LAP SPLICE LENGTH SCHEDULE (INCHES)															
BAR SIZE	MIN BAR SPACING (INCHES)	TENSION (LTS)													
		f _c = 4 KSI		f _c = 5 KSI		f _c = 6 KSI		f _c = 7 KSI		f _c = 8 KSI		f _c = 9 KSI		f _c = 10 KSI	
		TOP BARS	OTHER	TOP BARS	OTHER	TOP BARS	OTHER	TOP BARS	OTHER	TOP BARS	OTHER	TOP BARS	OTHER	TOP BARS	OTHER
#4	1.500	33	25	29	23	27	21	25	19	23	18	22	17	21	16
#5	1.625	41	31	36	28	33	26	31	24	29	22	27	21	26	20
#6	1.750	49	37	44	34	40	31	37	28	35	27	33	25	31	24
#7	1.875	71	54	63	49	58	45	54	41	50	39	47	36	45	35
#8	2.000	81	62	72	56	66	51	61	47	57	44	54	42	51	38
#9	2.375	114	88	102	79	93	72	87	67	80	63	77	59	73	55
#10	2.625	128	99	115	89	105	80	97	75	90	70	85	67	82	63
#11	2.875	143	109	128	98	117	89	108	83	100	78	95	73	90	69

SLAB REINFORCEMENT LAP SPLICE LENGTH SCHEDULE (INCHES)															
BAR SIZE	MIN BAR SPACING (INCHES)	TENSION LAP (LTS)													
		f _c = 4 KSI		f _c = 5 KSI		f _c = 6 KSI		f _c = 7 KSI		f _c = 8 KSI		f _c = 9 KSI		f _c = 10 KSI	
		TOP BARS	OTHER	TOP BARS	OTHER	TOP BARS	OTHER	TOP BARS	OTHER	TOP BARS	OTHER	TOP BARS	OTHER	TOP BARS	OTHER
#4	1.500	33	25	29	23	27	21	25	19	23	18	22	17	21	16
#5	1.875	41	31	36	28	33	26	31	24	29	22	27	21	26	20
#6	2.250	49	37	44	34	40	31	37	28	35	27	33	25	31	24
#7	2.625	71	54	63	49	58	45	54	41	50	39	47	36	45	35
#8	3.000	81	62	72	56	66	51	61	47	57	44	54	42	51	38
#9	3.500	114	88	102	79	93	72	87	67	80	63	77	59	73	55
#10	3.875	128	99	115	89	105	80	97	75	90	70	85	67	82	63
#11	4.250	143	109	128	98	117	89	108	83	100	78	95	73	90	69


FOUNDATION WALL REINFORCEMENT - VERTICAL BARS LAP SPLICE LENGTH SCHEDULE (INCHES)											
BAR SIZE	MIN BAR SPACING (INCHES)	TENSION (LTS)									COMPRESSION (LCS)
		f _c = 4 KSI	f _c = 5 KSI	f _c = 6 KSI	f _c = 7 KSI	f _c = 8 KSI	f _c = 9 KSI	f _c = 10 KSI	f _c = 11 KSI	f _c = 12 KSI	
#4	2.000	25	23	21	19	18	17	16	16	16	15
#5	2.125	31	28	26	24	22	21	20	20	20	19
#6	2.250	37	34	31	28	27	25	24	24	24	23
#7	2.625	54	49	45	41	39	36	35	35	35	27
#8	3.000	62	56	51	47	44	42	39	39	39	30
#9	3.500	88	79	72	67	63	59	55	55	55	43
#10	3.875	99	89	80	75	70	67	63	63	63	49
#11	4.250	109	98	89	83	78	73	69	69	69	54

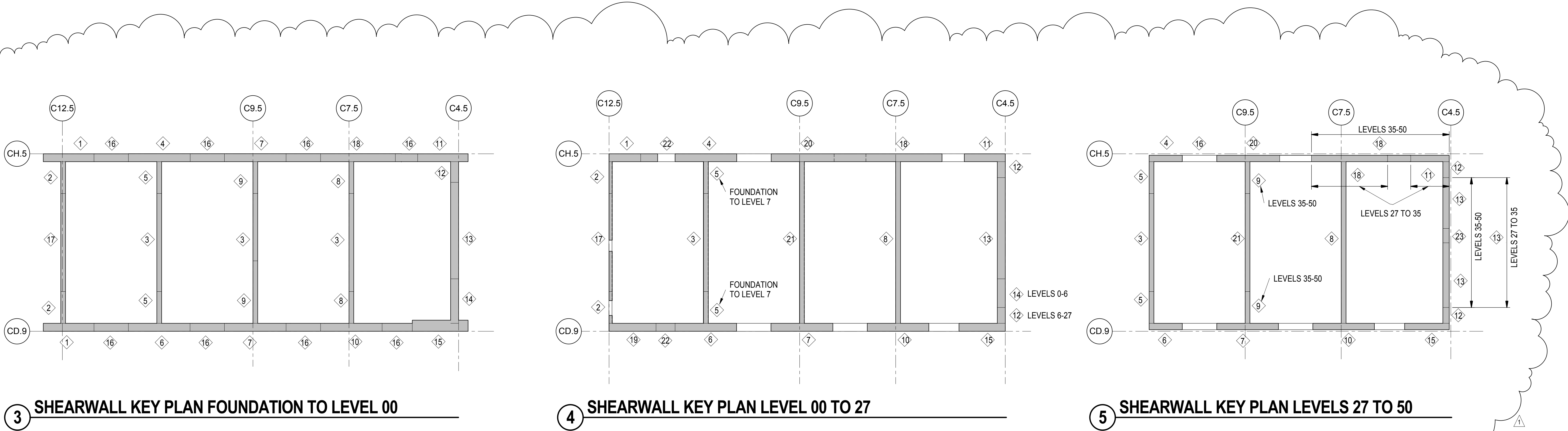
FOUNDATION WALL REINFORCEMENT - HORIZONTAL BARS LAP SPLICE LENGTH SCHEDULE (INCHES)											
BAR SIZE	MIN BAR SPACING (INCHES)	TENSION (LTS)									COMPRESSION (LCS)
		f _c = 4 KSI	f _c = 5 KSI	f _c = 6 KSI	f _c = 7 KSI	f _c = 8 KSI	f _c = 9 KSI	f _c = 10 KSI	f _c = 11 KSI	f _c = 12 KSI	
#4	1.500	33	30	27	25	23	22	21	21	21	15
#5	1.875	40	36	34	31	29	27	26	26	26	19
#6	2.250	48	44	40	36	35	33	31	31	32	23
#7	2.625	70	64	59	53	51	47	46	46	46	27
#8	3.000	81	72	66	61	57	55	51	51	51	30
#9	3.500	114	103	93	87	82	77	72	72	72	43
#10	3.875	129	115	104	98	92	87	82	82	82	49
#11	4.250	142	127	115	108	102	94	90	90	90	54

SHEARWALL REINFORCEMENT - VERTICAL BARS LAP SPLICE LENGTH SCHEDULE (INCHES)											
BAR SIZE	MIN BAR SPACING (INCHES)	TENSION (LTS)									COMPRESSION (LCS)
		f _c = 4 KSI	f _c = 5 KSI	f _c = 6 KSI	f _c = 7 KSI	f _c = 8 KSI	f _c = 9 KSI	f _c = 10 KSI	f _c = 11 KSI	f _c = 12 KSI	
#4	2.000	25	23	21	19	18	17	16	16	16	15
#5	2.125	31	28	26	24	22	21	20	20	20	19
#6	2.250	37	34	31	28	27	25	24	24	24	23
#7	2.375	54	49	45	41	39	36	35	35	35	27
#8	2.500	62	56	51	47	44	42	39	39	39	30
#9	2.875	88	79	72	67	63	59	55	55	55	43
#10	3.250	148	133	120	112	105	99	94	94	94	49
#11	3.625	164	147	134	124	117	109	104	104	104	54



1 SHEARWALL SCHEDULE 1

Damian Titus

Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date/Time: Feb 6, 2013 – 3:21 PM
NYC Development Hub



- SHEARWALL NOTES:**
- FOR TOP OF STRUCTURAL SLAB ELEVATIONS SEE PLANS.
 - SEE TYPICAL SHEARWALL REINFORCEMENT ARRANGEMENT - PLAN FOR VERTICAL BAR AND TIE ARRANGEMENT INFORMATION.
 - PROVIDE COMPRESSION LAP SPICE AT ALL VERTICAL BARS UNLESS OTHERWISE NOTED SEE SHEARWALL LAP SPICE SCHEDULE.
 - VERTICAL AND HORIZONTAL REINFORCEMENT SHALL BE PLACED ON EACH FACE OF WALL UNLESS NOTED OTHERWISE.
 - FOR VERTICAL BARS DESIGNATED AS (3L), PROVIDE AN ADDITIONAL LAYER OF REINFORCEMENT AT CENTERLINE OF WALL. FOR VERTICAL BARS DESIGNATED AS (4L), PROVIDE 2 ADDITIONAL LAYERS OF REINFORCEMENT EQUALLY SPACED BETWEEN THE VERTICAL REINFORCEMENT PLACED ON EACH FACE OF THE WALL.
 - AT BARS DESIGNATED AS TENSION (T) PROVIDE TENSION LAP SPICE AT ALL VERTICAL BARS SEE SHEARWALL LAP SPICE SCHEDULE.
 - ALL SHEARWALL HORIZONTAL BARS SHALL BE LAPPED USING THE TENSION LAP SPICE LENGTHS SEE SHEARWALL LAP SPICE SCHEDULE.
 - FOR HORIZONTAL BARS DESIGNATED AS (4LEG), PROVIDE 4 CURTAINS OF BARS.
 - SHEARWALL PENETRATIONS ARE SHOWN ON THE SHEARWALL ELEVATIONS ADDITIONAL PENETRATIONS ARE NOT ALLOWED UNLESS APPROVED IN WRITING BY THE SER.
 - "NONE" INDICATES NO TIES ARE REQUIRED
"TIED" INDICATES TYPICAL TIES AS SHOWN IN TYPICAL SHEARWALL REINFORCEMENT ARRANGEMENT - PLAN
"FULL" INDICATES FULLY TIED AS SHOWN IN FULLY TIED SHEARWALL ZONES DETAIL.
 - MECHANICAL COUPLERS ARE REQUIRED FOR SPLICES OF #14 BARS AND LARGER.
 - FOR ADDITIONAL INFORMATION REFER TO THE FOLLOWING DRAWINGS:
- | GENERAL NOTES | S0 SERIES |
|----------------------|----------------|
| SHEARWALL DETAILS | S1 SERIES |
| SUPER STRUCTURE PLAN | S2-0100 SERIES |
| SHEARWALL ELEVATIONS | S5-0500 SERIES |
| SHEARWALL DETAILS | S6-0200 SERIES |
| SHEARWALL SCHEDULE | |

- SHEARWALL CONSTRUCTION TOLERANCES NOTES:**
- WALL THICKNESS - 1/4" TO +3/8"
 - VARIATIONS FROM PLUMB:
A. IN ANY STORY ± 1/2"
B. ENTIRE HEIGHT ± 1"
 - VARIATION IN LOCATION OF EMBEDDED PLATES:
A. HORIZONTAL AND VERTICAL ± 1/2"
B. ALIGNMENT AND PLUMB ± 1/4" IN 12"
 - VARIATION IN SIZE OF SLEEVES ± 1/2" (TYPICAL)
 - DOOR BLOCKOUTS:
A. SIDE JAMBS + 1" PLUS DRAFT
B. HEADS + 1" PLUS DRAFT
 - OTHER BLOCKOUTS + 1", - 1/4" PLUS DRAFT

CONCRETE SHEARWALL SCHEDULE																								
CONCRETE STRENGTH F _c (KSI)	SHEARWALL MARK	17			18			19			20			21			22			23			SHEARWALL MARK	
	FLOOR	VERT BARS EACH FACE	HORIZ BARS EACH FACE	TIES	VERT BARS EACH FACE	HORIZ BARS EACH FACE	TIES	VERT BARS EACH FACE	HORIZ BARS EACH FACE	TIES	VERT BARS EACH FACE	HORIZ BARS EACH FACE	TIES	VERT BARS EACH FACE	HORIZ BARS EACH FACE	TIES	VERT BARS EACH FACE	HORIZ BARS EACH FACE	TIES	VERT BARS EACH FACE	HORIZ BARS EACH FACE	TIES	FLOOR	
8	LEVEL 49 - ROOF				#6@18"-T	#6@18"	NONE				12-#6-T	#6@18"	NONE	#6@18"-T	#6@18"	TIED				11-#6-T	#6@18"	NONE	LEVEL 49 - ROOF	
	LEVEL 47 - LEVEL 49				#8@18"-T	#6@18"	NONE				12-#6-T	#6@18"	NONE	#6@18"-T	#6@18"	TIED				11-#6-T	#6@18"	NONE	LEVEL 47 - LEVEL 49	
	LEVEL 42 - LEVEL 47				#8@18"-T	#6@14"	NONE				12-#6-T	#6@18"	NONE	#6@18"-T	#6@18"	NONE				6-#6-T	#6@18"	NONE	LEVEL 42 - LEVEL 47	
	LEVEL 38 - LEVEL 42				#8@18"-T	#6@10"	NONE				12-#6-T	#6@18"	NONE	#6@18"-T	#6@18"	NONE				6-#6-T	#6@18"	NONE	LEVEL 38 - LEVEL 42	
	LEVEL 35 - LEVEL 38				#8@10"-T	#6@10"	FULL				26-#8-T	#6@10"	FULL	#6@18"-T	#6@18"	TIED				8-#6-T	#6@18"	NONE	LEVEL 35 - LEVEL 38	
	LEVEL 31 - LEVEL 35				35-#8-T	#6@6"	NONE				26-#8-T	#6@10"	NONE	#6@10"-T	#6@9"	NONE								LEVEL 31 - LEVEL 35
	LEVEL 27 - LEVEL 31				30-#8-T	#6@10"	NONE				36-#8-T	#6@10"	FULL	#6@18"-T	#6@18"	NONE								LEVEL 27 - LEVEL 31
	LEVEL 22 - LEVEL 27	#8@11"-T	#6@6"	TIED	30-#8-T	#6@9"	NONE	26-#11-T	#8@5"	FULL	29-#8-T	#6@9"	NONE	#6@18"-T	#6@10"	NONE	#8@5"	#8@5"	TIED					LEVEL 22 - LEVEL 27
10	LEVEL 18 - LEVEL 22	#8@18"-T	#6@10"	TIED	30-#8-T	#6@10"	NONE	13-#11-T	#6@6"	FULL	29-#8-T	#6@10"	NONE	#6@10"-T	#6@6"	NONE								LEVEL 18 - LEVEL 22
	LEVEL 14 - LEVEL 18	#8@16"-T	#6@14"	TIED	48-#8-T	#6@6"	NONE	13-#11-T	#6@6"	NONE	41-#8-T	#6@6"	NONE	#6@10"-T	#6@6"	NONE								LEVEL 14 - LEVEL 18
	LEVEL 10 - LEVEL 14	#8@18"-T	#6@18"	TIED	24-#11-T	#6@9"	NONE	13-#11-T	#6@6"	FULL	24-#11-T	#6@9"	FULL	#6@12"-T	#6@6"	NONE								LEVEL 10 - LEVEL 14
	LEVEL 7 - LEVEL 10	#8@13"-T	#6@6"	TIED	31-#11-T	#6@4"	NONE	17-#14-T	#8@5"	FULL	37-#11-T	#6@4"	FULL	#6@16"-T	#6@6"	NONE								LEVEL 7 - LEVEL 10
12	LEVEL 6 - LEVEL 7	#8@9"-T	#6@6"	TIED	43-#11-T	#8@5"	FULL	17-#14-T	#6@4"	FULL	37-#11-T	#6@4"	FULL	#6@18"-T	#6@10"	NONE								LEVEL 6 - LEVEL 7
	LEVEL 4 - LEVEL 6	#8@10"-T	#6@6"	TIED	43-#11-T	#8@5"	FULL	17-#14-T	#8@5"	FULL	30-#14-T	#8@9"	FULL	#6@11"-T	#6@9"	NONE								LEVEL 4 - LEVEL 6
	LEVEL 1 - LEVEL 4	#8@12"-T	#6@10"	TIED	43-#11-T	#6@4"	FULL	22-#14-T	#8@4"	FULL	40-#14-T	#6@4"	FULL	#6@18"-T	#6@10"	NONE								LEVEL 1 - LEVEL 4
	LEVEL 0 - LEVEL 1	#8@6"-T	#6@6"	TIED	46-#11-T	#8@5"	FULL	22-#14(3L)-T	#9@5"	FULL	40-#14-T	#8@5"	FULL	#6@18"-T	#6@14"	NONE	#9@10"	#6@4"	TIED					LEVEL 0 - LEVEL 1
	CELLAR - LEVEL 0	#8@6"-T	#6@6"	TIED	46-#11-T	#8@5"	FULL																	CELLAR - LEVEL 0
	DEPRESSED CORE PIT	#8@6"-T	#8@6"	TIED	46-#11-T	#9@6"	FULL																	DEPRESSED CORE PIT
	DOWELS	#8@6"-T			46-#11-T																		DOWELS	
	REMARKS																						REMARKS	

2 SHEARWALL SCHEDULE III

CONCRETE SHEARWALL SCHEDULE																										
CONCRETE STRENGTH f _c (KSI)	SHEARWALL MARK	9			10			11			12			13			14			15			16			SHEARWALL MARK
		VERT BARS EACH FACE	HORIZ BARS EACH FACE	TIES	VERT BARS EACH FACE	HORIZ BARS EACH FACE	TIES	VERT BARS EACH FACE	HORIZ BARS EACH FACE	TIES	VERT BARS EACH FACE	HORIZ BARS EACH FACE	TIES	VERT BARS EACH FACE	HORIZ BARS EACH FACE	TIES	VERT BARS EACH FACE	HORIZ BARS EACH FACE	TIES	VERT BARS EACH FACE	HORIZ BARS EACH FACE	TIES				
8	FLOOR																							FLOOR		
	LEVEL 49 - ROOF	16-#8-T	#6@18"	FULL	22-#6-T	#6@10"	NONE				9-#8-T	#6@18"	NONE	#6@18"-T	#6@18"	NONE				17-#8-T	#6@18"	NONE			LEVEL 49 - ROOF	
	LEVEL 47 - LEVEL 49	18-#8-T	#6@18"	FULL	22-#6-T	#6@18"	NONE				9-#8-T	#6@18"	NONE	#6@18"-T	#6@18"	NONE				14-#8-T	#6@18"	NONE			LEVEL 47 - LEVEL 49	
	LEVEL 42 - LEVEL 47	18-#8-T	#6@18"	NONE	15-#6	#6@18"	NONE				9-#8-T	#6@18"	NONE	#6@18"-T	#6@18"	NONE				14-#8-T	#6@18"	NONE			LEVEL 42 - LEVEL 47	
	LEVEL 38 - LEVEL 42	18-#8-T	#6@18"	NONE	23-#6-T	#6@18"	NONE				12-#8-T	#6@18"	FULL	#6@18"-T	#6@18"	NONE				14-#8-T	#6@18"	NONE			LEVEL 38 - LEVEL 42	
	LEVEL 35 - LEVEL 38	20-#8-T	#6@18"	FULL	30-#11-T	#8@5"	FULL				12-#8-T	#6@14"	FULL	#6@14"-T	#6@14"	TIED				21-#11-T	#8@9"	FULL			LEVEL 35 - LEVEL 38	
	LEVEL 31 - LEVEL 35				15-#8-T	#6@10"	NONE	13-#8-T	#6@10"	NONE	12-#8-T	#6@14"	FULL	#6@10"-T	#6@14"	TIED				21-#8-T	#6@10"	NONE	#6@18"	#6@18"	LEVEL 31 - LEVEL 35	
	LEVEL 27 - LEVEL 31				32-#8-T	#6@10"	NONE	13-#8-T	#6@14"	NONE	7-#11-T	#6@10"	FULL	#9@15"-T	#6@10"	TIED				21-#8-T	#6@10"	NONE			LEVEL 27 - LEVEL 31	
10	LEVEL 22 - LEVEL 27				32-#8-T	#6@6"	NONE	13-#8-T	#6@6"	NONE	7-#11-T	#6@10"	FULL	#9@15"-T	#6@10"	TIED				21-#8-T	#6@6"	NONE			LEVEL 22 - LEVEL 27	
	LEVEL 18 - LEVEL 22				32-#8-T	#6@10"	NONE	10-#11-T	#6@10"	NONE	9-#11-T	#6@10"	FULL	#9@15"-T	#6@10"	TIED				11-#11-T	#6@10"	NONE			LEVEL 18 - LEVEL 22	
	LEVEL 14 - LEVEL 18				32-#8-T	#6@6"	NONE	10-#11-T	#6@10"	NONE	14-#14-T	#6@10"	FULL	#9@15"-T	#6@10"	TIED				11-#11-T	#6@6"	NONE			LEVEL 14 - LEVEL 18	
	LEVEL 10 - LEVEL 14				16-#11-T	#6@6"	NONE	10-#11-T	#6@6"	NONE	14-#14-T	#6@10"	FULL	#9@15"-T	#6@10"	TIED				11-#11-T	#6@4"	NONE			LEVEL 10 - LEVEL 14	
	LEVEL 7 - LEVEL 10				28-#11-T	#6@6"	FULL	24-#14-T	#6@4"	FULL	14-#14-T	#6@6"	FULL	#9@15"-T	#6@6"	TIED				21-#14-T	#6@6"	FULL			LEVEL 7 - LEVEL 10	
	LEVEL 6 - LEVEL 7				28-#11-T	#6@6"	FULL	15-#14-T	#6@6"	FULL	14-#14-T	#6@10"	FULL	#9@15"-T	#6@10"	TIED				21-#14-T	#6@6"	FULL			LEVEL 6 - LEVEL 7	
	LEVEL 4 - LEVEL 6				28-#11-T	#8@5"	FULL	15-#14-T	#8@5"	FULL	17-#14-T	#6@4"	FULL	#11@16"-T	#6@4"	TIED	17-#14-T	#6@4"	FULL	25-#14-T	#6@4"	FULL			LEVEL 4 - LEVEL 6	
	LEVEL 1 - LEVEL 4				38-#14-T	#8@5"	FULL	26-#14-T	#6@4"	FULL	17-#14-T	#6@10"	FULL	#11@16"-T	#6@10"	TIED				32-#14-T	#6@4"	FULL			LEVEL 1 - LEVEL 4	
12	LEVEL 0 - LEVEL 1				38-#14(3L)-T	#6@4"	FULL	26-#14(4L)-T	#6@6"	FULL	17-#14(4L)-T	#6@10"	FULL	#11@16"-T	#6@10"	TIED	25-#14 (3L)-T	#6@10"	FULL	38-#14(4L)-T	#9@10"(4LEG)	FULL			LEVEL 0 - LEVEL 1	
	CELLAR - LEVEL 0	17-#11-T	#6@14"	FULL	38-#14(3L)-T	#8@5"	FULL	40-#14(4L)-T	#8@5"	FULL	17-#14(4L)-T	#8@9"	FULL	#11@16"-T	#8@9"	TIED	25-#14 (3L)-T	#8@9"	FULL	38-#14(4L)-T	#9@10"(4LEG)	FULL			CELLAR - LEVEL 0	
	DEPRESSED CORE PIT	17-#11-T	#8@6"	FULL	38-#14(3L)-T	#8@6"	FULL	40-#14(4L)-T	#9@10"(4LEG)	FULL	17-#14(4L)-T	#10@6"	FULL	#11@16"-T	#10@6"	TIED	25-#14 (3L)-T	#10@6"	FULL	38-#14(4L)-T	#9@10"(4LEG)	FULL	#7@12"	#7@12"	DEPRESSED CORE PIT	
	DOWELS	17-#11-T			38-#14(3L)-T			40-#14(4L)-T			17-#14(4L)-T			#11@16"			25-#14 (3L)-T			38-#14(4L)-T					DOWELS	
	REMARKS																								REMARKS	

1 SHEARWALL SCHEDULE II

Damian Titus

Buildings

APPROVED

Under Directive 2 of 1975

AMENDED APPLICATION

Date/Time: Feb 6, 2013 - 3:21 PM

NYC Development Hub

Project No.

1775.10

Author

Drawn By

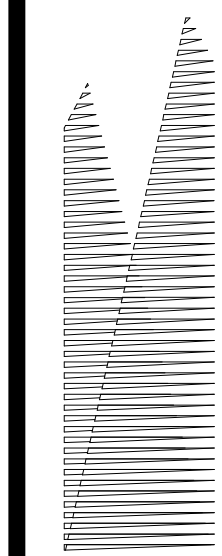
Check By

Scale

Revision

HUDSON YARDS - TOWER C

501 WEST 30TH STREET
NEW YORK, NY



Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

Mechanical, Electrical, Plumbing, Fire Protection
Jarvis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894

RE-ISSUE FOR FILING	02/04/2013	
ISSUE FOR FILING	09/19/2012	
No.	Description	Date

Key: F&S

Key Plan

Date:	
Project No.	1775.10
Author	
Drawn By	
Check By	
Scale	
Revision	

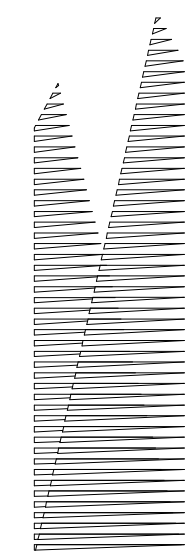
HYE-TC-S6-0202

SHEARWALL SCHEDULES II

Drawing Number
S6-0202
Sheet Number
S-126.01
SHEET 36 OF 41

**HUDSON YARDS -
TOWER C**

501 WEST 30TH STREET
NEW YORK, NY



Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX.XXX.XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
Address
TEL: XXX.XXX.XXXX FAX: XXX.XXX.XXXX

Architect
Kohn Pedersen Fox Associates
PCArchitects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526

Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

Mechanical, Electrical, Plumbing, Fire Protection
Jaros Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894

SHEAR WALL SCHEDULE																						
CONCRETE STRENGTH f _c (PSI)	SHEAR WALL MARK FLOOR	WALL C54				WALL C43				WALL C40				WALL C32				WALL C29				SHEAR WALL MARK FLOOR
		WALL THICKNESS	VERT BAR EACH FACE	HORIZ BAR EACH FACE	TIES	WALL THICKNESS	VERT BAR EACH FACE	HORIZ BAR EACH FACE	TIES	WALL THICKNESS	VERT BAR EACH FACE	HORIZ BAR EACH FACE	TIES	WALL THICKNESS	VERT BAR EACH FACE	HORIZ BAR EACH FACE	TIES	WALL THICKNESS	VERT BAR EACH FACE	HORIZ BAR EACH FACE	TIES	
		6,000	GROUND FLOOR CELLAR LEVEL	18 in	#8 @ 9 in	#5 @ 12 in		18 in	#8 @ 9 in	#4 @ 18 in		18 in	#8 @ 9 in	#4 @ 18 in		18 in	#8 @ 9 in	#5 @ 12 in		18 in	#8 @ 9 in	

[illegible]

Key Point

Issue Date:	09/14/12
Project No.	1776.10
Drawn By:	Author
Sheet Number	



HYE -TC -S6-0210

Drawing Task

TERRAFIRM SHEAR WALL SCHEDULE

Drawing Number

S6-0210

B-Scan Drawing Number
S-155.00

SHEET 37 OF 41

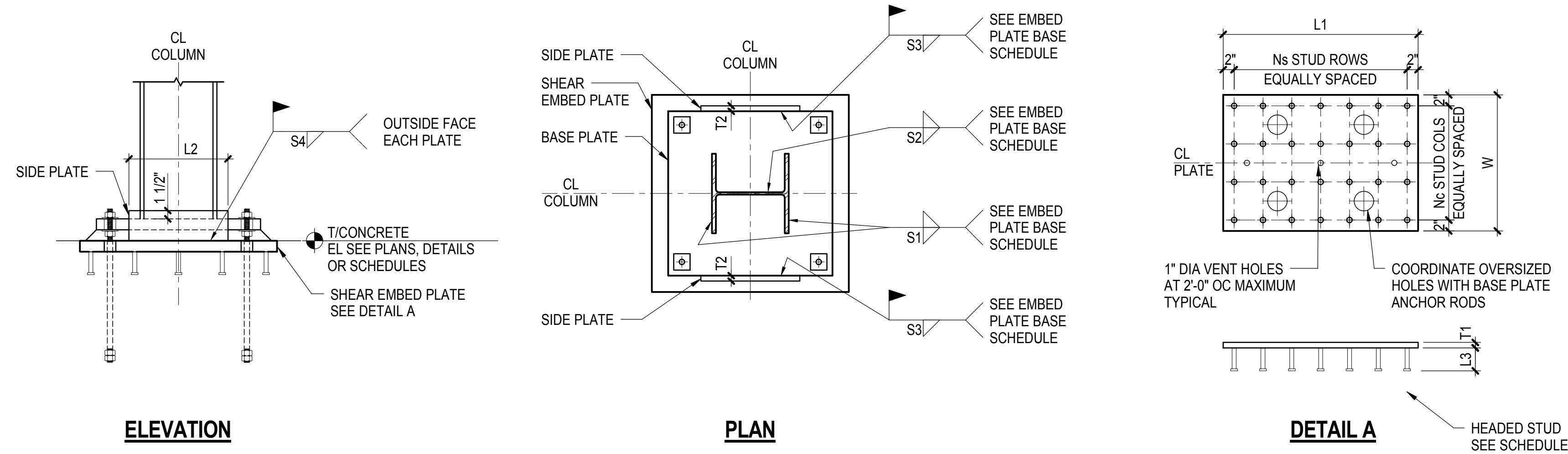
REINFORCED CONCRETE BEAM SCHEDULE
C:\Users\Gburda\Documents\20130204_DCS_Rev1.rvt
5/6/2013 5:14:56 PM

REINFORCED CONCRETE BEAM SCHEDULE													For SEE GENERAL NOTES	
BEAM MARK	SIZE		REINFORCEMENT										REMARKS	
	W (IN)	H (IN)	LEFT END TOP BARS		RIGHT END TOP BARS		BOTTOM BARS		SIDE BARS EACH FACE SEE NOTE 4	STIRRUPS				
			LONG	SHORT	LONG	SHORT	LONG	SHORT		TYPE	SIZE	SPACING FROM EACH END		
XB01	24	21	3#8	—	3#8	—	3#8	—	—	2C	#4	1@3'; BAL @ 8"		
XB02	36	21	6#8	4#8	6#8	4#8	4#8	2#8	—	2C	#4	1@3'; BAL @ 8"		
XB03	36	21	6#8	6#8	6#8	6#8	6#8	4#8	—	2C	#4	1@3'; BAL @ 6"	AT LEVEL 2: PROVIDE ADDITIONAL 2 #8 TOP LONG BARS. AT LEVEL 6: PROVIDE ADDITIONAL 2 #8 TOP LONG BARS. AT LEVELS 6, 24 & 36: PROVIDE (10) #4 STIRRUPS (4 LEGS) @ 4" SPACING EACH END. BAL @ 6". AT LEVEL 49: PROVIDE (34) #4 STIRRUPS (4 LEGS) @ 4" SPACING EACH END. BAL @ 6". AT CANTILEVERS: PROVIDE #4 STIRRUPS AT 4" SPACING.	
XB04	36	26	6#8	6#8	6#8	6#8	4#8	4#8	—	4C	#4	1 (4 LEGS) @ 3'; 12 (4 LEGS) @ 6'; BAL @ 10"	AT CANTILEVERS: PROVIDE #4 STIRRUPS @ 4" SPACING MAX. AT LEVEL 36: PROVIDE 1 #5 STIRRUP (4 LEGS) @ 3'; (10) #5 STIRRUP (4 LEGS) @ 4'; BAL #5 STIRRUP (2 LEGS) @ 10".	
XB05	48	21	6#8	6#8	6#8	6#8	5#8	5#8	—	2C	#4	1@3'; 12 @ 6'; BAL @ 8"	AT CANTILEVERS: PROVIDE #4 STIRRUPS @ 4" SPACING MAX.	
XB06	18	26	4#8	2#8	4#8	2#8	4#8	—	—	2C	#4	1@3'; BAL @ 10"		
XB07	24	21	4#8	2#8	4#8	2#8	4#8	2#8	—	2C	#4	1@3'; 12 @ 6'; BAL @ 8"	AT CANTILEVERS: PROVIDE #4 STIRRUPS AT 4" SPACING.	
XB08	36	21	6#8	4#8	6#8	4#8	4#8	2#8	—	2C	#4	1@3'; BAL @ 8"	AT LEVEL 6 & 36: PROVIDE ADDITIONAL (10) #4 STIRRUPS (6 LEGS) @ 4" SPACING EACH END. AT CANTILEVERS: PROVIDE #4 STIRRUPS AT 4" SPACING.	
XB09	48	21	10#8	8#8	10#8	8#8	4#8	4#8	—	2C	#4	1@3'; BAL @ 4"		
XB10	36	21	4#8	4#8	4#8	4#8	4#8	2#8	—	2C	#4	1@3'; BAL @ 4"	AT LEVEL 36: PROVIDE (8) #4 STIRRUPS (4 LEGS) @ 8" SPACING EACH END. BAL @ 8".	
XB11	36	26	6#8	6#8	6#8	6#8	6#8	4#8	—	2C	#4	1@3'; 16@ 6'; BAL @ 10"	AT LEVEL 3: PROVIDE ADDITIONAL 2 #8 BOTTOM LONG BARS; PROVIDE (24) #4 STIRRUPS (4 LEGS) @ 6" SPACING EACH END. BAL #4 STIRRUP (2 LEGS) @ 10". AT LEVEL 19: PROVIDE ADDITIONAL 2 #8 TOP LONG BARS. AT LEVEL 38: PROVIDE (9) #4 STIRRUPS (4 LEGS) @ 4" SPACING EACH END. BAL @ 8". AT CANTILEVERS: PROVIDE #4 STIRRUPS AT 4" SPACING. AT LEVEL 47: PROVIDE ADDITIONAL 2 #8 TOP LONG BARS AT EACH END.	
XB12	48	21	4#8	4#8	4#8	4#8	4#8	2#8	—	2C	#4	1@3'; BAL @ 8"	AT LEVELS 16 TO 19: PROVIDE ADDITIONAL 8 #8 LONG BOTTOM BARS. AT LEVEL 22: PROVIDE ADDITIONAL 4 #8 BOTTOM LONG BARS AND 2 #8 TOP LONG BARS.	
XB13	42	21	4#8	2#8	4#8	2#8	4#8	2#8	—	2C	#4	1@3'; BAL @ 8"		
XB14	24	26	6#8	6#8	6#8	6#8	4#8	4#8	—	2C	#4	1@3'; 10@ 4'; BAL @ 8"	AT CANTILEVERS: PROVIDE #4 STIRRUPS (4 LEGS) @ 4" SPACING TOP BARS IN 2 LAYERS.	
XB15	24	21	4#8	4#8	4#8	4#8	4#8	4#8	—	2C	#4	1@3'; 12 @ 6'; BAL @ 8"	AT LEVEL 2: PROVIDE ADDITIONAL 2 #8 TOP LONG BARS; PROVIDE (18) #4 STIRRUPS (4 LEGS) @ 4" SPACING EACH END. BAL #4 STIRRUPS (2 LEGS) @ 10". AT LEVEL 3: ALL TOP BARS TO BE LONG. AT CANTILEVERS: PROVIDE #4 STIRRUPS AT 4" SPACING.	
XB16	24	30	6#8	4#8	6#8	4#8	4#8	2#8	—	4C	#4	1@3'; BAL @ 10"	AT LEVEL 36: PROVIDE ADDITIONAL 4 #8 BOTTOM LONG BARS; ALL TOP BARS TO BE LONG. AT LEVEL 36: PROVIDE ADDITIONAL 6 #8 BOTTOM LONG BARS, BOTTOM BARS IN 2 LAYERS. AT LEVEL 49: PROVIDE ADDITIONAL 4#8 BOTTOM LONG BARS. AT CANTILEVERS: PROVIDE #4 STIRRUPS @ 4" SPACING.	
XB17	24	20	6#8	4#8	6#8	4#8	4#8	2#8	—	2C	#4	1@3'; BAL @ 8"	AT LEVEL 2: PROVIDE (1) #4 STIRRUPS (4 LEGS) @ 6" SPACING EACH END.	
XB18	24	48	10#8	10#8	10#8	10#8	4#8	4#8	—	4C	#4	1@3'; BAL @ 8"	TOP BARS IN 2 LAYERS.	
XB19	24	30	4#8	2#8	4#8	2#8	2#8	2#8	—	2C	#4	1@3'; BAL @ 10"		
XB20	24	35	4#8	2#8	4#8	2#8	8#8	8#8	—	2C	#4	1@3'; BAL @ 12"	BOTTOM BARS IN 2 LAYERS.	
XB21	24	36	4#8	2#8	4#8	2#8	8#8	6#8	—	2C	#4	1@3'; BAL @ 6"	AT LEVEL 3: PROVIDE ADDITIONAL 2 #8 TOP LONG BARS AND 2 #8 TOP SHORT BARS. AT LEVEL 17: PROVIDE ADDITIONAL 4#8 TOP LONG BARS AND 2#8 TOP SHORT BARS. TOP BARS IN 2 LAYERS. AT LEVEL 49: PROVIDE ADDITIONAL 2#8 TOP LONG BARS AT EACH END AND 2#8 TOP SHORT BARS AT EACH END. AT LEVEL 17: PROVIDE ADDITIONAL 8 #8 TOP LONG BARS. BOTTOM BARS IN 2 LAYERS.	
XB22	18	38	4#8	2#8	4#8	2#8	4#8	2#8	—	2C	#4	1@3'; BAL @ 12"		
XB23	24	35	10#8	8#8	10#8	8#8	4#8	4#8	—	2C	#4	1@3'; BAL @ 16"	PROVIDE #4 STIRRUPS (6" FOR CANTILEVER; TOP BARS IN 2 LAYERS.	
XB24	18	24	2#8	2#8	2#8	2#8	2#8	2#8	—	2C	#4	1@3'; BAL @ 10"		
XB25	24	48	4#8	4#8	4#8	4#8	4#8	4#8	—	4C	#4	1@3'; BAL @ 12"	AT LEVEL 1: PROVIDE (12) #4 STIRRUPS (4 LEGS) @ 6" SPACING EACH END.	
XB26	24	48	6#8	4#8	6#8	4#8	10#8	10#8	—	4C	#4	1@3'; BAL @ 10"		
XB27	24	24	4#8	2#8	4#8	2#8	4#8	4#8	—	2C	#4	1@3'; 10@ 6'; BAL @ 10"		
XB28	24	36	4#8	4#8	4#8	4#8	4#8	4#8	—	2C	#4	1@3'; BAL @ 6"	AT LEVEL 36: PROVIDE ADDITIONAL 4 #8 TOP LONG BARS AND 4 #8 BOTTOM LONG BARS. TOP BARS IN TWO 2 LAYERS. AT CANTILEVERS: PROVIDE #4 STIRRUPS @ 4"	
XB29	30	26	4#7	2#7	4#7	2#7	4#8	4#8	—	2C	#4	1@3'; BAL @ 10"		
XB30	24	26	4#8	2#8	4#8	2#8	4#7	2#7	—	2C	#4	1@3'; BAL @ 4"	AT LEVEL 49: PROVIDE ADDITIONAL 2 #7 BOTTOM LONG BARS.	
XB31	36	26	5#8	5#8	5#8	5#8	6#8	6#8	—	2C	#4	1@3'; BAL @ 10"	AT LEVEL 14, 15 & 36: PROVIDE (15) #4 STIRRUPS (4 LEGS) @ 4" SPACING EACH END. BAL @ 10". AT LEVEL 36: ALL TOP BARS TO BE CONTINUOUS.	
XB32	48	26	8#8	8#8	8#8	8#8	6#8	6#8	—	4C	#4	1@3'; BAL @ 10"		
XB33	36	48	7#8	7#8	7#8	7#8	8#8	8#8	—	2C	#4	1@3'; BAL @ 10"		
XB34	48	60	8#8	8#8	8#8	8#8	12#8	12#8	—	6C	#4	1@3'; BAL @ 14"	BOTTOM BARS IN 2 LAYERS.	
XB35	36	42	6#8	6#8	6#8	6#8	4#8	4#8	—	4C	#4	1@3'; BAL @ 8"		
XB36	36	36	6#8	6#8	6#8	6#8	4#8	4#8	—	4C	#4	1@3'; BAL @ 6"	AT LEVEL 6: PROVIDE ADDITIONAL 2 #8 BOTTOM LONG BARS. AT CANTILEVERS: PROVIDE ADDITIONAL 10 #8 TOP BARS.	
XB37	36	36	6#8	4#8	6#8	4#8	4#8	4#8	—	4C	#4	1@3'; BAL @ 10"	AT LEVEL 3: PROVIDE ADDITIONAL 4 #8 TOP LONG BARS AND 2 #8 BOTTOM LONG BARS. AT LEVEL 49: PROVIDE ADDITIONAL 2#8 TOP LONG BARS AT EACH END AND 2#8 BOTTOM LONG BARS.	
XB38	36	42	10#8	8#8	10#8	8#8	6#8	6#8	—	4C	#4	1@3'; BAL @ 10"	TOP BARS IN 2 LAYERS.	
XB39	36	42	12#8	10#8	12#8	10#8	8#8	6#8	—	4C	#4	1@3'; BAL @ 10"	TOP & BOTTOM BARS IN 2 LAYERS.	
XB40	48	30	8#8	8#8	8#8	8#8	4#8	4#8	—	4C	#4	1@3'; BAL @ 10"	AT LEVEL 36: PROVIDE ADDITIONAL 4 #8 BOTTOM LONG BARS AND 2 #8 BOTTOM SHORT BARS. AT LEVEL 49: PROVIDE ADDITIONAL 2#8 TOP LONG BARS AND (18) #4 STIRRUPS @ 6" SPACING EACH END. BAL @ 8".	
XB41	24	78	14#8	—	14#8	—	5#8	5#8	—	2C	#4	1@3'; BAL @ 16"	TOP BARS IN 2 LAYERS.	
XB42	36	52	8#8	8#8	8#8	8#8	4#8	4#8	—	2C	#4	1@3'; BAL @ 10"		
XB43	18	46	4#8	4#8	4#8	4#8	4#8	4#8	—	2C	#4	1@3'; BAL @ 20"		
XB44	36	24	4#8	4#8	4#8	4#8	4#8	4#8	—	2C	#4	1@3'; BAL @ 10"		
XB45	36	48	10#8	10#8	10#8	10#8	6#8	6#8	—	6C	#4	1@3'; BAL @ 6"	AT CANTILEVERS: PROVIDE ADDITIONAL 12 #8 TOP BARS (2 LAYERS REQUIRED).	
XB46	36	48	10#8	8#8	10#8	8#8	6#8	6#8	—	2C	#4	1@3'; BAL @ 8"		
XB47	36	36	10#8	10#8	10#8	10#8	8#8	6#8	—	6C	#4	1@3'; 14 @ 6'; BAL @ 10"		
XB48	36	36	8#8	8#8	8#8	8#8	6#8	4#8	—	4C	#4	1@3'; BAL @ 8"		
XB49	36	46	8#8	8#8	8#8	8#8	6#8	4#8	—	2C	#4	1@3'; BAL @ 8"		
XB50	36	48	10#8	8#8	10#8	8#8	14#8	14#8	—	6C	#4	1@3'; BAL @ 10"	TOP & BOTTOM BARS IN 2 LAYERS.	
XB51	36	60	8#8	8#8	8#8	8#8	10#8	10#8	—	4C	#4	1@3'; BAL @ 10"	AT LEVEL 1: ALL BOTTOM BARS LONG. BOTTOM BARS IN 2 LAYERS.	
XB52	36	60	12#8	10#8	12#8	10#8	16#8	16#8	—	6C	#4	1@3'; BAL @ 10"	TOP & BOTTOM BARS IN 2 LAYERS.	
XB53	48	36	6#8	6#8	6#8	6#8	6#8	6#8	—	4C	#4	1@3'; 12 @ 4'; BAL @ 16"		
XB54	48	48	8#8	8#8	8#8	8#8	8#8	8#8	—	4C	#4	1@3'; 12 @ 4'; BAL @ 14"	AT LEVEL 1: PROVIDE ADDITIONAL 4 #8 TOP LONG BARS AND 2 #8 BOTTOM LONG BARS; PROVIDE (14) #4 STIRRUPS (4 LEGS) @ 6" SPACING EACH END. BAL #4 STIRRUPS (4 LEGS) @ 10". AT LEVEL 36: PROVIDE ADDITIONAL 4 #8 BOTTOM LONG BARS AND 2 #8 BOTTOM SHORT BARS. AT LEVEL 49: PROVIDE ADDITIONAL 2#8 TOP LONG BARS. AT CANTILEVERS: PROVIDE #4 STIRRUPS @ 6"	
XB55	36	30	6#8	4#8	6#8	4#8	4#8	4#8	—	4C	#4	1@3'; 10 @ 6'; BAL @ 12"		
XB56	36	36	4#8	4#8	4#8	4#8	8#8	6#8	—	2C	#4	1@3'; BAL @ 10"	AT LEVEL 49: PROVIDE ADDITIONAL 2#8 BOTTOM LONG BARS.	
XB57	48	30	12#8	10#8	12#8	10#8	6#8	6#8	—	2C	#4	1@3'; BAL @ 8"	AT LEVEL 1: PROVIDE 6 #8 BOTTOM LONG BARS; PROVIDE (16) #4 STIRRUPS (4 LEGS) @ 6" SPACING EACH END. BAL #4 STIRRUPS (2 LEGS) @ 8".	
XB58	36	72	10#8	8#8	10#8	8#8	6#8	6#8	—	2C	#4	1@3'; BAL @ 6"	TOP BARS IN 2 LAYERS.	
XB59	36	72	14#8	12#8	14#8	12#8	20#8	14#8	—	4C	#4	1@3'; BAL @ 12"	TOP BARS IN 2 LAYERS. BOTTOM BARS IN 3 LAYERS.	
XB60	48	36	6#8	6#8	6#8	6#8	6#8	6#8	—	4C	#4	1@3'; 10 @ 4'; BAL @ 16"	AT LEVEL 28: PROVIDE ADDITIONAL 4 #8 TOP LONG BARS AT EACH END.	
XB61	48	72	8#10	8#10	8#10	8#10	18#10	18#10	—	6C	#4	1@3'; BAL @ 9"	TOP BARS IN 2 LAYERS. BOTTOM BARS IN 3 LAYERS.	
XB62	48	72	8#10	8#10	8#10	8#10	6#10	6#10	—	4C	#4	1@3'; BAL @ 10"		
XB63	48	72	14#10	14#10	14#10	14#10	18#10	18#10	—	6C	#5	1@3'; BAL @ 9"	TOP BARS IN 2 LAYERS. BOTTOM BARS IN 3 LAYERS.	
XB64	48	72	14#10	14#10	14#10	14#10	6#10	6#10	—	6C	#4	1@3'; BAL @ 9"	TOP BARS IN 2 LAYERS.	
XB65	48	36	8#10	6#10	8#10	6#10	8#9	—	—	4C	#4	1@3'; BAL @ 8"		
XB66	36	52	10#9	10#9	10#9	10#9	11#9	11#9	—	4A	#4	1@3'; BAL @ 8"	TOP & BOTTOM BARS IN 2 LAYERS.	
XB67	42	52	9#10	9#10	9#10	9#10	10#10	10#10	—	4A	#4	1@3'; BAL @ 6"	TOP & BOTTOM BARS IN 2 LAYERS.	
XB68	30	52	8#9	8#9	8#9	8#9	7#9	7#9	—	4A	#4	1@3'; BAL @ 6"	TOP & BOTTOM BARS IN 2 LAYERS.	
XB69	60	52	14#9	14#9	14#9	14#9	12#9	12#9	—	6A	#4	1@3'; BAL @ 8"	TOP & BOTTOM BARS IN 2 LAYERS.	
XB70	42	24	6#10	6#10	6#10	6#10	6#10	6#10	—	6C	#4	1@3'; BAL @ 8"	TOP & BOTTOM BARS IN 2 LAYERS.	
XB71	48	26	10#8	8#8	10#8	8#8	8#8	8#8	—	4C	#4	1@3'; 24 @ 4" BAL @ 6"	AT LEVEL 2: ALL TOP BARS AND BOTTOM BARS TO BE LONG.	
XB72	48	26	6#8	6#8	6#8	6#8	4#8	4#8	—	2C	#4	1@3'; BAL @ 8"	AT LEVEL 1: PROVIDE (10) #4 STIRRUPS @ 6" SPACING EACH END. BAL @ 8". AT LEVELS 20 & 21: PROVIDE (6) #4 STIRRUPS (4 LEGS) @ 6" SPACING EACH END. AT LEVEL 36: PROVIDE (9) #4 STIRRUPS (4 LEGS) @ 4" SPACING EACH END. BAL #4 STIRRUPS (2 LEGS) @ 10". AT LEVEL 49: PROVIDE ADDITIONAL 14 #8 LONG BOTTOM BARS; PROVIDE (28) #4 STIRRUPS (4 LEGS) @ 4" SPACING EACH END. BAL #4 (2 LEGS) @ 8".	

REINFORCED CONCRETE BEAM SCHEDULE														For SEE GENERAL NOTES
BEAM MARK	SIZE		REINFORCEMENT										REMARKS	
	W (IN)	H (IN)	LEFT END TOP BARS		RIGHT END TOP BARS		BOTTOM BARS		SIDE BARS EACH FACE SEE NOTE 4	STIRRUPS				
			LONG	SHORT	LONG	SHORT	LONG	SHORT		TYPE	SIZE	SPACING FROM EACH END		
XB73	36	26	6#8	6#8	6#8	6#8	4#8	4#8	-	2C	#4	1@ 3'; BAL @ 10'	AT LEVEL 45: PROVIDE ADDITIONAL 6 #8 BOTTOM LONG BARS AND 2 #8 TOP LONG BARS. PROVIDE (2) #4 STIRRUPS (4 LEGS) @ 4" SPACING EACH END. BAL #4 (2 LEGS) @ 10"	
XB74	24	26	4#8	4#8	4#8	4#8	4#8	2#8	-	2C	#4	1@ 3'; 10 @ 4'; BAL @ 10'		AT CANTILEVERS: PROVIDE #4 (4 LEGS) STIRRUPS AT 4" SPACING
XB75	36	44	10#8	8#8	10#8	8#8	6#8	4#8	-	2C	#4	1@ 3'; BAL @ 10'	AT CANTILEVERS: PROVIDE #4 STIRRUPS AT 4" SPACING	
XB76	18	27	4#8	4#8	4#8	4#8	4#8	4#8	-	2C	#4	1@ 3'; BAL @ 8"	TOP & BOTTOM BARS IN 2 LAYERS	
XB77	18	44	4#8	4#8	4#8	4#8	6#8	4#8	-	2C	#4	1@ 3'; 16 @ 6'; BAL @ 12'	TOP & BOTTOM BARS IN 2 LAYERS	
XB78	30	21	5#8	5#8	5#8	5#8	4#8	2#8	-	4C	#4	1@ 3'; BAL @ 6"	BOTTOM BARS IN 2 LAYERS	
XB79	48	36	16#8	-	16#8	-	24#8	-	-	2C	#4	1@ 3'; BAL @ 8"		
XB80	24	30	4#8	2#8	4#8	2#8	10#8	-	-	2C	#4	1@ 3'; BAL @ 10'	BOTTOM BARS IN 2 LAYERS	
XB81	30	36	12#8	-	12#8	-	12#8	-	-	2C	#4	1@ 3'; BAL @ 10'		
XB82	36	36	8#8	6#8	8#8	6#8	22#8	-	-	4C	#4	1@ 3'; BAL @ 10'	BOTTOM BARS IN 2 LAYERS	
XB83	48	48	10#8	10#8	10#8	10#8	20#8	12#8	-	4C	#4	1@ 3'; 16 @ 6'; BAL @ 12'	TOP & BOTTOM BARS IN 2 LAYERS	
XB84	48	48	34#8	-	34#8	-	22#8	-	-	6C	#4	1@ 3'; 24 @ 6'; BAL @ 12"	TOP BARS IN 2 LAYERS	
XB85	48	48	22#8	-	22#8	-	42#8	-	-	8C	#4	1@ 3'; BAL @ 6"	TOP & BOTTOM BARS IN 2 LAYERS	
XB86	48	48	8#8	6#8	8#8	6#8	16#8	8#8	-	4C	#4	1@ 3'; BAL @ 12"	BOTTOM BARS IN 2 LAYERS	
XB87	48	60	24#10	-	24#10	-	32#10	-	-	8C	#4	1@ 3'; BAL @ 6"	TOP & BOTTOM BARS IN 2 LAYERS	
XB88	48	48	8#9	4#9	8#9	4#9	18#9	10#9	-	6C	#4	1@ 3'; 14 @ 6'; BAL @ 10"	BOTTOM BARS IN 2 LAYERS	
XB89	36	30	6#8	6#8	6#8	6#8	8#8	6#8	-	4C	#4	1@ 3'; BAL @ 10'	AT LEVEL 35: PROVIDE ADDITIONAL 2 #8 TOP LONG BARS.	
XB90	36	36	6#8	6#8	6#8	6#8	10#8	8#8	-	4C	#4	1@ 3'; BAL @ 10'	BOTTOM BARS IN 2 LAYERS	
XB91	36	26	10#8	-	10#8	-	10#8	-	-	4C	#4	1@ 3'; BAL @ 6"		
XB92	16	36	8#8	-	8#8	-	8#8	-	-	4C	#4	1@ 3'; BAL @ 6"	TOP & BOTTOM BARS IN 2 LAYERS	
XB93	16	72	12#8	-	12#8	-	12#8	-	-	2C	#4	1@ 3'; BAL @ 6"	BOTTOM BARS IN 2 LAYERS	
XB94	48	60	8#8	8#8	8#8	8#8	16#8	-	-	4C	#4	1@ 3'; BAL @ 10"		
XB95	36	48	14#9	8#9	14#9	8#9	6#9	4#9	-	4C	#4	1@ 3'; BAL @ 8"	BOTTOM BARS IN 2 LAYERS	
XB96	48	36	7#10	7#10	7#10	7#10	14#10	-	-	4C	#4	1@ 3'; 12 @ 4'; BAL @ 14"		
XB97	48	36	16#9	-	16#9	-	16#9	-	10#9	4C	#4	1@ 3'; BAL @ 16"	AT LEVEL 6: PROVIDE #4 STIRRUPS (6 LEGS) @ 6"	
XB98	18	54	6#8	-	6#8	-	6#8	-	-	2C	#4	1@ 3'; BAL @ 12"	BOTTOM BARS IN 2 LAYERS	
XB99	48	16	6#8	4#8	6#8	4#8	4#8	2#8	-	4C	#4	1@ 3'; BAL @ 6"		
XB100	48	72	25#11	-	25#11	-	30#11	-	-	6C	#4	1@ 3'; BAL @ 6"	TOP & BOTTOM BARS IN 2 LAYERS	
FR901	60	48	10#8	-	10#8	-	16#10	-	-	4C	#5	1@ 3'; BAL @ 12"	BOTTOM BARS IN 2 LAYERS	
FR902	60	48	10#8	-	10#8	-	28#10	-	-	6C	#5	1@ 3'; BAL @ 10"		
AB01	48	48	6#10	-	6#10	-	6#10	-	4#10		#4	1@ 3'; BAL @ 6"	SEE DETAIL 3/53-02/13 FOR SHEAR REINFORCEMENT	
AB02	48	42	6#10	-	6#10	-	6#10	-	4#10		#4	1@ 3'; BAL @ 6"	SEE DETAIL 3/53-02/13 FOR SHEAR REINFORCEMENT	
AB03	48	72	7#11	-	7#11	-	7#11	-	7#11	4C	#4	1@ 3'; BAL @ 12"	AT LEVEL 8: PROVIDE ADDITIONAL 4 #10 TOP LONG BARS AND 4 #10 BOTTOM LONG BARS.	
AB04	48	72	8#11	-	8#11	-	10#11	-	10#11	4C	#4	1@ 3'; BAL @ 12"	BOTTOM BARS IN 2 LAYERS	
AB05	48	72	8#11	-	8#11	-	8#11	-	14#11	4C	#4	1@ 3'; BAL @ 16"		
CW81	60	48	11#10	-	11#10	-	11#10	-	6#8	4D	#5	1@ 3'; BAL @ 6"	BOTTOM BARS IN 2 LAYERS	
CW82	60	60	13#11	-	13#11	-	13#11	-	9#8	4D	#6	1@ 3'; BAL @ 6"		
CW83	42	54	8#11	-	8#11	-	8#11	-	7#8	4D	#5	1@ 3'; BAL @ 8"	TOP & BOTTOM BARS IN 2 LAYERS	
CW84	42	54	9#11	-	9#11	-	9#11	-	7#8	4D	#5	1@ 3'; BAL @ 8"	BOTTOM BARS IN 2 LAYERS	
CW85	24	168	12#11	-	12#11	-	12#11	-	-	-	-	-		
CW86	48	48	9#10	-	9#10	-	9#10	-	5#8	4D	#5	1@ 3'; BAL @ 6"	BOTTOM BARS IN 2 LAYERS	
CW87	42	54	9#11	-	9#11	-	9#11	-	7#8	6D	#5	1@ 3'; BAL @ 6"		
CW88	36	174	9#11	-	9#11	-	9#11	-	-	-	-	-	AT LEVEL 12: PROVIDE ADDITIONAL 2 #8 BOTTOM LONG BARS. TOP & BOTTOM BARS IN 2 LAYERS.	
CW89	24	126	8#10	-	8#10	-	8#10	-	-	-	-	-	BOTTOM BARS IN 2 LAYERS	
CB01	18	36	6#8	-	6#8	-	5#8	3#8	2#4	2C	#4	1@ 3'; BAL @ 8"	TOP & BOTTOM BARS IN 2 LAYERS	
CB02	12	36	8#8	-	8#8	-	8#8	-	2#4	2B	#4	1@ 3'; BAL @ 6"	TOP & BOTTOM BARS IN 2 LAYERS	
CB03	18	24	4#8	-	4#8	-	4#8	-	-	2B	#4	1@ 3'; BAL @ 8"	BOTTOM BARS IN 2 LAYERS	
CB04	16	48	10#8	-	10#8	-	18#8	-	4#4	2C	#4	1@ 3'; BAL @ 6"		
CB05	12	21	3#8	2#8	3#8	2#8	5#8	-	-	2B	#4	1@ 3'; BAL @ 8"	TOP & BOTTOM BARS IN 2 LAYERS	
CB06	12	48	6#8	-	6#8	-	10#8	-	4#4	2C	#4	1@ 3'; 20 (4 LEGS) @ 4'; BAL @ 6"	TOP & BOTTOM BARS IN 2 LAYERS	
CB07	18	24	6#9	-	6#9	-	6#9	-	-	2C	#4	1@ 3'; BAL @ 8"	BOTTOM BARS IN 2 LAYERS	
CB11	18	21	3#8	2#8	3#8	2#8	6#8	-	-	2B	#4	1@ 3'; BAL @ 8"	BOTTOM BARS IN 2 LAYERS	
CB12	12	21	2#8	-	2#8	-	2#8	-	-	2B	#3	1@ 3'; BAL @ 8"		
CB13	12	21	2#7	-	2#7	-	2#7	-	-	2B	#3	1@ 3'; BAL @ 7"	BOTTOM BARS IN 2 LAYERS	
CB14	12	14	3#9	-	3#9	-	3#9	-	-	2B	#3	1@ 3'; BAL @ 7"		
CB15	12	21	4#8	-	4#8	-	4#8	-	-	2C	#4	1@ 3'; BAL @ 8"	BOTTOM BARS IN 2 LAYERS	
CB16	12	30	6#8	-	6#8	-	6#8	-	-	2C	#4	1@ 3'; BAL @ 6"		
CB17	36	21	8#8	6#8	8#8	6#8	8#8	6#8	-	2C	#4	1@ 3'; BAL @ 8"	AT LEVEL 3: PROVIDE ADDITIONAL 2 #8 BOTTOM LONG BARS. TOP & BOTTOM BARS IN 2 LAYERS.	
CB20	18	24	6#8	-	6#8	-	4#10	-	-	4B	#4	1@ 3'; BAL @ "8	BOTTOM BARS IN 2 LAYERS	
CB21	30	36	7#11	-	7#11	-	8#11	-	-	4B	#5	1@ 3'; BAL @ "8		
CB22	24	24	5#8	-	5#8	-	8#10	-	-	4B	#4	1@ 3'; BAL @ "10	BOTTOM BARS IN 2 LAYERS	
CB23	36	36	11#10	-	11#10	-	11#11	-	-	4B	#4	1@ 3'; BAL @ "8		
CB24	18	24	5#8	-	5#8	-	5#8	-	-	2B	#4	1@ 3'; BAL @ "10	BOTTOM BARS IN 2 LAYERS	
CB25	18	36	4#11	-	4#11	-	4#11	-	-	2B	#4	1@ 3'; BAL @ "14		
CB26	18	54	12#9	-	12#9	-	12#9	-	-	4B	#4	1@ 3'; BAL @ "8	TOP & BOTTOM BARS IN 2 LAYERS	

COLUMN MARK	CONCRETE STRENGTH	C54-CN.2	C54-CJ.8	C54-CD.8	C54-RCL.S	C52.4-CN.2	C52.4-CD.8	C52.4-RCL.S	C52-CN.2	C52-CJ.8	C52-CH.6	C52-CF.6	C52-CD.8	C52-RCL.S	C50.2-CN.4	C50-CJ.8	C50-CH.6	C50-CF.6	C50.2-CD.8	C50.2-RCL.S	C48.4-CN.4	C48.5-CD.8	C48.5-RCL.S	C48-CJ.8	C48.2-CH.6	C48.2-CF.6	C46.3-CD.8	C46.3-RCL.S	C46-CN.4	C46-CL	CONCRETE STRENGTH	FLOOR			
FLOOR 0	6 ksi	24x24 8#8	24x24 8#8	476 566	363 339	1864 1470	1951 1474	1154 584	24x24 8#8	24x24 8#8	425 655	513 806	148 40	1012 391	2073 1670	445 695	513 806	947 1056	2222 1725	30x30 12#9	36x36 12#9	16#11 T	148 40	1012 391	232 272	629 1025	763 855	2182 1706	1368 686	1620 1224	287 330	479 790	6 ksi	0	
C1 FLOOR	CONCRETE STRENGTH	C54-CN.2	C54-CJ.8	C54-CD.8	C54-RCL.S	C52.4-CN.2	C52.4-CD.8	C52.4-RCL.S	C52-CN.2	C52-CJ.8	C52-CH.6	C52-CF.6	C52-CD.8	C52-RCL.S	C50.2-CN.4	C50-CJ.8	C50-CH.6	C50-CF.6	C50.2-CD.8	C50.2-RCL.S	C48.4-CN.4	C48.5-CD.8	C48.5-RCL.S	C48-CJ.8	C48.2-CH.6	C48.2-CF.6	C46.3-CD.8	C46.3-RCL.S	C46-CN.4	C46-CL	CONCRETE STRENGTH	FLOOR			
FLOOR 0	6 ksi	24x24 8#8	24x24 8#8	1336 1574	136 37	1003 389	1189 830	483 818	1392 1087	1823 733	338 366	178 200	289 348	268 216	319 268	127 132	563 844	289 348	319 268	127 132	493 724	289 348	2391 674	319 268	127 132	289 348	1279 787	386 326	2252 640	319 268	127 132	289 348	6 ksi	0	
C1 FLOOR	CONCRETE STRENGTH	C46-CH.6	C46-CF.6	C46-CD.8	C46-RCL.S	C44.2-CN.4	C44.2-CL	C44.2-CD.8	C44.2-RCL.S	C44-CP	C44-CL	C44-CH.6	C44-CF.6	C42-CP	C42-CN.3	C42-CL	C42-CH.6	C40-CP	C40-CN.3	C40-CL	C40-CH.6	C39-RCL.S	C38-CP	C38-CN.3	C38-CL	C38-CH.6	C38-CF.6	C38-CD.8	C37-RCL.S	C36-CP	C36-CN.3	C36-CL	C36-CH.6	CONCRETE STRENGTH	FLOOR
FLOOR 0	6 ksi	24x24 8#8	36x36 10#9	24x24 8#8	24x24 8#8	36x36 10#9	24x24 8#8	30x30 12#9	36x36 12#10	24x24 8#8	24x24 8#8	24x24 8#8	24x24 8#8	24x24 8#8	24x24 8#8	24x24 8#8	24x24 8#8	24x24 8#8	24x24 8#8	24x24 8#8	24x24 8#8	36x36 10#9	24x24 8#8	24x24 8#8	24x24 8#8	24x24 8#8	30x30 12#9	24x24 8#8	36x36 12#10	24x24 8#8	24x24 8#8	24x24 8#8	24x24 8#8	6 ksi	0
C1 FLOOR	CONCRETE STRENGTH	C46-CH.6	C46-CF.6	C46-CD.8	C46-RCL.S	C44.2-CN.4	C44.2-CL	C44.2-CD.8	C44.2-RCL.S	C44-CP	C44-CL	C44-CH.6	C44-CF.6	C42-CP	C42-CN.3	C42-CL	C42-CH.6	C40-CP	C40-CN.3	C40-CL	C40-CH.6	C39-RCL.S	C38-CP	C38-CN.3	C38-CL	C38-CH.6	C38-CF.6	C38-CD.8	C37-RCL.S	C36-CP	C36-CN.3	C36-CL	C36-CH.6	CONCRETE STRENGTH	FLOOR
FLOOR 0	6 ksi	1277 783	338 284	2252 640	346 316	501 732	289 348	1277 783	338 284	872 224	323 224	286 344	1175 613	284 237	872 224	594 544	536 724	596 808	1445 928	1332 457													6 ksi	0	
C1 FLOOR	CONCRETE STRENGTH	C36-CF.6	C36-CD.8	C35-RCL.S	C34-CP	C34-CL	C34-CH.6	C34-CF.6	C34-CD.8	C33-RCL.S	C32-CP	C30-CH.6	C30-CF.6	C30-CD.8	C31-RCL.S	C28.2-CN	C28.2-CJ.6	C28.2-CH.6	C28.2-CF.6	C27-RCL.S													CONCRETE STRENGTH <th>FLOOR</th>	FLOOR	
FLOOR 0	6 ksi	30x30 12#9	24x24 8#8	36x36 12#10	24x24 8#8	24x24 8#8	24x24 8#8	30x30 12#9	24x24 8#8	24x24 8#8	24x24 8#8	24x24 8#8	24x24 8#8	24x24 8#8	24x24 8#8	24x24 16#8	24x54 16#8	24x54 16#8	24x54 16#8	24x24 8#8													6 ksi	0	
C1 FLOOR	CONCRETE STRENGTH	C36-CF.6	C36-CD.8	C35-RCL.S	C34-CP	C34-CL	C34-CH.6	C34-CF.6	C34-CD.8	C33-RCL.S	C32-CP	C30-CH.6	C30-CF.6	C30-CD.8	C31-RCL.S	C28.2-CN	C28.2-CJ.6	C28.2-CH.6	C28.2-CF.6	C27-RCL.S													CONCRETE STRENGTH	FLOOR	

Terrafirma Column Schedule



NOTES:

- SEE SHEAR EMBED PLATE BASE SCHEDULE
- FOR SHEAR EMBED PLATE SIZE W X L1 X T1, WIDTH "W" IS ORIENTED PARALLEL TO COLUMN FLANGE AND LENGTH "L1" IS ORIENTED PARALLEL TO COLUMN WEB
- SIDE PLATES ARE LOCATED PARALLEL TO COLUMN WEB, UOIN
- EMBEDDED PLATES SHALL CONFORM TO ASTM A572 GRADE 50 MINIMUM

TYPICAL SHEAR EMBED PLATE

DETAIL

3/4" = 1'-0"

ANCHOR ROD SCHEDULE					
ANCHOR ROD MARK	NUMBER	TYPE	EMBED. LENGTH	WELD A	REMARKS
1	4	1" DIA. ASTM F1554 GR 55 (SUPP S1)	2'-0"		
2	4	2" DIA. ASTM F1554 GR 55 (SUPP S1)	2'-6"		
3	8	2" DIA. ASTM F1554 GR 55 (SUPP S1)	2'-6"		
4	10	2" DIA. ASTM F1554 GR 55 (SUPP S1)	2'-6"		

NOTES:

- SEE TYPICAL ANCHOR ROD AND BASE PLATE DETAILS.
- WHERE WELD 'A' IS NOT SHOWN, TACK-WELD AS REQUIRED FOR ERECTION.
- ADOPT MARK 1 FOR ALL COLUMNS EXCEPT AT FOLLOWING LOCATIONS:
MARK 2: C28.2-CF.6, C28.2-CJ.6, C38-CF.6, C42-CF.6, C43-CD.8, C43-RCL.S, C44.2-CL, C48.2-CN.4, C48.4-CN.4, C48.2-CH.6, C48-OF.6, C48-CF.6
MARK 3: C28.2-CH.6, C44.2-CN.4, C54-CF.6
MARK 4: C54-CD.8

ANCHOR ROD SCHEDULE

SHEAR BASE SCHEDULES													
SHEAR EMBED. PLATE BASE SCHEDULE													
SHEAR BASE MARK	EMBED PLATE DIMENSIONS				WELD				SIDE PLATE		HEADED STUD		REMARKS
	LENGTH (L1)	WIDTH (W)	THICKNESS (T1)	ROWS OF STUDS (Ns)	COLS. OF STUDS (Nc)	S1	S2	S3	S4	LENGTH (L2)	THICKNESS (T2)	DIA	LENGTH (L3)
EP1	28"	18"	1/2"	5	2	5/16"	5/16"	5/16"	5/16"	18"	1"	3/4"	8"
EP2	36"	18"	1/2"	7	3	3/4"	3/4"	3/8"	3/8"	24"	1 1/2"	3/4"	8"

NOTES:

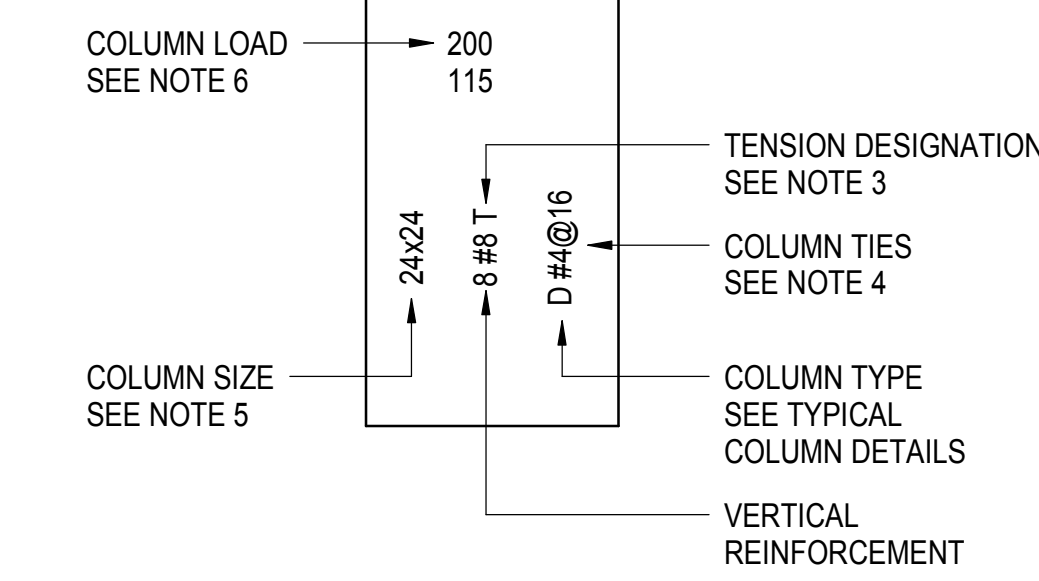
- HEADED STUDS TO BE 3/4" DIA. X 8" LONG, UOIN
- FOR INFORMATION NOT SHOWN, CONTRACTOR'S ENGINEER SHALL COMPLETE THE CONNECTION DESIGN IN ACCORDANCE WITH GENERAL NOTES
- ADOPT TYPE EP1 @ ALL ANCHOR ROD MARK 2 LOCATIONS
- ADOPT TYPE EP2 @ ALL ANCHOR ROD MARK 3 AND MARK 4 LOCATIONS

SHEAR BASE SCHEDULES

COLUMN NOTES:

- FOR TOP OF STRUCTURAL SLAB ELEVATIONS SEE PLANS
- PROVIDE COMPRESSION LAP SPLICE AT ALL VERTICAL BARS UNLESS OTHERWISE NOTED
SEE COLUMN LAP SPLICE SCHEDULE FOR SPLICE LENGTH
- AT COLUMNS DESIGNATED AS TENSION (T) PROVIDE TENSION LAP SPLICE AT ALL VERTICAL BARS
SEE COLUMN LAP SPLICE LENGTH SCHEDULE FOR SPLICE LENGTH
- PROVIDE #4@12" TIES UNLESS OTHERWISE NOTED
TIE SPACING IS NOT TO EXCEED LEAST COLUMN DIMENSION OR 16 VERTICAL BAR DIAMETERS
- COLUMN SIZES SHOWN ARE MEASURED PERPENDICULAR TO THE AXIS OF THE GRIDLINE AND ARE IN INCHES. FOR STRAIGHT COLUMNS THIS CORRESPONDS TO THE DIMENSION IN PLAN. FOR SLOPING COLUMNS IT VARIES BY GRIDLINE SLOPE. FOR COLUMN ORIENTATION SEE PLAN. (TYPICALLY FIRST NUMBER INDICATES DIMENSION IN EAST-WEST DIRECTION AND SECOND NUMBER INDICATES DIMENSION IN NORTH-SOUTH DIRECTION.)
- COLUMN LOADS SHOWN ON SCHEDULE ARE AS FOLLOWS:
XXX = SERVICE AXIAL DEAD LOAD IN KIPS X 1.2
XXX = SERVICE AXIAL REDUCED LIVE LOAD IN KIPS X 1.6
- WHERE SCHEDULED INFORMATION IS NOT SHOWN SEE FLOOR BELOW

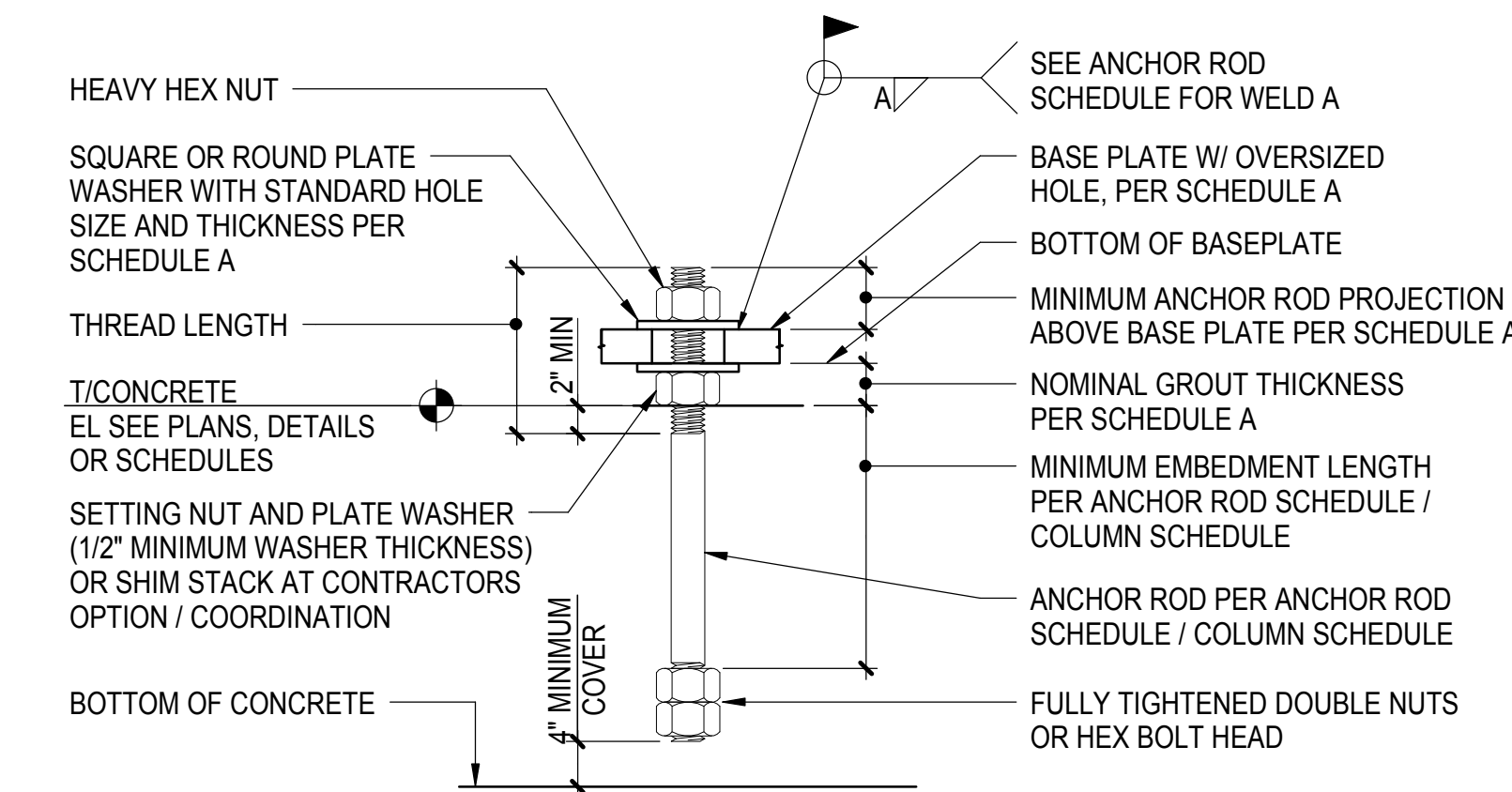
COLUMN LEGEND:



- ★: FOR CROWN COLUMN SIZES SEE S3-0320
- TWO GRID LABELS THAT APPEAR IN ONE CELL INDICATE SAME COLUMN SHIFTS.
- FOR COMPOSITE COLUMN REINFORCEMENT SEE DETAIL 8 ON S5-0221
SEE COLUMN SCHEDULE FOR LOCATIONS
- NOTATION:
BH INDICATES COLUMNS THAT NEED BLAST HARDENING
SEE DETAIL 4 ON S5-0222
WK INDICATES COLUMNS THAT WALK
SEE DETAIL 2 ON S5-0222
BD INDICATES COLUMNS WITH BUNDLED BARS
SEE DETAIL 2 ON S5-0221
EX INDICATES COLUMN BELOW EXTENDING INTO TRANSFER WALL
SEE S4-0200 SERIES

Column Schedule Notes

12" = 1'-0"



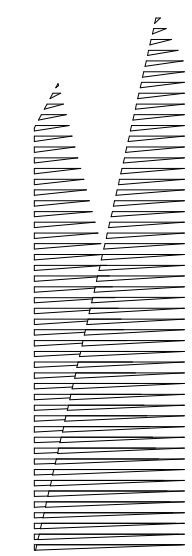
SCHEDULE A					
ANCHOR ROD DIAMETER	BASE PL. HOLE DIA	MIN WASHER SIZE	MIN PROJ ABOVE BASE PL.	NOMINAL GROUT THICKNESS	
1"	1-13/16"	3"	3/8"	3-1/2"	2"
2"	3-1/4"	5"	3/4"	5"	2"

TYPICAL ANCHOR ROD DETAIL

3/4" = 1'-0"

HUDSON YARDS - TOWER C

501 WEST 30TH STREET
NEW YORK, NY



Client
Related Companies
60 Columbus Circle
New York, NY 10023
TEL: 212.801.1000 FAX: XXX-XXX-XXXX

Oxford Properties Group
320 Park Avenue, 17th Floor
New York, NY 10022
TEL: 212.986.7514 FAX: 212.986.7510

Construction Manager
Construction Manager Name
Address
Address
TEL: XXX-XXX-XXXX FAX: XXX-XXX-XXXX

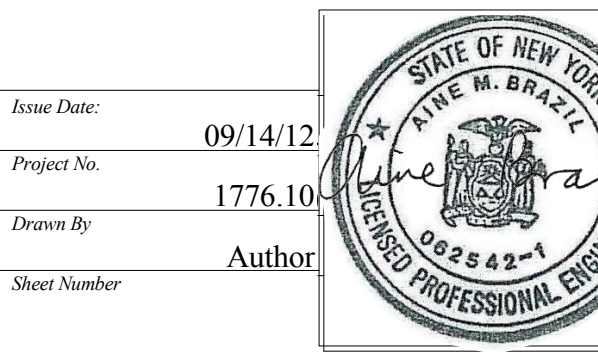
Architect
Kohn Pedersen Fox Associates
PC Architects & Planning Consultants
11 West 42nd Street
New York, New York 10036
TEL: 212.977.6500 FAX: 212.956.2526
Structural Engineer
Thornton Tomasetti, Inc.
51 Madison Avenue
New York, NY 10010
TEL: 917.661.7800 FAX: 718.661.7801

Mechanical, Electrical, Plumbing, Fire Protection
Jarvis Baum & Bolles Consulting Engineers
80 Pine Street
New York, NY 10013
TEL: 212.530.9300 FAX: 212.269.5894

RE-ISSUE FOR FLING 02/04/2013
ISSUE FOR FLING 09/19/2012

W/ Description Pair

Key Plan



HYE-TC-S6-0410

Drawing Title

COLUMN SCHEDULES (TERRAFIRMA)

Drawing Number

S6-0410

S-161.01

SHEET 41 OF 41