

STRUCTURAL NOTES

GENERAL NOTES:

1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR SLEEVES, DEPRESSIONS AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.
2. ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD AND WITH ALL OTHER DRAWINGS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
3. THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING (AND ACCOMPANYING FOOTINGS), GUYS OR TIEDOWNS.
4. ADDITIONAL OBSERVATIONS AS A RESULT OF REJECTION OF WORK COMPLETED AND/OR ADDITIONAL OBSERVATIONS DUE TO THE DEFICIENCIES IN WORK OBSERVED WILL BE AT THE EXPENSE OF THE CONTRACTOR.
5. ALL STRUCTURAL SHOP DRAWINGS TO BE REVIEWED BY JOB SUPERINTENDENT IN ADDITION TO ALL PERSONNEL DEEMED NECESSARY BY CONTRACTOR PRIOR TO SUBMITTAL TO ENGINEER FOR APPROVAL.
6. ALL SHOP DRAWING RESUBMITTALS SHALL INCLUDE A WRITTEN DETAILED LIST OF LOCATIONS AND DESCRIPTIONS OF ALL CHANGES MADE FROM PREVIOUS SUBMITTAL. LIST SHALL BE SPECIFIC AND GENERAL NOTES SUCH AS "DIMENSIONS CORRECTED" ARE NOT ACCEPTABLE.

DESIGN CODES:

- 2018 NORTH CAROLINA STATE BUILDING CODE.
- ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY.
- AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, ALLOWABLE STRESS DESIGN.
- 2015 NATIONAL DESIGN SPECIFICATIONS (NDS) FOR WOOD CONSTRUCTION

DESIGN LOADS:

THE STRUCTURAL SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED WITH THE FOLLOWING SUPERIMPOSED LOADINGS:

ROOF: GROUND SNOW LOAD, DESIGN ROOF SNOW LOAD, SNOW EXPOSURE FACTOR, SNOW LOAD IMPORTANCE FACTOR, THERMAL FACTOR, ROOF LIVE LOAD	$P_g = 10 \text{ psf}$ $P_f = 10 \text{ psf}$ $C_e = 0.9$ $I_s = 1.0$ $C_t = 1$ 10 psf
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DESIGN LIVE LOADS: FLOOR ROOF	100 psf 20 psf
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WIND: BASIC WIND SPEED (3 SEC GUST) EXPOSURE CATEGORY RISK CATEGORY WIND BASE SHEARS,	143 mph C II $V_x = 55.3 \text{ k}$ $V_y = 113.4 \text{ k}$
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COMPONENT & CLADDING:
ALL BUILDING COMPONENTS AND CLADDING ENGINEERED BY THE MANUFACTURER ARE TO BE DESIGNED BY THE MANUFACTURER'S ENGINEER FOR WIND LOADS DETERMINED PER THE NORTH CAROLINA STATE BUILDING CODE FOR THE BASIC DESIGN WIND VELOCITY, IMPORTANCE FACTOR AND EXPOSURE LISTED ABOVE.

SEISMIC:
IMPORTANCE FACTOR
RISK CATEGORY
MAPPED SPECTRAL RESPONSE ACCELERATIONS,

$I = 1.0$ $S_s = 0.136 \text{ g}$ $S_1 = 0.066 \text{ g}$ $S_{ds} = 0.145 \text{ g}$ $S_{d1} = 0.106 \text{ g}$

SPECTRAL RESPONSE COEFF.,

SEISMIC RESISTING SYSTEM:
ORDINARY REINFORCED MASONRY SHEAR WALLS

DESIGN BASE SHEARS,

$V_x = 23.1 \text{ k}$ $V_y = 23.1 \text{ k}$ $C_u = .021$ $R = 7$ EQUIV. LAT. FORCE DESIGN CATEGORY SITE CLASSIFICATION	O
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FOUNDATIONS:

1. SEE THE FOLLOWING REPORT FOR COMPLETE GEOTECHNICAL RECOMMENDATIONS AND INSTALLATION PROCEDURES. SITE PREPARATION AND FOUNDATION SHALL COMPLY WITH THE FOLLOWING:

PREPARED BY: ECS SOUTHEAST, LLP

TITLE: GEOTECHNICAL REPORT
SWANSBORO ICEHOUSE
SWANSBORO, ONSLOW COUNTY, NORTH CAROLINA
ECS PROJECT NUMBER # 22-28186
DATE: AUGUST 2, 2019

2. GEOTECHNICAL RECOMMENDATIONS WERE PREPARED WITH SPECIFIC KNOWLEDGE OF THE SPECIFIC BUILDING TYPE, CONSTRUCTION TYPE, AND LIKELY LOADS SHOWN ON THE CONSTRUCTION DOCUMENTS. DETERMINING THE AMOUNT OF SETTLEMENT ACCEPTABLE FOR THE BUILDING TYPE IS THE RESPONSIBILITY OF THE GEOTECHNICAL ENGINEER. ALL STRUCTURAL DESIGNS WERE BASED UPON STAYING WITHIN THE LIMITS GIVEN WITHIN THE GEOTECHNICAL REPORT FOR THE LOADS PRESCRIBED BY THE BUILDING CODE REFERENCED IN THE DESIGN CODES SECTION OF THESE STRUCTURAL NOTES.

3. DESIGNS BASED UPON GEOTECHNICAL REPORT RECOMMENDATION FOR DEEP FOUNDATIONS. SEE GEOTECHNICAL REPORT FOR ALL REQUIREMENTS RELATED TO THE INSTALLATION OF PILES.

PLUMBING SLEEVES:

MINIMUM SLEEVE SPACING SHALL BE TWO DIAMETERS CENTER TO CENTER TO THE LARGER SLEEVE OR 6" CLEAR BETWEEN SLEEVES, WHICHEVER IS GREATER. PRIOR TO CONSTRUCTION SLEEVE LOCATIONS AND SIZES SHALL BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

CHEMICAL ANCHORS:

SHALL BE A POLYMER INJECTION SYSTEM SUCH AS RAMSEY "EPCON", MOLLY "PARAMOUNT HYC", SIKKA "SIKADUR INJECTION SEL", "HILTI-HIGH STRENGTH EPOXY", OR APPROVED ALIKE, INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. INSTALLERS SHALL BE TRAINED BY THE MANUFACTURER'S REPRESENTATIVE.

ANCHOR BOLTS:

SHALL BE A36 THREADED ROD. PROVIDE HOT DIP GALVANIZE FINISH ON ALL ANCHOR BOLTS PERMANENTLY EXPOSED TO EXTERIOR.

CONCRETE TESTING:

1. CONCRETE TESTING SHALL BE PAID FOR BY THE OWNER. TESTING LABORATORY SHALL PERFORM THE FOLLOWING TESTS ON CAST-IN-PLACE CONCRETE:

A) ASTM C143 - "STANDARD TEST METHOD FOR SLUMP OF PORTLAND CEMENT CONCRETE."
B) ASTM C39 - "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS." A SEPARATE TEST SHALL BE CONDUCTED FOR EACH CLASS, FOR EVERY 50 CUBIC YARDS (OR FRACTION THEREOF), PLACED PER DAY. REQUIRED CYLINDER(S) QUANTITIES AND TEST AGE AS FOLLOWS:

1 AT 7 DAYS 2 AT 28 DAYS

PROVIDE ONE ADDITIONAL RESERVE CYLINDER TO BE TESTED UNDER THE DIRECTION OF THE ENGINEER, IF REQUIRED. IF 28 DAY STRENGTH IS ACHIEVED, THE ADDITIONAL CYLINDER(S) MAY BE DISCARDED.

PENETRATION:

NO PENETRATIONS SHALL BE MADE IN ANY STRUCTURAL MEMBERS OTHER THAN THOSE LOCATED ON THESE DRAWINGS WITHOUT PREVIOUS APPROVAL OF THE ENGINEER.

CONCRETE MIX DESIGN:

1. SHALL BE MIX DESIGNED BY A RECOGNIZED TESTING LABORATORY TO ACHIEVE A STRENGTH AT 28 DAYS AS LISTED BELOW WITH A PLASTIC AND WORKABLE MIX:

3,000 psi - 3,000 psi 4,000 psi	FOUNDATION WALLS AND FOOTINGS INTERIOR SLAB-ON-GRADE ALL OTHER CONCRETE
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2. SUBMIT PROPOSED MIX DESIGN WITH RECENT FIELD CYLINDER OR LAB TESTS FOR REVIEW PRIOR TO USE. MIX SHALL BE UNIQUELY IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. CONCRETE SHALL COMPLY WITH ALL THE REQUIREMENTS OF ASTM STANDARD C94 FOR MEASURING, MIXING, TRANSPORTING, ETC. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN CONCRETE IS BATCHED. THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1-1/2) HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY THAN STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE WITH THE ABOVE. ALL SLABS SHALL BE CURED USING CURING COMPOUND MEETING ASTM STANDARD C309 TYPE 1 AND SHALL HAVE A FUGITIVE DYE. THE COMPOUND SHALL BE PLACED AS SOON AS THE FINISHING IS COMPLETED OR AS SOON AS THE WATER HAS LEFT THE UNFINISHED CONCRETE. ALL SCUFFED OR BROKEN AREAS IN THE CURING MEMBRANE SHALL BE RECOATED DAILY. CALCIUM CHLORIDES SHALL NOT BE UTILIZED; OTHER ADMIXTURES MAY BE USED ONLY WITH THE APPROVAL OF THE ENGINEER.

3. CONCRETE SHALL UTILIZE TYPE II CEMENT UNLESS OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER OR GEOTECHNICAL REPORT.
4. THE CONCRETE STRENGTHS SHOWN IN THE SECTION ABOVE AND IN THE SPECIFICATIONS ARE MINIMUM COMPRESSIVE STRENGTHS. THE ENGINEER SHALL DETERMINE IF THE CONCRETE IS ACCEPTABLE, OR TO BE REMOVED, OR TO RECEIVE SPECIAL CURING IF THE COMPRESSIVE STRENGTHS ARE LESS THAN SPECIFIED.

5. ALL CONCRETE EXPOSED TO WEATHER OR EARTH SHALL BE AIR ENTRAINED TO 5% TO 7%.

6. WATER REDUCING AGENTS MAY BE USED IN THE CONCRETE MIX. PLASTICIZERS AND SUPER-PLASTICIZERS MAY BE USED ONLY WHEN WRITTEN PERMISSION OF THE ENGINEER IS GIVEN.

7. NO SALTS OF ANY KIND MAY BE USED IN CONCRETE BEFORE OBTAINING THE ENGINEER'S WRITTEN PERMISSION FOR THEIR USE.

8. CONCRETE FOR TROWEL-FINISHED INTERIOR CONCRETE FLOORS SHALL NOT INCLUDE AN AIR-ENTRAINING ADMIXTURE; THE MAXIMUM AIR CONTENT IN THESE SLABS SHALL NOT EXCEED 3%.

CONCRETE AND REINFORCING PLACEMENT:

1. ALL CONCRETE SHALL BE PLACED IN ACCORDANCE WITH ACI 301 AND ACI 117 EXCEPT AS MODIFIED BELOW:

ACI 117 ITEM 4.3.1.1
ELEVATIONS OF SLAB-ON-GRADE TOP OF SLAB ELEVATION SHALL BE WITHIN A 3/8" ENVELOPE EITHER SIDE OF THE THEORETICAL DESIGN SURFACE.

ACI 117 ITEM 4.5.7
FLOOR FINISH TOLERANCES AS MEASURED BY PLACING A FREESTANDING (UNLEVELED) 10 FT. STRAIGHTEDGE ANYWHERE ON THE SLAB AND ALLOWING IT TO REST UPON TWO HIGH SPOTS WITHIN 28 DAYS AFTER SLAB CONCRETE PLACEMENT. THE GAP AT ANY POINT BETWEEN THE STRAIGHTEDGE AND THE FLOOR SHALL NOT EXCEED 1/4".

2. ALL REINFORCING STEEL TO BE ASTM A615, GRADE 60 (#4 AND LARGER), EXCEPT WHERE NOTED OTHERWISE. REINFORCING SHALL NOT BE WELDED.

3. WELDED WIRE FABRIC TO CONFORM TO ASTM A185 AND SHALL BE FREE FROM OIL, SCALE AND RUST. PLACE WWF IN ACCORDANCE WITH THE TYPICAL PLACING DETAILS OF ACI STANDARDS AND THE SPECIFICATIONS. MINIMUM LAPS SHALL BE ONE SPACE PLUS 2".

4. ALL REINFORCING STEEL BARS TO BE DETAILED AND PLACED IN ACCORDANCE WITH THE LATEST ACI MANUALS.

5. LAP ALL REINFORCING SPLICES IN CONCRETE A MINIMUM OF 48 BAR DIAMETERS OR 24 INCHES, WHICHEVER IS GREATER, UNLESS NOTE OTHERWISE ON DRAWINGS (CLASS B SPLICE).

6. PROVIDE CORNER BARS OF SAME BAR DIAMETER AS SPECIFIED FOR THE WALL, BEAM OR FOOTING. PROVIDE MINIMUM OF 40 BAR DIAMETER LAP FOR ALL CORNER BARS, UNLESS NOTED OTHERWISE.
7. PROVIDE FOUNDATION DOWELS AS SHOWN. MINIMUM SIZE DOWELS TO BE # 4 UNLESS OTHERWISE NOTED. ALL VERTICAL REINFORCING STEEL IN COLUMNS AND PIERS, OR VERTICAL REINFORCING IN WALLS, SHALL BE DOWELED INTO THE FOOTINGS WITH SAME SIZE AND QUANTITY DOWEL AS THE VERTICAL REINFORCING.

8. WHERE SHOWN ON THE DRAWINGS, PROVIDE WELD PLATES, WELDMENTS, OR CONCRETE INSERTS FOR FASTENING AND SECURING OTHER COMPONENTS. CONCRETE INSERTS SHALL BE FURNISHED BY THE CONTRACTOR REQUIRING THEM AND INSTALLED BY THE CONTRACTOR CASTING THE CONCRETE AROUND THEM. CLIP ANGLES SHALL BE FURNISHED BY THE CONTRACTOR REQUIRING THEM.

9. REINFORCING STEEL SHALL RECEIVE CONCRETE COVER AS FOLLOWS:

DESCRIPTION	MINIMUM COVER
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
EXPOSED TO EARTH OR WEATHER #6 THROUGH #18 BARS #5 BARS OR SMALLER	2" 1 1/2"
NOT EXPOSED TO EARTH OR WEATHER OR IN CONTACT WITH THE GROUND, SLABS AND WALLS #11 BARS OR SMALLER #14 AND #18	3/4" 1 1/2"
BEAMS AND COLUMNS	1 1/2"

10. PROVIDE TWO (2) #5s, ONE AT EACH FACE, UNLESS NOTED OTHERWISE, AROUND ALL OPENINGS GREATER THAN 12"x12" IN CAST-IN-PLACE CONCRETE. EXTEND REINFORCING 2'-0" BEYOND OPENING IN BOTH DIRECTIONS. CONTACT ENGINEER FOR ALL OPENINGS GREATER THAN 12"x12" FOR DESIGN.

11. COLD WEATHER AND HOT WEATHER PROVISIONS OF ACI 306 AND 305 (CURRENT EDITIONS), RESPECTIVELY, SHALL BE MAINTAINED.

12. CONTRACTOR TO FURNISH AND INSTALL 500 LINEAR FT. EACH OF ADDITIONAL #4 & #5 REINFORCING STEEL TO BE USED AT ENGINEER'S DISCRETION.

FORMWORK AND SHORING:

NO STRUCTURAL CONCRETE SHALL BE STRIPPED UNTIL IT HAS REACHED AT LEAST TWO-THIRDS OF THE 28 DAY DESIGN STRENGTH. DESIGN, ERECTION AND REMOVAL OF ALL FORMWORK, SHORES AND RESHORES SHALL MEET THE REQUIREMENTS SET FORTH IN ACI STANDARDS 301 AND 347.

16. SPECIFICATION REQUIREMENTS FOR COLD WEATHER AND HOT WEATHER MASONRY CONSTRUCTION SHALL BE MAINTAINED.

MASONRY PRISM TESTING:

1. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL CONSTRUCT THREE (3) TEST PRISMS FOR TESTING. THE PRISMS SHALL BE CONSTRUCTED TWO (2) 16" PRISMS FOR TESTING, ONE (1) ON TOP OF THE OTHER, JOINED WITH TYPE "S" MORTAR, AND FILLED WITH 3,000 psi CONCRETE GROUT. PRISMS SHALL BE CURED FOR 28 DAYS. NO REINFORCING SHALL BE USED IN THE CONSTRUCTION OF THE PRISMS.

2. PRISMS SHALL BE MADE OF THE SAME MATERIALS, UNDER THE SAME CONDITIONS, AND INsofar AS POSSIBLE, WITH THE SAME BONDING ARRANGEMENTS AS FOR THE STRUCTURE. THE MOISTURE CONTENT OF THE UNITS AT THE TIME OF LAYING, CONSISTENCY OF MORTAR, AND WORKMANSHIP SHALL BE THE SAME AS WILL BE USED IN THE STRUCTURE. THE VALUE OF f_m SHALL BE THE AVERAGE OF ALL SPECIMENS TESTED BUT SHALL NOT BE LESS THAN 85 PERCENT OF THE MINIMUM VALUE DETERMINED BY THE TEST, WHICHEVER IS LESS.

3. TESTING SHALL INCLUDE TESTS IN ADVANCE OF BEGINNING OPERATIONS AS DESCRIBED ABOVE, AND AT LEAST ONE (1) FIELD TEST DURING CONSTRUCTION FOR EACH 5,000 SQUARE FEET OF WALL, BUT NOT LESS THAN ONE (1) FIELD TEST MINIMUM IF TOTAL SQUARE FEET OF WALL FOR ENTIRE PROJECT IS LESS THAN 5,000 SF. ONLY WALLS INDICATED ON STRUCTURAL PLANS NEED BE TESTED.

4. THE COMPRESSIVE STRENGTH, f_m , SHALL BE COMPUTED BY DIVIDING THE ULTIMATE LOAD BY THE NET AREA OF THE MASONRY USED IN THE CONSTRUCTION OF THE PRISMS.

5. TEST PRISMS SHALL BE STORED FOR SEVEN DAYS IN AIR, AT A TEMPERATURE OF 70 DEGREES, PLUS OR MINUS 5 DEGREES, IN A RELATIVE HUMIDITY EXCEEDING 90%, AND THEN IN AIR AT A TEMPERATURE OF 70 DEGREES, PLUS OR MINUS 5 DEGREES, UNTIL TESTED. THOSE CONSTRUCTED IN THE FIELD SHALL BE STORED UNDISTURBED FOR 48 to 96 HOURS UNDER WET MATERIAL TO SIMULATE 90% HUMIDITY, THEN TRANSPORTED TO LABORATORY FOR CONTINUED CURING AS DESCRIBED ABOVE.

6. NOT LESS THAN THREE (3) PRISM SPECIMENS SHALL BE MADE FOR EACH FIELD TEST TO CONFIRM THAT THE MATERIALS ARE AS ASSUMED IN THE DESIGN. THE STANDARD AGE OF TEST SPECIMENS SHALL BE 28 DAYS, BUT 7-DAY TESTS MAY BE USED, PROVIDED THE RELATION BETWEEN THE 7-DAY AND 28-DAY STRENGTHS OF EVERY MASONRY IS ESTABLISHED BY ADEQUATE TEST DATA FOR THE MATERIALS USED.

MASONRY MATERIALS:

1. MASONRY UNITS SHALL MEET ASTM C90 TYPE 1, GRADE N, FOR HOLLOW LOAD BEARING TYPE MASONRY WITH A UNIT STRENGTH OF 1,900 psi ON THE NET AREA ($f_m = 1,900 \text{ psi}$).

2. MORTAR SHALL BE TYPE "M" (BELOW GRADE) OR "S" (ABOVE GRADE) AND SHALL MEET ASTM C270. GROUT SHALL BE 3,000 psi PEA-GRAVEL CONCRETE AND SHALL MEET ASTM C476. MORTAR MIX DESIGN SHALL BE TESTED PRIOR TO CONSTRUCTION USING MORTAR TEST CUBES, WITH 7-DAY STRENGTH OF 1,500 PSI. LABORATORY MIX EXCEEDING THAT SPECIFIED DESIGN STRENGTH. GROUT SHALL BE TESTED PRIOR TO CONSTRUCTED USING PRISMS AS DESCRIBED ABOVE.

MASONRY AND REINFORCED MASONRY PLACEMENT:

1. ALL MASONRY SHALL BE LAID IN RUNNING BOND UNLESS NOTED OTHERWISE. MATERIALS TO BE LAID AND MATERIALS TO BE BUILT UPON SHALL BE FREE FROM SNOW AND ICE.

2. PROVIDE HOOKED DOWELS INTO FOOTINGS FOR ALL VERTICAL REINFORCING ABOVE AS SHOWN IN THE DRAWINGS. LAP SPLICES A MINIMUM OF 48 BAR DIAMETERS. AT THE OPTION OF THE CONTRACTOR, DOWELS MAY BE DRILLED AND EPOXIED INTO FOOTING IN LIEU OF HOOKS. EPOXY SHALL BE AS NOTED ON THIS SHEET BUILDING UNDER CHEMICAL AND/OR CHEMICAL EMBEDMENT FOR #5 OR SMALLER DOWELS, 8" MIN. EMBEDMENT FOR #6 DOWELS.

3. PROVIDE DUR-O-WALL (OR EQUAL PER SPECIFICATIONS) LADDER OR TRUSS HORIZONTAL JOINT REINFORCEMENT AT EACH SECOND COURSE IN RUNNING BOND, AND EACH COURSE IN STACKED BOND, UNLESS NOTED OTHERWISE. DISCONTINUE HORIZONTAL JOINT REINFORCEMENT AT CONTROL JOINTS.

4. PROVIDE BOND BEAMS REINFORCED WITH (2) #5 BARS EVERY 6'-0" OF VERTICAL WALL, AT TOPS OF ALL MASONRY WALLS, AND WHERE SHOWN ON DRAWINGS. AT BOND BEAM CORNERS AND TEE JOINTS, PROVIDE BENT BARS TO MATCH QUANTITY AND BAR SIZE IN THE BOND BEAM. LAPS IN BOND BEAMS SHALL BE 48 BAR DIAMETERS OR A MINIMUM OF 2'-0", WHICHEVER IS GREATER.

5. WHERE SHOWN ON THE DRAWINGS, CORES IN CONCRETE BLOCK UNITS SHALL BE FILLED WITH 3,000 psi CONCRETE GROUT FROM TOP OF FOOTING TO BOTTOM OF BEARING, OR TO THE TOP OF WALL, DEPENDING ON THE CONDITION. INSPECTION OF OPENING AT BOTTOM IS REQUIRED.

6. WHERE REINFORCING STEEL IS CALLED FOR IN FILLED CORES, IT SHALL EXTEND FROM TOP OF FOOTING TO BOTTOM OF BEARING, OR TO TOP OF WALL, DEPENDING ON CONDITION.

7. WHERE REINFORCING STEEL IS INTERRUPTED BY AN OPENING IN THE WALL, THE QUANTITY OF BARS INTERRUPTED ARE TO BE MOVED TO EACH SIDE OF THE OPENING, HALF OF REINFORCING TO EACH SIDE OF THE OPENING, HALF TO THE OTHER SIDE. REINFORCING SHALL BE FROM TOP OF FOOTING TO TOP OF WALL. PROVIDE A MINIMUM OF (2) #5 VERTICAL REINFORCING BARS AT EACH JAMB. SEE PLAN NOTES AND/OR DETAILS FOR VERTICAL REINFORCING SPACING.

8. WHERE VERTICAL REINFORCING STEEL IS SPLICED IN MASONRY, PROVIDE A MINIMUM OF 48 BAR DIAMETERS, LAP SPLICE, UNLESS NOTED OTHERWISE.

9. THE MINIMUM DISTANCE BETWEEN PARALLEL BARS, EXCEPT IN COLUMNS, SHALL BE NOT LESS THAN THE DIAMETER OF THE BAR EXCEPT THAT LAPPED SPLICES MAY BE WIRED TOGETHER. THE CENTER TO CENTER SPACING OF BARS WITHIN A COLUMN SHALL BE NOT LESS THAN 2 AND ONE-HALF TIMES THE BAR DIAMETER.

10. ALL BARS SHALL BE COMPLETELY EMBEDDED IN MORTAR OR CONCRETE. REINFORCEMENT EMBEDDED IN HORIZONTAL MORTAR JOINTS SHALL HAVE NOT LESS THAN 5/8" MORTAR COVERAGE FROM THE EXPOSED FACE. ALL OTHER REINFORCING SHALL HAVE A MINIMUM COVERAGE OF ONE BAR DIAMETER OVER ALL BARS, BUT NOT LESS THAN 3/4", EXCEPT WHERE EXPOSED TO WEATHER OR SOIL IN WHICH CASE THE MINIMUM COVERAGE SHALL BE 2".

11. WHERE REINFORCING IS SHOWN TO BE LOCATED ALONG TWO FACES OF A CONCRETE BLOCK WALL, THE CONTRACTOR SHALL BREAK OUT THE SHELL OF THE LOWEST CONCRETE BLOCK TO GAIN ACCESS TO THE REINFORCING STEEL. THE REINFORCED STEEL SHALL THEN BE WIRED INTO ITS CORRECT POSITION, AND THE ACCESS HOLE COVERED. THE CONCRETE GROUT FILL SHALL BE PULDED OR VIBRATED TO ASSURE COMPLETE FILLING OF THE CORE.

12. REINFORCED MASONRY PIERS AND COLUMNS SHALL HAVE THE REINFORCING STEEL ACCURATELY LOCATED BY WIRING THE TOP AND BOTTOM OF ALL VERTICAL STEEL INTO ITS CORRECT POSITION. PROVIDE AN ACCESS HOLE AT THE BOTTOM OF ALL COLUMNS OR PIERS.

13. ALL REINFORCED HOLLOW UNIT MASONRY SHALL BE BUILT TO PRESERVE THE UNOBSTRUCTED VERTICAL CONTINUITY OF THE CELLS TO BE FILLED. WALLS AND CROSS WEBS FORMING SUCH CELLS TO BE FILLED SHALL BE FULLBEDDED IN MORTAR TO PREVENT LEAKAGE OF CONCRETE GROUT. ALL HEAD (OR END) JOINTS SHALL BE SOLIDLY FILLED WITH MORTAR FOR A DISTANCE IN FROM THE FACE OF THE WALL OR UNIT NOT LESS THAN THE THICKNESS OF THE LONGITUDINAL FACE SHELLS. BOND SHALL BE PROVIDED BY LAPPING UNITS IN SUCCESSIVE VERTICAL COURSES OR BY EQUIVALENT MECHANICAL ANCHORAGE.

- A) VERTICAL CELLS TO BE FILLED SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR, UNOBSTRUCTED CONTINUOUS VERTICAL CELL MEASURING NOT LESS THAN 2'x3'.

- B) CLEANOUT OPENINGS SHALL BE PROVIDED AT THE BOTTOM OF ALL CELLS TO BE FILLED AT EACH HOUR OF CONCRETE WHERE SUCH CONCRETE HOUR IS IN EXCESS OF 6" IN HEIGHT. ANY OVERHANGING MORTAR, OTHER OBSTRUCTION OR DEBRIS SHALL BE REMOVED AND/OR CLEANED AT TIME OF INSPECTION AND PRIOR TO CORE FILLING. INSPECT AND SEAL ALL OPENINGS BEFORE CONCRETING.

- C) VERTICAL REINFORCEMENT SHALL BE HELD IN POSITION AT TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 192 DIAMETERS OF THE REINFORCEMENT.

- D) ALL CELLS CONTAINING REINFORCEMENT SHALL BE FILLED SOLIDLY WITH CONCRETE. CONCRETE SHALL BE POURED IN LIFTS OF 8" MAXIMUM HEIGHT. ALL CONCRETE SHALL BE CONSOLIDATED AT THE TIME OF POURING BY PULDING FOR LIFTS OF 4' OR LESS, OR BY VIBRATING FOR LIFTS GREATER THAN 4'. CONCRETE SHOULD LATER BE CONSOLIDATED AGAIN BY PULDING, BEFORE PLASTICITY IS LOST.

- E) WHEN TOTAL CONCRETE POUR EXCEEDS 8' IN HEIGHT, THE CONCRETE SHALL BE PLACED IN 4' MAXIMUM LIFTS. MINIMUM CELL DIMENSION SHALL BE 3'.

- F) WHEN CONCRETING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE POUR OF CONCRETE 1 1/2" BELOW THE TOP OF THE UPPERMOST UNIT.

14. PROVIDE A MINIMUM OF 8" BEARING FOR ALL MASONRY LINTELS.

15. WHERE LINTEL BLOCKS ARE USED IN LIEU OF HOLLOW CONCRETE BLOCKS, THE REINFORCING STEEL SHALL BE ANCHORED TO THE LOWER STEEL OR DOWELS AND THE LINTEL BLOCKS AND AROUND THE STEEL. THE CONCRETE FILL SHALL BE INSTALLED IN LIFTS NOT TO EXCEED 2' IN HEIGHT. THE REINFORCING STEEL SHALL BE MAINTAINED IN THE SAME POSITION AS THE DOWELS. STOP THE POUR OF THE CONCRETE 1 1/2" BELOW THE TOP OF THE UPPERMOST UNIT.

16. SPECIFICATION REQUIREMENTS FOR COLD WEATHER AND HOT WEATHER MASONRY CONSTRUCTION SHALL BE MAINTAINED.

STRUCTURAL STEEL:

1. STEEL SHALL CONFORM TO ASTM A992 ($F_y=60 \text{ ksi}$) FOR ALL W-SHAPES, AND ASTM A572 ($F_y=50 \text{ ksi}$) FOR ALL OTHER MISCELLANEOUS SHAPES AND PLATES. STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B ($F_y=60 \text{ ksi}$). STRUCTURAL PIPE SHALL CONFORM TO ASTM A53, GRADE B, TYPE "E" OR "S" ($F_y=60 \text{ ksi}$).

2. STEEL SHALL CONFORM TO THE LATEST EDITION OF "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC. (AISC).

3. ALL STRUCTURAL STEEL EXPOSED TO EXTERIOR SHALL BE HOT-DIPPED GALVANIZED.

4. ALL SHOP CONNECTIONS TO BE WELDED (UTILIZING E70XX ELECTRODES) AND FIELD CONNECTIONS TO BE BOLTED, UNLESS OTHERWISE NOTED. STEEL TO RECEIVE ONE SHOP COAT AND ONE FIELD TOUCH UP COAT OF APPROVED PAINT, EXCEPT WHERE GALVANIZED IS INDICATED ON THE DRAWINGS.

5. WELDS FOR ALL EXPOSED STRUCTURAL STEEL SHALL BE GROUND SMOOTH UNLESS NOTED OTHERWISE.

6. ALL BOLTED CONNECTIONS SHALL CONSIST OF 3/4" DIAMETER (MIN.) ASTM A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. BEAM CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR TO SUPPORT AN END REACTION OF $W_{pl}Z$ KIPS IN ACCORDANCE WITH PART 2 - "BEAM AND GIRDER DESIGN" OF THE MANUAL OF STEEL CONSTRUCTION (8th EDITION), BUT CONNECTIONS SHALL NOT HAVE LESS THAN 2 ROWS OF BOLTS. SEE ALSO DOUBLE ANGLE AND SHEAR TAB CONNECTION SCHEDULE(S) WHERE APPLICABLE.

7. CONTRACTOR TO FURNISH AND INSTALL 500 lbs. OF ADDITIONAL MISCELLANEOUS STEEL TO BE USED AT ENGINEER'S DISCRETION.

WOOD:

1. STRUCTURAL 2x4 WOOD COMPONENTS HAVE BEEN DESIGNED AS SOUTHERN YELLOW PINE (SPY) OR HEM-FIR (HF) NO. 2 OR BETTER AND SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE FIBER STRESSES AND PROPERTIES:

MODULUS OF ELASTICITY (E) BENDING (Fb) SHEAR (Fv)	1,300,000 PSI 800 PSI 75 PSI
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2. WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PROTECTED OR PRESSURE TREATED IN ACCORDANCE WITH AITC-109.

3. MEMBER SIZES SHOWN ARE NOMINAL UNLESS NOTED OTHERWISE.

4. BOLTS IN WOOD ARE MACHINE BOLTS, UNLESS OTHERWISE NOTED. MACHINE BOLTS SHALL HAVE A SHANK DIAMETER WITHIN 1/64" OF THAT SPECIFIED. BOLTS ARE ASTM 307 STEEL. BOLT HOLES IN WOOD SHALL BE 1/32" OVERSIZE. WHERE STEEL IS CONNECTED TO WOOD, HOLES IN STEEL SHALL BE 1/16" OVERSIZE. PROVIDE STANDARD CUT WASHERS UNDER HEAD AND NUT WHERE BEARING IS AGAINST WOOD. WHERE STEEL SIDE PLATES ARE USED FOR CONNECTION, THE PLATE SHALL BE USED AS A TEMPLATE.

5. ALL WOOD ELEMENTS SHALL BE ATTACHED PER THE FASTENING SCHEDULE OF THE 2018 NCSBC (TABLE 2304.9.1) UNLESS OTHERWISE NOTED.

6. SEE ARCHITECTURAL DRAWINGS FOR WEATHER PROTECTION OF ALL EXPOSED WOOD MEMBERS.

WOOD SHEATHING:

1. PLYWOOD ROOF, FLOOR AND WALL SHEATHING ARE DESIGNED AS DIAPHRAGMS AND SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 23 OF THE 2018 NCSBC.

2. SHEATHING SHALL BE FASTENED IN ACCORDANCE WITH PLANS SHOWN SPECIAL NAILING REQUIREMENTS AND WITH THE APPROPRIATE SCHEDULE IN CHAPTER 23, UNLESS NOTED OTHERWISE.

3. IN GENERAL, SHEETS SHALL BE 4'-0"x8'-0" AND SHALL BE LAID WITH FACE PLIES ACROSS FRAMING MEMBERS AND WITH END JOINTS STAGGERED 4'-0". NO PANEL SHALL BE USED WHICH IS LESS THAN 24" IN WIDTH ON FLOORS AND ROOFS. SHEATHING SHALL BE CONTINUOUS ACROSS 2 SPANS, MINIMUM.

PRE-ENGINEERED WOOD ROOF TRUSSES:

1. ENGINEERED WOOD ROOF TRUSS SYSTEMS SHALL BE DESIGNED BY SUPPLIER TO THE CONFIGURATION AND LOAD-CARRYING CAPACITY SHOWN ON THE DRAWINGS AND SPECIFICATIONS. TRUSSES SHALL BE DESIGNED TO SUSTAIN SELF WEIGHT OF THE TRUSSES AND UNIFORM LOADS AS INDICATED ON THIS SHEET AND AS FOLLOWS:

A) TOP CHORD:	DEAD LOAD = 10 psf SNOW LOAD = 10 psf SNOW DRIFT - SEE DRIFT PLAN WIND LOAD = SEE DESIGN LOADS
B) BOTTOM CHORD:	DEAD LOAD = 10 psf LIVE LOAD = 10 psf

2. WIND LOAD: WHEN CALCULATING NET UPLIFT REACTIONS, USE MAXIMUM RESISTING DEAD LOAD EQUAL TO 6 PSF ON THE TOP CHORD AND 0 PSF ON THE BOTTOM CHORD.

3. ROOF TRUSSES SHALL BE DESIGNED FOR A MAXIMUM VERTICAL DEFLECTION OF L/360 LIVE LOAD AND L/240 TOTAL LOAD.

4. ALTERNATE TRUSS LAYOUTS ARE ACCEPTABLE ONLY AS A CHANGE ORDER WHICH WILL INCLUDE ENGINEERING CHARGES TO THE CONTRACTOR FOR REDESIGN FOR REVIEW PRIOR TO FABRICATION.

5. SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. SHOP DRAWINGS SHALL SHOW AND SPECIFY ALL CONNECTOR TYPES UTILIZED WITHIN TRUSSES, AS WELL AS CONNECTORS UTILIZED IN ALL OTHER CONNECTIONS AND ATTACHMENTS BETWEEN TRUSSES OR COMPONENTS SUPPLIED AS PART OF THE ENGINEERED TRUSS SYSTEM. AN ERECTION DRAWING SHALL BE INCLUDED, IDENTIFYING ALL TRUSS SYSTEM COMPONENTS, AS WELL AS ALL PERMANENT BRACING REQUIRED FOR TRUSS DESIGN. SHOP DRAWINGS SHALL BEAR THE SIGNATURE AND SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT LOCATION.

PRE-ENGINEERED WOOD FLOOR TRUSSES:

1. ENGINEERED WOOD TRUSS SYSTEMS SHALL BE DESIGNED BY SUPPLIER TO THE CONFIGURATION AND LOAD-CARRYING CAPACITY SHOWN ON THE DRAWINGS AND SPECIFICATIONS. TRUSSES SHALL BE DESIGNED TO SUSTAIN SELF WEIGHT OF THE TRUSSES AND UNIFORM LOADS AS INDICATED ON THIS SHEET AND AS FOLLOWS:

A) TOP CHORD:	DEAD LOAD = 10 psf LIVE LOAD = 100 psf
B) BOTTOM CHORD:	DEAD LOAD = 10 psf LIVE LOAD = 0 psf

- <

PROJECT INFORMATION		DESIGN PROFESSIONAL INFORMATION		CONSTRUCTION AND SITE	
PROJECT NAME	Icehouse Restaurant, Swansboro	ARCHITECT/ENGINEER/CONSULTANT	Dereck Rabun, PE	INSPECTION CATEGORIES	Concrete, Structural Steel, Deep Foundations
PROJECT DESCRIPTION	Commercial	FIRM	FDR Engineers	SEISMIC DESIGN CATEGORY	B
LOCATION	Swanboro, Onslow County, NC	ADDRESS	13200 Strickland Rd., Suite 114 Box 332, Raleigh, NC 27613	WIND SPEED	140 MPH
OWNER		PHONE	(919) 957-5100	EXPOSURE CATEGORY	C

SPECIAL INSPECTION AND TESTING:

1. SPECIAL INSPECTION AND MINIMUM TESTING SHALL BE PERFORMED IN ACCORDANCE WITH 2012 NCSBC, TABLES 1704.3 (STEEL), 1704.4 (CONCRETE), AND 1704.5.1 (MASONRY).
2. INSPECTION & TESTING SHALL BE PROVIDED BY AN INDEPENDENT TESTING AGENCY HIRED AT THE OWNER'S EXPENSE. AGENCY INSPECTION PERSONNEL SHALL MEET THE INSPECTOR QUALIFICATIONS FOR EACH MATERIAL ITEM AS INDICATED IN THE SPECIFICATIONS. ALL RE-TESTING DUE TO FAILURE OF ORIGINAL TEST SHALL BE PAID FOR BY THE GENERAL CONTRACTOR.
3. ANY MATERIAL OR PLACEMENT DEVIATIONS FROM MINIMUMS SHOWN ON THE DRAWINGS OR IN SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION				
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS & WASHERS:				
a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.		X	AISC 360, SECTION A3.3 AND APPLICABLE ASTM MATERIAL STANDARDS	
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED (SHOP DRAWINGS)		X		
2. INSPECTION OF HIGH-STRENGTH BOLTING:				
a. SNUG-TIGHT JOINTS		X	AISC 360, SECTION M2.5	1704.3.3
b. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION.		X		
c. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CALIBRATED METHODS OF INSTALLATION.				
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:				
a. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360.		X	AISC 360, SECTION M5.5	
b. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.		X	APPLICABLE ASTM MATERIAL STANDARDS	
c. MANUFACTURER'S CERTIFIED MILL TEST REPORTS.		X		
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:				
a. IDENTIFICATION MARKINGS TO COFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.		X	AISC 360, SECTION A3.5 AND APPLICABLE AWS AS DOCUMENTS	
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED (SHOP DRAWINGS)		X		
5. INSPECTION WELDING:				
a. STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:				
1) COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS.			AWS D1.1	1704.3.1
2) MULTIPASS FILLET WELDS.				
3) SINGLE-PASS FILLET WELDS > 5/16"				
4) PLUG AND SLOT WELDS.				
5) SINGLE-PASS FILLET WELDS ≤ 5/16"		X		
6) FLOOR AND ROOF DECK WELDS.			AWS D1.3	
b.) REINFORCING STEEL:				
1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706.			AWS D1.4 ACI 318: SECTION 3.5.2	
2) REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT.				
3) SHEAR REINFORCEMENT.				
4) OTHER REINFORCING STEEL.		X		
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:				
a. DETAILS SUCH AS BRACING AND STIFFENEING.		X		1704.3.2
b. MEMBER LOCATIONS.		X		
c. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.		X		

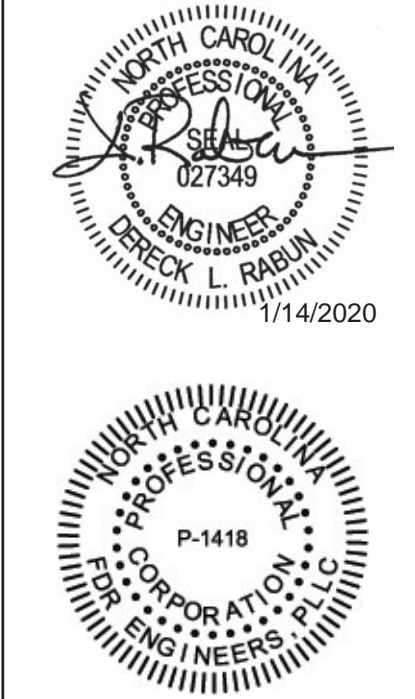
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION				
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT.		X	ACI 318: 3.5, 7.1-7.7	1913.4
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1704.3, ITEM 5b.			AWS D1.4 ACI 318: 3.5.2	
3. INSPECTION BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED.	X		ACI 318: 8.1.3, 21.2.8	1911.5, 1912.1
4. INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE.		X	ACI 318: 3.8.6, 8.1.3, 21.2.8	1912.1
5. VERIFYING USE OF REQUIRED DESIGN MIX.		X	ACI 318: Ch 4, 5.2-5.4	1904.3, 1913.2, 1913.3
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X		ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	1913.10
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X		ACI 318: 5.9, 5.10	1913.6, 1913.7, 1913.8
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.		X	ACI 318: 5.11-5.13	1913.9
9. INSPECTION OF PRESTRESSED CONCRETE:				
a. APPLICATION OF PRESTRESSING FORCES.			ACI 318: 18.20	
b. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC-FORCE-RESISTING SYSTEM.			ACI 318: 18.18.4	
10. ERECTION OF PRECAST CONCRETE MEMBERS.			ACI 318: Ch 16	
11. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POSTTENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.			ACI 318: 6.2	
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.		X	ACI 318: 6.1.1	

REQUIRED VERIFICATION AND INSPECTION OF DRIVEN DEEP FOUNDATION ELEMENTS - 2012 NCSBC (TABLE 1704.8)		
VERIFICATION AND INSPECTION	FREQUENCY OF INSPECTION	
	CONTINUOUS	PERIODIC
1. VERIFY ELEMENT MATERIALS, SIZES AND LENGTHS COMPLY WITH THE REQUIREMENTS.	X	
2. DETERMINE CAPACITIES OF TEST ELEMENTS AND CONDUCT ADDITIONAL LOAD TESTS, AS REQUIRED.	X	
3. OBSERVE DRIVING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT.	X	
4. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM TYPE AND SIZE OF HAMMER, RECORD NUMBER OF BLOWS PER FOOT OF PENETRATION, DETERMINE REQUIRED PENETRATIONS TO ACHIEVE DESIGN CAPACITY, RECORD TIP AND BUTT ELEVATIONS AND DOCUMENT ANY CHANGE TO FOUNDATION ELEMENT.	X	
5. FOR STEEL ELEMENTS, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE SECTION 1704.3.		X
6. FOR CONCRETE FILLED ELEMENTS, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE WITH SECTION 1704.4.		
7. FOR SPECIALTY ELEMENTS, PERFORM ADDITIONAL INSPECTIONS AS DETERMINED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.		X

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ICE HOUSE RESTAURANT
FRONT ST. & MOORE ST.

SWANSBORO, NC 28584

Project Name

SPECIAL INSPECTIONS

DESIGNED BY:

DLR

DRAWN BY:

CBA

APPROVED BY:

DLR

PROJECT #:

19-018

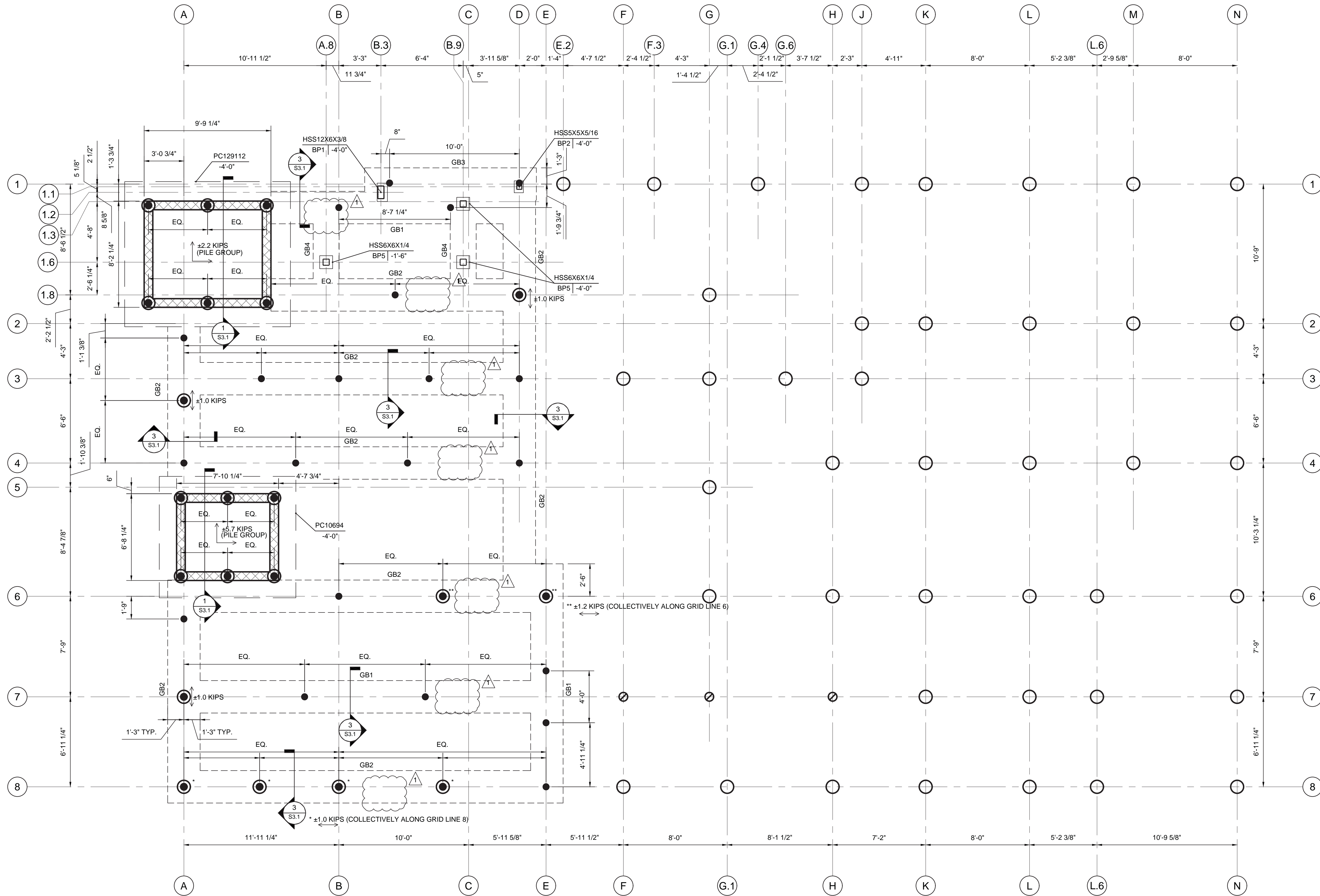
DATE:

11/15/2019

No.	Revision	Date
1	PERMIT REVIEW	1/10/2020

Sheet

S1.2



1 PILE AND GRADE BEAM LAYOUT
SCALE: 1/4" = 1'-0"

NOTES:

- PILE CAP MARK

PC #

TOP OF PILE CAP ELEVATION BELOW FINISHED FLOOR

BASEPLATE MARK

HSS5X5X5/16 BP2 -4'-0"

COLUMN MARK

BASEPLATE ELEVATION BELOW FINISHED FLOOR
- PIPING MUST PASS UNDER GRADE BEAMS. SEE TYPICAL FOUNDATION DETAIL. NOTIFY EOR IF PIPE CANNOT BE ROUTED BELOW A GRADE BEAM.
- TOP OF GRADE BEAM ELEVATION 1'-6" BELOW REFERENCE FFE, UNO.
- GB# DENOTES GRADE BEAM MARK. SEE GRADE BEAM SCHEDULE BELOW AND TYPICAL GRADE BEAM ELEVATION.
- : DENOTES 6" STEEL PILE [MAX. SERVICE LOADS: 23 KIPS AXIAL] (SEE S3.1)

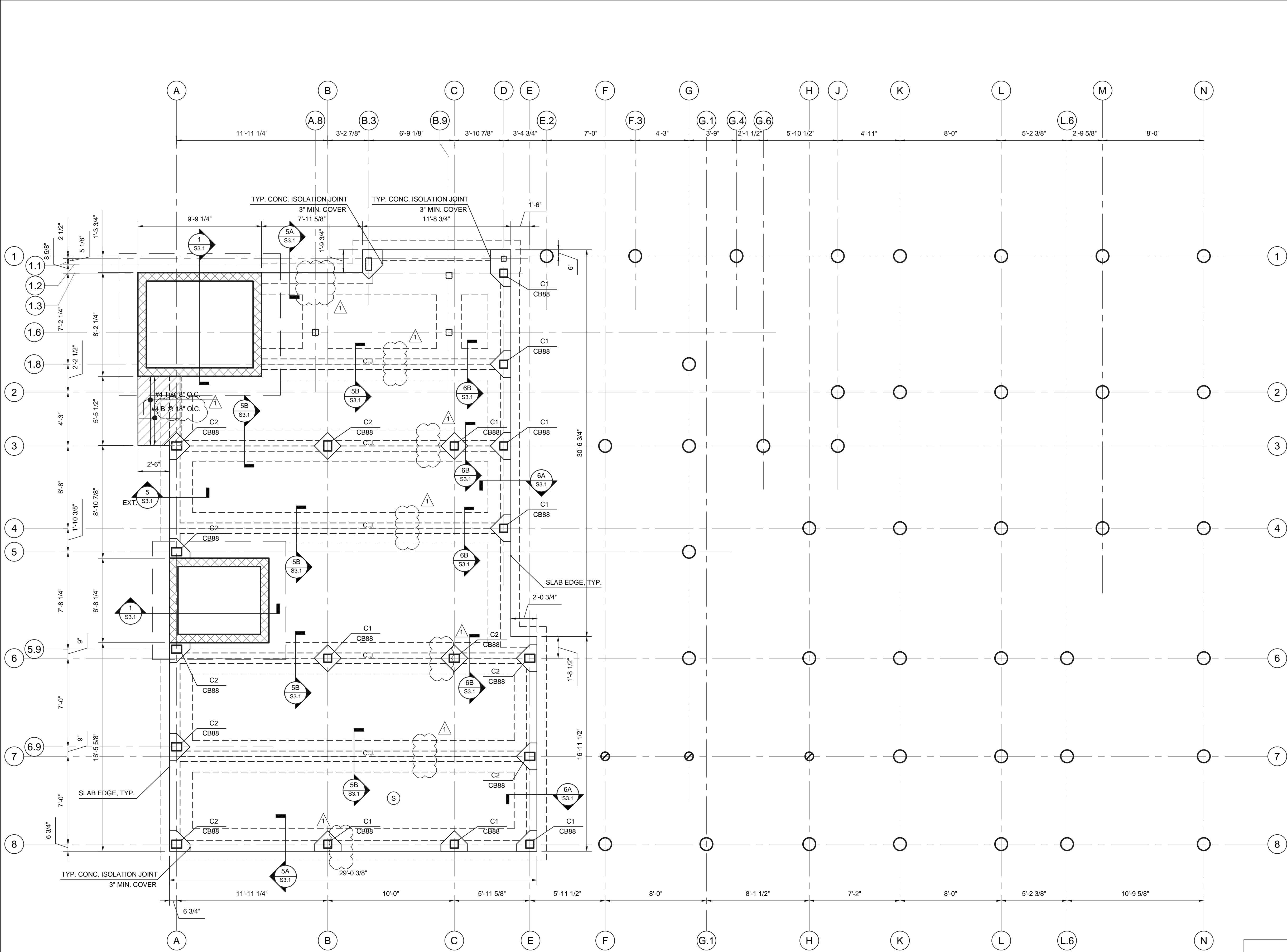
⦿ : DENOTES 6" STEEL PILE [MAX. SERVICE LOADS: 23 KIPS AXIAL, LATERAL CAPACITY PER PLAN THIS SHEET]

○ : DENOTES 12" DIAMETER WOOD PILE (SEE S5.3)

⌀ : DENOTES 8" DIAMETER WOOD PILE (SEE S5.3)
- FOR TYPICAL MASONRY WALL CONSTRUCTION DETAILS SEE S5.4
- VERIFY ALL DIMENSIONS & ELEVATIONS WITH ARCHITECTURAL DRAWINGS BEFORE CONSTRUCTION COMMENCES
- CENTERLINE OF GRADE BEAM SHALL COINCIDE WITH COLUMN CENTERLINE UNLESS NOTED OTHERWISE.
- CENTER PILES UNDER GRADE BEAMS UNLESS NOTED OTHERWISE.
- GRADE BEAMS TO BEAR ON PILE CAPS WHERE THEY INTERSECT.
- HELICAL PILE DESIGNER MUST INCLUDE ALLOWANCE FOR 8 FT OF SCOUR BELOW GRADE BEAMS PER FEMA P-55

GRADE BEAM SCHEDULE					
MARK	SIZE		REINFORCEMENT		
	WIDTH	HEIGHT	BOTTOM BARS	TOP BARS	STIRRUPS
GB1	30"	32"	(4) #6	(4) #6	#4 @ 16"
GB2	30"	32"	(3) #6	(3) #6	#4 @ 16"
GB3	28"	32"	(3) #6	(3) #6	#4 @ 16"
GB4	24"	24"	(3) #5	-	#4 @ 16"

PILE CAP SCHEDULE					
MARK	SIZE		DEPTH	REINFORCING	
	WIDTH (X)	LENGTH (Y)		BOTTOM BARS	TOP BARS
PC129112	12'-3"	11'-2"	32'	#7 @ 13" EA. WAY	#7 @ 13" EA. WAY
PC10694	10'-6"	9'-4"	32'	#7 @ 14" EA. WAY	#7 @ 14" EA. WAY



1 FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

- NOTES:
1. COLUMN MARK
 COLUMN BASE MARK
 - 2.
 3. FOR TYPICAL MASONRY WALL CONSTRUCTION DETAILS SEE S S5.4
 4. VERIFY ALL DIMENSIONS & ELEVATIONS WITH ARCHITECTURAL DRAWINGS BEFORE CONSTRUCTION COMMENCES
 5. PROVIDE #4 AT ALL INTERIOR SLAB EDGES AND CORNERS. SEE 3/S5.4 FOR TYPICAL SLAB ON GRADE REINFORCING
 6. C.J. DENOTES CONTROL JOINT OR CONSTRUCTION JOINT LOCATION. SEE DETAILS 1 AND 2 ON SHEET S5.4

COLUMN SCHEDULE				
MARK	SIZE	BASE ELEVATION	TOP ELEVATION	NOTES
C1	8X8 SP #2	FOUNDATION (0'-0")	MAIN FLOOR (11'-9")	
C2	8X10 SP #2	FOUNDATION (0'-0")	MAIN FLOOR (11'-9")	
C3	HSS10X5X $\frac{1}{4}$	FOUNDATION (0'-0")	ROOF (33'-4 $\frac{1}{2}$ ")	
C4	HSS5X5X $\frac{1}{4}$	FOUNDATION (0'-0")	ROOF (33'-4 $\frac{1}{2}$ ")	



ICE HOUSE RESTAURANT
FRONT ST. & MOORE ST.
SWANSBORO, NC 28584

Project Name

FOUNDATION PLAN

Sheet Title

DESIGNED BY: DLR

DRAWN BY: CBA

APPROVED BY: DLR

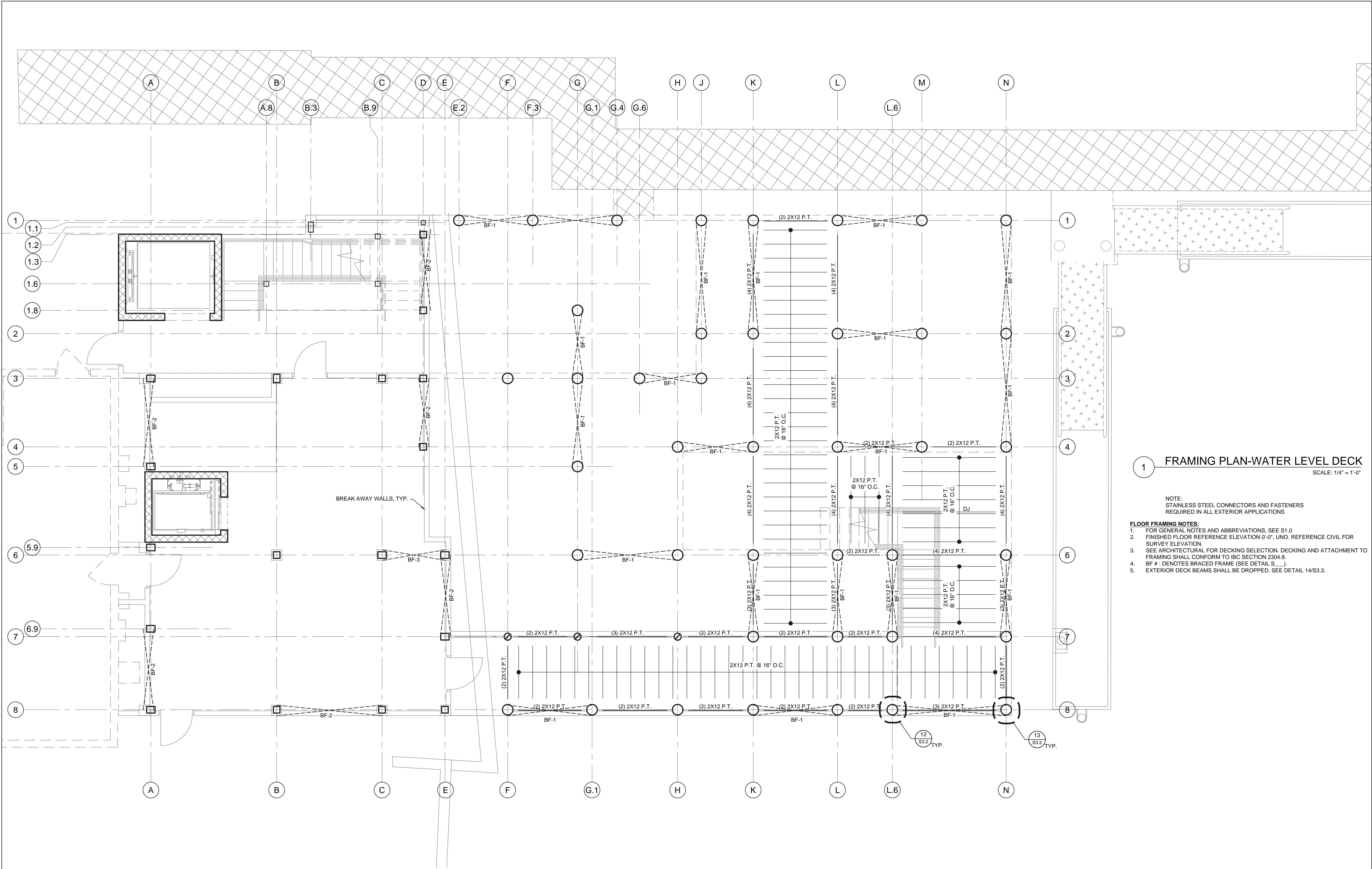
PROJECT #: 19-018

DATE: 11/15/2019

No.	Revision	Date
1	PERMIT REVIEW	1/10/2020

Sheet

S2.2

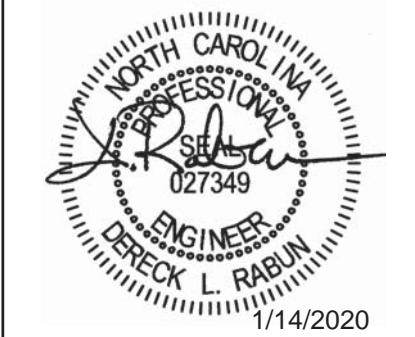


1 FRAMING PLAN-WATER LEVEL DECK
SCALE: 1/4" = 1'-0"

- NOTE:
STAINLESS STEEL CONNECTORS AND FASTENERS
REQUIRED IN ALL EXTERIOR APPLICATIONS
- FLOOR FRAMING NOTES:**
1. FOR GENERAL NOTES AND ABBREVIATIONS, SEE S1.0
2. FINISHED FLOOR REFERENCE ELEVATION 0'-0", UNO. REFERENCE CIVIL FOR SURVEY ELEVATION.
3. SEE ARCHITECTURAL FOR DECKING SELECTION, DECKING AND ATTACHMENT TO FRAMING SHALL CONFORM TO IBC SECTION 2304.8.
4. BF # : DENOTES BRACED FRAME (SEE DETAIL S____).
5. EXTERIOR DECK BEAMS SHALL BE DROPPED. SEE DETAIL 14/S3.3.

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Project Name

FRAMING PLAN
WATER LEVEL DECK

Sheet Title

DESIGNED BY: DLR

DRAWN BY: CBA

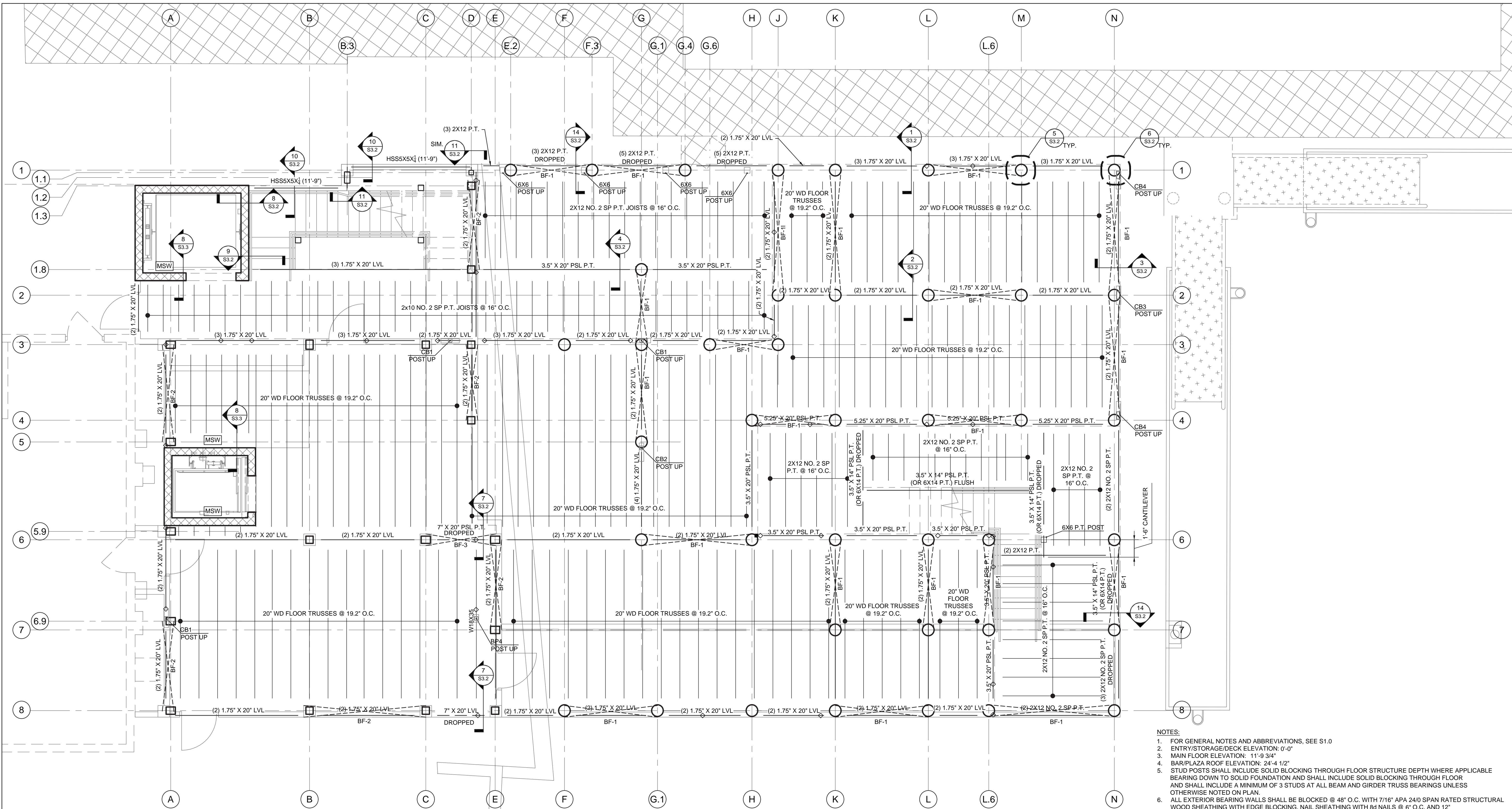
APPROVED BY: DLR

PROJECT #: 19-018

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Sheet
S2.3



1 FRAMING PLAN-MAIN LEVEL

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

- NOTES:
- FOR GENERAL NOTES AND ABBREVIATIONS, SEE S1.0
 - ENTRY/STORAGE/DECK ELEVATION: 0'-0"
 - MAIN FLOOR ELEVATION: 11'-9 3/4"
 - BAR/PLAZA ROOF ELEVATION: 24'-4 1/2"
 - STUD POSTS SHALL INCLUDE SOLID BLOCKING THROUGH FLOOR STRUCTURE DEPTH WHERE APPLICABLE BEARING DOWN TO SOLID FOUNDATION AND SHALL INCLUDE SOLID BLOCKING THROUGH FLOOR AND SHALL INCLUDE A MINIMUM OF 3 STUDS AT ALL BEAM AND GIRDER TRUSS BEARINGS UNLESS OTHERWISE NOTED ON PLAN.
 - ALL EXTERIOR BEARING WALLS SHALL BE BLOCKED @ 48" O.C. WITH 7/16" APA 24/0 SPAN RATED STRUCTURAL WOOD SHEATHING WITH EDGE BLOCKING, NAIL SHEATHING WITH 8d NAILS @ 6" O.C. AND 12" O.C. AT INTERMEDIATE SUPPORTS, UNLESS NOTED OTHERWISE (SEE SHEAR WALL SCHEDULE).
 - ALL SILL & CAP PLATES TO BE KILN-DRIED (4-6% mc) AT TIME OF INSTALLATION TO AVOID SHRINKAGE BETWEEN FLOORS. LVL PLATES MAY BE SUBSTITUTED AT CONTRACTOR'S OPTION.
 - SEE ARCHITECTURAL DRAWINGS FOR REQUIREMENTS FOR WEATHER PROTECTION OF ALL EXPOSED WOOD MEMBERS.
 - ALL LVL BEAMS SHALL BE MULTI-PLY 1-3/4" WIDE.
 - FLOOR TRUSSES SHALL BE TOP CHORD BEARING.
 - P.T. DENOTES PRESERVATIVE TREATED

KEYED NOTES & LEGEND		
	8" REINFORCED CMU WALL. SEE SCHEDULE FOR ADDITIONAL REQUIREMENTS.	
	WOOD STUD BEARING WALL WITH SOLID BLOCKING AT 48" O.C. MAX VERTICALLY. SEE WALL SCHEDULE FOR SIZE AND SPACING	
	OPENING TYPE	SEE S5.1
	WALL TYPE	SEE S5.1
	POST TYPE	SEE S5.1
	SHEAR WALL TYPE	SEE S5.2
	SHEAR WALL POST	SEE S5.2
	SHEAR WALL POST FROM ABOVE	SEE S5.2

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ICE HOUSE RESTAURANT
FRONT ST. & MOORE ST.

SWANSBORO, NC 28584

Project Name

FRAMING PLAN
MAIN LEVEL

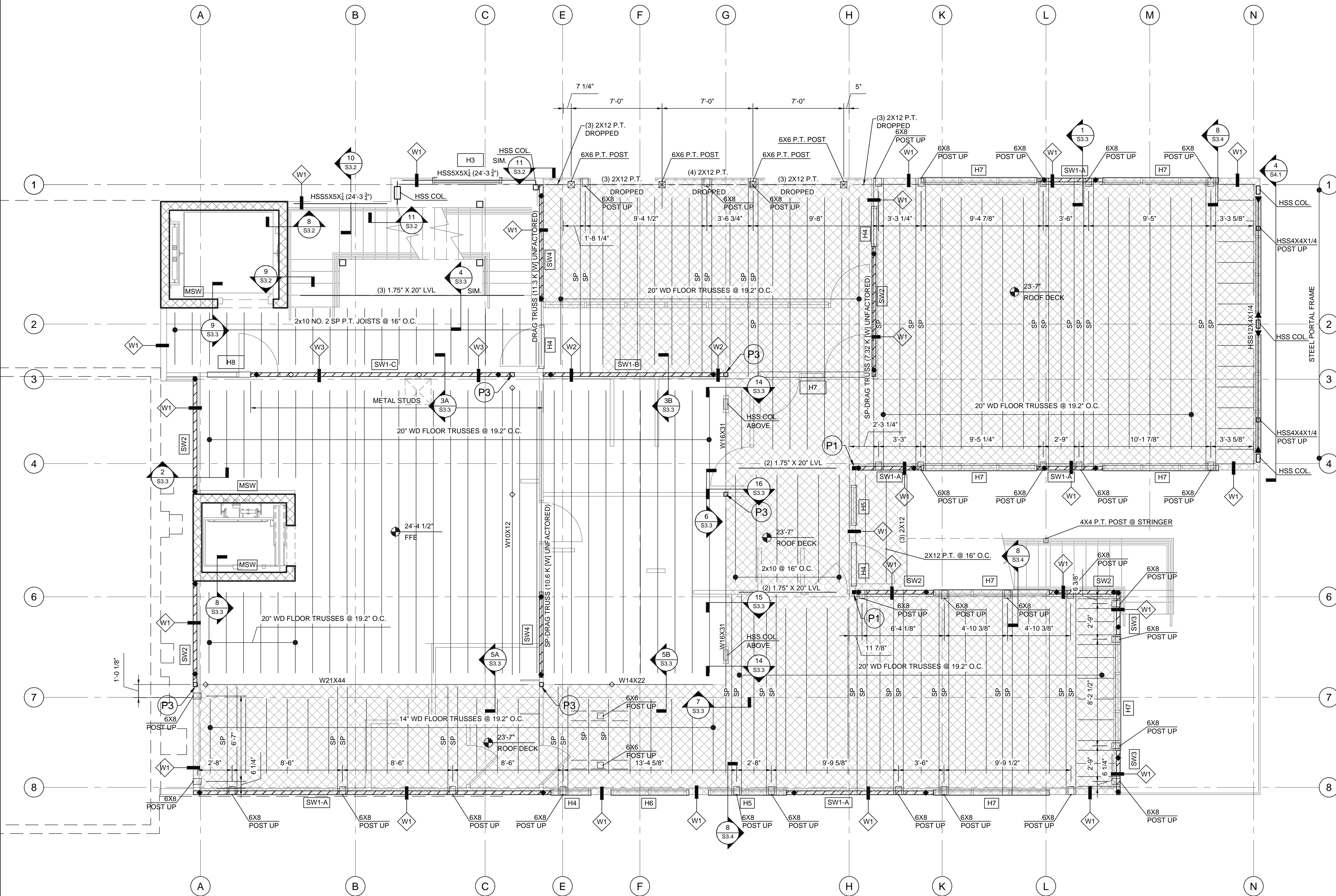
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DESIGNED BY: DLR
DRAWN BY: CBA
APPROVED BY: DLR
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Sheet

S2.4



1 FRAMING PLAN-PLAZA LEVEL

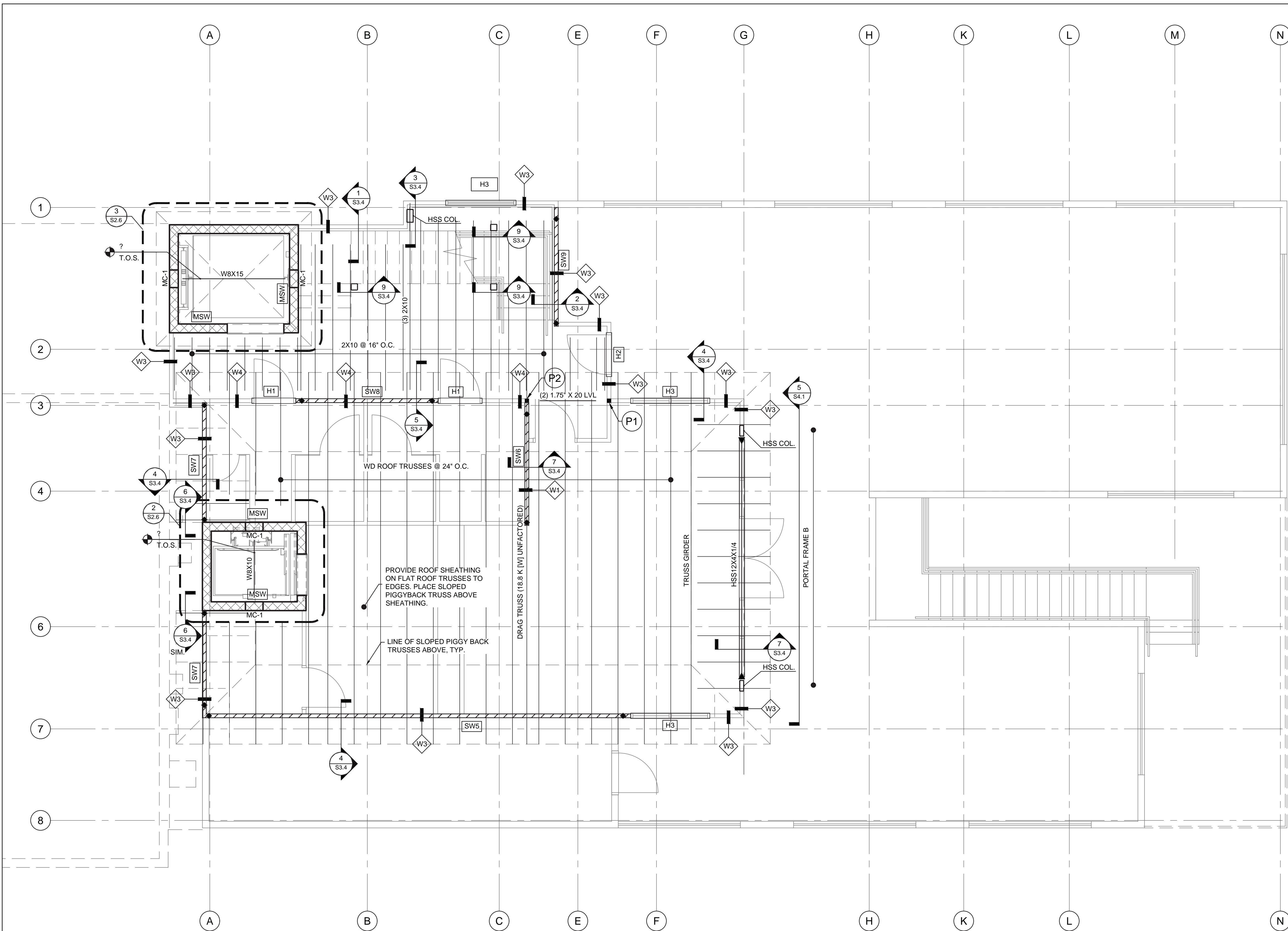
SCALE: 1/4" = 1'-0"

NOTES:

- FOR GENERAL NOTES AND ABBREVIATIONS, SEE S1.0
- ENTRY/STORAGE/DECK ELEVATION: 0'-0"
- MAIN FLOOR ELEVATION: 11'-9 3/4"
- BAR/PLAZA ROOF ELEVATION: 24'-4 1/2"
- STUD POSTS SHALL INCLUDE SOLID BLOCKING THROUGH FLOOR STRUCTURE DEPTH WHERE APPLICABLE BEARING DOWN TO SOLID FOUNDATION AND SHALL INCLUDE SOLID BLOCKING THROUGH FLOOR AND SHALL INCLUDE A MINIMUM OF 3 STUDS AT ALL BEAM AND GIRDER TRUSS BEARINGS UNLESS OTHERWISE NOTED ON PLAN.
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- ALL SILL & CAP PLATES TO BE KILN-DRIED (4-6% mc) AT TIME OF INSTALLATION TO AVOID SHRINKAGE BETWEEN FLOORS. LVL PLATES MAY BE SUBSTITUTED AT CONTRACTOR'S OPTION.
- SEE ARCHITECTURAL DRAWINGS FOR REQUIREMENTS FOR WEATHER PROTECTION OF ALL EXPOSED WOOD MEMBERS.
- ALL LVL BEAMS SHALL BE MULTI-PLY 1-3/4" WIDE.
- SP - DENOTES SPECIAL TRUSS LOADING (SEE DETAIL /S... OR PLAN NOTE)

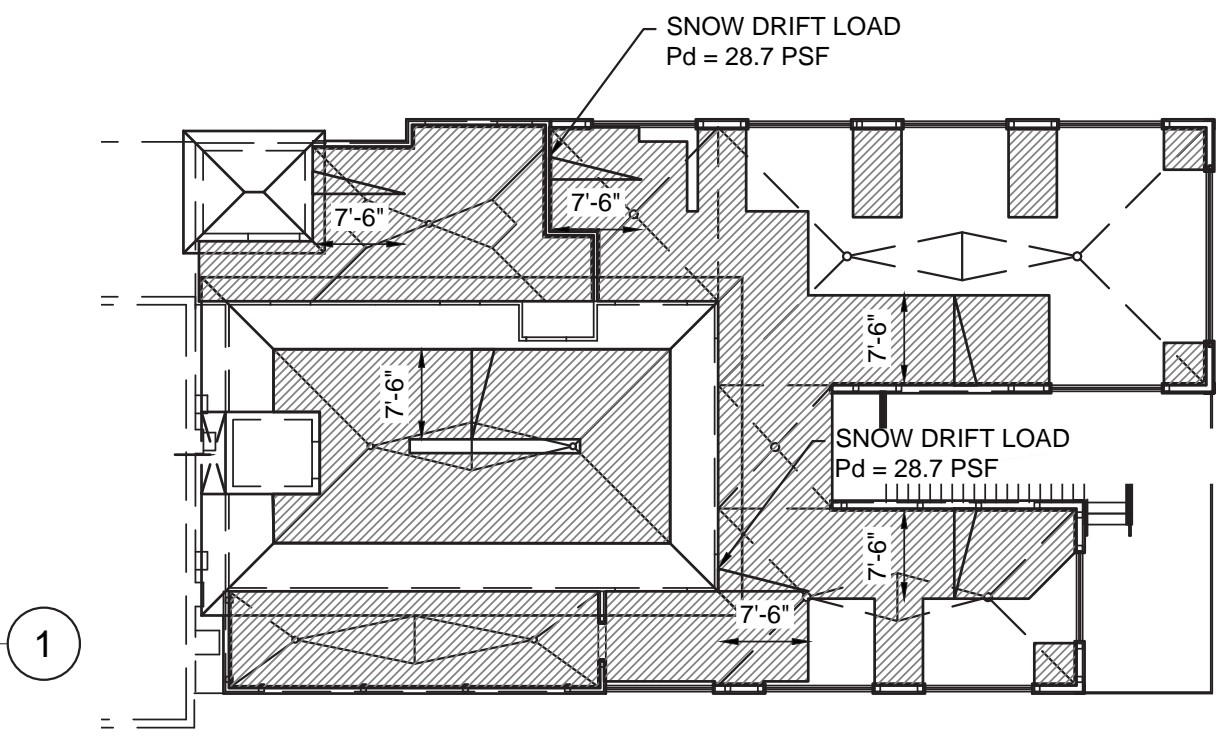
KEYED NOTES & LEGEND

	8" REINFORCED CMU WALL, SEE SCHEDULE FOR ADDITIONAL REQUIREMENTS.
	WOOD STUD BEARING WALL WITH SOLID BLOCKING AT 48" O.C. MAX VERTICALLY. SEE WALL SCHEDULE FOR SIZE AND SPACING
	ROOF DECK ELEVATION OF 23'- 7"
	OPENING TYPE SEE S5.1
	WALL TYPE SEE S5.1
	POST TYPE SEE S5.1
	SHEAR WALL TYPE SEE S5.2
	SHEAR WALL POST SEE S5.2
	SHEAR WALL POST FROM ABOVE SEE S5.2



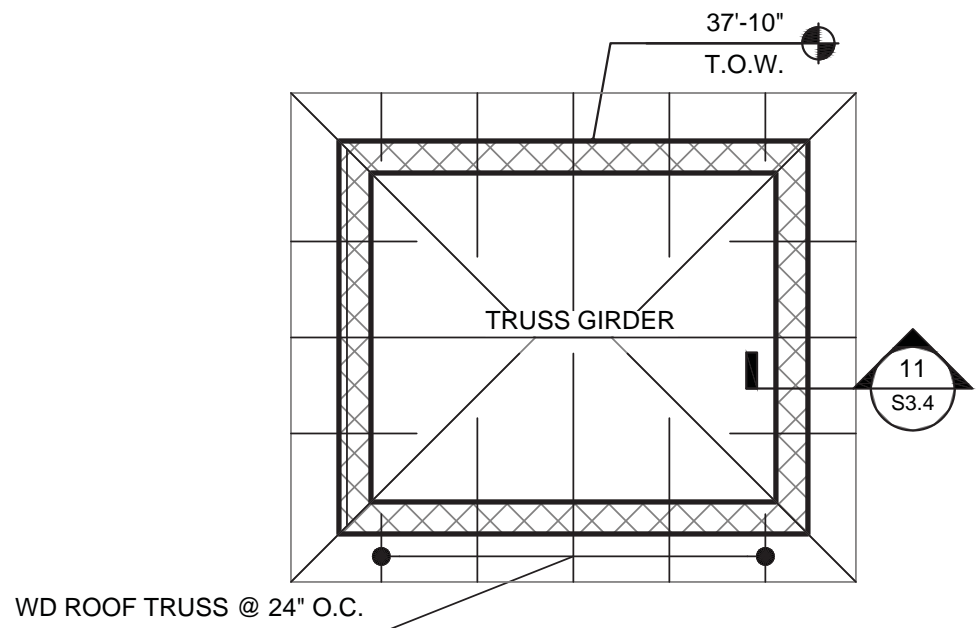
1 FRAMING PLAN-ROOF

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



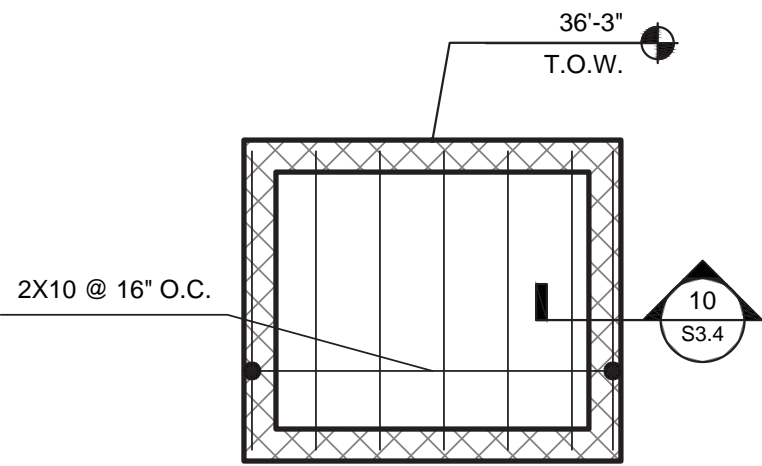
4 SNOW DRIFT

SCALE: 1/16" = 1'-0"



3 ELEVATOR 1 ROOF

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










2 ELEVATOR 2 ROOF

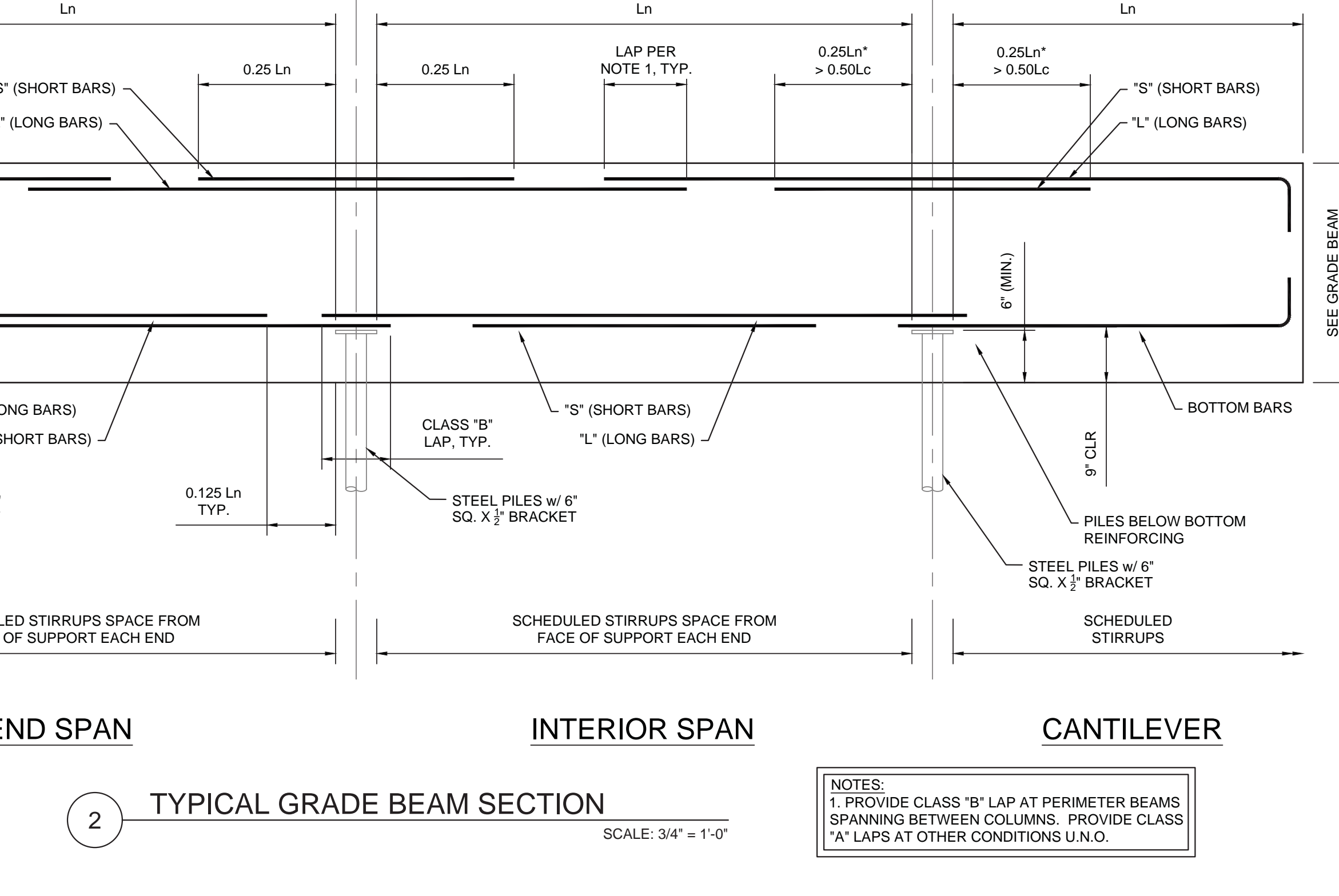
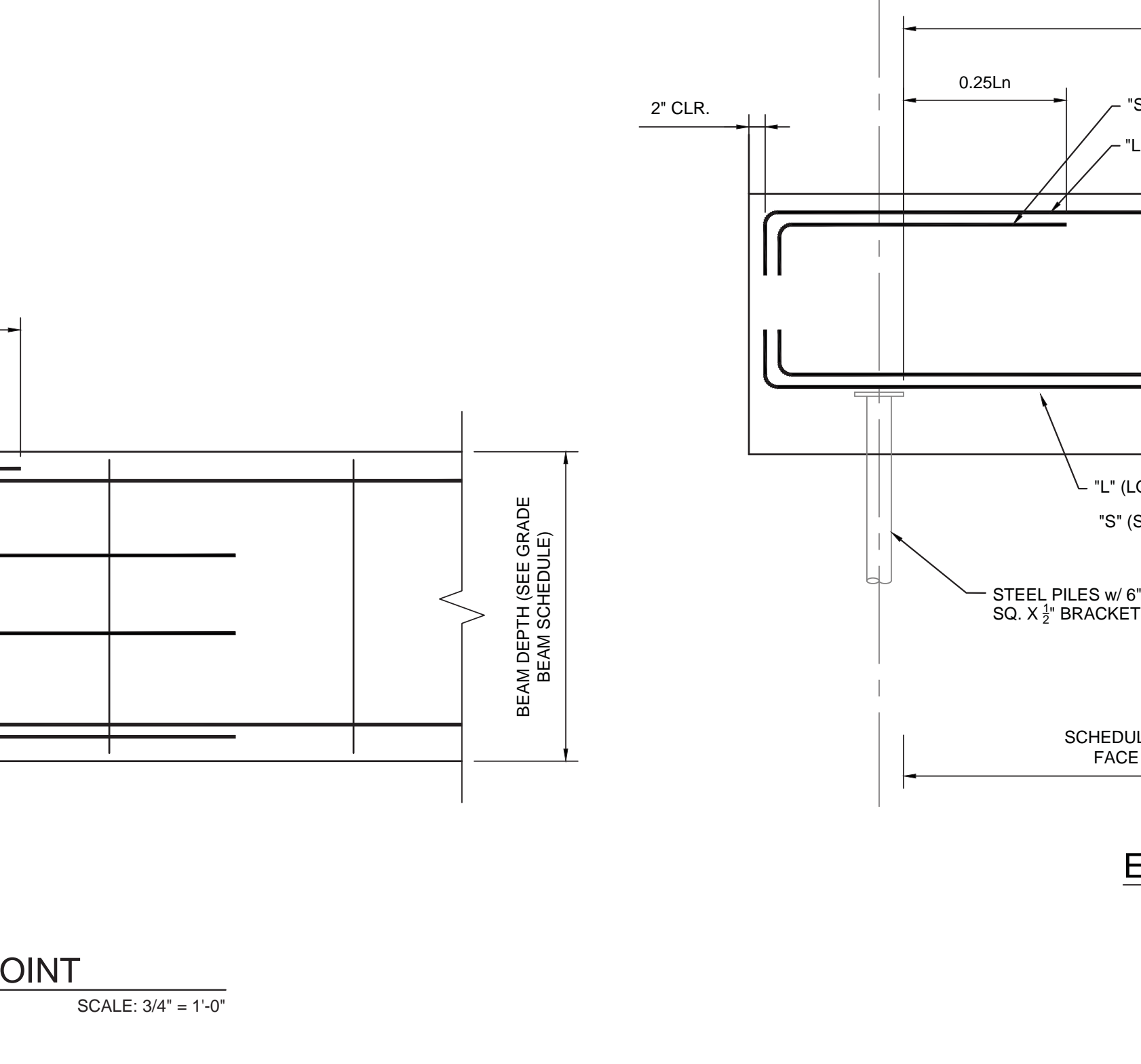
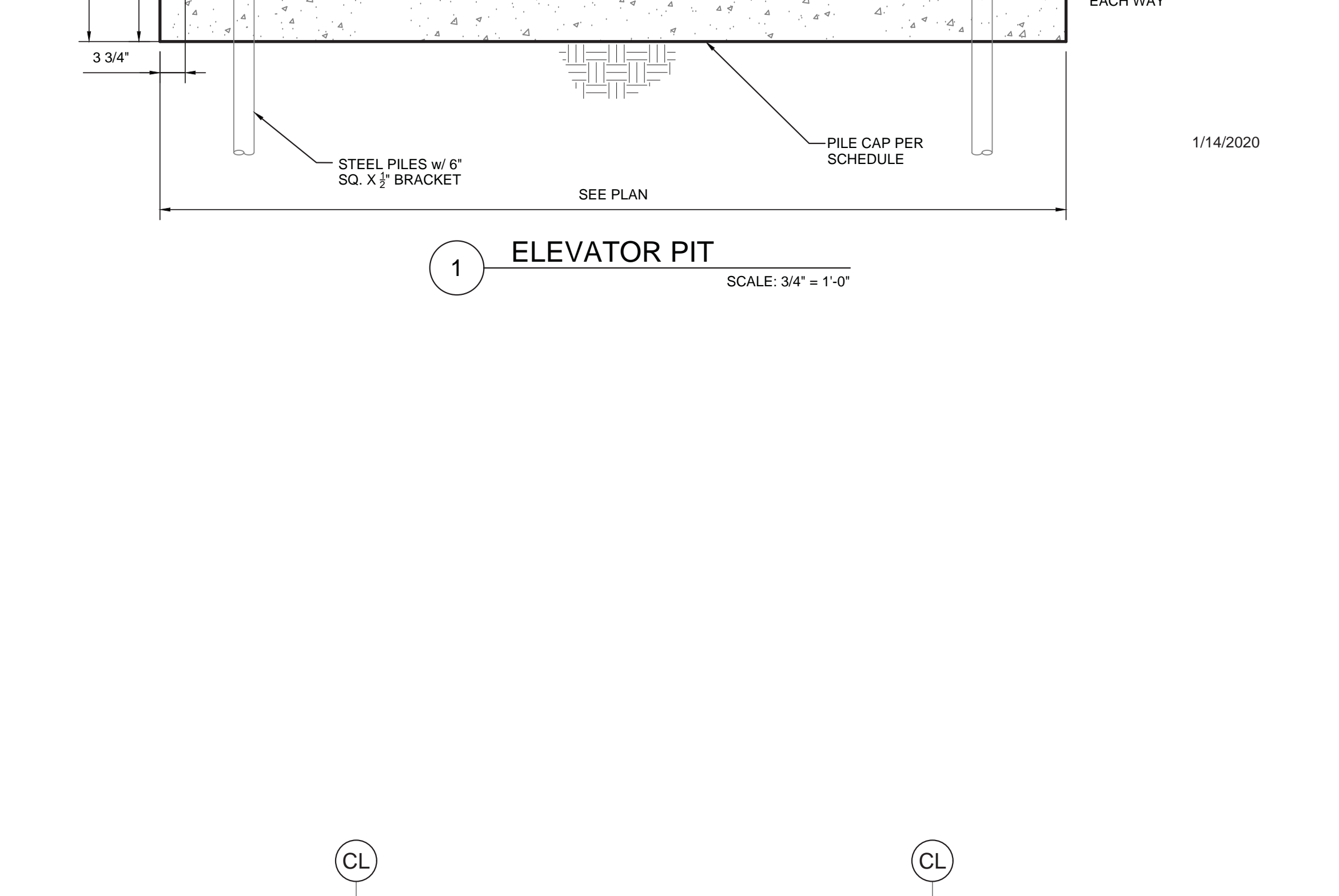
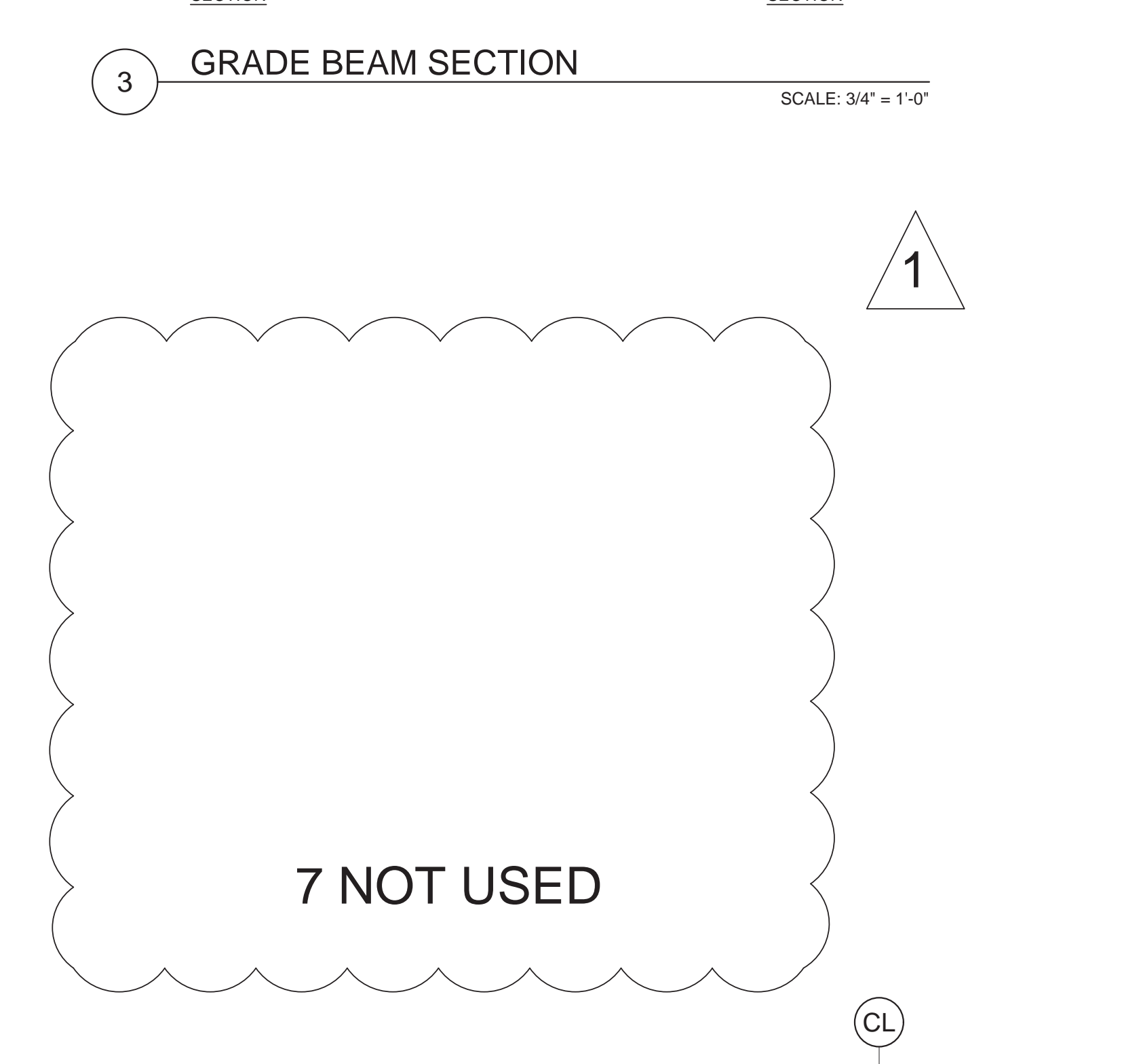
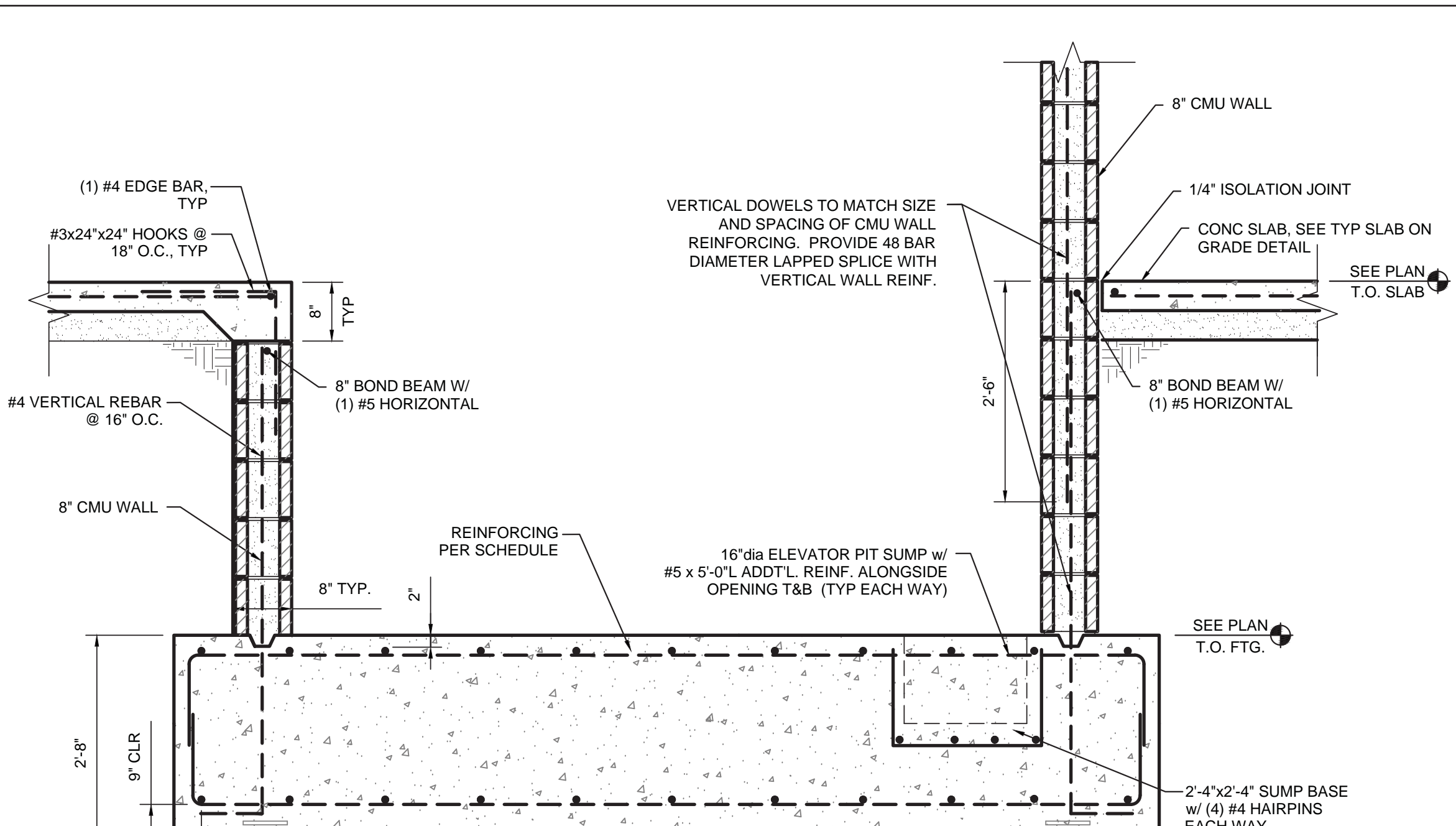
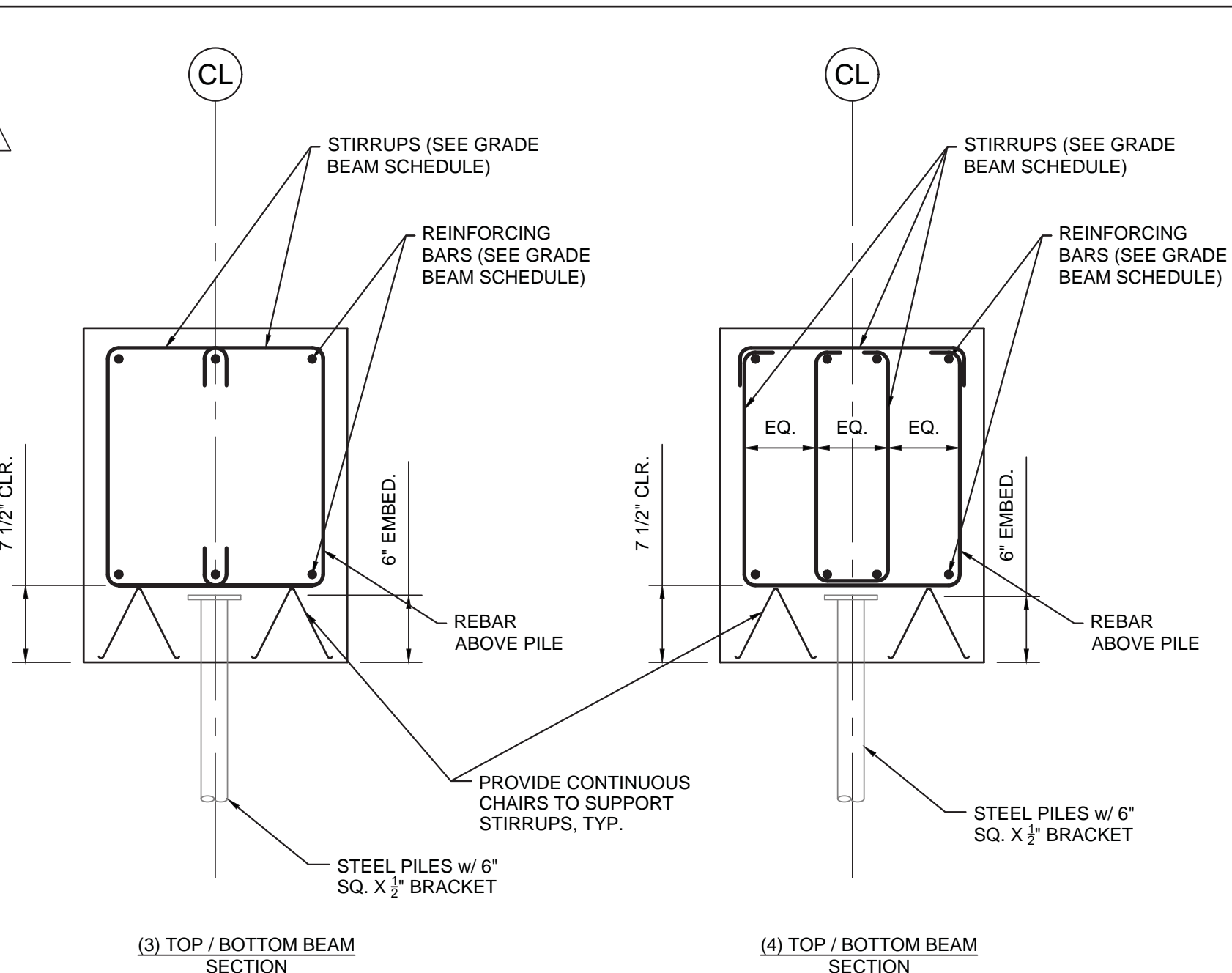
SCALE: 1/4" = 1'-0"

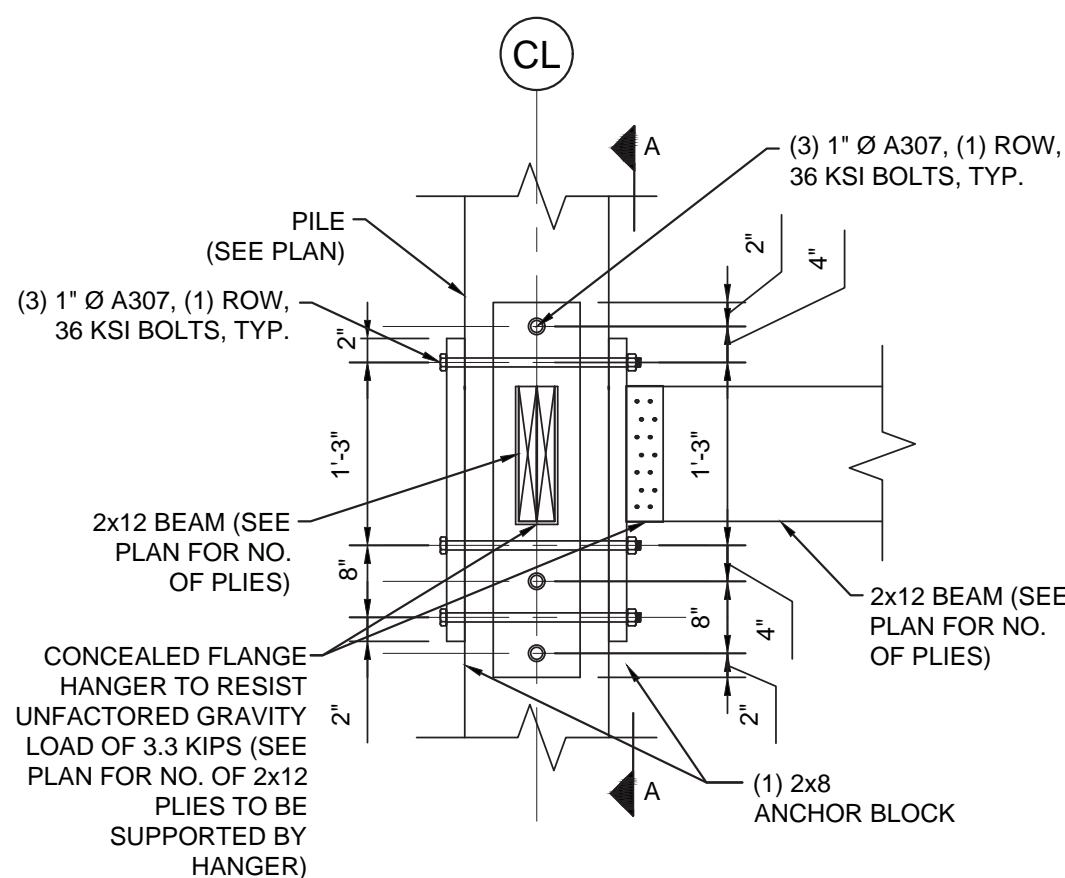
NOTES:

- FOR GENERAL NOTES AND ABBREVIATIONS, SEE S1.0
- ENTRY/STORAGE/DECK ELEVATION: 0'-0"
- MAIN FLOOR ELEVATION: 11'-9 3/4"
- BAR/PLAZA ROOF ELEVATION: 24'-4 1/2"
- STUD POSTS SHALL INCLUDE SOLID BLOCKING THROUGH FLOOR STRUCTURE DEPTH WHERE APPLICABLE BEARING DOWN TO SOLID FOUNDATION AND SHALL INCLUDE SOLID BLOCKING THROUGH FLOOR AND SHALL INCLUDE A MINIMUM OF 3 STUDS AT ALL BEAM AND GIRDER TRUSS BEARINGS UNLESS OTHERWISE NOTED ON PLAN.
- ALL EXTERIOR BEARING WALLS SHALL BE BLOCKED @ 48" O.C. WITH 7/16" APA 24/0 SPAN RATED STRUCTURAL WOOD SHEATHING WITH EDGE BLOCKING. NAIL SHEATHING WITH 8d NAILS @ 6" O.C. AND 12" O.C. AT INTERMEDIATE SUPPORTS, UNLESS NOTED OTHERWISE (SEE SHEAR WALL SCHEDULE).
- ALL SILL & CAP PLATES TO BE KILN-DRIED (4-6% emc) AT TIME OF INSTALLATION TO AVOID SHRINKAGE BETWEEN FLOORS. LVL PLATES MAY BE SUBSTITUTED AT CONTRACTOR'S OPTION.
- SEE ARCHITECTURAL DRAWINGS FOR REQUIREMENTS FOR WEATHER PROTECTION OF ALL EXPOSED WOOD MEMBERS.
- ALL LVL BEAMS SHALL BE MULTI-PLY 1-3/4" WIDE.

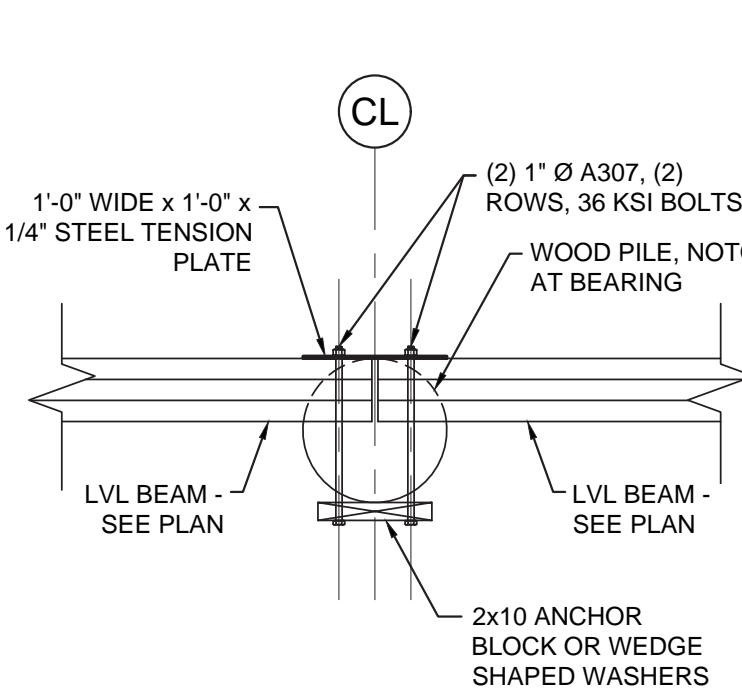
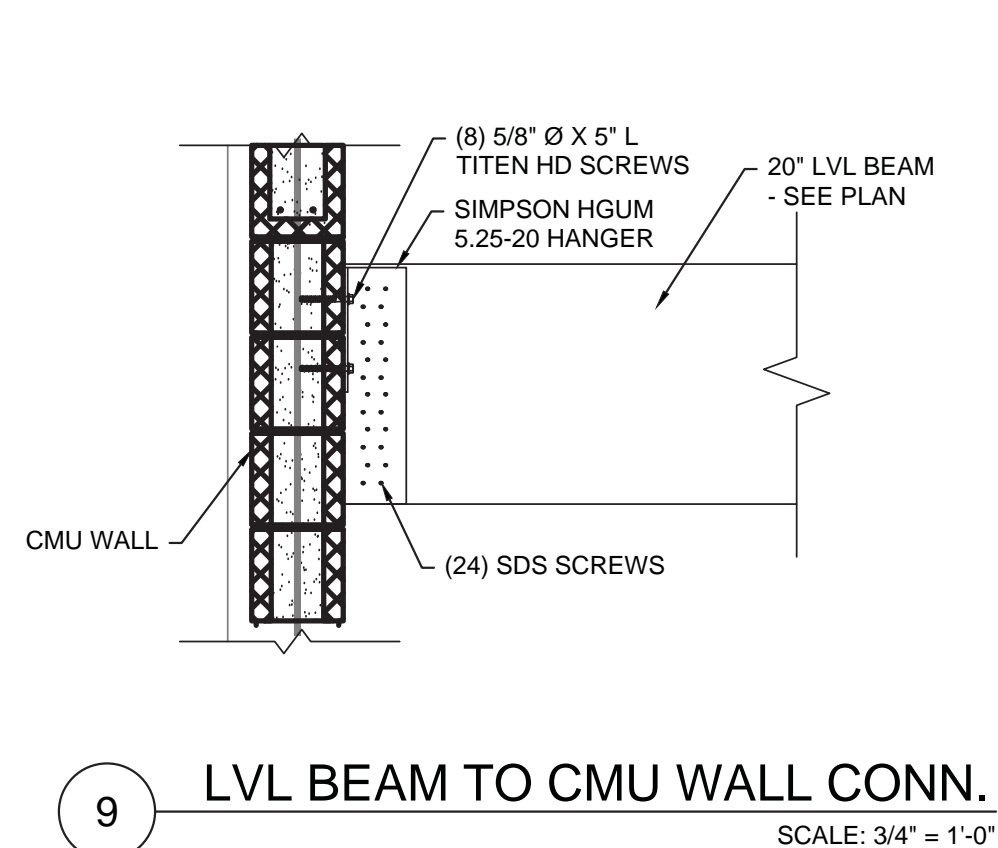
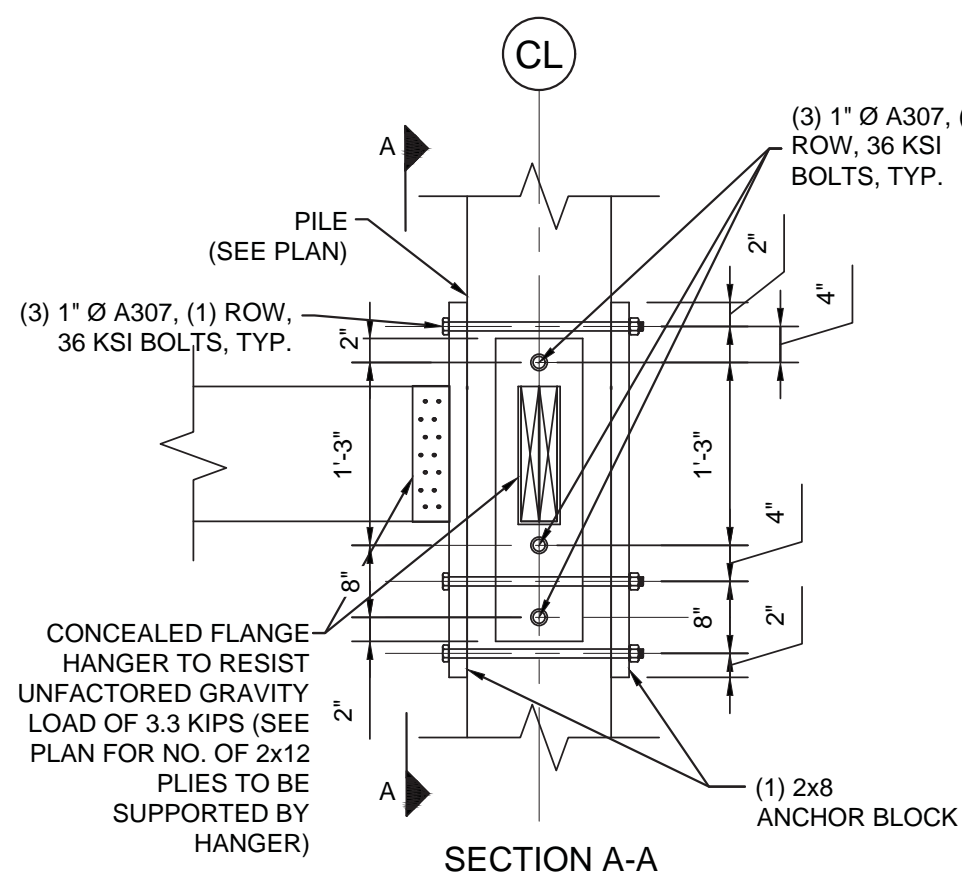
KEYED NOTES & LEGEND

	8" REINFORCED CMU WALL, SEE SCHEDULE FOR ADDITIONAL REQUIREMENTS.	
	WOOD STUD BEARING WALL WITH SOLID BLOCKING AT 48" O.C. MAX VERTICALLY. SEE WALL SCHEDULE FOR SIZE AND SPACING	
	OPENING TYPE	SEE S5.1
	WALL TYPE	SEE S5.1
	POST TYPE	SEE S5.1
	SHEAR WALL TYPE	SEE S5.2
	SHEAR WALL POST	SEE S5.2

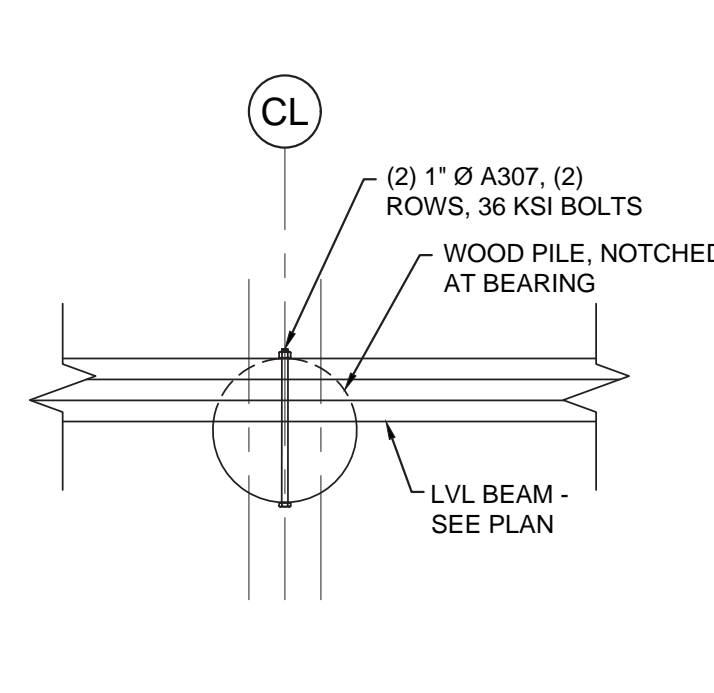




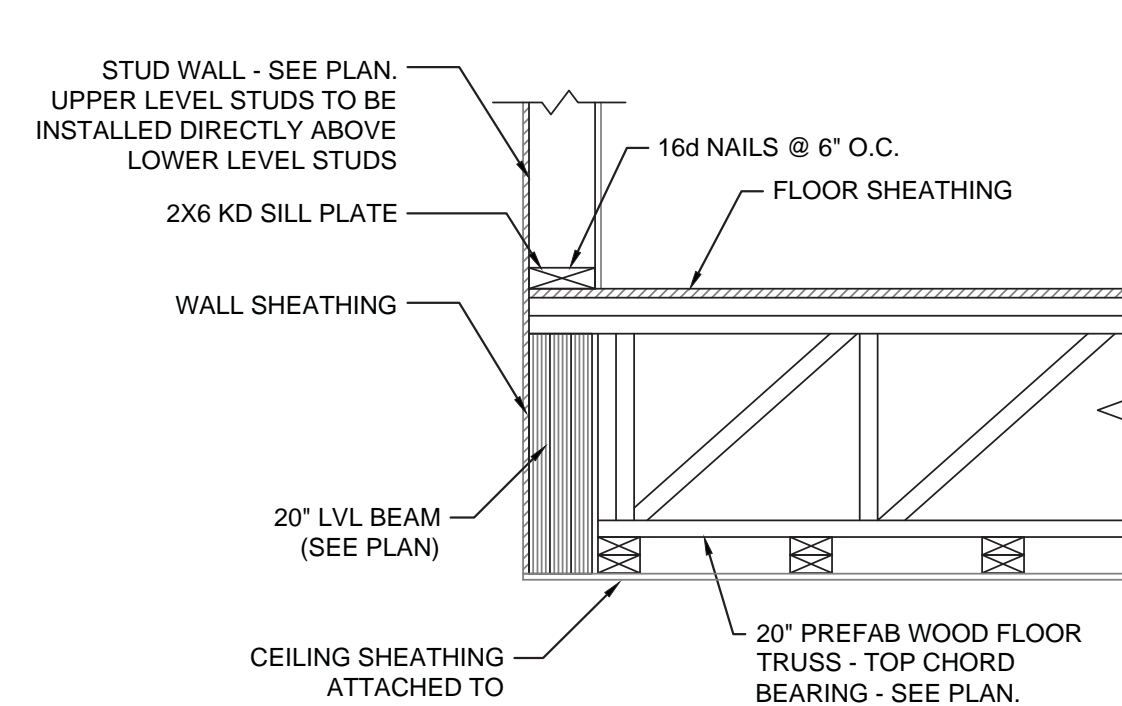
13 DECK BEAM CORNER TO PILE CONNECTION
SCALE: 3/4" = 1'-0"



OPTION #1: BEAM SPLICE

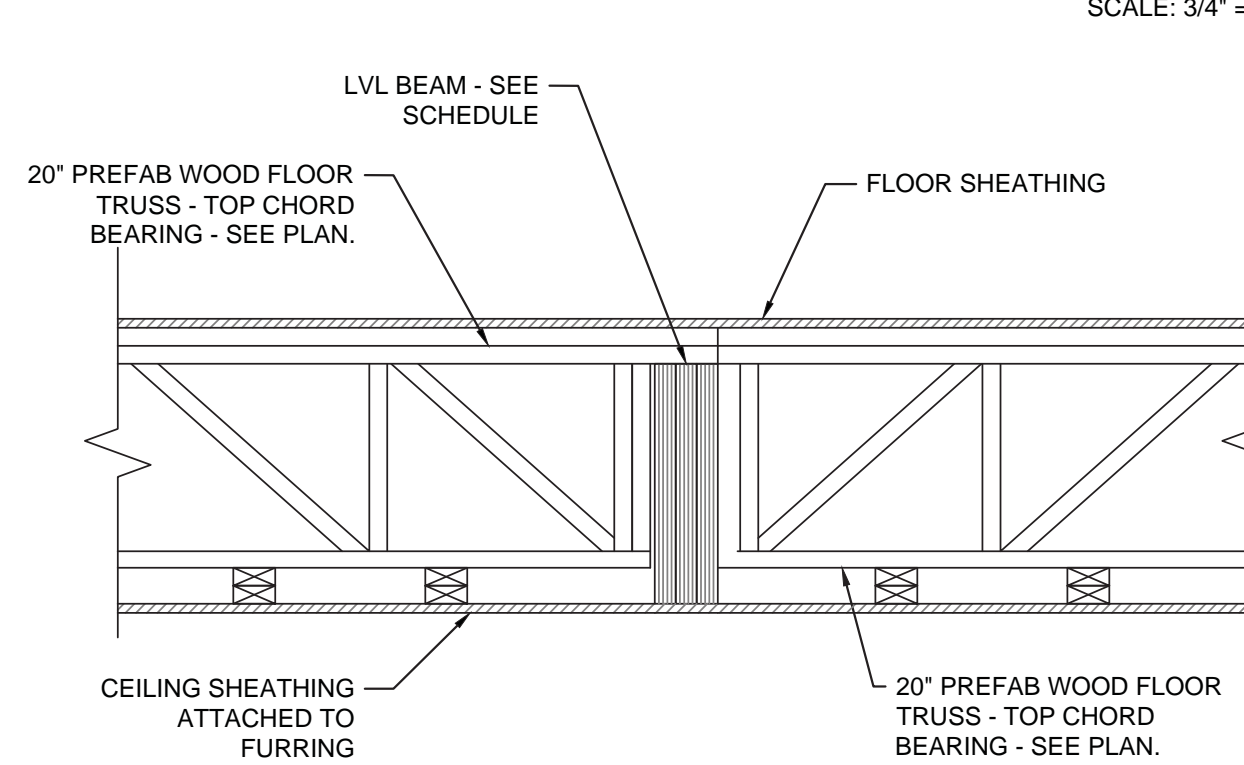
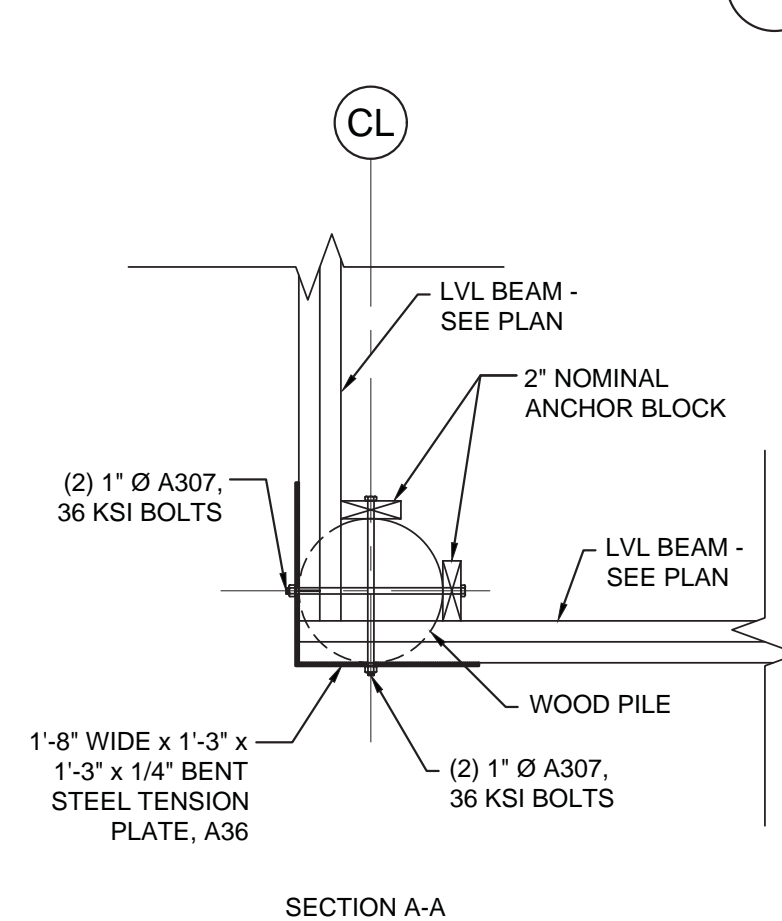
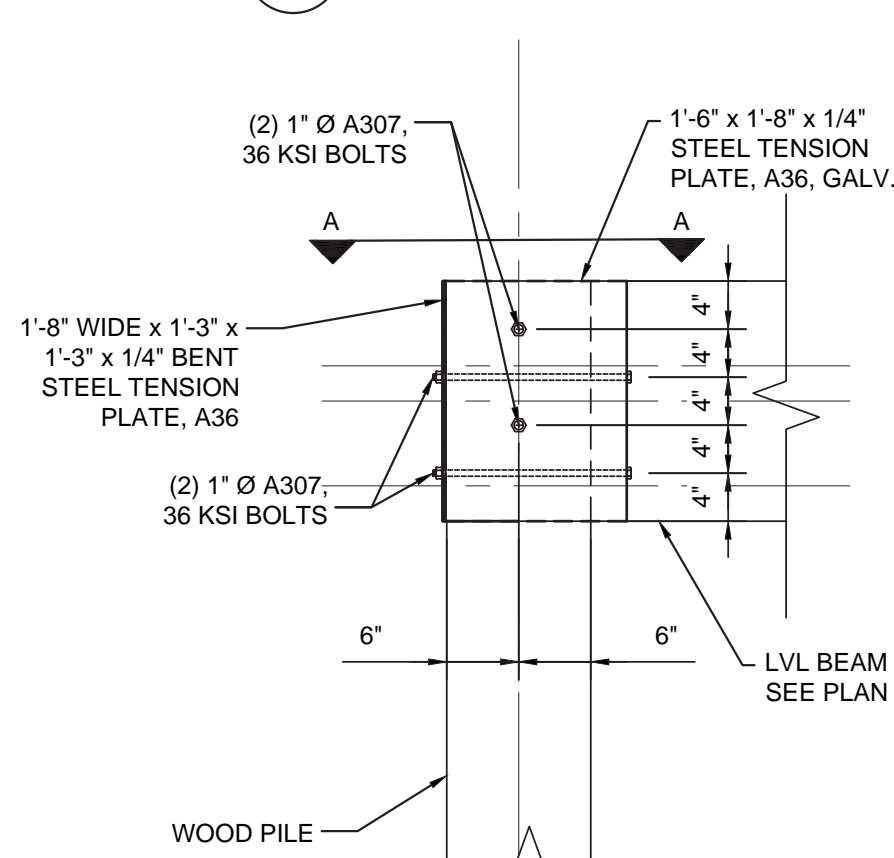


OPTION #2: CONTINUOUS BEAM



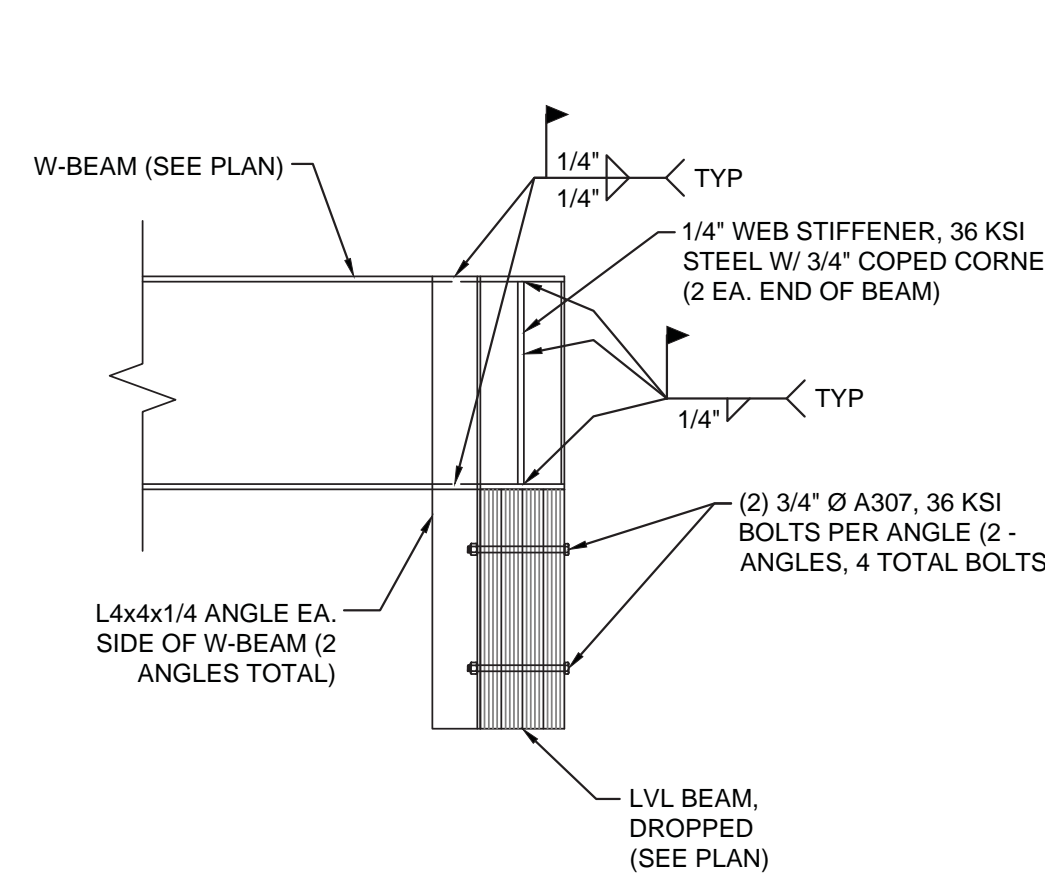
1 TYP. PERPENDICULAR TRUSS TO EXTERIOR LVL BEAM
SCALE: 3/4" = 1'-0"

5 DOUBLE LVL BEAM TO PILE CONNECTION
SCALE: 3/4" = 1'-0"

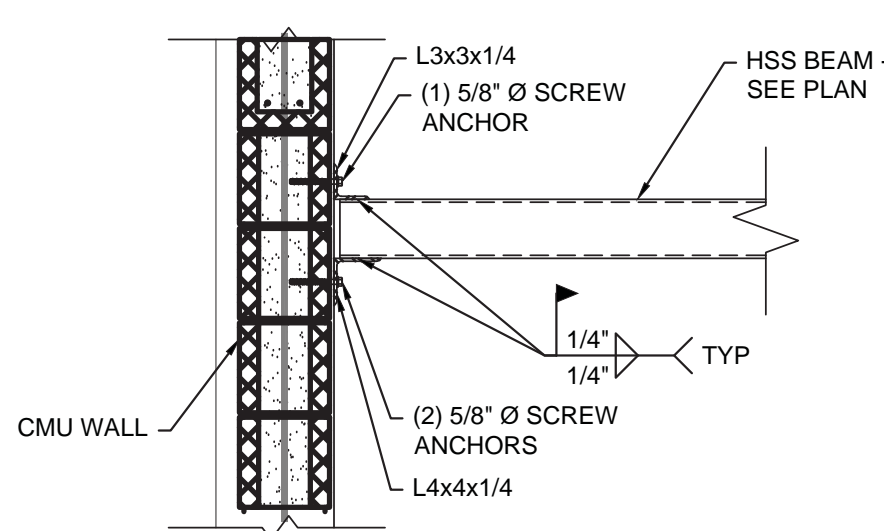


2 TYP. TRUSS BEARING AT LVL BEAM
SCALE: 3/4" = 1'-0"

6 LVL TO END PILE CONNECTION
SCALE: 3/4" = 1'-0"



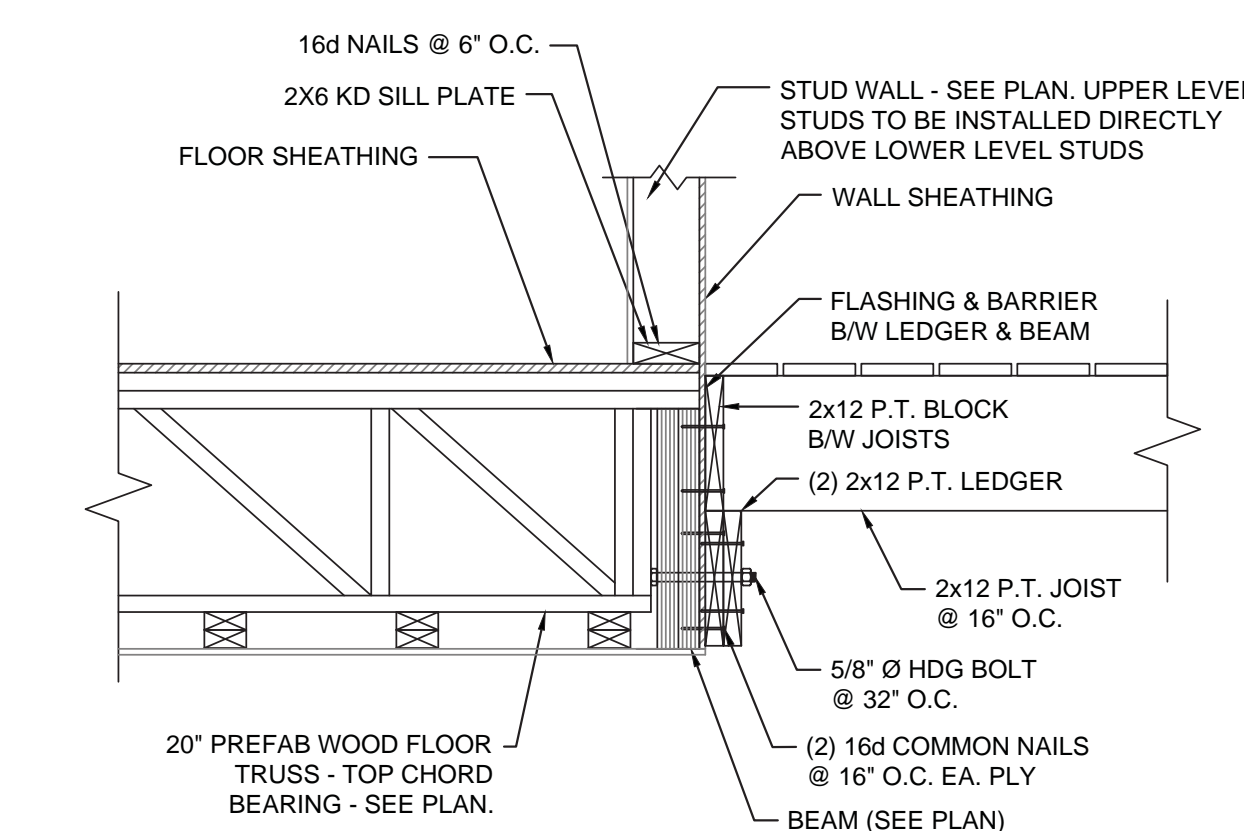
7 W-BEAM TO DROPPED LVL BEAM CONNECTION
SCALE: 3/4" = 1'-0"



8 HSS BEAM TO CMU WALL CONNECTION
SCALE: 3/4" = 1'-0"

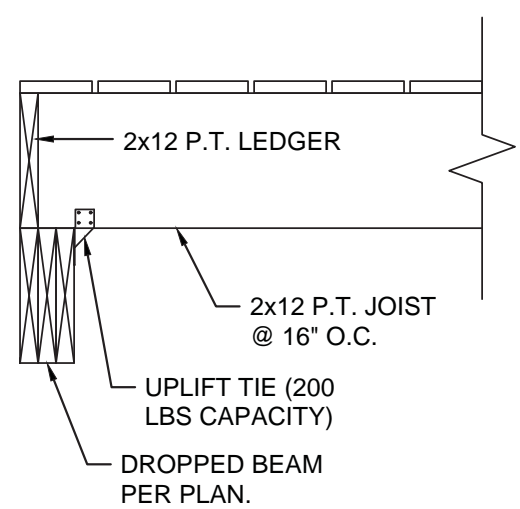
2 TYP. TRUSS BEARING AT LVL BEAM
SCALE: 3/4" = 1'-0"

3 TYP. PARALLEL TRUSS TO EXTERIOR LVL BEAM
SCALE: 3/4" = 1'-0"

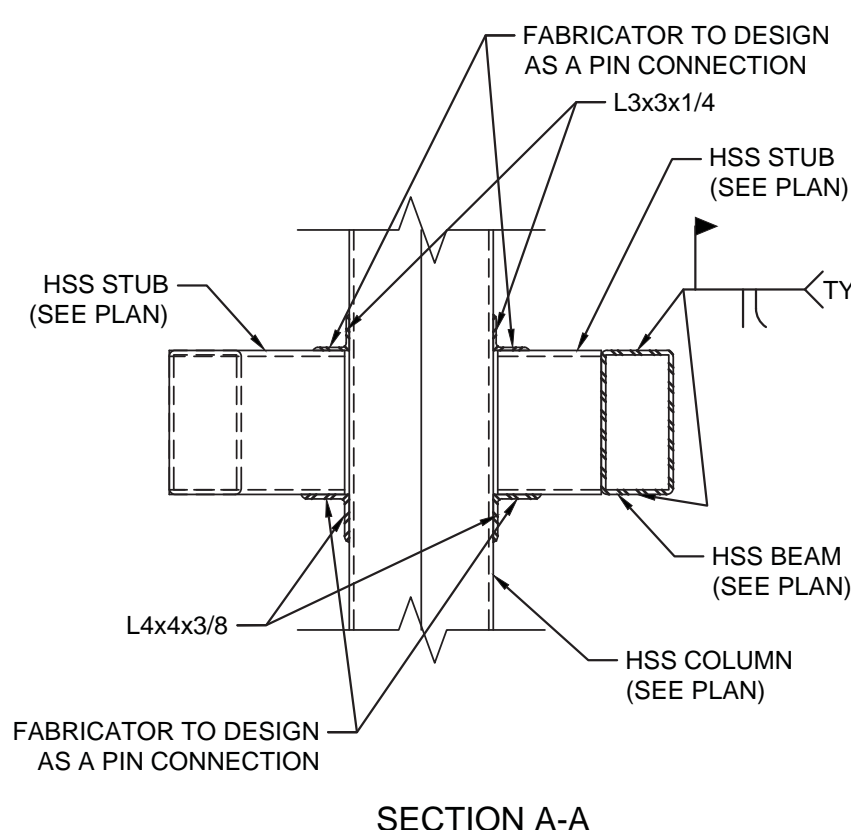


4 TYP. TRUSS AND JOIST BEARING TO LVL BEAM
SCALE: 3/4" = 1'-0"

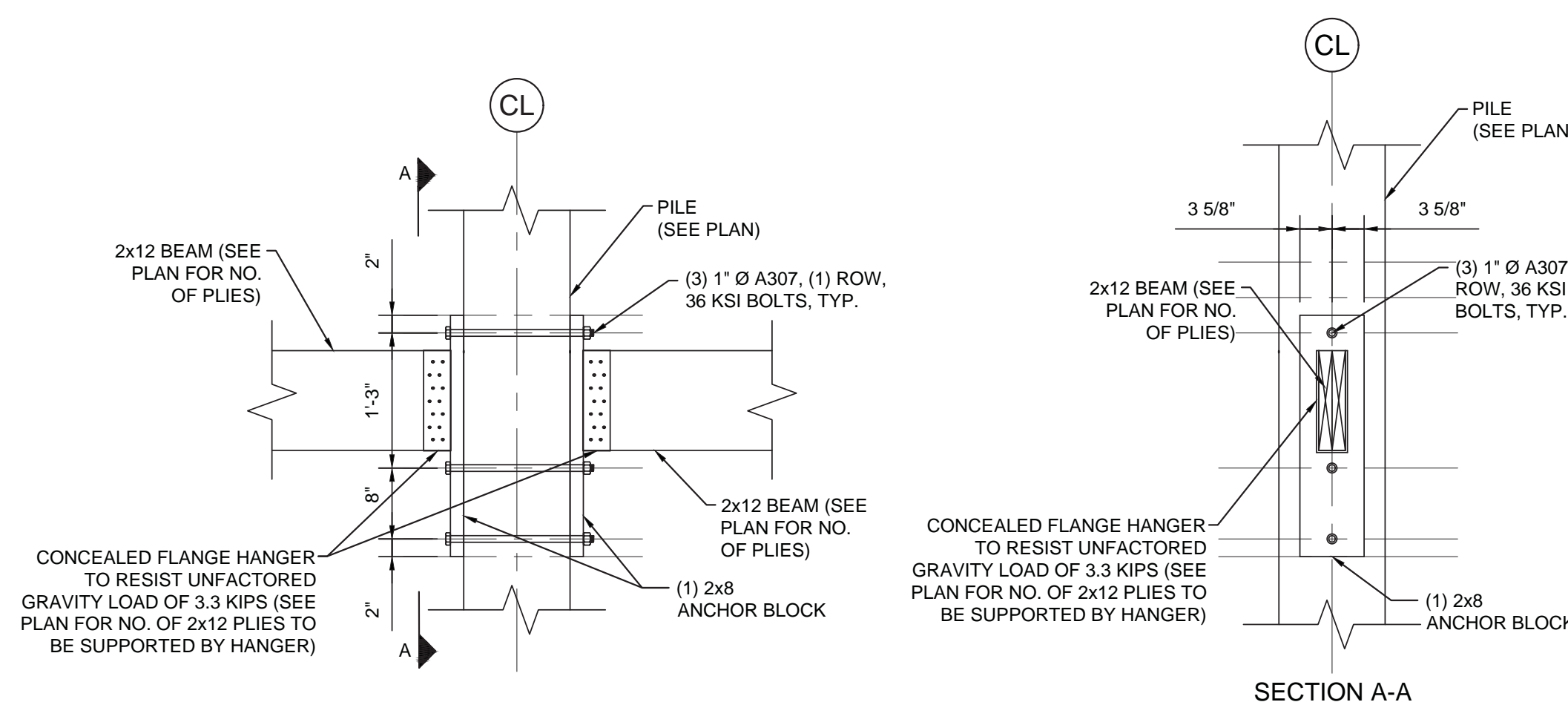
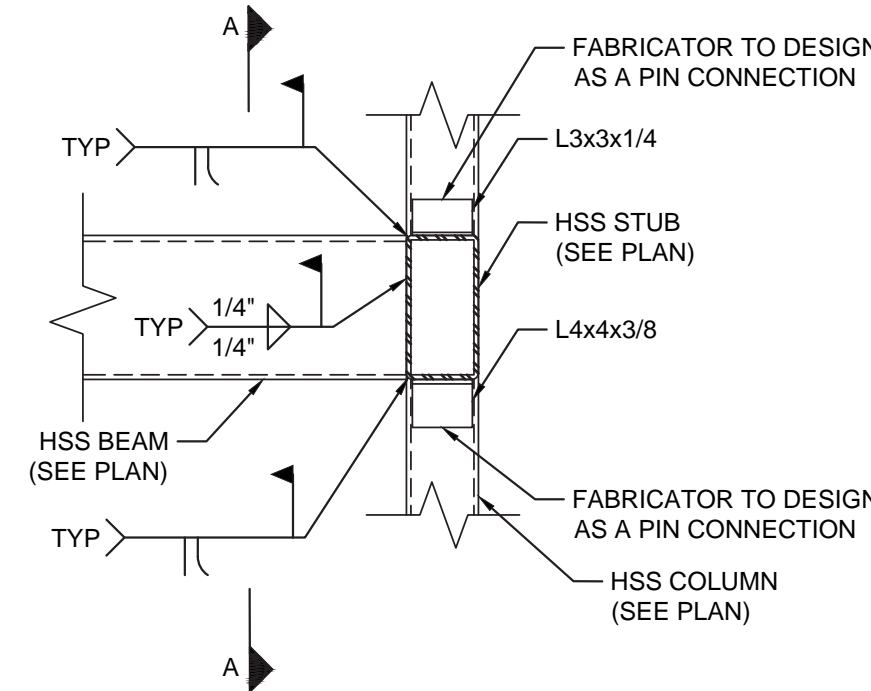
NOTE: METAL CONNECTORS AND FASTENERS SHALL BE TYPE 316 STAINLESS STEEL.



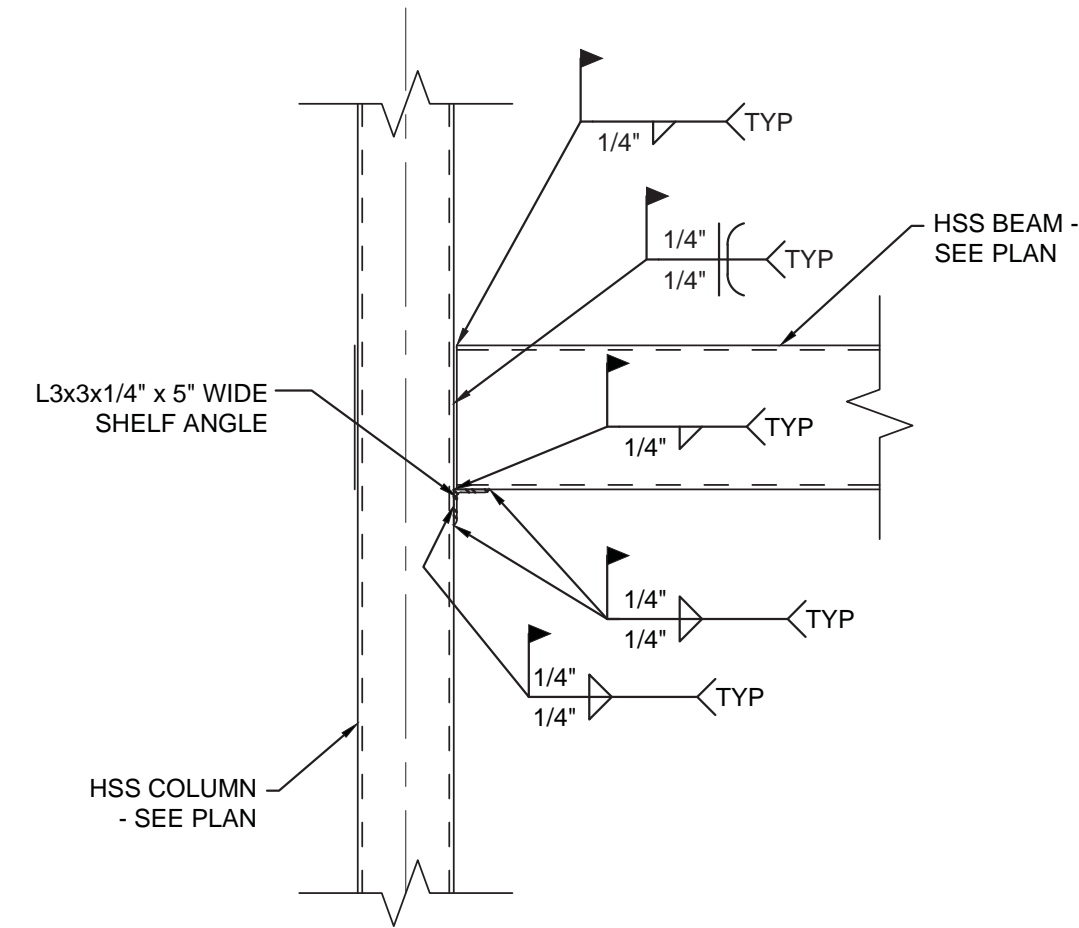
14 TYP. DECK JOIST TO BEAM
SCALE: 3/4" = 1'-0"



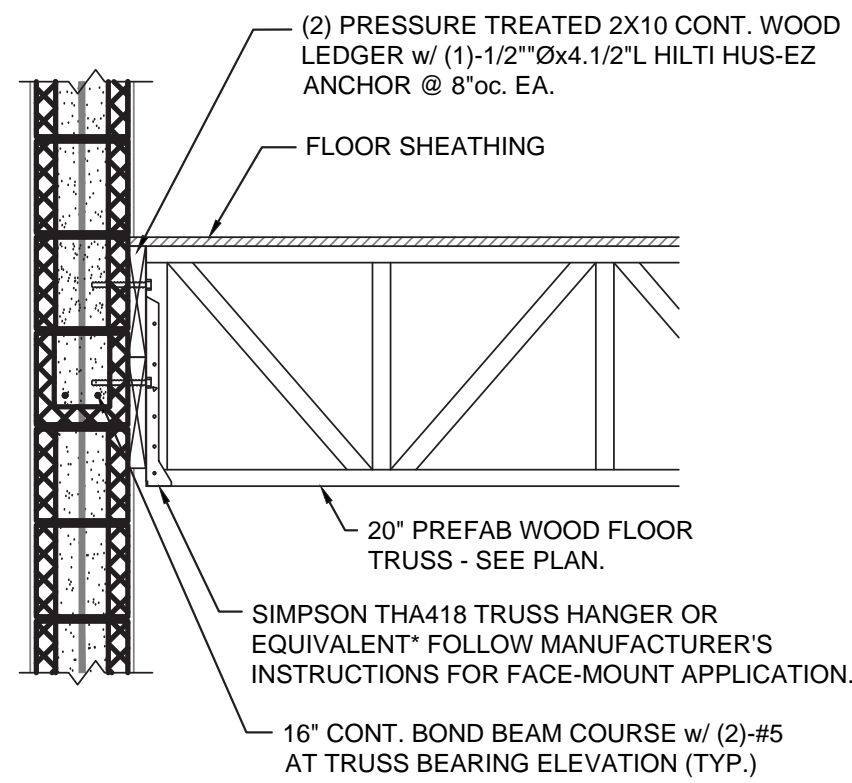
11 HSS COLUMN TO HSS BEAM CONN.
SCALE: 3/4" = 1'-0"



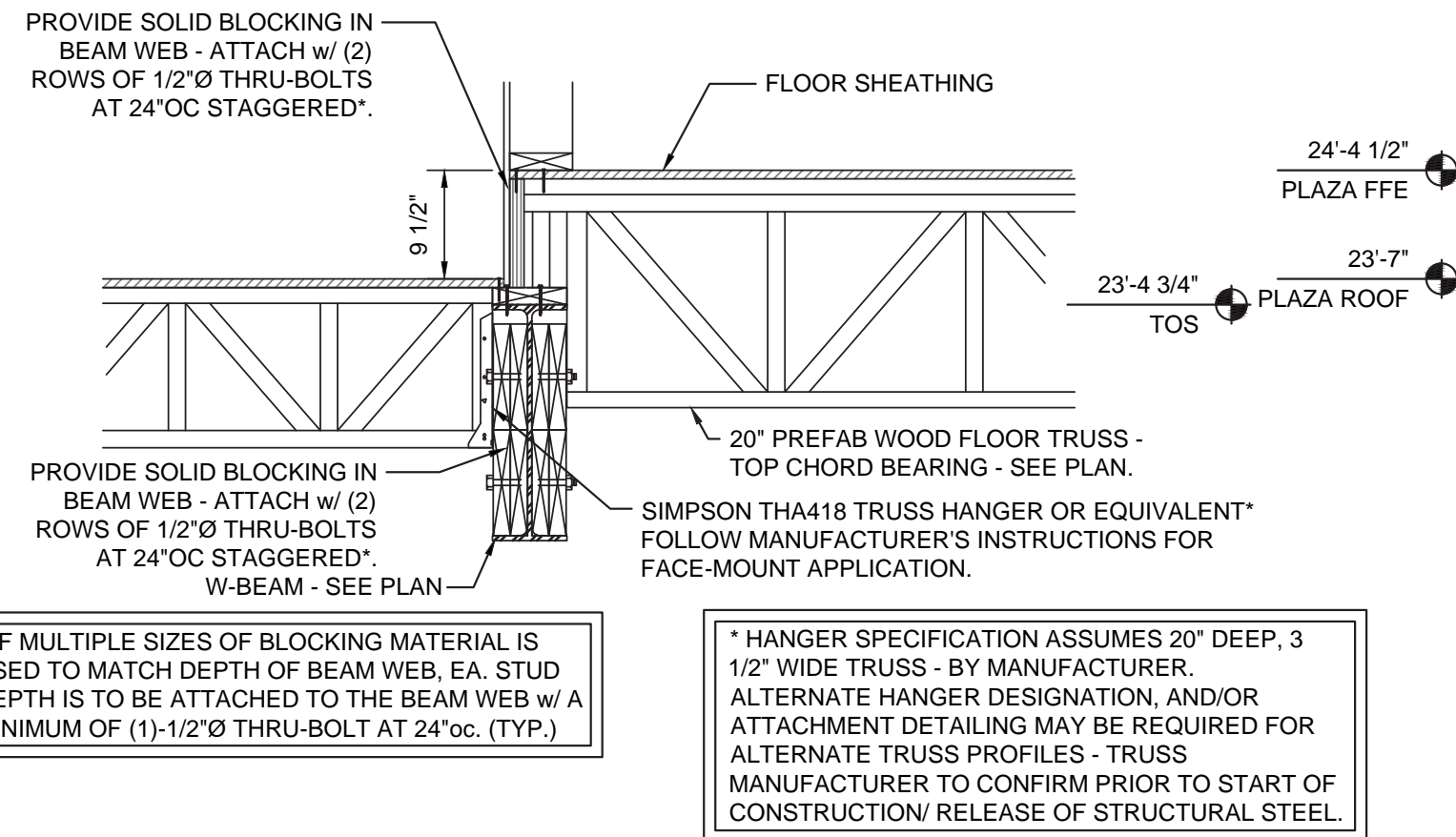
12 DECK BEAM TO PILE CONNECTION
SCALE: 3/4" = 1'-0"



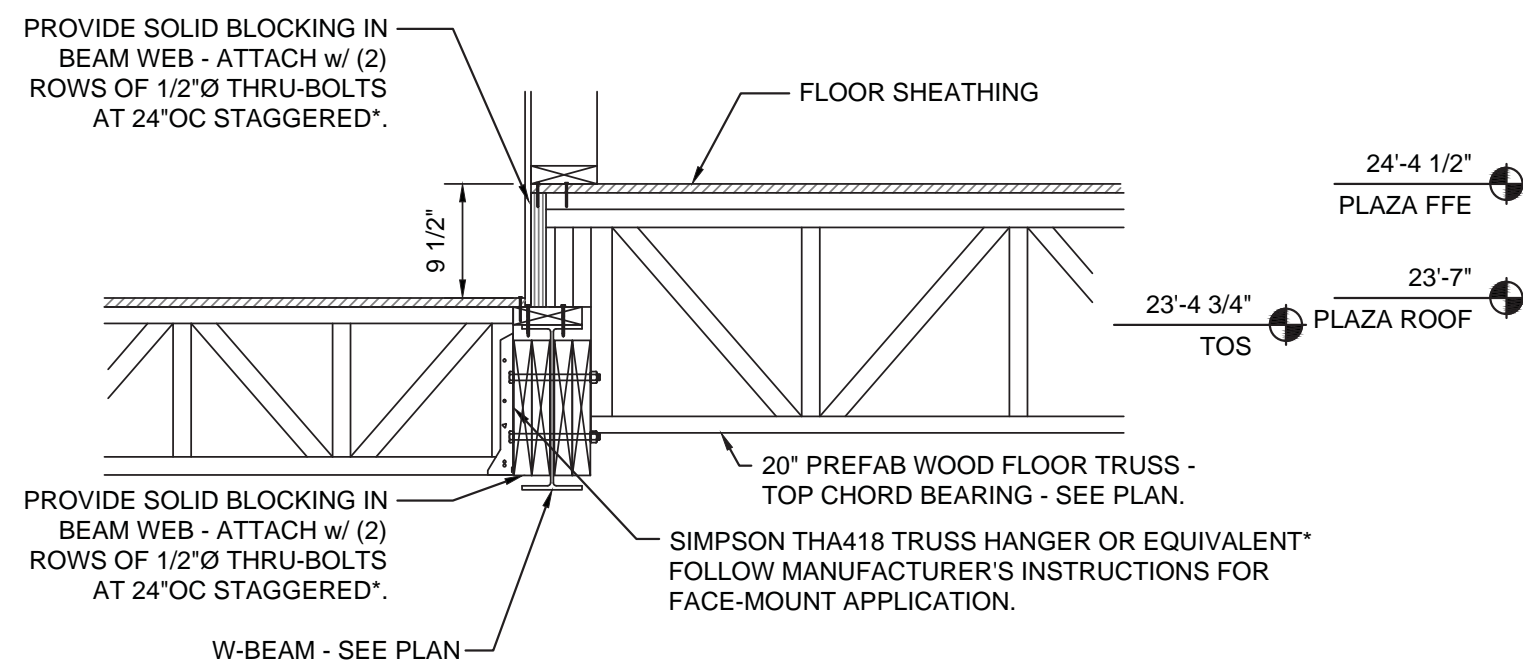
12 HSS BEAM TO HSS COLUMN CONNECTION
SCALE: 3/4" = 1'-0"



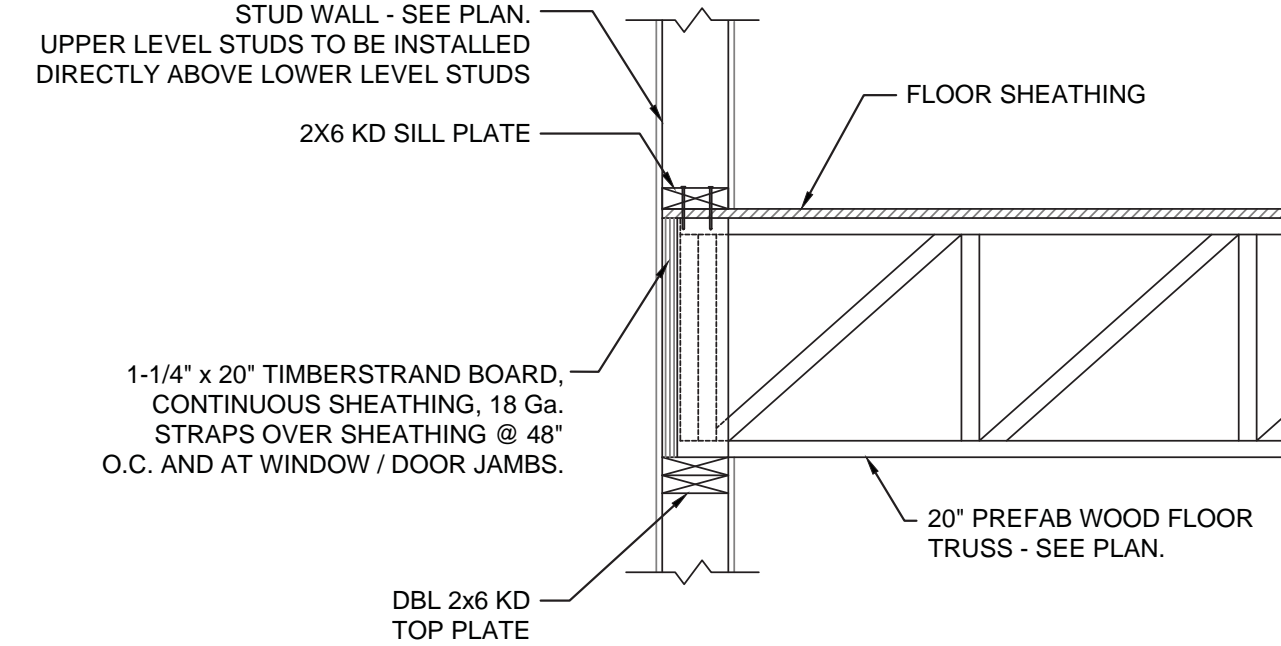
8 TYPICAL TRUSS BEARING CMU SHEARWALL
SCALE: 3/4" = 1'-0"



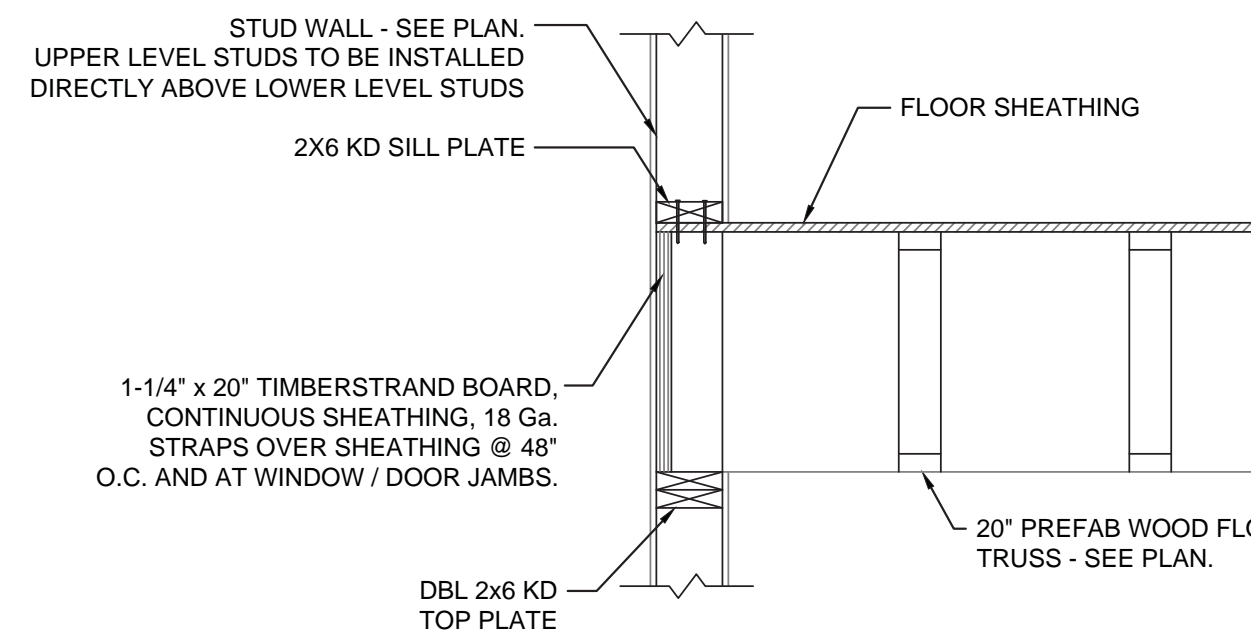
5A TRUSS BEARING AT BEAM
SCALE: 3/4" = 1'-0"



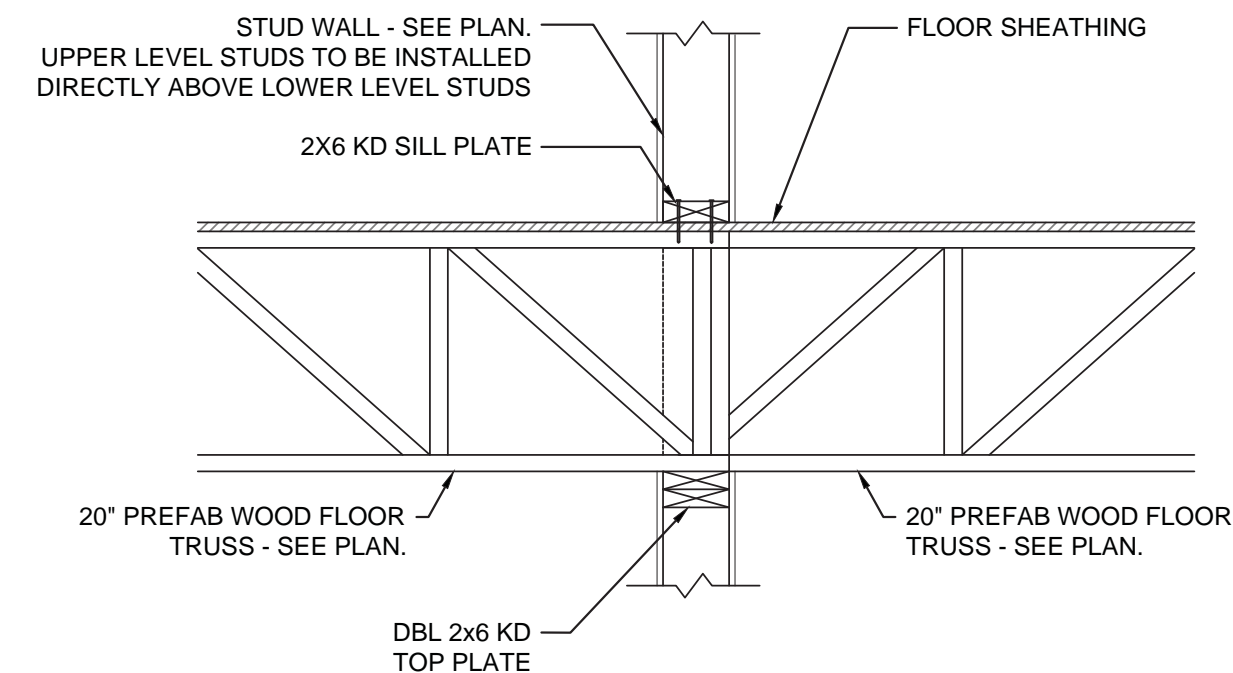
5B TRUSS BEARING AT BEAM
SCALE: 3/4" = 1'-0"



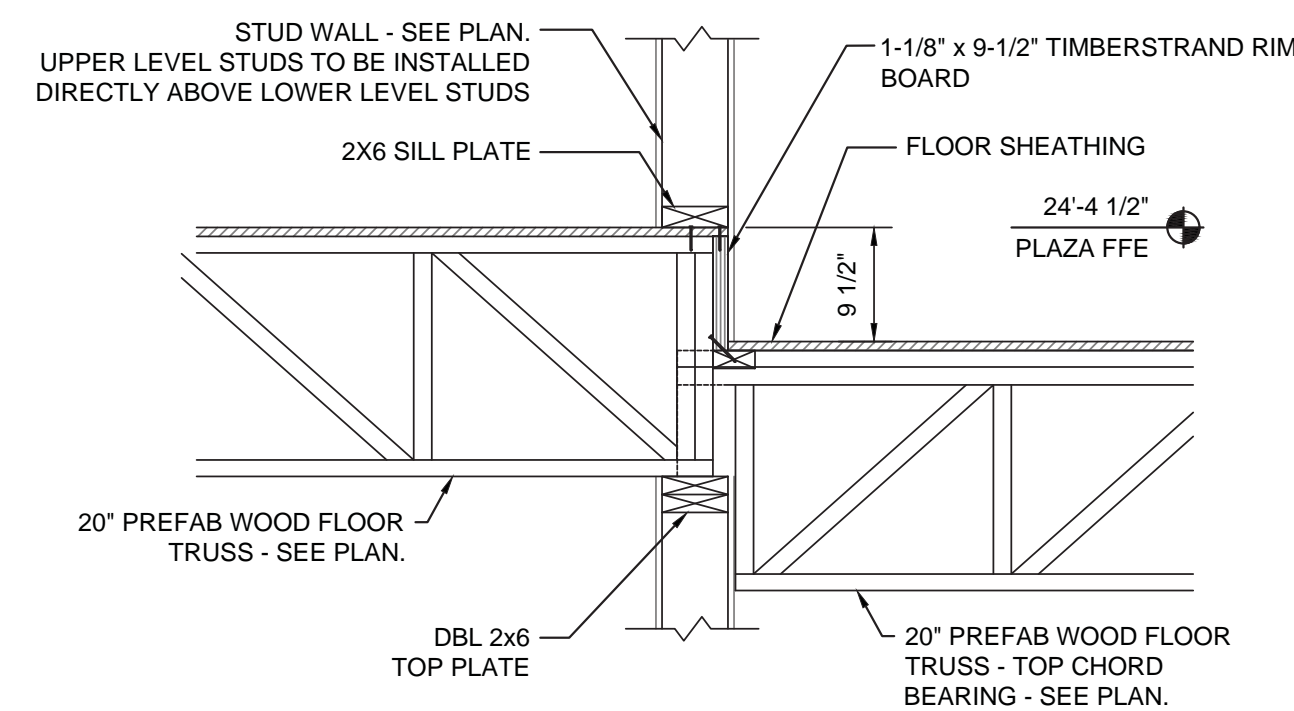
1 TYP. TRUSS BEARING AT EXTERIOR WALL
SCALE: 3/4" = 1'-0"



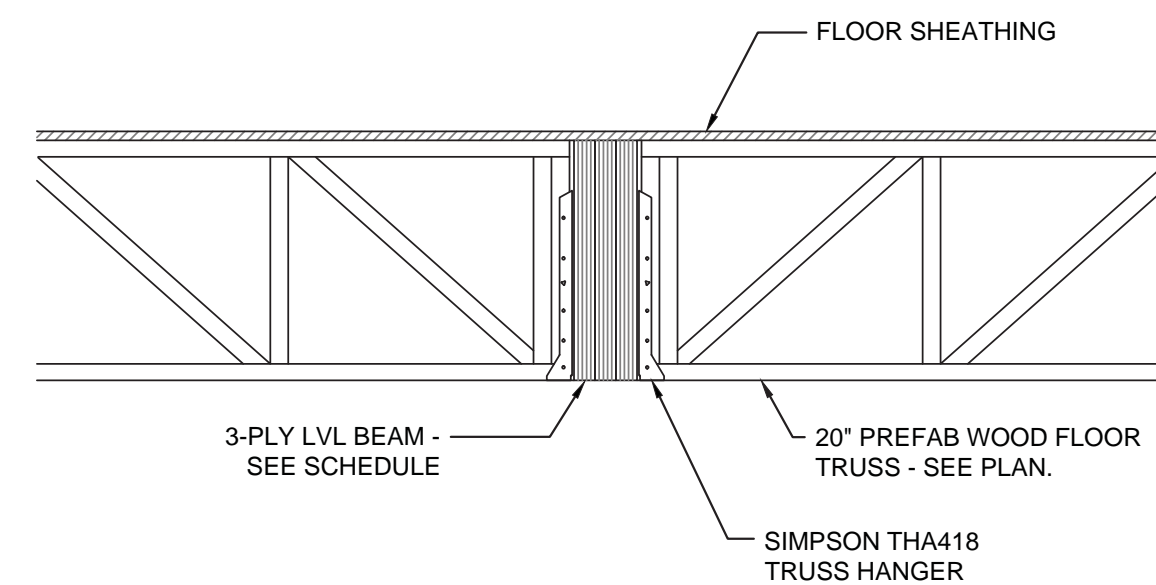
2 TYP. PARALLEL TRUSS FRAMING AT EXTERIOR WALL
SCALE: 3/4" = 1'-0"



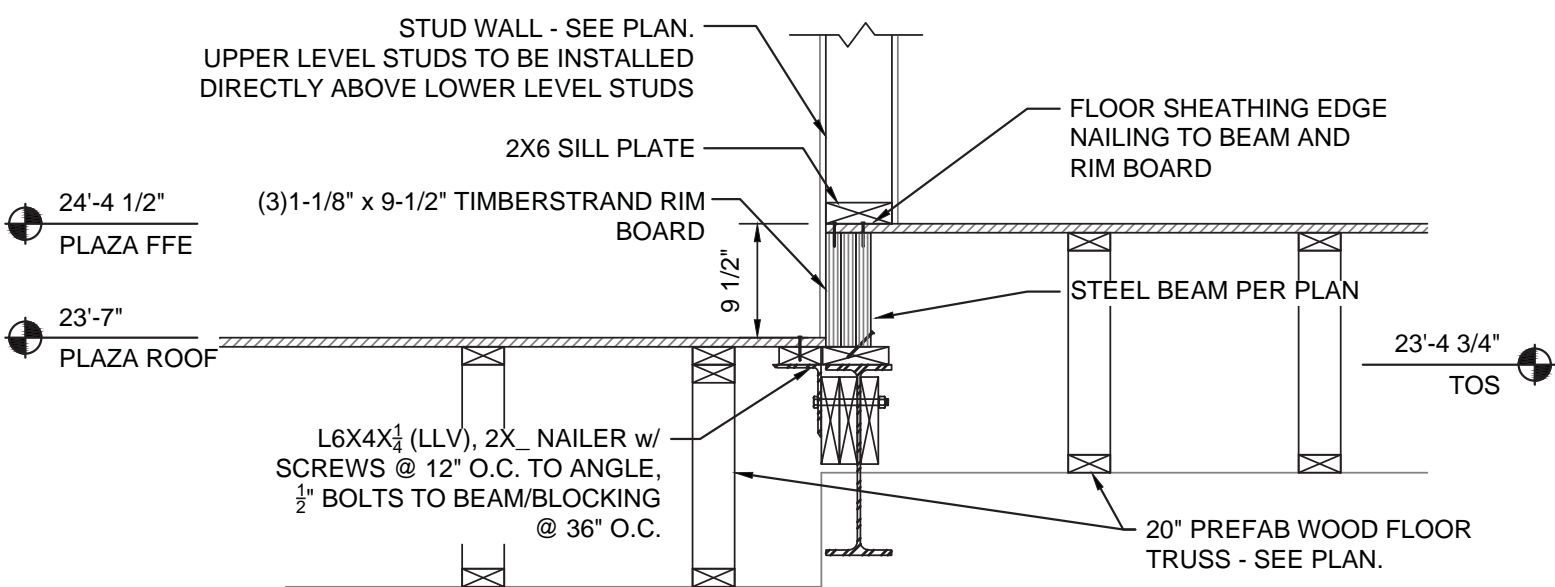
3A TYP. TRUSS BEARING AT INTERIOR WALL
SCALE: 3/4" = 1'-0"



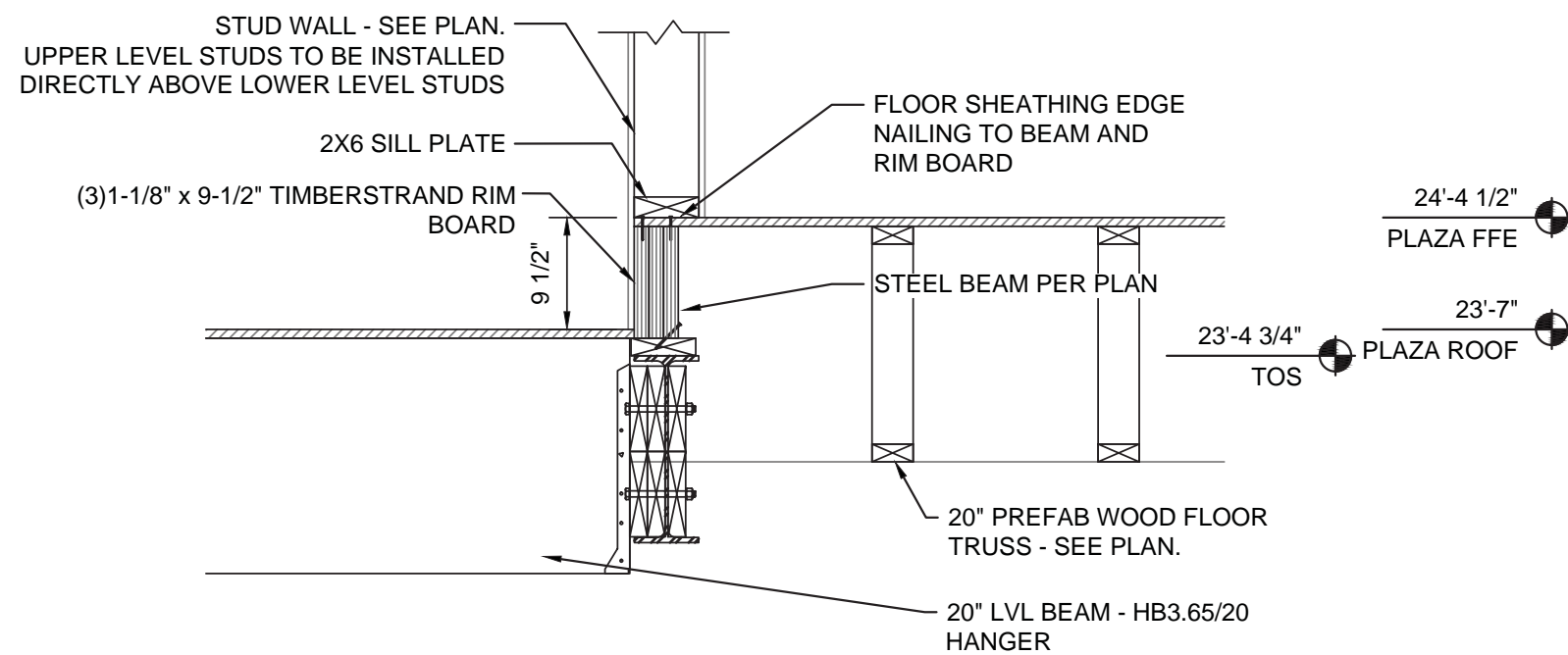
3B TRUSS BEARING AT INTERIOR WALL
SCALE: 3/4" = 1'-0"



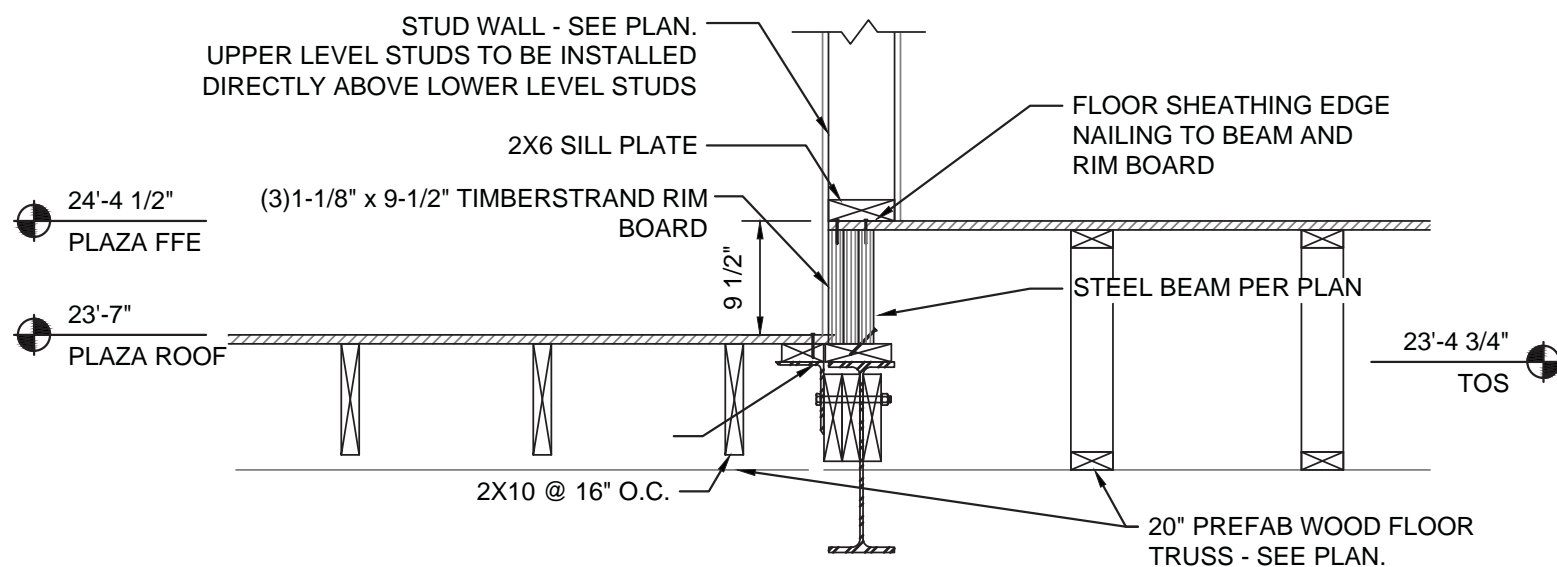
4 TYP. TRUSS BEARING AT BEAM / HEADER
SCALE: 3/4" = 1'-0"



14 PARALLEL TRUSS FRAMING AT EXTERIOR WALL
SCALE: 3/4" = 1'-0"

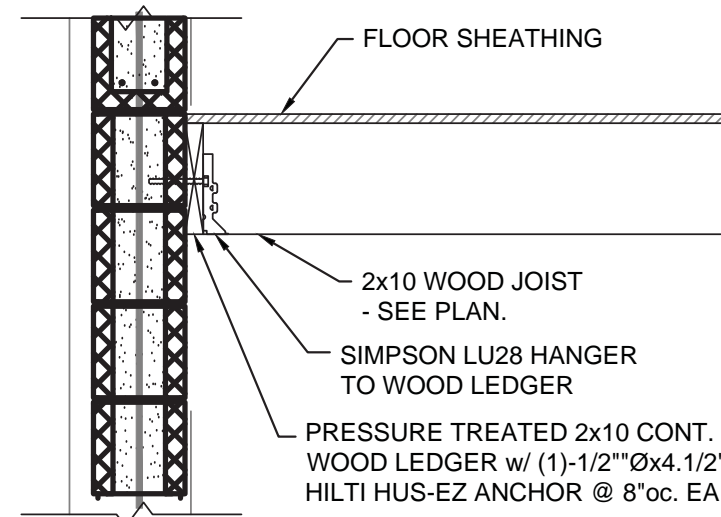


15 LVL BEAM TO W BEAM CONNECTION
SCALE: 3/4" = 1'-0"

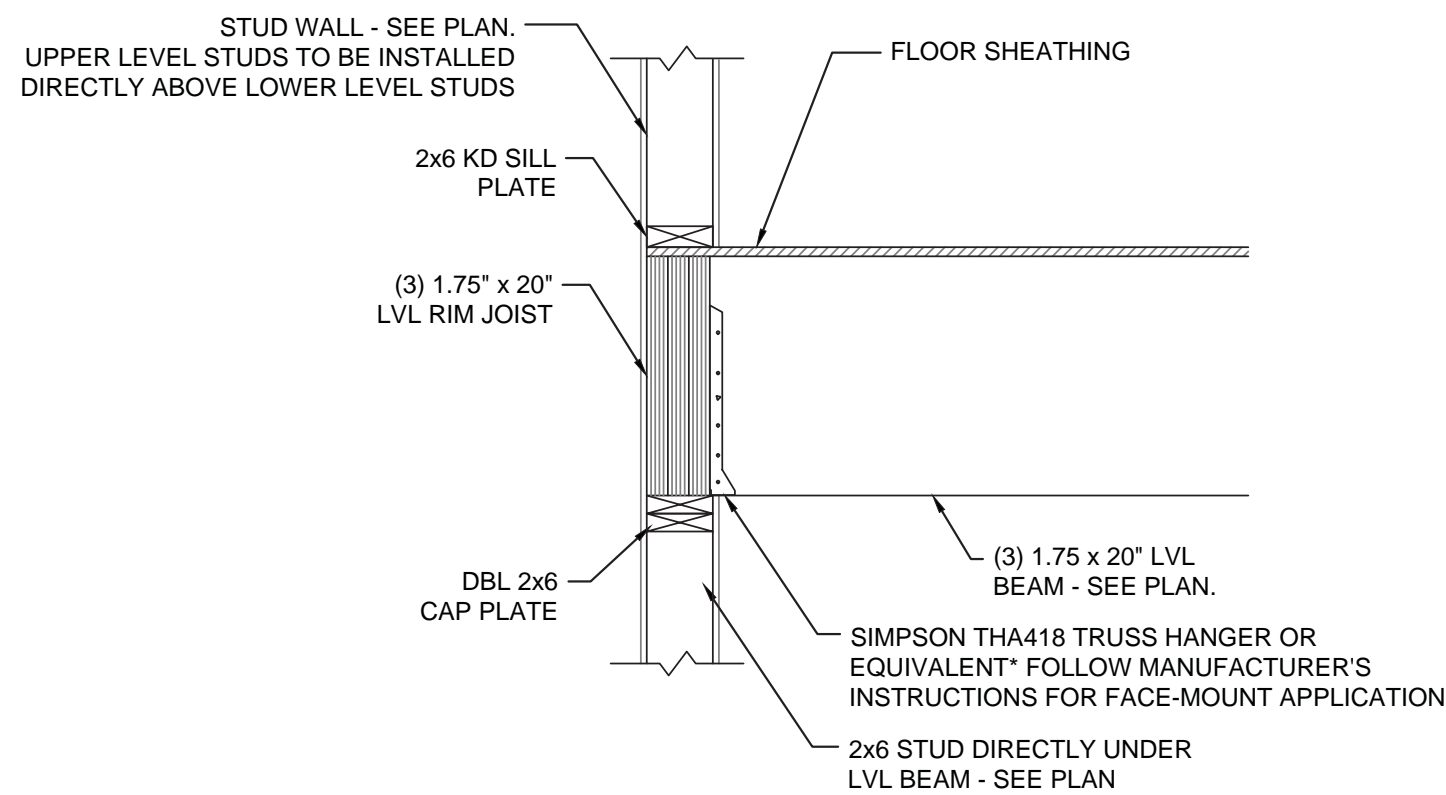


16 PARALLEL TRUSS FRAMING AT EXTERIOR WALL
SCALE: 3/4" = 1'-0"

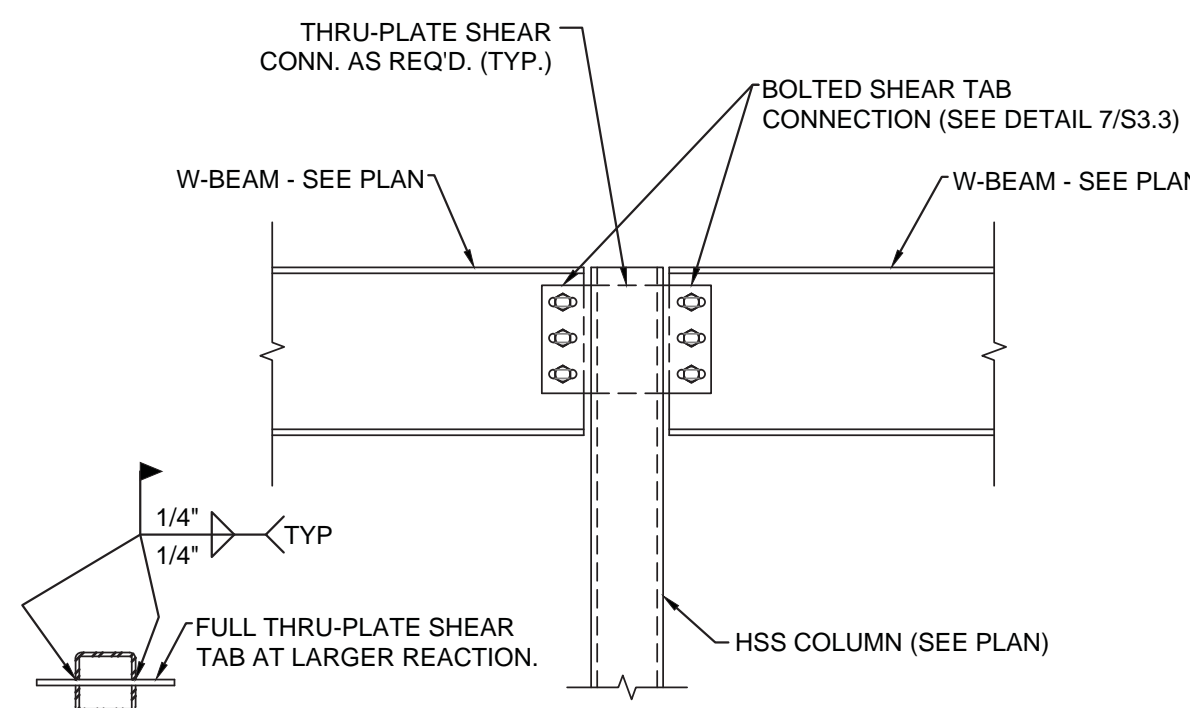
9 TYPICAL JOIST BEARING CMU SHEARWALL
SCALE: 3/4" = 1'-0"



10 TYPICAL JOIST BEARING CMU SHEARWALL
SCALE: 3/4" = 1'-0"

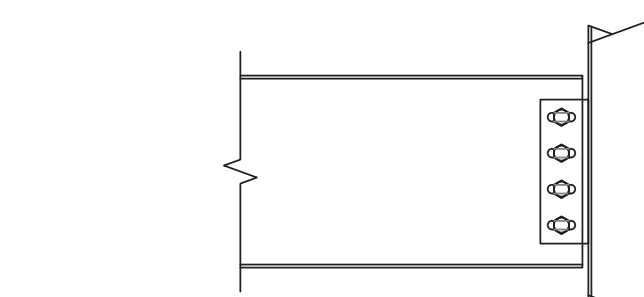


11 TYPICAL LVL BEAM TO BEARING WALL
SCALE: 3/4" = 1'-0"

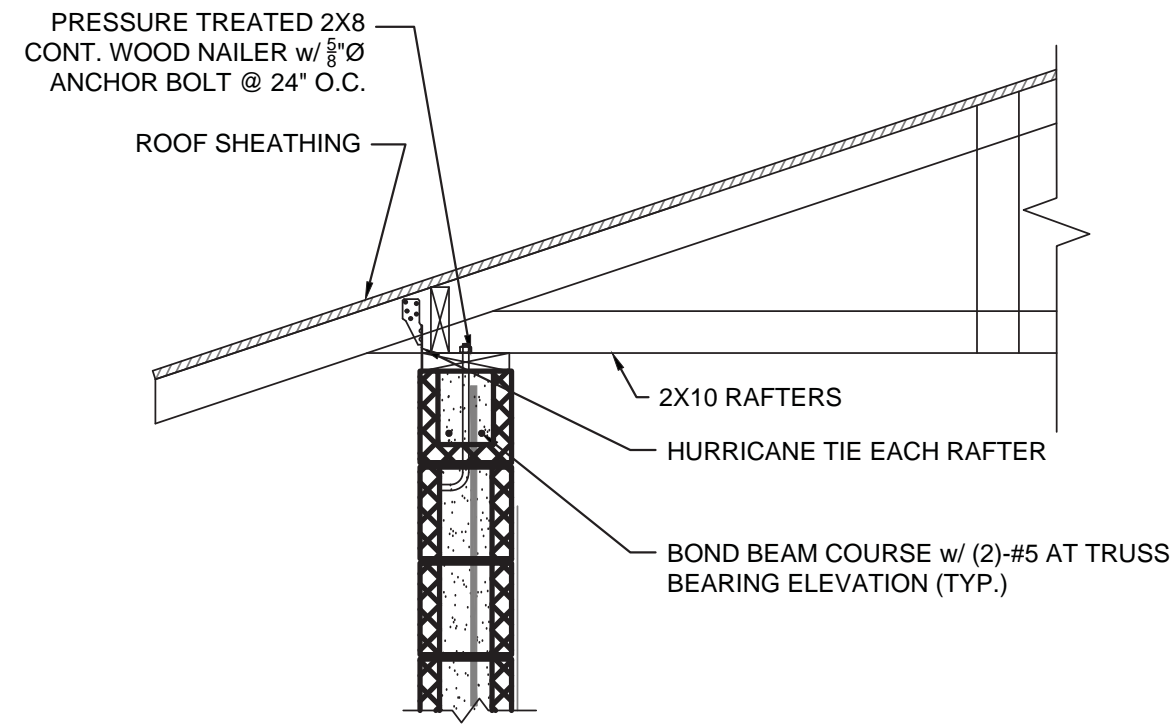


6 TYP. W-BEAM TO HSS MOMENT CONNECTION
SCALE: 3/4" = 1'-0"

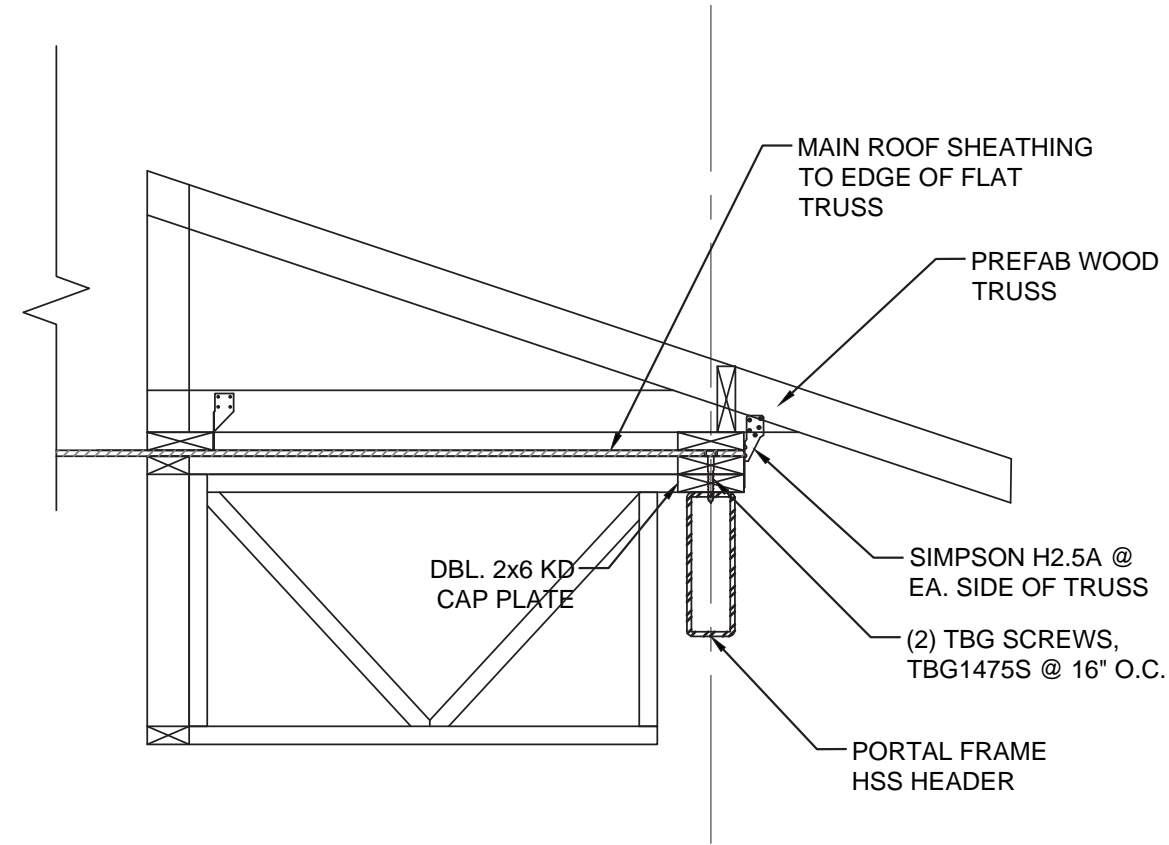
SHEAR TAB SCHEDULE				
BEAM	HEIGHT	THICKNESS	3/4"dia. A325N BOLTS	WELD SIZE TO COL.
W8	5-1/2"	3/8"	2	5/16" FILLET
W10 & W12	8-1/2"	3/8"	3	5/16" FILLET
W14 & W16	11-1/2"	3/8"	4	5/16" FILLET
W18	14-1/2"	3/8"	5	5/16" FILLET
W21	17-1/2"	3/8"	6	5/16" FILLET
W24	20-1/2"	3/8"	7	5/16" FILLET
W27	23-1/2"	3/8"	8	5/16" FILLET
W30	26-1/2"	3/8"	9	5/16" FILLET
W33 & W36	29-1/2"	3/8"	10	5/16" FILLET



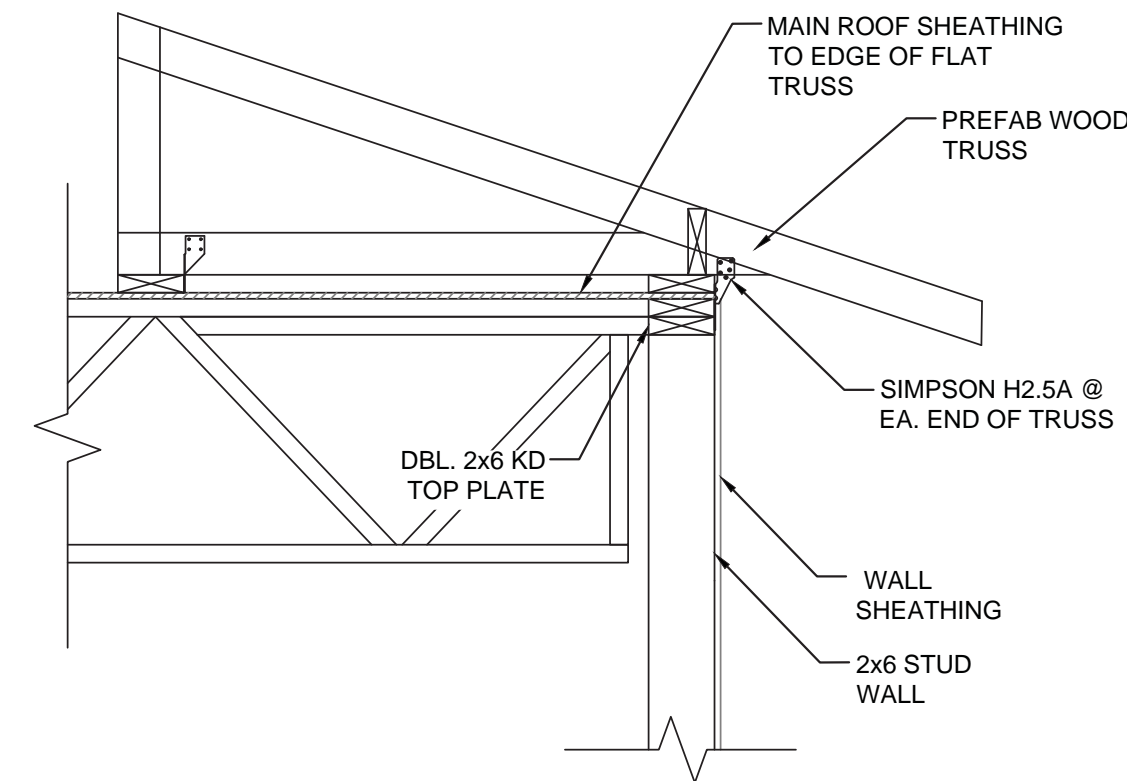
7 SHEAR TAB SCHEDULE
SCALE: 3/4" = 1'-0"



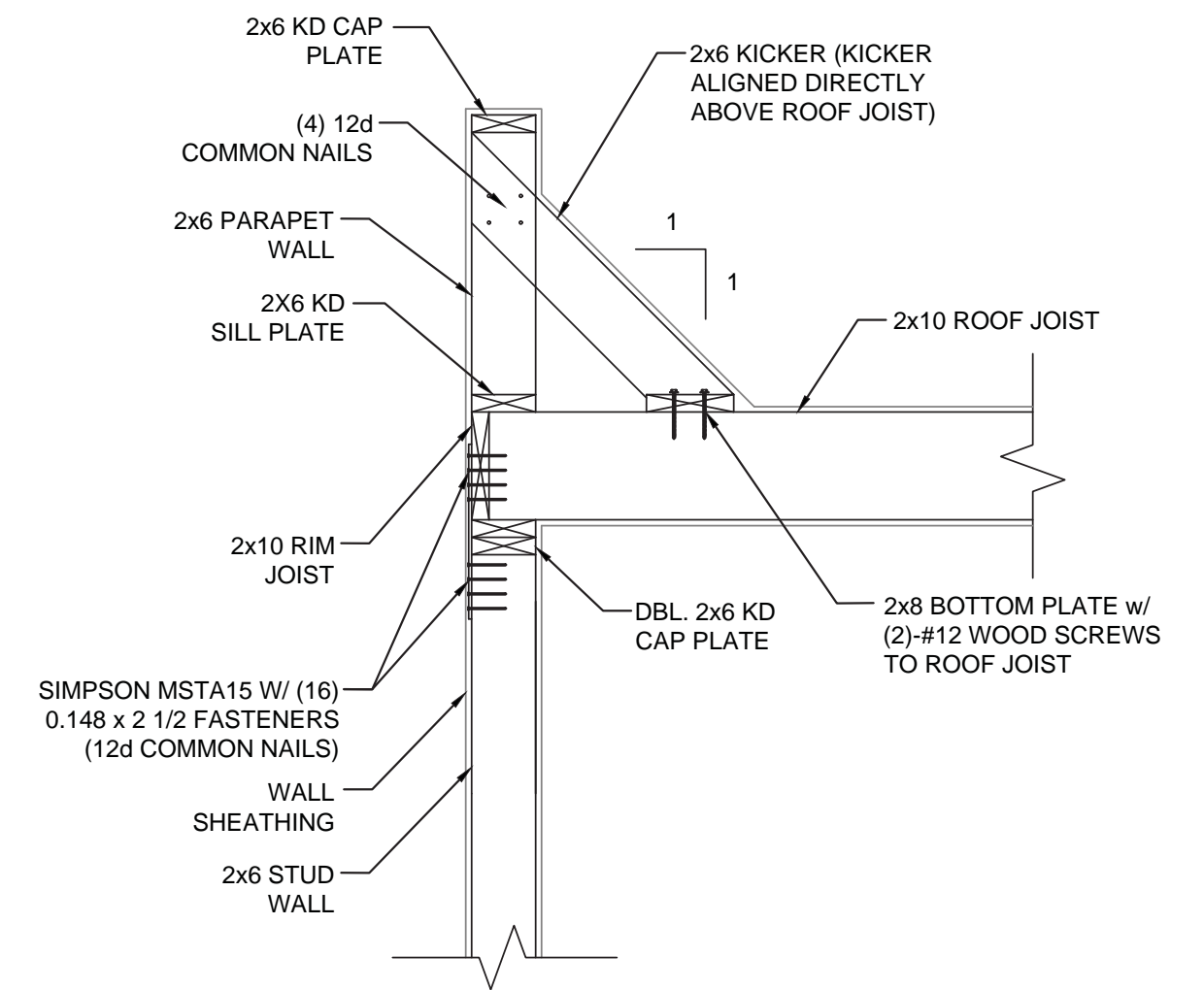
11 ELEVATOR ROOF FRAMING TO CMU WALL
SCALE: 3/4" = 1'-0"



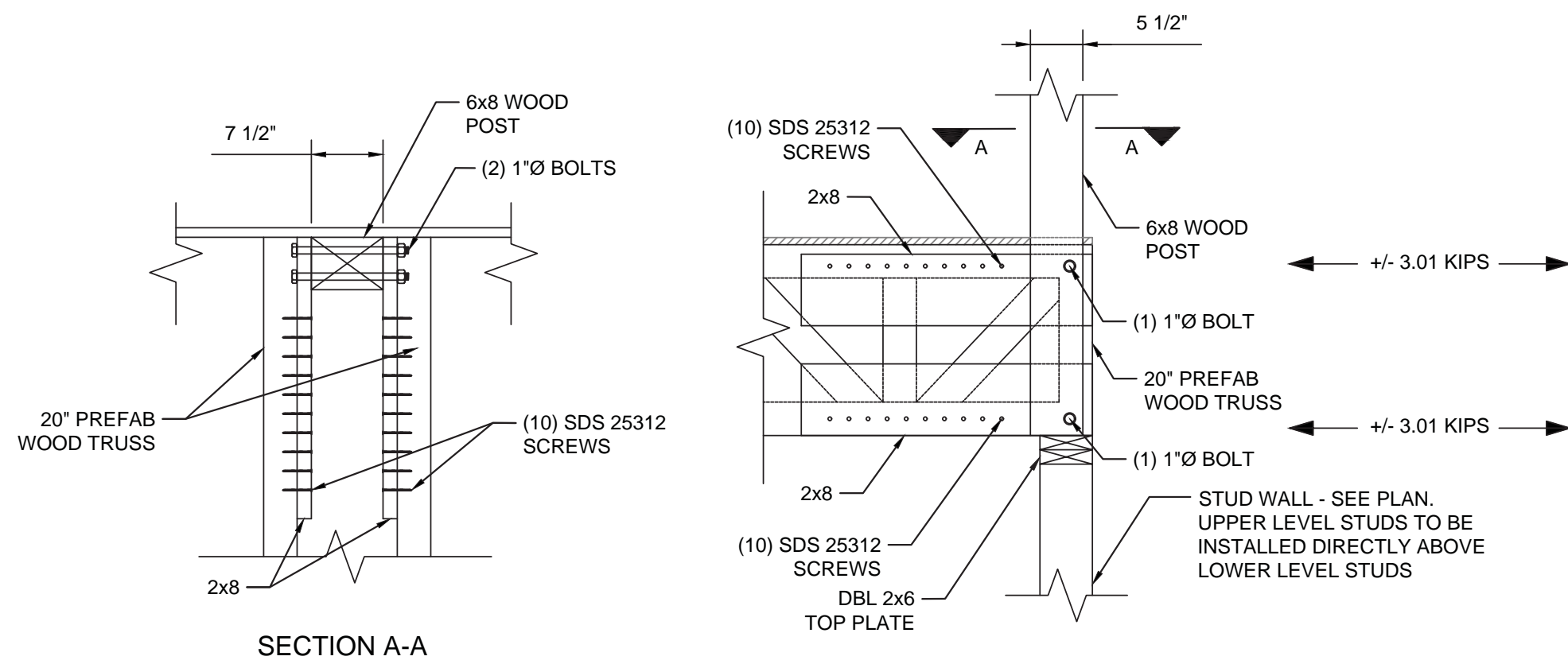
7 ROOF TRUSS OVER PORTAL FRAME B
SCALE: 3/4" = 1'-0"



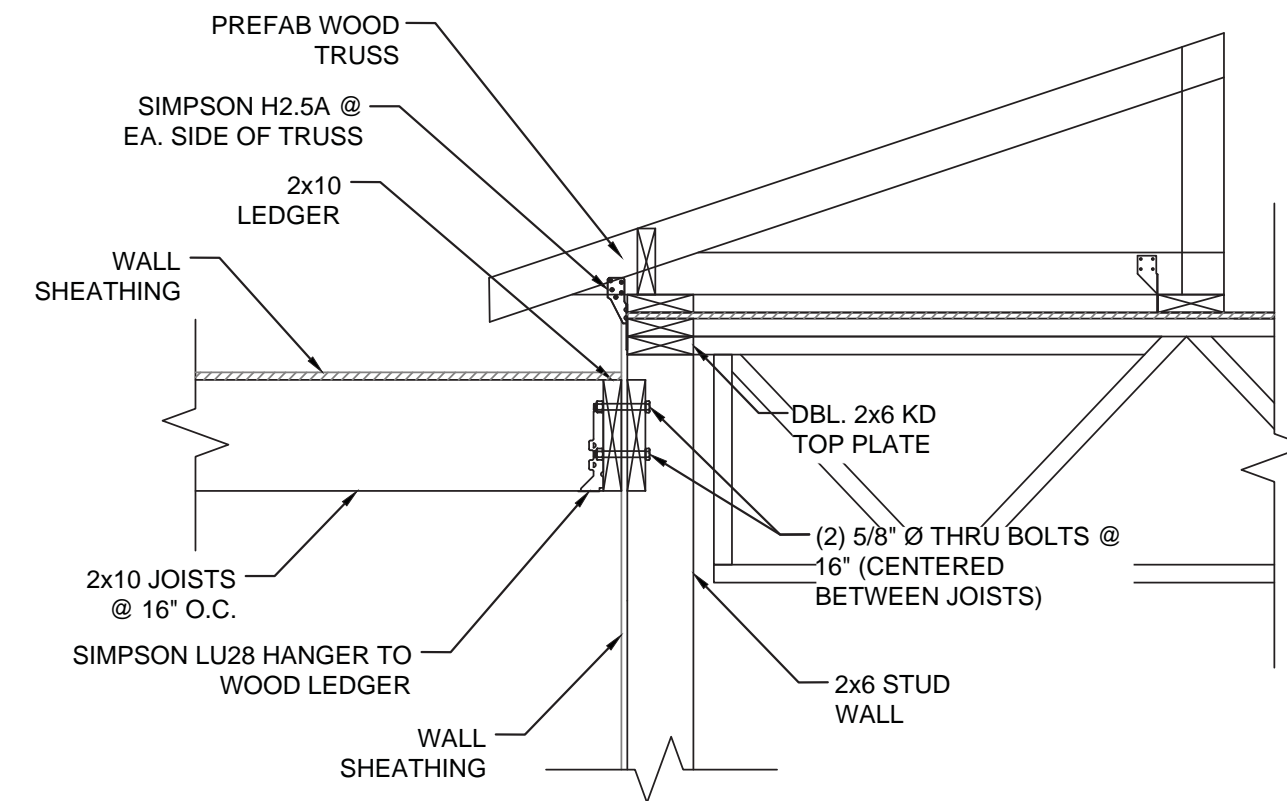
4 ROOF TRUSS AT LOAD BEARING WALL
SCALE: 3/4" = 1'-0"



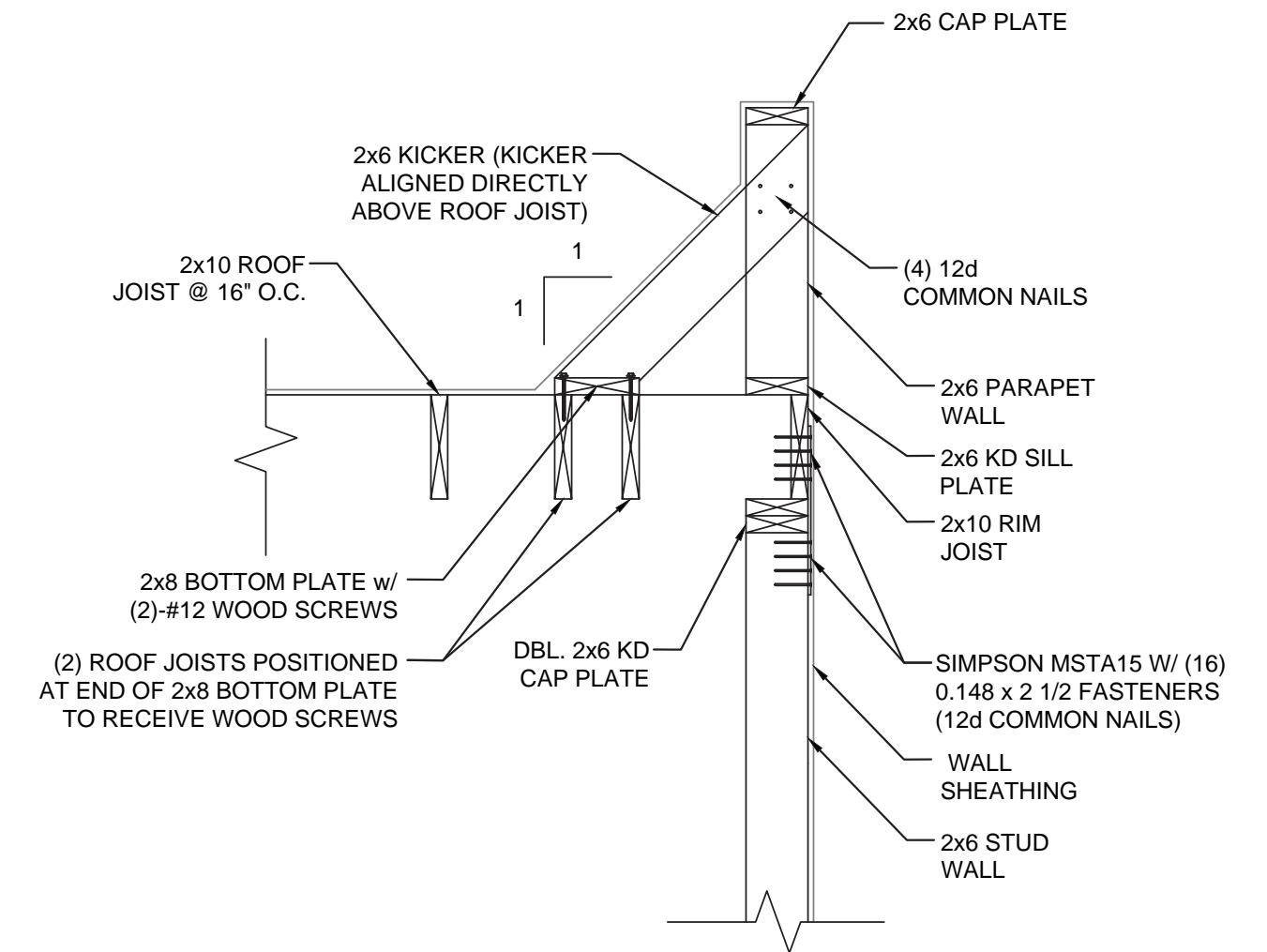
1 ROOF FRAMING W/ KICKER AT EXTERIOR WALL
SCALE: 3/4" = 1'-0"



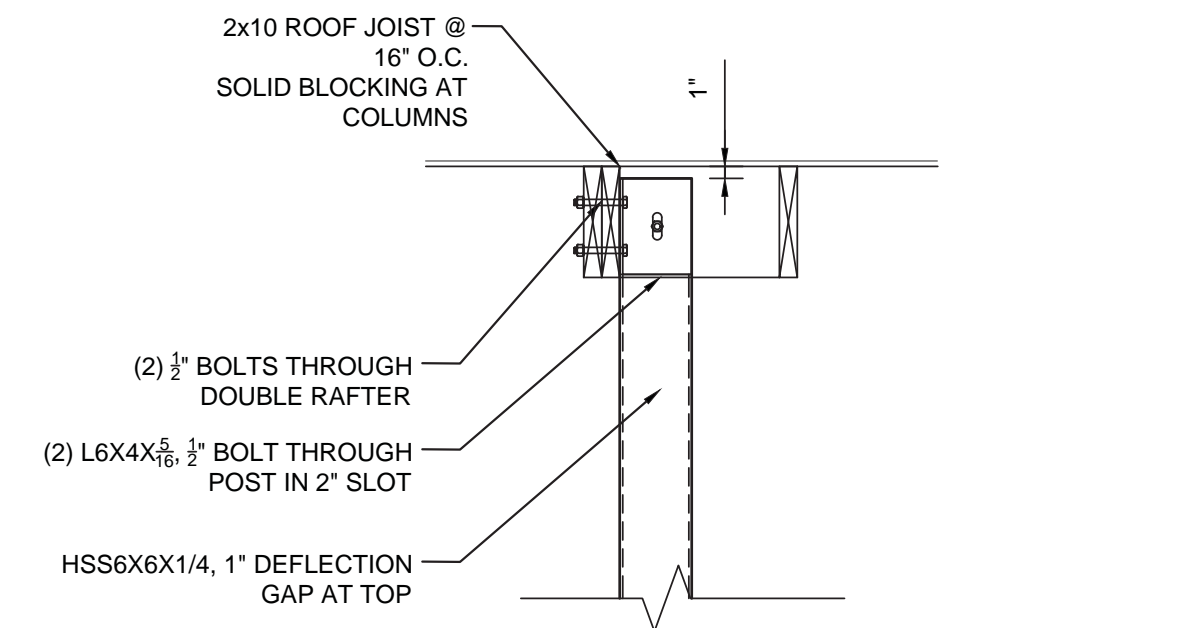
8 PLAZA CANTILEVER POST TO PREFAB FLOOR TRUSS
SCALE: 3/4" = 1'-0"



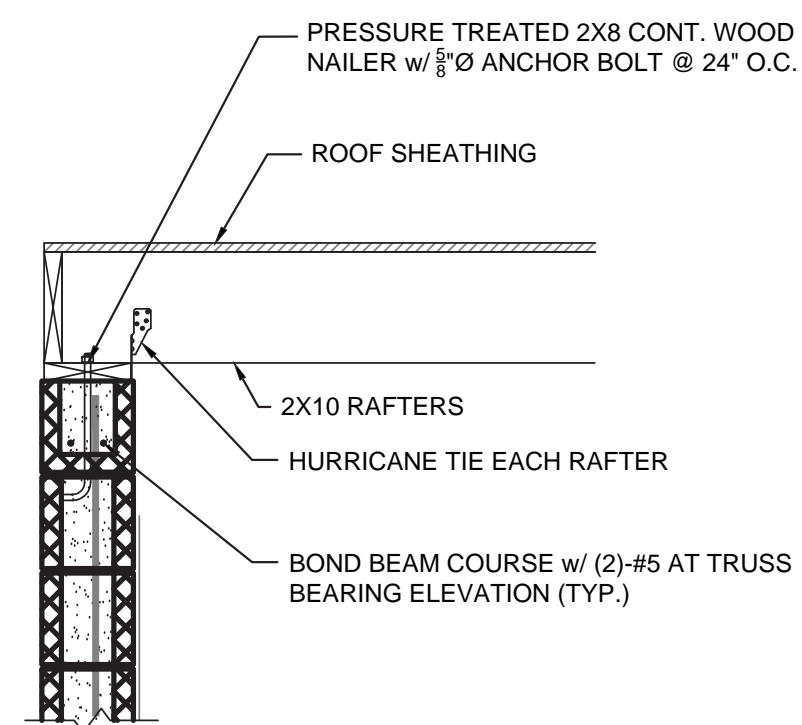
5 HI/LO ROOF AT LOAD BEARING WALL
SCALE: 3/4" = 1'-0"



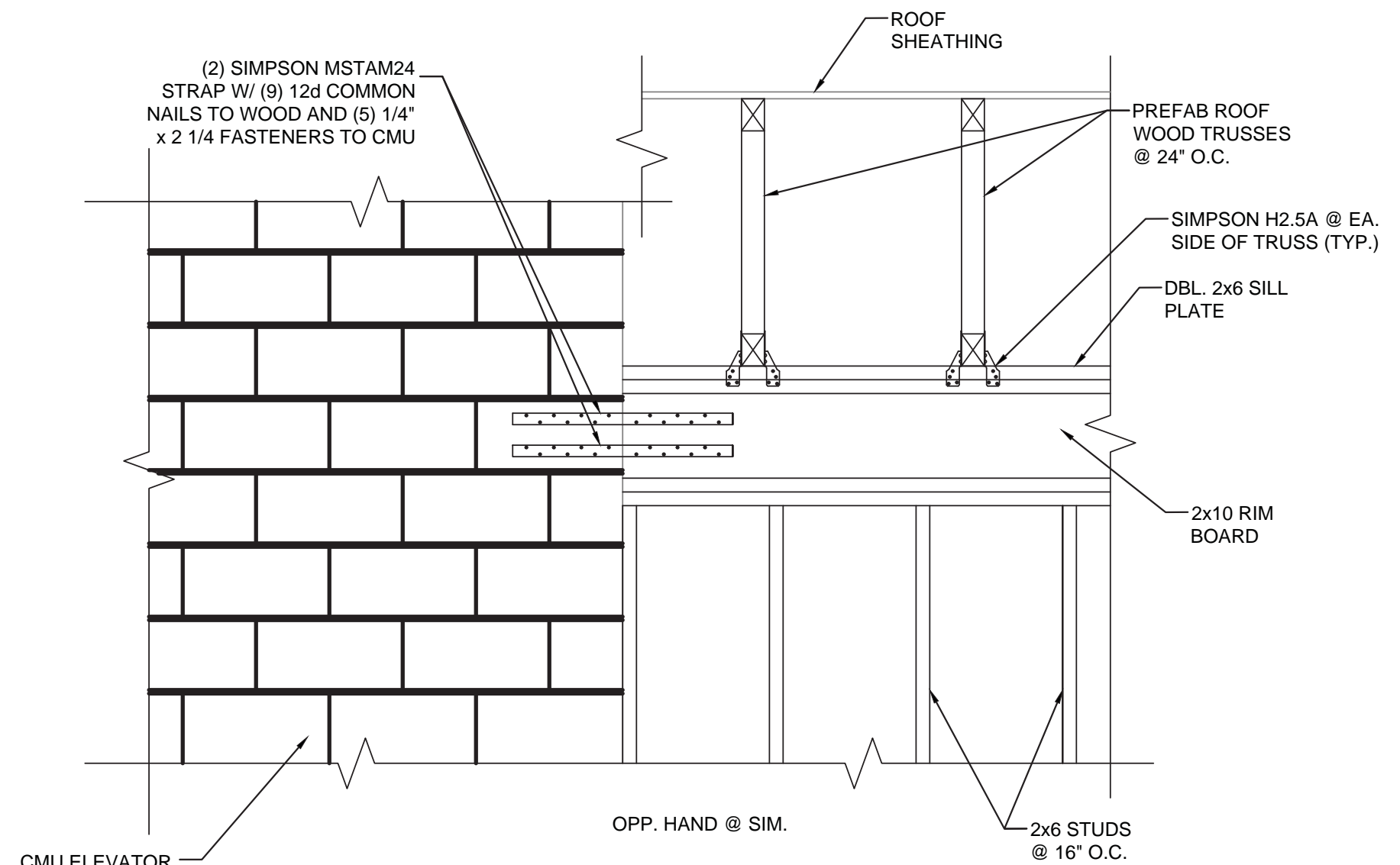
2 ROOF FRAMING W/ KICKER AT EXTERIOR WALL
SCALE: 3/4" = 1'-0"



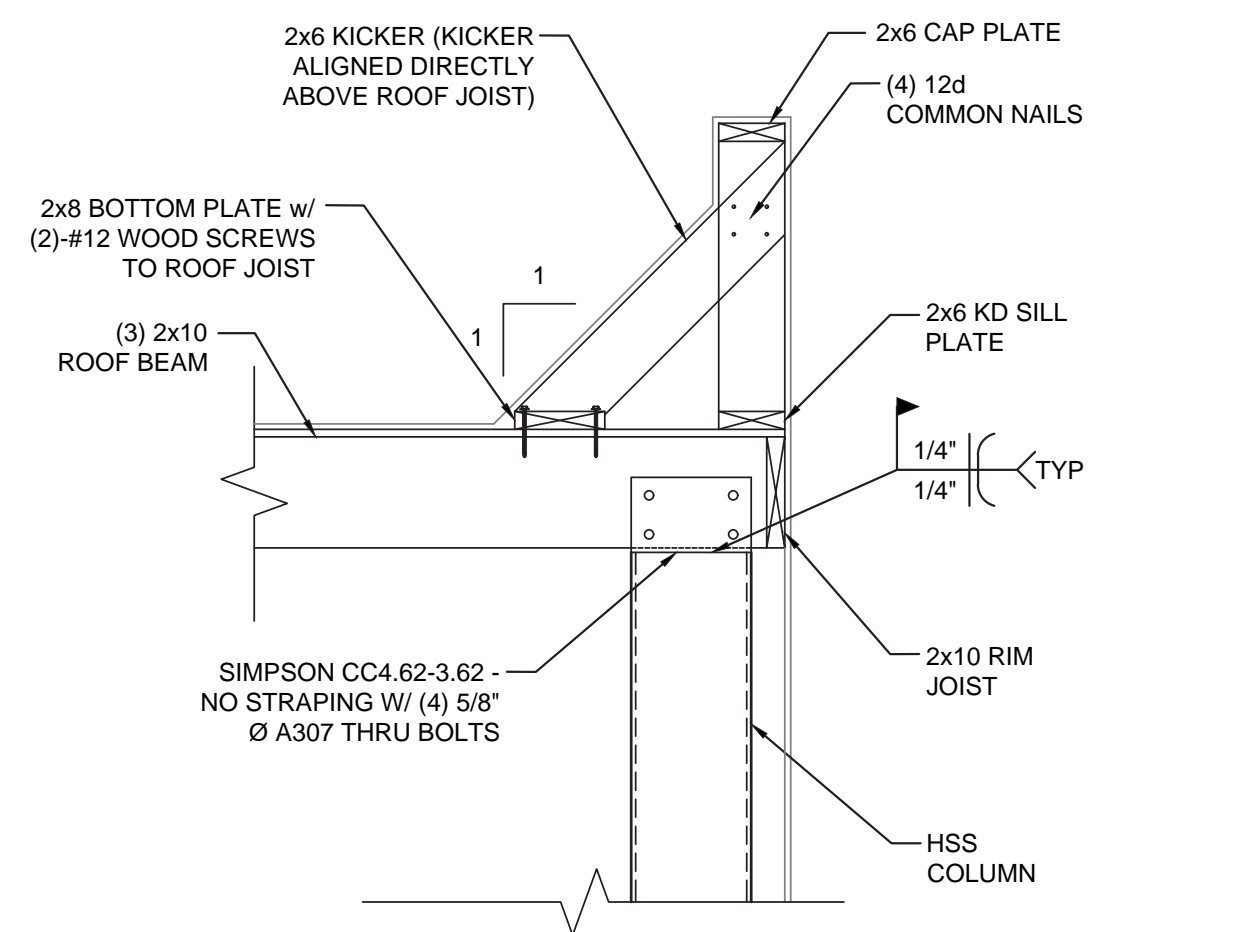
9 STAIRWELL POST CONNECTION AT ROOF
SCALE: 3/4" = 1'-0"



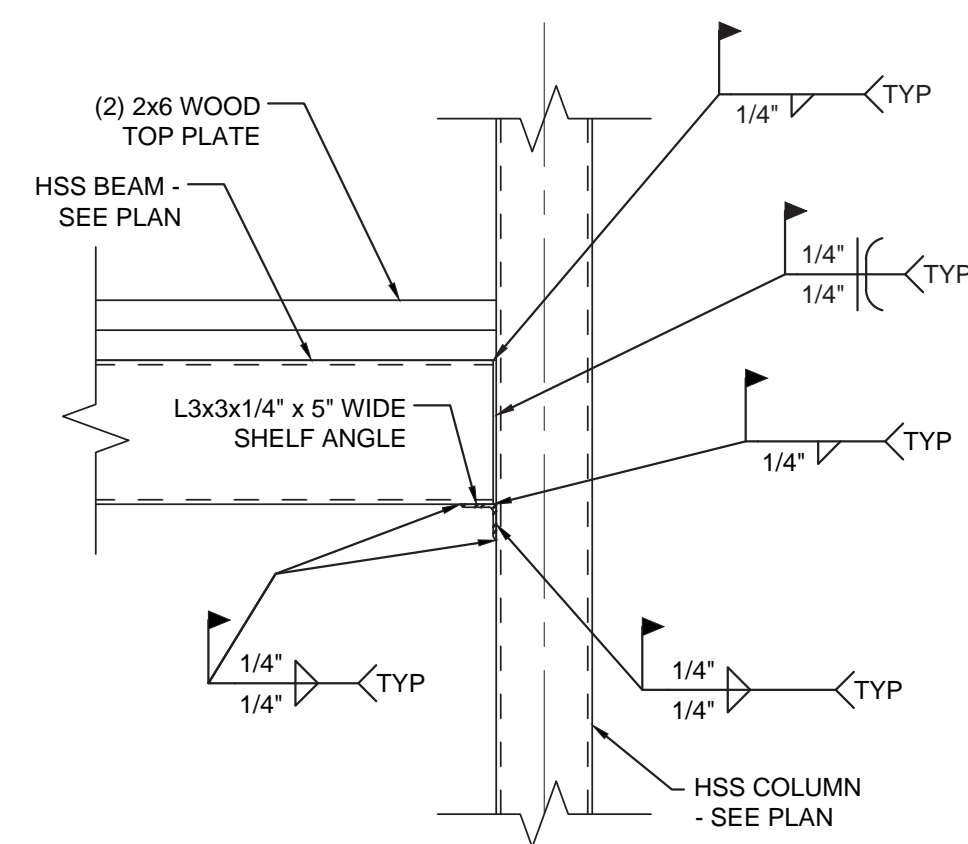
10 ELEVATOR ROOF FRAMING TO CMU WALL
SCALE: 3/4" = 1'-0"



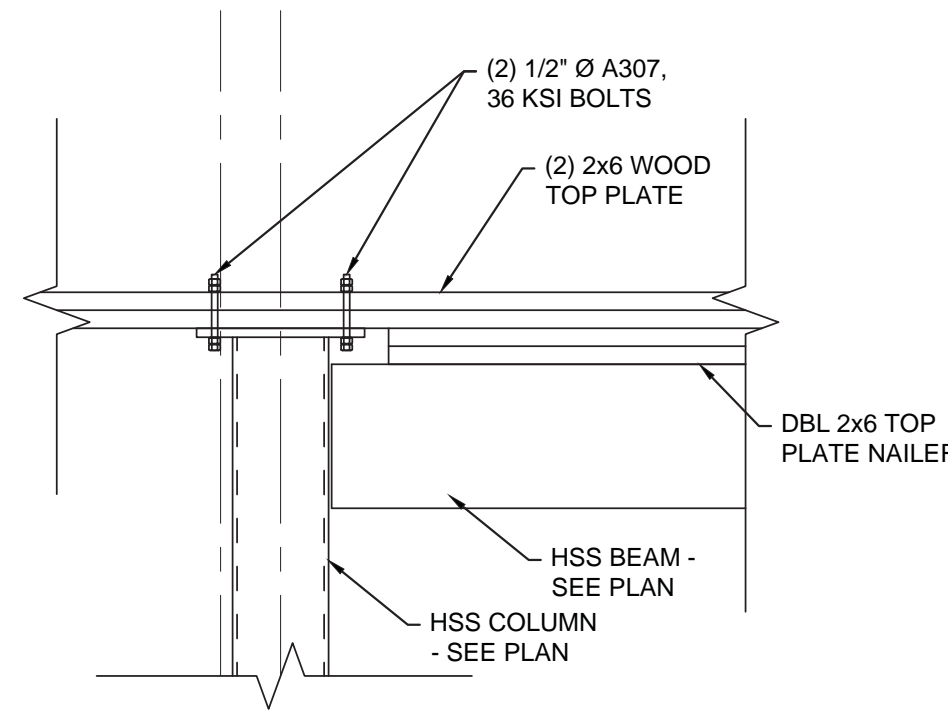
6 CMU TO STUD WALL CONNECTION
SCALE: 3/4" = 1'-0"



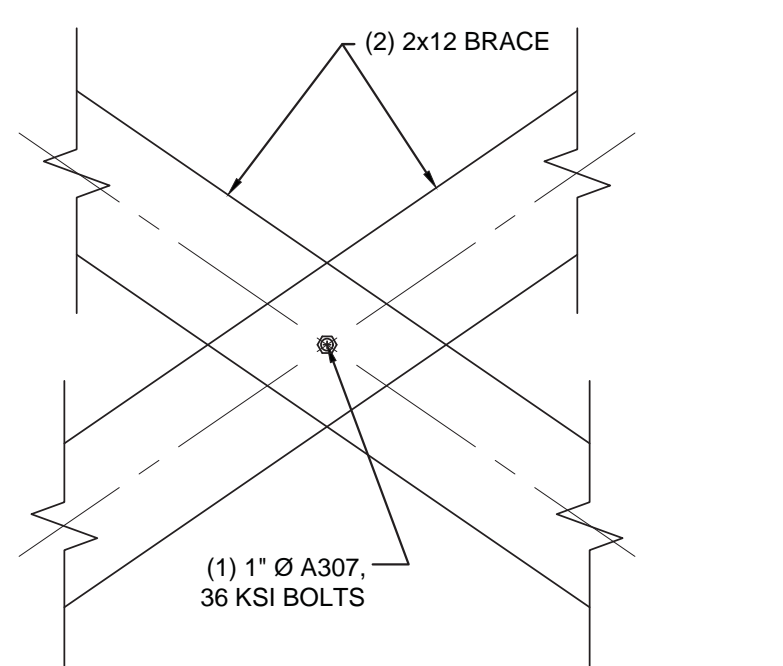
3 HSS COLUMN TO ROOF BEAM CONNECTION
SCALE: 3/4" = 1'-0"



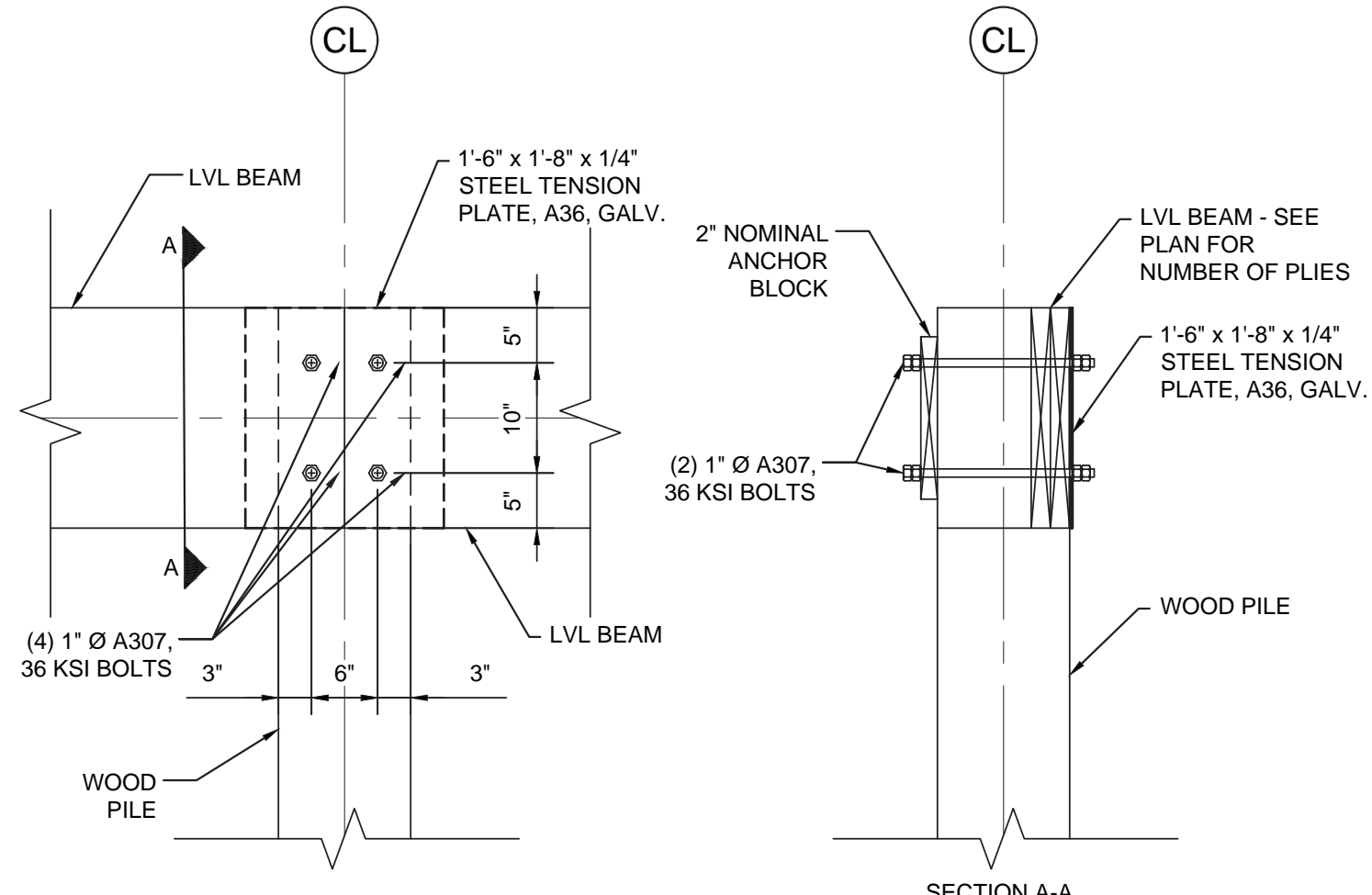
11 HSS BEAM TO HSS COLUMN CONNECTION
SCALE: 3/4" = 1'-0"



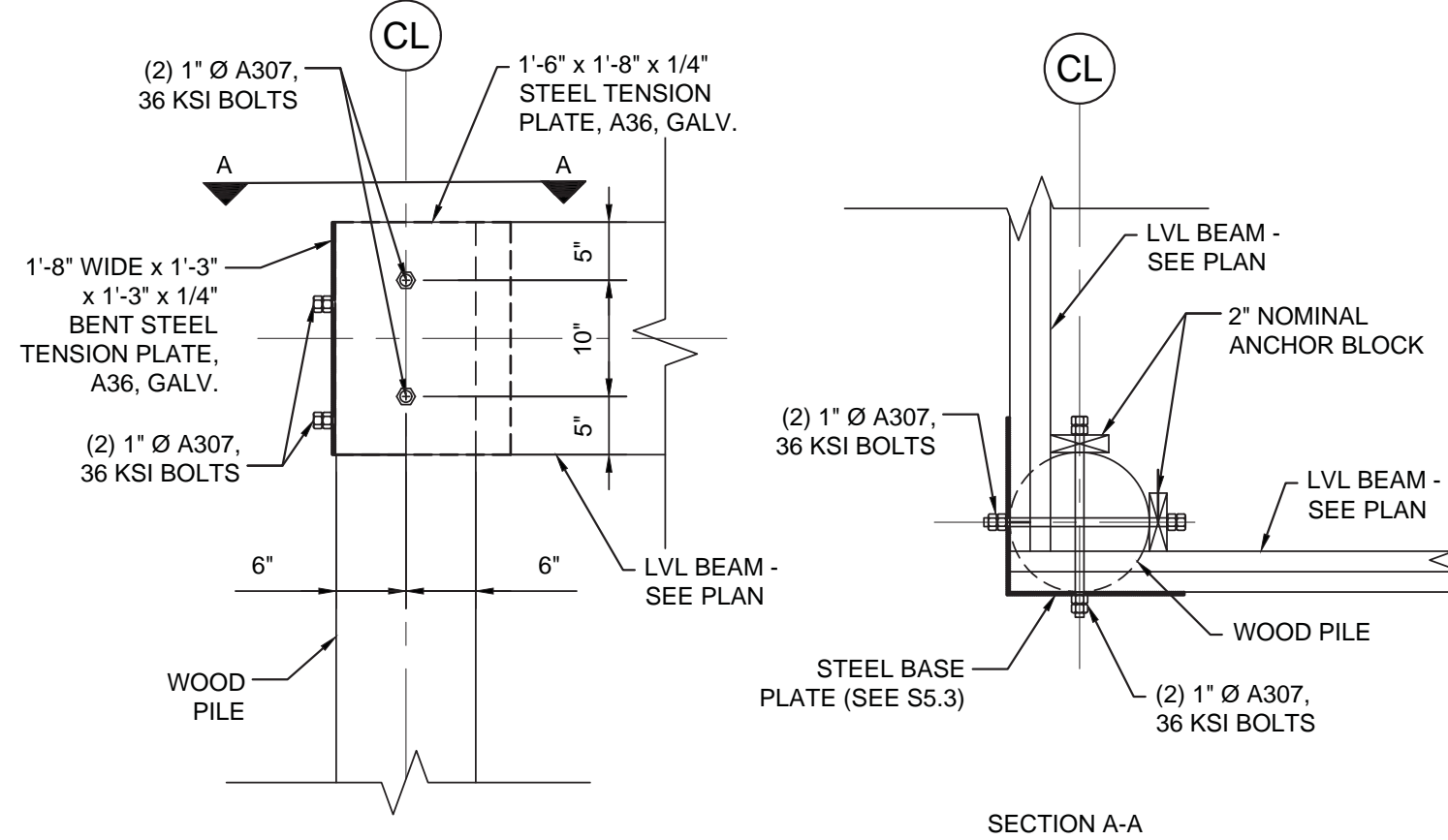
12 HSS COLUMN TO TOP PLATE CONNECTION
SCALE: 3/4" = 1'-0"



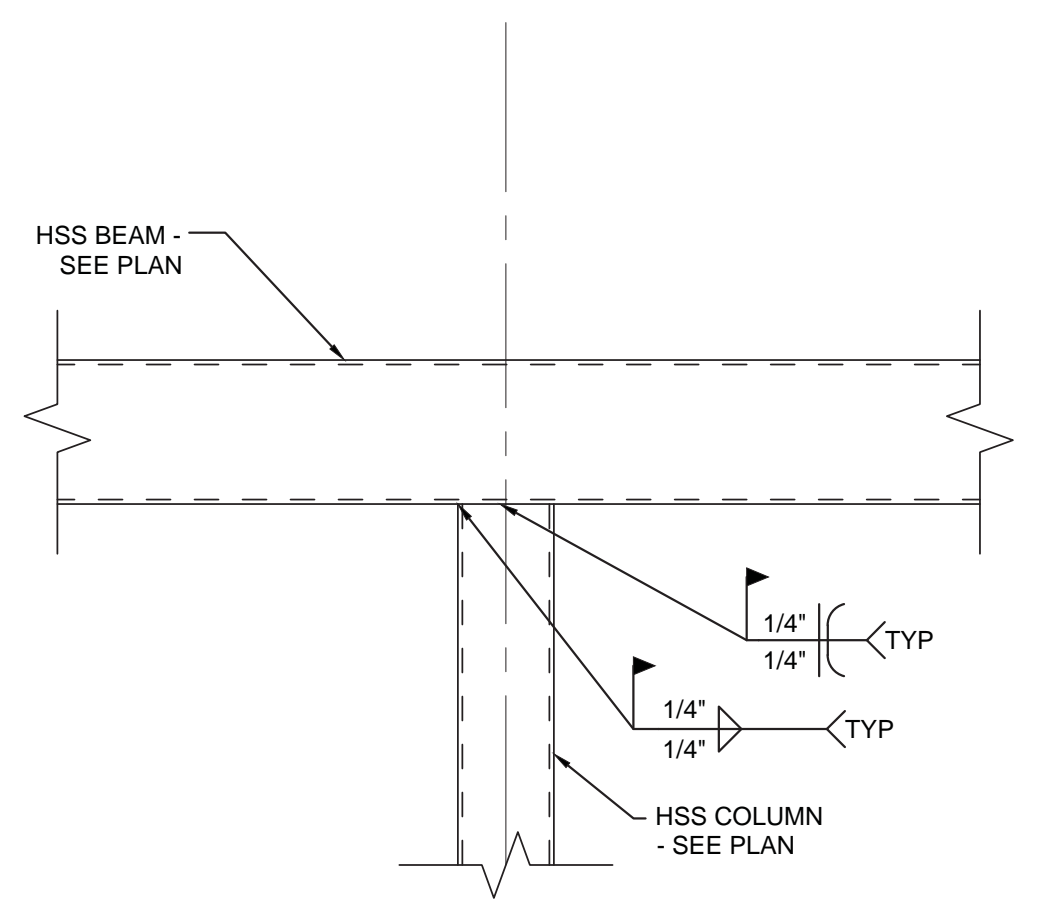
7 WOOD BRACE CENTER CONN.
SCALE: 3/4" = 1'-0"



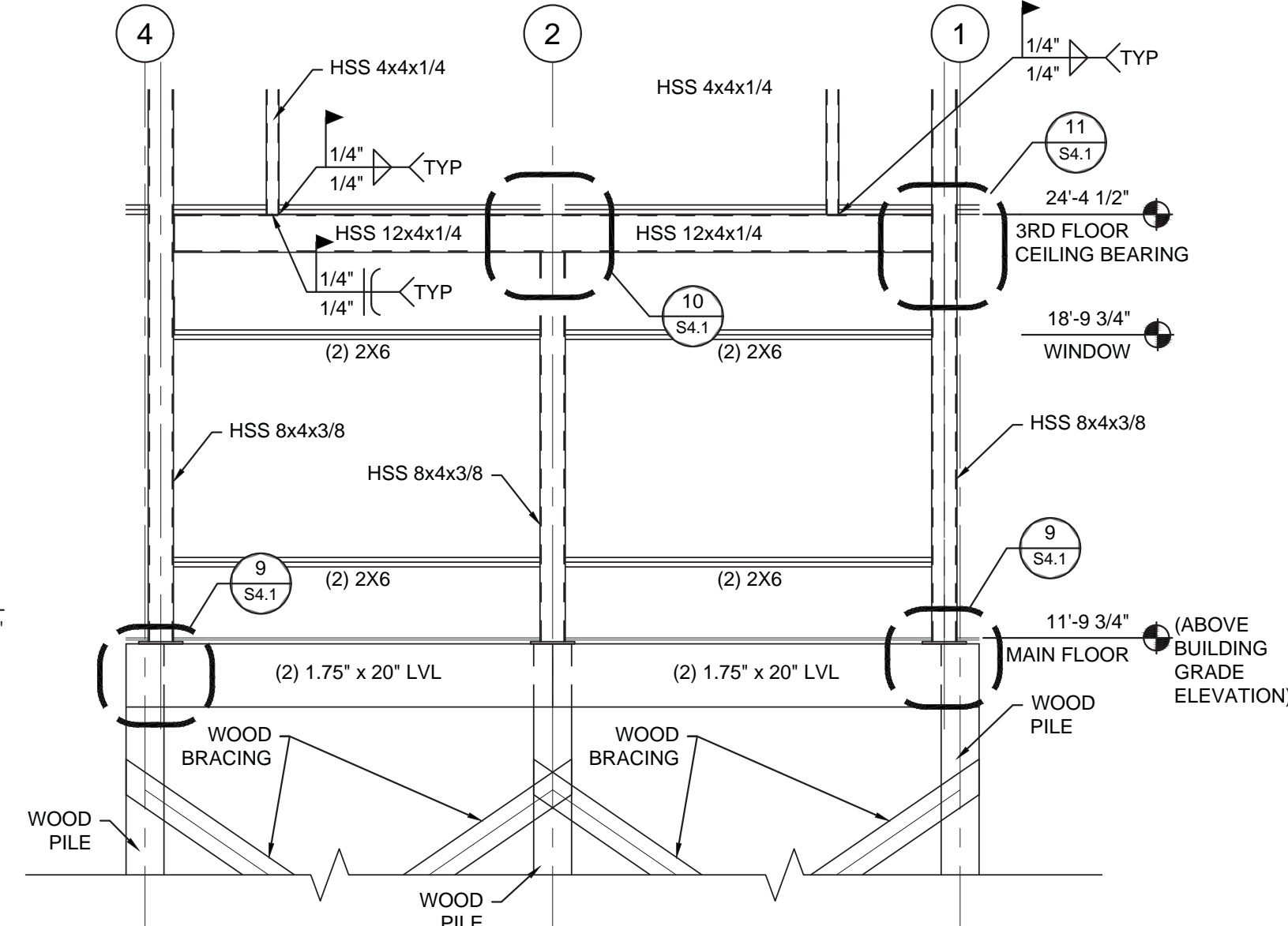
8 LVL TO PILE CONNECTION
SCALE: 3/4" = 1'-0"



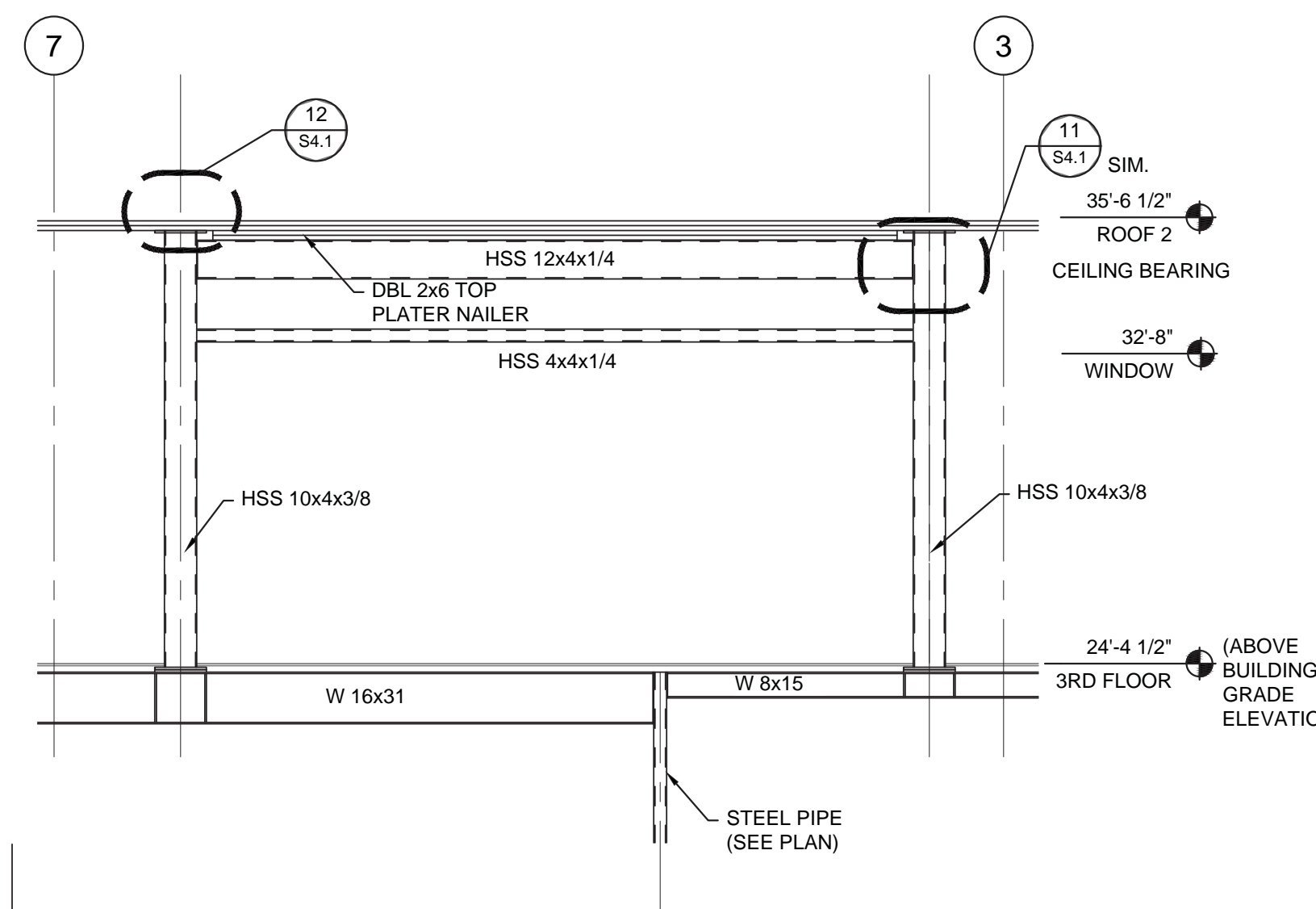
9 LVL TO END PILE CONNECTION
SCALE: 3/4" = 1'-0"



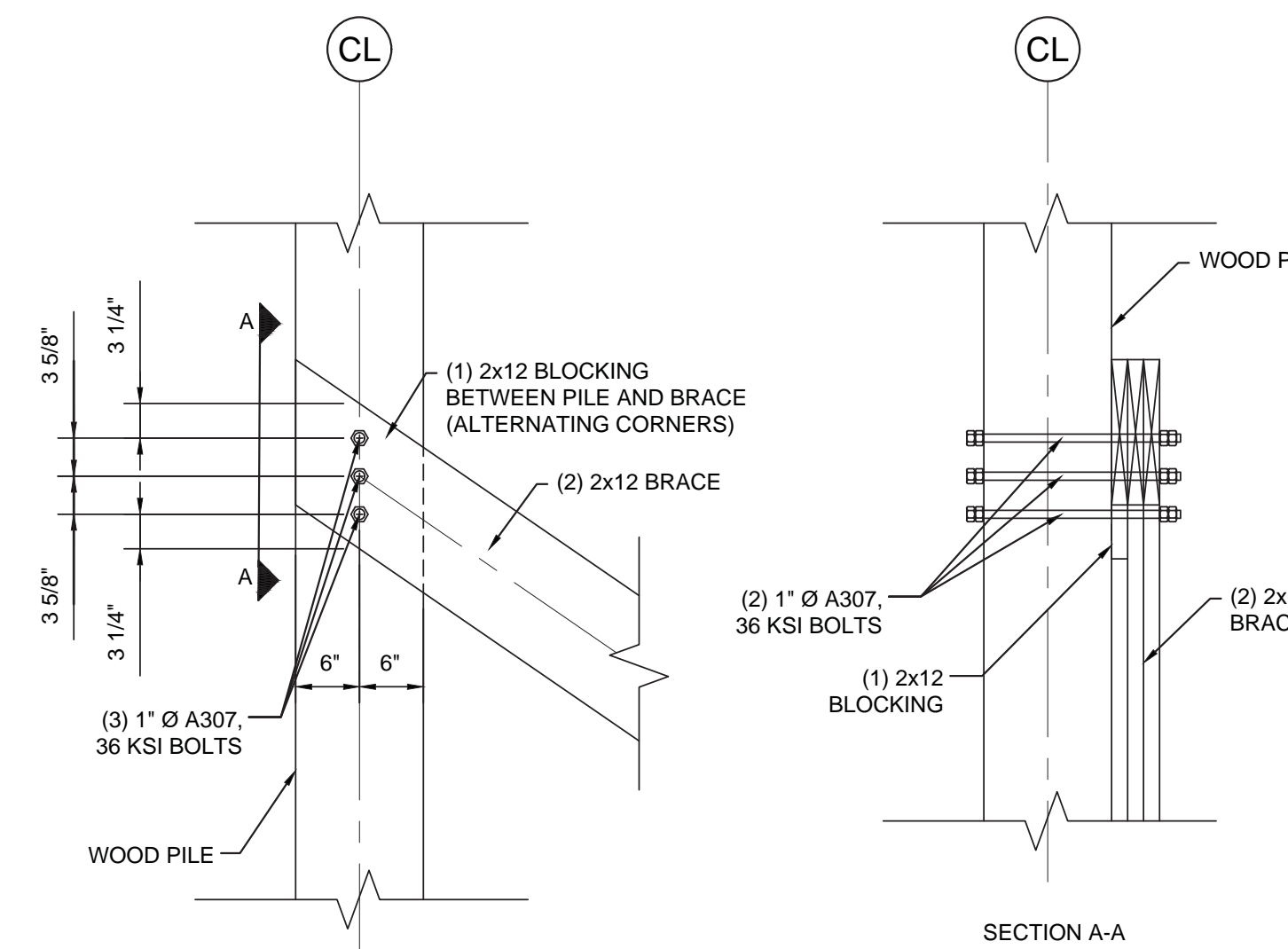
10 HSS BEAM TO HSS COLUMN CONNECTION
SCALE: 3/4" = 1'-0"



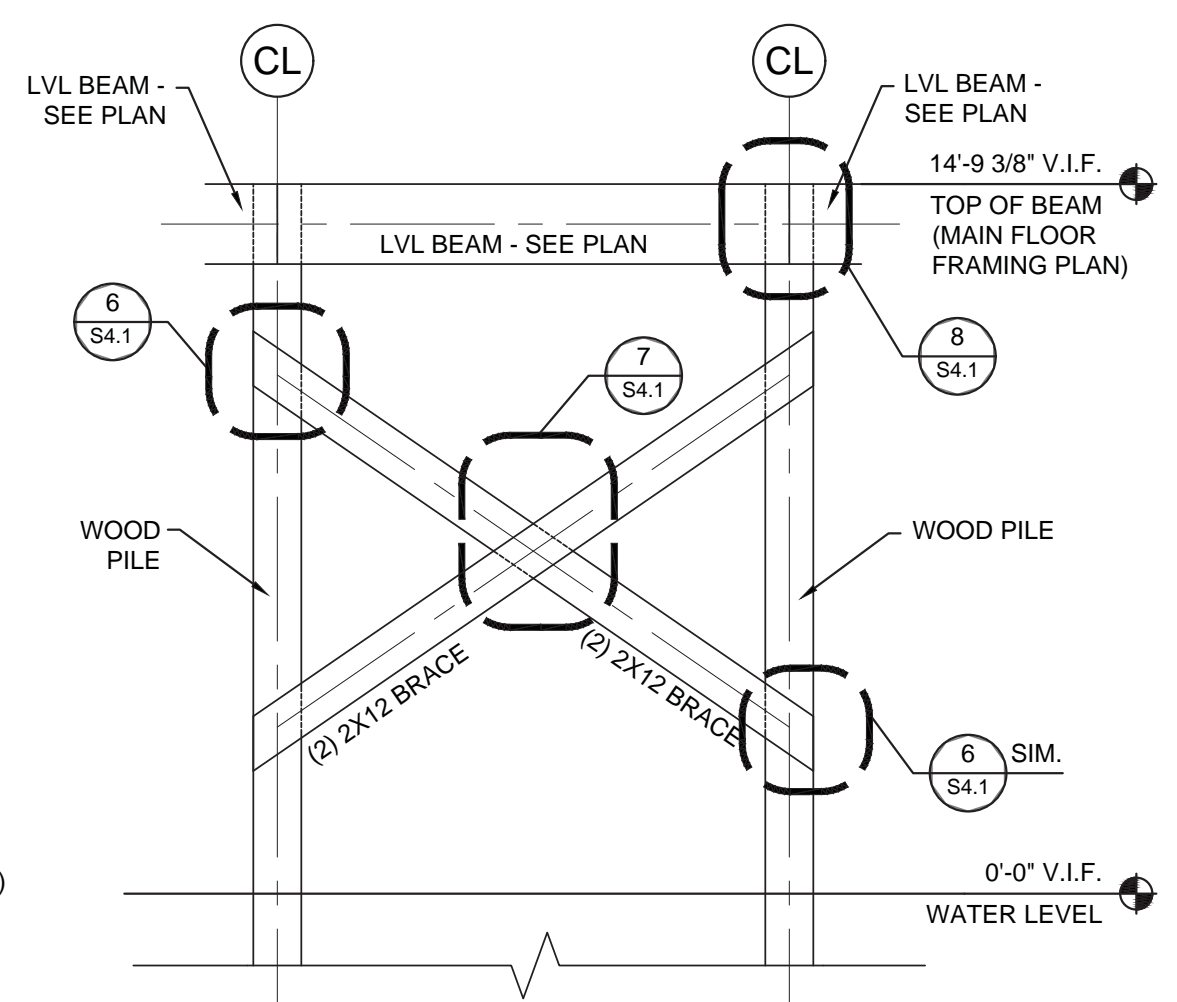
4 STEEL PORTAL FRAME A
SCALE: 1/4" = 1'-0"



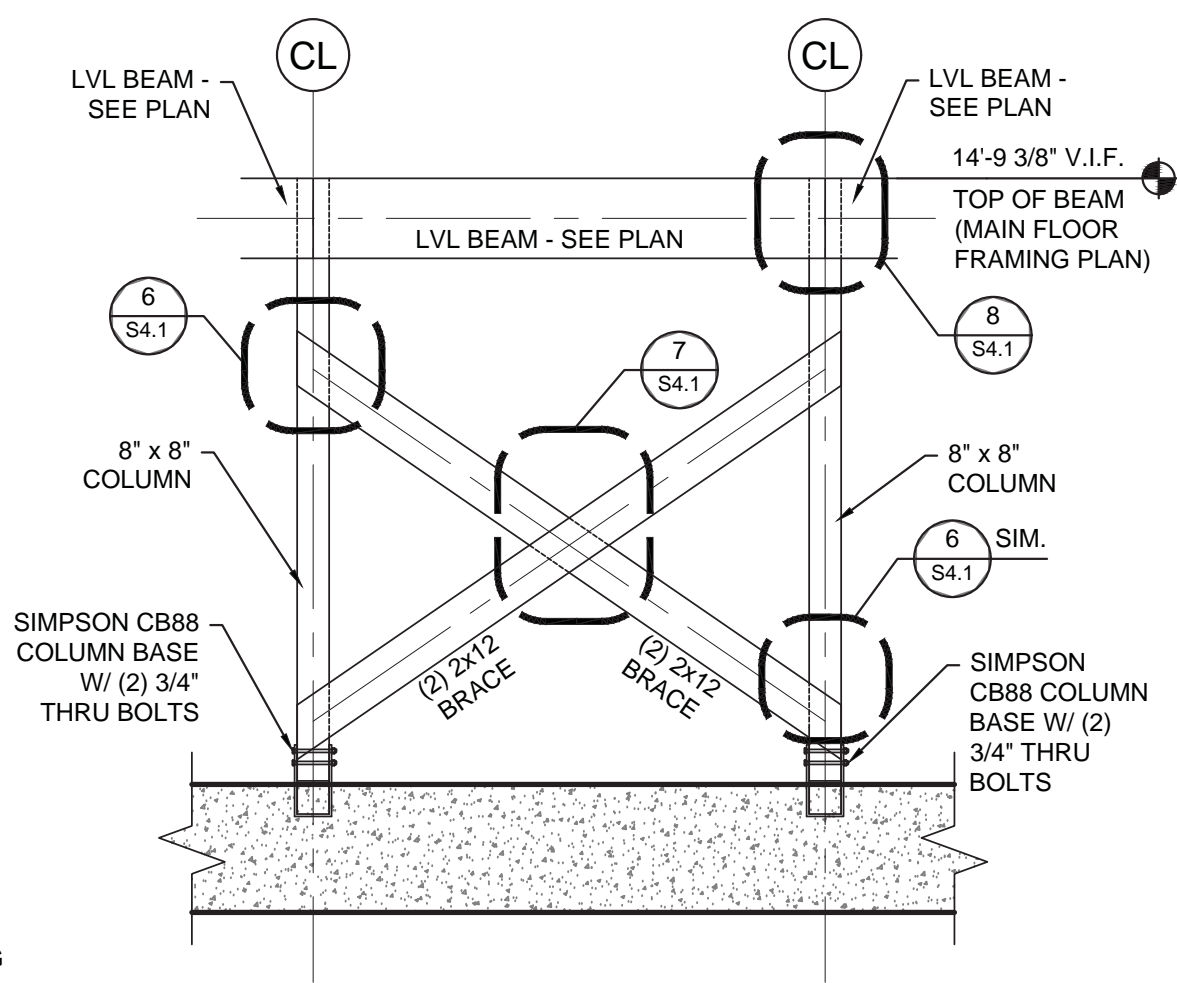
5 STEEL PORTAL FRAME B
SCALE: 1/4" = 1'-0"



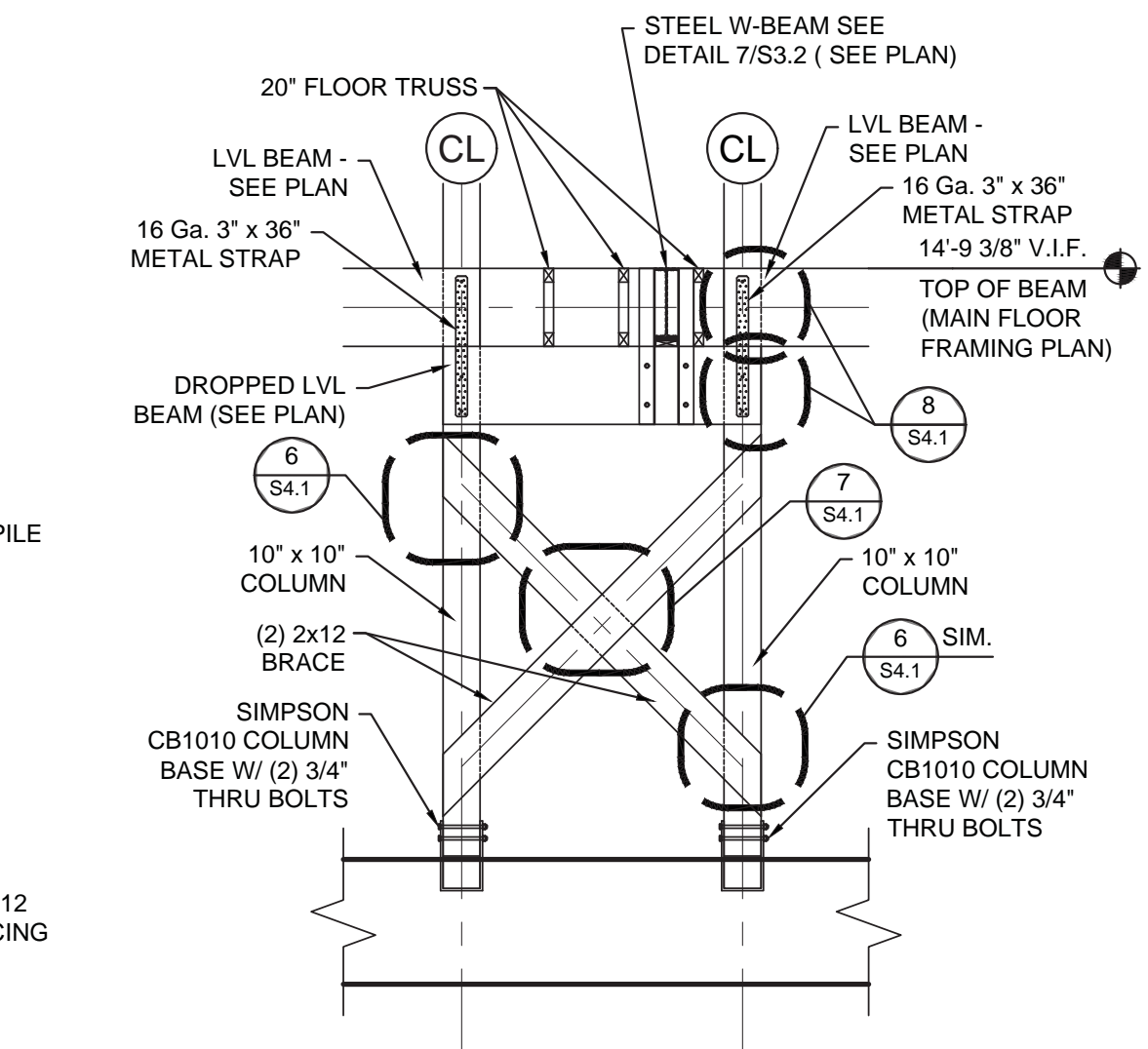
6 WOOD BRACE CONNECTION
SCALE: 3/4" = 1'-0"



1 BRACED FRAME BF-1
SCALE: 1/4" = 1'-0"



2 BRACED FRAME BF-2
SCALE: 1/4" = 1'-0"



3 BRACED FRAME BF-3
SCALE: 1/4" = 1'-0"

LOAD BEARING WALL SCHEDULE		
WALL TYPE	LEVEL	STUD SIZE
W1	LOWER - PLAZA	(1) 2x6 No. 2 SP @ 16" O.C. MAX.
W2	LOWER - PLAZA	(2) 2x4 No. 2 SP @ 16" O.C. MAX.
W3	LOWER - PLAZA	400S250-43 @ 16" O.C. MAX. (METAL STUD)
W4	UPPER - ROOF	(1) 2x6 No. 2 SP @ 16" O.C. MAX.
W5	UPPER - ROOF	(1) 2x4 No. 2 SP @ 16" O.C. MAX.

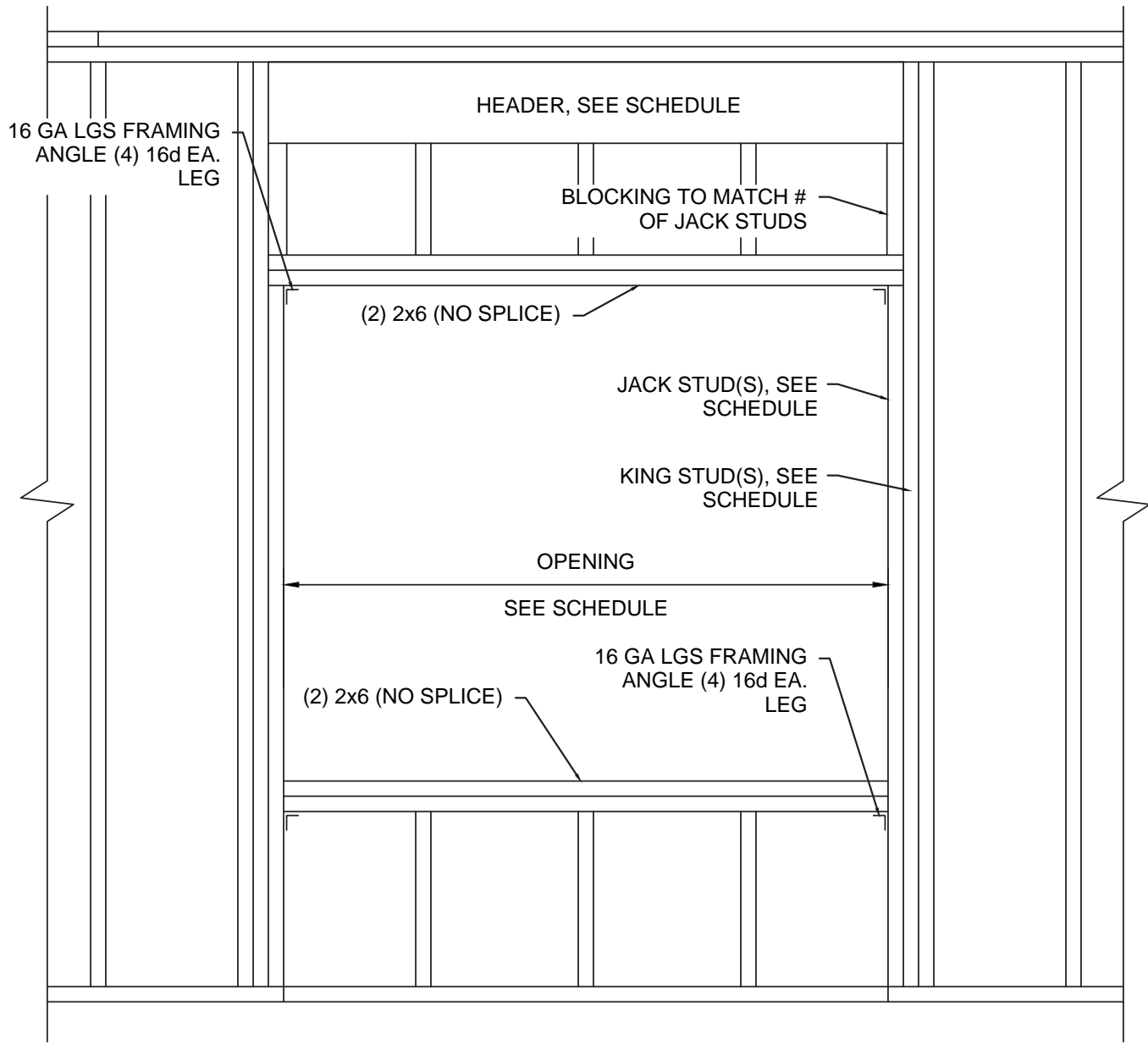
- NOTES:
- DOUBLE STUDS SHALL BE FASTENED TOGETHER WITH (2)10d COMMON NAILS @ 24" O.C.
 - SEE ARCHITECTURAL DRAWINGS FOR WALL THICKNESS.
 - ALL INTERIOR AND EXTERIOR BEARING WALLS SHALL BE BLOCKED WITH FULL WIDTH BLOCKING @ 48" O.C.
 - WALL TOP AND BOTTOM PLATES SHALL MATCH SIZE AND GRADE OF WALL STUDS.
 - SEE GENERAL NOTES SHEET S1.0 FOR MINIMUM MATERIAL PROPERTIES OF LUMBER.
 - STUDS TO BE SPF/HF No. 2 UNLESS NOTED OTHERWISE.
 - SEE 2/S5.1 FOR BRIDGING ANCHORAGE. METAL STUDS REQUIRE 2"x43 MIL FLAT STRAP BRIDGING @ 4'-0" MAX. SPACING ANCHORED @ 16'-0" MAX.
 - SEE S1.1 FOR METAL STUD SPECIFICATIONS.

NOTE: SQUASH BLOCK ARE REQUIRED, BETWEEN FLOORS,TRIPLE, OR QUADRUPLE STUDS.

POST SCHEDULE	
POST	POST SIZE
P1	(3) 2x6 No. 2 SP **
P2	(3) 2x4 No. 2 SP **
P3	HSS 4x4x5/16

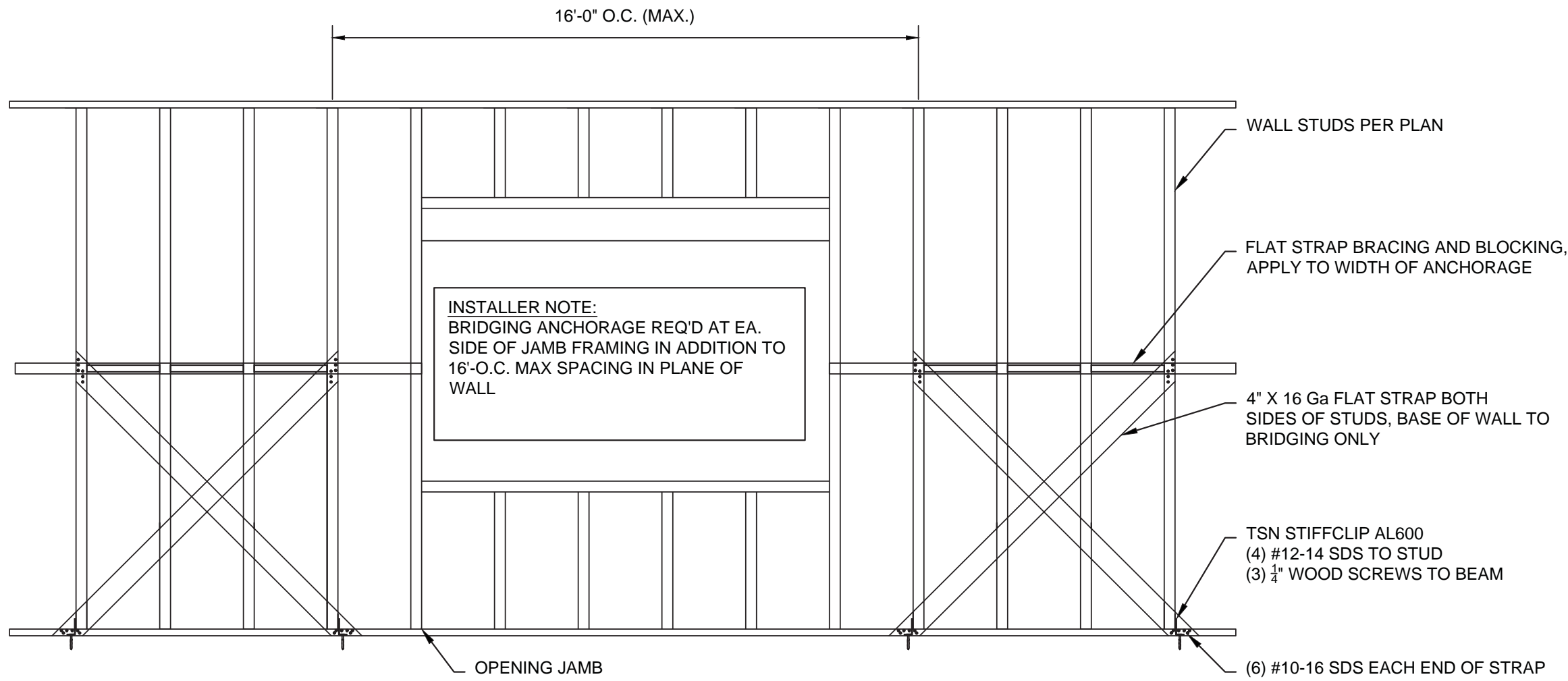
** SQUASH BLOCKS (SAME SIZE, QUANTITY, AND MATERAL AS POST ABOVE) REQUIRED, BETWEEN FLOORS, DIRECTLY BELOW POST ABOVE (NOTE: SHIM SOLID TO BEARING AT ALL GAPS).

*** NOTE: HSS COLUMN CANNOT BEAR ON LVL PLATES (OR ANY WOOD). HSS COLUMN MUST EXTEND DOWN THROUGH THE FLOOR SYSTEM TO BEAR ON HSS COLUMN OR STEEL PLATE.

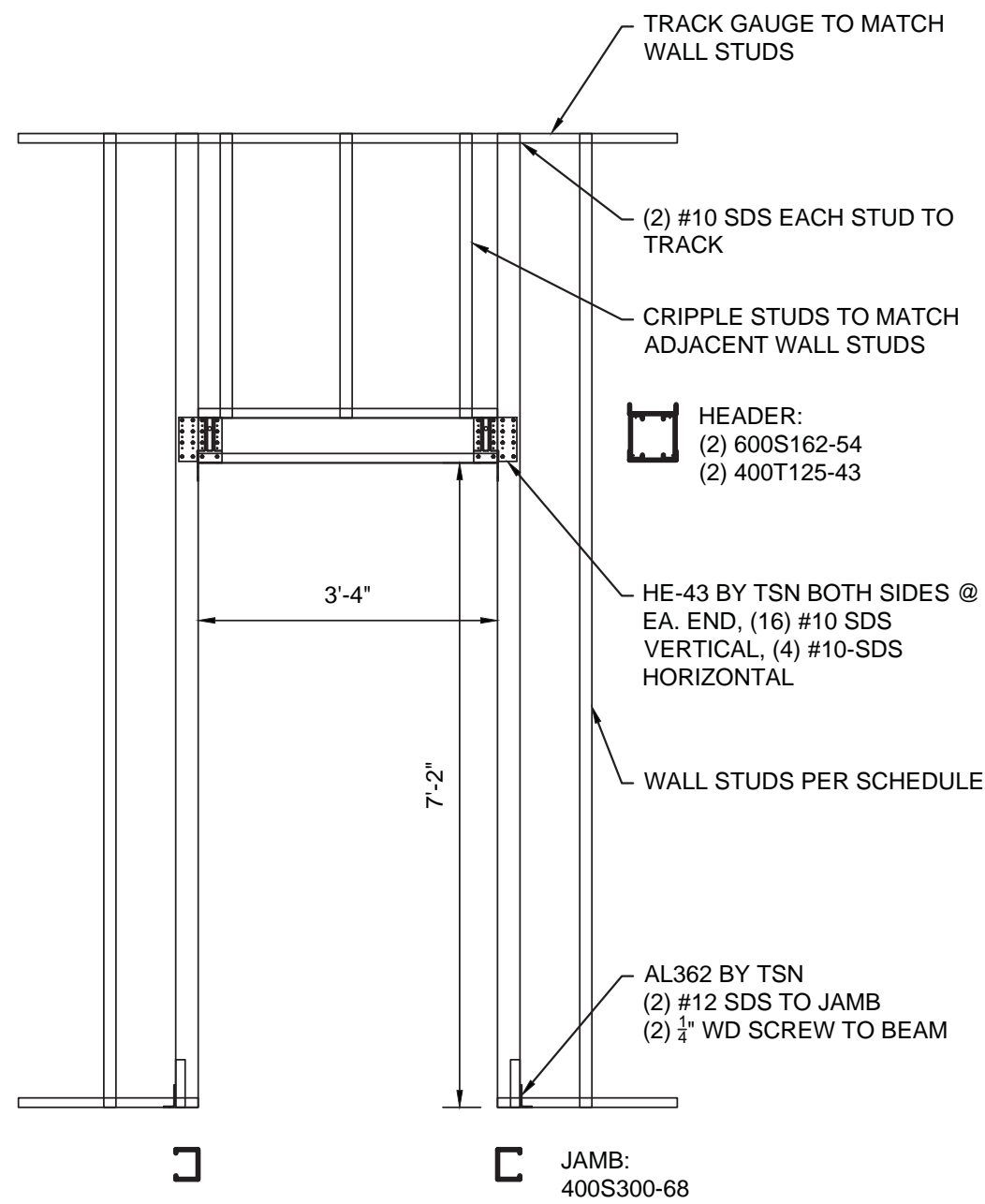


1 HEADER SCHEDULE
NTS

HEADER JACK STUD & KING STUD SCHEDULE				
Header Mark	Max. Opening	Header Size	# Jacks	# Kings
			Members	Members
H1	3'-4"	(2) 2X10	(1) 2X4	(1) 2X4
H2	3'-4"	(3) 2X10	(1) 2X6	(1) 2X6
H3	6'-0"	(3) 2X10	(1) 2X6	(3) 2X6
H4	3'-4"	(3) 2X10	(1) 2X6	(2) 2X6
H5	6'-0"	(3) 1.75" X 9.25" LVL	(2) 2X6	(3) 2X6
H6	6'-0"	(3) 2X12	(1) 2X6	(3) 2X6
H7	8'-11"	(3) 1.75" X 9.25" LVL	(1) 2X6	(3) 2X6
H8	3'-4"	SEE DETAIL 3/S5.1		



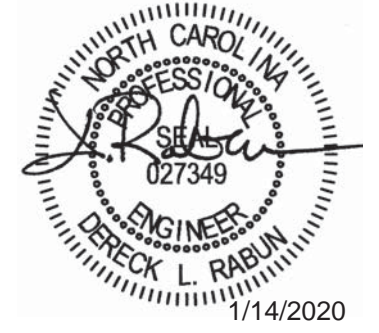
2 FLAT STRAP BRIDGING ANCHORAGE
SCALE: 1/2" = 1'-0"



3 H8
SCALE: 1/2" = 1'-0"



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ICE HOUSE RESTAURANT
FRONT ST. & MOORE ST.
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Project Name

SCHEDULES

Sheet Title

DESIGNED BY: DLR

DRAWN BY: CBA

APPROVED BY: DLR

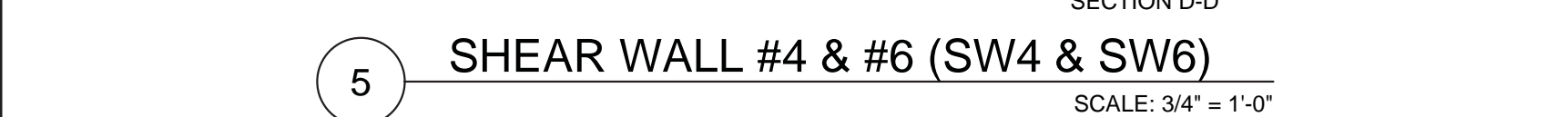
PROJECT #: 19-018

DATE: 11/15/2019

No.	Revision	Date
1	PERMIT REVIEW	1/10/2020

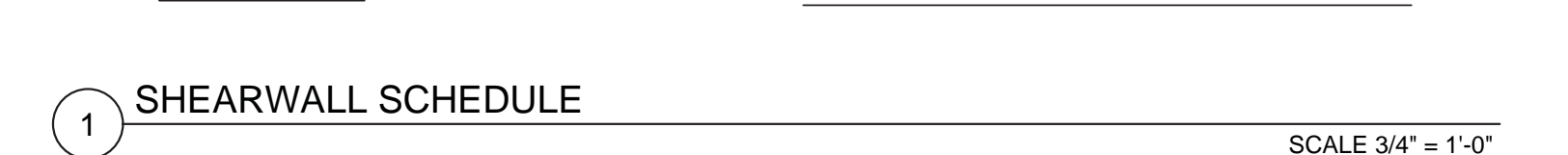
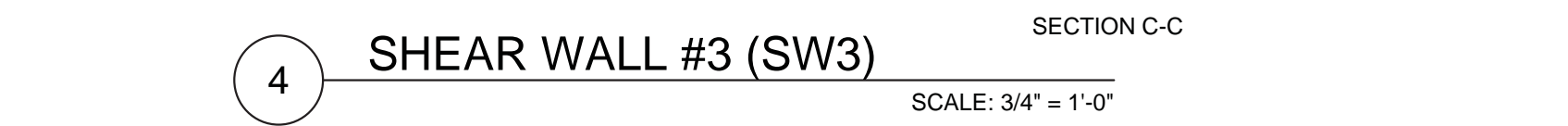
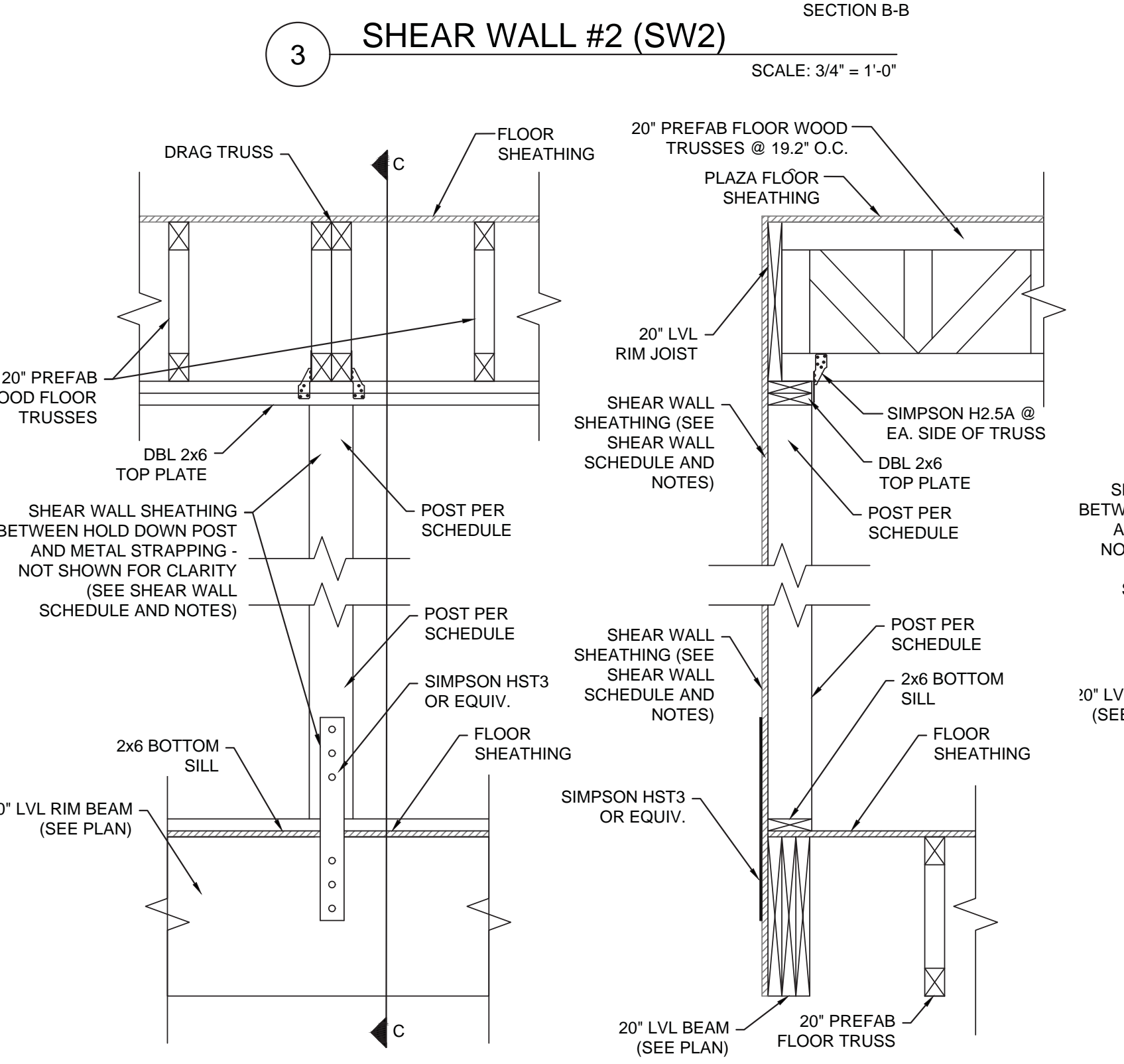
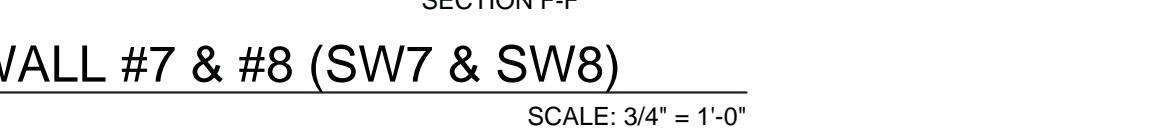
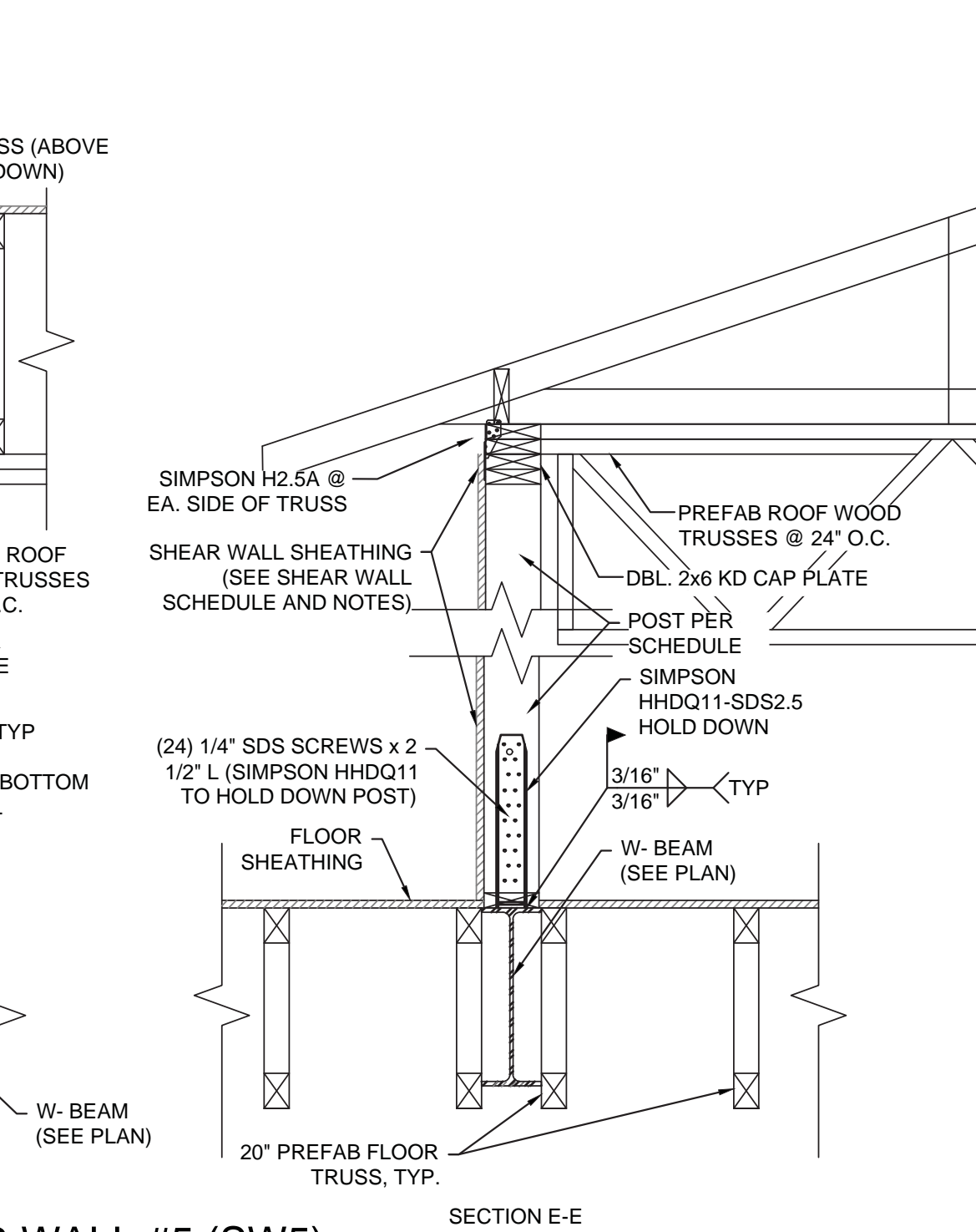
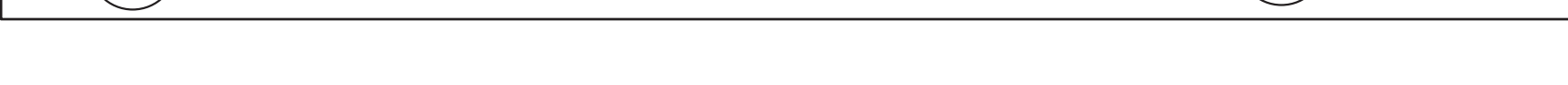
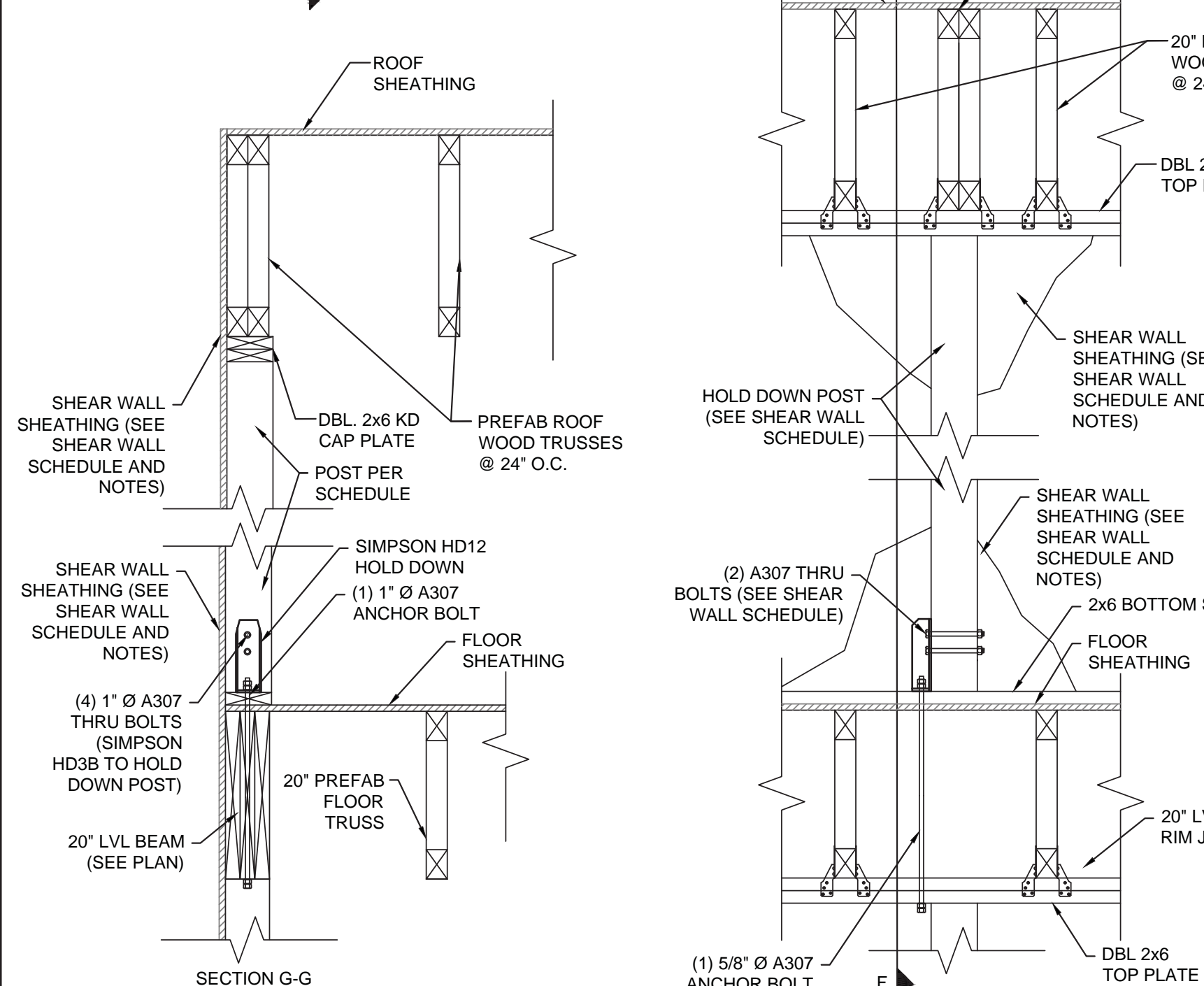
Sheet

S5.1



NOTES:

1. ALL SHEATHING SHALL BE 15/32" THICK APA 32/16 STRUCTURAL 1 SPAN RATED OSB OR PLYWOOD. AT DOUBLE SIDED SHEARWALLS SHEATHING SHALL BE APPLIED TO BOTH FACES (ONE LAYER EACH SIDE OF WALL).
2. ALL SHEATHING MUST BE INSTALLED HORIZONTALLY WITH THE LONG DIMENSION ACROSS THE STUDS.
3. WALLS ON ELEVATED FLOORS ARE TO HAVE SPECIFIED HOLDOWNS INSTALLED AT BOTH THE BASE OF REFERENCED WALL, AS WELL AS AT THE HEAD OF THE WALL BELOW. HOLDOWNS ARE TO BE CONNECTED WITH THREADED ROD BETWEEN FLOORS AS NOTED.
4. DRILL & SET ALL HOLDDOWN ANCHORS W/ HILTI RE-500 EPOXY.
5. NAIL SHEATHING TO EACH HOLDDOWN STUD W/ SPECIFIED EDGE NAILING PATTERN.
6. NAIL SHEATHING TO EMBED PSL OR LVL COLUMNS WITH (3) ROWS OF SPECIFIED NAILS @ 3" O.C. STAGGERED
7. WHERE STEEL COLUMNS ARE EMBEDDED IN SHEARWALLS, PROVIDE (2)RFL HEIGHT STUDS EACH SIDE OF COLUMN AND THRU BOLT WITH 1/2" DIA. BOLTS AT 12" O.C. VERTICALLY.
8. ALL HOLD DOWNS MUST ALIGN FLOOR TO FLOOR AS DETAILED.



The image contains five technical drawings of base plate details, labeled BP-1 through BP-5.

- BP-1:** A plan view of a base plate for a column. It shows a rectangular plate with a central rectangular opening. Dimensions include a total width of 9 1/2", a total height of 1'-5", and a central opening width of 1 1/2" TYP. and height of 1 1/2" TYP. The plate is 3/8" thick. It is anchored with four 3/4" diameter ASTM F1554 anchor bolts, 7" minimum embedment. The column is labeled "HSS COL. PER PLAN".
- BP-2:** A plan view of a base plate for a column. It shows a rectangular plate with a central rectangular opening. Dimensions include a total width of 8 1/2", a total height of 11", and a central opening width of 1 1/2" TYP. and height of 1 1/2" TYP. The plate is 3/8" thick. It is anchored with four 3/4" diameter ASTM F1554 anchor bolts, 7" minimum embedment. The column is labeled "HSS COL. PER PLAN".
- BP-3:** A side view of a base plate for a beam. It shows a rectangular plate with a central rectangular opening. Dimensions include a total width of 4 3/4", a total height of 1'-4", and a central opening width of 1 1/4" TYP. and height of 1 1/4" TYP. The plate is 3/8" thick. It is anchored with two 1/2" diameter stiffeners on both sides of the web. The column is labeled "HSS COLUMN PER PLAN".
- BP-4:** A side view of a base plate for a beam. It shows a rectangular plate with a central rectangular opening. Dimensions include a total width of 5", a total height of 8", and a central opening width of 1 1/4" TYP. and height of 1 1/4" TYP. The plate is 3/8" thick. It is anchored with two 1/2" diameter stiffeners on both sides of the web. The column is labeled "HSS COLUMN PER PLAN".
- BP-5:** A plan view of a base plate for a column. It shows a rectangular plate with a central rectangular opening. Dimensions include a total width of 1'-0", a total height of 1'-0", and a central opening width of 1 1/2" TYP. and height of 1 1/2" TYP. The plate is 3/8" thick. It is anchored with four 3/4" diameter ASTM F1554 anchor bolts, 7" minimum embedment. The column is labeled "HSS COL. PER PLAN".



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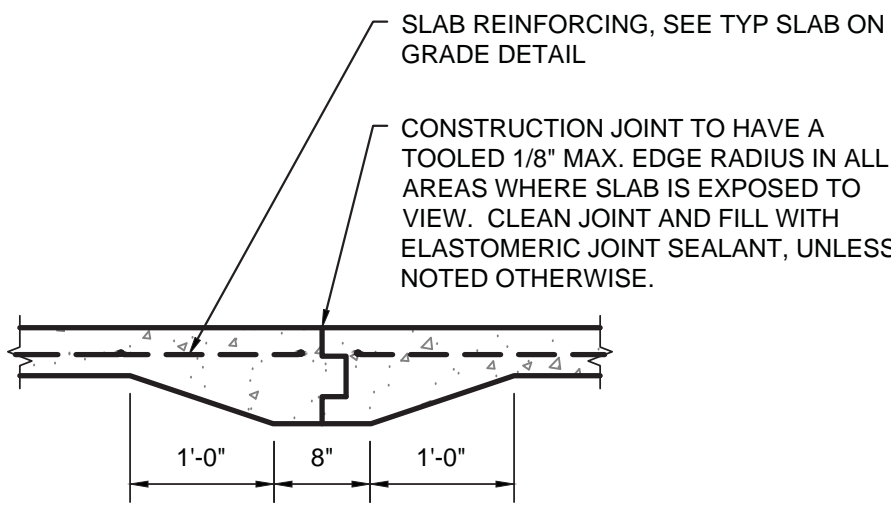
Project Name

PILE AND COLUMN SCHEDULE COLUMN BASE DETAILS

DESIGNED BY:		DLR
DRAWN BY:		CBA
APPROVED BY:		DLR
PROJECT #:		19-018
DATE:		11/15/2019
No.	Revision	Date
1	PERMIT REVIEW	1/10/2020

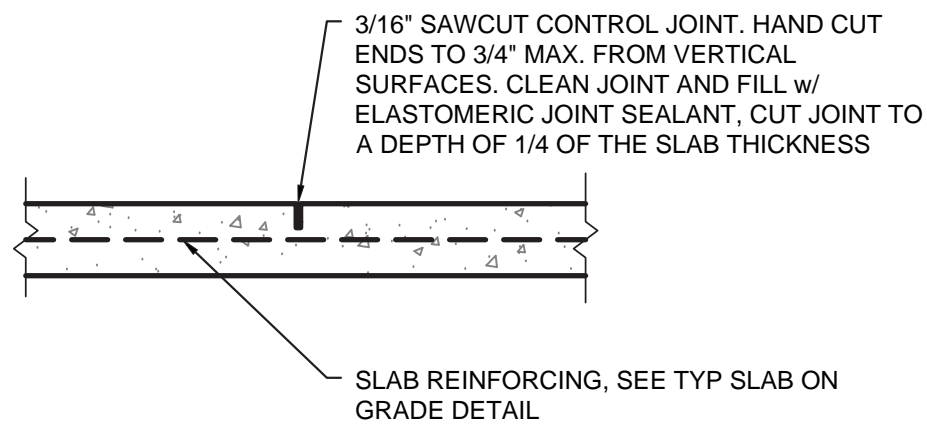
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S5.3

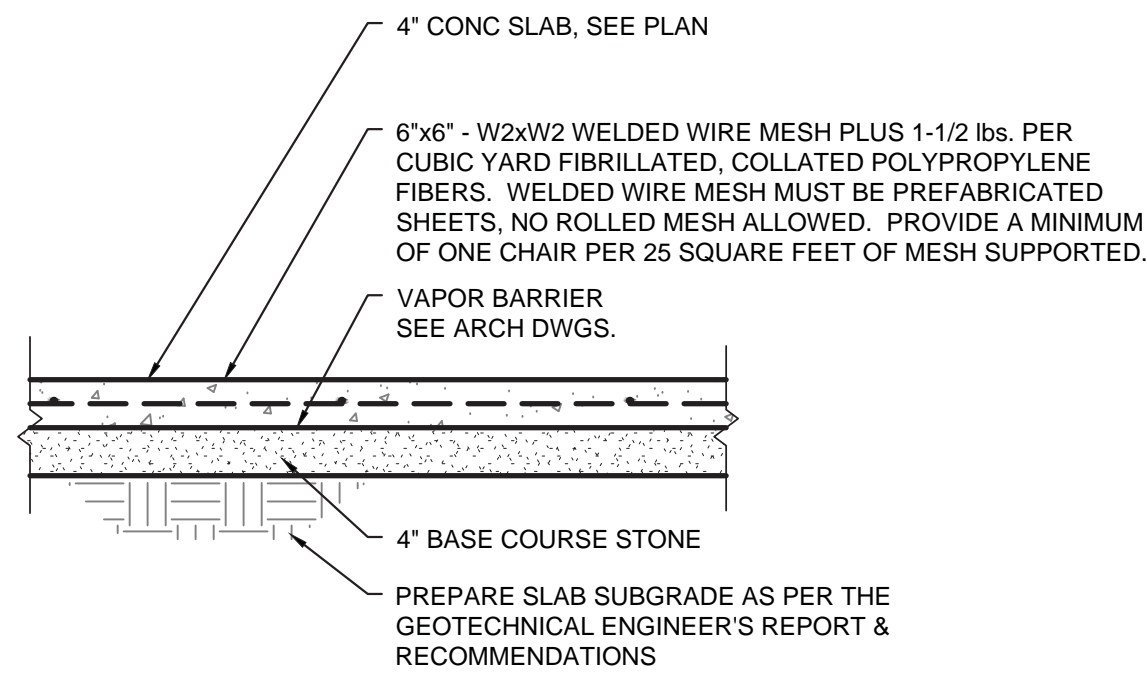


1 4" SLAB ON GRADE CONSTRUCTION JOINT
SCALE 3/4" = 1'-0"

- NOTES:**
1. CONTRACTORS OPTION - USE REMOVABLE CONTROL JOINT MATERIAL SUCH AS "ZIP STRIP", "STRESSLOCK", OR APPROVED EQUAL.
 2. SLAB ON GRADE CONTROL JOINTS SHALL BE TOOLED OR SAWCUT. THE JOINT PATTERN SHALL BE APPROXIMATELY SQUARE AND LIMITED TO AN AREA NOT TO EXCEED 225 S.F. JOINTS SHALL BE CUT WITHIN 12 HOURS OF POURING SLAB. SEE PLAN FOR PROPOSED JOINT LAYOUT. FINAL JOINT LAYOUT TO BE DETERMINED BY THE GENERAL CONTRACTOR.



2 4" SLAB ON GRADE CONTROL JOINT
SCALE 3/4" = 1'-0"

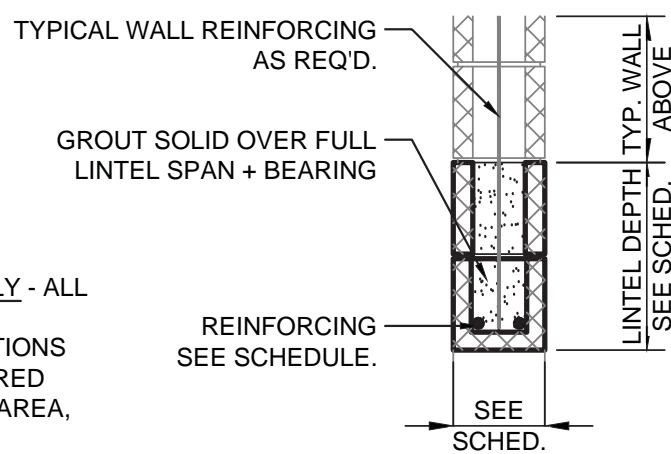


- NOTES:**
1. SEE ARCHITECTURAL DRAWINGS FOR SLOPES, DROPS, AND DRAIN LOCATIONS IN FLOOR SLABS.

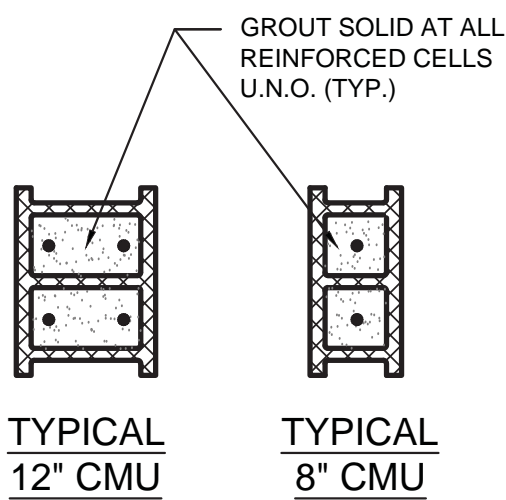
3 4" SLAB ON GRADE DETAIL
SCALE 3/4" = 1'-0"

CMU LINTEL SCHEDULE			
MAX. OPENING	BLOCK SIZE	LINTEL DEPTH	REINFORCING
≤ 6'-4"	8"	16"	(2)-#5 CONT.
≤ 4'-0"	8"	8"	(2)-#5 CONT.

- NOTES:**
1. CMU LINTELS ARE PERMITTED AT INTERIOR NON-LOAD BEARING WALLS ONLY - ALL OTHER WALLS ARE TO USE STEEL LINTELS AS DETAILED.
 2. LINTEL DESIGN ASSUMES ARCHING ACTION OF BLOCK. NO WALL PENETRATIONS ARE PERMITTED WITHIN SPAN/2 OR 24", (WHICH EVER IS GREATER), MEASURED FROM TOP OF LINTEL. SHOULD PENETRATIONS BE REQUIRED WITHIN THIS AREA, A STEEL LINTEL BEAM IS TO BE SUBSTITUTED PER THE PROVIDED DETAILS.
 3. CMU LINTEL BEAMS ARE TO BEAR 8" (MIN.) ON EITHER SIDE OF OPENING. HORIZONTAL REINFORCING IS TO BE CONTINUOUS OVER THE FULL SPAN + BEARING.
 4. SEE DETAILS FOR TYPICAL JAMB REINFORCING.
 5. REFER TO GENERAL REINFORCING NOTES FOR ADDTL. WALL CONSTRUCTION DETAILS.



TYPICAL CMU LINTEL



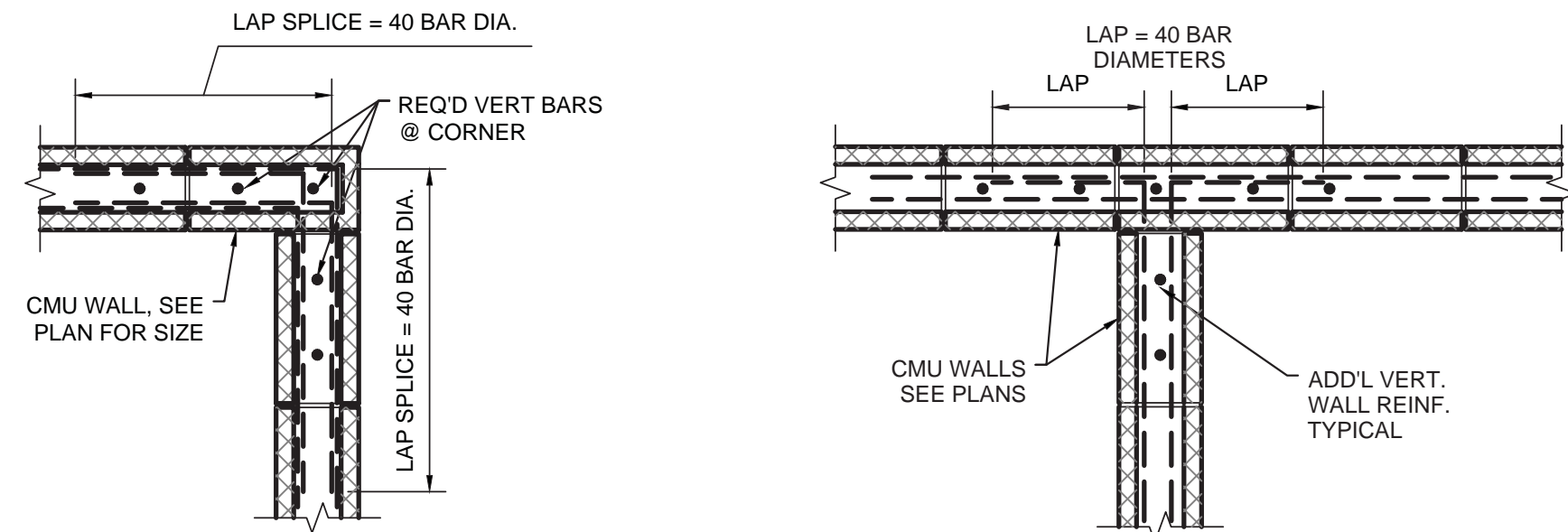
CMU WALL REINFORCING SCHEDULE			
APPLICATION	THICKNESS	VERT REINF	REMARKS
EXTERIOR WALLS	8" CMU	(1) #5 @ 32" O.C.	--

NOTES:

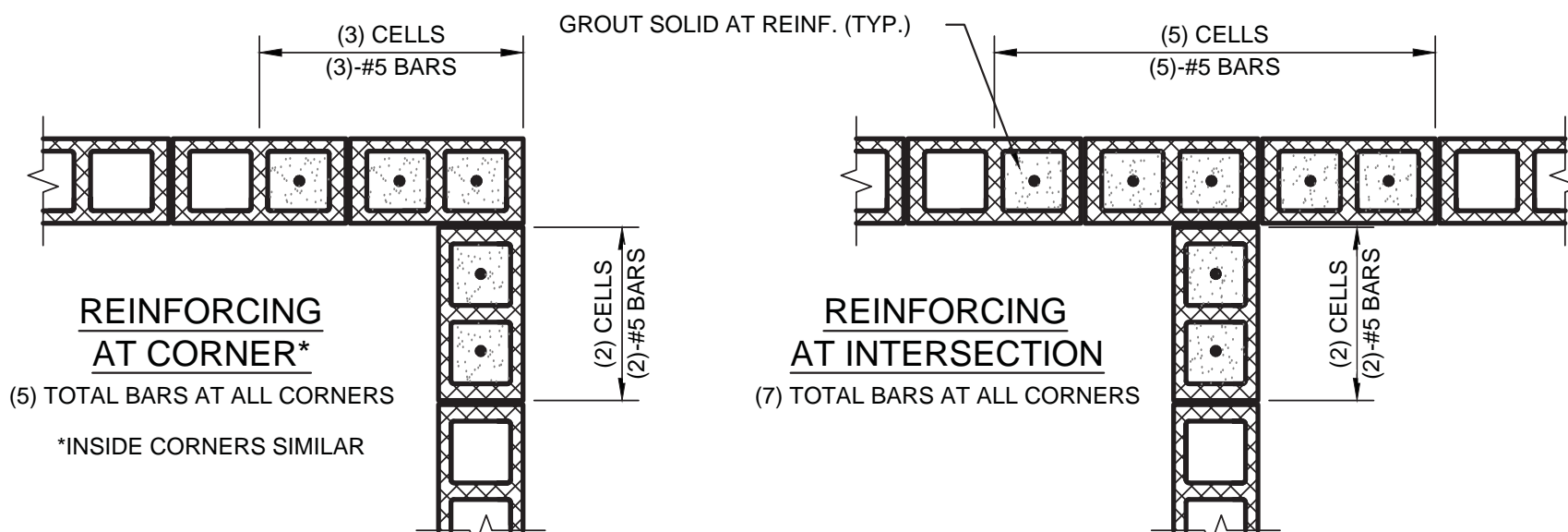
1. ALL MASONRY SHALL BE LAID IN RUNNING BOND UNLESS NOTED OTHERWISE.
2. LAP SPLICES A MINIMUM OF 48 BAR DIAMETERS.
3. PROVIDE DUR-O-WALL (OR EQUAL) LADDER OR TRUSS HORIZONTAL JOINT REINFORCEMENT AT EACH SECOND COURSE IN RUNNING BOND, AND EACH COURSE IN STACKED BOND, UNLESS NOTED OTHERWISE. DISCONTINUE HORIZONTAL JOINT REINFORCEMENT AT CONTROL JOINTS.
4. PROVIDE BOND BEAMS REINFORCED WITH (2) #5 BARS EVERY 6'-0" OF VERTICAL WALL, AT TOPS OF ALL MASONRY WALLS, AND WHERE SHOWN ON DRAWINGS. FIRST BOND BEAM MAY BE PLACED AT TOP OF DOOR OPENINGS, 8'-0" MAX. AT BOND BEAM CORNERS AND TEE JOINTS, PROVIDE BENT BARS TO MATCH QUANTITY AND BAR SIZE IN THE BOND BEAM. LAPS IN BOND BEAMS SHALL BE 48 BAR DIAMETERS OR A MINIMUM OF 2'-0", WHICHEVER IS GREATER.

5 CMU WALL REINFORCING SCHEDULE
SCALE 3/4" = 1'-0"

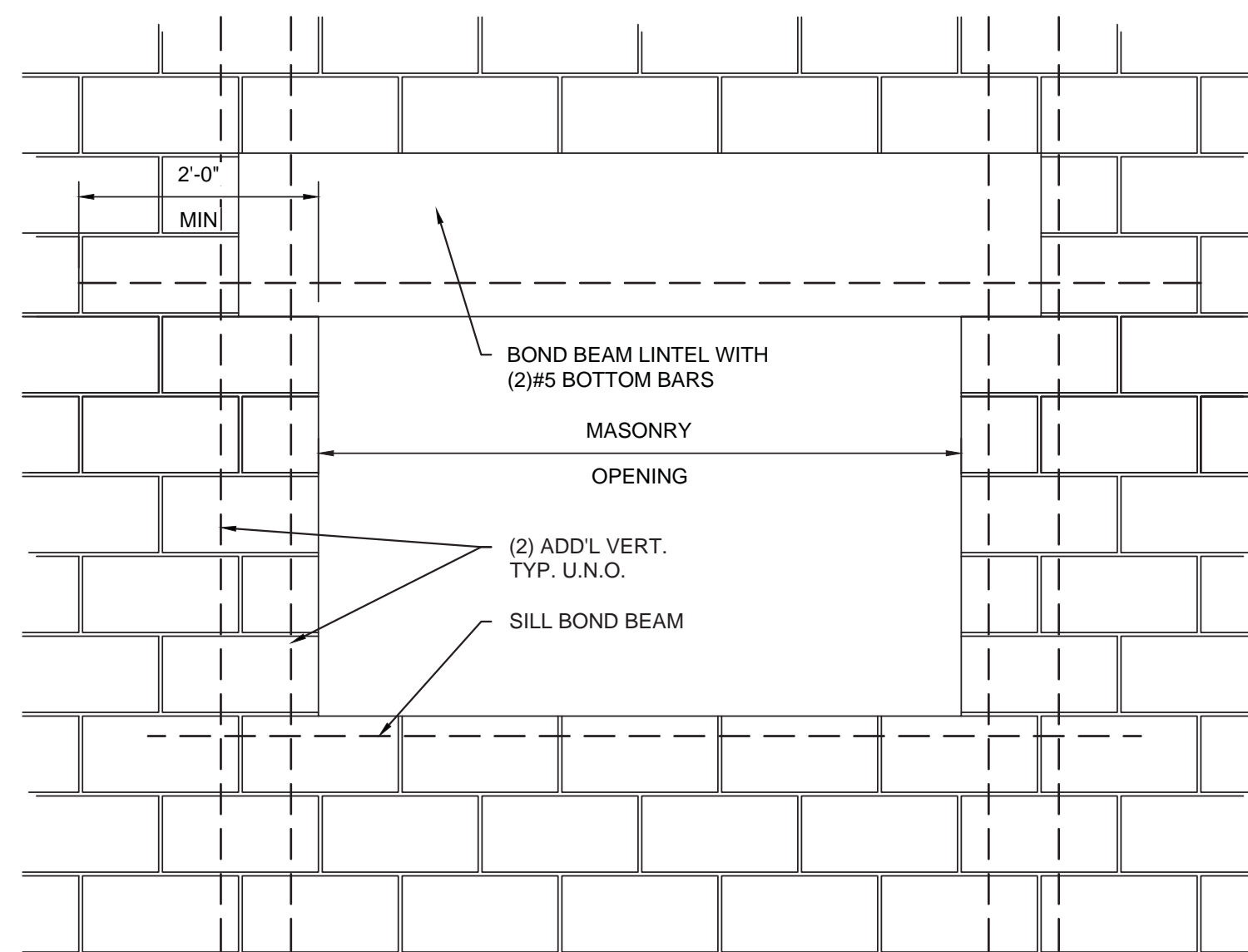
4 MASONRY LINTEL SCHEDULE
SCALE 3/4" = 1'-0"



6 TYP. BOND BEAM REINFORCING AT CORNERS AND INTERSECTIONS
SCALE 3/4" = 1'-0"

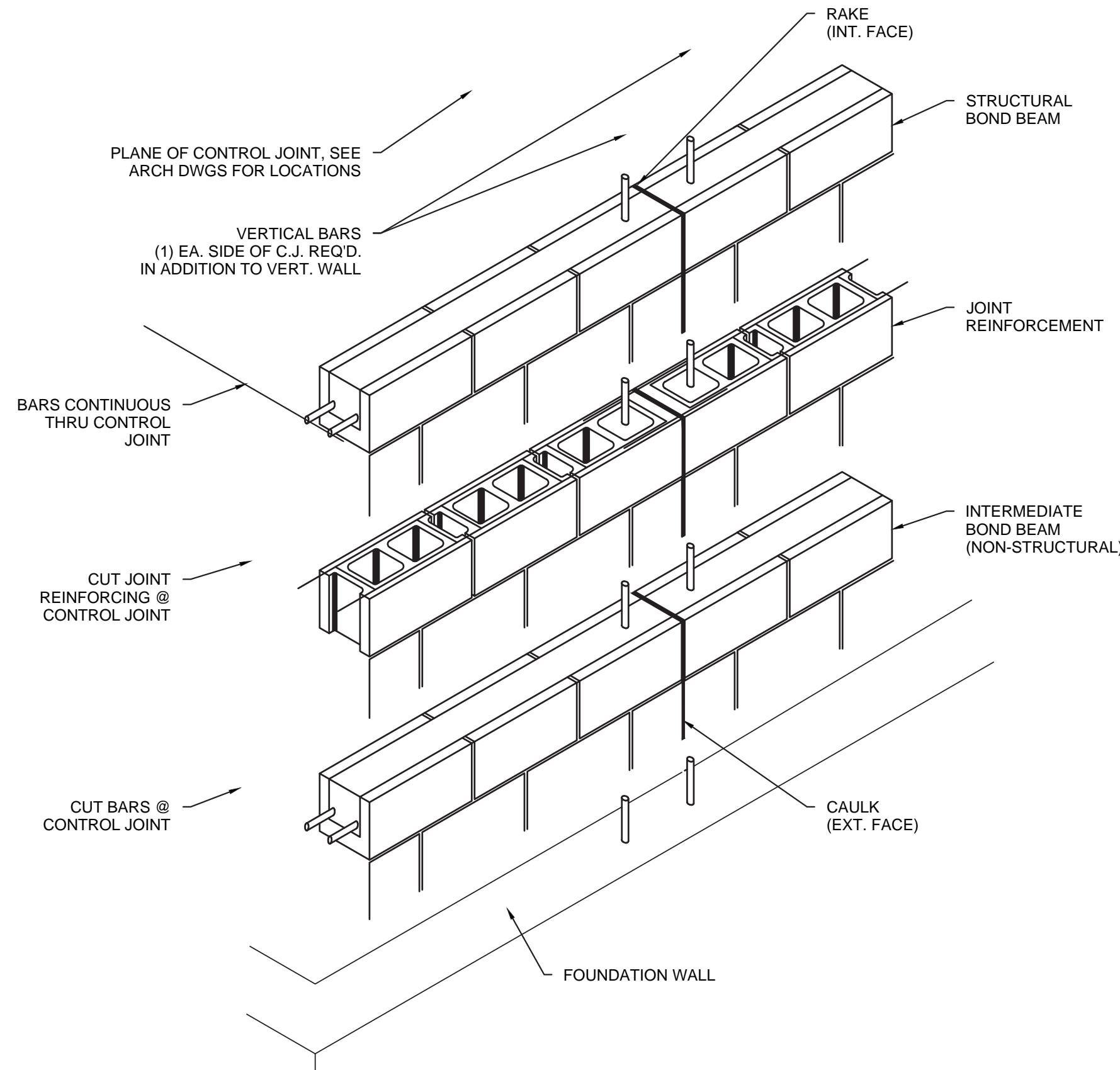


7 ADDITIONAL REINFORCING AT CORNERS AND INTERSECTIONS
SCALE 3/4" = 1'-0"



- NOTES:**
1. EXTEND JAMB FULL HEIGHT REINF. 6" INTO ROOF FRAMING BOND BEAM.
 2. PROVIDE (1) DOWEL BAR FROM FOUNDATION AT JAMB.
 3. ALL CMU LINTELS SHALL BE 16" BOND BEAM WITH (2) #5 HORIZONTAL REBAR

8 TYP CMU OPENING
SCALE 3/4" = 1'-0"



9 TYP CMU CONTROL JOINT

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