

DESIGN PARAMETERS			
DESIGN CODE	2015 INTERNATIONAL BUILDING CODE		
RISK CATEGORY	III		
2. LIVE LOAD			
A. ROOF	20 PSF		
B. STAIRS	100 PSF		
C. FLOORS	80 PSF		
D. CORRIDORS	100 PSF		
3. ROOF SNOW LOADS			
A. GROUND SNOW LOAD, P _g	10 PSF		
B. FLAT ROOF SNOW LOAD, P _f	12.7 PSF		
C. SNOW EXPOSURE FACTOR, C _e	1.0		
D. SNOW LOAD IMPORTANCE FACTOR, I	1.1		
E. THERMAL FACTOR, C _t	1.0		
4. WIND DESIGN DATA			
A. ULTIMATE DESIGN WIND SPEED (3 SECOND GUST), V _{ult}	120 MPH		
B. NOMINAL DESIGN WIND SPEED, V ₅₀	93 MPH		
C. WIND EXPOSURE CATEGORY	C		
D. INTERNAL PRESSURE COEFFICIENT, C _{pi}	+0.18		
E. DESIGN WIND PRESSURE ON COMPONENTS AND CLADDING			
1. VERTICAL WALL COMPONENTS AND CLADDING (1.0W)			
A. (100 SQUARE FEET EFFECTIVE WIND AREA)	34.1 PSF		
END ZONES	30.7 PSF		
INTERIOR ZONES			
B. (100 SQUARE FEET EFFECTIVE WIND AREA)	43.8 PSF		
END ZONES	35.6 PSF		
INTERIOR ZONES			
2. ROOF JOISTS (NET UPLIFT, 0.6W – 0.60W _u)			
A. (100 SQUARE FEET EFFECTIVE WIND AREA)			
CORNER ZONES	-18.5 PSF		
END ZONES	-18.5 PSF		
INTERIOR ZONES	-14.9 PSF		
B. (50 SQUARE FEET EFFECTIVE WIND AREA)			
CORNER ZONES	-22.4 PSF		
END ZONES	-22.4 PSF		
INTERIOR ZONES	-15.4 PSF		
C. (10 SQUARE FEET EFFECTIVE WIND AREA)			
CORNER ZONES	-31.3 PSF		
END ZONES	-31.3 PSF		
INTERIOR ZONES	-16.7 PSF		
D. WIDTH OF EDGE ZONE	8.2 FT		
5. SEISMIC LOADS			
A. SPECTRAL RESPONSE ACCELERATION (SHORT PERIOD), S _s	0.126		
B. SPECTRAL RESPONSE ACCELERATION (1-SEC. PERIOD), S ₁	0.069		
C. SEISMIC IMPORTANCE FACTOR, I _e	1.25		
D. DESIGN SPECTRAL RESPONSE COEFFICIENT, S _{ds}	0.101		
E. DESIGN SPECTRAL RESPONSE COEFFICIENT, S _{d1}	0.078		
F. SEISMIC DESIGN CATEGORY	B		
G. SITE CLASS			
H. BASIC STRUCTURAL SYSTEM	BUILDING FRAME SYSTEM		
I. RESPONSE MODIFICATION FACTOR, R	3.25		
J. SYSTEM OVER-STRENGTH FACTOR, Q	2.0		
K. DEFLECTION AMPLIFICATION FACTOR, C _d	3.25		
M. ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE		

GENERAL NOTES

- STRUCTURAL ELEMENTS ARE NON-SELF SUPPORTING AND REQUIRE INTERACTION WITH OTHER ELEMENTS FOR STABILITY AND RESISTANCE TO LATERAL FORCES. FRAMING AND WALLS SHALL BE INSTALLED AND CONNECTIONS BETWEEN THESE ELEMENTS HAVE BEEN MADE.
- THE SPECIFICATIONS AND STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION, UNLESS NOTED OTHERWISE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATION OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO.
- THE SIZE AND LOCATION OF EQUIPMENT PADS AND PENETRATIONS THROUGH THE STRUCTURE FOR MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL BE VERIFIED BY THE CONTRACTOR. PENETRATIONS SHALL BE SUBJECT TO APPROVAL BY THE STRUCTURAL ENGINEER. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR OPENING LOCATIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
- USE ONLY DIMENSIONS INDICATED ON THE DRAWINGS. DO NOT SCALE DRAWINGS OR USE ANY DIMENSIONS TAKEN FROM ELECTRONIC DRAWING FILES.
- ASSUME EQUAL SPACING IF NOT INDICATED ON DRAWINGS.
- THE SPECIFICATIONS ARE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS AND SHALL BE USED IN CONJUNCTION WITH THE STRUCTURAL DRAWINGS. WHERE REQUIREMENTS INDICATED ON THE STRUCTURAL DRAWINGS DIFFER FROM THE SPECIFICATIONS, NOTIFY THE ARCHITECT AND THE STRUCTURAL ENGINEER.

FOUNDATIONS

- FOUNDATION DESIGNS, SUBGRADE PREPARATION NOTES, AND STRUCTURAL EARTH MOVING SPECIFICATION ARE BASED ON THE RECOMMENDATIONS PROVIDED IN THE GEOLOGICAL REPORT NUMBER 04185009, BY: TERRACON CONSULTANTS, INC. DATED: FEBRUARY 14, 2018, WITH ADDENDUM DATED FEBRUARY 21, 2018.
- FOUNDATION DESIGNS ARE BASED ON A NET ALLOWABLE SOIL BEARING PRESSURE OF 2500 PSF.
- CONTRACTOR AND TESTING LABORATORY REPRESENTATIVE SHALL READ THE GEOTECHNICAL REPORT AND BECOME THOROUGHLY FAMILIAR WITH SITE AND SUBGRADE INFORMATION GIVEN THEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING QUANTITIES OF CUT AND FILL FOR ESTIMATING AND CONSTRUCTION. SUBGRADE SHALL BE PREPARED AS NOTED IN THE STRUCTURAL EARTH MOVING SPECIFICATION.
- A QUALIFIED AND REGISTERED GEOTECHNICAL ENGINEER, LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED AND WORKING FOR THE TESTING LABORATORY, SHALL DETERMINE CONFORMANCE OF THE FOUNDATION BEARING STRATA WITH THE FOUNDATION DESIGN CRITERIA ABOVE, AND ALL OTHER CONTRACT DOCUMENTS. TESTING LABORATORY SHALL NOTIFY CONTRACTOR, ARCHITECT AND CONSULTING ENGINEER OF ANY CONDITIONS NOT IN ACCORDANCE WITH FOUNDATION DESIGN CRITERIA OR CONTRACT DOCUMENTS.
- USE ONLY STRUCTURAL FILL MATERIAL AS NOTED IN THE STRUCTURAL EARTH MOVING SPECIFICATION FOR FILL BELOW BUILDING SLAB AND FIVE FEET BEYOND THE EDGES OF THE BUILDING.
- EXTERIOR FOOTINGS SHALL BEAR AT OR BELOW MINIMUM BEARING DEPTH. MINIMUM BEARING DEPTH IS 24 INCHES BELOW ADJACENT FINISHED GRADE. THICKENED SLAB EDGE FOR STOOPS, CANOPIES, ETC. SHALL EXTEND 48 INCHES BELOW GRADE UNLESS NOTED OTHERWISE.
- FOUNDATION WALLS SHALL HAVE ADEQUATE TEMPORARY BRACING INSTALLED BY THE CONTRACTOR BEFORE BACKFILL IS PLACED AGAINST THEM. TEMPORARY BRACING SHALL NOT BE REMOVED UNTIL WALL IS PERMANENTLY BRACED.
- AVOID DAMAGE TO UNDERGROUND UTILITIES SUCH AS WATER MAINS, SANITARY SEWERS, BURIED CABLES, ETC., WHICH MIGHT EXTEND ACROSS OR ADJOIN SITE.
- BUILDING SUBGRADE PREPARATION
- INITIAL SITE PREPARATION:
- ALL EXISTING UNSUITABLE MATERIAL SUCH AS ORGANICS, TOPSOIL, ASPHALT PAVEMENT, DEBRIS, OVER-SIZED ROCK FRAGMENTS, SOFT SOILS, ARE TO BE REMOVED. REMOVE ALL EXISTING FILL MATERIALS IN THEIR ENTIRETY.

BUILDING PAD PREPARATION:

- FOLLOWING INITIAL SITE PREPARATION, THE BUILDING AREA SHALL BE UNDERCUT TO 54 INCHES BELOW THE FINAL BUILDING SUBGRADE ELEVATION FOR CONSTRUCTION OF A LOW VOLUME CHANGE (LVC) FILL LAYER. EXTEND EXTENTS OF UNDERCUT AT LEAST 5 FEET BEYOND THE OUTSIDE EDGES OF PERIMETER BUILDING FOUNDATIONS.
- ALL SILTY CLAY SOILS EXPOSED BELOW THE 54 INCH LAYER SHALL BE COMPLETELY REMOVED FROM THE BUILDING AREA. THE EXPOSED SUBGRADE SHALL BE PROOF ROLLED AND EVALUATED FOR SOFT OR UNSTABLE AREAS BY THE ONSITE TESTING AGENT PRIOR TO PLACEMENT OF ANY NEW FILL. SOILS WHICH ARE OBSERVED TO RUT OR DEFLECT EXCESSIVELY SHALL BE UNDERCUT, MOISTURE CONDITIONED, AND RECOMPACTED OR REPLACED WITH PROPERLY COMPACTED FILL. OVER-EXCAVATION OF SILTY CLAY SOILS MAY EXTEND UP TO AN ADDITIONAL 2 FEET BELOW THE 54 INCH LVC LAYER NEAR THE SOUTHWEST CORNER OF THE BUILDING.
- THE EXPOSED SUBGRADE SOILS SHALL BE SCARIFIED TO A DEPTH OF AT LEAST 9 INCHES. MOISTURE CONDITIONED AND RECOMPACTED PER THE SPECIFICATIONS
- UNSTABLE AND UNSUITABLE SOILS FOUND DURING CONSTRUCTION SHALL BE REMOVED FULL DEPTH AND REPLACED OR STABILIZED TO PROVIDE SATISFACTORY SUPPORT OF OVERLYING FILLS, SLABS, AND THE SPECIFICATIONS.
- THE BUILDING SLAB-ON-GRADE SHALL BE PLACED OVER 4 INCHES OF AGGREGATE BASE COURSE OVER 54 INCHES OF COMPACTED NON-EXPANSIVE STRUCTURAL FILL OVER APPROVED SUBGRADE.
- THE BUILDING FOUNDATIONS SHALL BEAR IN APPROVED NATIVE SOILS OR WITHIN THE LVC SOIL LAYER. EXPOSED FOUNDATION EXCAVATION SOILS SHALL BE EVALUATED FOR CONFORMANCE WITH THE FOUNDATION DESIGN CRITERIA. ANY UNSUITABLE SOILS SHALL BE REMOVED AND REPLACED WITH COMPACTED STRUCTURAL FILL OR LEAN CONCRETE FILL MATERIAL AS REQUIRED TO MEET THE FOUNDATION DESIGN CRITERIA.
- NEW STRUCTURAL FILL SHALL BE COMPOSED OF MATERIAL WITH A PLASTICITY INDEX (PI) OF 8 TO 18 AND CONTAINS AT LEAST 15% FINES. ALL FILL MATERIAL SHALL BE FREE OF ORGANICS AND ANY OTHER DELETERIOUS MATERIALS. SHALL NOT CONTAIN ROCK FRAGMENTS GREATER THAN 3 INCHES IN ANY DIMENSION, AND SHALL BE PROPERLY MOISTURE CONDITIONED AT +1 PERCENT TO +3 PERCENT OF THE OPTIMUM MOISTURE CONTENT. COMPACT FILL TO AT LEAST 95 PERCENT OF STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698). GEOTECHNICAL ENGINEER OF RECORD SHALL APPROVE NEW STRUCTURAL FILL MATERIAL. ONSITE TESTING AGENT SHALL PROVIDE CONTINUOUS OBSERVATION TO MONITOR TYPE OF MATERIAL, LIFT THICKNESS, COMPACTION, AND MOISTURE CONTENT.
- ON-SITE CLAY SOILS SHALL NOT BE PLACED WITHIN 54 INCHES OF THE FINAL BUILDING SUBGRADE UNLESS MODIFIED WITH LIME TO MEET THE LVC FILL REQUIREMENTS IN THE SPECIFICATIONS. THESE SOILS SHALL BE MOISTURE CONDITIONED TO +4 PERCENT OF THE MATERIAL'S OPTIMUM MOISTURE CONTENT AND COMPACTED TO 95% OF THE MAXIMUM STANDARD PROCTOR DRY DENSITY (ASTM D-698). FOR THE PURPOSES OF BIDDING ESTIMATE 7% HYDRATED LIME TO REDUCE THE PI OF THE SOILS TO LESS THAN 18. ACTUAL AMOUNTS OF LIME SHALL BE DETERMINED FROM ON-SITE BATCH TESTING OF THE IN PLACE SOILS.
- PROVIDE PROPER SITE DRAINAGE AND PROTECT EXPOSED SUBGRADES FROM EXCESSIVE MOISTURE DURING ALL PHASES OF CONSTRUCTION. SOIL SUBGRADES THAT BECOME UNSTABLE DUE TO INADEQUATE CONSTRUCTION DEWATERING OR EXCESSIVE SUBGRADE DISTURBANCE SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

- | CONCRETE | |
|---|----------|
| 1. MINIMUM COMPRESSIVE STRENGTH (f' _c) AT THE END OF 28 DAYS SHALL BE AS FOLLOWS: | |
| A. FOOTINGS | 3000 PSI |
| B. FOUNDATION WALLS AND PEDESTALS | 4000 PSI |
| C. SLABS-ON-GRADE | 3500 PSI |
| D. TOPPING SLAB | 4000 PSI |
| E. EXTERIOR STRUCTURAL CONCRETE | 4500 PSI |
| F. SIDEWALKS | 4000 PSI |
| G. PRECAST WALL PANELS AND DOUBLE TEES | 6000 PSI |
- REFER TO SPECIFICATIONS FOR MAXIMUM WATER/CEMENT RATIOS, MINIMUM CEMENT CONTENTS AND OTHER MIX DESIGN REQUIREMENTS. CONCRETE SHALL BE NORMAL WEIGHT (145 PCF), UNLESS NOTED OTHERWISE.
- EXTERIOR CONCRETE AND CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL BE AIR-ENTRAINED. REFER TO SPECIFICATIONS FOR AIR CONTENT.
3. MATERIALS OR ADMIXTURES SHALL NOT CONTAIN ANY CALCIUM CHLORIDE.
4. REINFORCING STEEL SHALL MEET THE FOLLOWING:
- | | |
|---------------------------|---------------------|
| A. DEFORMED BARS | ASTM A615, GRADE 60 |
| B. WELDABLE DEFORMED BARS | ASTM A706, GRADE 60 |
| C. WELDED WIRE FABRIC | ASTM A1064 |
| D. STEEL FIBERS | ASTM A820 |
5. WHERE DOWELS ARE INDICATED BUT NOT SIZED, PROVIDE DOWELS THAT MATCH SIZE AND LOCATION OF MAIN REINFORCING STEEL AND LAP SPLICE WITH THE MAIN REINFORCING STEEL. REINFORCING BARS SHALL BE SPLICED AS NOTED IN THE REINFORCING LAP SCHEDULE.
6. REFER TO ACI 318 LATEST EDITION FOR CONCRETE COVER, ACI 315 LATEST EDITION FOR DETAILING PRACTICES AND FABRICATION, AND ACI 301 LATEST EDITION FOR STANDARD PRACTICE FOR MIXING AND PLACING CONCRETE.
7. "C.J." INDICATES SAW CUT CONTRACTION JOINT OR DOWELED CONSTRUCTION JOINT IN SLAB-ON-GRADE. REFERENCE SPECIFICATIONS FOR ACCEPTED SAW CUT METHODS. SLAB POURS SHALL BE SEPARATED BY A DOWELED CONSTRUCTION JOINT. CONTRACTION/CONSTRUCTION JOINTS SHALL BE LOCATED AS SPECIALLY INDICATED OR AS DIRECTED BY THE STRUCTURAL ENGINEER AND SHALL BE MADE WITHIN 12 HOURS OF START OF CONCRETE PLACEMENT.
8. PROVIDE CORNER BARS THAT MATCH CONTINUOUS REINFORCEMENT SIZE AND QUANTITY AT INTERSECTIONS AND CORNERS OF WALLS AND FOUNDATIONS.
9. ANCHORS INSTALLED IN HARDENED CONCRETE SHALL ONLY BE USED WHERE SPECIFIED ON THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REINFORCING. HOLES SHALL BE DRILLED, DRY AND CLEANED AND ANCHORS INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED WRITTEN INSTRUCTIONS AND APPLICABLE ESR REPORT. PROVIDE SPECIAL INSPECTION DURING INSTALLATION. REFERENCE DETAILS FOR ANCHOR SIZE AND EMBEDMENT. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED ON THE CONTRACT DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD ALONG WITH CALCULATIONS THAT ARE SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION AND LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED.
10. INCLUDE AN ALLOWANCE IN THE BID PRICE FOR 1000 POUNDS OF REINFORCING STEEL TO BE FABRICATED AND PLACED AS DIRECTED BY ARCHITECT OR ENGINEER. ALLOWANCE IS TO INCLUDE, BUT IS NOT LIMITED TO, MATERIAL, DETAILING, FABRICATION, SHIPPING, INSTALLATION, OVERHEAD AND PROFIT.

MASONRY

- CONCRETE MASONRY UNITS SHALL MEET ASTM SPECIFICATION C90 WITH A MINIMUM UNIT COMPRESSIVE STRENGTH = 1900 PSI. THE SPECIFIED DESIGN COMPRESSIVE STRENGTH OF THE CONCRETE MASONRY ASSEMBLY (f'_m) SHALL BE 1900 PSI.
- MORTAR SHALL MEET ASTM SPECIFICATION C270 FOR TYPE "S" MORTAR.
- GROUT SHALL MEET ASTM SPECIFICATION C476 AND HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2000 PSI.
- GROUT PLACED BY THE LOW LIFT GROUTING METHOD SHALL BE MECHANICALLY CONSOLIDATED USING A VIBRATOR WITH A MAXIMUM 3/4 INCH DIAMETER HEAD. REFERENCE SPECIFICATION FOR HIGH LIFT GROUTING PROCEDURES.
- REINFORCING STEEL SHALL MEET ASTM SPECIFICATION A615, GRADE 60.
- ANCHORS INSTALLED IN GROUT FILLED CONCRETE MASONRY UNITS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. ANCHORS MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS. USE HILTI HIT-HY 70 ADHESIVE ANCHORING SYSTEM (OR HILTI HIT ICE ADHESIVE ANCHORING SYSTEM OR HILTI KWIK BOLT 3 EXPANSION ANCHOR). REFERENCE DETAILS FOR ANCHOR SIZE AND EMBEDMENT. SUBSTITUTIONS TO THE SPECIFIED ANCHORS MUST BE APPROVED BY THE ENGINEER.
- CONSTRUCTION BRACING FOR MASONRY WALLS SHALL BE DESIGNED AND DETAILD BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. MASONRY SUBMITTALS SHALL CONTAIN A LETTER, SEALED BY THE ENGINEER, STATING DESIGN LOADS AND CRITERIA WHICH WERE USED IN BRACING DESIGN. THE BRACING DESIGN DRAWINGS SHALL BE SIGNED AND SEALED BY THE ENGINEER AND SHALL BE ISSUED TO THE OWNER AFTER SUBMITTAL REVIEW AND PRIOR TO STARTING MASONRY CONSTRUCTION.

STRUCTURAL STEEL

- STRUCTURAL STEEL SHALL MEET THE FOLLOWING MINIMUM YIELD STRESS (F_y):

	YIELD	ASTM SPECIFICATION
A. W, WT SHAPES:	50 KSI	A992
B. BARS, PLATES, CHANNELS, ANGLES:	36 KSI	A36
C. SQUARE, RECTANGULAR HSS:	42 KSI	A500, GRADE B
D. ROUND HSS:	46 KSI	A500, GRADE B
E. STRUCTURAL STEEL PIPE:	36 KSI	A53, GRADE B
F. ANCHOR RODS:	36 KSI	F1554
G. ALL-THREAD RODS:	36 KSI	A36
H. HEADED STUD ANCHORS:	65 KSI TENSILE STRESS	A108, GRADES 1010-1020
- BOLTS FOR STEEL BEAM AND COLUMN CONNECTIONS SHALL BE 3/4 INCH OR 1 INCH DIAMETER ASTM A325-N HIGH-STRENGTH BOLTS UNLESS NOTED OTHERWISE. BOLTED CONNECTIONS ARE BEARING TYPE UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE TIGHTENED SNUG TIGHT UNLESS NOTED OTHERWISE. FOR PRETENSIONED OR SLIP-CRITICAL JOINTS, THE METHOD OF INSTALLATION SHALL BE TURN-OFF-NUT WITH MATCH MARKING, TWIST-OFF-TYPE TENSION CONTROL BOLT ASSEMBLIES (ASTM F1582), OR DIRECT TENSION INDICATORS (ASTM F959).
- WELDING SHALL MEET ANSI / AWS D1.1, STRUCTURAL WELDING CODE LATEST REVISION. ELECTRODES SHALL BE 70 KSI, LOW HYDROGEN.
- PROVIDE DOUBLE NUTS AND DOUBLE WASHERS FOR STEEL COLUMN ANCHOR BOLTS TO ALLOW FOR ADJUSTMENT IN BASE PLATE ELEVATION. IF OVERSIZED BOLT HOLES ARE USED, PROVIDE A 2"x1/4" THICK PLATE WASHER FOR 3/4" DIA. BOLTS AND A 3"x3/8" THICK PLATE WASHER FOR 1" DIA. BOLTS. PROVIDE 1 1/2 INCH NON-SHRINK GROUT UNDER BASE PLATE AFTER ERECTION. USE 2 1/2 INCHES NON-SHRINK GROUT WHEN COLUMN ANCHOR BOLTS ARE 1 1/4 INCH DIAMETER OR LARGER. NON-SHRINK GROUT SHALL BE NON-METALLIC WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.
- ALL CONNECTIONS, NOT FULLY DETAILED ON THE STRUCTURAL DRAWINGS SHALL BE DESIGNED AND DETAILD BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED, EMPLOYED OR RETAINED BY THE STEEL FABRICATOR. THE DESIGN AND DETAILING SHALL COMPLY WITH ALL APPLICABLE CODES AND SPECIFICATION SECTIONS.
- EXPOSED STEEL LABELED AS ARCHITECTURALLY EXPOSED STEEL, REQUIRES STRICTER TOLERANCES FOR CONSTRUCTION. REFER TO SPEC. SECTION 05120 FOR REQUIREMENTS. FLARE BEVEL WELDS FOR ARCHITECTURALLY EXPOSED TUBE SHAPED SECTIONS SHALL BE BEVELED 45 DEGREES, WELDED AND GROUND SMOOTH.
- REFERENCE SPECIFICATIONS FOR MISC. STEEL REQUIREMENTS NOT SHOWN ON STRUCTURAL PLANS.
- GALVANIZE ALL STEEL ON EXTERIOR EXPOSED TO THE ELEMENTS INCLUDING MASONRY LINTELS. TOUCH UP ALL FIELD WELDS ON GALVANIZED SURFACES WITH GALVANIZING REPAIR PAINT.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCLUDING THE COSTS FOR ALL MISCELLANEOUS STEEL IN THEIR BID. REGARDLESS OF WHETHER THOSE COSTS ARE INDICATED ON THE STRUCTURAL DRAWINGS, THEY SHALL INCLUDE BUT ARE NOT LIMITED TO MISCELLANEOUS STEEL ITEMS SHOWN ON ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.
- ARCHITECTURAL EXPOSED STEEL HAS STRICTER TOLERANCES. REFER TO SPECIFICATIONS FOR REQUIREMENTS.
- PROVIDE 16x4x3/8 (LLV) GALVANIZED LINTELS TO SUPPORT MASONRY AND CAST STONE. EXTEND ANGLES 4" TO BEAR ON BRICK VENEER EACH END. MAX. CLEAR SPAN = 6'-0"
- CONTRACTOR SHALL INCLUDE AN ALLOWANCE IN BID PRICE FOR 2000 LBS OF STRUCTURAL STEEL AND 10 LINEAR FEET OF 1/4" FILLET WELD TO BE FABRICATED AND PLACED WHERE DIRECTED BY THE ARCHITECT OR ENGINEER.

STEEL JOISTS

- STEEL JOISTS SHALL BE AS INDICATED ON THE PLANS AND SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS OF THE STEEL JOIST INSTITUTE (SJI) AND MEET THE FOLLOWING:
- JOISTS SHALL BE DESIGNED FOR THE UNIFORM LOAD CAPACITY (AS SPECIFIED IN THE SJI STANDARD LOAD TABLES) IN ADDITION TO THE CONCENTRATED LOADS SHOWN ON PLANS AND DETAILS.
- JOISTS THAT SUPPORT CONCENTRATED LOADS SHALL HAVE THEIR CHORDS DESIGNED TO WITHSTAND ALL BENDING STRESSES, OR THE LOADS SHALL OCCUR WITHIN 3 INCHES OF JOIST PANEL POINTS, OR THE JOIST SHALL BE REINFORCED PER THE "JOIST REINFORCING DETAIL" SHOWN HEREIN. CONCENTRATED LOADS SHALL BE CENTERED ON JOISTS AND NOT ATTACHED TO THE EDGE OF CHORD ANGLES.
- JOISTS SHALL RESIST THE NET UPLIFT PRESSURE AS INDICATED ON THE "ROOF (NET UPLIFT)" SECTION OF THE DESIGN PARAMETERS FOR "DESIGN WIND PRESSURE ON COMPONENTS AND CLADDING". THIS PRESSURE SHALL ACT ALONE. AN ALLOWABLE STRESS INCREASE IS NOT PERMITTED.
- FOR ALL MEMBERS THAT REQUIRE SPECIFIC ORIENTATION, PROVIDE TAG AT ONE END AND DEFINE LOCATION OF TAGGED END ON ERECTION DRAWINGS.
- JOIST MANUFACTURER SHALL DETERMINE THE SEAT DEPTH AND WIDTH OF BEARING AND COORDINATE THE SAME WITH THE STEEL FABRICATOR. THE FOLLOWING SEAT DEPTHS ARE ASSUMED ON THE DRAWINGS: 2 1/2 INCHES FOR K-SERIES JOISTS, 5 INCHES FOR LH SERIES JOISTS, U.I.A.
- JOIST BRIDGING AND ERECTION STABILITY SHALL BE PROVIDED IN ACCORDANCE WITH THE OCCUPATIONAL SAFETY AND HAZARD ADMINISTRATION (OSHA) AND THE SPECIFICATIONS OF THE STEEL JOIST INSTITUTE (SJI).
- JOIST RTU LOADS ARE PROVIDED ON THE ROOF FRAMING PLAN, REFERENCE PLANS AND DETAILS FOR LOAD LOCATIONS, VALUES AND SUPPORT FRAMING.
- JOIST MANUFACTURER SHALL DESIGN THE COMPRESSION CHORD OF ALL JOISTS SUPPORTING ROOF TOP UNITS, SKY LIGHTS, AND OTHER STRUCTURES FOR AN UNBRACED LENGTH APPLICABLE TO THE CONDITIONS AT THE PROJECT WHERE THE UNBRACED LENGTH IS GREATER THAN THE SJI MAXIMUM (REFERENCE ARCHITECTURAL AND MECHANICAL DRAWINGS).
- DESIGN JOISTS FOR INTERNAL ROOF DRAINLINE LOCATIONS, IF REQUIRED, ADD 50 PLF FOR 8 INCH DIAMETER AND SMALLER, ADD 75 PLF FOR 10 INCH DIAMETER, ADD 102 PLF FOR 12 INCH DIAMETER, ADD 122 PLF FOR 14 INCH DIAMETER, ADD 200 PLF FOR 18 INCH DIAMETER. REFERENCE MECHANICAL DRAWINGS FOR EXACT LOCATION.
- DESIGN JOISTS FOR TENSION/COMPRESSION LOADS IN THE TOP CHORD OF THE JOIST DUE TO WIND OR SEISMIC FORCES. THE LOAD SHOWN IS AN ALLOWABLE STRESS DESIGN VALUE WITH ALL OF THE APPLICABLE LOAD FACTORS APPLIED. A 1/3 STRESS INCREASE IS NOT ALLOWED.
- JOIST DESIGNS SHALL BE PERFORMED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED, EMPLOYED OR RETAINED BY THE JOIST MANUFACTURER.
- SHOP DRAWING SHALL BE REVIEWED BY THE ARCHITECT AND STUTURAL ENGINEER OF RECORD PRIOR TO JOIST FABRICATION.

- | STEEL DECK | |
|---|--|
| 1. ROOF DECK | |
| A. ROOF DECK SHALL BE PRIME PAINTED AT MAIN BUILDING AND GALVANIZED AT CANOPIES. DEPTH AND GAGE SHALL BE AS SHOWN ON DRAWINGS. | |
| B. ROOF DECK IS REQUIRED TO ACT AS A DIAPHRAGM. CONNECTIONS SHALL BE IN ACCORDANCE WITH STEEL DECK INSTITUTE SPECIFICATIONS. REFER TO THE ROOF DIAPHRAGM CONNECTION DIAGRAM FOR ATTACHMENT. | |
| C. DECKING SHALL BE CONTINUOUS OVER A MINIMUM OF (3) SPANS UNLESS NOTED OTHERWISE. | |
| D. NO HANGING LOADS SHALL BE ATTACHED TO ROOF DECK. | |
| E. ATTACH STEEL ROOF DECK AT 6" O.C. TO ANGLES AROUND PERIMETER OF ALL OPENINGS. | |
- COLD FORMED METAL FRAMING
- ALL COLD FORMED METAL FRAMING SHALL HAVE A MINIMUM THICKNESS OF 33 MILS (20 GA INTERIOR) 54 MILS (16 GA EXTERIOR) AND SHALL BE SPACED AT A MAXIMUM OF 16 INCHES ON CENTER UNLESS NOTED OTHERWISE AND SHALL MEET THE MINIMUM STRUCTURAL PROPERTIES FROM THE AMERICAN IRON AND STEEL INSTITUTE – NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING LATEST EDITION. MINIMUM FLANGE WIDTH OF FRAMING MEMBERS SHALL BE 1 5/8 INCH AND THE U/LIP LENGTH OF THE C-SHAPED PORTION SHALL BE A MINIMUM OF 1/2 INCH.
 - WALL STUDS AS BACKING TO MASONRY VENEER SHALL HAVE A MINIMUM THICKNESS OF 43 MILS (18 GA) AND SHALL BE HELD TO A 1/800 OUT OF PLANE DEFLECTION.
 - METAL FRAMING SHALL BE IN ACCORDANCE WITH THE FOLLOWINGS, UNLESS NOTED OTHERWISE:

A. 54 MILS (16 GA) AND HEAVIER	ASTM A1003, GRADE 33 TYPE H (ST50H)
B. 43 MILS (18 GA) AND LIGHTER	ASTM A1003, GRADE 33 TYPE H (ST53H)
C. ACCESSORIES, TRACK AND OTHER MEMBERS	ASTM A1003, GRADE 33 TYPE H (ST33H), MINIMUM
 - DO NOT WELD 33 MILS (20 GA) AND LIGHTER FRAMING, UNLESS SPECIFICALLY NOTED ON THE PLANS AND DETAILS.
 - METAL FRAMING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN RECOMMENDATIONS. HORIZONTAL BRACING FOR WALL STUDS SHALL BE PLACED AT 48 INCHES ON CENTER OR AS PER MANUFACTURER'S WRITTEN RECOMMENDATIONS IF LESS THAN 48 INCHES ON CENTER. HORIZONTAL BRIDGING FOR JOISTS SHALL BE PLACED AT 8'-0" ON CENTER OR AS PER MANUFACTURER'S WRITTEN RECOMMENDATIONS IF LESS THAN 8'-0" ON CENTER. APPLIED FINISH MATERIALS SHALL NOT BE CONSIDERED BRIDGING OR FLANGE BRACING UNLESS NOTED OTHERWISE.
 - WELDS SHALL BE PERFORMED BY OPERATORS QUALIFIED IN ACCORDANCE WITH SECTION 6.0 OF AWS D1.3, SHEET METAL.
 - COLD FORMED METAL FRAMING AND THE CONNECTIONS TO THE STRUCTURE SHALL BE DESIGNED AND DETAILD BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THIS IS TO INCLUDE (BUT NOT LIMITED TO) EXTERIOR WALL STUDS, INTERIOR PARTITION STUDS AND BRACING, HEADERS, JAMBS, STAGE FRAMING, RAMPS, AND THEIR CONNECTIONS WITH ALL APPLICABLE CODES AND SPECIFICATION SECTIONS. THE METAL FRAMING SIZES, SPACING, AND CONNECTIONS SHOWN ON THE DRAWINGS ARE TO BE CONSIDERED A MINIMUM AND SHALL BE VERIFIED BY THE COLD FORMED METAL FRAMING ENGINEER.
 - TRACKS SHALL BE ANCHORED AS FOLLOWS (UNLESS NOTED OTHERWISE):
TO STEEL – (2) HILTI, 0.157" DIA. XU FASTENER (OR APPROVED EQUAL) AT 16" O.C.
TO CONCRETE – (2) HILTI, 0.157" DIA"x1" EMBEDMENT XU FASTENER (OR APPROVED EQUAL) AT 16" O.C.
PRE-CAST CONCRETE
 - FABRICATOR SHALL KEEP RECORDS OF STRESSING FORCES, ELONGATIONS, CONCRETE CYLINDER BREAKS AND SLUMP OF CONCRETE FOR EACH DAY'S POUR FOR EACH TYPE OF UNIT AND SEND COPIES TO THE ENGINEER.
 - THE GENERAL CONTRACTOR SHALL PROVIDE ADEQUATE SHORES FOR ALL CONSTRUCTION LOADS. ALL BEAMS AND GIRDERS FOR THE STRUCTURE ARE DESIGNED TO WORK COMPOSITELY WITH THE TOPPING.
 - THE PRECAST ERECTOR IS COMPLETELY AND SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF THE ERECTION OF ALL PRECAST PRODUCT SHOWN IN THESE DRAWINGS INCLUDING, BUT NOT LIMITED TO, THE ERECTION SEQUENCING AND THE DESIGN AND DETAILING OF ANY AND ALL TEMPORARY GUYING AND BRACING FOR THE PRECAST MEMBERS AND STRUCTURE, UNLESS NOTED OTHERWISE.
 - PRIOR TO BEGINNING ERECTION, THE CONTRACTOR/ERECTOR SHALL FIELD SURVEY THE LOCATION OF ALL ANCHOR BOLTS, DOWELS, SLEEVES AND EMBEDDED HARDWARE TO VERIFY THAT THEIR LOCATION IS WITHIN PCI TOLERANCES. WALLACE ENGINEERS SHALL BE NOTIFIED IF ANY OF SUCH ITEMS ARE FOUND TO BE OUT OF TOLERANCE PRIOR TO BEGINNING THE ERECTION OF THE PRECAST.
 - ANCHOR BOLTS, DOWELS, SLEEVES AND EMBEDDED HARDWARE ARE TO BE SET USING A TEMPLATE AND INSTRUMENT, TO A TOLERANCE OF 1/8" BOTH HORIZONTALLY AND VERTICALLY.
 - THE PRECAST ERECTOR SHALL SURVEY CONSTRUCTION AS ERECTION PROGRESSES TO ENSURE COMPLIANCE WITH ERECTION TOLERANCES.
 - UNLESS NOTED OTHERWISE HEREIN, STANDARD PCI TOLERANCES SHALL APPLY. SUCH TOLERANCES ARE NOT CUMULATIVE WITH ONE ANOTHER OR FIELD AND/OR PRODUCTION TOLERANCES. WHEN STANDARD PCI TOLERANCES ARE NOT ACHIEVED IN THE FIELD, ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
 - THE DIMENSIONS OF THE JOINTS BETWEEN PRECAST MEMBERS OR BETWEEN PRECAST MEMBERS AND OTHER CONSTRUCTION, SHOWN IN THESE DRAWINGS, ARE TO BE CONSIDERED AS NOMINAL DIMENSIONS ONLY. DUE TO ERECTION AND GENERAL CONSTRUCTION TOLERANCE, THESE DIMENSIONS CAN VARY.
 - UNLESS NOTED OTHERWISE HEREIN, CONNECTIONS ARE TO BE COMPLETED AS ERECTION PROGRESSES UNLESS ADEQUATE MEASURES ARE TAKEN BY THE PRECAST ERECTOR. SUCH TEMPORARY MEASURES ARE THE COMPLETE AND SOLE RESPONSIBILITY OF THE PRECAST ERECTOR.
 - GALVANIZED COMPONENTS AND/OR HARDWARE MUST HAVE THE GALVANIZING REMOVED FROM THE AREA TO BE WELDED. PRIOR TO THE WELDING PROCESS, THE WELD AND THE AREA FROM WHICH THE GALVANIZING WAS REMOVED, MUST THEN BE DE-SLAGGED AND PAINTED WITH 2 COATS OF "PRC COLD GALVANIZING COMPOUND" PAINT OR AS REQUIRED BY THE PROJECT SPECIFICATIONS. ALL EXPOSED STEEL PLATES, SHAPES AND ANCHORS SHALL BE GALVANIZED, U.I.O
 - WELDING IS TO BE PERFORMED PER AWS RECOMMENDED PRACTICE. WELDERS MUST BE AWS CERTIFIED. WELD ELECTRODES FOR NON-STAINLESS STEEL TO NON-STAINLESS WELDS ARE TO BE E70.
 - CONNECTIONS REQUIRING PATCHING SHALL BE PATCHED WITH SUITABLE MATERIAL TO REASONABLY MATCH THE ADJACENT CONCRETE.
 - EXPANSION AND/OR ADHESIVE ANCHOR INSTALLATION AND HOLE PREPARATION SHALL BE PER MANUFACTURERS SPECIFICATIONS.
 - CAMBER IS AN INHERENT CONDITION IN ALL PRESTRESSED FLEXURAL MEMBERS AND THE GENERAL CONTRACTOR SHALL MAKE ALLOWANCES FOR SAME.
 - SEALANT, WHERE SHOWN IN THESE DRAWINGS, SHALL BE THAT APPROVED BY THE ARCHITECT, SUPPLIED BY OTHERS AND COORDINATED THROUGH THE CONSTRUCTION MANAGER.
 - LIFTING LOOPS ARE TO BE REMOVED AFTER THE PRECAST IS ERECTED. RECESSES FOR LIFTING LOOPS/INSERTS/DEVICES ARE TO BE PATCHED WITH SUITABLE MATERIAL WHERE EXPOSED TO VIEW OR THE ENVIRONMENT IN THE FINAL CONDITION.
 - ORIENT MARK ENDS AND/OR MARK FACES OF PRECAST PRODUCTS AS SHOWN IN THESE DRAWINGS.
 - FABRICATOR SHALL SUBMIT DESIGN CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROJECT STATE BEFORE FABRICATION.
 - THE INSTALLATION OF ITEMS IN THE PRECAST CONCRETE PANELS, AT THE PERIMETER OF THE GYMNASIUM, SHALL BE COORDINATED WITH ALL ENTITIES INVOLVED PRIOR TO THE PANEL BUILD SO AS TO HAVE NO EXPOSED CONDUITS (ELECTRICAL AND LIGHTING).
 - PRECAST CONCRETE, WHERE SHOWN IN THESE DRAWINGS, SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'_c) AT THE END OF 28 DAYS OF 6,000 PSI
 - INFILL RECESSED AREA IN WALL PANEL WITH HIGH STRENGTH GROUT THAT MEETS THE SAME STRENGTH AS THE PANELS.

DEFERRED STRUCTURAL SUBMITTALS

- THE FOLLOWING STRUCTURAL COMPONENTS SHALL BE DESIGNED AND SUBMITTED BY OTHERS FOR APPROVAL IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
 - STRUCTURAL STEEL CONNECTIONS OF FRAMING AND BRACING ELEMENTS.
 - COLD FORMED METAL STUD FRAMING AND ATTACHMENTS TO STRUCTURE.
 - STOREFRONT AND CURTAIN WALLS, FRAMING, ACCESSORY AND ATTACHMENTS TO STRUCTURE.
 - PRE-MANUFACTURED CANOPIES AND CONNECTION TO STRUCTURE.
 - JOISTS AND METAL DECK.
 - PRECAST STRUCTURAL ELEMENTS AND CONNECTIONS.
- DOCUMENTS FOR DEFERRED SUBMITTALS SHALL BE DESIGNED, SEALED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THE DEFERRED SUBMITTAL DOCUMENTS SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER-OF-RECORD WHO WILL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL AS REQUESTED WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED FOR DESIGN LOADS AND BEEN FOUND TO BE IN CONFORMANCE TO THE DESIGN CRITERIA OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

SPECIAL INSPECTIONS

- EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS (SECTION 5002) PER SECTION 1704 AND 1705 OF THE IBC. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR THE INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO COMPLETION OF THAT PHASE OF WORK. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON BY THE PERFORMER APPLICANT AND THE BUILDING OFFICIAL PRIOR TO THE START OF WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE SPECIAL INSPECTOR REGARDING INDIVIDUAL INSPECTION FOR ITEMS LISTED ON THE STATEMENT OF SPECIAL INSPECTIONS AND AS NOTED ON THE BUILDING DETAILED APPROVED PLANS. ADEQUATE NOTICE AND ACCESS TO APPROVED PLANS SHALL BE PROVIDED SO THAT THE SPECIAL INSPECTOR HAS TIME TO BECOME FAMILIAR WITH THE PROJECT.
- FABRICATORS OF STRUCTURAL LOAD-BEARING MEMBERS AND ASSEMBLIES SHALL CONFORM TO THE REQUIREMENTS OF SECTION 1704.2.5 OF THE IBC.

STRUCTURAL OBSERVATION REQUIREMENTS

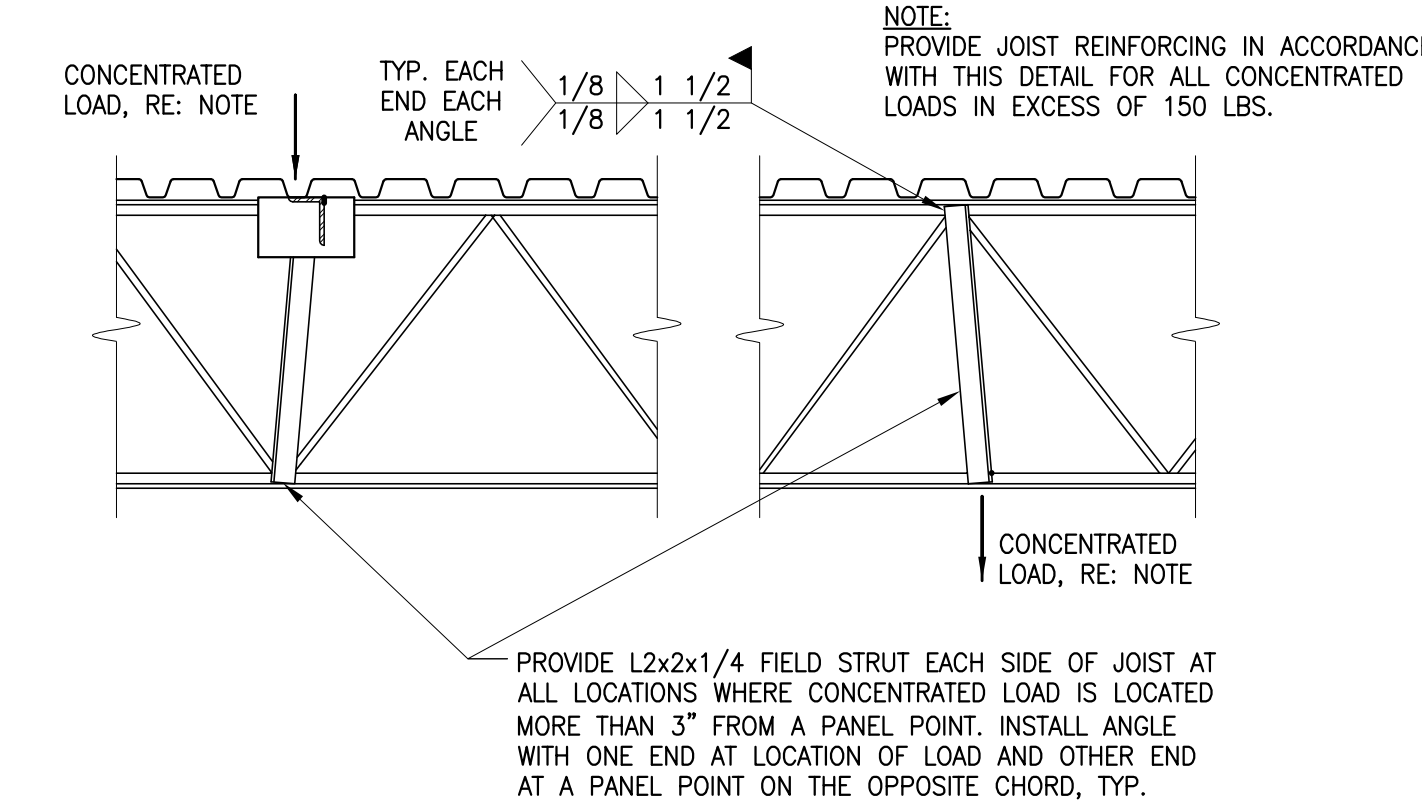
- A REPRESENTATIVE OF THE ENGINEER-OF-RECORD WILL PERFORM THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTION REQUIRED BY THE BUILDING OFFICIAL OR THE SPECIAL INSPECTOR.
- A PRE-CONSTRUCTION MEETING SHALL BE HELD AND ATTENDED BY THE ARCHITECT, ENGINEER-OF-RECORD, GENERAL CONTRACTOR, SUB-CONTRACTORS AND SPECIAL INSPECTOR. THE MEETING SHALL BE HELD AT THE START OF WORK.
- THE GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT AT LEAST 48 HOURS PRIOR TO COMPLETING CONSTRUCTION OPERATIONS THAT REQUIRE STRUCTURAL OBSERVATION TO SCHEDULE A SITE VISIT.
- AT A MINIMUM, THE FOLLOWING SIGNIFICANT CONSTRUCTION STAGES REQUIRE A SITE VISIT AND AN OBSERVATION REPORT FROM THE STRUCTURAL OBSERVER:
 - AFTER INSTALLATION OF FIRST OR ALL FOUNDATION REINFORCING AND BEFORE CONCRETE PLACEMENT
 - AFTER ERECTION OF FIRST LIFT OF CMU WALL AND BEFORE GROUT PLACEMENT
 - AFTER ERECTION OF STRUCTURAL STEEL AND JOISTS, AND FASTENING OF METAL ROOF DECK AND BEFORE PLACING INSULATION
 - AFTER INSTALLATION OF PRECAST STRUCTURE AND TOPPING SLAB REINFORCING AND BEFORE PLACEMENT OF TOPPING SLAB
 - AFTER INSTALLATION OF PRECAST WALL PANELS AND SLAB REINFORCING AND BEFORE PLACEMENT OF SLAB
 - REFER TO SHEET S004 FOR ADDITIONAL SHELTER OBSERVATIONS REQUIRED

ABBREVIATIONS

ANCHOR BOLTS	LLH	LONG LEG HORIZONTAL
AMERICAN CONCRETE INSTITUTE	LLV	LONG LEG VERTICAL
ARCHITECTURALLY EXPOSED STRUCTURAL STEEL	LONG.	LONGITUDINAL
ABOVE FINISHED FLOOR	MANUF.	MANUFACTURER
ARCHITECTURAL	MAX.	MAXIMUM
BALANCE	MCH.	MECHANICAL
BLOCK LINTEL	MFR.	MANUFACTURER
BUILDING	MIN.	MINIMUM
BOTTOM OF	MISC.	MISCELLANEOUS
BOTTOM OF BOTTOM OF DECK	MTL.	METAL
BEARING	M.O.	MASONRY OPENING
CONTRACTION JOINT	N.I.C.	NOT IN CONTRACT
CENTER LINE	NO.	NUMBER
CLEAR	N.T.S.	NOT TO SCALE
CONCRETE MASONRY UNIT	N.S.	NEAR SIDE
COLUMN	O.C.	ON CENTER
CONCRETE	O.D.	OUTSIDE DIAMETER
CONSTRUCTION	O.H.	OPPOSITE HAND
CONTINUOUS	P.A.F.	POWER ACTUATED FASTENER
DEFORMED BAR ANCHOR	PCF	POUNDS PER CUBIC FOOT
DIA.	PLF	POUNDS PER LINEAR FOOT
DRAWING	P.M.E.J.	PREMOLED EXPANSION JOINT
EACH FACE	PSF	POUNDS PER SQUARE FOOT
EXPANSION JOINT	PSI	POUNDS PER SQUARE INCH
ELEVATION	QTY.	QUANTITY
EDGE OF DECK	RE.	REFER
EDGE OF SLAB	REINF.	REINFORCING
E.O.	REQD.	REQUIRED
EQUAL	R.O.	ROUGH OPENING
EACH WAY	RTU	ROUGH TOP
EXIST.	SCHED.	SCHEDULE
FOUNDATION	S.O.S.	SELF-DRILLING SCREWS
FINISHED FLOOR ELEV.	SIM.	SIMILAR
FS.	SPEC.	SPECIFICATIONS
FOOTING	STD.	STANDARD
FLOOR VERIFY	STL.	STEEL
GAGE	T&B	TOP AND BOTTOM
GALV.	T.O.	TOP OF
GRADE BEAM	T.O.P.	TOP OF PIER
HORIZONTAL	T.O.W.	TOP OF WALL
HEADED STUD ANCHOR	TRANS.	TRANSVERSE
INTERNATIONAL BUILDING CODE	TYP.	TYPICAL
INFO INFORMATION	U.N.O.	UNLESS NOTED OTHERWISE
JOINT BEARING ELEVATION	VERT.	VERTICAL
JOINT	W.P.	WORK POINT
K	WT.	WEIGHT
UNIT OF 1,000 POUNDS (KIP)	W.W.F.	WELDED WIRE FABRIC
KSI		
POUNDS		

STATEMENT OF SPECIAL INSPECTIONS (IBC 2015)

REQUIRED VERIFICATION AND INSPECTION TASK		FREQUENCY OF INSPECTION	
		CONTINUOUS	PERIODIC
I. STEEL CONSTRUCTION (IBC SECTION 1705.2)			
A. STRUCTURAL STEEL			
1. PERIODIC INSPECTION OF SHOP FABRICATION OF STEEL MEMBERS PER SECTION N5.2. INSPECTION MAY BE WAIVED FOR APPROVED FABRICATORS AND ERECTORS PER 1704.2.5 AND SECTION N7 OF AISC 360-10. APPROVAL SHALL BE DETERMINED PER THE LOCAL BUILDING DEPARTMENT REQUIREMENTS.			X
2. PERIODIC INSPECTION OF STEEL MATERIAL IDENTIFICATION MARKINGS AND CONFORMANCE TO ASTM STANDARDS PER SECTION N5.2.			X
3. PERIODIC INSPECTION TO VERIFY ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.			X
4. PERIODIC INSPECTION OF ERECTED STEEL PER SECTION N5.7 TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE APPROVED CONSTRUCTION DOCUMENTS INCLUDING BRACES, STIFFENERS, MEMBER LOCATIONS, AND PROPER APPLICATION OF JOINT DETAILS INCLUDING CONNECTION OF ANGLES TO MASONRY WALLS.			X
5. PERIODIC INSPECTION OF ERECTION OF OPEN-WEB STEEL JOISTS OR GIRDERS PER SECTION N5.7 TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE APPROVED CONSTRUCTION DOCUMENTS INCLUDING BRACES, STIFFENERS, MEMBER LOCATIONS, AND PROPER APPLICATION OF JOINT DETAILS INCLUDING CONNECTION OF JOISTS TO MASONRY WALLS.			X
6. PERIODIC SPECIAL INSPECTION IS REQUIRED DURING STEEL ROOF DECK ATTACHMENT TO SUPPORTING STEEL FRAME MEMBERS PER DIAPHRAGM CONNECTION DETAILS ON CONSTRUCTION DOCUMENTS.			X
	FREQUENCY OF INSPECTION		
	CONTINUOUS	PERIODIC	
B. STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL (SDI QA/QC)			
1. MATERIAL VERIFICATION OF COLD-FORMED STEEL DECK:			
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-----	X	
B. MANUFACTURER'S CERTIFIED TEST REPORTS.	-----	X	
2. INSPECTION OF WELDING:			
A. REINFORCING STEEL			
1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A706.	-----	X	
3) SHEAR REINFORCEMENT	X	-----	
4) OTHER REINFORCING STEEL	-----	X	
WHERE APPLICABLE, SEE ALSO SECTION 1705.12, SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.			
C. OPEN-WEB STEEL JOISTS AND JOIST GIRDERS (IBC TABLE 1705.2.3)			
1. INSTALLATION OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS			
A. END CONNECTIONS - WELDED OR BOLTED	-----	X	
B. BRIDGING - HORIZONTAL OR DIAGONAL			
1. STANDARD BRIDGING	-----	X	
2. BRIDGING THAT DIFFERS FROM THE SJI SPECIFICATIONS LISTED IN SECTION 2207.1.	-----	X	
WHERE APPLICABLE, SEE ALSO SECTION 1705.12, SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.			
D. WELDING (AISC 360 TABLES N5.4-1, N5.4-2 AND N5.4-3)	QC	QA	
1. INSPECTION TASKS PRIOR TO WELDING (TABLE N5.4-1)			
WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	P	P	
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	P	P	
MATERIAL IDENTIFICATION (TYPE/GRADE)	O	O	
WELDER IDENTIFICATION SYSTEM ¹	O	O	
CONFIGURATION AND FINISH OF ACCESS HOLES	O	O	
FIT-UP OF FILLET WELDS			
• DIMENSIONS (ALIGNMENT, GAPS AT ROOF)	O	O	
• CLEANLINESS (CONDITION OF STEEL SURFACES)			
• TACKING (TACK WELD QUALITY AND LOCATION)			
CHECK WELDING EQUIPMENT	O	-----	
¹ THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE.			
2. INSPECTION TASKS DURING WELDING (TABLE N5.4-2)			
USE OF QUALIFIED WELDERS	O	O	
CONTROL AND HANDLING OF WELDING CONSUMABLES			
• PACKAGING	O	O	
• EXPOSURE CONTROL	O	O	
NO WELDING OVER CRACKED TACK WELDS	O	O	
ENVIRONMENTAL CONDITIONS			
• WIND SPEED WITHIN LIMITS	O	O	
• PRECIPITATION AND TEMPERATURE			
WPS FOLLOWED			
• SETTINGS ON WELDING EQUIPMENT			
• TRAVEL SPEED			
• SELECTED WELDING MATERIALS			
• SHIELDING GAS TYPE/FLOW RATE	O	O	
• PREHEAT APPLIED			
INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.)			
• PROPER POSITION (F, V, H, OH)			
WELDING TECHNIQUES			
• INTERPASS AND FINAL CLEANING	O	O	
• EACH PASS WITHIN PROFILE LIMITATIONS			
• EACH PASS MEETS QUALITY REQUIREMENTS			
WELDS CLEANED	O	O	
SIZE, LENGTH AND LOCATION OF WELDS	P	P	
WELDS MEET VISUAL ACCEPTANCE CRITERIA			
• CRACK PROHIBITION			
• WELD/BASE-METAL FUSION	P	P	
• CRATER CROSS-SECTION			
• WELD PROFILES			
• WELD SIZE			
• UNDERCUT			
• POROSITY			
ARC STRIKES	P	P	
K-AREA ¹	P	P	
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	P	P	
REPAIR ACTIVITIES	P	P	
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	P	P	
¹ WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3 INCHES (75 mm) OF THE WELD.			
E. BOLTING (AISC 360 TABLES N5.6-1, N5.6-2 AND N5.6-3)			
1. INSPECTION TASKS PRIOR TO BOLTING (TABLE N5.6-1)			
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	O	P	
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	O	O	
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	O	O	
PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	O	O	
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS.	O	O	
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	P	O	
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	O	O	
2. INSPECTION TASKS DURING BOLTING (TABLE N5.6-2)			
FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	O	O	
JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	O	O	
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	O	O	
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE PRCS SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	O	O	
3. INSPECTION TASKS AFTER BOLTING (TABLE N5.6-3)			
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	P	P	

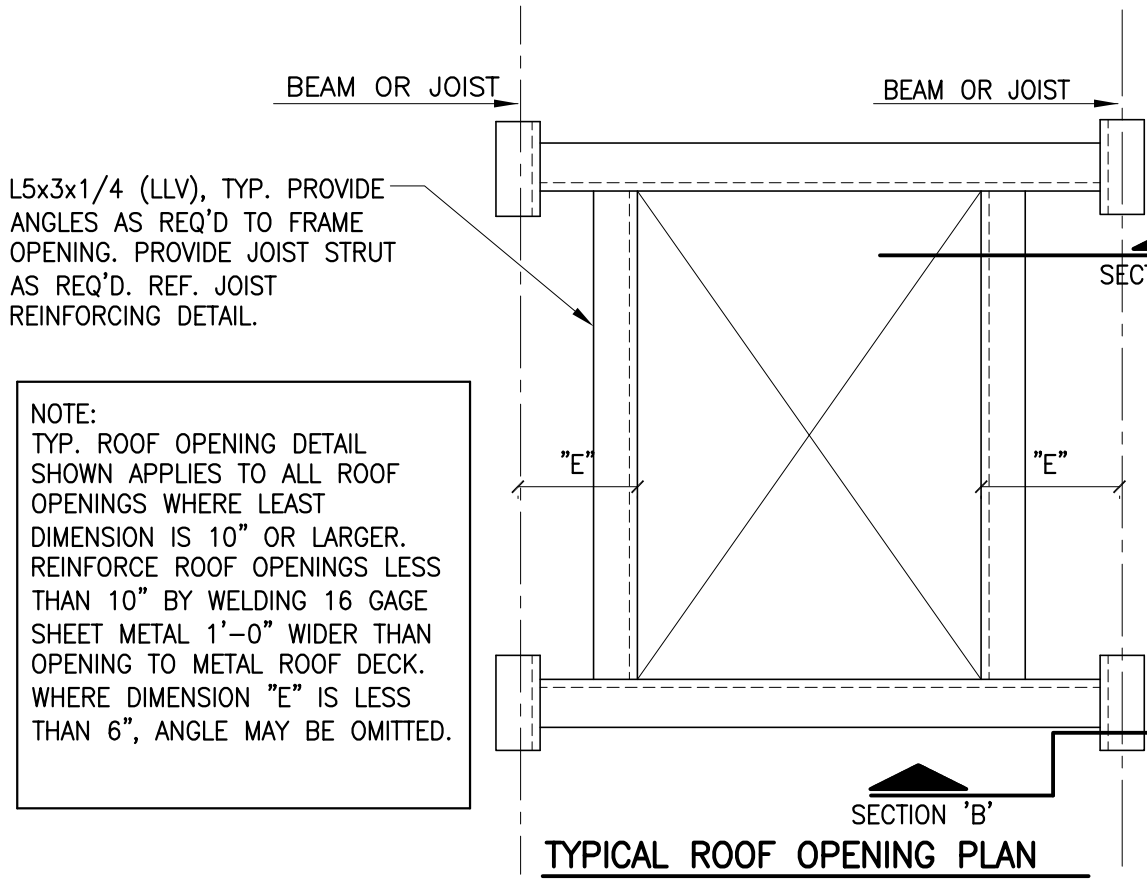


TYPICAL JOIST REINFORCING DIAGRAM

MINIMUM BOLT SCHEDULE						
BEAM	BOLT DIA.	PLATE THICKNESS	NO. OF BOLTS	WELD	ASD/LRFD END REACTION (KIPS)	HOLE TYPE
W8-W10	3/4"	1/4"	2	3/16"	16.3K/24.5K	STD OR SSLT
W12-W14	3/4"	3/8"	3	1/4"	28.8K/43.4K	STD OR SSLT
W16	3/4"	3/8"	4	1/4"	41.5K/62.5K	STD OR SSLT
W18	3/4"	3/8"	5	1/4"	54.1K/81.3K	STD OR SSLT
W21-W24	1"	1/2"	5	5/16"	85.9K/129.0K	STD OR SSLT
W24	1"	1/2"	6	5/16"	102.0K/153.0K	SSLT ONLY
W27	1"	1/2"	7	5/16"	119.0K/178.0K	STD OR SSLT
W30	1"	1/2"	8	5/16"	135.0K/202.0K	STD OR SSLT

- NOTES**
- UNLESS INDICATED ON FRAMING PLAN AND CORRESPONDING DETAILS OR NOTES BELOW, SCHEDULE INDICATES THE MINIMUM NUMBER OF BOLTS REQUIRED FOR BEAM CONNECTIONS.
 - CONNECTIONS SHALL BE DESIGNED FOR LRFD FACTORED END REACTIONS SHOWN ON PLANS. IF NO REACTION IS SHOWN ON PLAN, DESIGN FOR REACTION IN SCHEDULE.
 - MAX. $t_w = 0.4375"$ WITH $3/4"$ DIA. BOLTS AND $0.5625"$ WITH $1"$ DIA. BOLTS.
 - STD = STANDARD HOLES, SSLT = SHORT-SLOTTED HOLES TRANSVERSE TO DIRECTION OF LOAD.
 - THE STEEL FABRICATOR SHALL BE RESPONSIBLE FOR DESIGN AND ADEQUACY OF ALL CONNECTIONS THAT ARE NOT FULLY DETAILED ON THE CONTRACT DOCUMENTS. RE: PLANS AND SCHEDULE FOR ASD/LRFD LOADS, AND RE: STEEL BEAM MINIMUM CONNECTION SCHEDULE FOR MINIMUM CONNECTION REQUIRED.

TYPICAL CONNECTION DETAILS

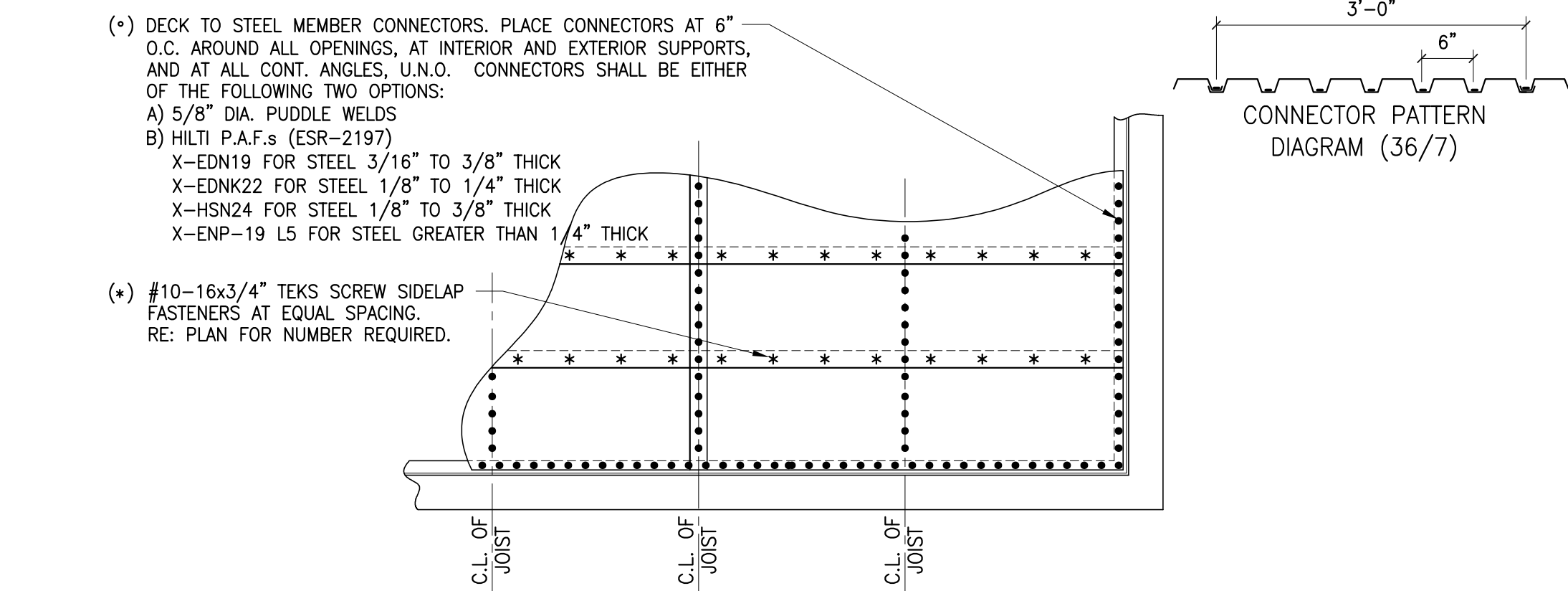


TYPICAL ROOF OPENING PLAN

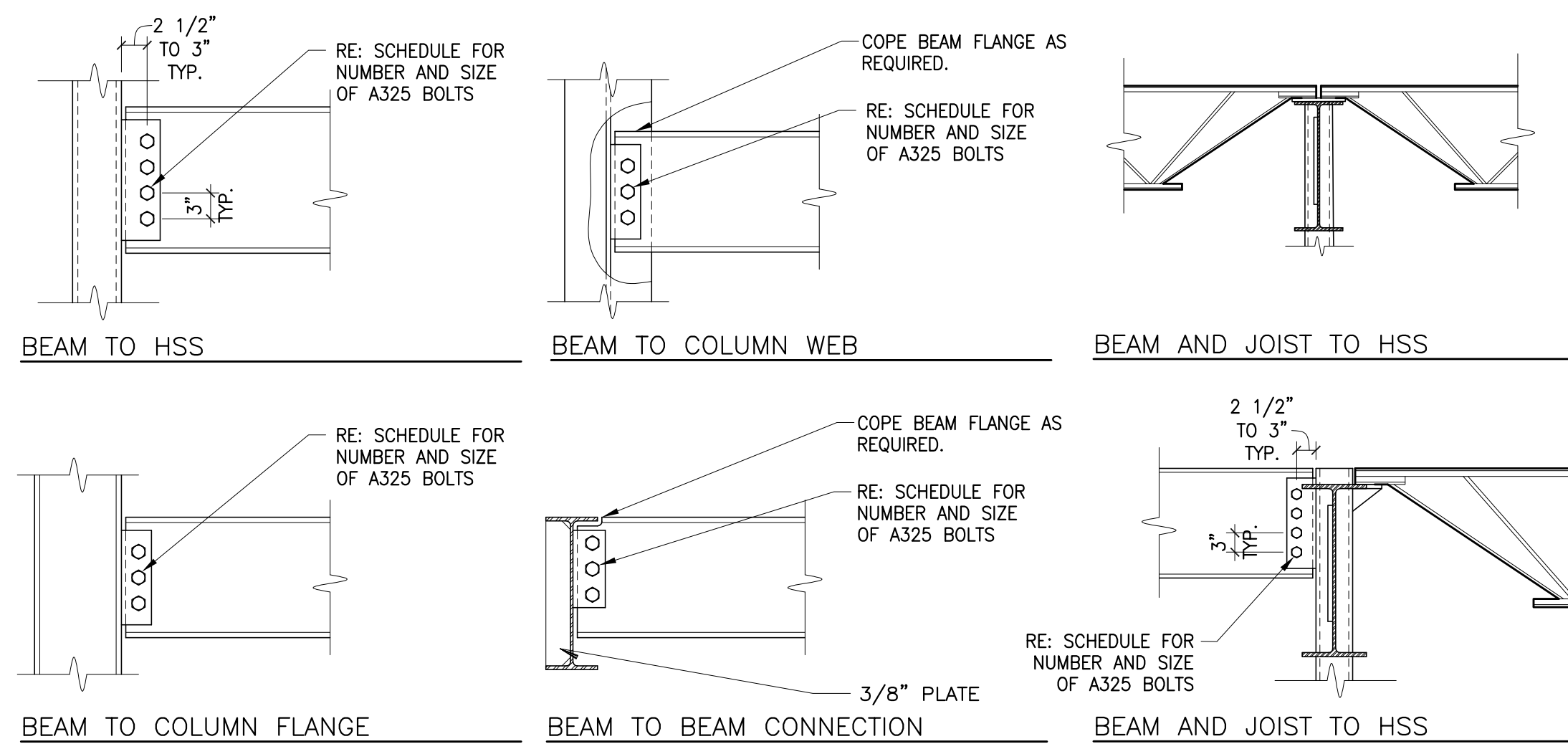
RTU AND ROOF OPENING

COLUMN SCHEDULE				
MARK	SIZE	BASE PLATE (T _w xL _b)	ANCHOR BOLTS (DIA x EMBED)	TYPE
C1	HSS5x5x1/4	3/4"x11"x0"-11"	(4)-3/4"x0"-9"	1
C2	HSS6x6x1/4	3/4"x12"x1"-0"	(4)-3/4"x0"-9"	1
C3	HSS6x6x5/8	1"x12"x1"-0"	(4)-3/4"x1"-0"	1
C4	HSS5x5x5/16	3/4"x11"x11"	(4)-3/4"x1"-0"	1
C5	HSS5x5x1/4	3/4"x9"x1"-0"	(4)-3/4"x1"-0"	2
C6	HSS10x5x1/4	3/4"x12"x1"-4"	(4)-3/4"x0"-9"	1
C7	W12x65	1 1/2"x16"x1"-8"	(6)-1 1/4"x1"-6"	3
C8	W10x49	1 1/4"x12"x1"-4"	(4)-1 1/4"x1"-6"	4
C9	HSS8x8x1/2	1 1/4"x15 1/2"x1"-3 1/2"	(4)-1"x0"-12"	5
C10	HSS8x8x3/8	3/4"x16"x1"-4"	(4)-3/4"x0"-9"	1
C11	HSS8x8x3/8	3/4"x16"x1"-4"	(4)-3/4"x0"-9"	1
C12	HSS3x3x1/4	1/2"x4"x0"-9"	(2)-5/8"x0"-3 1/4"	7
C13	HSS10x5x1/4	3/4"x9"x1"-4"	(4)-3/4"x1"-0"	6

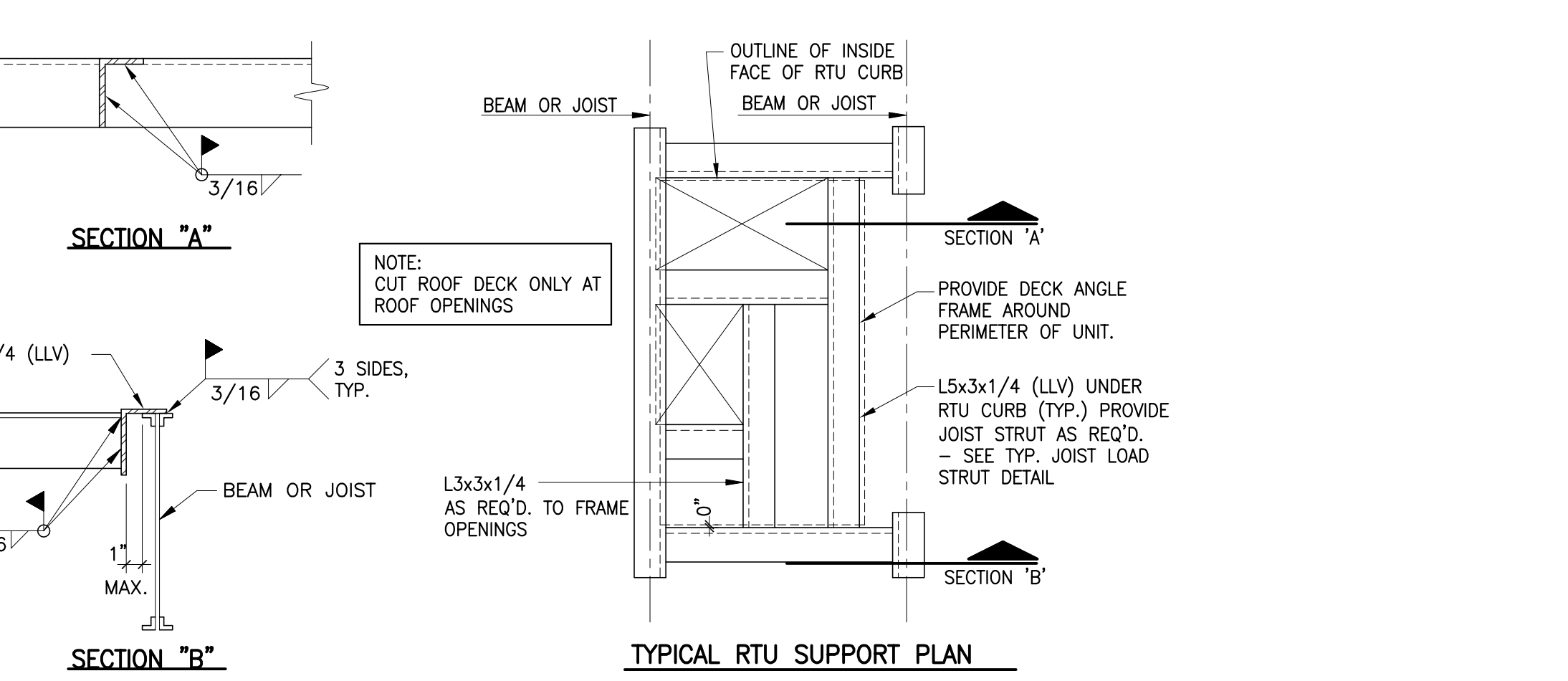
- NOTES:**
- WELD BETWEEN COLUMN AND BASE PLATE SHALL MEET AISC MINIMUM REQUIREMENTS.
 - USE 2" GROUT PAD FOR BASE PLATES THICKER THAN 3/4".
 - AT C10 COLUMN ORIENT 6" SIDE WITH 6" STUD WALL.



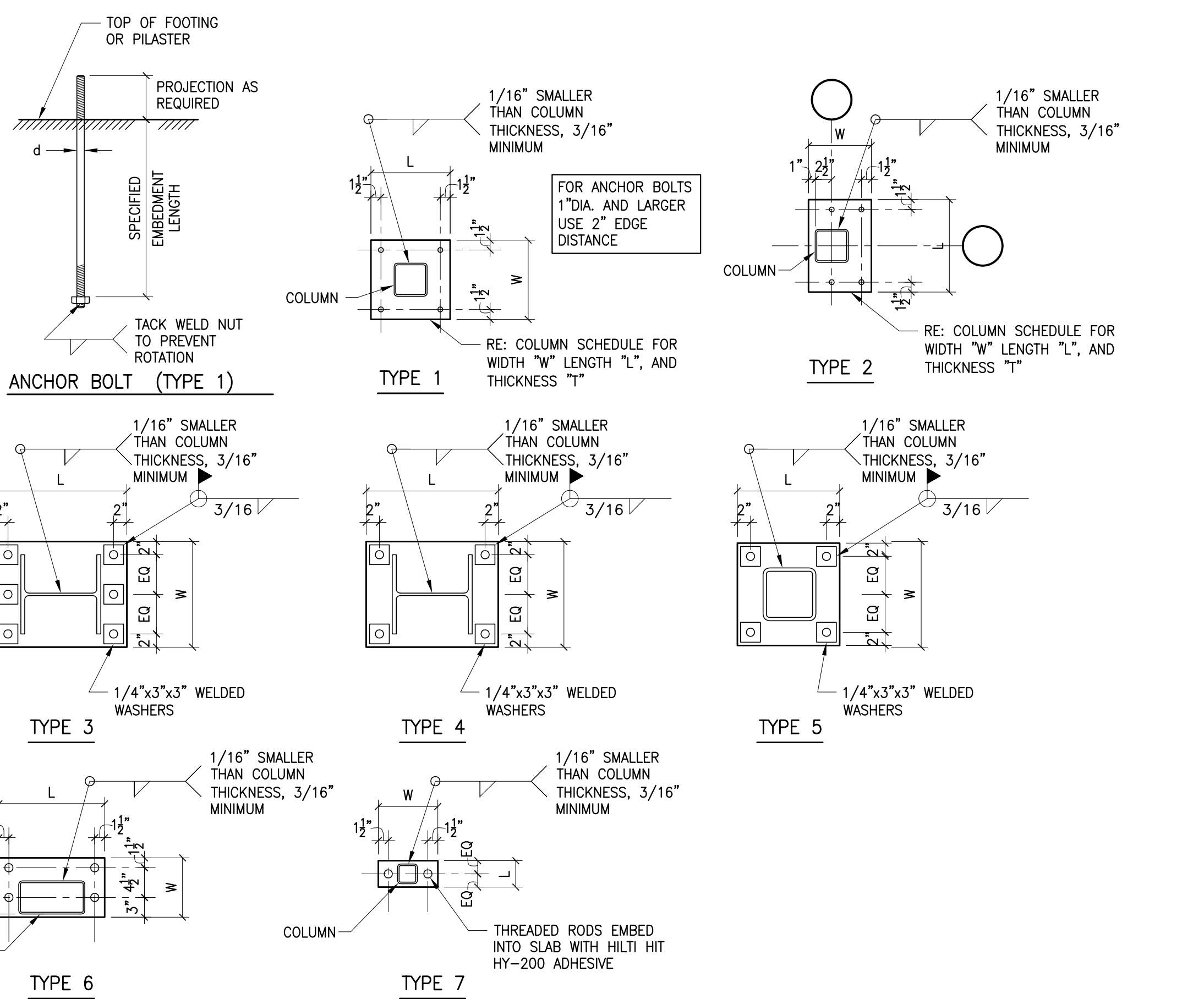
ROOF DIAPHRAGM CONNECTION DETAIL



TYPICAL CONNECTION DETAILS



TYPICAL RTU SUPPORT PLAN



ANCHOR BOLT (TYPE 1) and various column connection details

COLUMN SCHEDULE AND DETAILS

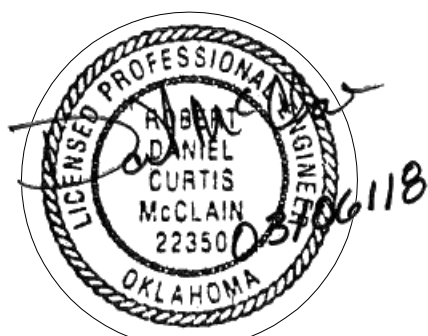
the.stacy.group
architecture interiors

922 east 10th street plaza

Edmond, Oklahoma 73034

phone: 405.380.8292

fax: 405.380.8293



Copyright © Wallace Engineering, Inc.

wallace



Wallace Engineering
Structural Consultants, Inc.

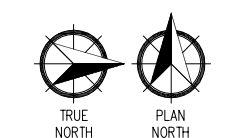
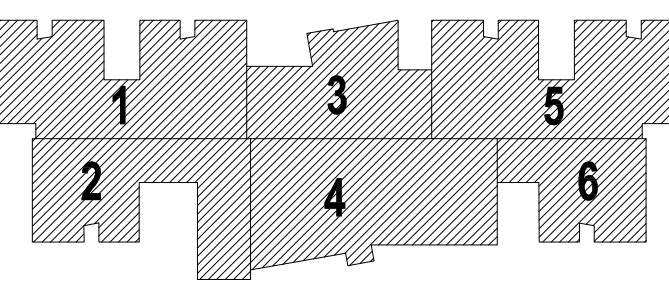
Structural and Civil Consultants
200 East Matthew Brady Street
Tulsa, Oklahoma 74103

918.584.5858, 800.364.5858

OKLA. C.A. #1460, EXP. 06/30/19

OWASSO
MORROW
ELEMENTARY

OWASSO PUBLIC
SCHOOLS
OWASSO, OK
2018



KEY PLAN

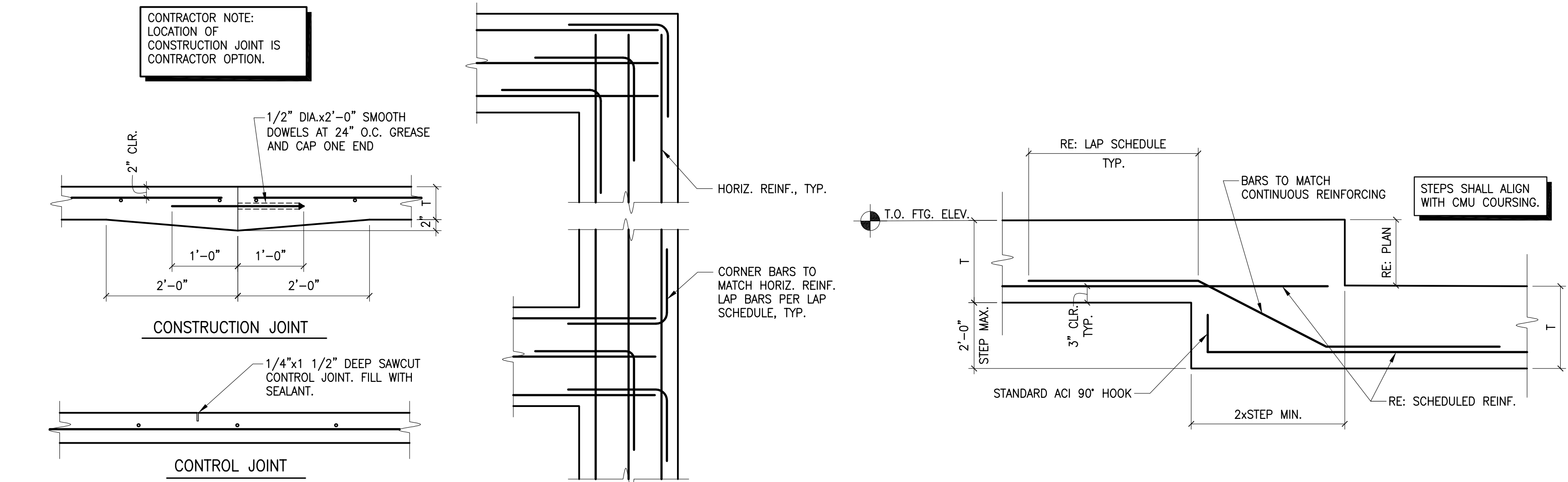
03.06.18

GENERAL NOTES,
SCHEDULES, AND
DETAILS

S002
SHEET TITLE

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.

1/8"=1'-0"
1/4"=1'-0"
1/2"=1'-0"
3/4"=1'-0"
1"=1'-0"
1 1/2"=1'-0"
2"=1'-0"
3"=1'-0"
4"=1'-0"
6"=1'-0"
8"=1'-0"
12"=1'-0"
18"=1'-0"
24"=1'-0"
36"=1'-0"
48"=1'-0"
60"=1'-0"
72"=1'-0"
84"=1'-0"
96"=1'-0"
108"=1'-0"
120"=1'-0"



SLAB JOINT DETAILS

CORNER REINFORCING

STEP FOOTING DETAIL

TYPICAL CONCRETE FOUNDATION DETAILS

CONCRETE REINFORCING LAP SCHEDULE					
BAR SIZE	LAP				
	f'c=3000 PSI	f'c=4000 PSI	f'c=4000 PSI	TOP	OTHER
#3	28"	22"	25"	19"	
#4	37"	29"	33"	25"	
#5	47"	36"	41"	31"	
#6	56"	43"	49"	37"	
#7	81"	63"	71"	54"	
#8	93"	72"	81"	62"	

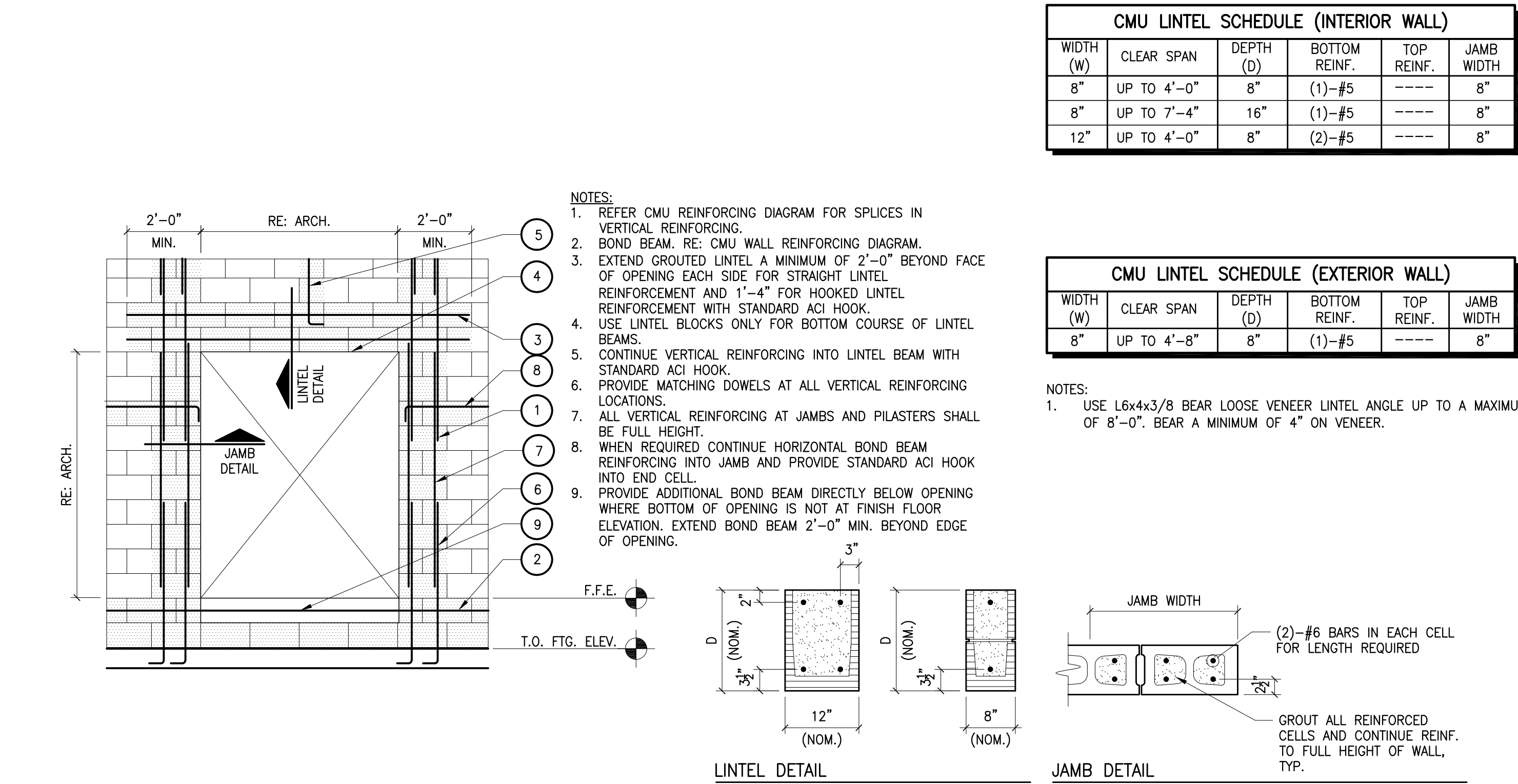
FOUNDATION SCHEDULE			
MARK	SIZE(LxWxT)	REINFORCING	NOTES
F1	4'-0"x4'-0"x1'-0"	(4)-#5 EA. WAY	
F2	5'-0"x5'-0"x1'-0"	(5)-#5 EA. WAY	
F3	7'-0"x7'-0"x1'-6"	(7)-#7 EA. WAY	
F4	10'-0"x10'-0"x2'-0"	(10)-#6 EA. WAY, TOP AND BOT.	
F5	4'-6"x4'-6"x1'-6"	(5)-#6 EA. WAY, TOP AND BOT.	
F6	9'-3"x9'-3"x1'-6"	(9)-#6 EA. WAY, TOP AND BOT.	
F7	7'-3"x7'-3"x1'-6"	(8)-#6 EA. WAY, TOP AND BOT.	
F8	7'-9"x7'-9"x1'-10"	(8)-#6 EA. WAY, TOP AND BOT.	
F9	9'-0"x9'-0"x2'-0"	(9)-#6 EA. WAY, TOP AND BOT.	
F10	7'-0"x7'-0"x2'-0"	(8)-#6 EA. WAY, TOP AND BOT.	

NOTES:
1. RE: ARCH FOR FOUNDATION INSULATION AT EXTERIOR

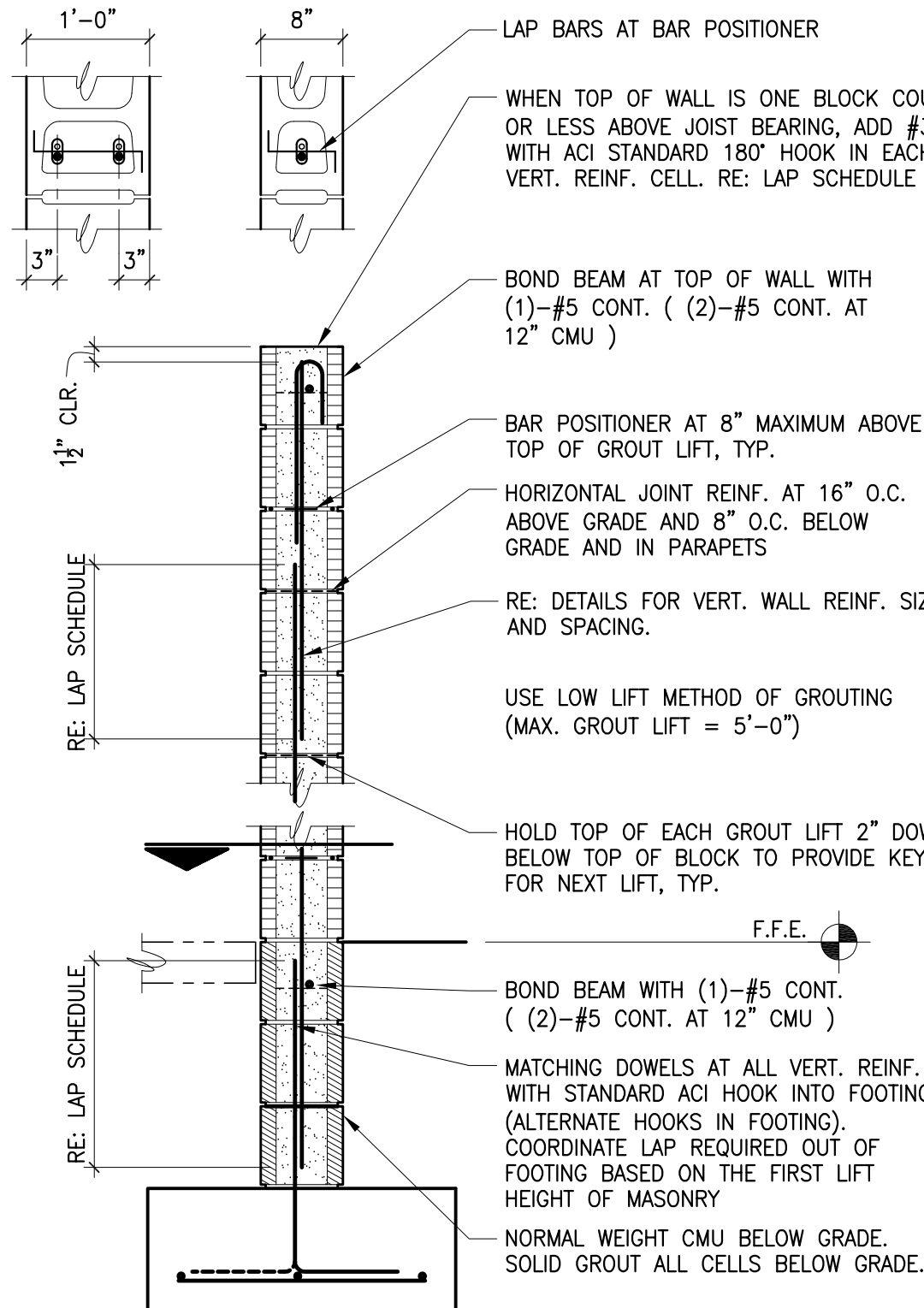
FOUNDATION SCHEDULE			
MARK	SIZE(LxWxT)	REINFORCING	NOTES
CF1	CONT.x2'-0"x1'-0"	(3)-#6 LONG.	
CF2	CONT.x2'-6"x1'-0"	(3)-#6 LONG.	
CF3	CONT.x7'-6"x1'-6"	(8)-#7 LONG. W/ #7 AT 12" O.C. TRANSV.	
CF4	CONT.x14'-0"x2'-6"	(14)-#7 LONG. W/ #7 AT 12" O.C. TRANSV.	
CF5	CONT.x3'-6"x1'-6"	(4)-#6 LONG.	
CF6	CONT.x3'-6"x1'-4"	(4)-#6 LONG. TOP AND BOT. W/ #6 AT 12" O.C. TRANSV.	
CF7	CONT.x5'-0"x1'-6"	(5)-#6 TOP AND BOT. W/ #6 AT 12" O.C. TRANSV.	
CF8	CONT.x4'-6"x1'-4"	(5)-#6 TOP AND BOT. W/ #6 AT 12" O.C. TRANSV.	
CF9	CONT.x2'-0"x2'-0"	(3)-#6 LONG.	

CONCRETE REINF. LAP SCHED.

FOUNDATION SCHEDULE



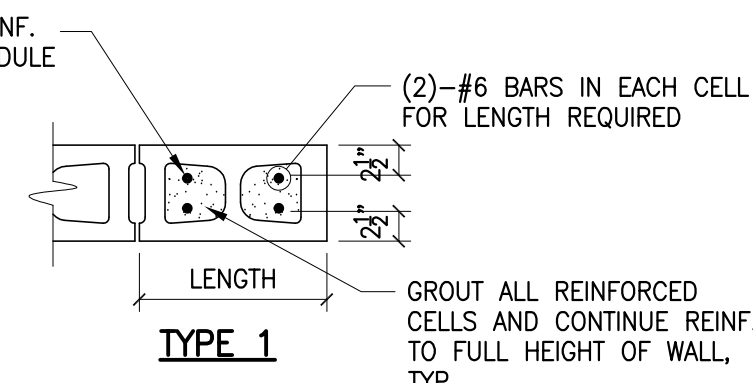
CMU WALL OPENING



CMU WALL REINFORCING DIAGRAM

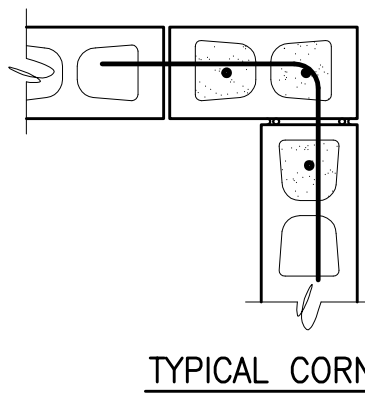
CMU PILASTER SCHEDULE				
MARK	TYPE	CMU	LENGTH	VERT. REINF.
P1	1	12"	16"	(2)-#6 PER CELL
P2	1	8"	16"	(2)-#6 PER CELL
P3	1	8"	24"	(2)-#6 PER CELL
P4	1	12"	24"	(2)-#6 PER CELL

NOTES:
1. PROVIDE FOUNDATION DOWELS TO MATCH AND LAP VERT. PILASTER REINF.
2. GROUT SOLID ALL MASONRY CELLS WITHIN PILASTER LENGTH.
3. WHERE PILASTER OCCURS NEXT TO A MASONRY OPENING, LINTEL REINF. SHALL EXTEND INTO PILASTER AS INDICATED ON 'CMU WALL OPENING' DETAIL. JAMB REINF. SHALL BE ELIMINATED TO ALLOW FOR PLACEMENT OF PILASTER REINF.
4. PILASTER EXTENDS FROM FOUNDATION TO TOP OF WALL, U.N.O.
5. PROVIDE FULL HEIGHT VERT. REINFORCING EACH SIDE OF PILASTER FOR WALL REINF.
6. NOT ALL PILASTER DESIGNATIONS MAY BE USED ON PLANS.
7. RE: DETAILS FOR BEAM BEARING PLATES.

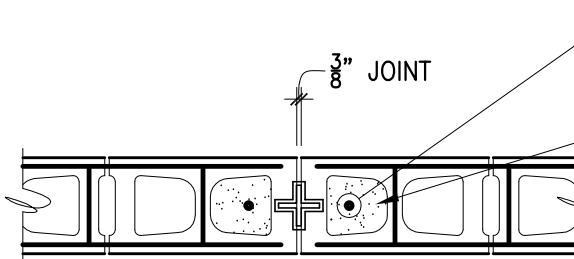


PILASTER SCHEDULE

NOTES:
1. GROUT SOLID ALL CELLS WITH REINFORCING.
2. USE BOND BEAM BLOCKS WITH OPEN BOTTOMS ONLY AT BOND BEAM LOCATIONS. DO NOT USE TROUGH-TYPE BLOCKS AT BOND BEAMS.
3. DO NOT CONTINUE BOND BEAM REINFORCING THROUGH CONTROL JOINTS.
4. ALL MASONRY SHALL BE LAID IN RUNNING (COMMON) BOND.
5. RE: DETAILS FOR LOCATION OF ADDITIONAL BOND BEAMS WITH (1)-#5 CONTINUOUS ((2)-#5 CONTINUOUS AT 12" CMU).
6. HORIZ. JOINT REINFORCING SHALL BE GALV. LADDER TYPE SPACED AT 16" O.C. ABOVE GRADE AND 8" O.C. BELOW GRADE AND IN PARAPETS.
7. AT LOCATIONS WHERE THE JOIST SEAT OR OPENINGS IN THE WALL INTERFERE WITH THE REINFORCING, AN ADDITIONAL VERTICAL BAR SHALL BE LOCATED IN THE NEXT CONTINUOUS VERTICAL CELL TO THE TOP OF PARAPET. THE CELL SHALL BE SOLID GROUTED AND THE BAR SHALL EXTEND A DISTANCE EQUAL TO THE REQUIRED LAP SPLICE INTO THE MASONRY WALL BELOW.

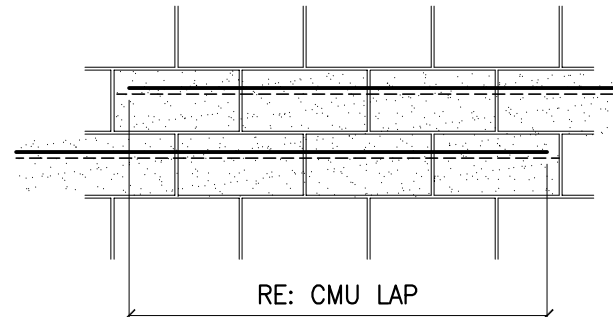


CORNER DETAILS



EXPANSION/CONTROL JOINT DETAIL

NOTES:
1. PROVIDE VERT. WALL REINF. IN THE CORNER CELL AS SHOWN.
2. WHERE CONTROL JOINT DOES NOT OCCUR AT CORNER PROVIDE CORNER BARS TO LAP WITH BOND BEAM REINFORCING



BOND BEAM STEP (4'-0" MIN.)

PROVIDE VERT. WALL REINF. IN FIRST CELL EACH SIDE OF CONTROL JOINT

GROUT, CONCRETE, REINF. BARS, JOINT REINF. AND BOND BEAMS SHALL BE DISCONTINUOUS DOWN TO TOP OF FOOTING AT CONTROL JOINTS. RE: FOUNDATION PLAN FOR CONTROL JOINT LOCATIONS. DO NOT LOCATE CONTROL JOINT WITHIN 2'-0" OF OPENINGS

CMU LAP SCHEDULE	
BAR SIZE	LAP
#3	18"
#4	24"
#5	30"
#6	36"
#7	42"

CMU LAP SCHEDULE

the.stacy.group
architecture interiors

222 east 10th street plaza
Edmond, Oklahoma 73034
phone: 405.330.8292
fax: 405.330.8293



Copyright © Wallace Engineering, Inc.

wallace



Wallace Engineering
Structural Consultants, Inc.

Structural and Civil Consultants
200 East Mathew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

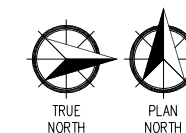
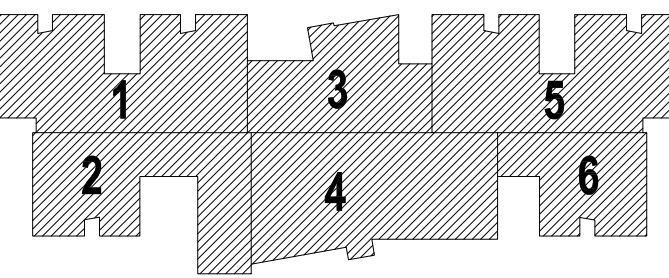
OKLA. C.A. #1460, EXP. 06/30/19

OWASSO MORROW ELEMENTARY

OWASSO PUBLIC
SCHOOLS

OWASSO, OK
2018

PROJECT



KEY PLAN

03.06.18

REVISIONS

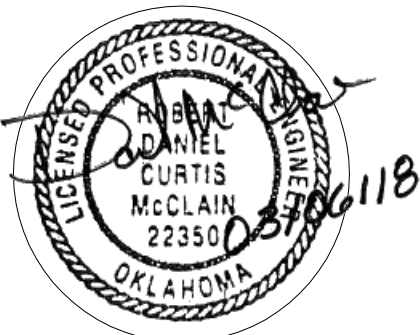
ISSUE DATE

1712603 PROJECT NO
LRS DRAWN BY
CAW CHECKED BY

GENERAL NOTES,
SCHEDULES,
AND DETAILS

S003
SHEET TITLE

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.



Copyright © Wallace Engineering, Inc.

wallace



Wallace Engineering
Structural Consultants, Inc.

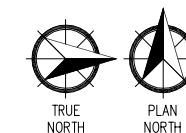
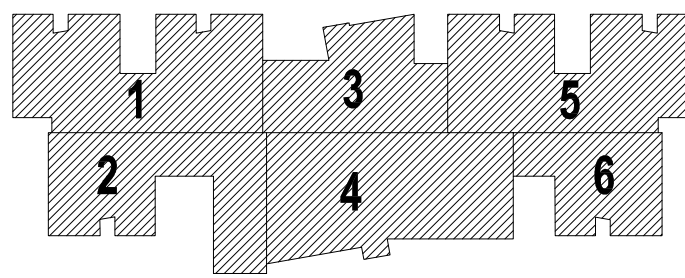
Structural and Civil Consultants
200 East Matthew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

OKLA. C.A. #1460, EXP. 06/30/19

OWASSO MORROW ELEMENTARY

OWASSO PUBLIC SCHOOLS

OWASSO, OK
2018



KEY PLAN

DESIGN PARAMETERS - PRECAST SHELTER

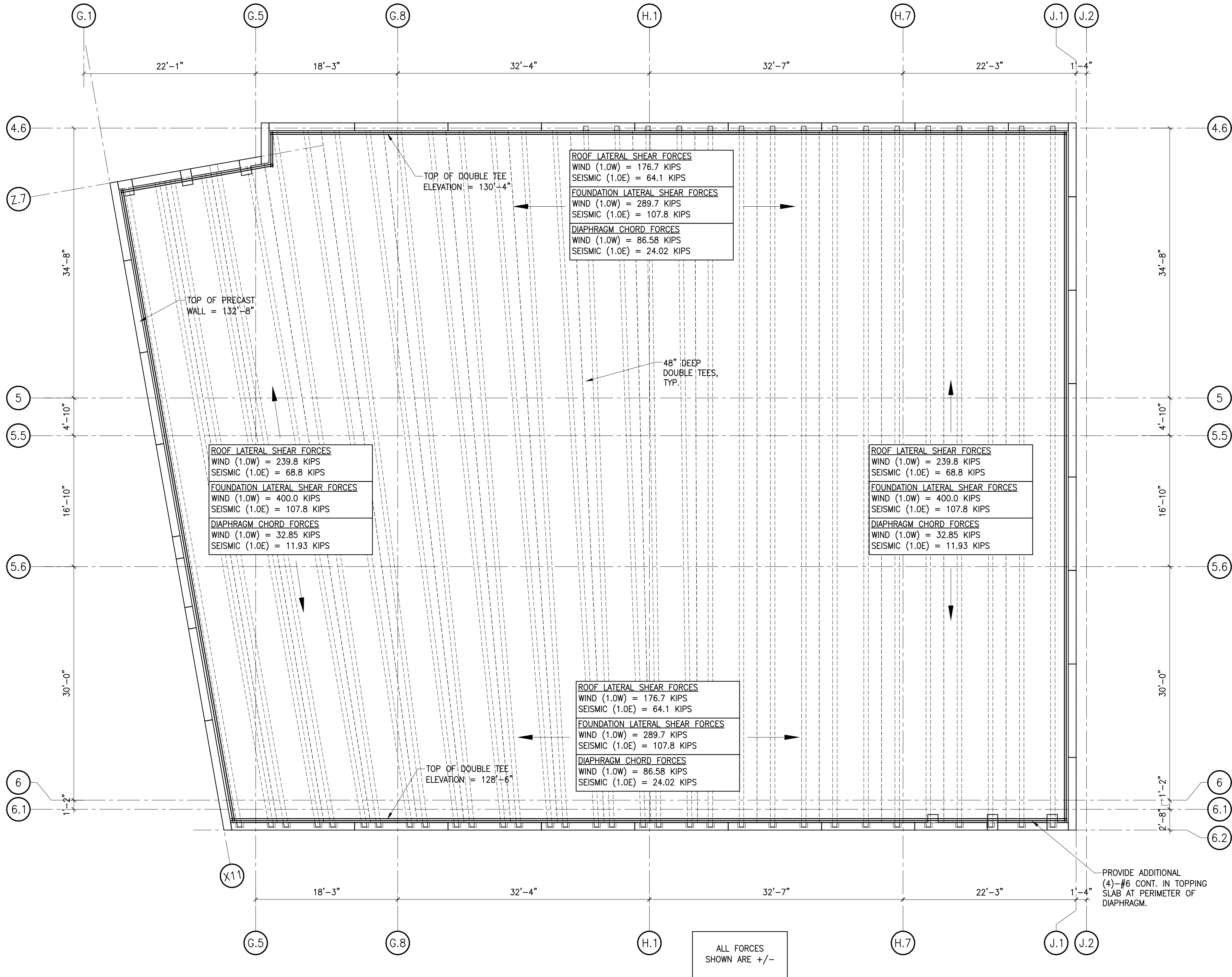
- TYPE OF SHELTER TORNADO
- WIND DESIGN CONFORMS TO THE PROVISIONS OF THE ICC/NSSA STANDARD FOR THE DESIGN AND CONSTRUCTION OF STORM SHELTERS - ICC 500, 2008
- DESIGN LOAD COMBINATIONS ARE PER ASCE7 AS MODIFIED IN SECTION 302 OF ICC 500, 2008. PRECAST MFR. NOTE: LOAD VALUES ARE PROVIDED AS ULTIMATE LOAD FACTORS, LOAD FACTOR = 1.0W AND 1.0E U.N.O.
- LIVE LOADS
 - ROOF 100 PSF
- DEAD LOADS
 - 4" TOPPING SLAB 50 PSF
 - OTHER ROOF (COLLATERAL) 20 PSF
 - DEAD LOAD DOES NOT INCLUDE PRECAST SELF-WEIGHT
 - DEAD LOAD DOES NOT INCLUDE EQUIPMENT CONCENTRATED LOADS
- WIND DESIGN DATA
 - BASIC WIND SPEED (3 SECOND GUST), V 250 MPH
 - WIND IMPORTANCE FACTOR, I 1.0
 - WIND EXPOSURE CATEGORY C
 - TOPOGRAPHIC FACTOR, Kzt 1.0
 - DIRECTIONALITY FACTOR, Kd 1.0
 - INTERNAL PRESSURE COEFFICIENT, GCpi +/- 0.55
 - WIDTH OF END ZONE 9.1 FT
 - DESIGN WIND PRESSURE FOR MAIN WIND FORCE RESISTING SYSTEM (1.0W)
 - WALLS:
 - WINDWARD PRESSURE (WITHOUT INTERNAL) 106.6 PSF
 - LEEWARD PRESSURE (WITHOUT INTERNAL) 66.6 PSF
 - INTERNAL PRESSURE 86.2 PSF
 - SEAWALL PRESSURE WITH INTERNAL PRESSURE 179.5 PSF
 - PARAPETS:
 - WINDWARD PRESSURE 240.0 PSF
 - LEEWARD PRESSURE 160.0 PSF
 - ROOF ALL OTHER CONDITIONS:
 - FOR 0 TO h = 0 FT. TO 30.34 FT. 206.2 PSF
 - FOR h TO 2h = 30.34 FT. TO 60.68 FT. 152.9 PSF
 - >2h = >60.68 FT. 126.2 PSF
- EARTHQUAKE DESIGN DATA
 - SEISMIC IMPORTANCE FACTOR, I 1.5
 - RISK CATEGORY IV
 - MAPPED SPECTRAL RESPONSE ACCELERATION, Ss 0.126
 - MAPPED SPECTRAL RESPONSE ACCELERATION, S1 0.069
 - SITE CLASS C
 - SPECTRAL RESPONSE COEFFICIENT, Sds 0.101
 - SPECTRAL RESPONSE COEFFICIENT, Sd1 0.078
 - SEISMIC DESIGN CATEGORY A
 - STRUCTURAL SYSTEM
 - BASIC SEISMIC FORCE-RESISTING SYSTEM TYPE BEARING WALL SYSTEM
 - VERTICAL ELEMENT TYPE INTERMEDIATE PRECAST CONCRETE WALLS (1.0E)
 - DESIGN BASE SHEAR (1.0E) 0.010 W
 - RESPONSE MODIFICATION FACTOR, R 4.0
- HYDROSTATIC LOADING NOT REQUIRED

PRECAST SHELTER GENERAL NOTES

- INDIVIDUAL PRECAST WALL PANELS SHALL BE CONNECTED TO TRANSFER SHEAR ACROSS PANEL JOINTS AND PERFORM AS A SINGLE SHEAR WALL ALONG CONTINUOUS WALL RUNS.
- PRECAST WALL TO FOUNDATION CONNECTIONS SHALL BE DESIGNED AND DETAILED BY THE PRECAST MFR. ALL CONNECTION HARDWARE, PLATES AND/OR BARS EMBEDDED IN FOUNDATIONS SHALL BE PROVIDED BY THE PRECAST MFR. TO BE FIELD INSTALLED BY THE FOUNDATION CONTRACTOR. PRECAST CONNECTIONS TO FLOOR SLAB SHALL BE FOR WALL OUT OF PLANE PRESSURES AND SOIL PRESSURES ONLY. SLAB ON GRADE IS NOT CONNECTED TO FOUNDATIONS. PRECAST CONNECTIONS TO FOUNDATIONS SHALL TRANSFER PARALLEL TO SHEAR WALL FORCES OUT OF PLANE AND UPLIFT LOADING.
- ROOF DIAPHRAGM TO PRECAST WALL CONNECTION SHALL BE DESIGNED AND DETAILED BY THE PRECAST MFR. IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS. THE EMBEDMENT INTO THE PRECAST SHALL BE DESIGNED BY THE PRECAST MFR. FOR THE FORCES GIVEN. ALL CONNECTION HARDWARE, PLATES AND BARS SHALL BE PROVIDED BY THE PRECAST MFR. TO BE FIELD INSTALLED BY THE CONCRETE CONTRACTOR BEFORE THE TOPPING IS POURED.
- LOADS TO PRECAST STRUCTURE WERE DETERMINED IN ACCORDANCE WITH ICC 500-2008. PRECAST ELEMENTS AND CONNECTIONS SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF OKLAHOMA IN ACCORDANCE WITH IBC 2015 WITH THE STATE OF OKLAHOMA AMENDMENTS AND WITH ICC 500-2008.
- PRECAST ROOF TOPPING SYSTEM SHALL BE 4 INCH THICK CONCRETE REINFORCED WITH #4 REINFORCING BARS AT 12 INCHES ON CENTER EACH WAY TO MEET THE REQUIRED DEBRIS IMPACT TEST MISSILE CRITERIA FOR A 15 POUND SAWN LUMBER 2x4 TRAVELING AT SPEED OF 67 MPH FOR HORIZONTAL SURFACES USING THE REQUIRED TEST METHODS OF CHAPTER 8 OF ICC 500, 2008. THIS SYSTEM HAS BEEN TESTED TO MEET A THRESHOLD MISSILE SPEED OF 162 MPH FOR A 15 POUND 2x4 SAWN LUMBER MISSILE AS PREPARED BY THE WIND SCIENCE AND ENGINEERING RESEARCH CENTER AT TEXAS TECH UNIVERSITY.
- PRECAST WALL SYSTEM SHALL MEET THE REQUIRED DEBRIS IMPACT TEST MISSILE CRITERIA FOR A 15 POUND SAWN LUMBER 2x4 TRAVELING AT A SPEED OF 100 MPH FOR VERTICAL SURFACES USING THE REQUIRED TEST METHODS OF CHAPTER 8 OF ICC 500, 2008.
- EXTERIOR DOORS, WINDOWS, AND LOUVERS SHALL MEET THE REQUIRED DEBRIS IMPACT TEST MISSILE CRITERIA FOR A 15 POUND SAWN LUMBER 2x4 TRAVELING AT A SPEED OF 100 MPH FOR VERTICAL SURFACES USING THE REQUIRED TEST METHODS OF CHAPTER 8 OF ICC 500, 2008.
- STEEL COMPONENTS AND EMBEDS IN THE SHELTER STRUCTURE THAT ARE EXPOSED TO THE EXTERIOR ELEMENTS SHALL HAVE CORROSION RESISTANCE AND PROTECTION, AS A MINIMUM STEEL ELEMENTS SHALL BE HOT DIPPED GALVANIZED OR EQUIVALENT.
- GENERAL CONTRACTOR AND PRECAST MANUFACTURER TO COORDINATE AND VERIFY ALL OPENING LOCATIONS AND SIZES WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND WITH ACTUAL EQUIPMENT PURCHASED. IF OPENINGS CHANGE OR DIFFER FROM THOSE ON SO05, NOTIFY STRUCTURAL ENGINEER OF RECORD PRIOR TO FABRICATION. ADDITIONAL CHANGES MAY BE REQUIRED.
- PRECAST MANUFACTURER TO COORDINATE EXPOSED CONNECTIONS WITH ARCHITECT FOR THE AESTHETIC PLACEMENT.
- REFER TO SHEET S001 FOR FOUNDATION INFORMATION AND FOR ADDITIONAL PRECAST NOTES.
- REFER TO SHEET S100 FOR FINISH FLOOR ELEVATION AND S120 FOR TOP OF ROOF ELEVATION.
- THE MAIN WIND FORCE RESISTING SYSTEM FOR THE STORM SHELTERS ARE THE PRECAST DOUBLE TEES TOPPED WITH CONCRETE, THE SUPPORTING PRECAST CONCRETE SHEAR WALLS, THE FOUNDATIONS, AND SLAB ON GRADE IN THE AREA DESIGNATED ON SHEET S004. THE DETAILS FOR THESE SYSTEMS ARE DESIGNATED ON SHEETS S202, AND S223. ADDITIONAL INFORMATION CONCERNING THE MATERIALS CAN BE FOUND ON SHEET S001 AND IN THE SPECIFICATIONS. INFORMATION CONCERNING THE TOPPING SLAB, FOUNDATIONS, AND SLAB ON GRADE CAN BE FOUND ON THE PLAN SHEETS AND ON SHEETS S003, AND S004.
- DUCT AND PIPE PROTECTION IN THE PRECAST STRUCTURE SHALL BE INSPECTED TO COMPLY WITH THE DETAILS ON S223 OR AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

WIND COMPONENTS AND CLADDING LOADS (1.0W)							
BUILDING ELEMENT	SPAN (FT)	WIDTH (FT)	AREA (FT ²)	WIND PRESSURE ZONE 1 (PSF)	WIND PRESSURE ZONE 2 (PSF)	WIND PRESSURE ZONE 3 (PSF)	WIND PRESSURE ZONE 4 (PSF)
12" WALLS	VARIABLES	VARIABLES	200				-210/+195
WALL CONNECTION	---	---	50				-225/+210
PARAPET	3.58	VARIABLES	10				-303/+432
8'-0" DOUBLE TEE	58.0	8.0	100	-228/+118	-259/+118	-259/+118	
DOUBLE TEE BRG.	58.0	4.0	100	-228/+118	-259/+118	-259/+118	

NOTE: POSITIVE PRESSURES ARE DIRECTED INWARD ON THE EXTERIOR SURFACE. NEGATIVE PRESSURES ARE DIRECTED OUTWARD ON THE EXTERIOR SURFACE.



WIND AND SEISMIC LATERAL LOAD PLAN

SHELTER NOTES

QUALITY ASSURANCE PLAN

- REFER TO SHEET S001 AND S002 FOR SPECIAL INSPECTIONS, STRUCTURAL OBSERVATIONS AND REQUIREMENTS.
- PRIOR TO CONSTRUCTION A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH THE ARCHITECT, ENGINEER OF RECORD, GENERAL CONTRACTOR, RELATED CONTRACTORS, SPECIAL INSPECTOR, AND TESTING AGENCY.
- SPECIAL INSPECTION FIRM SHALL SUBMIT QUALIFICATIONS OF INSPECTORS FOR THE INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION FOR THE SHELTER ELEMENTS FOR APPROVAL PRIOR TO THE INSPECTION.

MINIMUM QUALIFICATIONS FOR INSPECTION AGENTS

THE QUALIFICATIONS OF ALL PERSONNEL PERFORMING SPECIAL INSPECTION AND TESTING ACTIVITIES ARE SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL. THE CREDENTIALS OF ALL INSPECTORS AND TESTING TECHNICIANS SHALL BE PROVIDED IF REQUESTED.

KEY FOR MINIMUM QUALIFICATIONS OF INSPECTION AGENTS:

WHEN THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE DEEMS IT APPROPRIATE THAT THE INDIVIDUAL PERFORMING A STIPULATED TEST OR INSPECTION HAVE A SPECIFIC CERTIFICATION OR LICENSE AS INDICATED BELOW, SUCH DESIGNATION SHALL APPEAR BELOW THE AGENCY NUMBER ON THE SCHEDULE.

PE/SE STRUCTURAL ENGINEER - A LICENSED SE OR PE SPECIALIZING IN THE DESIGN OF BUILDING STRUCTURES
PE/GE GEOTECHNICAL ENGINEER - A LICENSED PE SPECIALIZING IN SOIL MECHANICS AND FOUNDATIONS
EIT ENGINEER-IN-TRAINING - A GRADUATE ENGINEER WHO HAS PASSED THE FUNDAMENTALS OF ENGINEERING EXAMINATION

AMERICAN CONCRETE INSTITUTE (ACI) CERTIFICATION

ACI-CFT CONCRETE FIELD TESTING TECHNICIAN - GRADE 1
ACI-CO CONCRETE CONSTRUCTION INSPECTOR
ACI-LIT LABORATORY TESTING TECHNICIAN - GRADE 1&2
ACI-ST STRENGTH TESTING TECHNICIAN

AMERICAN WELDING SOCIETY (AWS) CERTIFICATION

AWS-CWI CERTIFIED WELDING INSPECTOR
AWS/AISC-SSI CERTIFIED STRUCTURAL STEEL INSPECTOR

AMERICAN SOCIETY OF NON-DESTRUCTIVE TESTING (ASNT) CERTIFICATION

ASNT NON-DESTRUCTIVE TESTING TECHNICIAN - LEVEL II OR III

INTERNATIONAL CODE COUNCIL (ICC) CERTIFICATION

ICC-SMSI STRUCTURAL MASONRY SPECIAL INSPECTOR
ICC-SWSI STRUCTURAL STEEL AND WELDING SPECIAL INSPECTOR
ICC-SFSI SPRAY-APPLIED FIREPROOFING SPECIAL INSPECTOR
ICC-PCSI PRESTRESSED CONCRETE SPECIAL INSPECTOR
ICC-RCIS REINFORCED CONCRETE SPECIAL INSPECTOR

NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET)

NICET-CT CONCRETE TECHNICIAN - LEVELS I, II, III & IV
NICET-ST SOILS TECHNICIAN - LEVELS I, II, III & IV
NICET-GET GEOTECHNICAL ENGINEERING TECHNICIAN - LEVELS I, II, III & IV

SPECIAL INSPECTIONS AND STRUCTURAL OBSERVATION

FOR FINAL SUBMITTAL OF THE COMPLETED QUALITY ASSURANCE PLAN TO THE CITY, PROVIDE DATE OF SPECIAL INSPECTIONS AND/OR STRUCTURAL OBSERVATIONS INCLUDING THE NAME AND COMPANY OF THE INSPECTOR/OBSERVER FOR EACH OF THE ITEMS NOTED BELOW. COPIES OF ALL INSPECTION AND OBSERVATION REPORTS FOR THE SHELTER STRUCTURE SHALL BE INCLUDED IN THE FINAL SUBMITTAL AS WELL AS DOCUMENTATION TO DEMONSTRATE THAT ANY DISCREPANCIES NOTED HAVE BEEN RESOLVED. INCLUDE REVIEWED SUBMITTALS FOR COMPONENTS AS NOTED BELOW.

- FOUNDATIONS - FOUNDATION REINFORCING AND PLACEMENT PER CONSTRUCTION DOCUMENTS
 - SPECIAL INSPECTIONS: AFTER PLACEMENT OF REINFORCING, PRIOR TO PLACING AND DURING PLACEMENT OF CONCRETE AND FOLLOWING PLACEMENT AS REQUIRED. EVERY CONCRETE POUR IN SHELTER AREAS.
 - CONCRETE ITEMS 1, 3, 4, 5, 6, 7, 8, AND 12
 - SOILS ITEMS 1, 2, 3, AND 4
 - STRUCTURAL OBSERVATIONS: AFTER INSTALLATION OF REINFORCING PRIOR TO CONCRETE PLACEMENT FOR OBSERVATION OF REINFORCING, EVERY CONCRETE POUR IN SHELTER AREA.
- PRECAST CONCRETE SHEAR WALLS - CONNECTION TO FOUNDATIONS AND BETWEEN PANELS PER DETAILS ON SHEET S201 AND S222
 - SPECIAL INSPECTIONS: DURING PLACEMENT OF PRECAST WALL PANELS AND AFTER WELDING OF CONNECTIONS. EVERY PRECAST CONCRETE PANEL IN SHELTER AREAS.
 - STEEL ITEM D
 - CONCRETE ITEM 10
 - WIND RESISTANCE ITEMS 4 AND 5
 - STRUCTURAL OBSERVATIONS: AFTER INSTALLATION OF WALL PANELS IN SHELTER AREAS. OBSERVATIONS BY PRECAST ENGINEER.
- CONCRETE SLAB ON GRADE REINFORCING PER FOUNDATION PLANS AND DETAILS 11, 12, 13, 14 AND 15/S201
 - SPECIAL INSPECTIONS: AFTER PLACEMENT OF REINFORCING IN SLAB ON GRADE, PRIOR TO PLACING AND DURING PLACEMENT OF CONCRETE AND FOLLOWING PLACEMENT AS REQUIRED. EVERY CONCRETE SLAB POUR IN SHELTER AREAS.
 - CONCRETE ITEMS 1, 3, 5, 6, 7, 8 AND 12
 - INSPECT SLAB SUBGRADE
 - STRUCTURAL OBSERVATIONS: AFTER PLACEMENT OF REINFORCING IN SLAB ON GRADE PRIOR TO CONCRETE PLACEMENT FOR OBSERVATION SLAB REINFORCING AND CONNECTIONS TO CONCRETE SHEAR WALLS. EVERY CONCRETE POUR IN SHELTER AREAS.
- WALL CONNECTIONS TO FLOOR SLAB PER PRECAST MANUFACTURER DETAILS
 - SPECIAL INSPECTIONS: AFTER PLACEMENT OF REINFORCING IN SLAB ON GRADE, PRIOR TO PLACING AND DURING PLACEMENT OF CONCRETE. EVERY CONCRETE SLAB POUR IN SHELTER AREAS.
 - CONCRETE ITEMS 3 AND 4
 - STRUCTURAL OBSERVATIONS: AFTER PLACEMENT OF REINFORCING IN SLAB ON GRADE, PRIOR TO CONCRETE PLACEMENT FOR OBSERVATION SLAB REINFORCING AND CONNECTIONS TO PRECAST CONCRETE SHEAR WALLS. EVERY CONCRETE SLAB POUR IN SHELTER AREAS.
- STRUCTURAL STEEL FABRICATION
 - SPECIAL INSPECTIONS: PRIOR TO AND DURING FABRICATION OF STRUCTURAL STEEL AS REQUIRED.
 - STEEL ITEM 1
- PRECAST PANEL AND DOUBLE TEE FABRICATION
 - SPECIAL INSPECTIONS: (PRIOR TO AND DURING FABRICATION OF PRECAST ELEMENTS) INSPECTION MAY BE WAIVED FOR APPROVED FABRICATORS PER 1704.2.5.
 - CONCRETE ITEMS 1 TO 12

- WALL CONNECTIONS TO PRECAST DOUBLE TEES AND ROOF DIAPHRAGM PER PRECAST MANUFACTURER
 - SPECIAL INSPECTIONS: DURING INSTALLATION AND WELDING OF CONNECTIONS PER PRECAST MANUFACTURER DETAIL.
 - STEEL ITEMS 2, 3, AND 4
 - WELDING ITEMS 1, 2, AND 3
 - CONCRETE ITEM 3
 - WIND RESISTANCE ITEM 1
 - STRUCTURAL OBSERVATIONS: AFTER INSTALLATION OF CONNECTIONS AND DOUBLE TEES, OBSERVATIONS BY PRECAST ENGINEER.
- CONCRETE TOPPING SLAB REINFORCING OVER PRECAST DOUBLE TEES PER FRAMING PLAN, PRECAST MANUFACTURER DETAILS AND DETAILS ON SHEET S222.
 - SPECIAL INSPECTIONS: DURING PLACEMENT OF PRECAST DOUBLE TEES, AFTER PLACEMENT OF REINFORCING IN TOPPING SLABS, PRIOR TO PLACING AND DURING PLACEMENT OF CONCRETE AND FOLLOWING PLACEMENT AS REQUIRED. EVERY CONCRETE TOPPING POUR IN SHELTER AREAS.
 - CONCRETE ITEM 1, 2, 3, 4, 5, 6, 7, 8, 10, AND 12
 - WIND RESISTANCE ITEM 1
 - STRUCTURAL OBSERVATIONS: AFTER PLACEMENT OF REINFORCING IN SUSPENDED SLABS, PRIOR TO CONCRETE PLACEMENT FOR OBSERVATION OF SUSPENDED SLAB REINFORCING. EVERY CONCRETE TOPPING POUR IN SHELTER AREAS.
- DUCT AND PIPE PROTECTION FOR PENETRATIONS IN PRECAST STRUCTURE PER DETAILS ON SHEET S223.
 - SPECIAL INSPECTIONS: DURING INSTALLATION OF CAST IN PLACE ELEMENTS IN PRECAST AND DURING INSTALLATION OF PROTECTION TO OBSERVE CONNECTION OF ELEMENT TO STRUCTURE AND WELDING OF STEEL.
 - STEEL ITEMS 1, 2, AND 3
 - WELDING ITEMS 3 AND 4
 - CONCRETE ITEM 3
 - WIND RESISTANCE FOR CONCRETE SHELTER STRUCTURE AND COMPONENTS ITEM 2
- DOORS, WINDOWS AND LOUVERS ON PERIMETER OF SHELTER
 - SUBMITTALS: APPROVAL REQUIRED PRIOR TO INSTALLATION
 - PROVIDE DOCUMENTS FOR APPROVAL. DOCUMENTS SHALL INCLUDE CALCULATIONS AND MISSILE TESTING RESULT INFORMATION AS REQUIRED TO MEET THE REQUIRED DEBRIS IMPACT TEST MISSILE CRITERIA.
 - SPECIAL INSPECTIONS: DURING INSTALLATION TO OBSERVE CONNECTION OF ELEMENT TO STRUCTURE PER REQUIREMENTS OF MANUFACTURER TO MEET THE REQUIRED DEBRIS IMPACT TEST MISSILE CRITERIA.
 - CONCRETE ITEM 4

CONTRACTOR RESPONSIBILITY

CONTRACTOR RESPONSIBILITY: GENERAL CONTRACTOR, AND RELATED SUBCONTRACTORS RESPONSIBLE FOR CONSTRUCTION OF THE MAIN WIND FORCE RESISTING SYSTEM, EXTERIOR COMPONENTS, AND CRITICAL SUPPORT SYSTEMS FOR THE STRUCTURE SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY PRIOR TO COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT AS REQUIRED IN SECTION 107.3.3 OF THE ICC 500, 2008. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN:

- ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE QUALITY ASSURANCE PLAN.
- ACKNOWLEDGEMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.
- PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF REPORTS.
- IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.
- THIS REQUIREMENT CAN BE MET FOR PREFABRICATED OR PANELIZED STORM SHELTER COMPONENTS WHICH HAVE BEEN INSPECTED AND LABELED BY AN APPROVED AGENCY MEETING THE REQUIREMENTS OF THE BUILDING CODE AND ICC 500, 2008.

REVISIONS

03.06.18

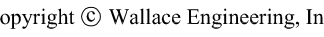
ISSUE DATE

1712603 PROJECT NO
L&L DRAWING NO
CAW CHECKED BY

PRECAST LOADING

S004
SHEET TITLE

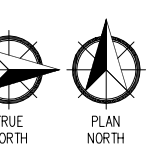
These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.



OKLA. C.A. #1460, EXP. 06/30/19

DOWASSO PUBLIC
SCHOOLS

PROJECT



KEY PLAY

SUE DATE

2063	PROJECT NO.
LRA	DRAWN BY
CAW	CHK'D BY

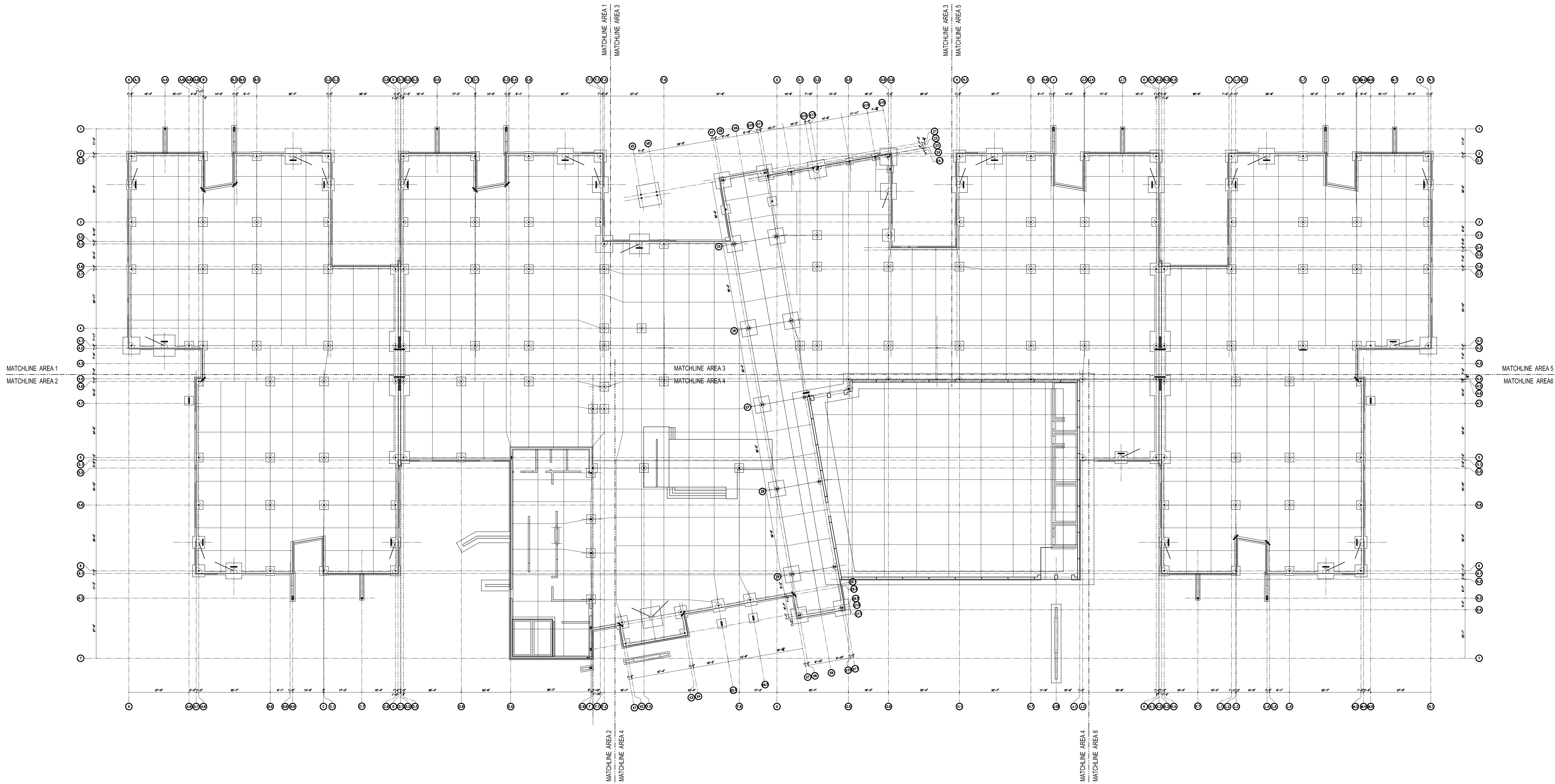
SELF TITL.

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.



- PANEL ELEVATION NOTES:**
- 1. GENERAL CONTRACTOR AND PRECAST MANUFACTURER TO COORDINATE AND VERIFY ALL OPENING LOCATIONS AND SIZES WITH ARCHITECTURAL MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS AND WITH ACTUAL EQUIPMENT PURCHASED.
 - 2. ARCH. REF. MEP FOR OPENING DIMENSIONS AND LOCATIONS.
 - 3. ARCH. REF. MEP FOR OPENING DETAILS ON PAGES 103, 104 AND 105.
 - 4. SEE S223 FOR PIPE PENETRATION THROUGH WALLS.
 - 5. THE INSTALLATION OF ITEMS IN THE PRECAST CONCRETE PANELS, INCLUDING THE OPENING LOCATIONS, SHALL BE COORDINATED WITH ALL ENTITIES INVOLVED PRIOR TO THE PANEL BUILD SO THAT THERE ARE NO EXPOSED CONDUITS (ELECTRICAL AND LIGHTING). PRECAST MANUFACTURER MAY SUBMIT ALTERNATIVE PANEL JOINT LOCATIONS TO DOUBLE CHECK WITH THE ARCHITECT AND ENGINEER PRIOR TO PRECAST SUBMITTAL REVIEW.
 - 6. AT ALL OPENINGS, INCLUDING THOSE NOT SHOWN ON STRUCTURAL DRAWINGS, GREATER THAN 2 INCH DIA. OR 3/8 SIZE SQUARE, PROVIDING PROTECTING PROTECTION ON INSIDES AT LARGER DUCT OPENINGS, PROTECT PROTECTION PER S223.

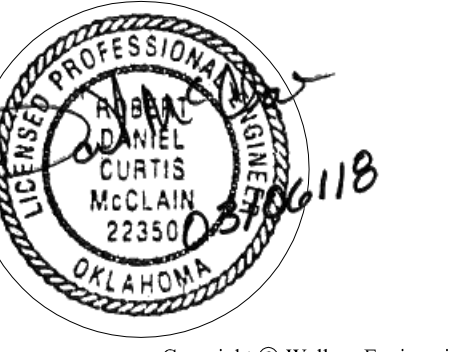
1/16"=1'-0"
1/8"=1'-0"
1/4"=1'-0"
1/2"=1'-0"
3/8"=1'-0"
1"=1'-0"
1 1/2"=1'-0"
2"=1'-0"
3"=1'-0"
4"=1'-0"
6"=1'-0"
8"=1'-0"
12"=1'-0"
18"=1'-0"
24"=1'-0"
30"=1'-0"
36"=1'-0"
42"=1'-0"
48"=1'-0"
54"=1'-0"
60"=1'-0"
66"=1'-0"
72"=1'-0"
78"=1'-0"
84"=1'-0"
90"=1'-0"
96"=1'-0"
102"=1'-0"
108"=1'-0"
114"=1'-0"
120"=1'-0"
126"=1'-0"
132"=1'-0"
138"=1'-0"
144"=1'-0"
150"=1'-0"
156"=1'-0"
162"=1'-0"
168"=1'-0"
174"=1'-0"
180"=1'-0"
186"=1'-0"
192"=1'-0"
198"=1'-0"
204"=1'-0"
210"=1'-0"
216"=1'-0"
222"=1'-0"
228"=1'-0"
234"=1'-0"
240"=1'-0"
246"=1'-0"
252"=1'-0"
258"=1'-0"
264"=1'-0"
270"=1'-0"
276"=1'-0"
282"=1'-0"
288"=1'-0"
294"=1'-0"
300"=1'-0"
306"=1'-0"
312"=1'-0"
318"=1'-0"
324"=1'-0"
330"=1'-0"
336"=1'-0"
342"=1'-0"
348"=1'-0"
354"=1'-0"
360"=1'-0"
366"=1'-0"
372"=1'-0"
378"=1'-0"
384"=1'-0"
390"=1'-0"
396"=1'-0"
402"=1'-0"
408"=1'-0"
414"=1'-0"
420"=1'-0"
426"=1'-0"
432"=1'-0"
438"=1'-0"
444"=1'-0"
450"=1'-0"
456"=1'-0"
462"=1'-0"
468"=1'-0"
474"=1'-0"
480"=1'-0"
486"=1'-0"
492"=1'-0"
498"=1'-0"
504"=1'-0"
510"=1'-0"
516"=1'-0"
522"=1'-0"
528"=1'-0"
534"=1'-0"
540"=1'-0"
546"=1'-0"
552"=1'-0"
558"=1'-0"
564"=1'-0"
570"=1'-0"
576"=1'-0"
582"=1'-0"
588"=1'-0"
594"=1'-0"
600"=1'-0"
606"=1'-0"
612"=1'-0"
618"=1'-0"
624"=1'-0"
630"=1'-0"
636"=1'-0"
642"=1'-0"
648"=1'-0"
654"=1'-0"
660"=1'-0"
666"=1'-0"
672"=1'-0"
678"=1'-0"
684"=1'-0"
690"=1'-0"
696"=1'-0"
702"=1'-0"
708"=1'-0"
714"=1'-0"
720"=1'-0"
726"=1'-0"
732"=1'-0"
738"=1'-0"
744"=1'-0"
750"=1'-0"
756"=1'-0"
762"=1'-0"
768"=1'-0"
774"=1'-0"
780"=1'-0"
786"=1'-0"
792"=1'-0"
798"=1'-0"
804"=1'-0"
810"=1'-0"
816"=1'-0"
822"=1'-0"
828"=1'-0"
834"=1'-0"
840"=1'-0"
846"=1'-0"
852"=1'-0"
858"=1'-0"
864"=1'-0"
870"=1'-0"
876"=1'-0"
882"=1'-0"
888"=1'-0"
894"=1'-0"
900"=1'-0"
906"=1'-0"
912"=1'-0"
918"=1'-0"
924"=1'-0"
930"=1'-0"
936"=1'-0"
942"=1'-0"
948"=1'-0"
954"=1'-0"
960"=1'-0"
966"=1'-0"
972"=1'-0"
978"=1'-0"
984"=1'-0"
990"=1'-0"
996"=1'-0"
1000"=1'-0"



OVERALL FOUNDATION PLAN
SCALE: 3/64" = 1'-0"

the.stacy.group
architecture interiors

222 east 10th street plaza
Edmond, Oklahoma 73034
phone: 405.330.8292
fax: 405.330.8293



Copyright © Wallace Engineering, Inc.

wallace



Wallace Engineering
Structural Consultants, Inc.

Structural and Civil Consultants
200 East Matthew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

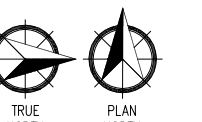
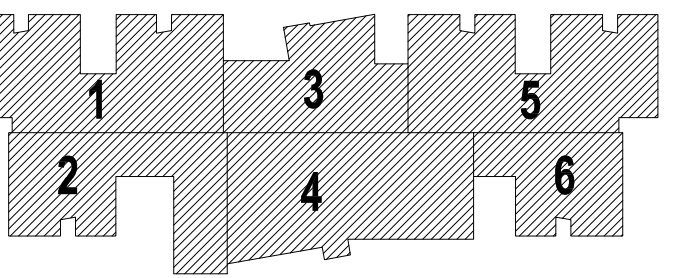
OKLA. C.A. #1460, EXP. 06/30/19

OWASSO MORROW ELEMENTARY

OWASSO PUBLIC
SCHOOLS

OWASSO, OK
2018

PROJECT



KEY PLAN

REVISIONS

03.06.18

ISSUE DATE

1712603 PROJECT NO
LKA DRAWN BY
CAW CHECKED BY

OVERALL
FOUNDATION PLAN

S100

SHEET TITLE

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.



Copyright © Wallace Engineering, Inc.

wallace



Wallace Engineering
Structural Consultants, Inc.

Structural and Civil Consultants
200 East Mathew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

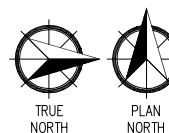
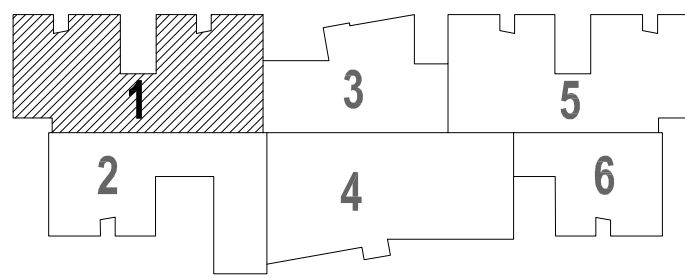
OKLA. C.A. #1460, EXP. 06/30/19

OWASSO MORROW ELEMENTARY

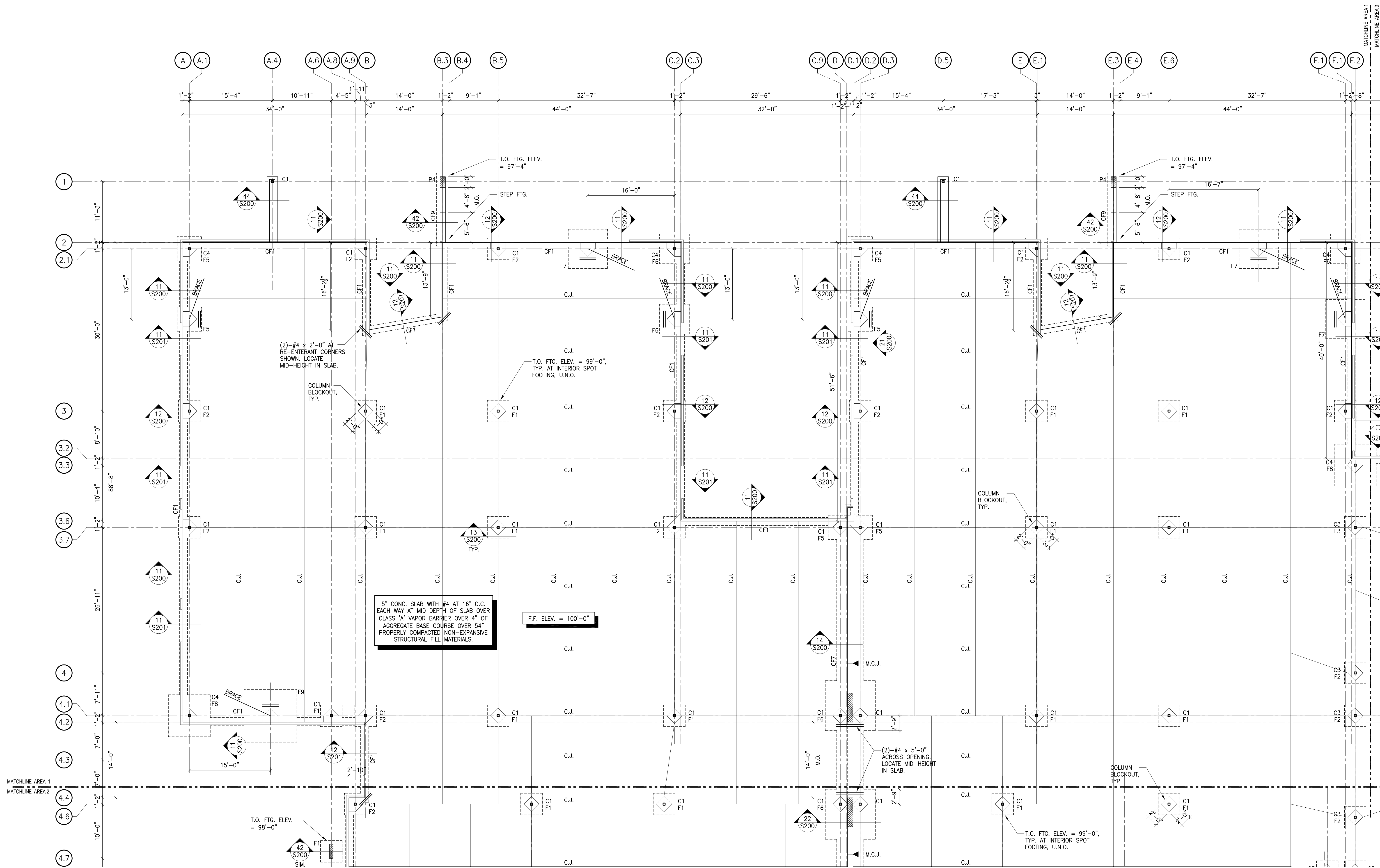
OWASSO PUBLIC
SCHOOLS

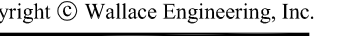
OWASSO, OK
2018

PROJECT

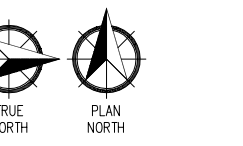


KEY PLAN





OKLA. C.A. #1460, EXP. 06/30/19

OWASSO, OK
2018

PLAN

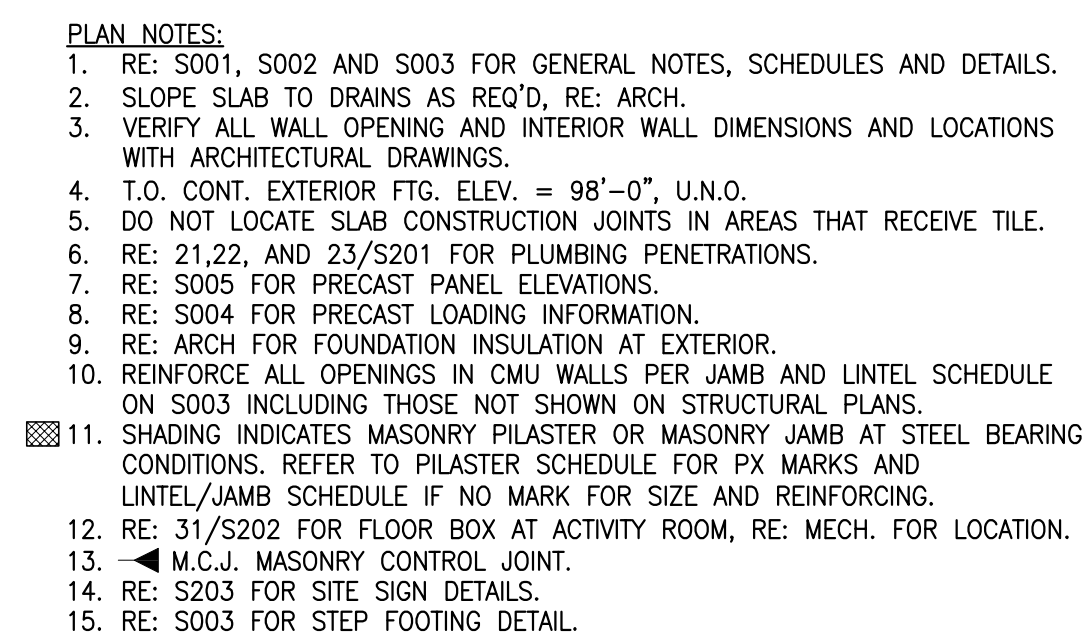
DISCUSSION

DATE _____

PROJECT NO	
DRAWN BY	
CHK'D BY	

T/TITLE

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 31, 1990. The work includes the overall form as well as the arrangement and disposition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.



1 FOUNDATION PLAN AREA '2'
SCALE: 1/8" = 1'-0"



Copyright © Wallace Engineering, Inc.

wallace



Wallace Engineering
Structural Consultants, Inc.

Structural and Civil Consultants
200 East Matthew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

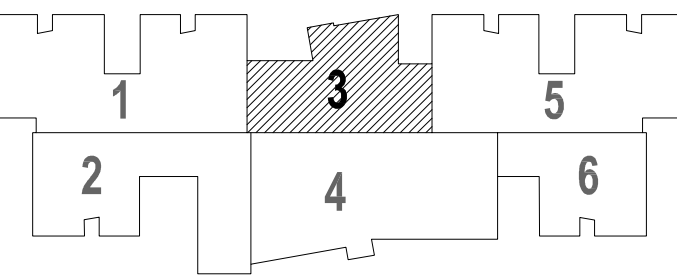
OKLA. C.A. #1460, EXP. 06/30/19

OWASSO MORROW ELEMENTARY

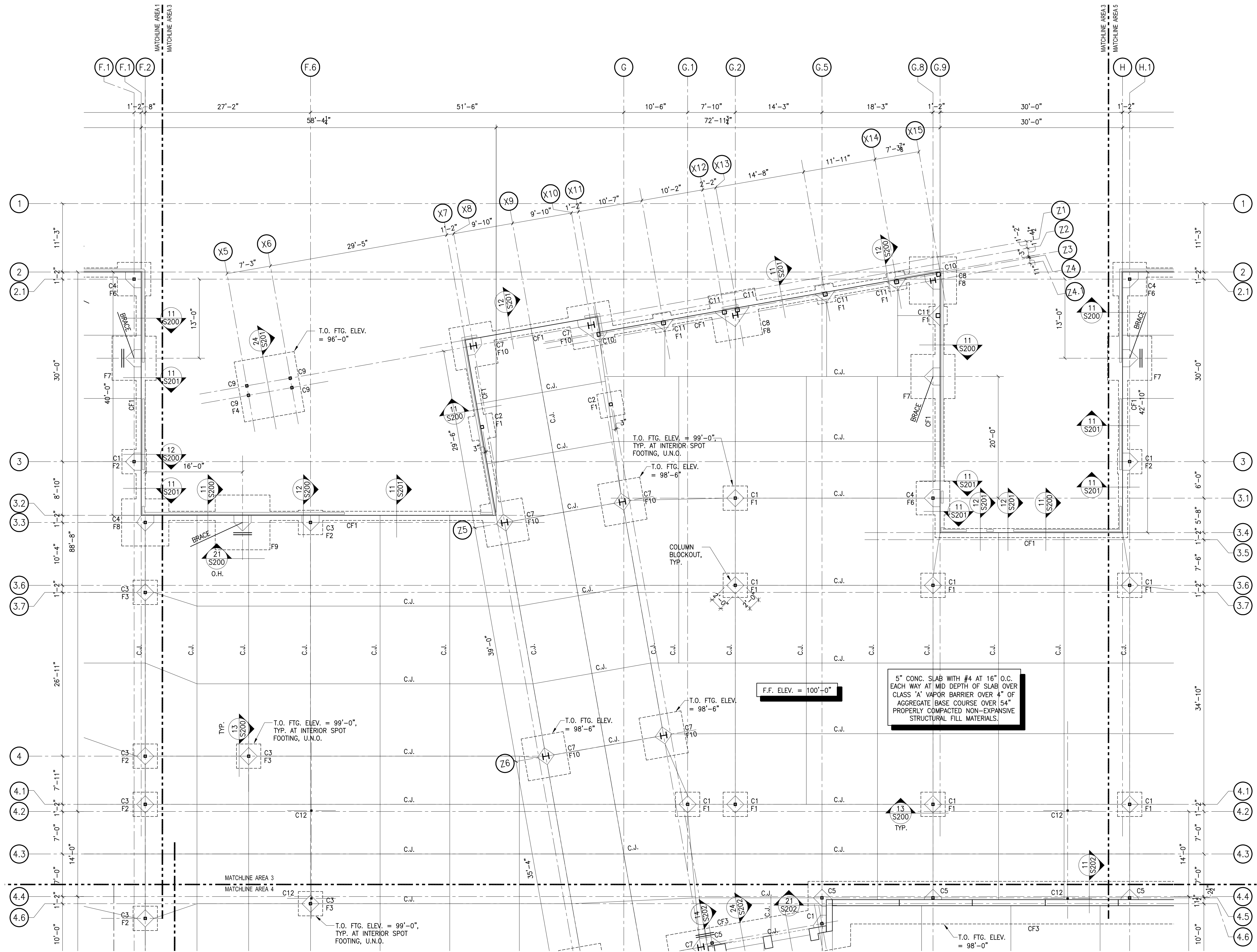
OWASSO PUBLIC
SCHOOLS

OWASSO, OK
2018

PROJECT



KEY PLAN



PLAN NOTES:

1. RE: S201, S202 AND S203 FOR GENERAL NOTES, SCHEDULES AND DETAILS.
2. SLOPE SLAB TO DRAINS AS REQ'D, RE: ARCH.
3. VERIFY ALL WALL OPENING AND INTERIOR WALL DIMENSIONS AND LOCATIONS WITH ARCHITECTURAL DRAWINGS.
4. T.O. CONT. EXTERIOR FTG. ELEV. = 98'-0", U.N.O.
5. DO NOT LOCATE SLAB CONSTRUCTION JOINTS IN AREAS THAT RECEIVE TILE.
6. RE: 21, 22, AND 23/S201 FOR PLUMBING PENETRATIONS.
7. RE: S205 FOR PRECAST PANEL ELEVATIONS.
8. RE: S204 FOR PRECAST LOADING INFORMATION.
9. RE: ARCH FOR FOUNDATION INSULATION AT EXTERIOR.
10. REINFORCE ALL OPENINGS IN CMU WALLS PER JAMB AND LINTEL SCHEDULE ON S203 INCLUDING THOSE NOT SHOWN ON STRUCTURAL PLANS.
11. SHADING INDICATES MASONRY PILASTER OR MASONRY JAMB AT STEEL BEARING CONDITIONS. REFER TO PILASTER SCHEDULE FOR PX MARKS AND LINTEL/JAMB SCHEDULE IF NO MARK FOR SIZE AND REINFORCING.
12. RE: 31/S202 FOR FLOOR BOX AT ACTIVITY ROOM, RE: MECH. FOR LOCATION.
13. M.C.J. MASONRY CONTROL JOINT.
14. RE: S203 FOR SITE SIGN DETAILS.
15. RE: S203 FOR STEP FOOTING DETAIL.



1 FOUNDATION PLAN AREA '3'
SCALE: 1/8" = 1'-0"

REVISIONS

03.06.18

ISSUE DATE

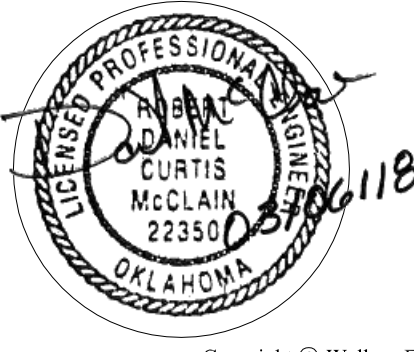
1712603 PROJECT NO
LEA DRAWN BY
CAW CHECKED BY

FOUNDATION PLAN
AREA '3'

S103

SHEET TITLE

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.



Copyright © Wallace Engineering, Inc.

wallace



Wallace Engineering
Structural Consultants, Inc.

Structural and Civil Consultants
200 East Mathew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

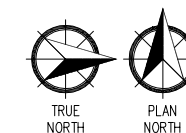
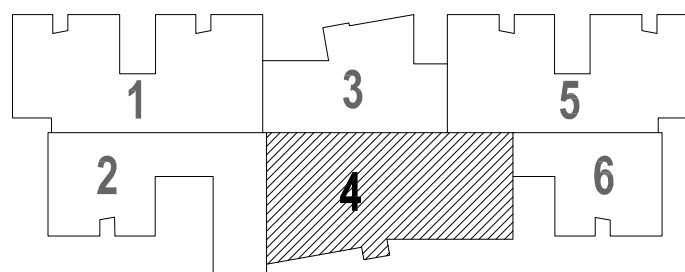
OKLA. C.A. #1460, EXP. 06/30/19

OWASSO MORROW ELEMENTARY

OWASSO PUBLIC
SCHOOLS

OWASSO, OK
2018

PROJECT



KEY PLAN

REVISIONS

03.06.18

ISSUE DATE

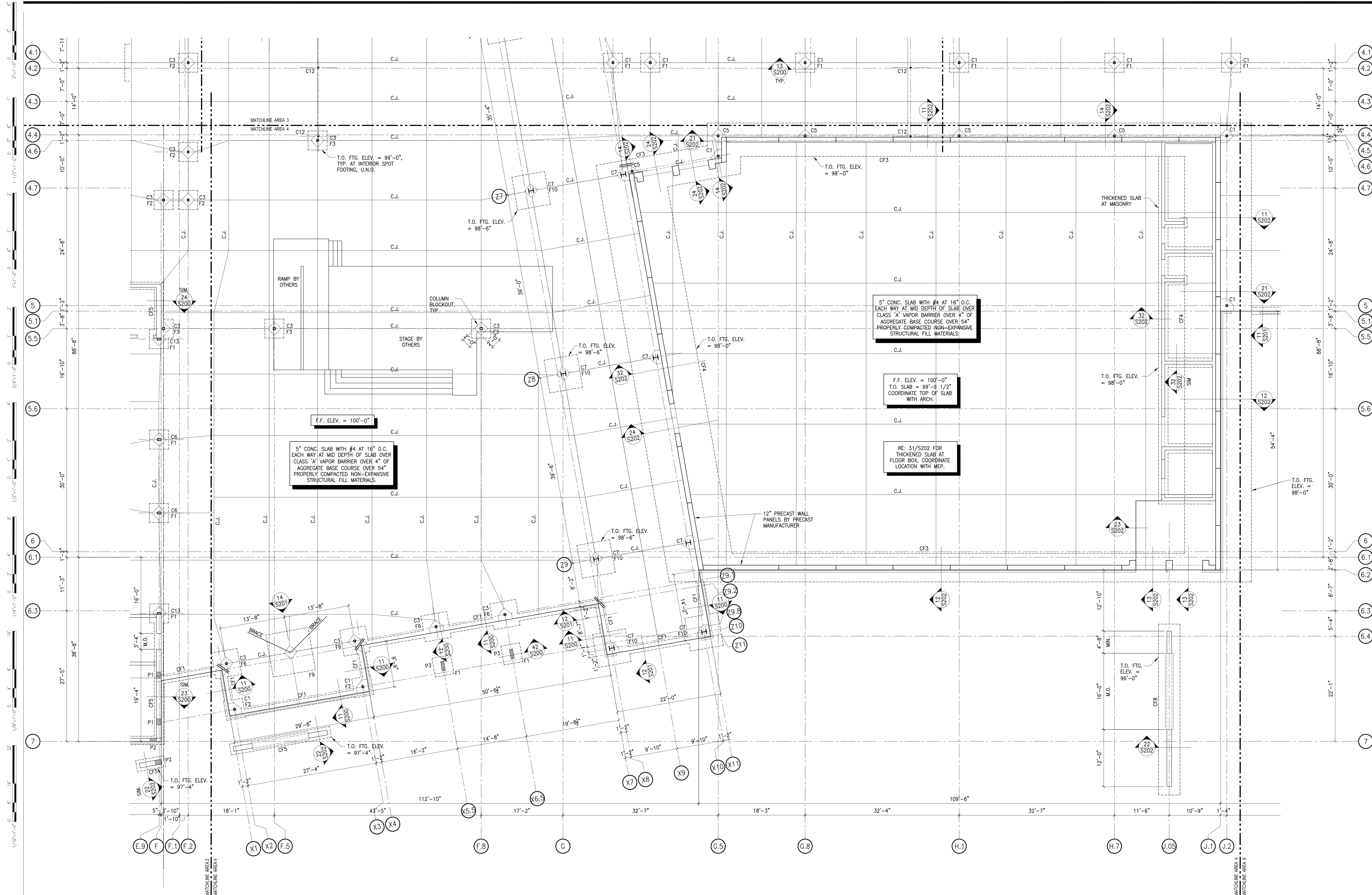
1712803 PROJECT NO
LEA DRAWN BY
CAW CHECKED BY

FOUNDATION PLAN AREA '4'

S104

SHEET TITLE

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.



- PLAN NOTES:
1. RE: S201, S202 AND S203 FOR GENERAL NOTES, SCHEDULES AND DETAILS.
 2. SLOPE SLAB TO DRAINS AS REQ'D, RE: ARCH.
 3. VERIFY ALL WALL OPENING AND INTERIOR WALL DIMENSIONS AND LOCATIONS WITH ARCHITECTURAL DRAWINGS.
 4. T.O. CONT. EXTERIOR FTG. ELEV. = 98'-0", U.N.O.
 5. DO NOT LOCATE SLAB CONSTRUCTION JOINTS IN AREAS THAT RECEIVE TILE.
 6. RE: 21,22, AND 23/S201 FOR PLUMBING PENETRATIONS.
 7. RE: S205 FOR PRECAST PANEL ELEVATIONS.
 8. RE: S204 FOR PRECAST LOADING INFORMATION.
 9. RE: ARCH FOR FOUNDATION INSULATION AT EXTERIOR.
 10. REINFORCE ALL OPENINGS IN CMU WALLS PER JAMB AND LINTEL SCHEDULE ON S203 INCLUDING THOSE NOT SHOWN ON STRUCTURAL PLANS.
 11. SHADING INDICATES MASONRY PILASTER OR MASONRY JAMB AT STEEL BEARING CONDITIONS. REFER TO PLASTER SCHEDULE FOR PX MARKS AND LINTEL/JAMB SCHEDULE IF NO MARK FOR SIZE AND REINFORCING.
 12. RE: 31/S202 FOR FLOOR BOX AT ACTIVITY ROOM, RE: MECH. FOR LOCATION.
 13. M.C.J. MASONRY CONTROL JOINT.
 14. RE: S203 FOR SITE SIGN DETAILS.
 15. RE: S203 FOR STEP FOOTING DETAIL.



PLAN
NORTH

1 FOUNDATION PLAN AREA '4'
SCALE: 1/8" = 1'-0"



Copyright © Wallace Engineering, Inc.

wallace



Wallace Engineering
Structural Consultants, Inc.

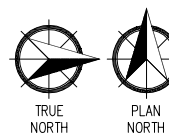
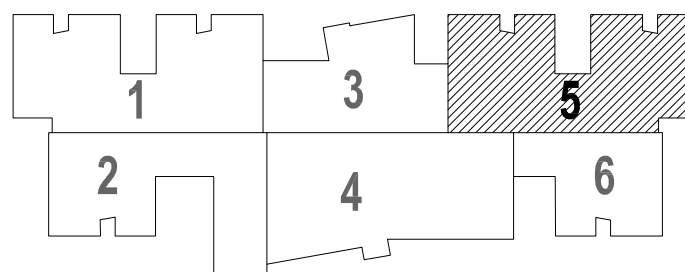
Structural and Civil Consultants
200 East Mathew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

OKLA. C.A. #1460, EXP. 06/30/19

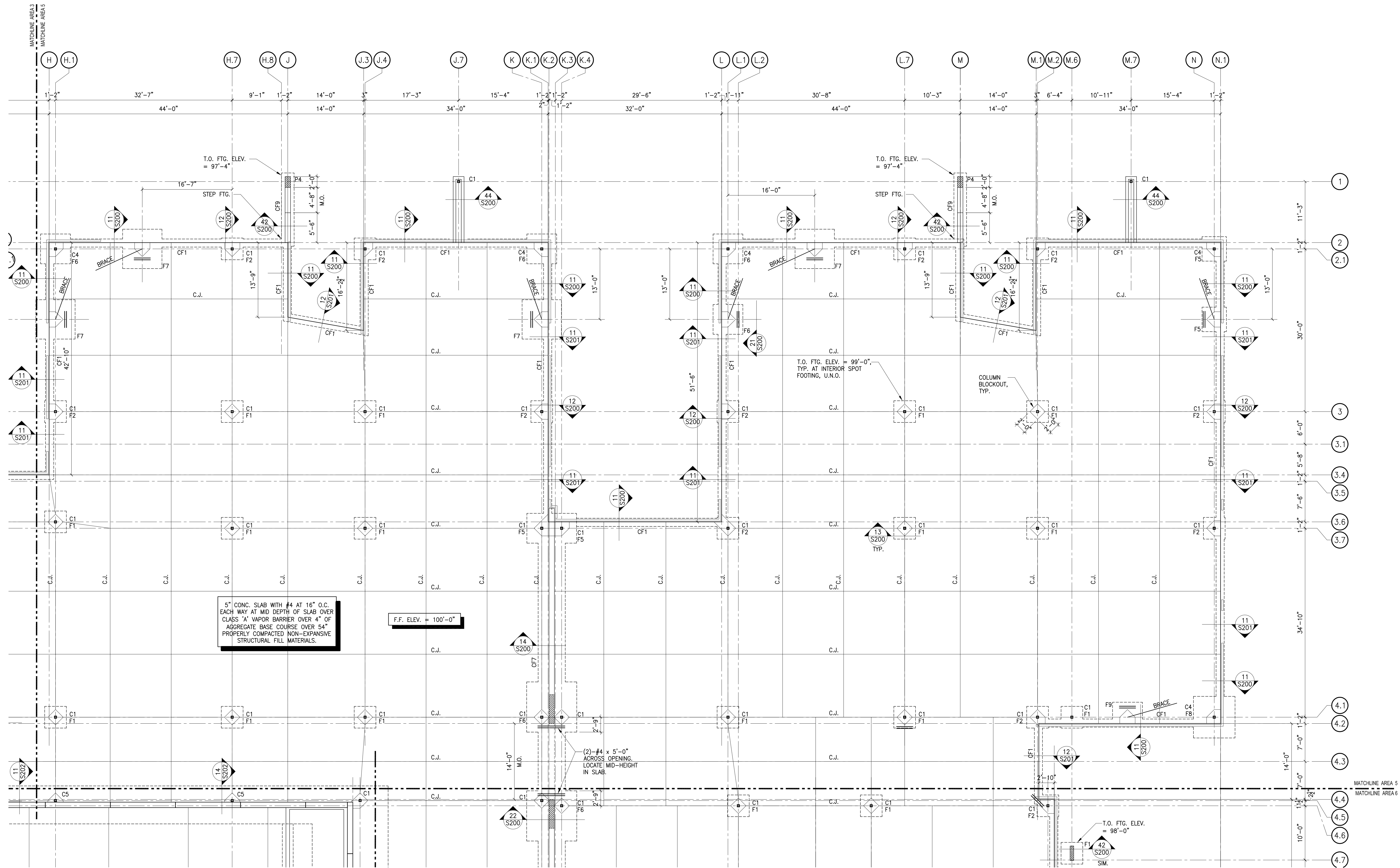
OWASSO MORROW ELEMENTARY

OWASSO PUBLIC
SCHOOLS
OWASSO, OK
2018

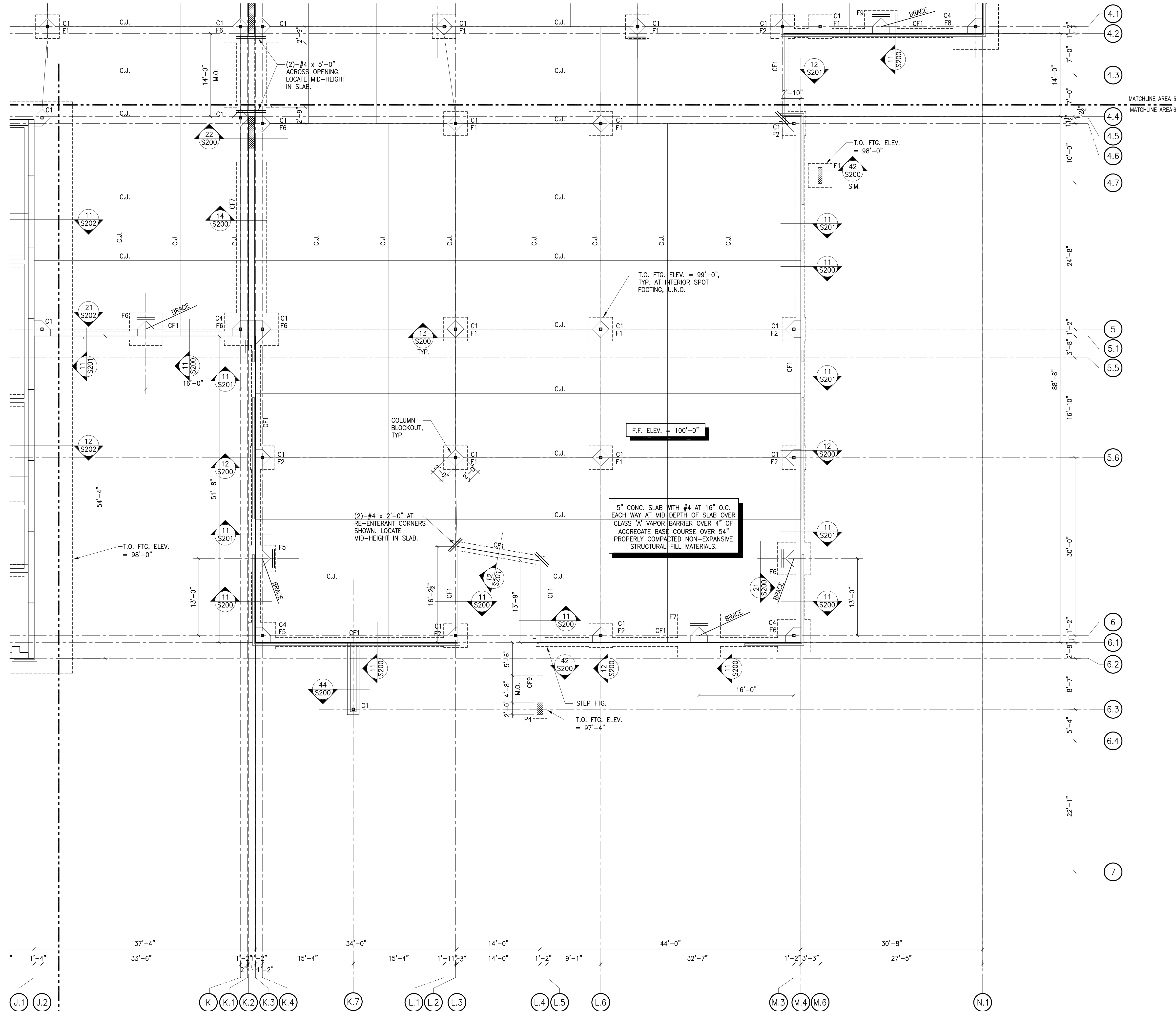
PROJECT



KEY PLAN



1/16"=1'-0"
1/8"=1'-0"
1/4"=1'-0"
1/2"=1'-0"
3/8"=1'-0"
1"=1'-0"
1 1/2"=1'-0"
2"=1'-0"
3"=1'-0"
4"=1'-0"
6"=1'-0"
8"=1'-0"
12"=1'-0"
18"=1'-0"
24"=1'-0"
30"=1'-0"
36"=1'-0"
48"=1'-0"
60"=1'-0"
72"=1'-0"
84"=1'-0"
96"=1'-0"
108"=1'-0"
120"=1'-0"



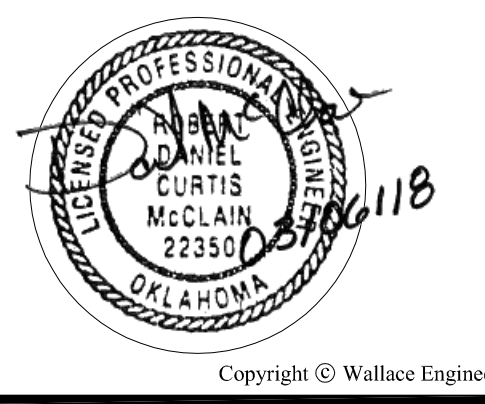
- PLAN NOTES:
1. RE: S201, S202 AND S203 FOR GENERAL NOTES, SCHEDULES AND DETAILS.
 2. SLOPE SLAB TO DRAINS AS REQ'D, RE: ARCH.
 3. VERIFY ALL WALL OPENING AND INTERIOR WALL DIMENSIONS AND LOCATIONS WITH ARCHITECTURAL DRAWINGS.
 4. T.O. CONT. EXTERIOR FTG. ELEV. = 98'-0", U.N.O.
 5. DO NOT LOCATE SLAB CONSTRUCTION JOINTS IN AREAS THAT RECEIVE TILE.
 6. RE: 21, 22, AND 23/S201 FOR PLUMBING PENETRATIONS.
 7. RE: S205 FOR PRECAST PANEL ELEVATIONS.
 8. RE: S204 FOR PRECAST LOADING INFORMATION.
 9. RE: ARCH FOR FOUNDATION INSULATION AT EXTERIOR.
 10. REINFORCE ALL OPENINGS IN CMU WALLS PER JAMB AND LINTEL SCHEDULE ON S203 INCLUDING THOSE NOT SHOWN ON STRUCTURAL PLANS.
 11. SHADING INDICATES MASONRY PLASTER OR MASONRY JAMB AT STEEL BEARING CONDITIONS. REFER TO PLASTER SCHEDULE FOR PX MARKS AND LINTEL/JAMB SCHEDULE IF NO MARK FOR SIZE AND REINFORCING.
 12. RE: 31/S202 FOR FLOOR BOX AT ACTIVITY ROOM, RE: MECH. FOR LOCATION.
 13. M.C.J. MASONRY CONTROL JOINT.
 14. RE: S203 FOR SITE SIGN DETAILS.
 15. RE: S203 FOR STEP FOOTING DETAIL.



1 FOUNDATION PLAN AREA '6'
SCALE: 1/8" = 1'-0"

the.stacy.group
architecture interiors

222 east 10th street plaza
Edmond, Oklahoma 73034
phone: 405.330.8292
fax: 405.330.8293

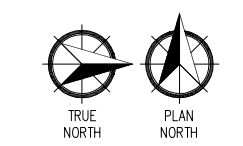
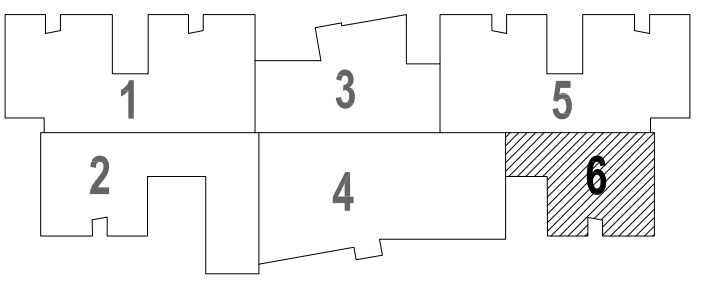


Wallace Engineering
Structural Consultants, Inc.

Structural and Civil Consultants
200 East Matthew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858
OKLA. C.A. #1460, EXP. 06/30/19

OWASSO MORROW ELEMENTARY

OWASSO PUBLIC SCHOOLS
OWASSO, OK 2018



KEY PLAN

03.06.18

1712603 PROJECT NO
LKA DRAWN BY
CAV CHECKED BY

FOUNDATION PLAN AREA '6'

S106

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.



Copyright © Wallace Engineering, Inc.

wallace



Wallace Engineering
Structural Consultants, Inc.

Structural and Civil Consultants
200 East Matthew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

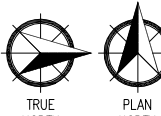
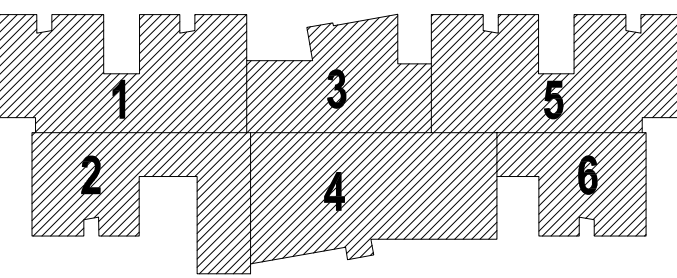
OKLA. C.A. #1460, EXP. 06/30/19

OWASSO MORROW ELEMENTARY

OWASSO PUBLIC
SCHOOLS

OWASSO, OK
2018

PROJECT



KEY PLAN

REVISIONS

03.06.18

ISSUE DATE

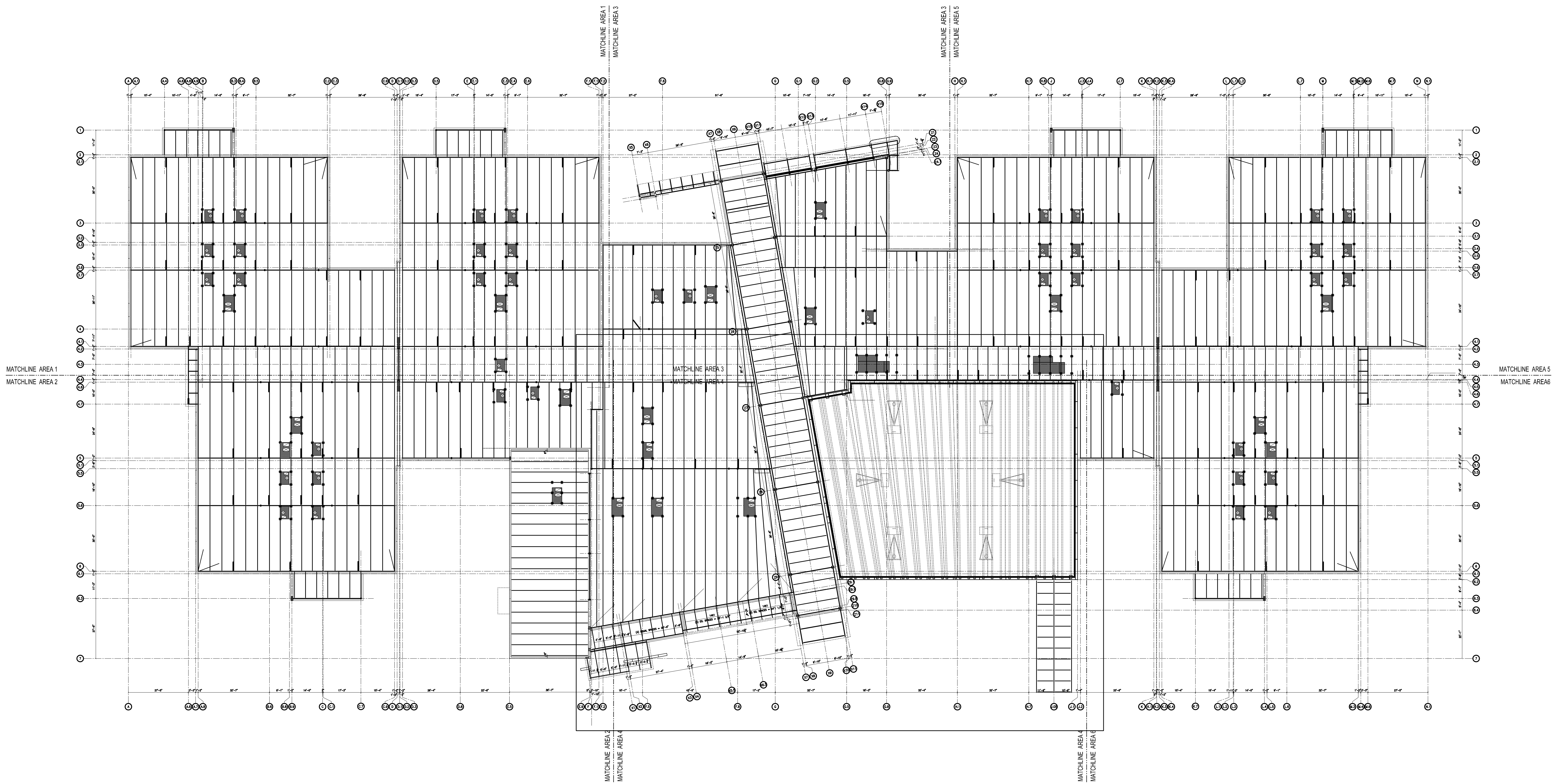
1712603 PROJECT NO
LEK DRAWN BY
CAW CHECKED BY

OVERALL
FRAMING PLAN

S120

SHEET TITLE

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.

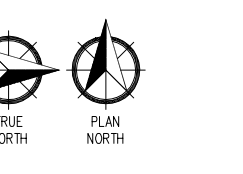


OVERALL FRAMING PLAN
SCALE: 3/64" = 1'-0"



OKLA. C.A. #1460, EXP. 06/30/19

OWASSO PUBLIC
SCHOOLS
OWASSO, OK
2018



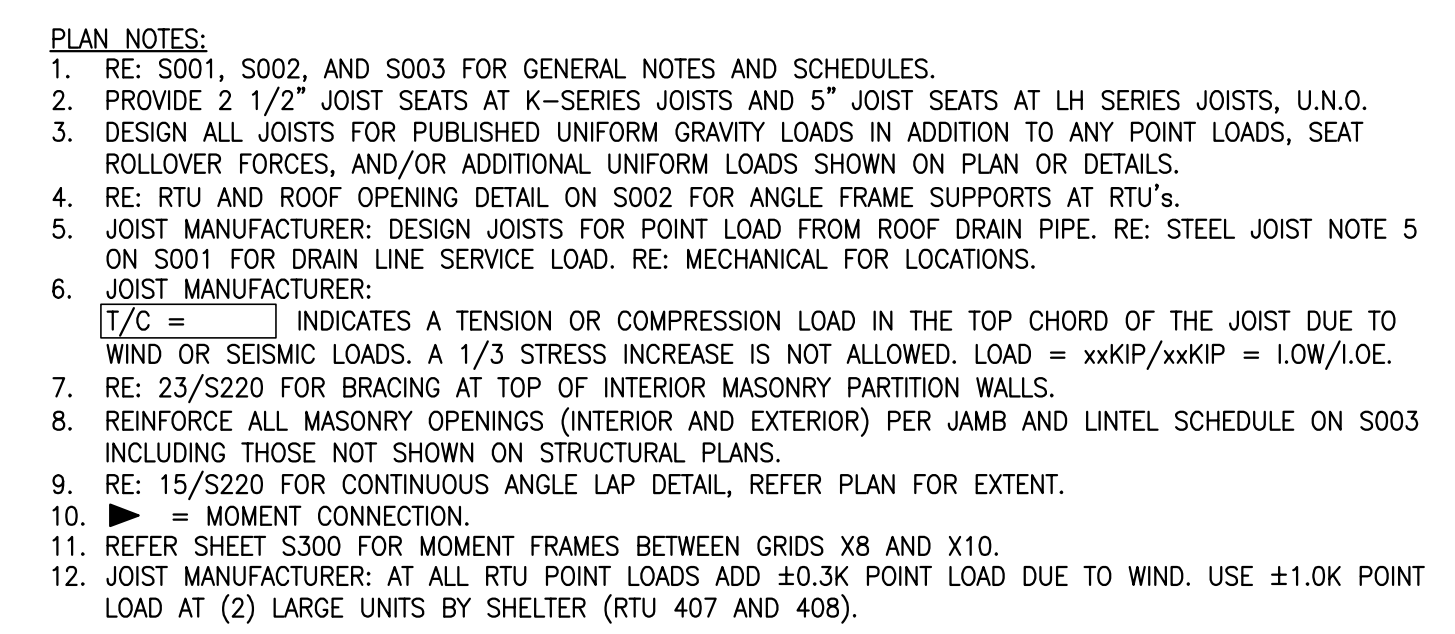
KEY PLAN

REVISIONS

PROJECT NO.
DRAWN BY
CHK'D BY

S121

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.



1 FRAMING PLAN AREA '1'
SCALE: 1/8" = 1'-0"



Copyright © Wallace Engineering, Inc.

wallace



Wallace Engineering
Structural Consultants, Inc.

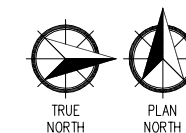
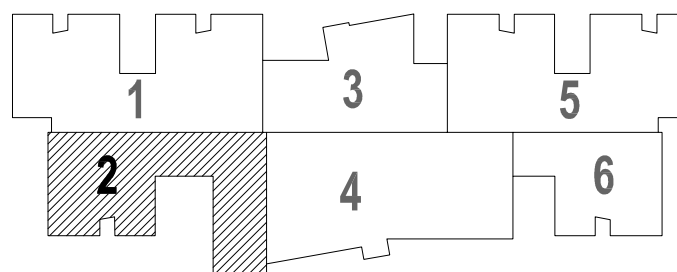
Structural and Civil Consultants
200 East Matthew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

OKLA. C.A. #1460, EXP. 06/30/19

OWASSO MORROW ELEMENTARY

OWASSO PUBLIC
SCHOOLS

OWASSO, OK
2018



KEY PLAN

03.06.18

ISSUE DATE

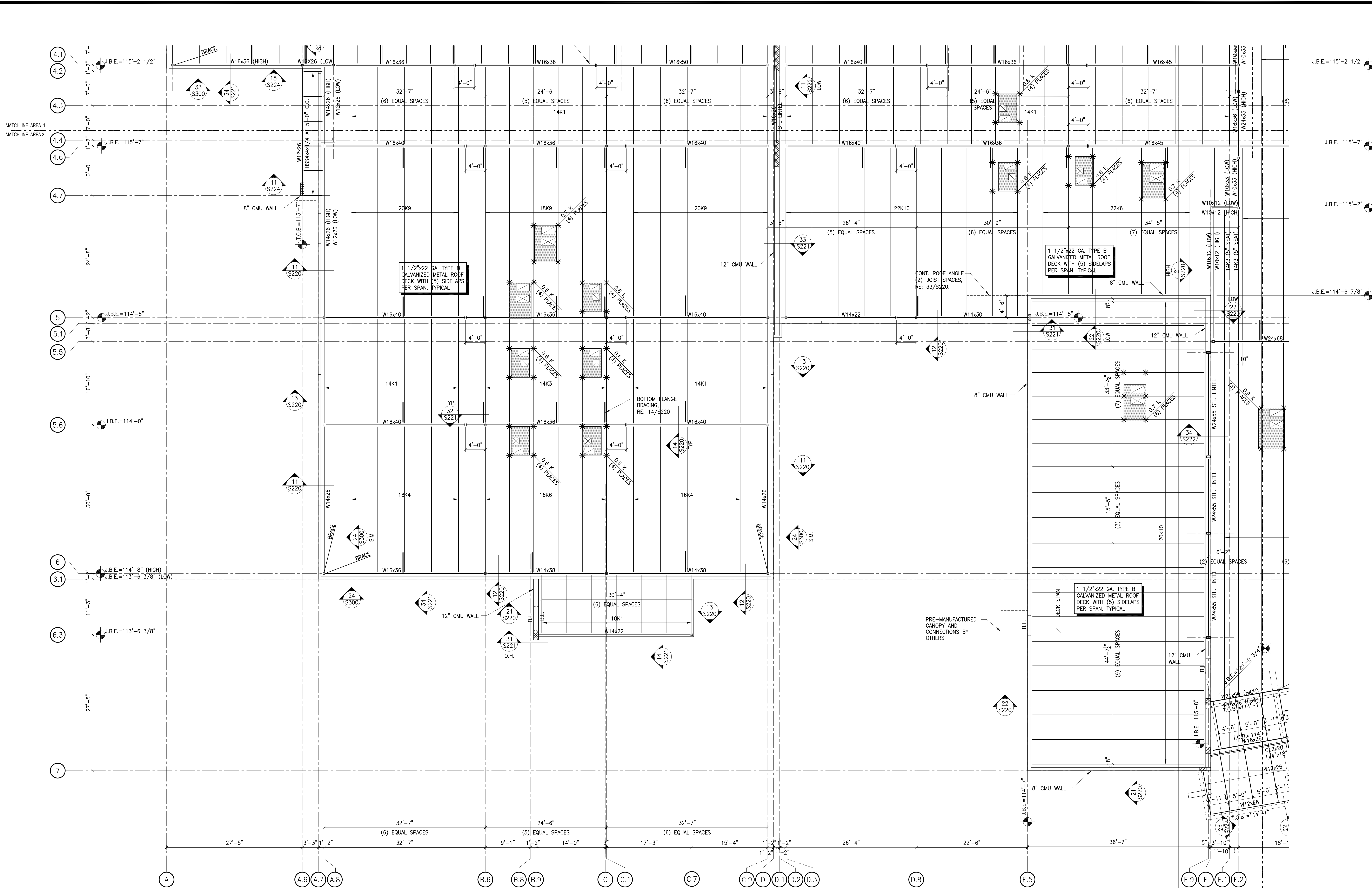
171263 PROJECT NO
LEA DRAWN BY
CAV CHECKED BY

FRAMING PLAN AREA '2'

S122

SHEET TITLE

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.

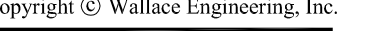


PLAN NOTES:

- RE: S001, S002, AND S003 FOR GENERAL NOTES AND SCHEDULES.
- PROVIDE 2 1/2" JOIST SEATS AT K-SERIES JOISTS AND 5" JOIST SEATS AT LH SERIES JOISTS, U.N.O.
- DESIGN ALL JOISTS FOR PUBLISHED UNIFORM GRAVITY LOADS IN ADDITION TO ANY POINT LOADS, SEAT ROLLOVER FORCES, AND/OR ADDITIONAL UNIFORM LOADS SHOWN ON PLAN OR DETAILS.
- RE: RTU AND ROOF OPENING DETAIL ON S002 FOR ANGLE FRAME SUPPORTS AT RTU's.
- JOIST MANUFACTURER: DESIGN JOISTS FOR POINT LOAD FROM ROOF DRAIN PIPE, RE: STEEL JOIST NOTE 5 ON S001 FOR DRAIN LINE SERVICE LOAD, RE: MECHANICAL FOR LOCATIONS.
- JOIST MANUFACTURER:
T/C = INDICATES A TENSION OR COMPRESSION LOAD IN THE TOP CHORD OF THE JOIST DUE TO WIND OR SEISMIC LOADS. A 1/3 STRESS INCREASE IS NOT ALLOWED. LOAD = $\frac{xxKIP}{xxKIP} = 1.0W/L.O.E.$
- RE: 23/S220 FOR BRACING AT TOP OF INTERIOR MASONRY PARTITION WALLS.
- REINFORCE ALL MASONRY OPENINGS (INTERIOR AND EXTERIOR) PER JAMB AND LINTEL SCHEDULE ON S003 INCLUDING THOSE NOT SHOWN ON STRUCTURAL PLANS.
- RE: 15/S220 FOR CONTINUOUS ANGLE LAP DETAIL, REFER PLAN FOR EXTENT.
- RE: 15/S220 FOR MOMENT CONNECTION.
- REFER SHEET S300 FOR MOMENT FRAMES BETWEEN GRIDS X8 AND X10.
- JOIST MANUFACTURER: AT ALL RTU POINT LOADS ADD $\pm 0.5K$ POINT LOAD DUE TO WIND. USE $\pm 1.0K$ POINT LOAD AT (2) LARGE UNITS BY SHELTER (RTU 407 AND 408).



1 FRAMING PLAN AREA '2'
SCALE: 1/8" = 1'-0"



OKLA. C.A. #1460, EXP. 06/30/19

OWASSO PUBLIC
SCHOOLS
OWASSO, OK
2018



2063	PROJECT NO
LRA	DRAWN BY
CAW	CHK'D BY

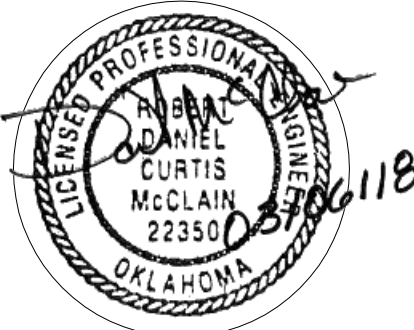
MEET TITLE

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.



1 FRAMING PLAN AREA '3'
SCALE: 1/8" = 1'-0"

- [illegible]



Copyright © Wallace Engineering, Inc.

wallace



Wallace Engineering
Structural Consultants, Inc.

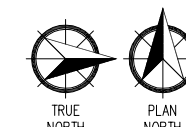
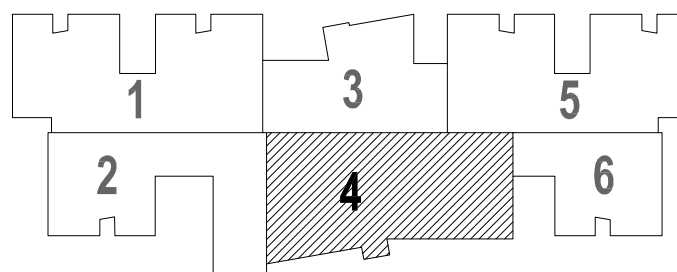
Structural and Civil Consultants
200 East Matthew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

OKLA. C.A. #1460, EXP. 06/30/19

OWASSO MORROW ELEMENTARY

OWASSO PUBLIC SCHOOLS

OWASSO, OK
2018



KEY PLAN

03.06.18

ISSUE DATE

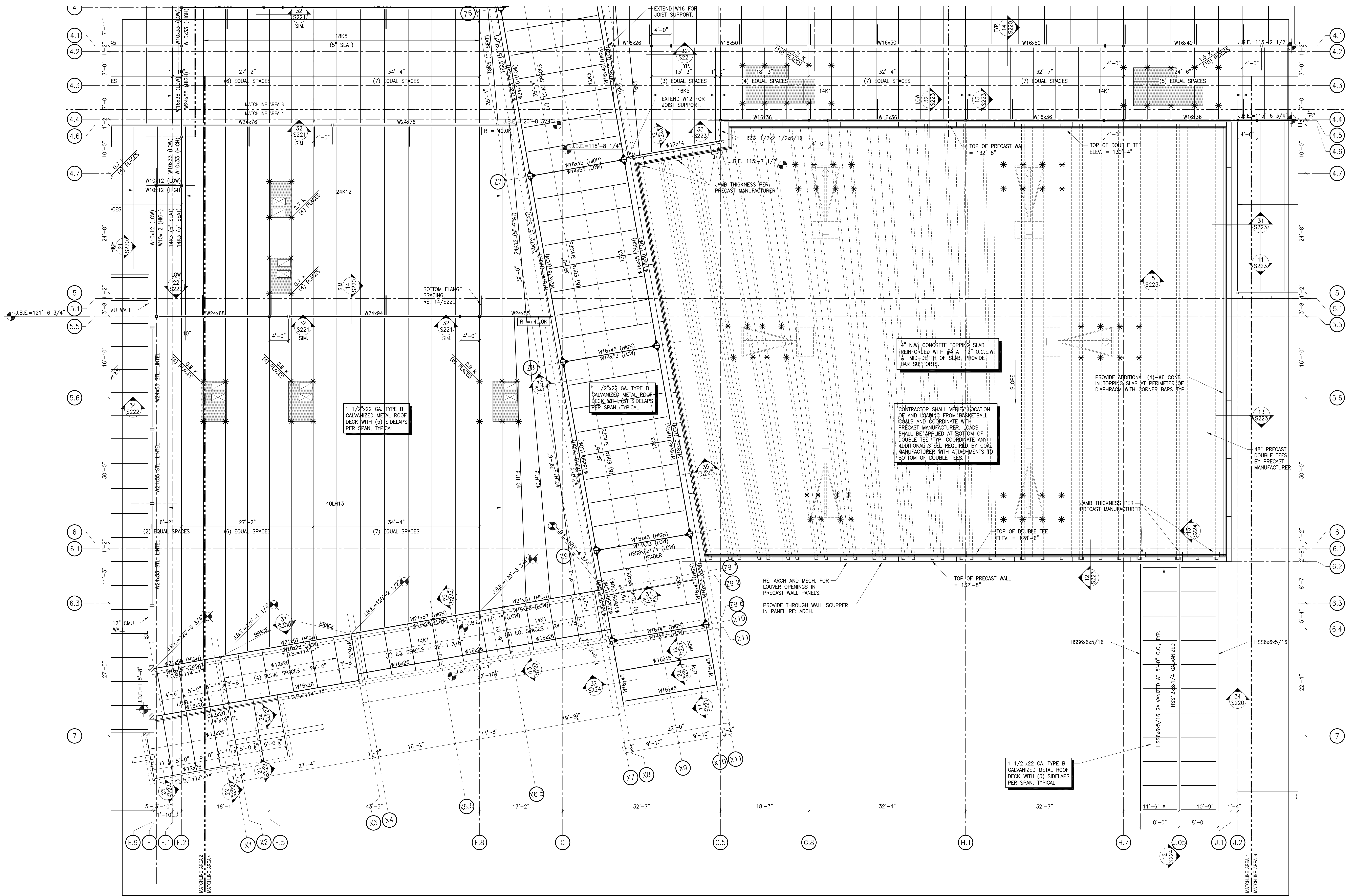
1712803 PROJECT NO.
LEA DRAWING
CAV CHECKED BY

FRAMING PLAN AREA '4'

S124

SHEET TITLE

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.

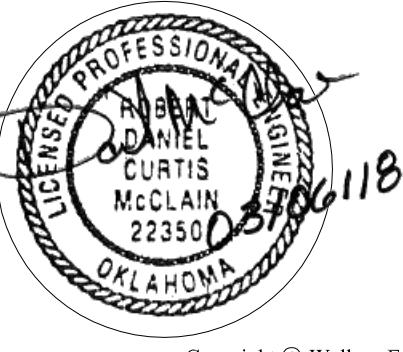


PLAN NOTES:

- RE: S001, S002, AND S003 FOR GENERAL NOTES AND SCHEDULES.
- PROVIDE 2 1/2" JOIST SEATS AT K-SERIES JOISTS AND 5" JOIST SEATS AT LH SERIES JOISTS, U.N.O.
- DESIGN ALL JOISTS FOR PUBLISHED UNIFORM GRAVITY LOADS IN ADDITION TO ANY POINT LOADS, SEAT ROLLER FORCES, AND/OR ADDITIONAL UNIFORM LOADS SHOWN ON PLAN OR DETAILS.
- RE: RTU AND ROOF OPENING DETAIL ON S002 FOR ANGLE FRAME SUPPORTS AT RTU'S.
- JOIST MANUFACTURER: DESIGN JOISTS FOR POINT LOAD FROM ROOF DRAIN PIPE, RE: STEEL JOIST NOTE 5 ON S001 FOR DRAIN LINE SERVICE LOAD, RE: MECHANICAL FOR LOCATIONS.
- JOIST MANUFACTURER:
T/C = INDICATES A TENSION OR COMPRESSION LOAD IN THE TOP CHORD OF THE JOIST DUE TO WIND OR SEISMIC LOADS. A 1/3 STRESS INCREASE IS NOT ALLOWED. LOAD = $\frac{W \times KIP}{K \times KIP} = 1.0W/1.0E$.
- RE: 23/S220 FOR BRACING AT TOP OF INTERIOR MASONRY PARTITION WALLS.
- REINFORCE ALL MASONRY OPENINGS (INTERIOR AND EXTERIOR) PER JAMB AND LINTEL SCHEDULE ON S003 INCLUDING THOSE NOT SHOWN ON STRUCTURAL PLANS.
- RE: 15/S220 FOR CONTINUOUS ANGLE LAP DETAIL, REFER PLAN FOR EXTENT.
- RE: 15/S220 FOR MOMENT CONNECTION.
- JOIST MANUFACTURER: AT ALL RTU POINT LOADS ADD $\pm 0.5K$ POINT LOAD DUE TO WIND. USE $\pm 1.0K$ POINT LOAD AT (2) LARGE UNITS BY SHELTER (RTU 407 AND 408).



1 FRAMING PLAN AREA '4'
SCALE: 1/8" = 1'-0"



Copyright © Wallace Engineering, Inc.

wallace



Wallace Engineering
Structural Consultants, Inc.

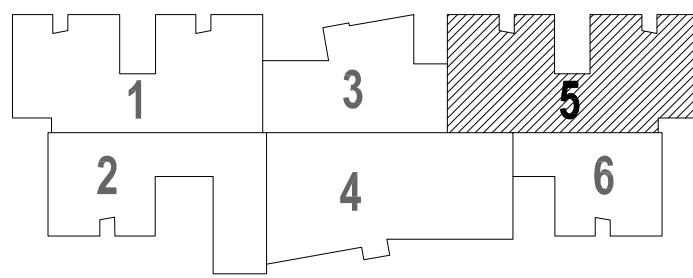
Structural and Civil Consultants
200 East Matthew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

OKLA. C.A. #1460, EXP. 06/30/19

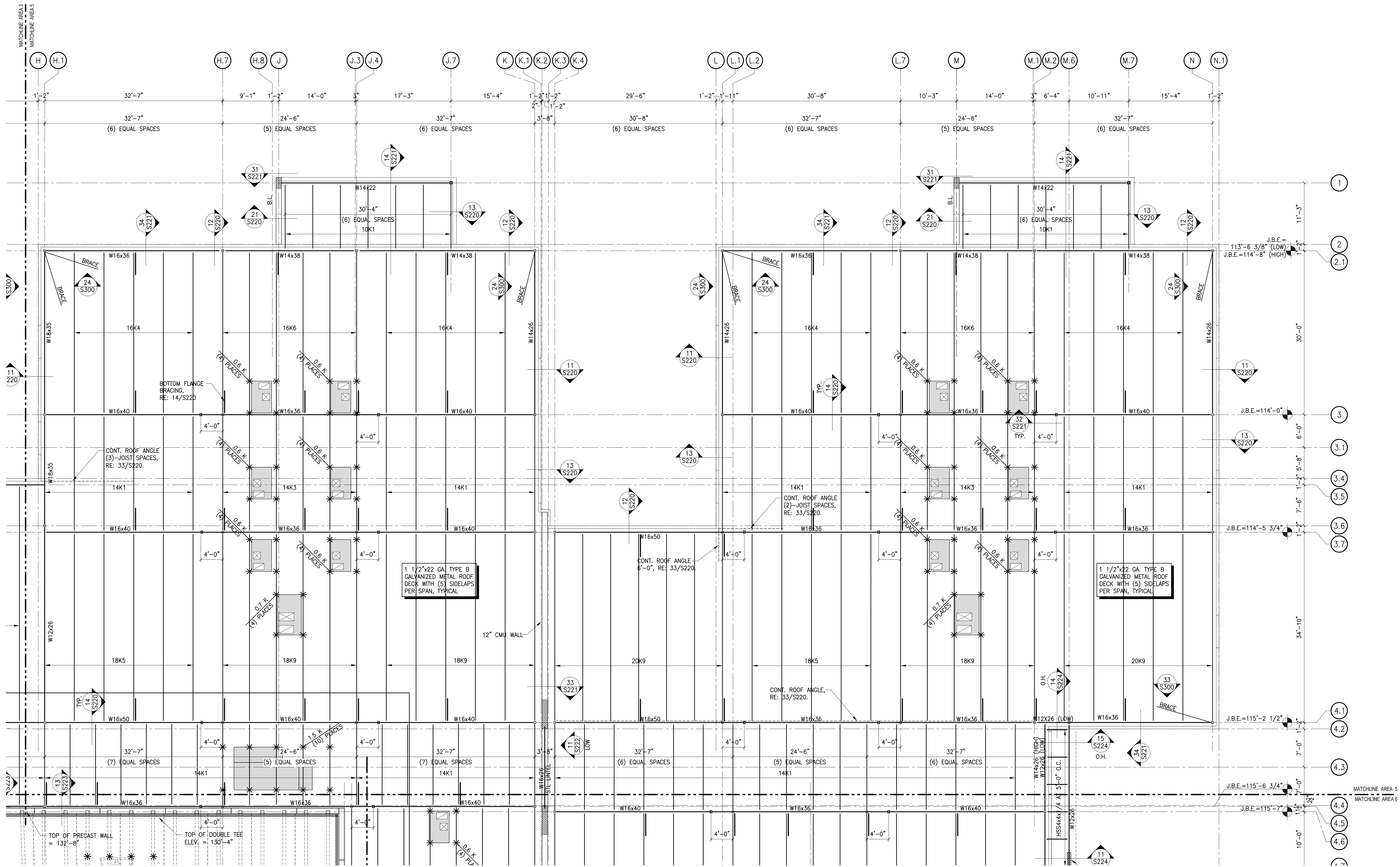
OWASSO MORROW ELEMENTARY

OWASSO PUBLIC
SCHOOLS
OWASSO, OK
2018

PROJECT



KEY PLAN



PLAN NOTES:

- RE: S001, S002, AND S003 FOR GENERAL NOTES AND SCHEDULES.
- PROVIDE 2 1/2" JOIST SEATS AT K-SERIES JOISTS AND 5" JOIST SEATS AT LH SERIES JOISTS, U.N.O.
- DESIGN ALL JOISTS FOR PUBLISHED UNIFORM GRAVITY LOADS IN ADDITION TO ANY POINT LOADS, SEAT ROLLOVER FORCES, AND/OR ADDITIONAL UNIFORM LOADS SHOWN ON PLAN OR DETAILS.
- RE: RTU AND ROOF OPENING DETAIL ON S002 FOR ANGLE FRAME SUPPORTS AT RTU's.
- JOIST MANUFACTURER: DESIGN JOISTS FOR POINT LOAD FROM ROOF DRAIN PIPE, RE: STEEL JOIST NOTE 5 ON S001 FOR DRAIN LINE SERVICE LOAD, RE: MECHANICAL FOR LOCATIONS.
- JOIST MANUFACTURER:
T/C = INDICATES A TENSION OR COMPRESSION LOAD IN THE TOP CHORD OF THE JOIST DUE TO WIND OR SEISMIC LOADS. A 1/3 STRESS INCREASE IS NOT ALLOWED. LOAD = xxxKIP/xxxKIP = 1.0W/1.0E.
RE: 23/S220 FOR BRACING AT TOP OF INTERIOR MASONRY PARTITION WALLS.
REINFORCE ALL MASONRY OPENINGS (INTERIOR AND EXTERIOR) PER JAMB AND LINTEL SCHEDULE ON S003 INCLUDING THOSE NOT SHOWN ON STRUCTURAL PLANS.
RE: 15/S220 FOR CONTINUOUS ANGLE LAP DETAIL, REFER PLAN FOR EXTENT.
= MOMENT CONNECTION.
- REFER SHEET S300 FOR MOMENT FRAMES BETWEEN GRIDS X8 AND X10.
- JOIST MANUFACTURER: AT ALL RTU POINT LOADS ADD ±0.5K POINT LOAD DUE TO WIND. USE ±1.0K POINT LOAD AT (2) LARGE UNITS BY SHELTER (RTU 407 AND 408).



1 FRAMING PLAN AREA '5'
SCALE: 1/8" = 1'-0"

REVISIONS

03.06.18

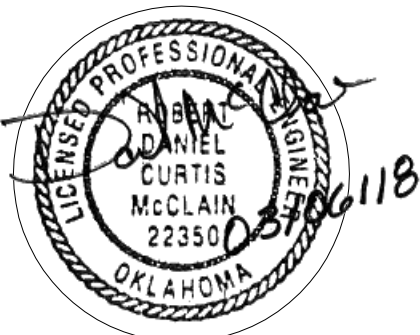
1712603 PROJECT NO
LEA DRAWING
CAV CHECKED BY

FRAMING PLAN
AREA '5'

S125

SHEET TITLE

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.



Copyright © Wallace Engineering, Inc.

wallace



Wallace Engineering
Structural Consultants, Inc.

Structural and Civil Consultants
200 East Matthew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

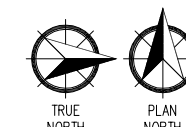
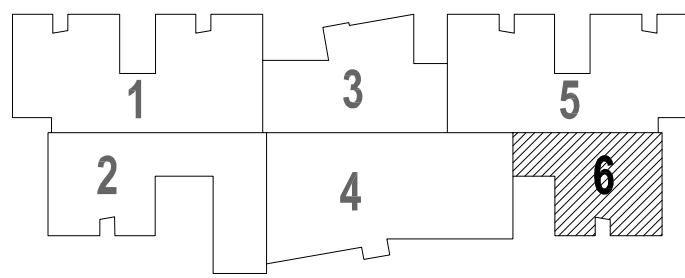
OKLA. C.A. #1460, EXP. 06/30/19

OWASSO MORROW ELEMENTARY

OWASSO PUBLIC
SCHOOLS

OWASSO, OK
2018

PROJECT



KEY PLAN

REVISIONS

03.06.18

ISSUE DATE

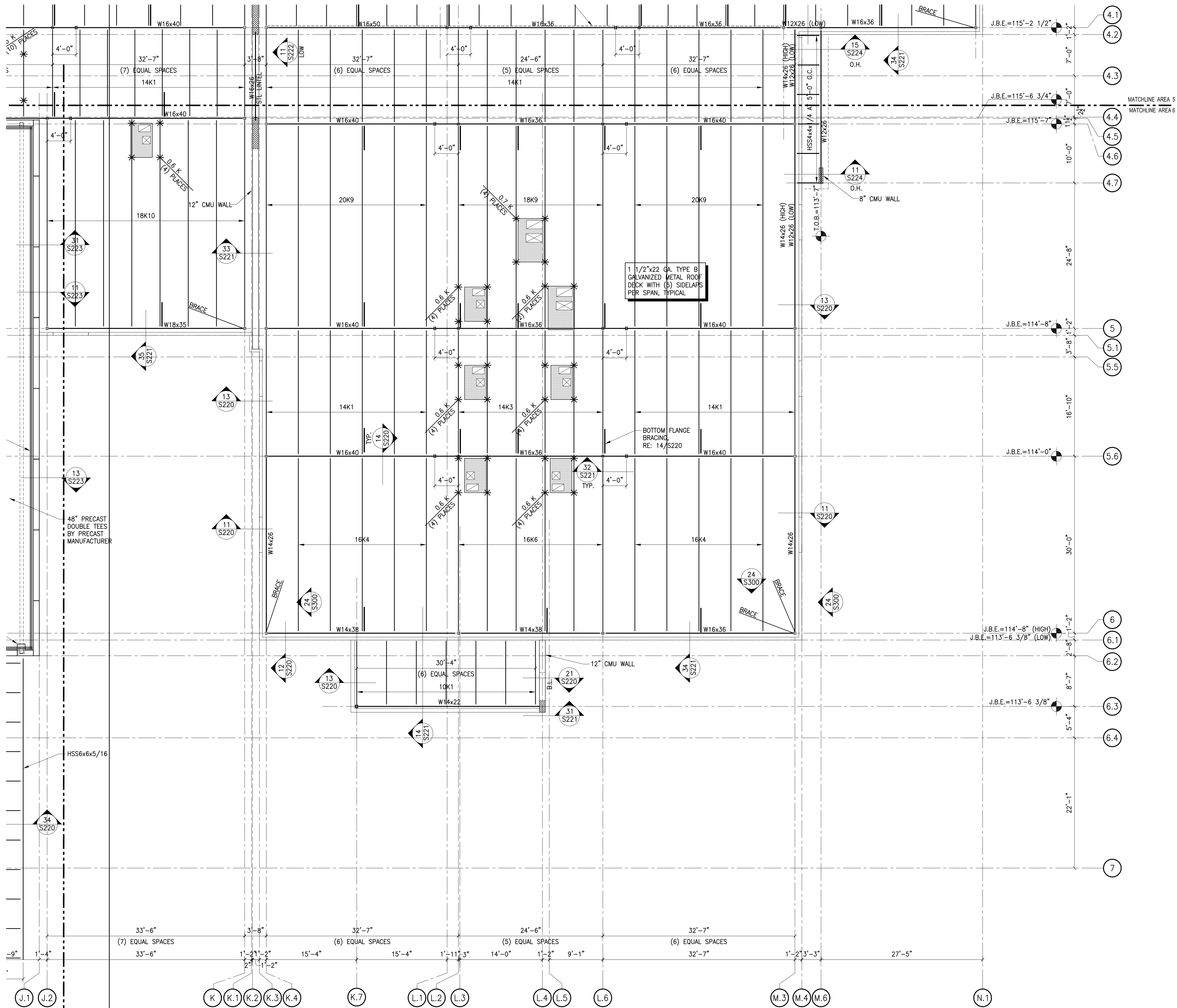
1712803 PROJECT NO
LEA DRAWN BY
CAW CHECKED BY

FRAMING PLAN
AREA '6'

S126

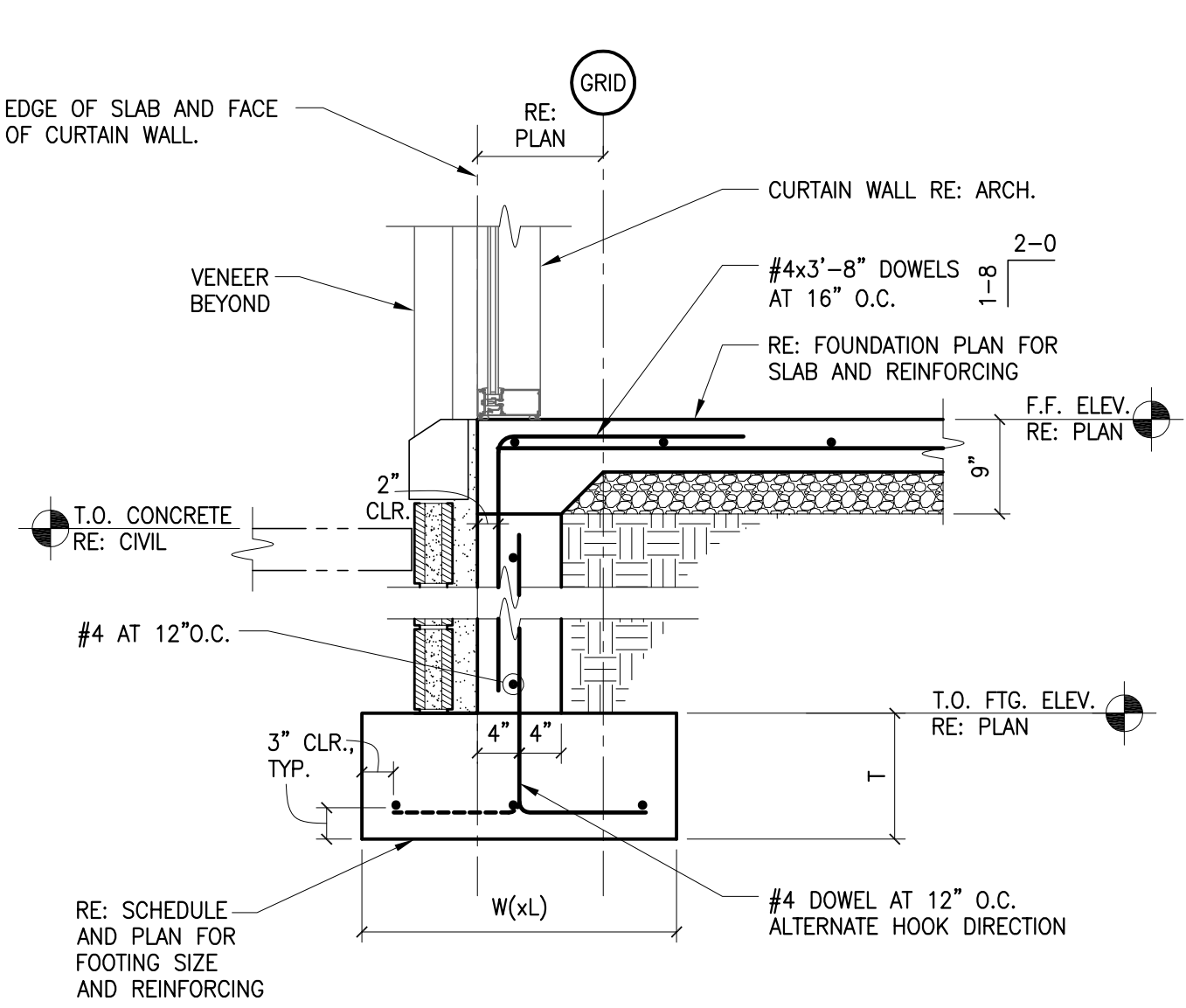
SHEET TITLE

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.

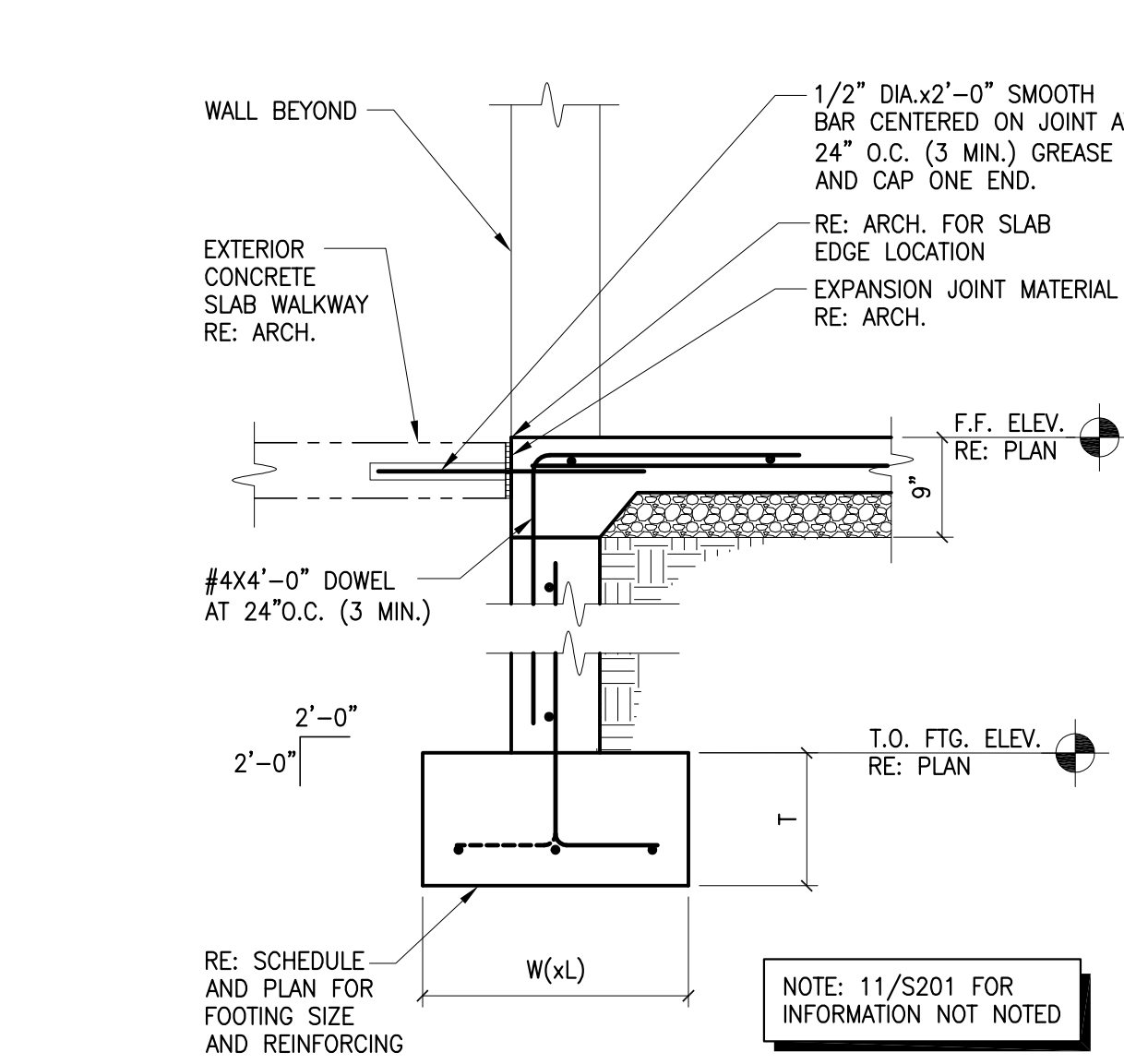




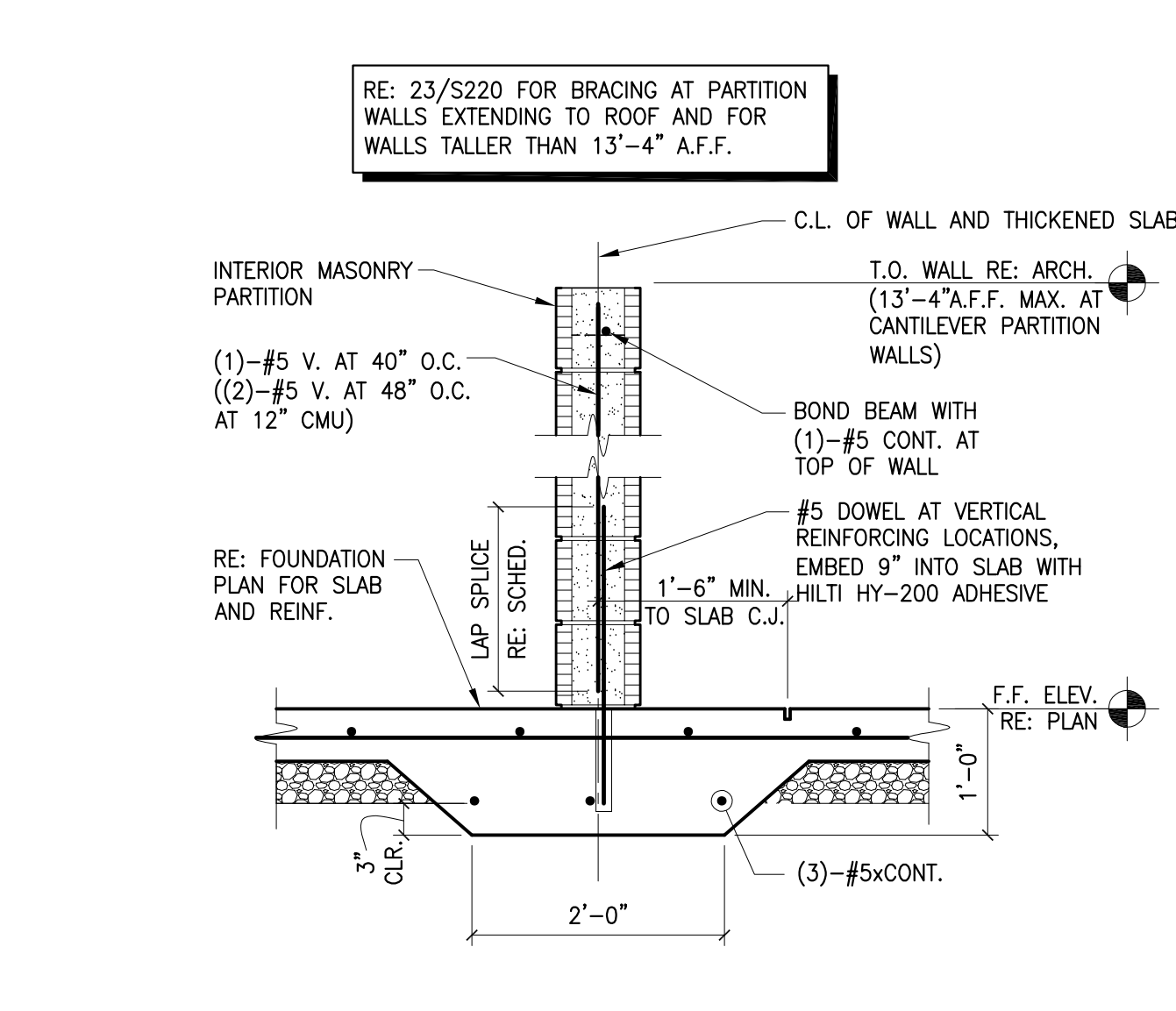
11 SLAB SECTION AT CURTAIN WALL



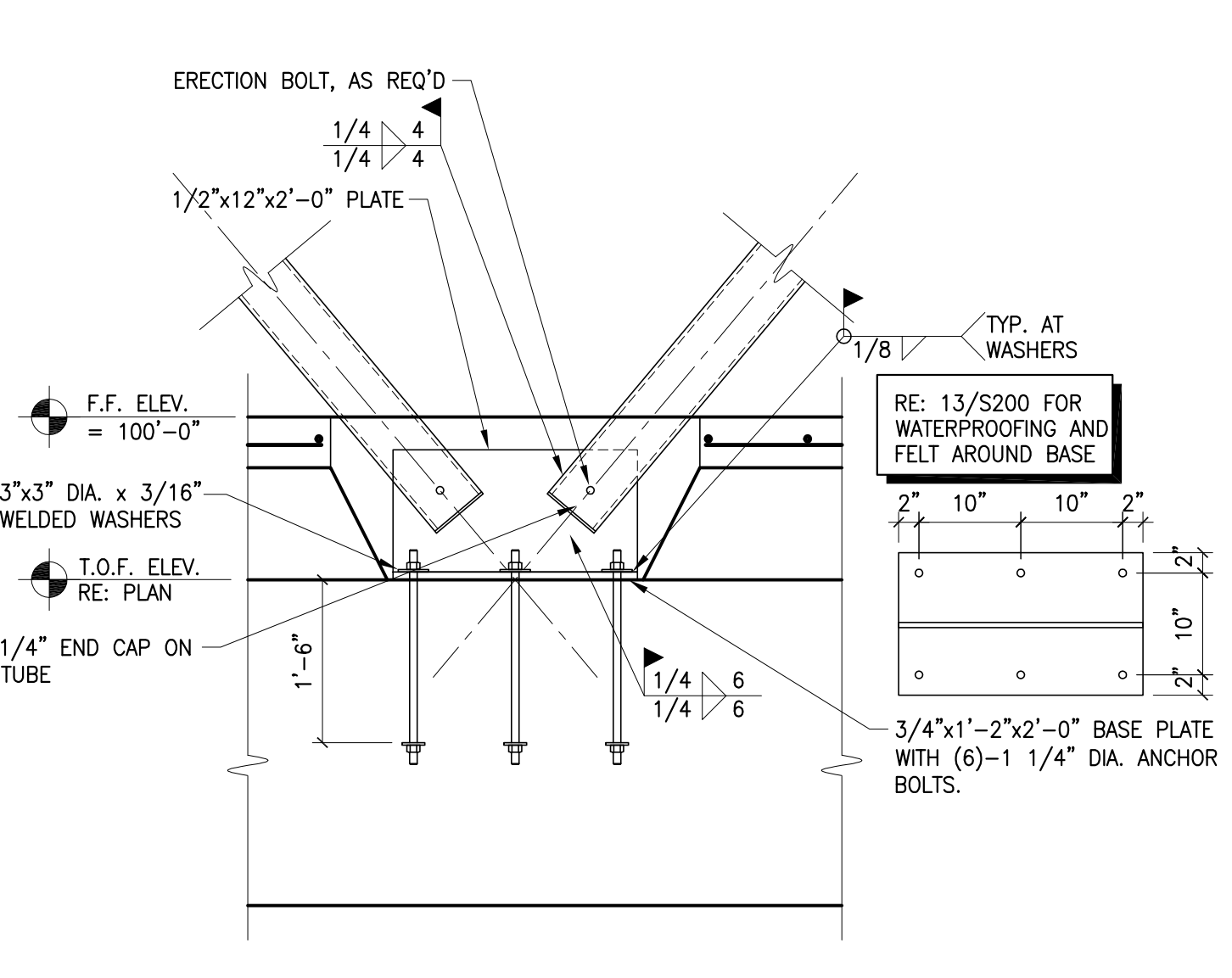
12 SLAB SECTION AT DOORWAY



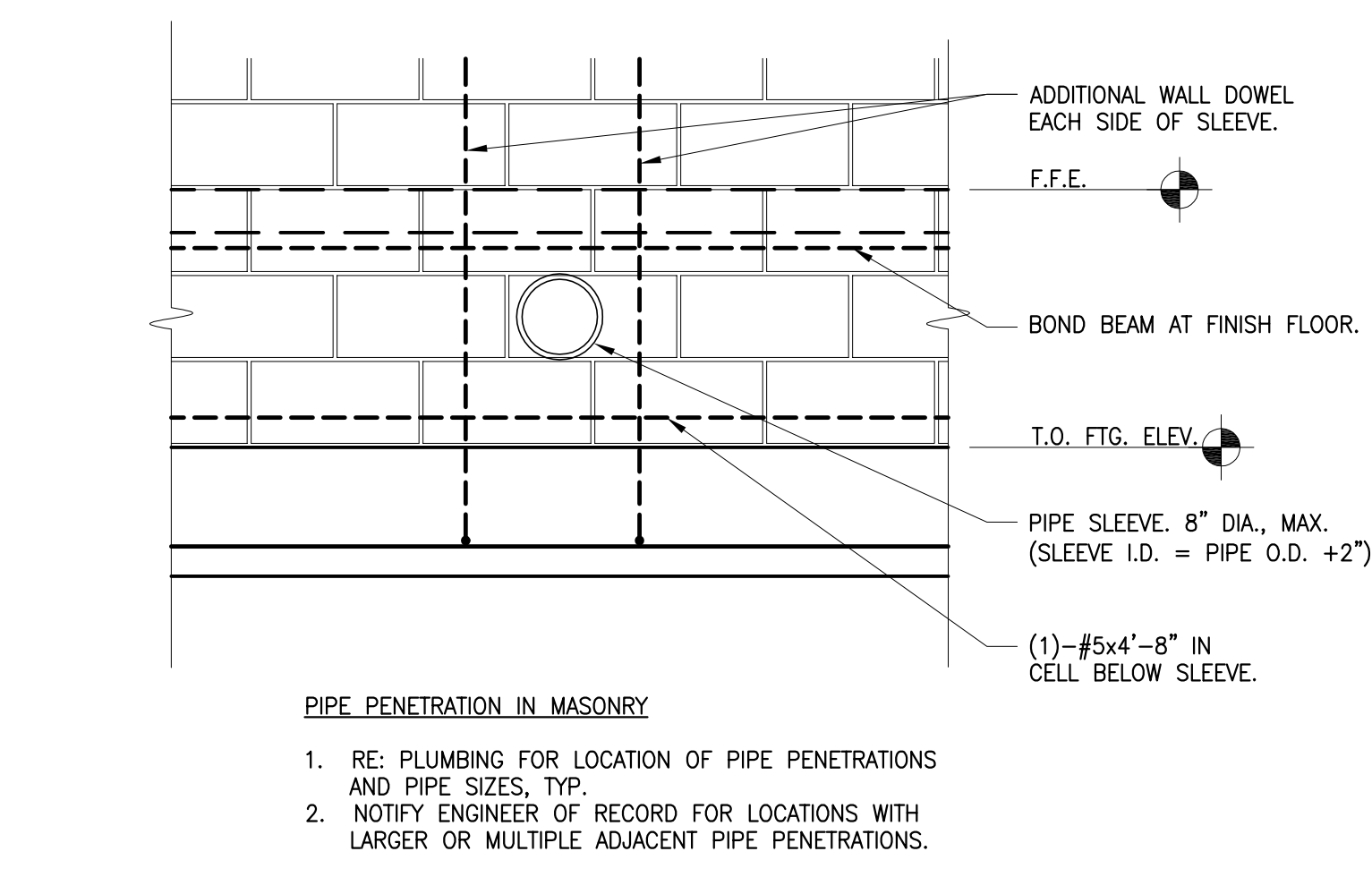
13 INTERIOR PARTITION WALL FTG.



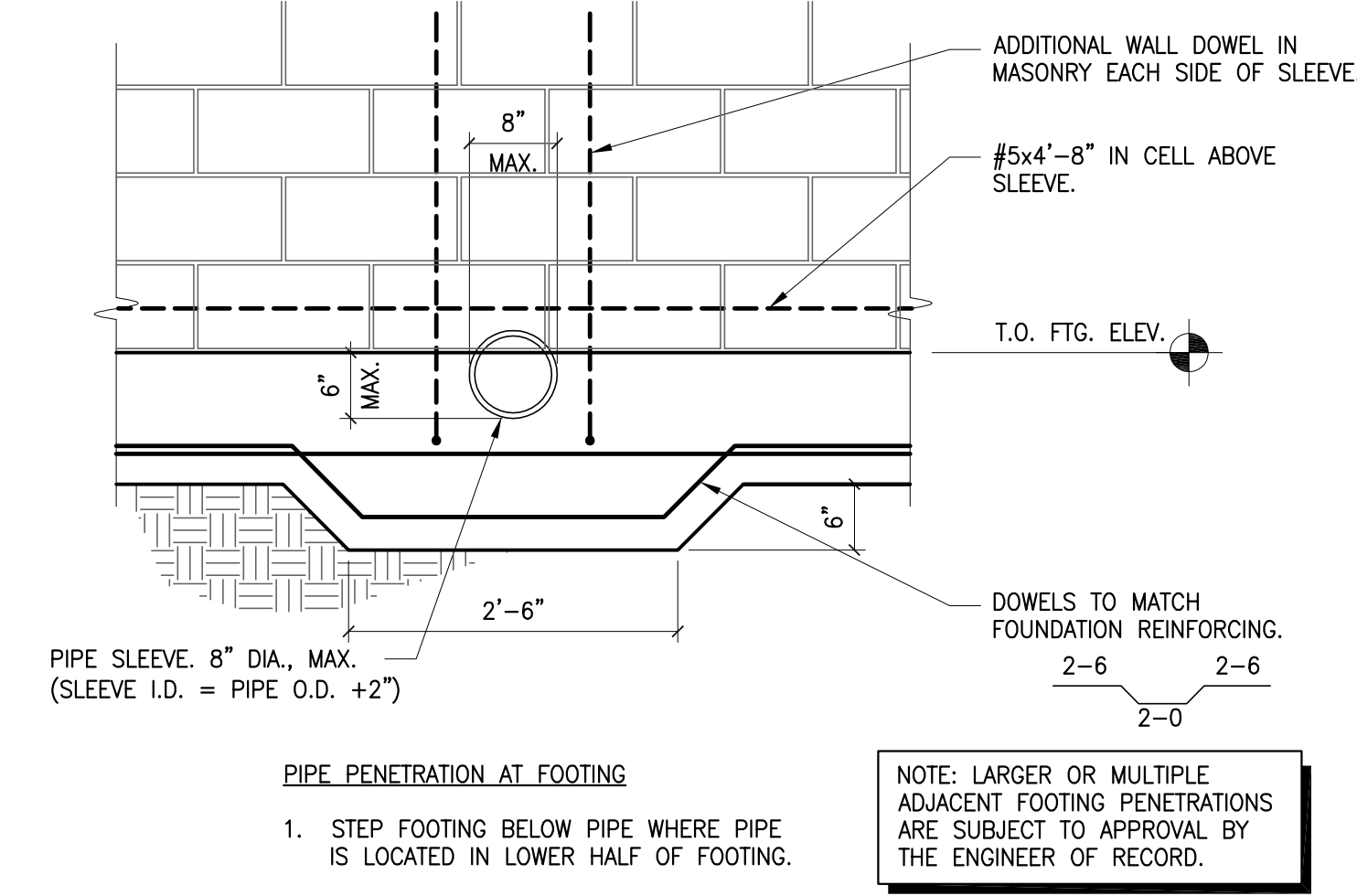
14 DETAIL AT BOTTOM OF BRACE



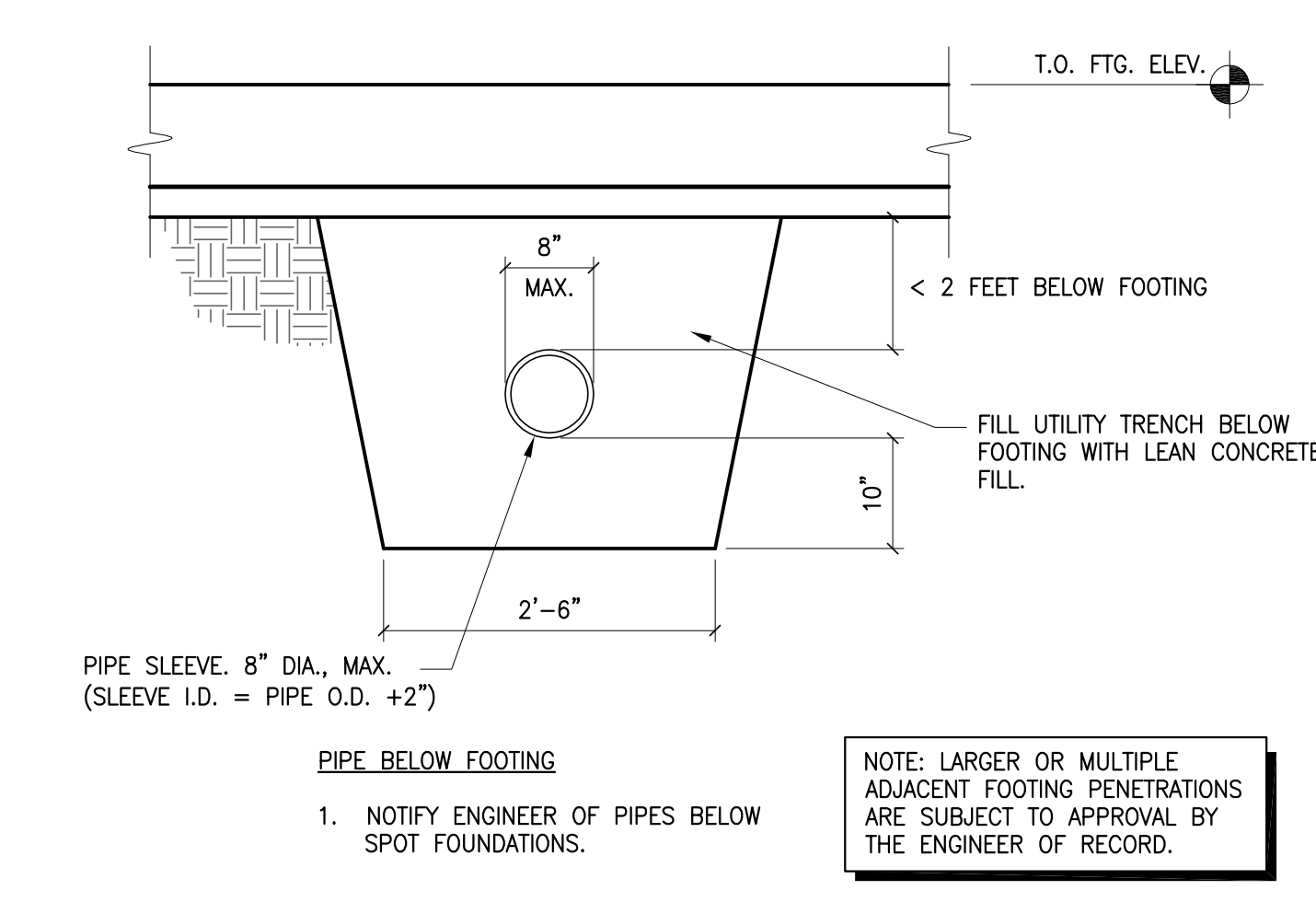
21 PLUMBING PENETRATIONS AT CMU STEM WALLS



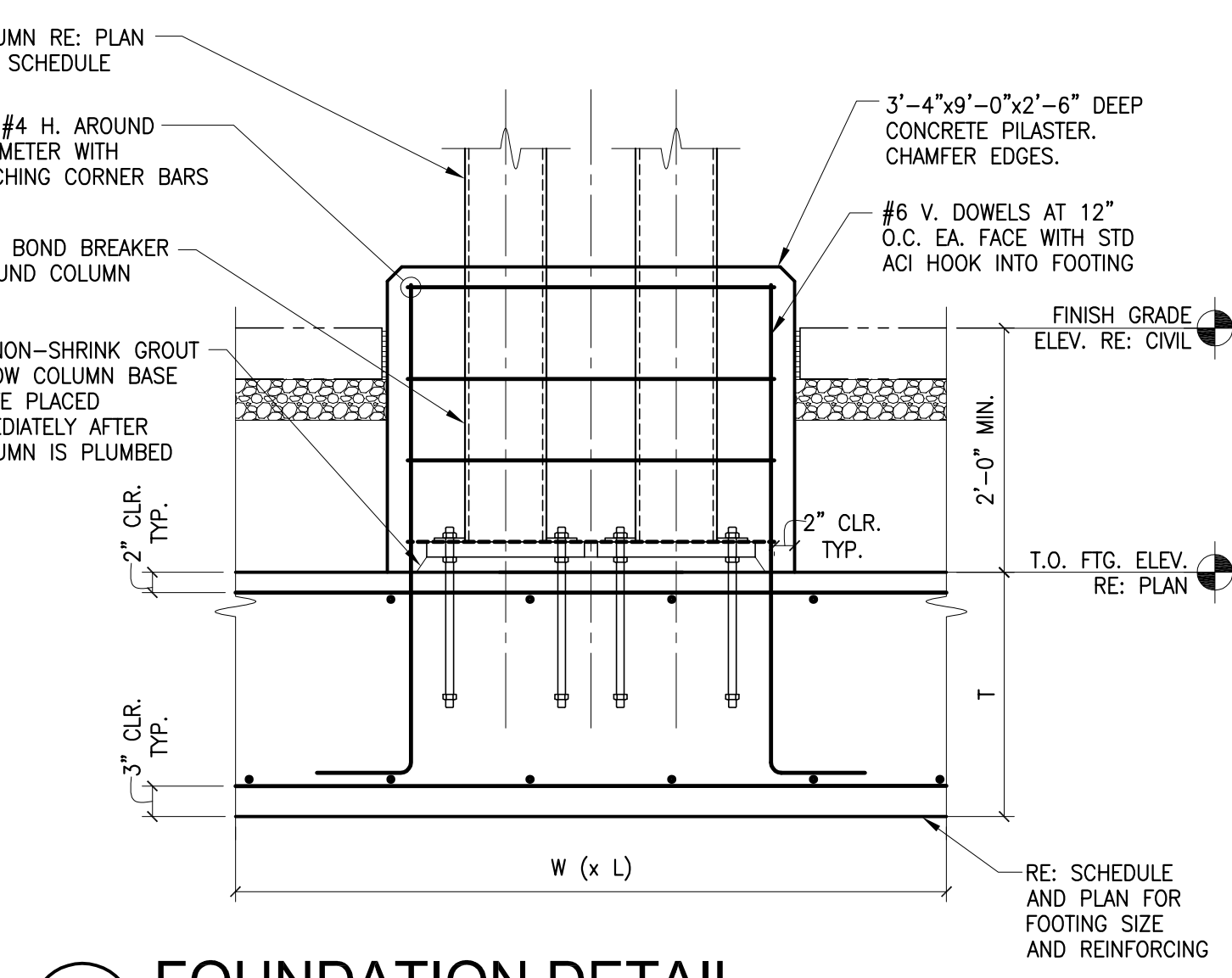
22 PLUMBING PENETRATIONS AT FOOTING



23 PLUMBING PENETRATIONS BELOW FOOTING



24 FOUNDATION DETAIL



the.stacy.group
architecture interiors

922 east 10th street plaza
Edmond, Oklahoma 73034
phone: +05.330.8292
fax: +05.330.8293



Copyright © Wallace Engineering, Inc.

wallace



Wallace Engineering
Structural Consultants, Inc.

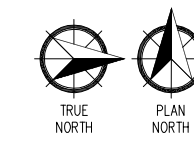
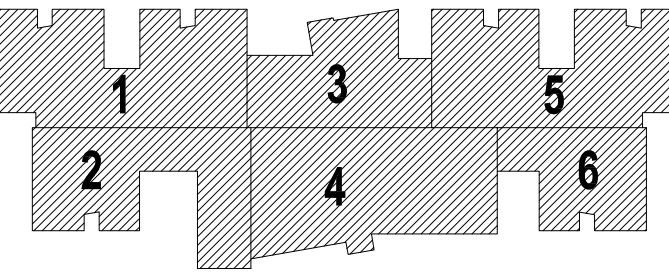
Structural and Civil Consultants
200 East Mathew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

OKLA. C.A. #1460, EXP. 06/30/19

OWASSO
MORROW
ELEMENTARY

OWASSO PUBLIC
SCHOOLS
OWASSO, OK
2018

PROJECT



KEY PLAN

REVISIONS

03.06.18

ISSUE DATE

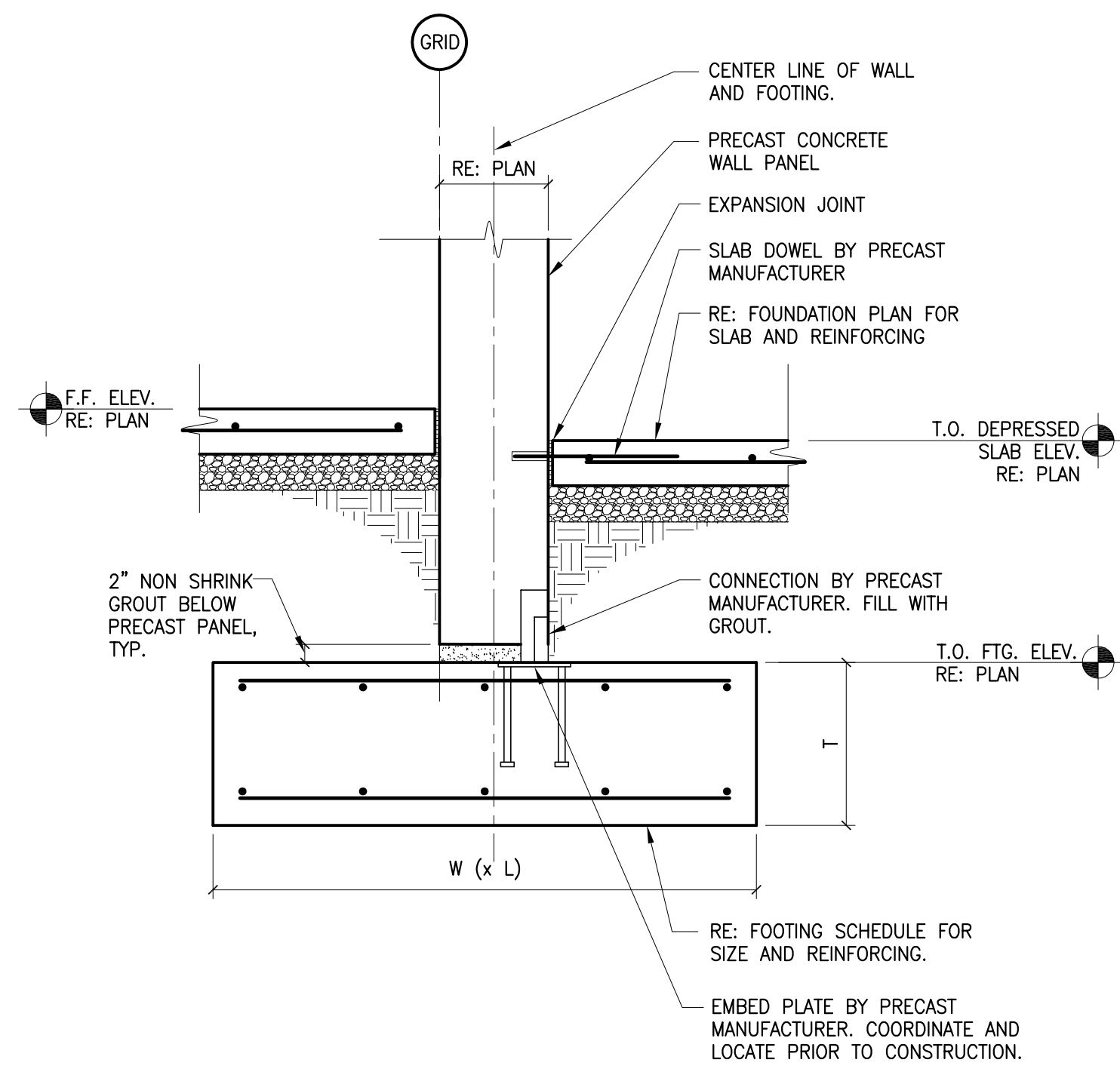
1712603 PROJECT NO
LEK DRAWN BY
CAW CHECKED BY

FOUNDATION DETAILS

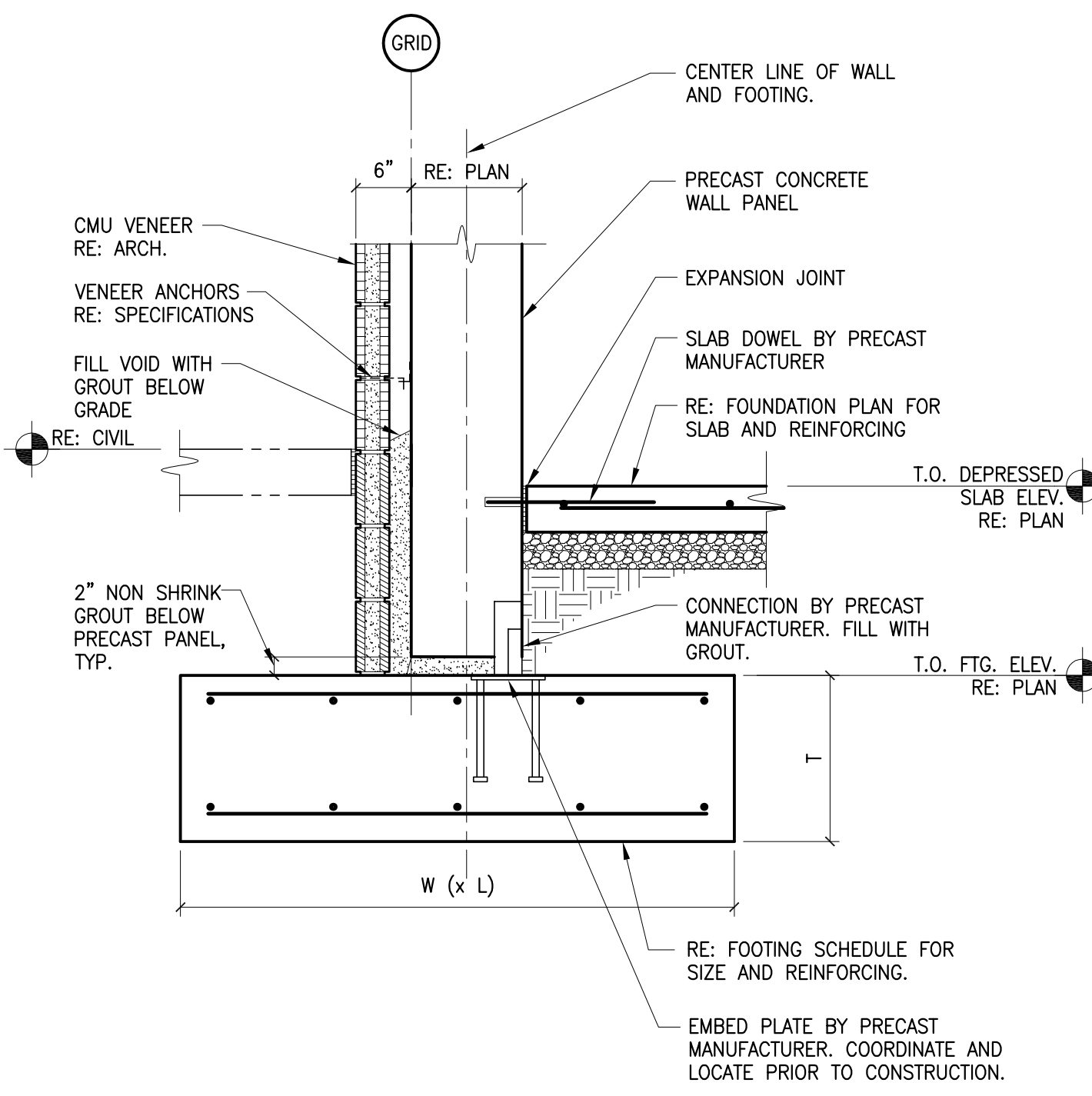
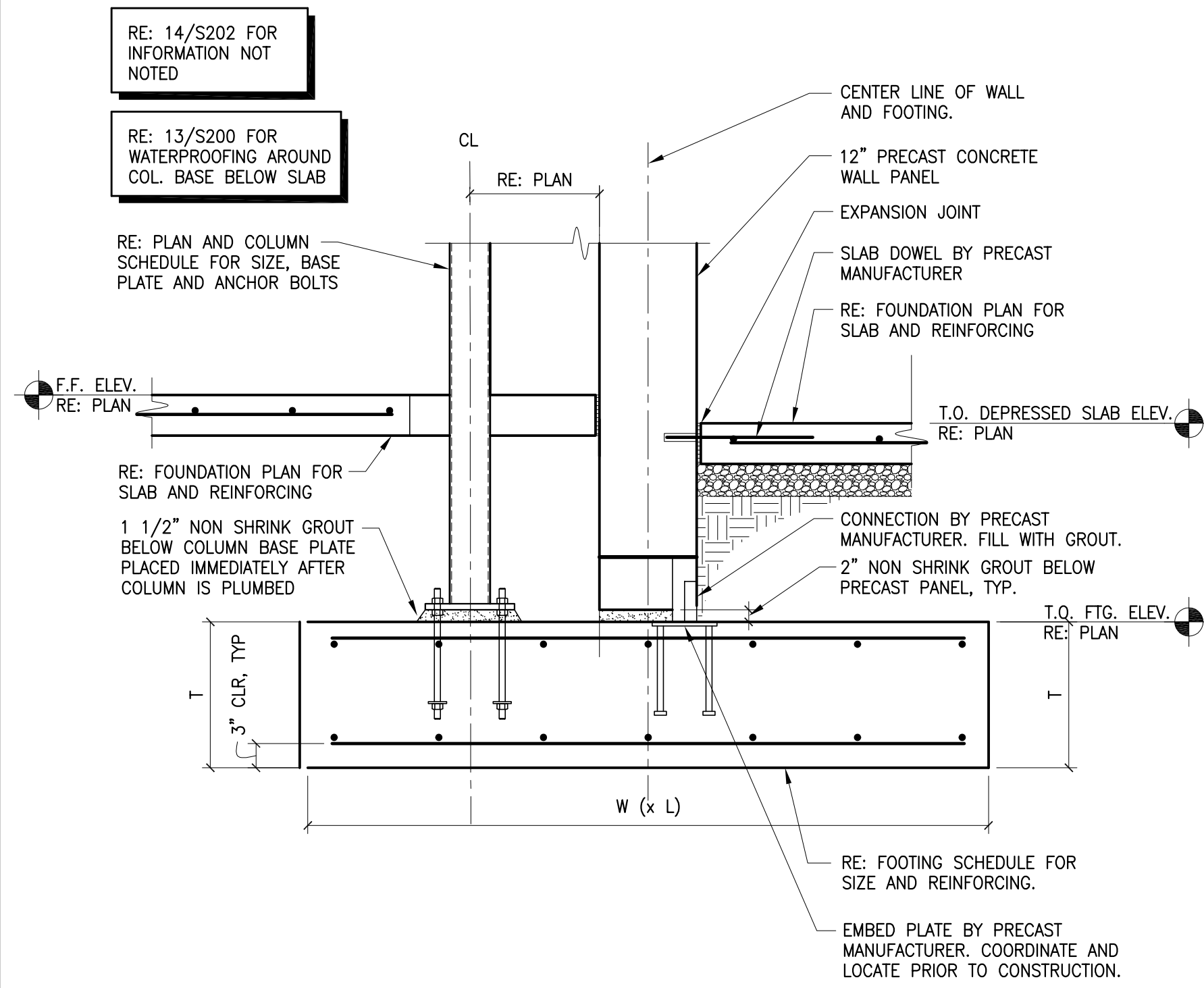
S201
SHEET TITLE

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.

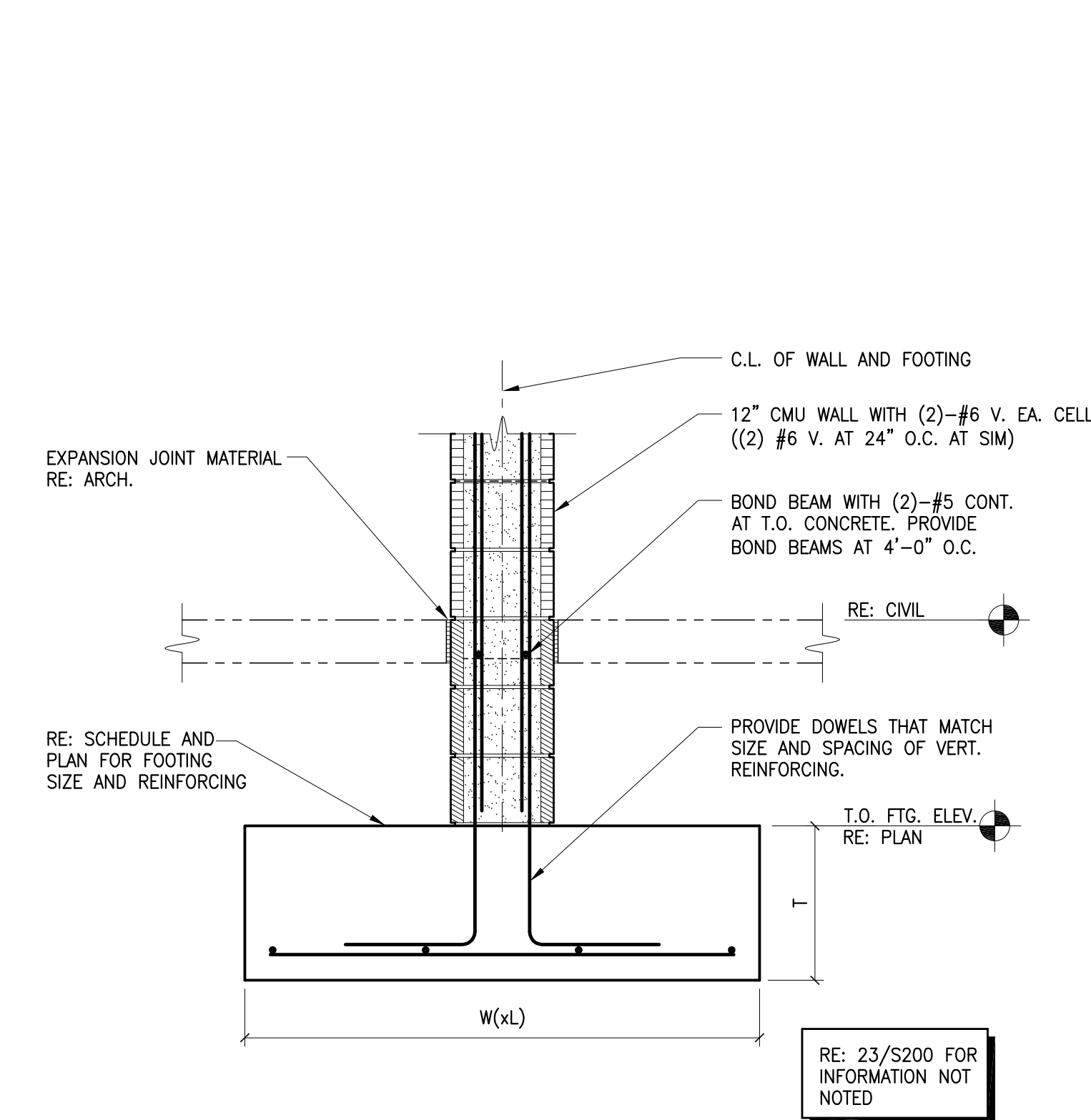
1/8"=1'-0"
1/4"=1'-0"
1/2"=1'-0"
3/4"=1'-0"
1"=1'-0"
1 1/2"=1'-0"
2"=1'-0"
3"=1'-0"
4"=1'-0"
6"=1'-0"
8"=1'-0"
12"=1'-0"
18"=1'-0"
24"=1'-0"
30"=1'-0"
36"=1'-0"
42"=1'-0"
48"=1'-0"
54"=1'-0"
60"=1'-0"
66"=1'-0"
72"=1'-0"
78"=1'-0"
84"=1'-0"
90"=1'-0"
96"=1'-0"
102"=1'-0"
108"=1'-0"
114"=1'-0"
120"=1'-0"
126"=1'-0"
132"=1'-0"
138"=1'-0"
144"=1'-0"
150"=1'-0"
156"=1'-0"
162"=1'-0"
168"=1'-0"
174"=1'-0"
180"=1'-0"
186"=1'-0"
192"=1'-0"
198"=1'-0"
204"=1'-0"
210"=1'-0"
216"=1'-0"
222"=1'-0"
228"=1'-0"
234"=1'-0"
240"=1'-0"
246"=1'-0"
252"=1'-0"
258"=1'-0"
264"=1'-0"
270"=1'-0"
276"=1'-0"
282"=1'-0"
288"=1'-0"
294"=1'-0"
300"=1'-0"
306"=1'-0"
312"=1'-0"
318"=1'-0"
324"=1'-0"
330"=1'-0"
336"=1'-0"
342"=1'-0"
348"=1'-0"
354"=1'-0"
360"=1'-0"
366"=1'-0"
372"=1'-0"
378"=1'-0"
384"=1'-0"
390"=1'-0"
396"=1'-0"
402"=1'-0"
408"=1'-0"
414"=1'-0"
420"=1'-0"
426"=1'-0"
432"=1'-0"
438"=1'-0"
444"=1'-0"
450"=1'-0"
456"=1'-0"
462"=1'-0"
468"=1'-0"
474"=1'-0"
480"=1'-0"
486"=1'-0"
492"=1'-0"
498"=1'-0"
504"=1'-0"
510"=1'-0"
516"=1'-0"
522"=1'-0"
528"=1'-0"
534"=1'-0"
540"=1'-0"
546"=1'-0"
552"=1'-0"
558"=1'-0"
564"=1'-0"
570"=1'-0"
576"=1'-0"
582"=1'-0"
588"=1'-0"
594"=1'-0"
600"=1'-0"
606"=1'-0"
612"=1'-0"
618"=1'-0"
624"=1'-0"
630"=1'-0"
636"=1'-0"
642"=1'-0"
648"=1'-0"
654"=1'-0"
660"=1'-0"
666"=1'-0"
672"=1'-0"
678"=1'-0"
684"=1'-0"
690"=1'-0"
696"=1'-0"
702"=1'-0"
708"=1'-0"
714"=1'-0"
720"=1'-0"
726"=1'-0"
732"=1'-0"
738"=1'-0"
744"=1'-0"
750"=1'-0"
756"=1'-0"
762"=1'-0"
768"=1'-0"
774"=1'-0"
780"=1'-0"
786"=1'-0"
792"=1'-0"
798"=1'-0"
804"=1'-0"
810"=1'-0"
816"=1'-0"
822"=1'-0"
828"=1'-0"
834"=1'-0"
840"=1'-0"
846"=1'-0"
852"=1'-0"
858"=1'-0"
864"=1'-0"
870"=1'-0"
876"=1'-0"
882"=1'-0"
888"=1'-0"
894"=1'-0"
900"=1'-0"
906"=1'-0"
912"=1'-0"
918"=1'-0"
924"=1'-0"
930"=1'-0"
936"=1'-0"
942"=1'-0"
948"=1'-0"
954"=1'-0"
960"=1'-0"
966"=1'-0"
972"=1'-0"
978"=1'-0"
984"=1'-0"
990"=1'-0"
996"=1'-0"
1000"=1'-0"



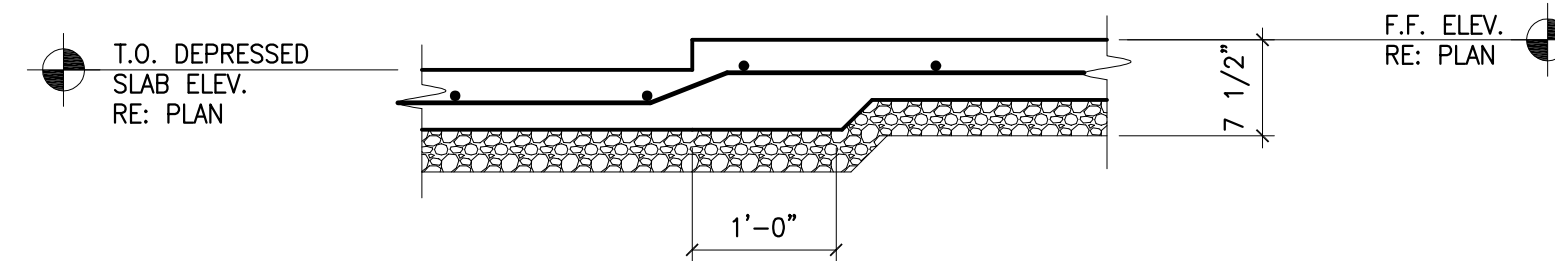
11 FOUNDATION SECTION
3/4" = 1'-0"



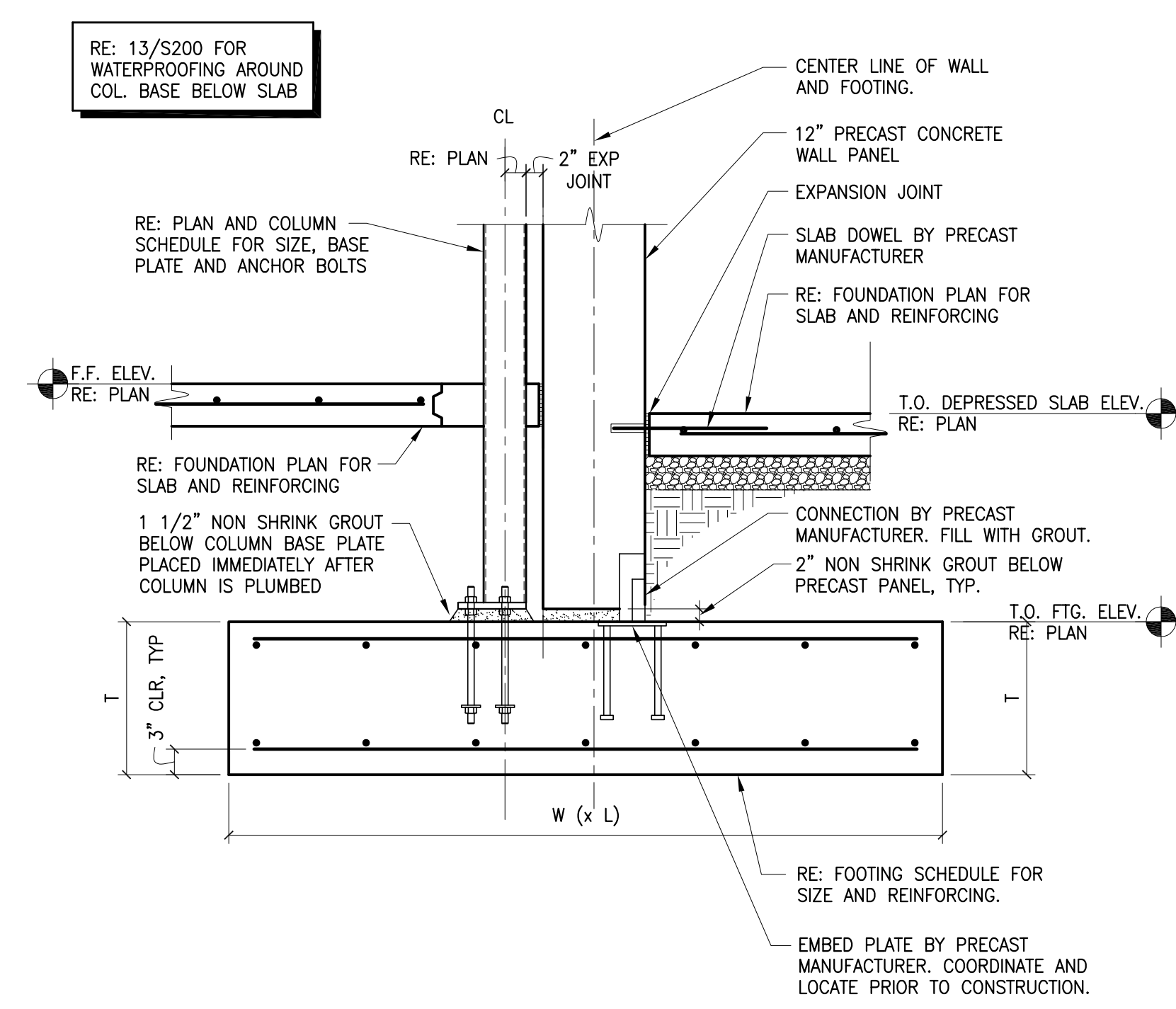
12 FOUNDATION SECTION
3/4" = 1'-0"



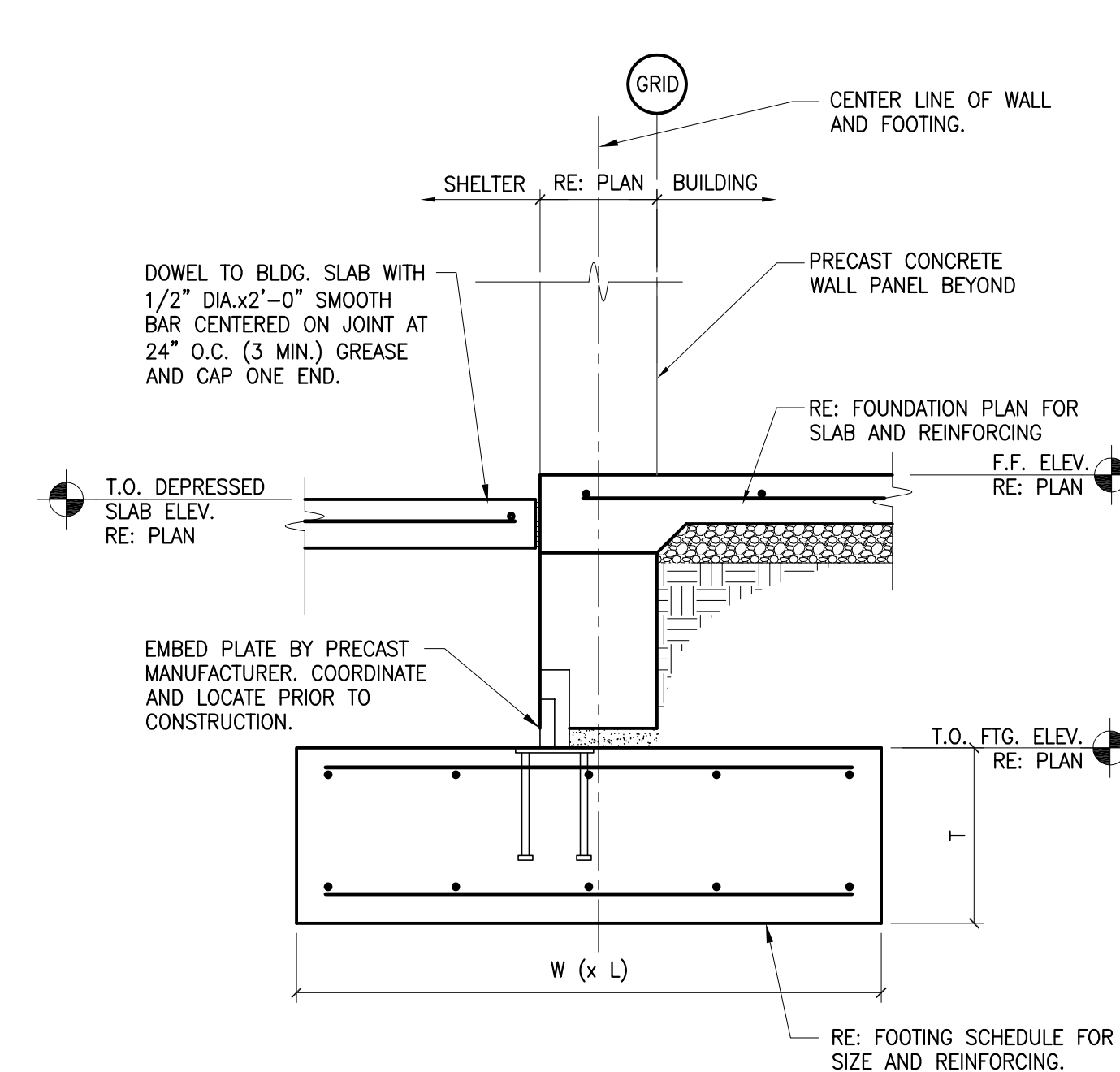
13 SECTION AT DOORWAY
3/4" = 1'-0"



23 SECTION AT SLAB STEP
3/4" = 1'-0"

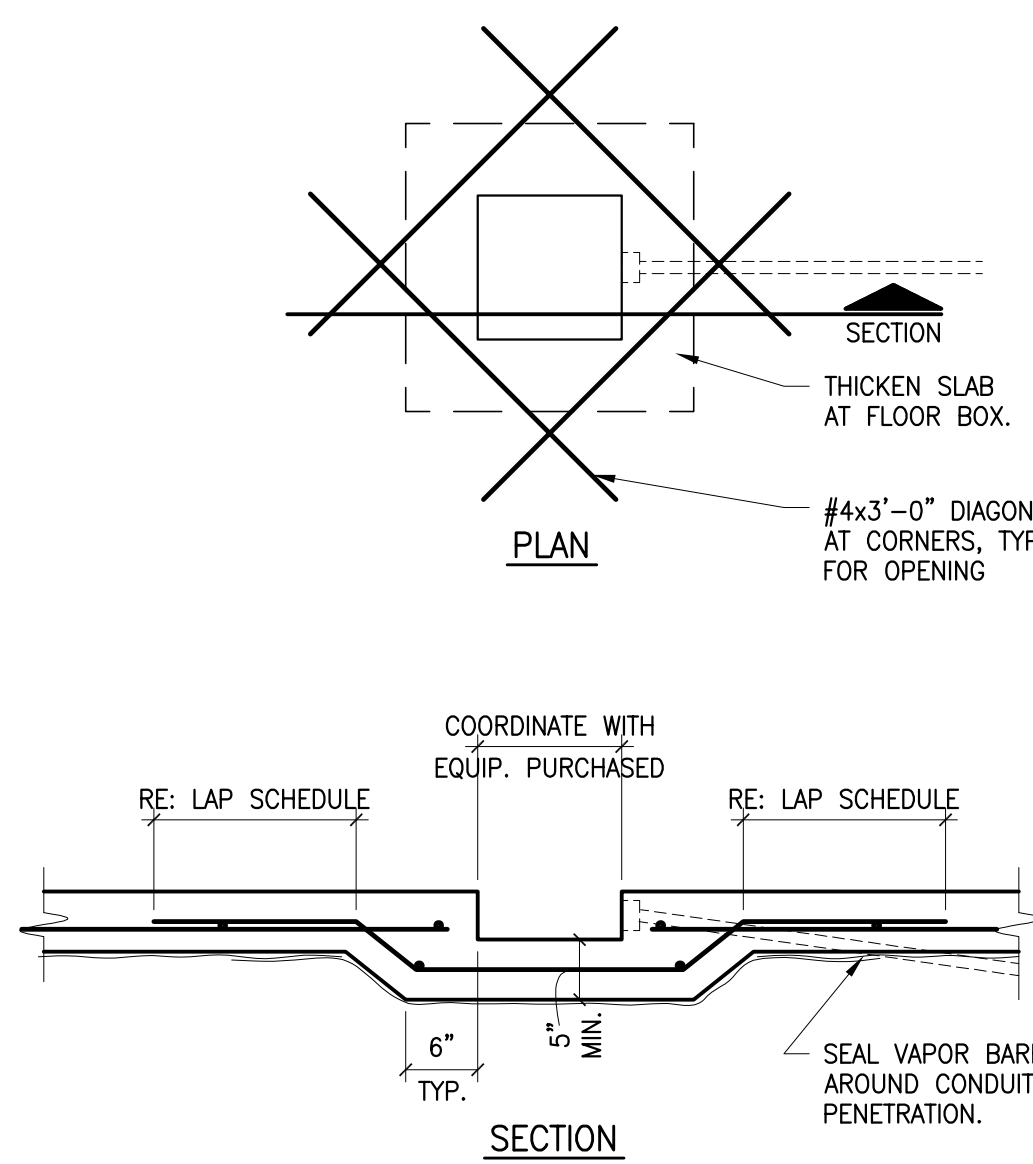


14 INTERIOR COLUMN DETAIL
3/4" = 1'-0"

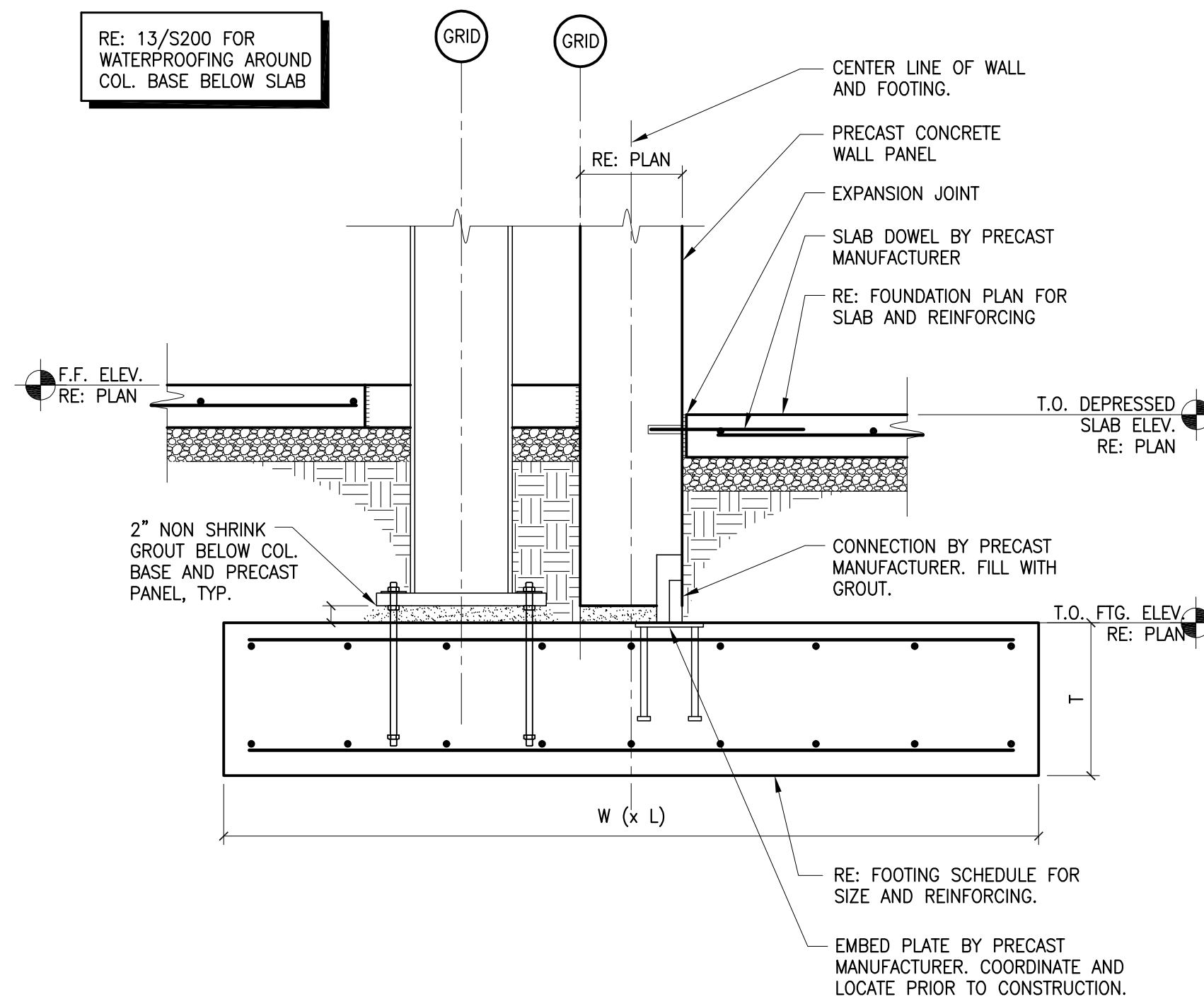


24 SECTION AT DOORWAY
3/4" = 1'-0"

21 INTERIOR COLUMN DETAIL
3/4" = 1'-0"



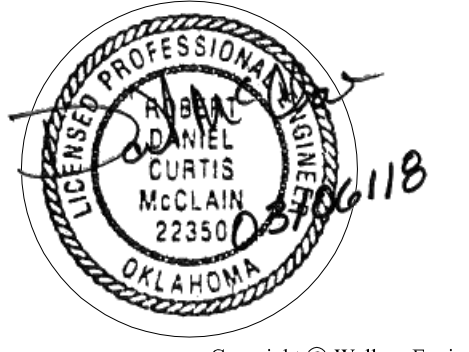
31 THICKENED SLAB AT FLOOR BOX
3/4" = 1'-0"



32 FOUNDATION SECTION
3/4" = 1'-0"

the.stacy.group
architecture interiors

922 east 10th street plaza
Edmond, Oklahoma 73034
phone: 405.380.8292
fax: 405.380.8293



Copyright © Wallace Engineering, Inc.

wallace



Wallace Engineering
Structural Consultants, Inc.

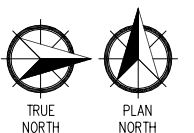
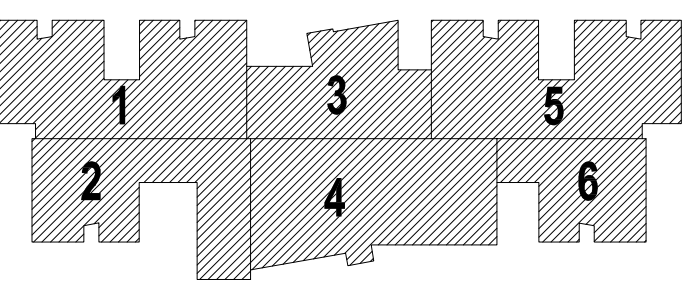
Structural and Civil Consultants
200 East Mathew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

OKLA. C.A. #1460, EXP. 06/30/19

OWASSO
MORROW
ELEMENTARY

OWASSO PUBLIC
SCHOOLS

OWASSO, OK
2018



PROJECT

REVISIONS

03.06.18

ISSUE DATE

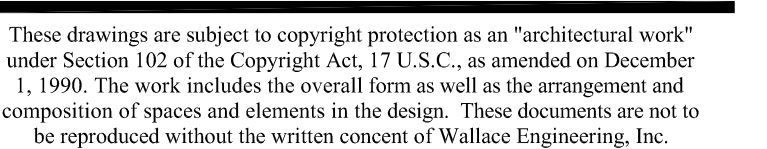
1712603 PROJECT NO
LEA DRAWN BY
CAW CHECKED BY

FOUNDATION DETAILS

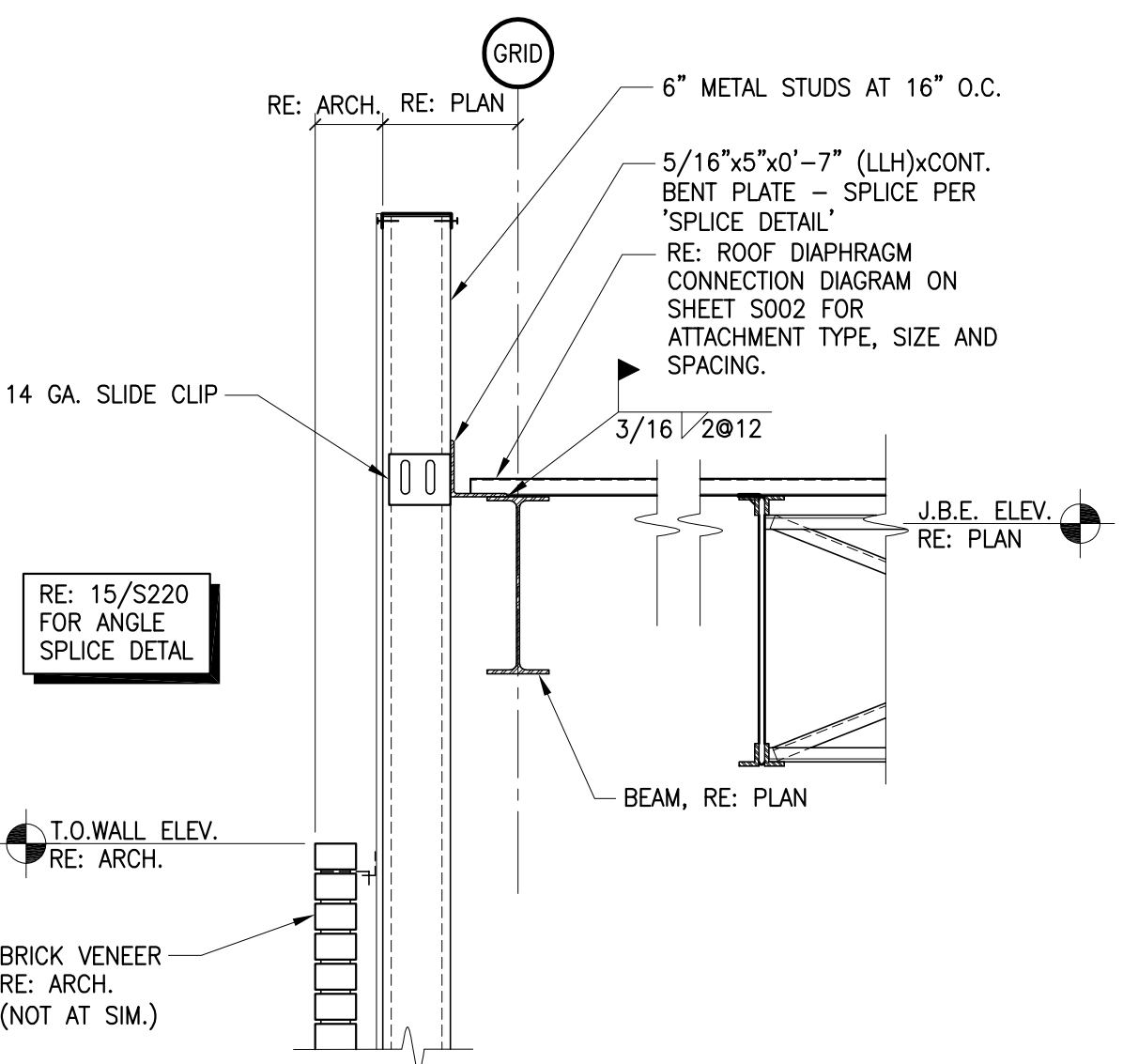
S202

SHEET TITLE

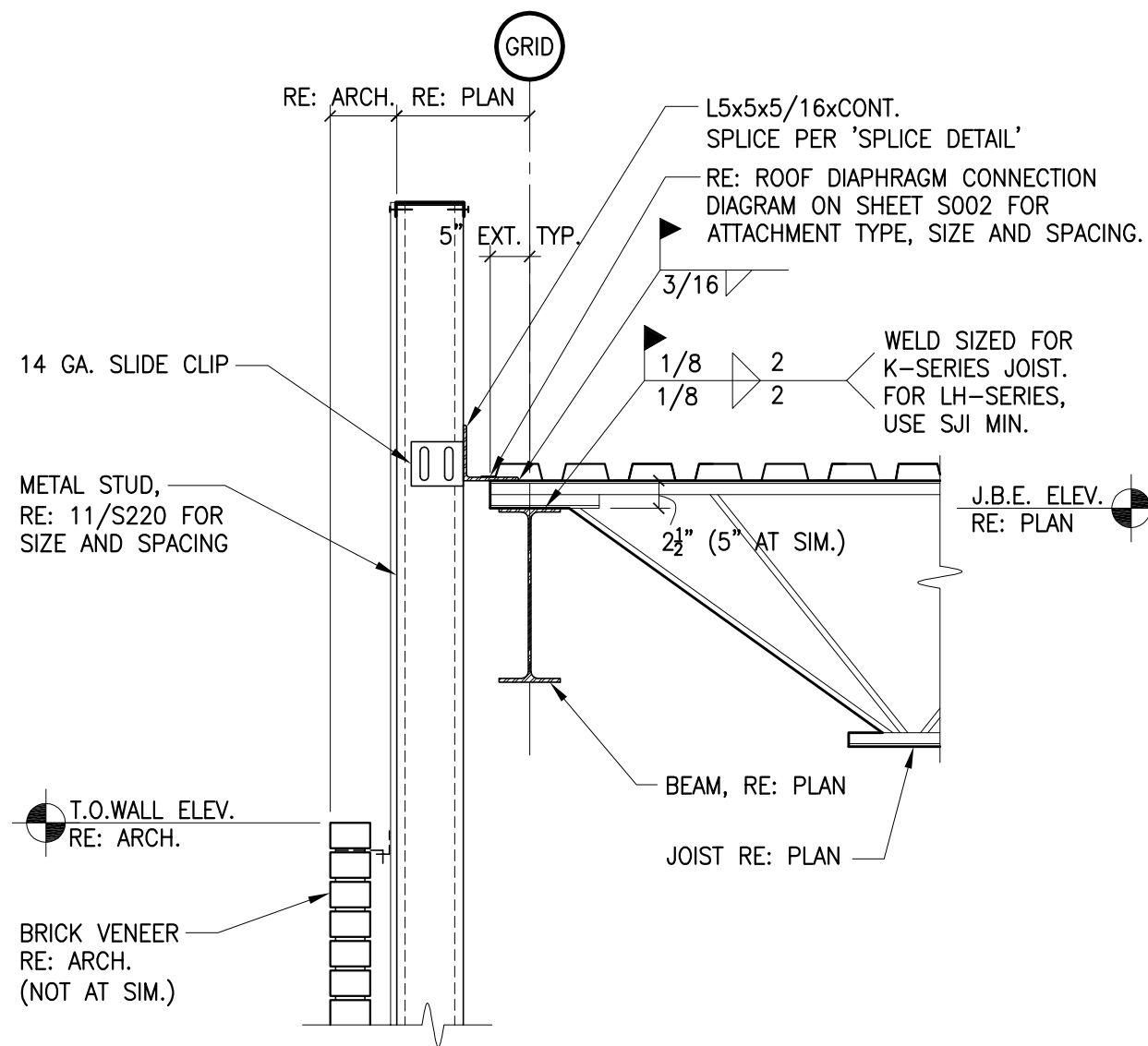
These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.



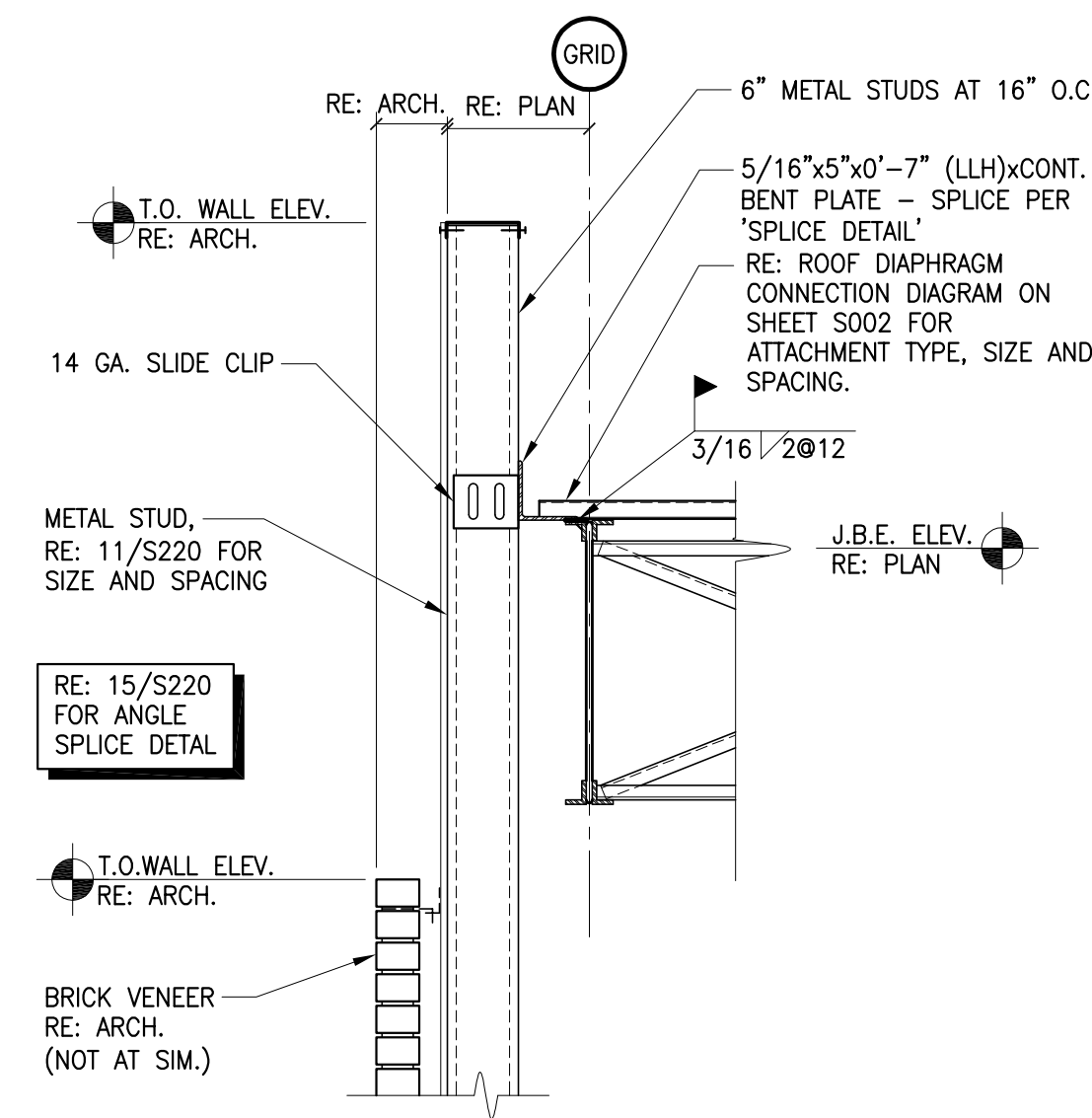
11 EXTERIOR WALL SECTION



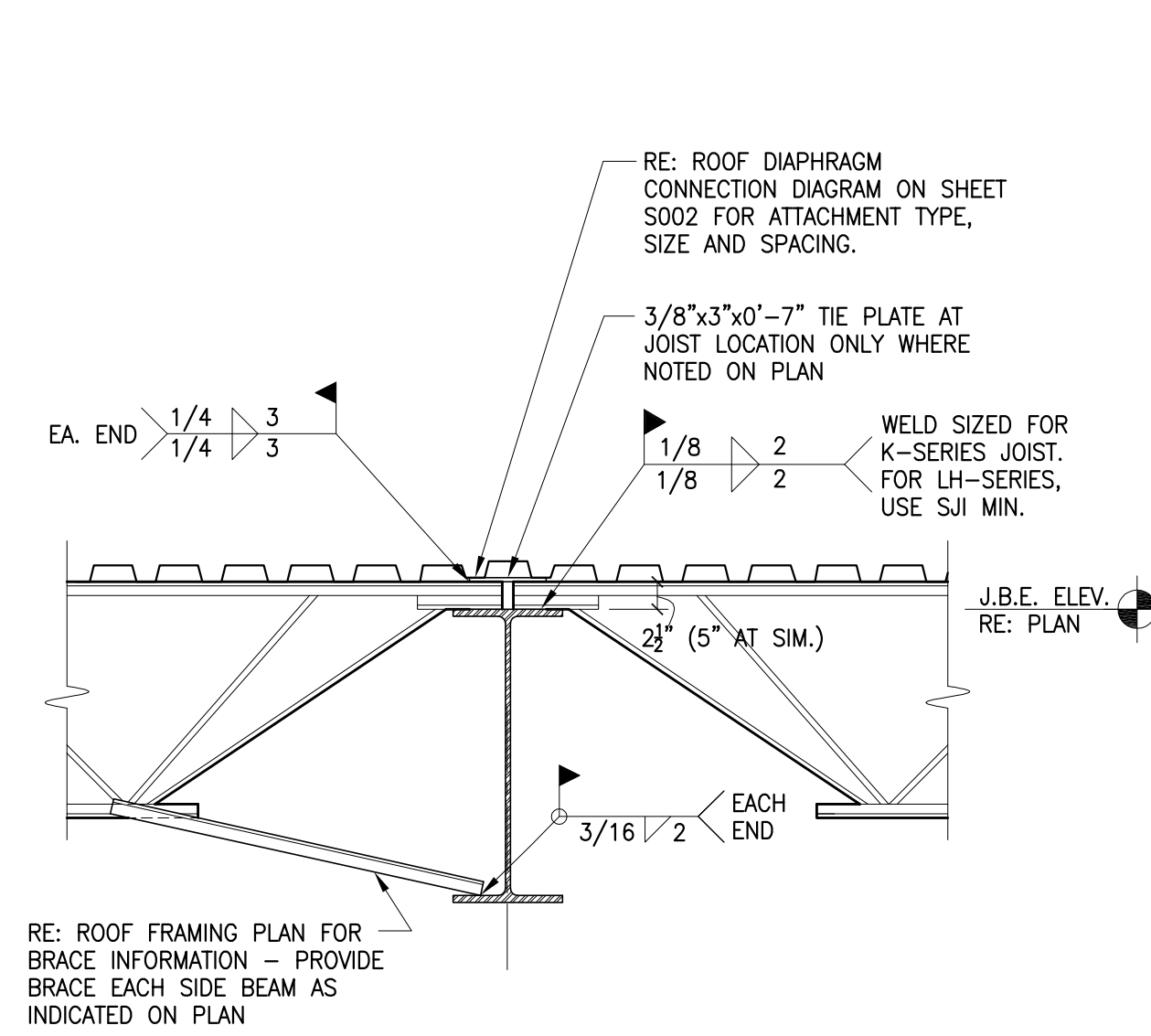
12 EXTERIOR WALL SECTION



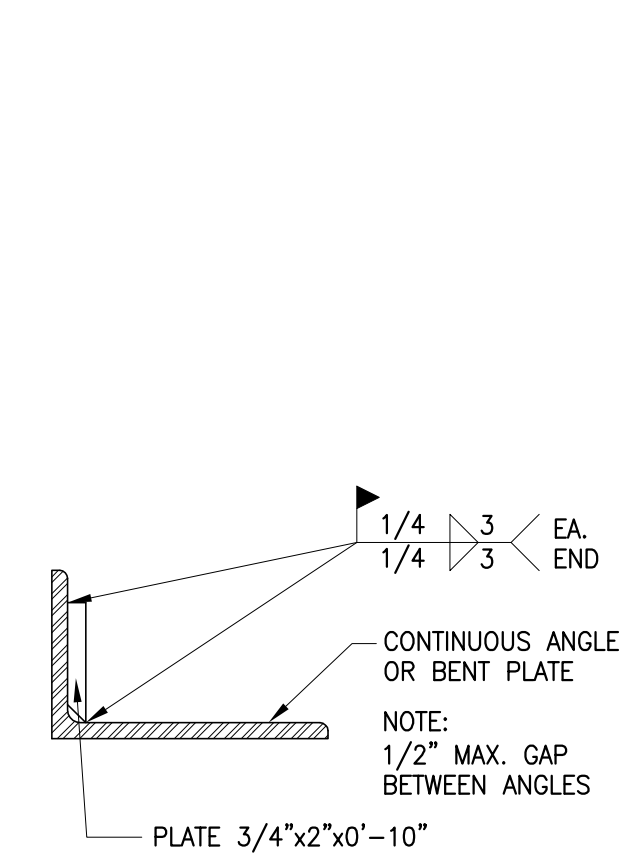
13 EXTERIOR WALL SECTION



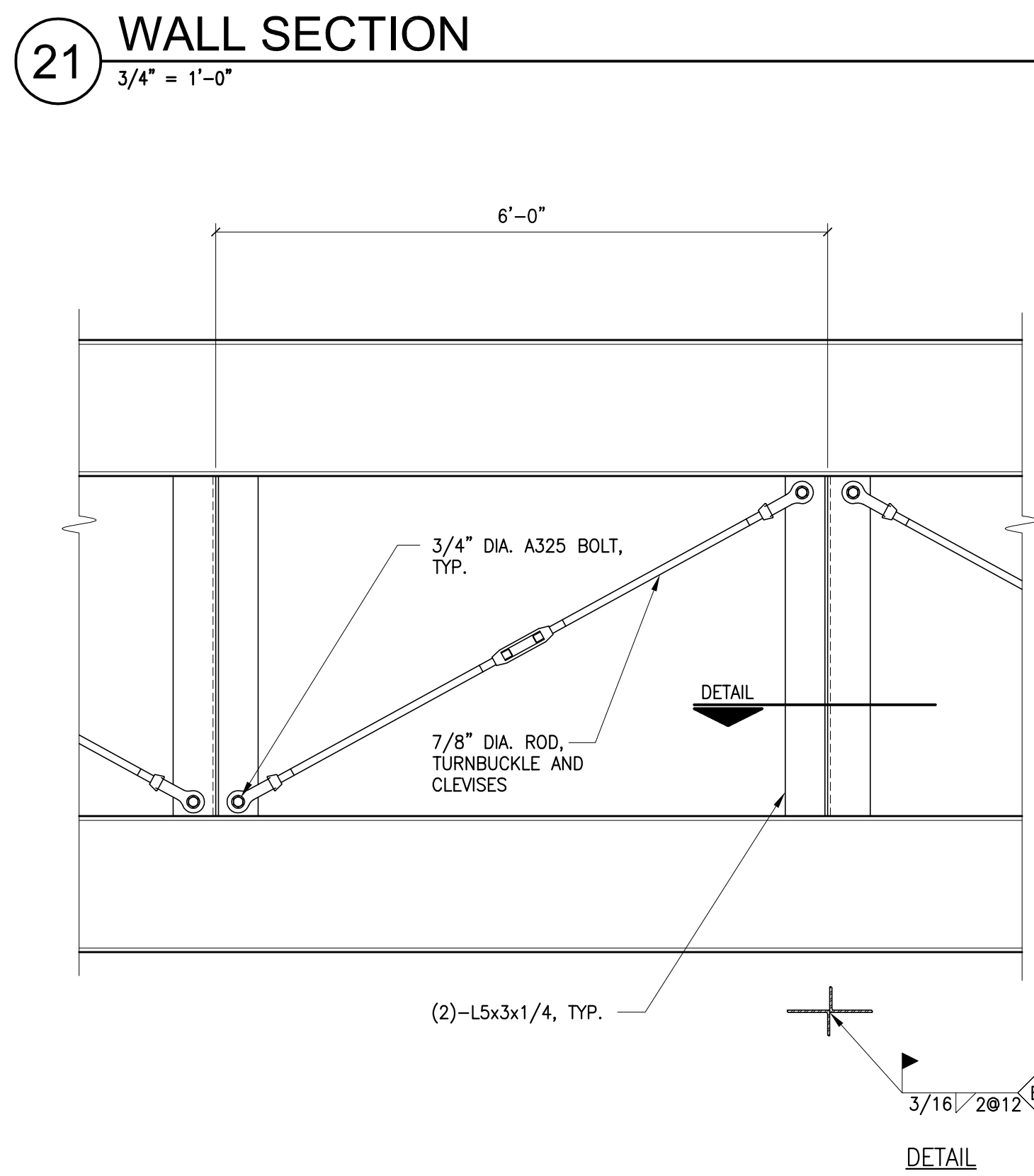
14 JOIST CONNECTION AT BEAM



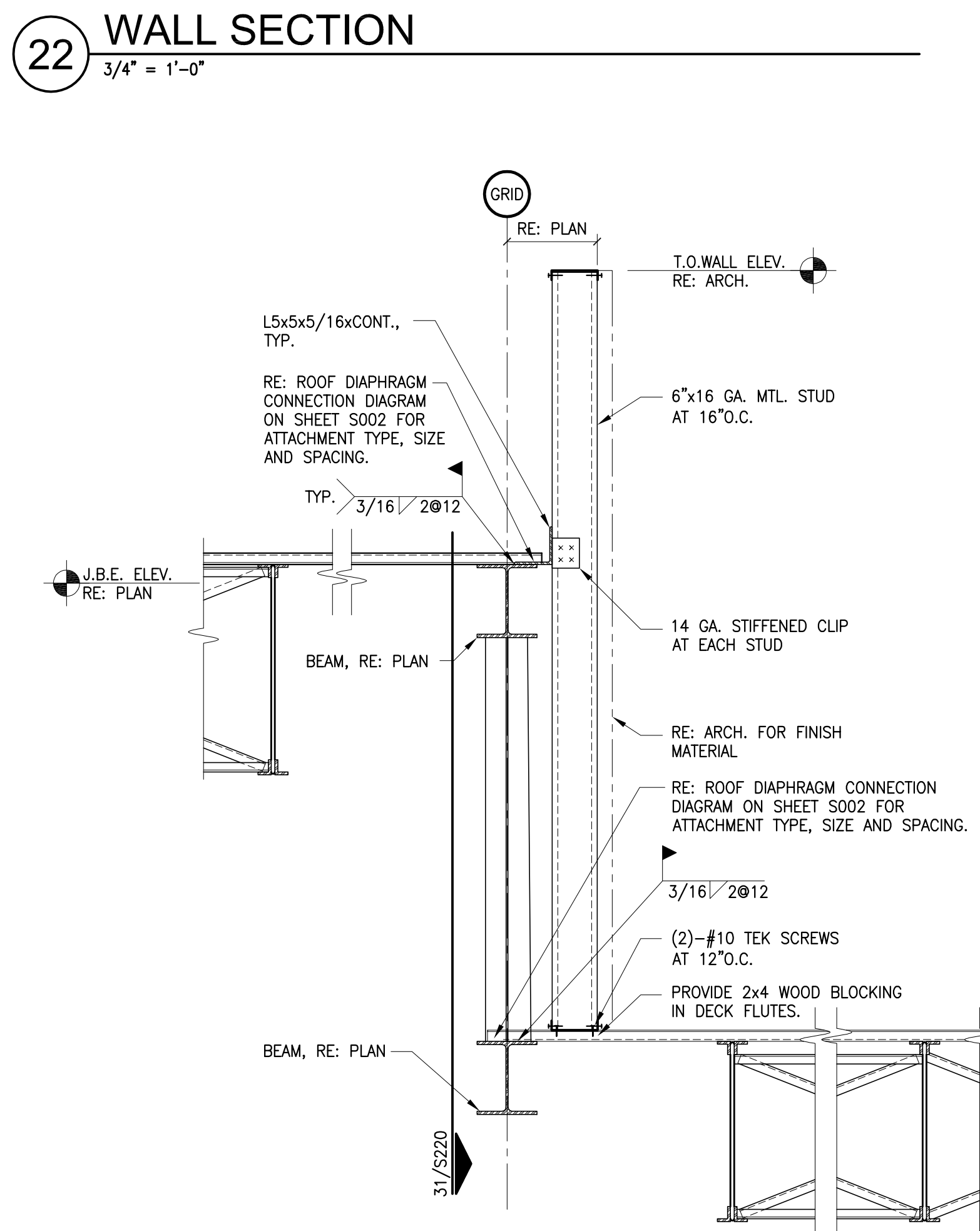
15 SPLICE DETAIL



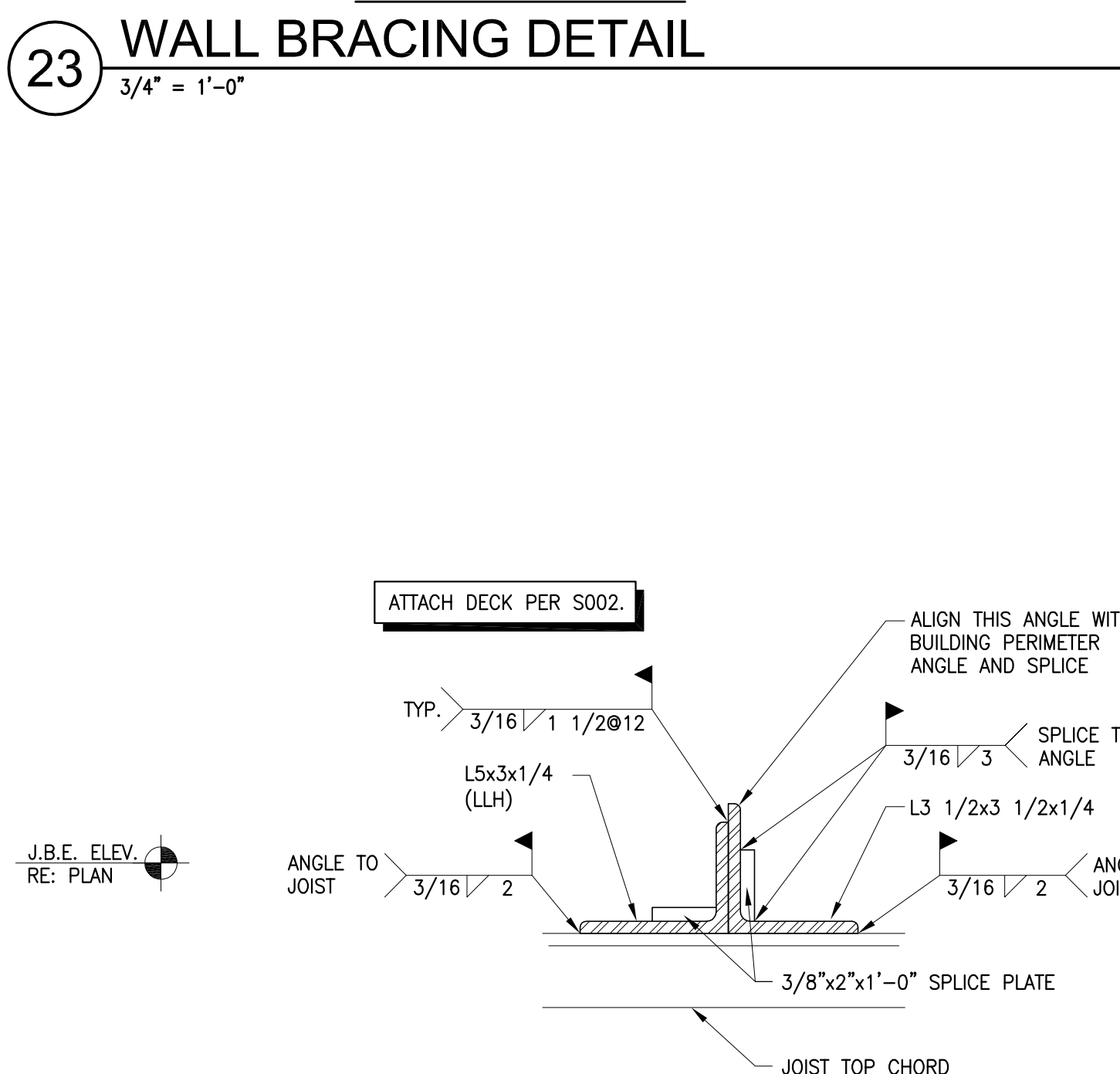
21 WALL SECTION



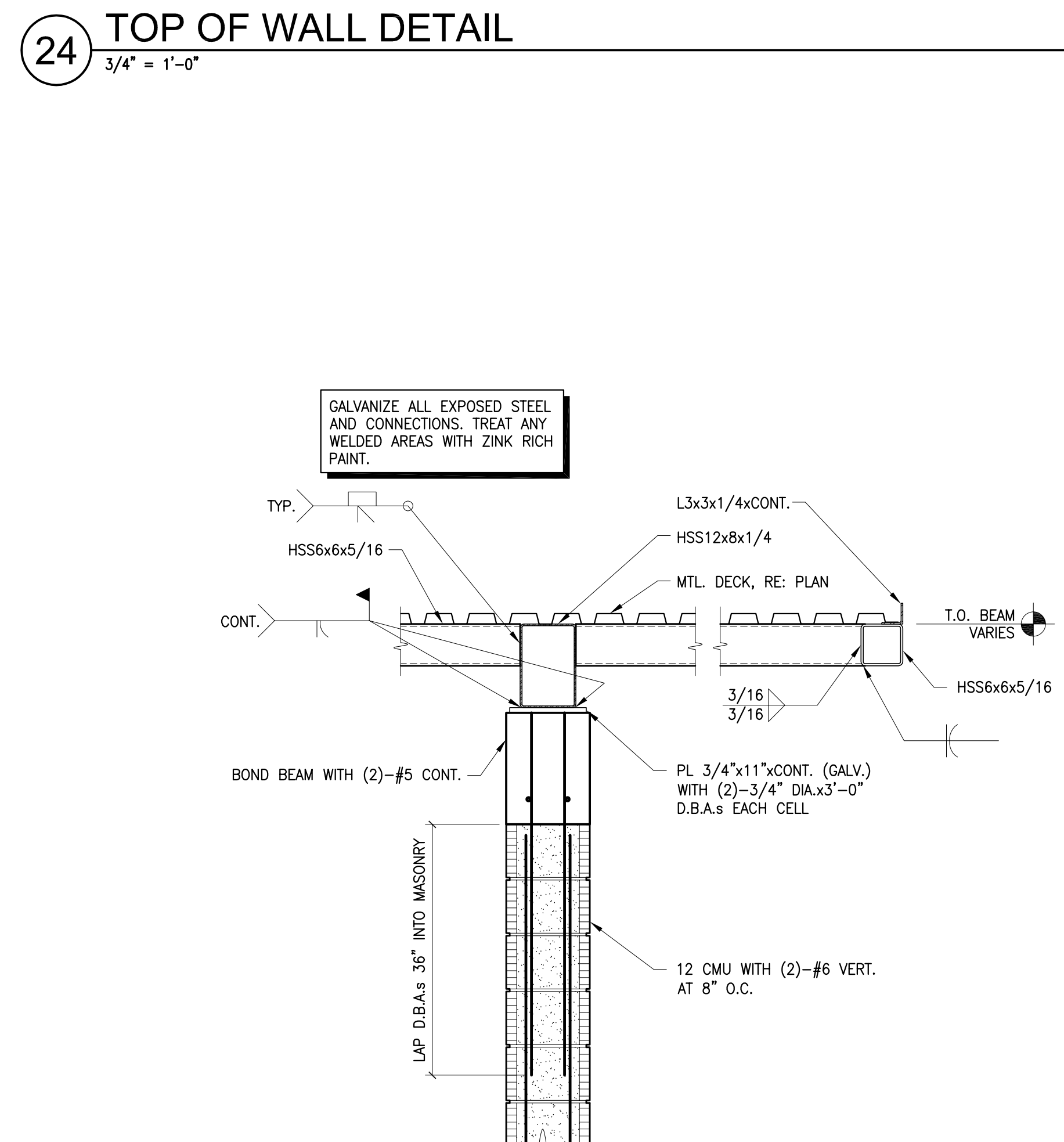
22 WALL SECTION



23 WALL BRACING DETAIL



24 TOP OF WALL DETAIL



31 TURNBUCKLE AND CLEVIS BRACING DETAIL



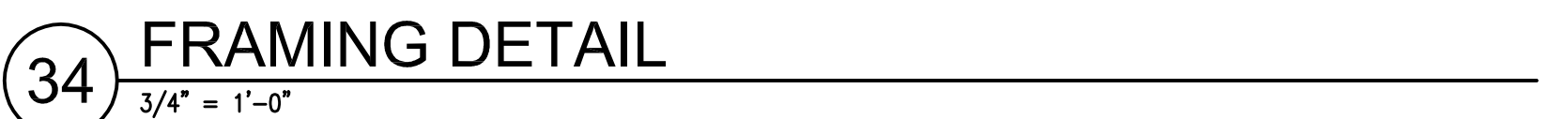
32 SECTION AT ROOF STEP



33 DRAG STRUT DETAIL



34 FRAMING DETAIL



the.stacy.group
architecture interiors

922 east 10th street plaza
Edmond, Oklahoma 73064
phone: +05.330.8292
fax: +05.330.8293



wallace



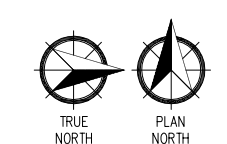
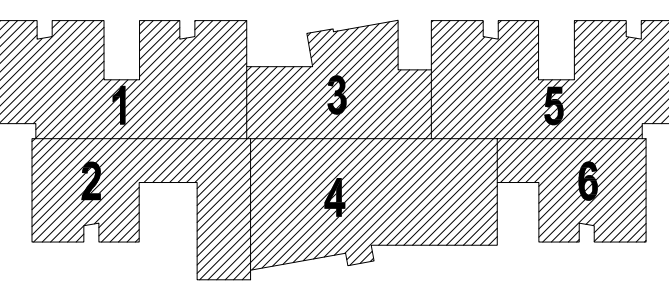
Wallace Engineering
Structural Consultants, Inc.

Structural and Civil Consultants
200 East Matthew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

OKLA. C.A. #1460, EXP. 06/30/19

OWASSO
MORROW
ELEMENTARY

OWASSO PUBLIC
SCHOOLS
OWASSO, OK
2018



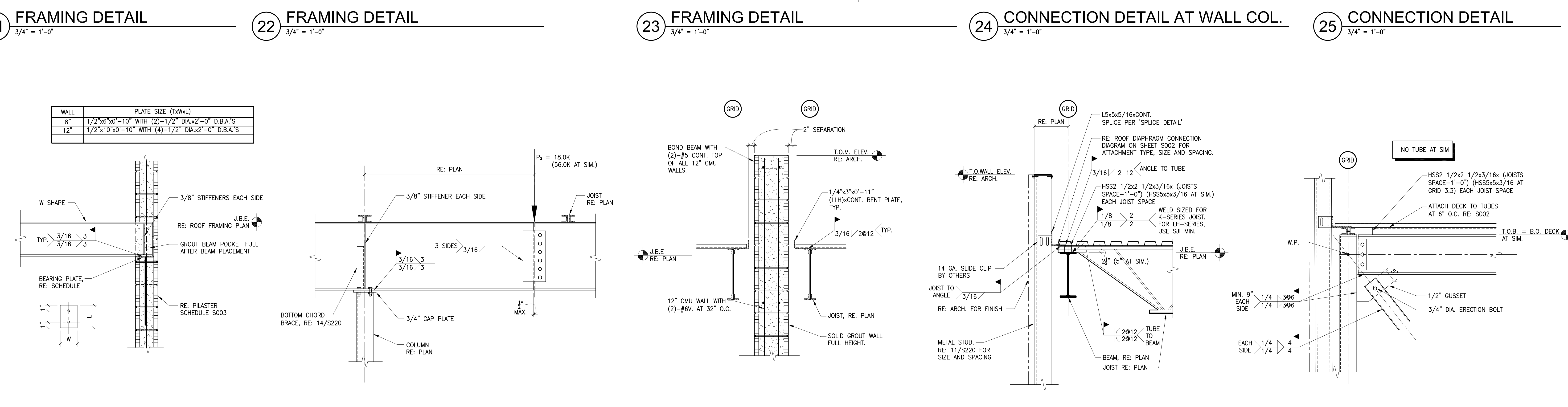
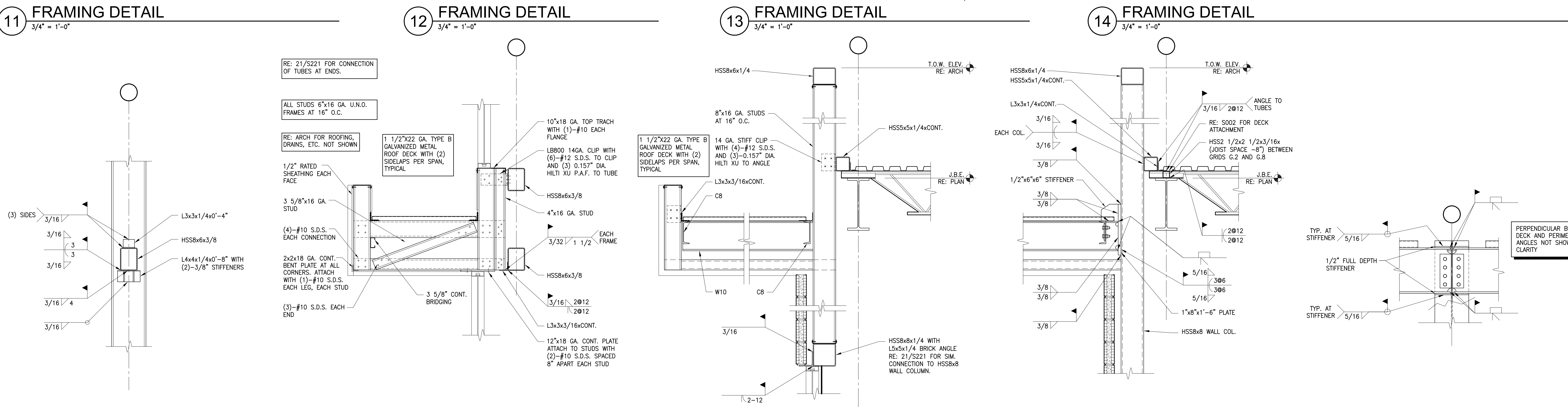
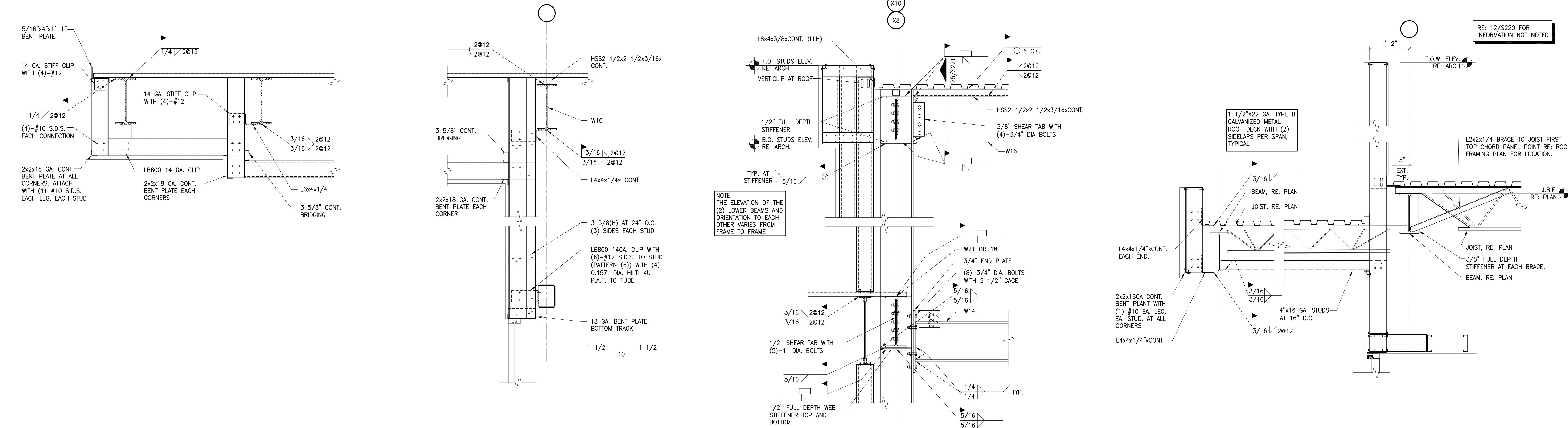
KEY PLAN

03.06.18

ROOF FRAMING
DETAILS

S220

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.



the.stacy.group
architecture interiors

222 east 10th street plaza
Edmond, Oklahoma 73034
phone: +05.330.8292
fax: +05.330.8293

wallace
wallace
Wallace Engineering
Structural Consultants, Inc.
Structural and Civil Consultants
200 East Matthew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858
OKLA. C.A. #1460, EXP. 06/30/19

OWASSO MORROW ELEMENTARY

OWASSO PUBLIC SCHOOLS
OWASSO, OK 2018

KEY PLAN

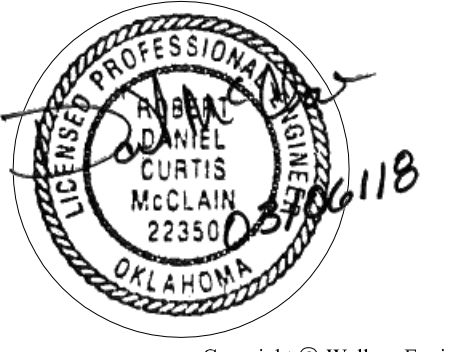
1 3 5
2 4 6

03.06.18

ROOF FRAMING DETAILS

S221

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.



Copyright © Wallace Engineering, Inc.



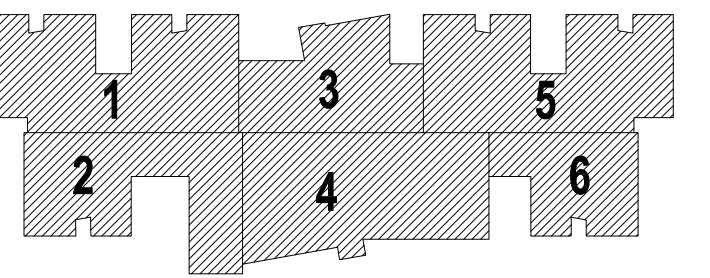
Wallace Engineering
Structural Consultants, Inc.

Structural and Civil Consultants
200 East Matthew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

OKLA. C.A. #1460, EXP. 06/30/19

OWASSO MORROW ELEMENTARY

OWASSO PUBLIC SCHOOLS
OWASSO, OK
2018



KEY PLAN

03.06.18

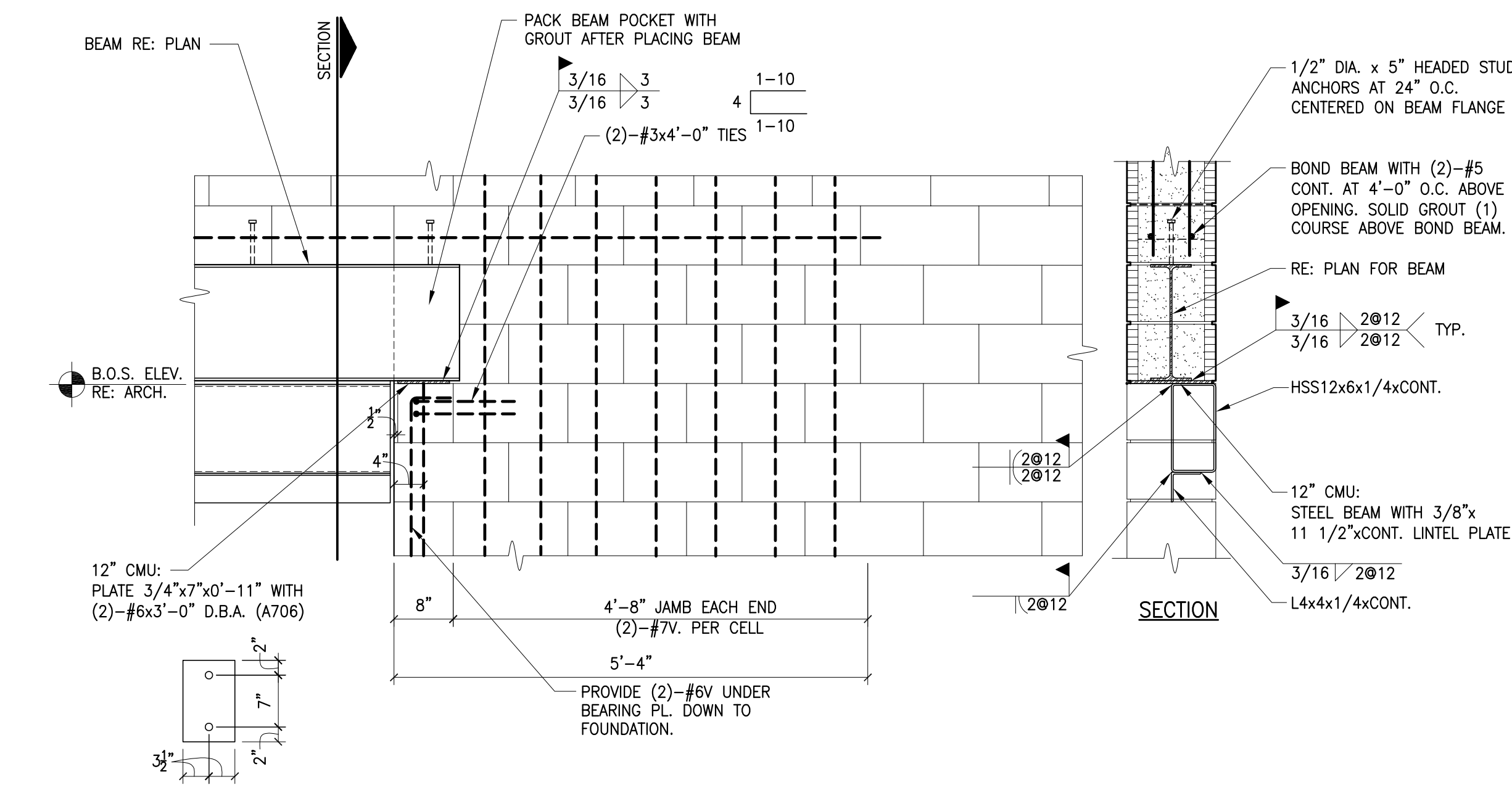
ROOF FRAMING DETAILS

1712803 PROJECT NO.
LEA DRAWN BY
CAW CHECKED BY

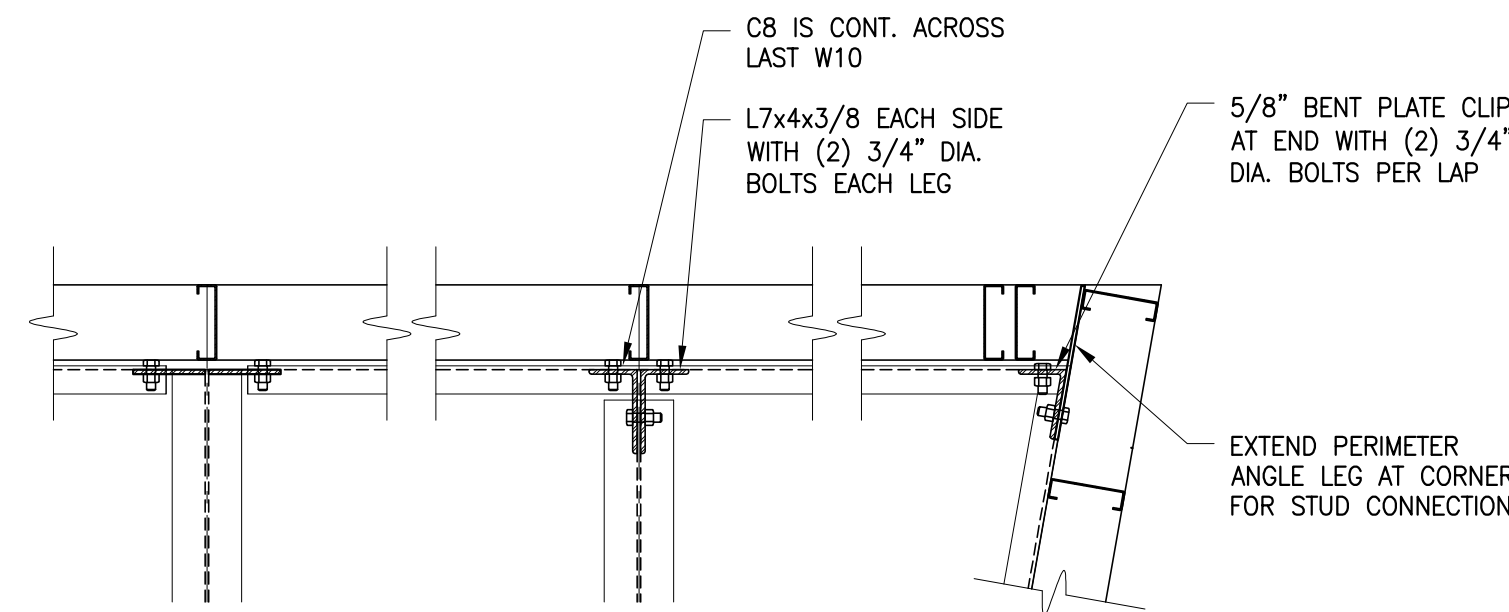
S222

SHEET TITLE

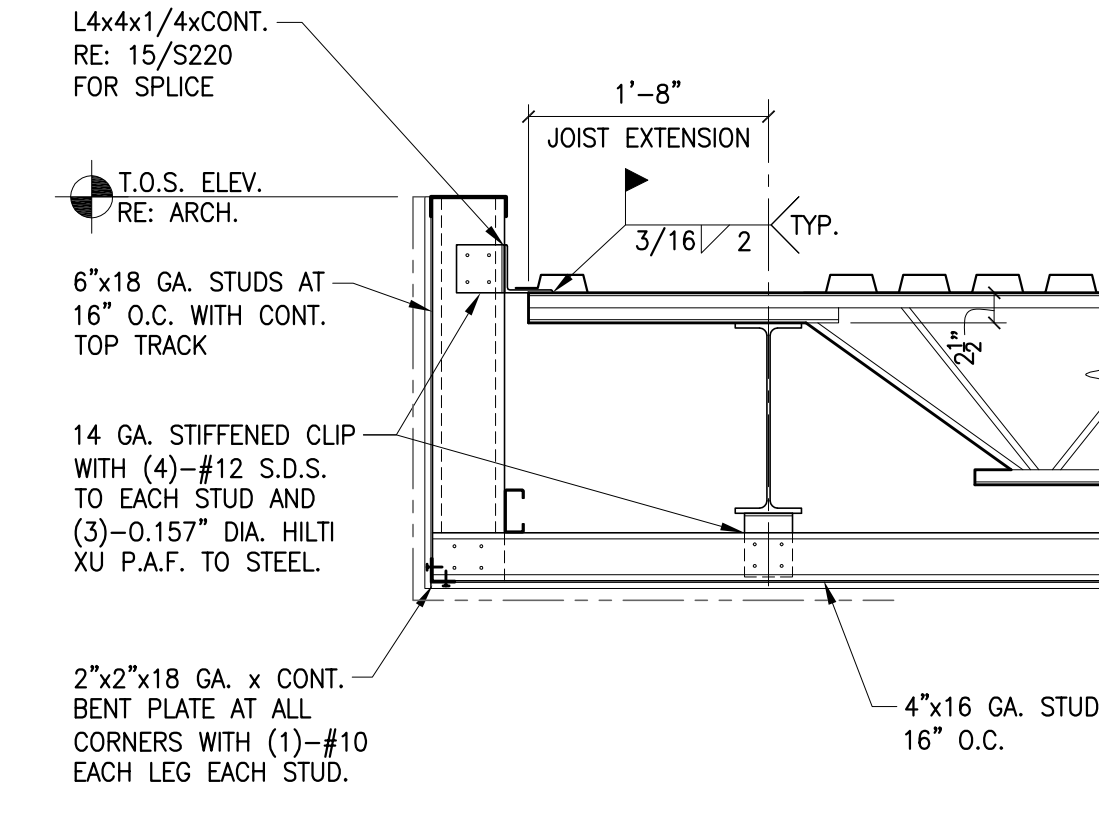
These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.



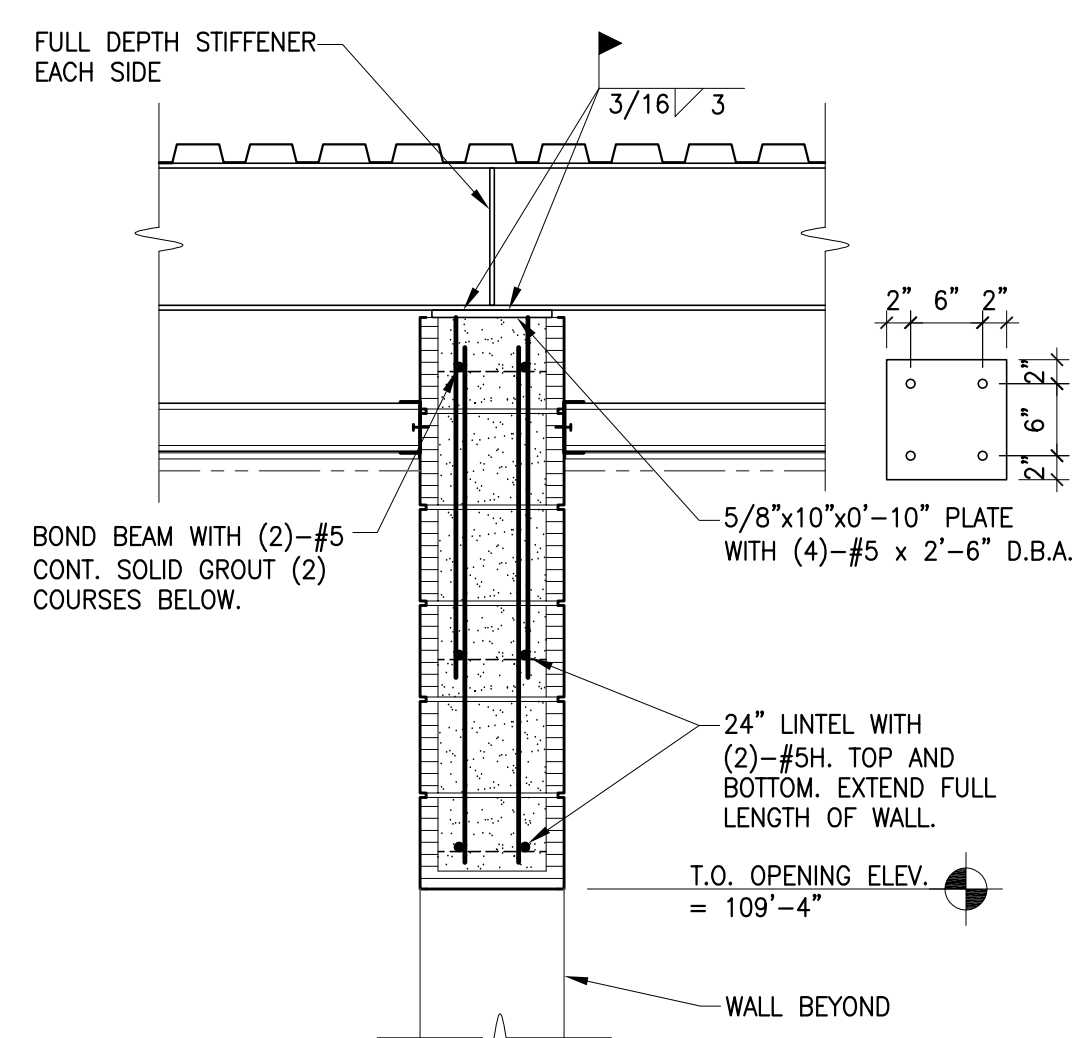
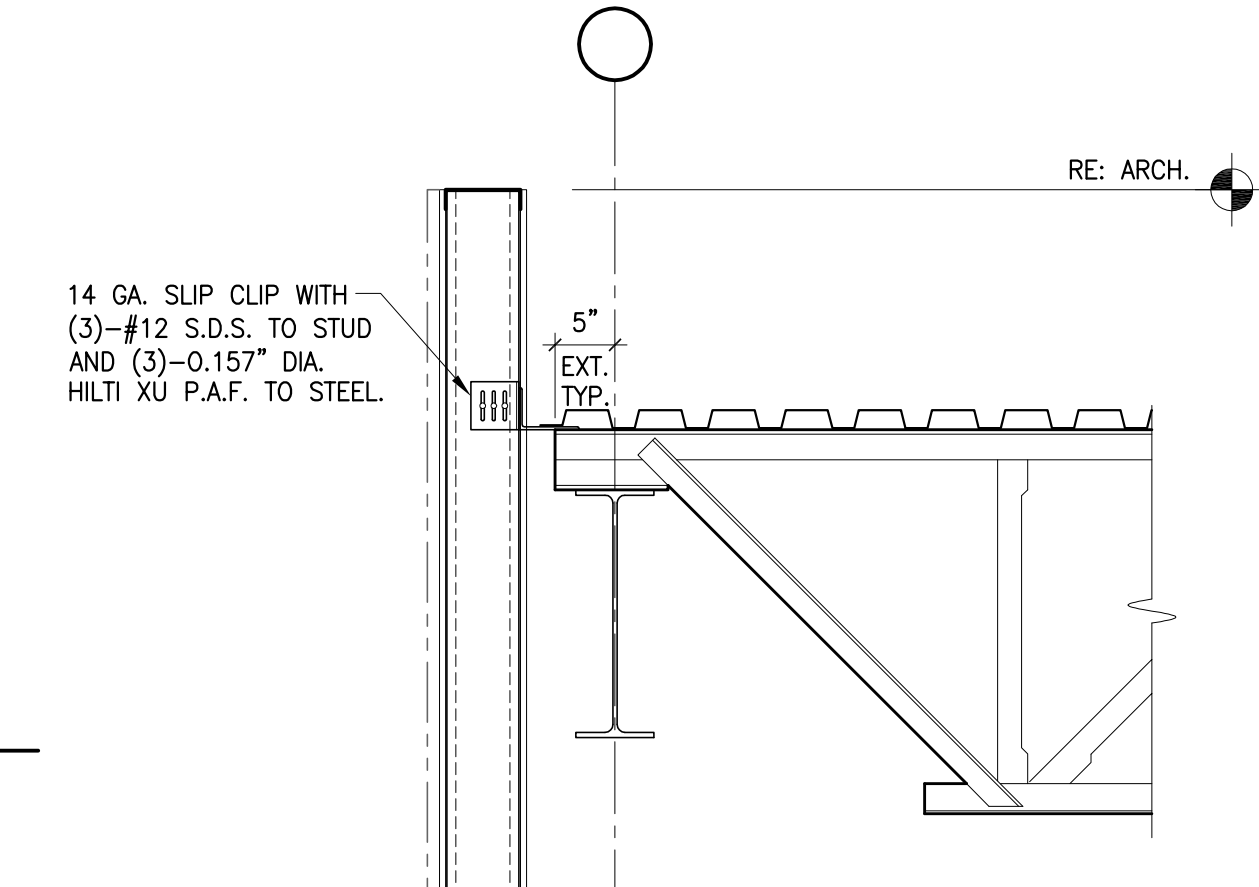
11 BEAM LINTEL DETAIL AT FIREWALL
3/4" = 1'-0"



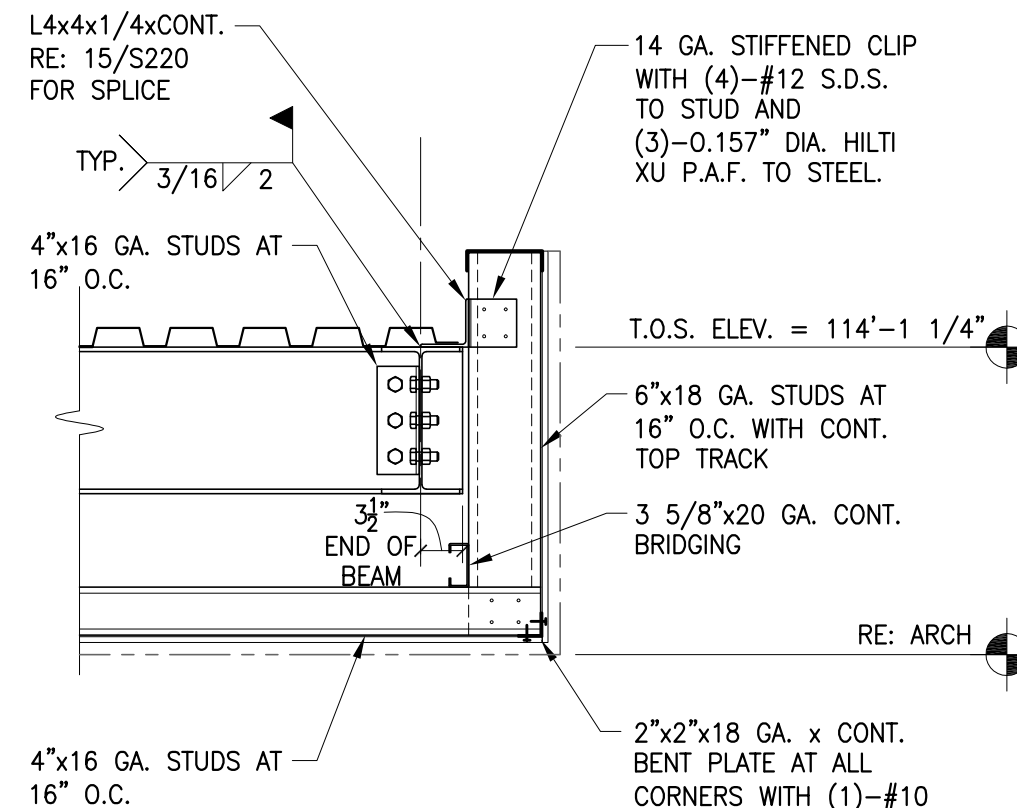
12 FRAMING DETAIL
3/4" = 1'-0"



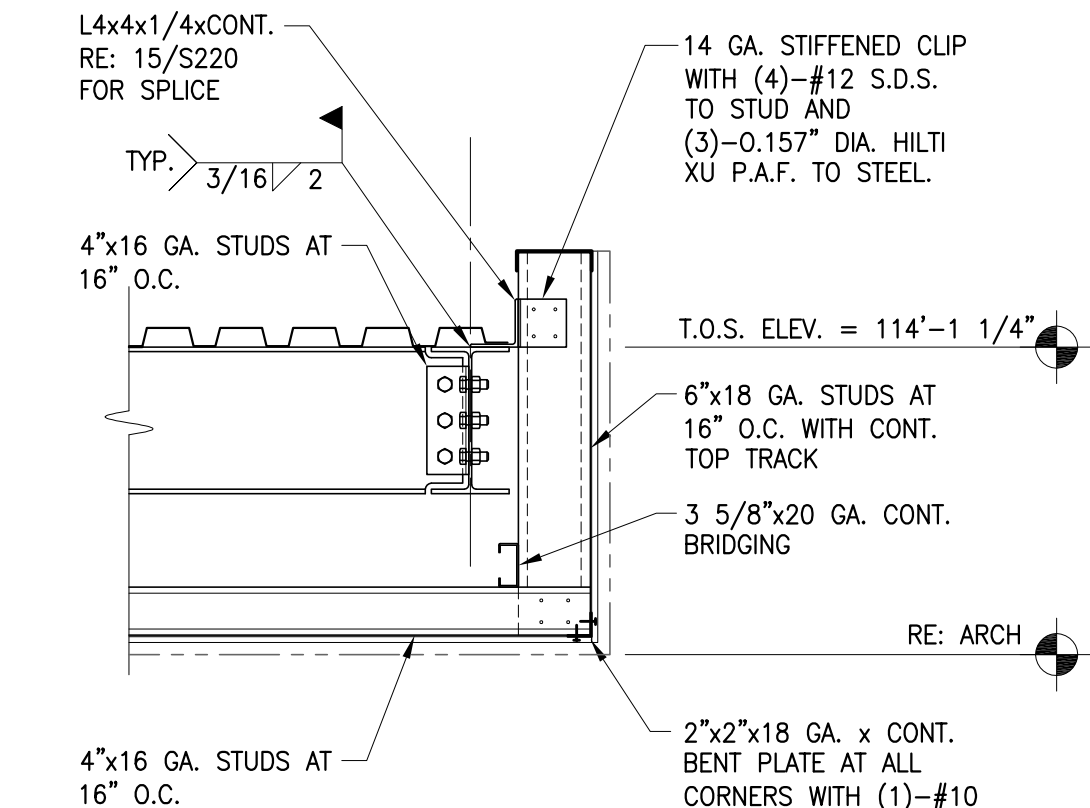
13 FRAMING DETAIL
3/4" = 1'-0"



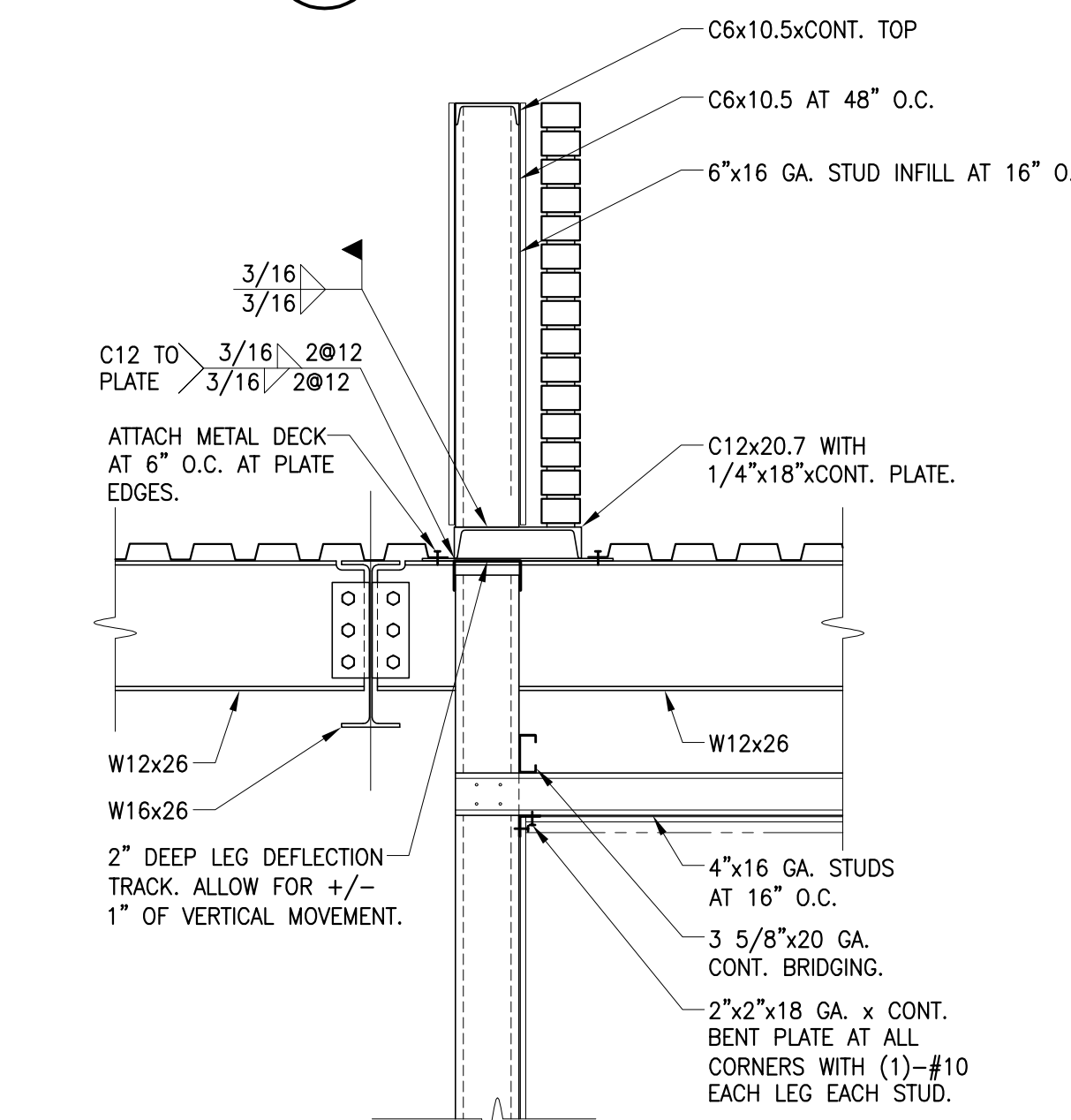
21 FRAMING DETAIL
3/4" = 1'-0"



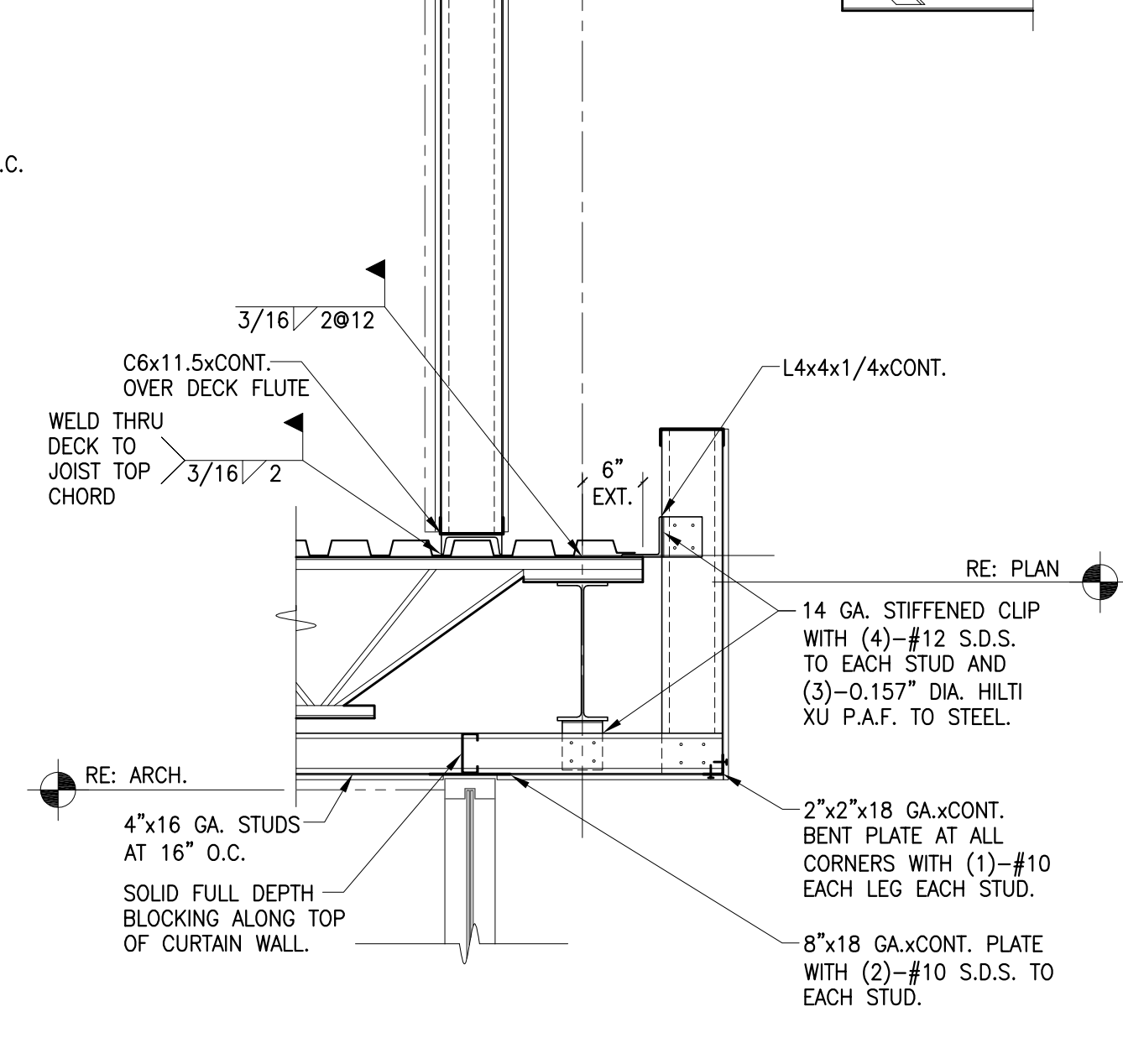
22 FRAMING DETAIL
3/4" = 1'-0"



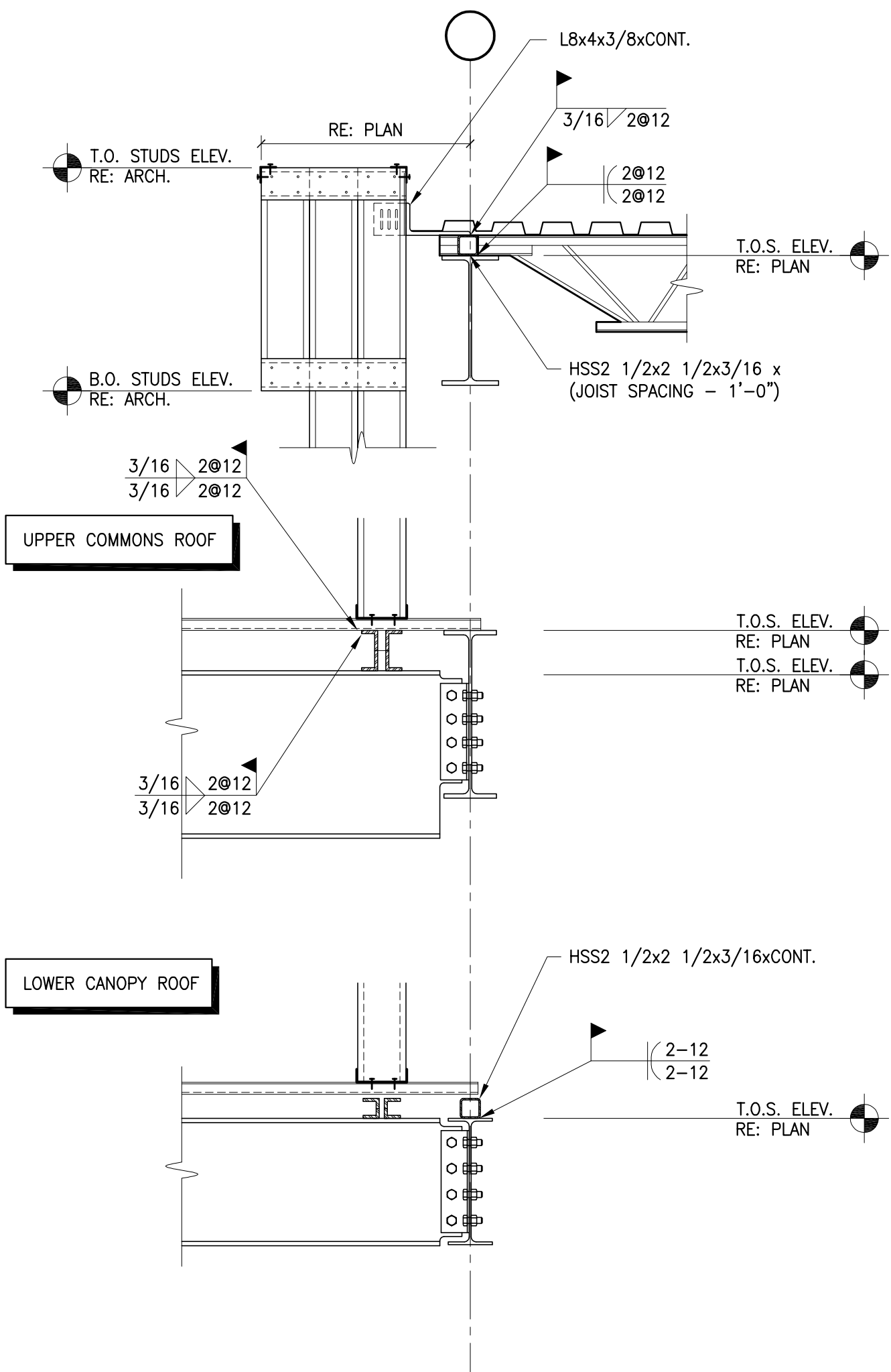
23 FRAMING DETAIL
3/4" = 1'-0"



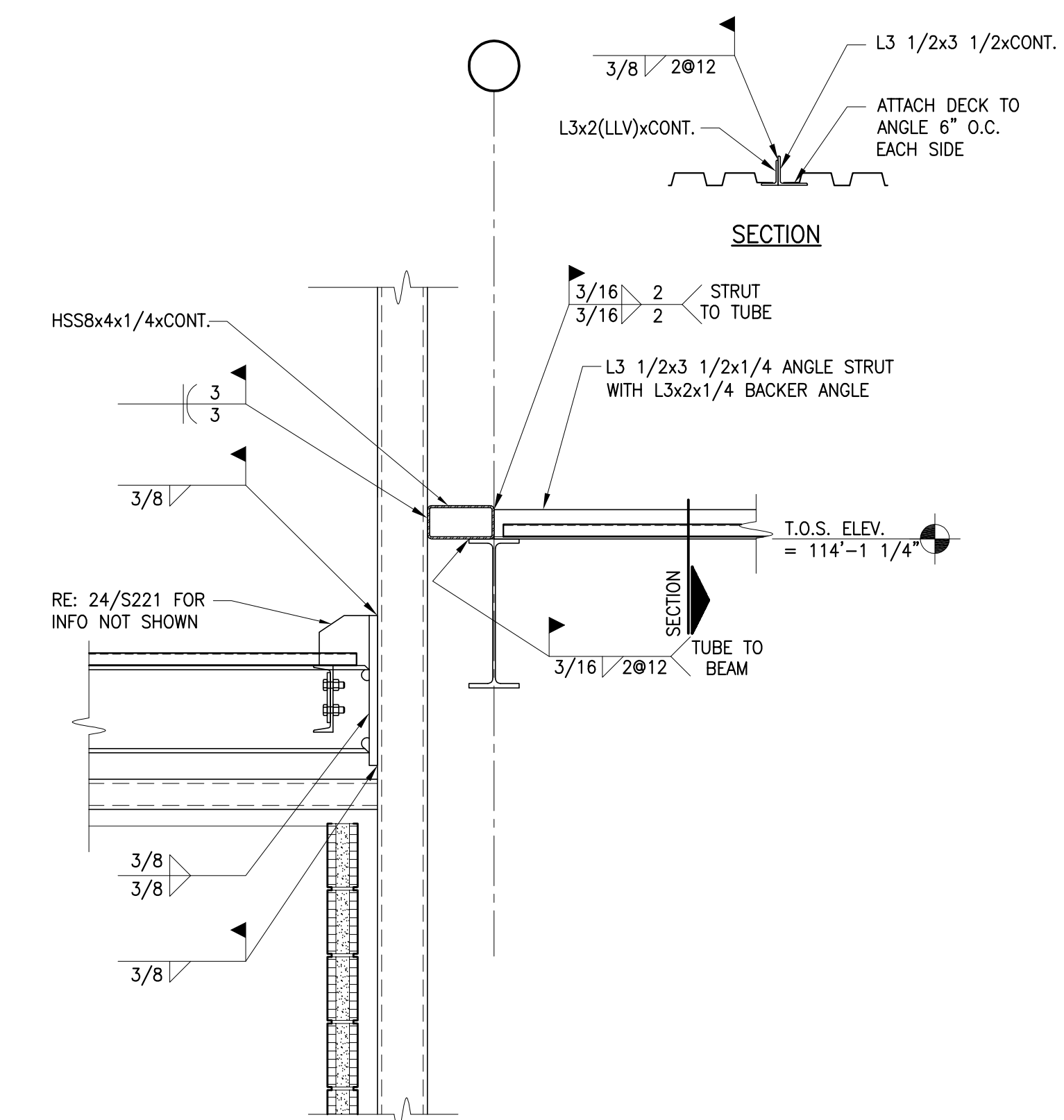
24 FRAMING DETAIL
3/4" = 1'-0"



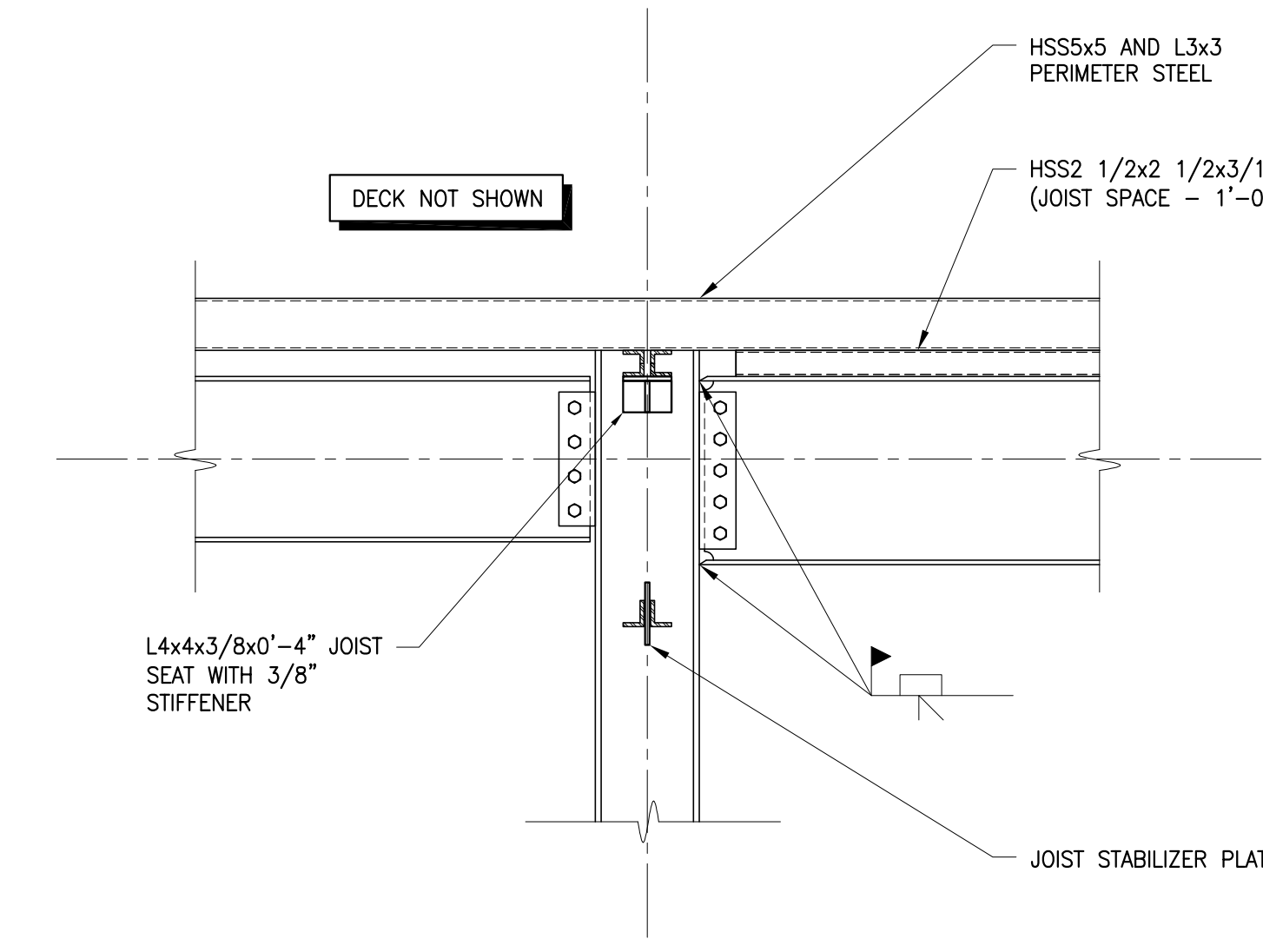
25 FRAMING DETAIL
3/4" = 1'-0"



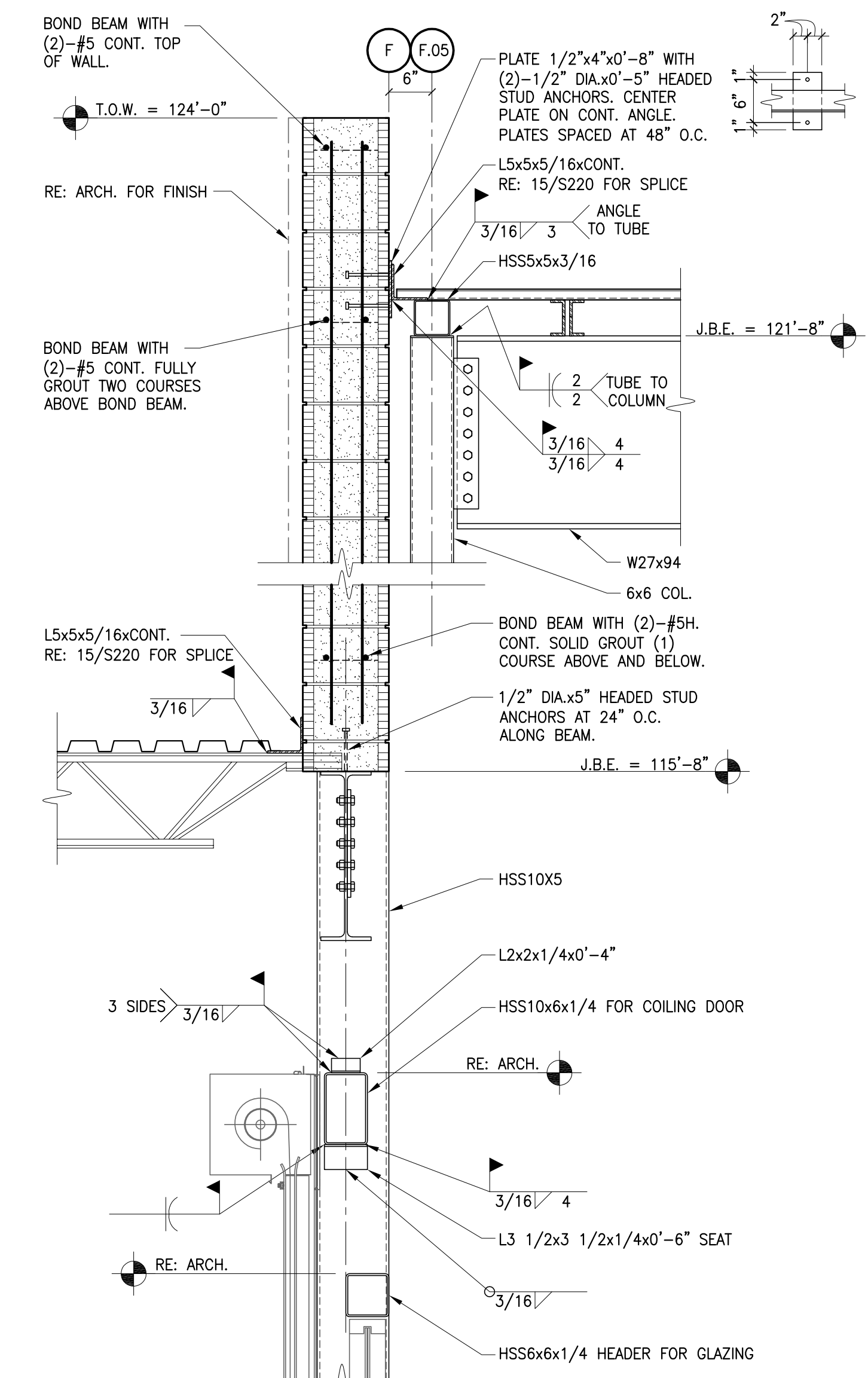
31 FRAMING DETAIL
3/4" = 1'-0"



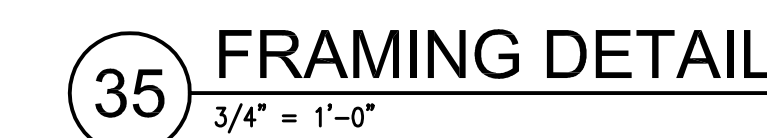
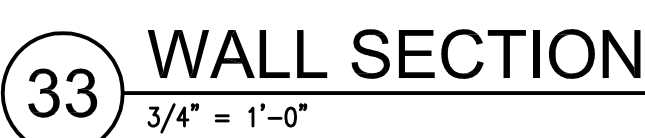
32 FRAMING DETAIL
3/4" = 1'-0"



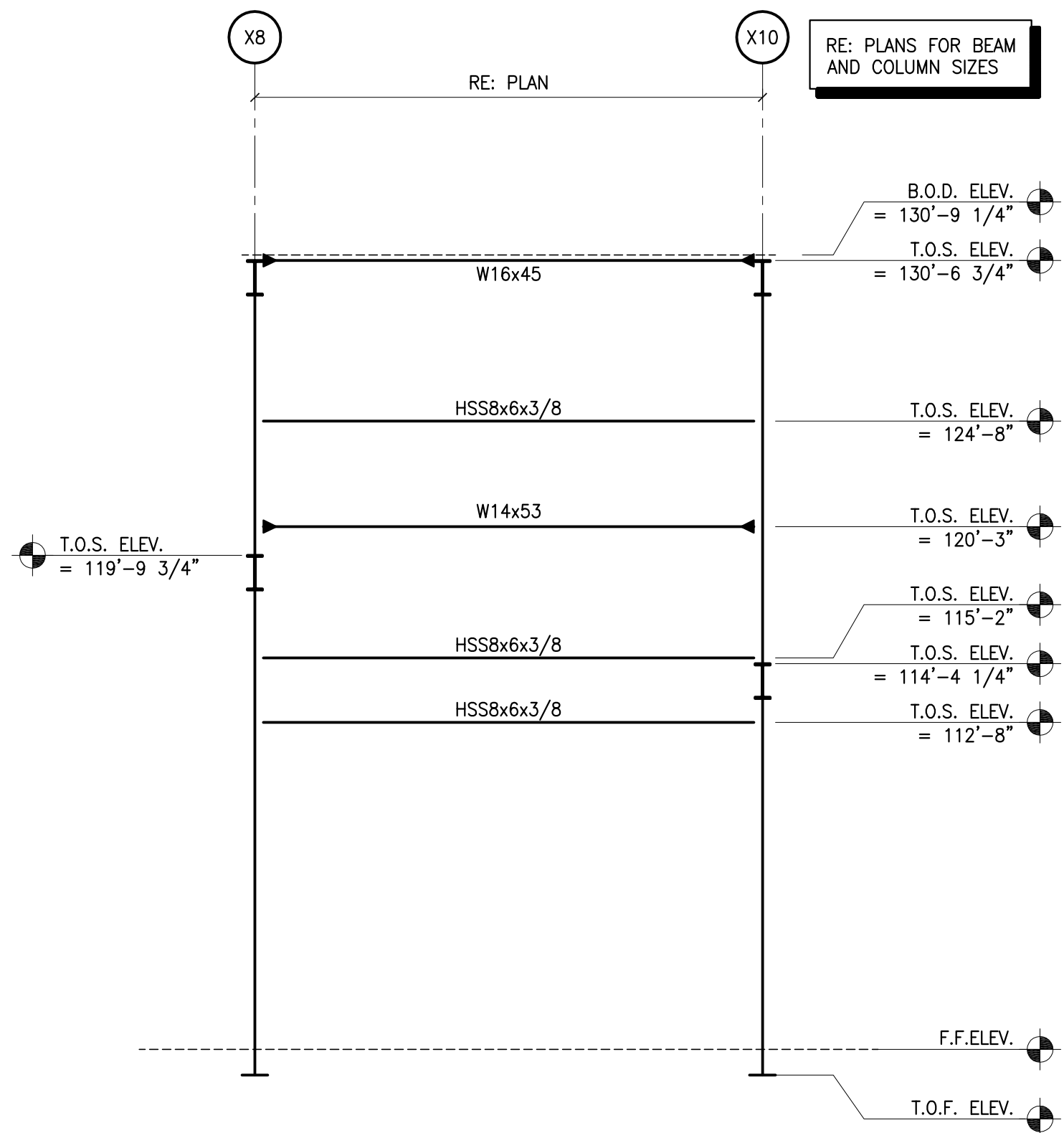
33 FRAMING DETAIL
3/4" = 1'-0"



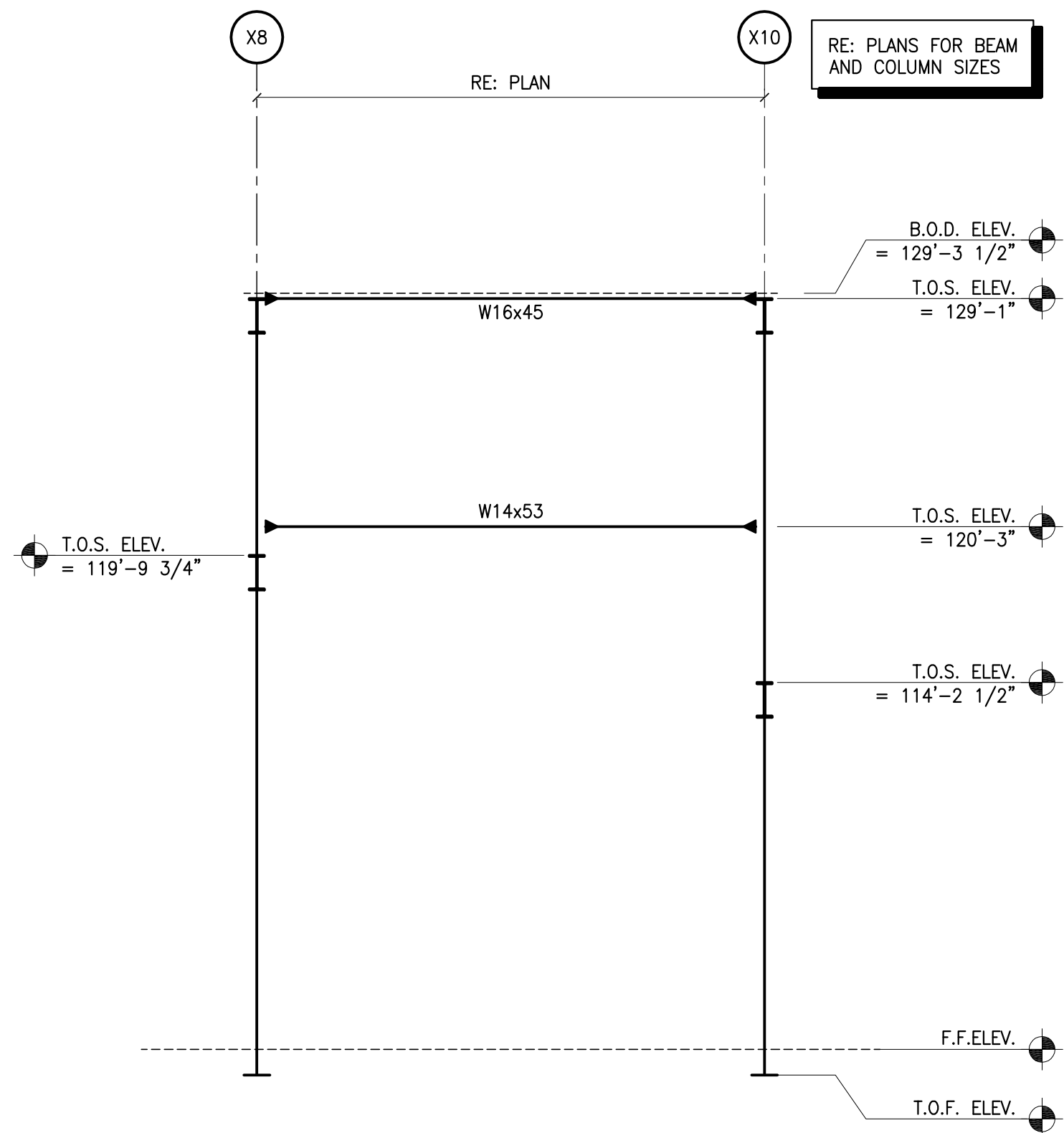
34 DETAIL AT STEP IN ROOF
3/4" = 1'-0"



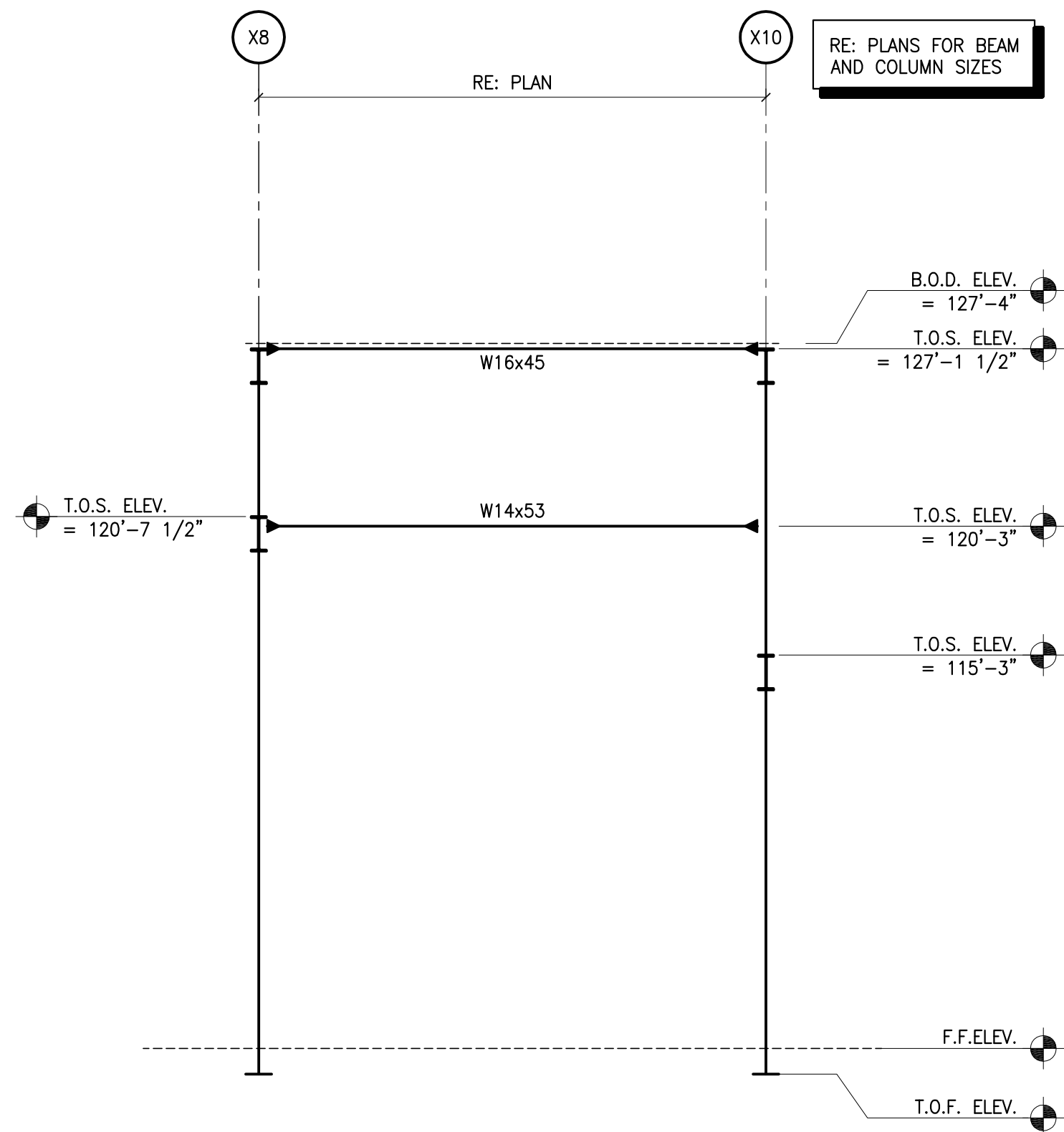




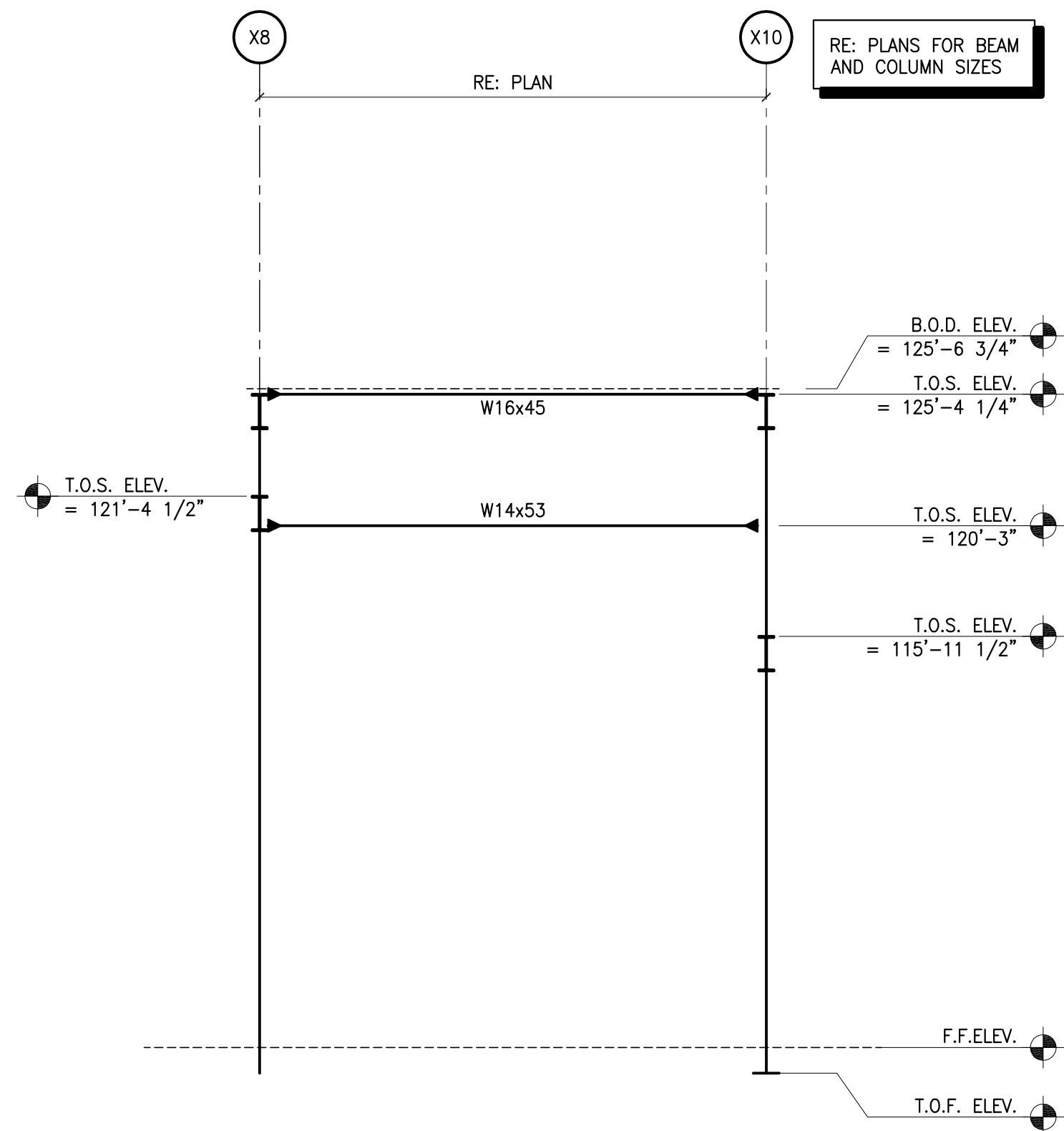
11 FRAMING ELEVATION AT GRID Z2
3/16" = 1'-0"



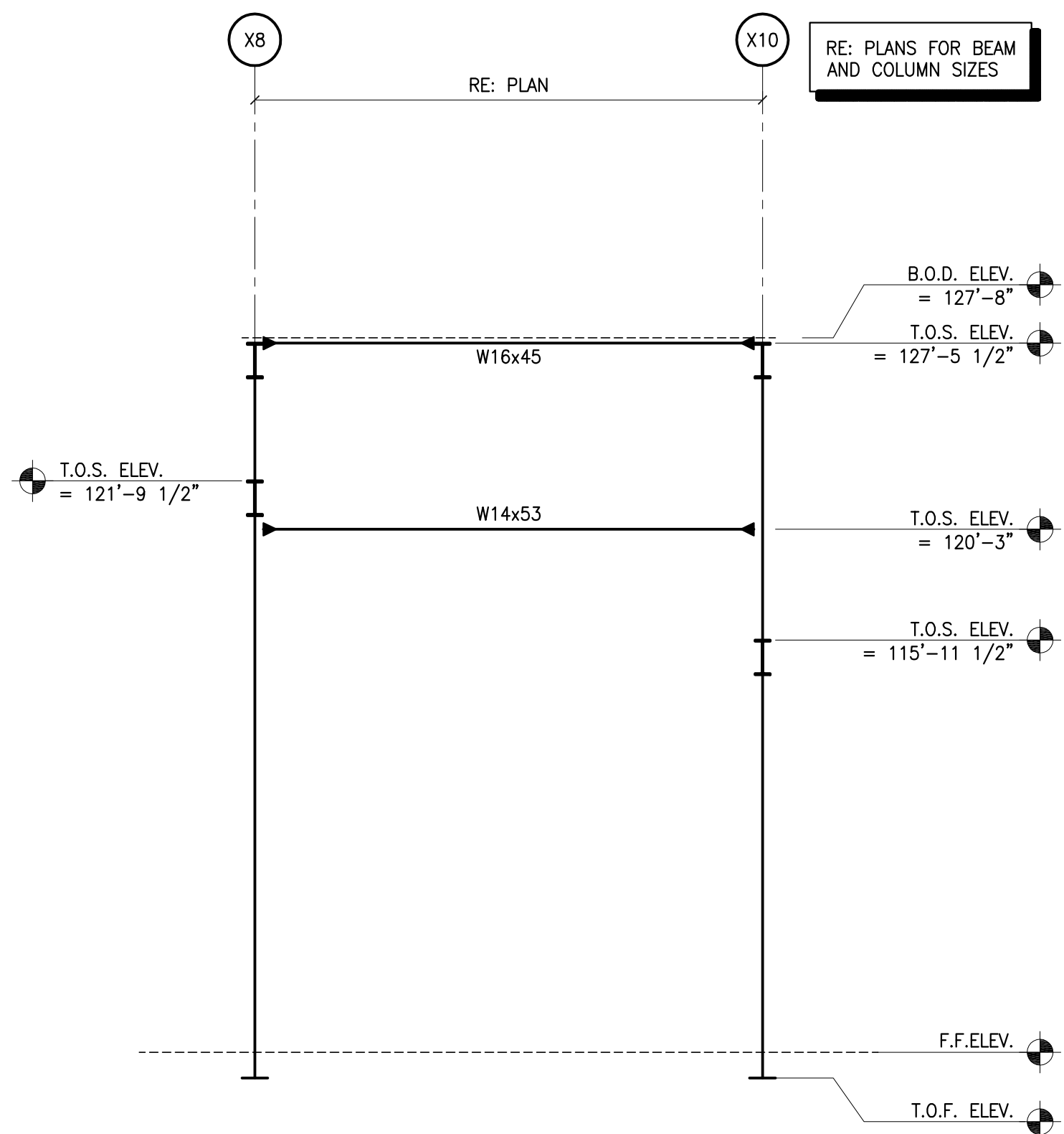
12 FRAMING ELEVATION AT GRID Z5
3/16" = 1'-0"



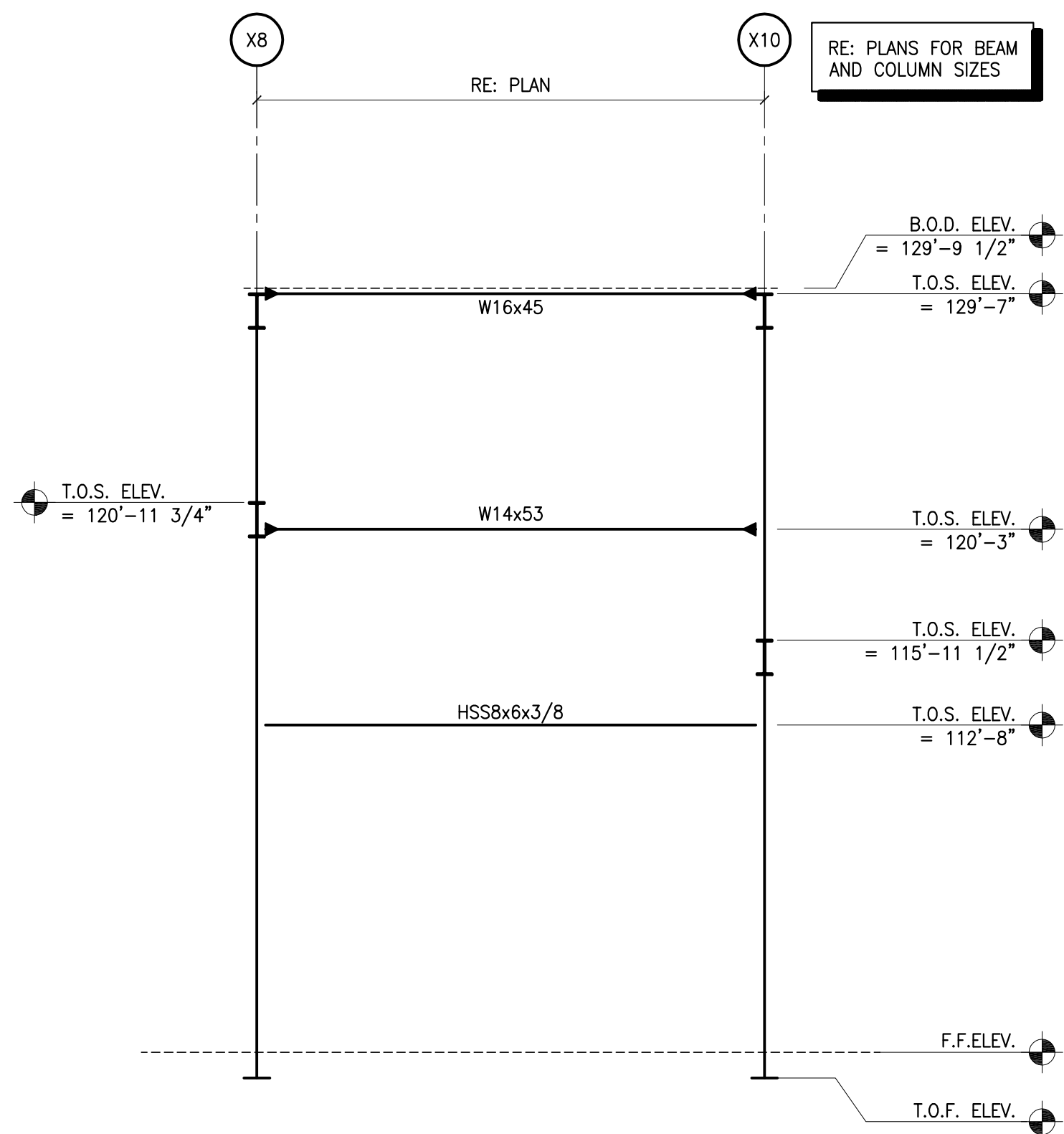
13 FRAMING ELEVATION AT GRID Z6
3/16" = 1'-0"



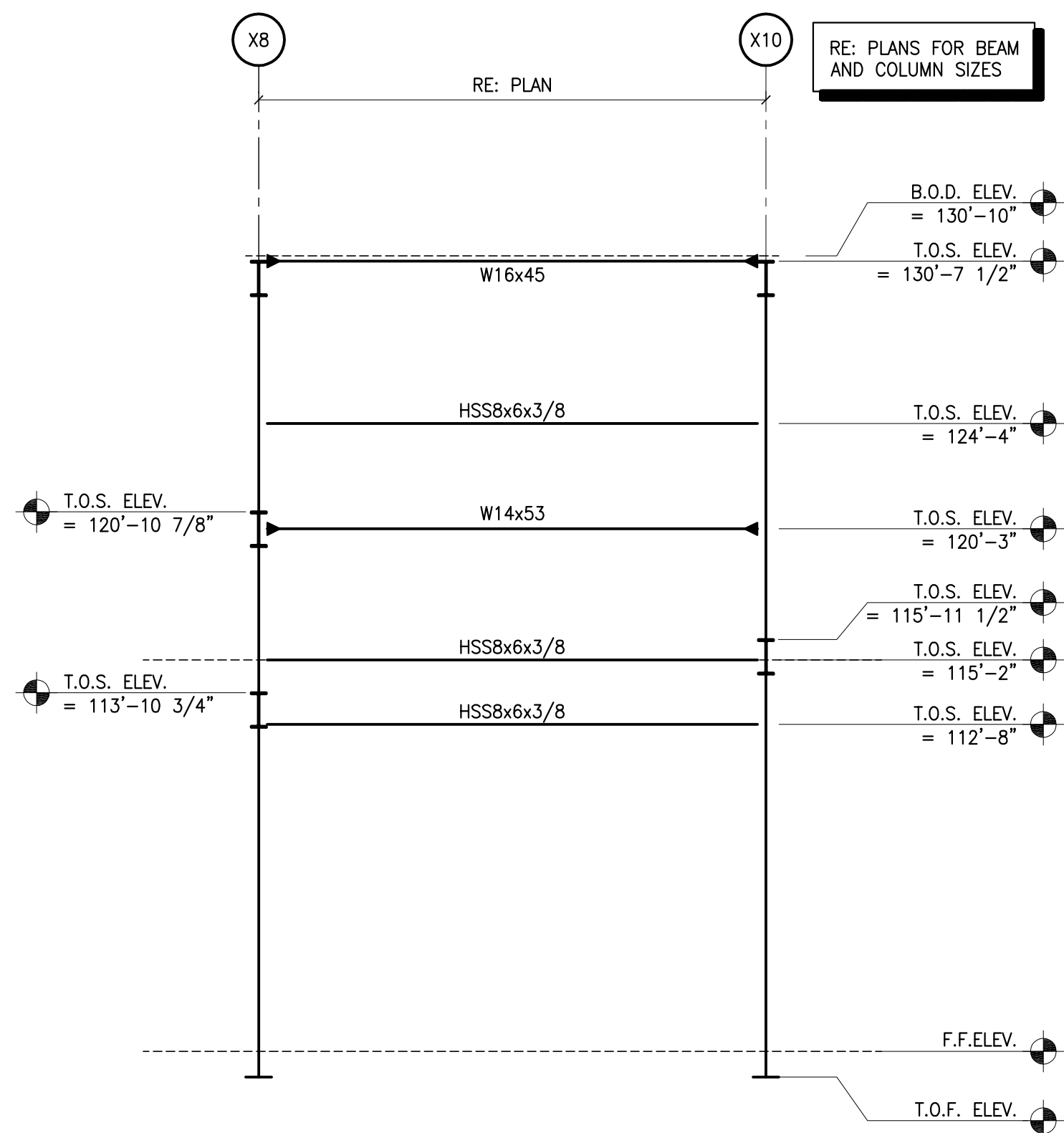
14 FRAMING ELEVATION AT GRID Z7
3/16" = 1'-0"



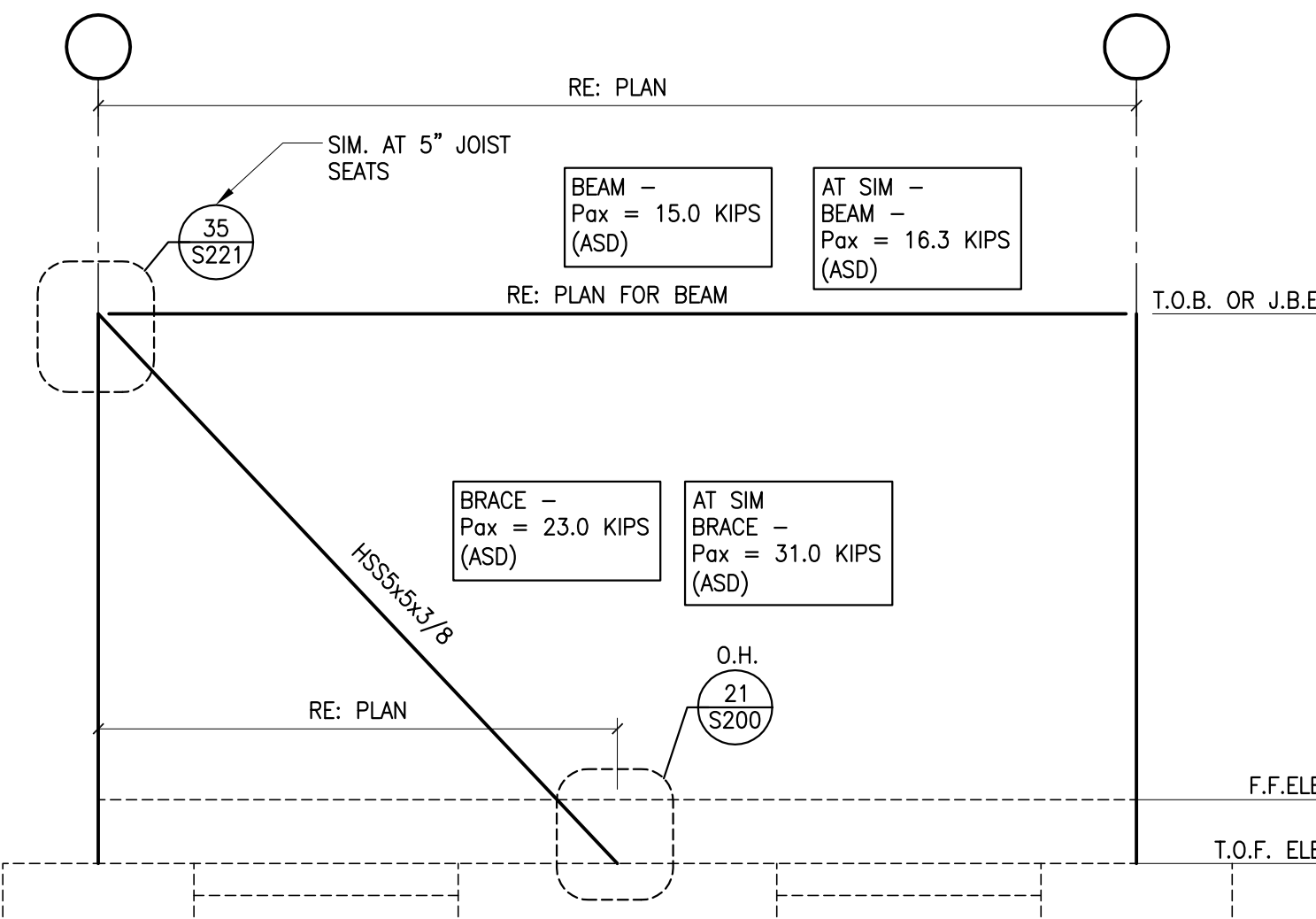
21 FRAMING ELEVATION AT GRID Z8
3/16" = 1'-0"



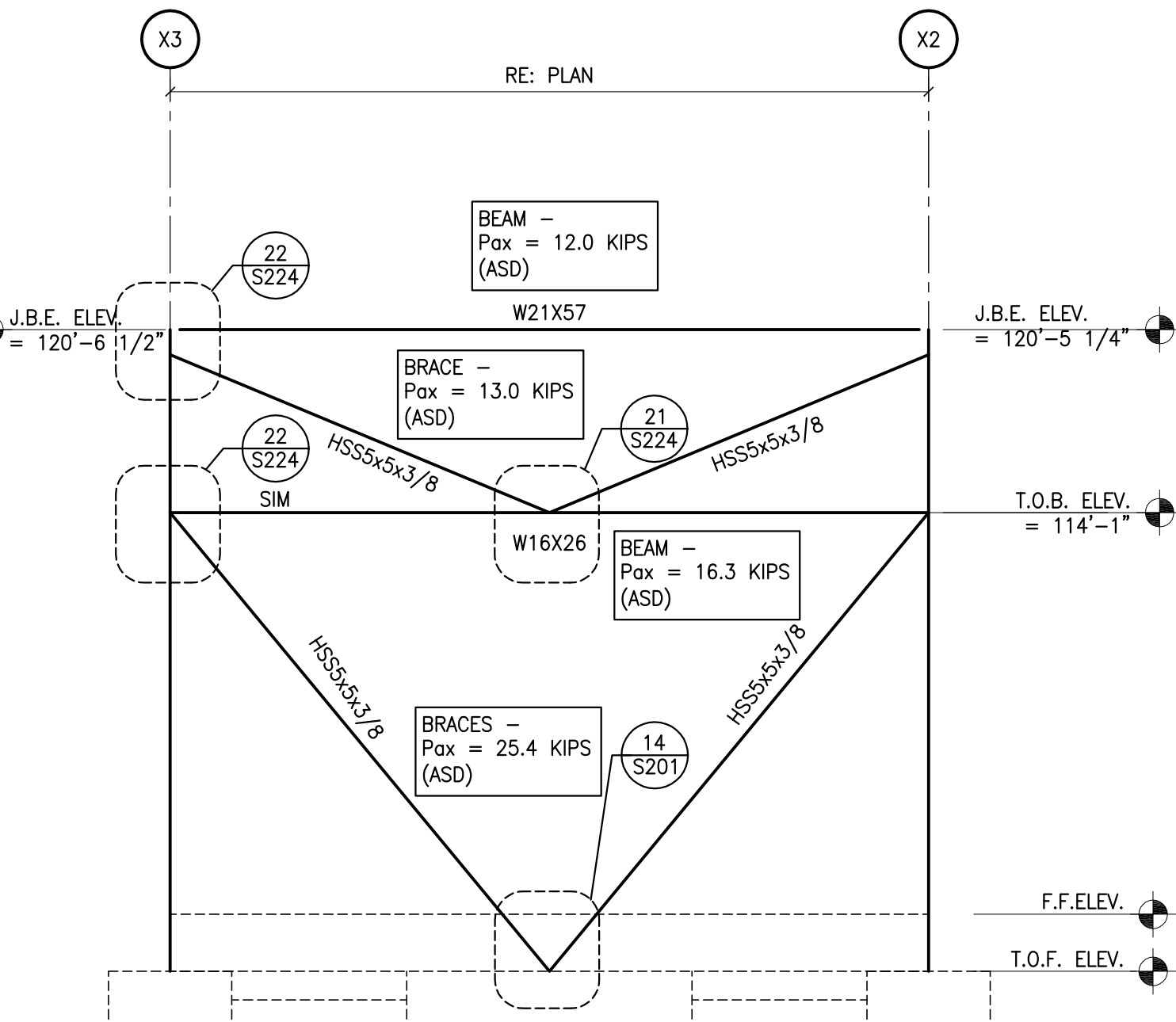
22 FRAMING ELEVATION AT GRID Z9
3/16" = 1'-0"



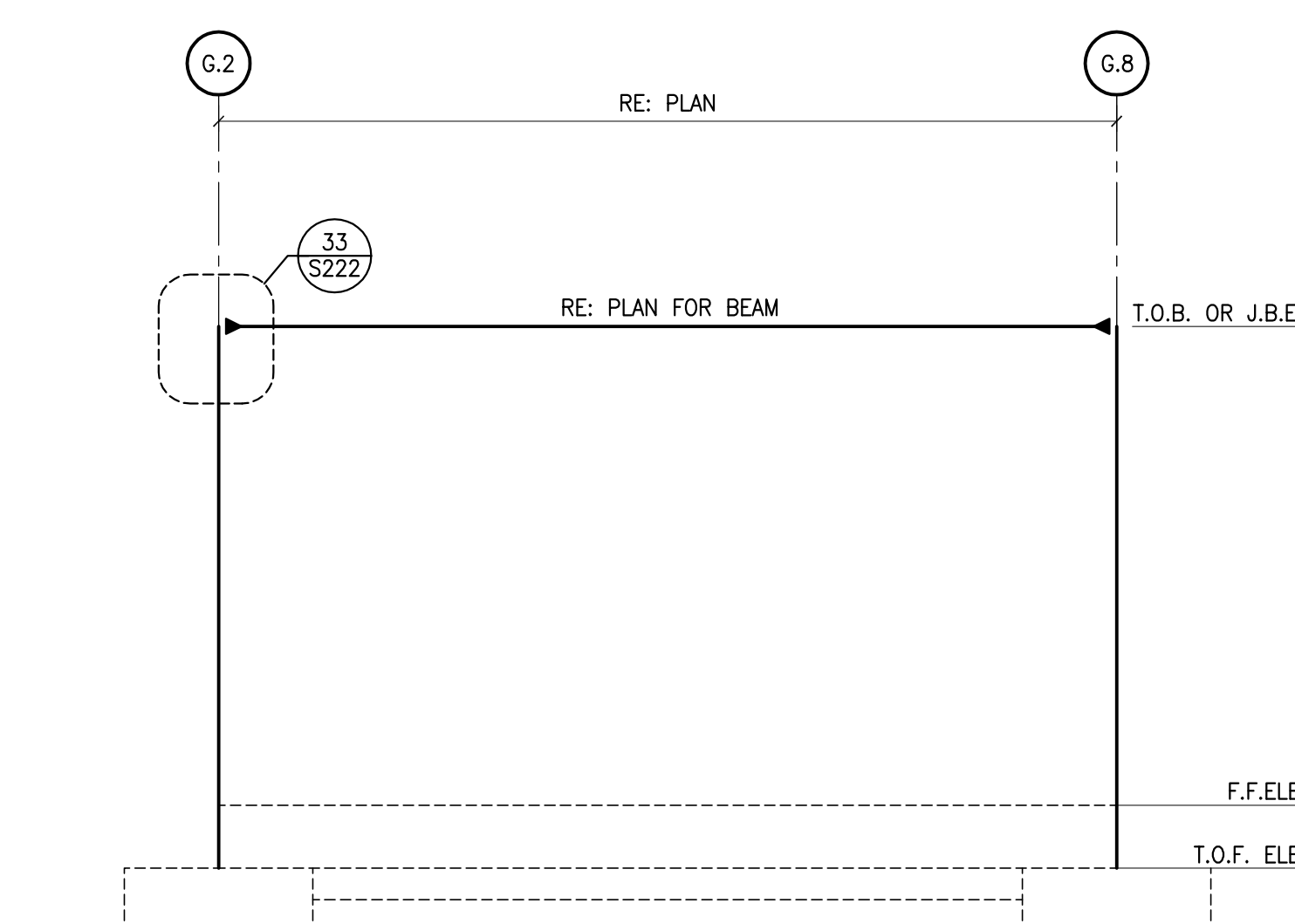
23 FRAMING ELEVATION AT GRID Z10
3/16" = 1'-0"



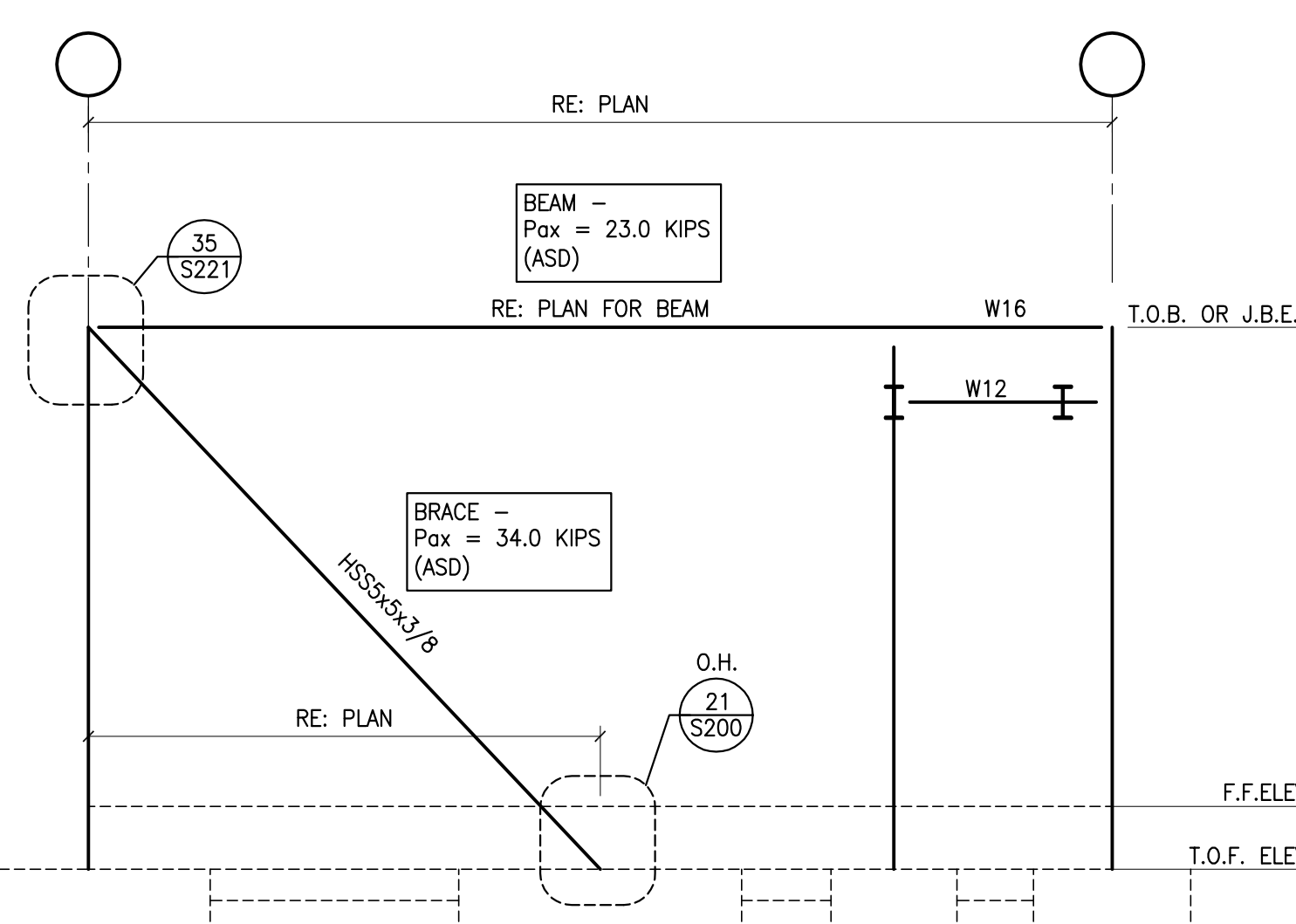
24 FRAMING ELEVATION AT VARIOUS GRIDS
3/16" = 1'-0"



31 FRAMING ELEVATION AT GRID Z9.1
3/16" = 1'-0"



32 FRAMING ELEVATION AT GRID Z4.1
3/16" = 1'-0"



33 FRAMING ELEVATION AT VARIOUS GRIDS
3/16" = 1'-0"

the.stacy.group
architecture interiors

922 east 10th street plaza
Edmond, Oklahoma 73034
phone: +05.330.8292
fax: +05.330.8293



Copyright © Wallace Engineering, Inc.

wallace



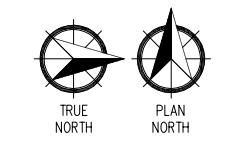
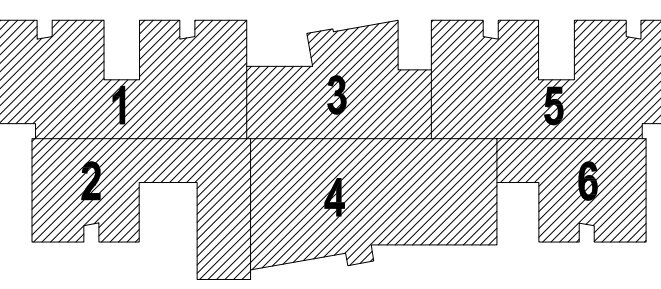
Wallace Engineering
Structural Consultants, Inc.

Structural and Civil Consultants
200 East Matthew Brady Street
Tulsa, Oklahoma 74103
918.584.5858, 800.364.5858

OKLA. C.A. #1460, EXP. 06/30/19

OWASSO MORROW ELEMENTARY

OWASSO PUBLIC SCHOOLS
OWASSO, OK 2018



KEY PLAN

03.06.18

FRAME ELEVATIONS

S300

These drawings are subject to copyright protection as an "architectural work" under Section 102 of the Copyright Act, 17 U.S.C., as amended on December 1, 1990. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design. These documents are not to be reproduced without the written consent of Wallace Engineering, Inc.