DESIGN PARAMETERS

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1. BUILDING CODE	2018 INTERNATIONAL BUILDING CODE
RISK CATEGORY	III
2. LIVE LOAD	
A. ROOF	20 PSF
B. CORRIDORS	100 PSF
3. ROOF SNOW LOADS	
A. GROUND SNOW LOAD, PG	10 PSF
B. FLAT ROOF SNOW LOAD, PF	12.7 PSF
C. SNOW EXPOSURE FACTOR, CE	1.0
D. SNOW LOAD IMPORTANCE FACTOR, I	1.1
E. THERMAL FACTOR, CT (BLDG. ROOF)	1.0
F. THERMAL FACTOR, CT (AT CANOPIES)	1.2
4. WIND DESIGN DATA – STEEL	
A. ULTIMATE DESIGN WIND SPEED (3 SECOND GUST), VULT	116 MPH
B. NOMINAL DESIGN WIND SPEED, VASD	90 MPH
C. WIND EXPOSURE CATEGORY	C
D. INTERNAL PRESSURE COEFFICIENT, GCPI	±0.18
E. DESIGN WIND PRESSURE ON COMPONENTS AND CLADDING	
1. ROOF JOISTS (NET UPLIFT, 0.6W – 0.6D$_{MIN.}$)	
A. (220 SQUARE FEET EFFECTIVE WIND AREA)	
CORNER ZONES (3)	–25.6 PSF
END ZONES (2)	–22.8 PSF
INTERIOR ZONES (1)	–16.2 PSF
INTERIOR ZONES (1')	–10.0 PSF
B. (160 SQUARE FEET EFFECTIVE WIND AREA)	
CORNER ZONES (3)	–27.8 PSF
END ZONES (2)	–23.9 PSF
INTERIOR ZONES (1)	–17.1 PSF
INTERIOR ZONES (1')	–11.0 PSF
C. (50 SQUARE FEET EFFECTIVE WIND AREA)	
CORNER ZONES (3)	–35.8 PSF
END ZONES (2)	–27.9 PSF
INTERIOR ZONES (1)	–20.2 PSF
INTERIOR ZONES (1')	–12.5 PSF
D. WIDTH OF EDGE ZONE	12.0 FT
2. SEISMIC LOADS – MASONRY	
A. SPECTRAL RESPONSE ACCELERATION (SHORT PERIOD), Ss	0.124
B. SPECTRAL RESPONSE ACCELERATION (1–SEC. PERIOD), SI	0.071
C. SEISMIC IMPORTANCE FACTOR, Ie	1.25
D. DESIGN SPECTRAL RESPONSE COEFFICIENT, Sds	0.108
E. DESIGN SPECTRAL RESPONSE COEFFICIENT, Sd1	0.071
F. SEISMIC DESIGN CATEGORY	B
G. SITE CLASS	C
H. BASIC STRUCTURAL SYSTEM AND SEISMIC RESISTING SYSTEM	BEARING WALL SYSTEM INTERMEDIATE REINFORCED MASONRY SHEAR WALLS
J. RESPONSE MODIFICATION FACTOR, R	3.5
K. SYSTEM OVER–STRENGTH FACTOR, Ω	2.0
L. DEFLECTION AMPLIFICATION FACTOR, CD	2.25
M. ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE
3. DESIGN RAINFALL RATE (SECONDARY)	10.2 IN/HR

GENERAL NOTES

GENERAL

1. NO PROVISION OF ANY REFERENCED STANDARD SPECIFICATION, MANUAL, OR CODE (WHETHER OR NOT SPECIFICALLY INCORPORATED BY REFERENCE IN THE CONTRACT DOCUMENTS) SHALL BE EFFECTIVE TO CHANGE THE DUTIES AND RESPONSIBILITIES OF OWNER, CONTRACTOR, DESIGN PROFESSIONAL, SUPPLIER, OR ANY OF THEIR CONSULTANTS, AGENTS, OR EMPLOYEES FROM THOSE SET FORTH IN THE CONTRACT DOCUMENTS, NOR SHALL IT BE EFFECTIVE TO ASSIGN TO THE DESIGN PROFESSIONAL OF RECORD OR ANY OF THE DESIGN PROFESSIONAL OF RECORD'S CONSULTANTS, AGENTS, OR EMPLOYEES ANY DUTY OR AUTHORITY TO SUPERVISE OR DIRECT THE FURNISHING OR PERFORMANCE OF THE WORK OR ANY DUTY OR AUTHORITY TO UNDERTAKE RESPONSIBILITIES CONTRARY TO THE PROVISIONS OF THE CONTRACT DOCUMENTS.
2. THE CONTRACT DOCUMENTS INCLUDE BUT ARE NOT LIMITED TO, THE STRUCTURAL DOCUMENTS (DRAWINGS AND SPECIFICATIONS), BUT DO NOT INCLUDE SHOP DRAWINGS, VENDOR DRAWINGS, OR MATERIAL PREPARED AND SUBMITTED BY THE CONTRACTOR.
3. REFERENCE TO STANDARD SPECIFICATIONS OF ANY TECHNICAL SOCIETY, ORGANIZATION, OR ASSOCIATION OR REFERENCE TO CODES OF LOCAL OR STATE AUTHORITIES, SHALL MEAN THE LATEST STANDARD, CODE, SPECIFICATION, OR TENTATIVE SPECIFICATION ADOPTED AT THE DATE OF TAKING BIDS UNLESS SPECIFICALLY STATED OTHERWISE.
4. THE CONTRACT DOCUMENTS SHALL GOVERN IN THE EVENT OF A CONFLICT WITH THE CODE OF PRACTICE OR SPECIFICATIONS OF ACI, PCI, AISC, SJI, OR OTHER STANDARDS. WHERE A CONFLICT OCCURS WITHIN THE CONTRACT DOCUMENTS, THE STRICTEST REQUIREMENT SHALL GOVERN.
5. MATERIAL, WORKMANSHIP, AND DESIGN SHALL CONFORM TO THE REFERENCED BUILDING CODE.
6. THE CONTRACTOR SHALL COORDINATE THE STRUCTURAL DOCUMENTS WITH THE ARCHITECTURAL, ELECTRICAL, MECHANICAL, PLUMBING, AND CIVIL DOCUMENTS. THE DESIGN PROFESSIONAL SHALL BE NOTIFIED OF ANY DISCREPANCY OR OMISSION. FOR DIMENSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS, REFER TO THE ARCHITECTURAL DRAWINGS.
7. THE CONTRACTOR SHALL VERIFY THE STRUCTURALLY SUPPORTED MECHANICAL EQUIPMENT WEIGHTS, OPENING SIZES, AND OPENING LOCATIONS IDENTIFIED ON THE STRUCTURAL DRAWINGS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING MECHANICAL EQUIPMENT DIMENSIONS AND WEIGHTS WITH THE EQUIPMENT VENDOR. NOTIFY THE DESIGN PROFESSIONAL OF ANY DISCREPANCY.
8. THE CONTRACTOR SHALL VERIFY THAT MISCELLANEOUS FRAMING SHOWN ON THE STRUCTURAL DRAWINGS FOR MECHANICAL EQUIPMENT, OWNER–FURNISHED ITEMS, PARTITIONS, ETC. IS CONSISTENT WITH THE REQUIREMENTS OF SUCH ITEMS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING DIMENSIONS AND WEIGHTS WITH THE VENDOR.
9. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING DIMENSIONS, LOCATIONS, AND DEPTHS OF SLAB RECESSES WITH ARCHITECTURAL DRAWINGS, INTERIOR DRAWINGS, AND PRODUCT MANUFACTURERS.
10. THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.
11. THE STRUCTURE IS STABLE ONLY IN ITS COMPLETED FORM. TEMPORARY SUPPORTS REQUIRED FOR STABILITY DURING ALL INTERMEDIATE STAGES OF CONSTRUCTION SHALL BE DESIGNED, FURNISHED, AND INSTALLED BY THE CONTRACTOR.
12. THE CONTRACTOR HAS THE SOLE RESPONSIBILITY TO COMPLY WITH ALL OSHA REGULATIONS.
13. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY THE USE OF CONSTRUCTION EQUIPMENT ON THE STRUCTURE. ANY DAMAGE CAUSED BY CONSTRUCTION EQUIPMENT SHALL BE REPAIRED.
14. REVIEW OF SUBMITTALS OR SHOP DRAWINGS BY THE DESIGN PROFESSIONAL DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW AND CHECK ALL SUBMITTALS AND SHOP DRAWINGS BEFORE SUBMITTING TO THE DESIGN PROFESSIONAL. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS REQUIRED TO REVIEW SHOP DRAWINGS AND COORDINATE WITH OTHER TRADES BEFORE SENDING THE SHOP DRAWINGS FOR REVIEW BY THE DESIGN PROFESSIONAL.
15. REPRODUCTION OF STRUCTURAL DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED.
16. DETAILS LABELED "TYPICAL" ON THE STRUCTURAL DRAWINGS APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE LOCATIONS SPECIFICALLY INDICATED.
17. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE TEMPORARY SUPPORT AND STABILITY OF EXISTING STRUCTURE DURING ALL PHASES OF CONSTRUCTION.
18. ALL EXISTING MATERIAL, DIMENSIONS, ELEVATIONS, AND GENERAL CONDITIONS OF THE EXISTING BUILDING SHALL BE VERIFIED BEFORE PURCHASE OF MATERIAL AND CONSTRUCTION. NOTIFY ARCHITECT OR STRUCTURAL ENGINEER OF RECORD OF DISCREPANCIES BETWEEN PLANS AND FIELD CONDITIONS IMMEDIATELY.
19. CONTRACTOR IS RESPONSIBLE FOR STRUCTURAL INTEGRITY AND STABILITY OF EXISTING STRUCTURE DURING DEMOLITION AND NEW CONSTRUCTION. CONTRACTOR SHALL RETAIN THE SERVICES OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF OKLAHOMA TO DESIGN TEMPORARY SHORING.
20. DURING WELDING OR ANY OTHER CONSTRUCTION ACTIVITY THAT GENERATES SPARKS OR INTENSE HEAT, THE CONTRACTOR SHALL PROVIDE ADEQUATE FIRE PROTECTION TO THE EXISTING STRUCTURE AND CONTENTS.
   AS A MINIMUM:
   –REMOVE COMBUSTIBLE MATERIALS FROM ALL AREAS
   –PROVIDE FIRE PROOF BLANKETS AND SHIELDS TO CONTAIN SPARKS WHERE COMBUSTIBLE MATERIAL CANNOT BE REMOVED.
   –PROVIDE A FIRE SAFETY OBSERVER WITH A FIRE EXTINGUISHER ON BOTH THE ROOF AND BELOW THE ROOF DURING WELDING NEAR THE ROOF STRUCTURE.

FOUNDATIONS

1. FOUNDATION DESIGNS, SUBGRADE PREPARATION NOTES, AND STRUCTURAL EARTH MOVING SPECIFICATION ARE BASED ON THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT NUMBER G2025022, BY: GFAC ENGINEERING, INC. DATED: APRIL 3, 2025 AND ADDENDUMS DATED JULY 17, 2025 AND SEPTEMBER 4, 2025.
2. PIER DESIGNS ARE BASED ON A NET ALLOWABLE END BEARING PRESSURE OF 25,000 PSF WITH AN ALLOWABLE SKIN FRICTION OF 2,000 PSF FOR THE PORTION OF PIER EXTENDING MORE THAN 3 FEET INTO RECOMMENDED BEARING MATERIAL. PIERS SHALL EXTEND A MINIMUM OF 3.0 FEET INTO THE ROCK STRATA. THE DEPTH OF THE ROCK STRATA VARIES ACROSS THE SITE.
3. BEDROCK ELEVATION VARIES FROM 7.5 FEET TO 11.6 FEET BELOW EXISTING GRADE. FOR BIDDING PURPOSES, ASSUME DEPTH OF BEDROCK TO BE 15.0 FEET BELOW FFE.
4. BEDROCK SHALL BE DEFINED AS UNWEATHERED HARD GRAY LIMESTONE BEDROCK. DO NOT BEAR PIERS IN WEATHERED LIMESTONE OR WEATHERED SHALE. AN APPROXIMATELY 2.0 FEET THICK LAYER OF WEATHERED ROCK WAS ENCOUNTERED AT DEPTHS OF 7.5 FEET TO 11.6 FEET BELOW EXISTING GRADE.
5. CONTRACTOR TO ANTICIPATE USE OF TEMPORARY CASING TO PROTECT AGAINST SLOUGHING AND/OR GROUNDWATER. PLACEMENT OF LOOSE SOIL BACKFILL AROUND CASING IS NOT PERMITTED. GROUNDWATER SHOULD BE ANTICIPATED ON SITE.
6. 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 EXACT QUANTITIES OF CUT AND FILL FOR ESTIMATING AND CONSTRUCTION. SUBGRADE SHALL BE PREPARED AS NOTED IN THE STRUCTURAL EARTH MOVING SPECIFICATION.
7. 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.
8. USE ONLY STRUCTURAL FILL MATERIAL AS NOTED IN THE STRUCTURAL EARTH MOVING SPECIFICATION FOR FILL BELOW BUILDING SLAB AND 5 FEET BEYOND THE EDGES OF THE BUILDING.
9. EXTERIOR GRADE BEAMS AND FOUNDATIONS SHALL BEAR AT OR BELOW MINIMUM BEARING DEPTH. MINIMUM BEARING DEPTH AT BUILDING PAD AREAS IS 24 INCHES BELOW ADJACENT FINISHED GRADE. THICKENED SLAB EDGE FOR STOOPS, CANOPIES, ETC. SHALL EXTEND 24 INCHES BELOW GRADE UNLESS NOTED OTHERWISE.
10. 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.
11. AVOID DAMAGE TO UNDERGROUND UTILITIES SUCH AS WATER MAINS, SANITARY SEWERS, BURIED CABLES, ETC., WHICH MIGHT EXTEND ACROSS OR ADJOIN SITE.
12. CONTRACTOR SHALL ANTICIPATE TEMPORARY DEWATERING PROCEDURES DURING CONSTRUCTION .
13. TEST PITS AT THE EXISTING ARE RECOMMENDED TO VERIFY THAT EXISTING FOUNDATIONS MATCH THE EXISTING INFORMATION SHOWN. EXISTING INFORMATION SHOWN IS BASED ON EXISTING DRAWINGS WHICH MAY NOT SHOW THE ACTUAL FIELD CONDITION.

BUILDING SUBSURFACE PREPARATION

INITIAL SITE PREPARATION:

ALL EXISTING UNSUITABLE MATERIAL SUCH AS EXISTING UNDOCUMENTED FILL, ORGANICS, TOPSOIL, ASPHALT PAVEMENT, OLD BASEMENTS, UNDERGROUND STORAGE TANKS, DEBRIS, OVER–SIZED ROCK FRAGMENTS AND SOFT SOILS, ARE TO BE REMOVED BELOW FOUNDATION BEARING AND SLAB SUBGRADE. REMOVE ALL EXISTING UNDOCUMENTED FILL MATERIALS IN THEIR ENTIRETY IN THIS AREA. SOILS DISTURBED DURING THE PROCESS SHALL BE UNDERCUT TO UNDISTURBED MATERIAL AND REPLACED WITH STRUCTURAL FILL. FOR BID PURPOSES, THE DEPTH OF REMOVAL AND REPLACEMENT WITH APPROVED NON–EXPANSIVE FILL SHALL BE ASSUMED TO BE APPROXIMATELY 3 FEET BELOW EXISTING GRADE.

BUILDING PAD PREPARATION:

1. FOLLOWING INITIAL SITE PREPARATION, REMOVE/UNDERCUT THE EXISTING SOILS TO ELEVATION OF AT LEAST 4'–0" BELOW SLAB BEARING ELEVATION PRIOR TO STRUCTURAL FILL PLACEMENT. BENCH UNDERCUT ADJACENT TO EXISTING BUILDING. DO NOT UNDERMINE EXISTING FOUNDATIONS OR SLAB. EXTEND EXTENTS OF UNDERCUT AT LEAST 5 FEET BEYOND THE EDGES OF THE PROPOSED BUILDING FOOTPRINT WHERE POSSIBLE.
2. LIMESTONE ROCK TO BE EXPECTED AT 7.5 FEET TO 11.6 FEET BELOW EXISTING GRADE WHEN EXCAVATING. REFER TO GEOTECHNICAL REPORT BORING LOGS TO ESTIMATE DEPTH AND RIPPABILITY. EXISTING FILL TO BE EXPECTED AT 0.8 FEET TO 5.4 FEET BELOW EXISTING GRADE. LOWER CONSISTENCY SOILS ENCOUNTERED AT 1 FEET TO 2 FEET BELOW EXISTING GRADE. ALL EXISTING FILL AND LOWER CONSISTENCY SOILS TO BE REMOVED.
3. AFTER STRIPPING AND OVEREXCAVATIONS, THE EXPOSED SUBGRADE SHALL BE PROOF ROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK 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 REMOVED FULL DEPTH AND REPLACED WITH STRUCTURAL FILL IF THEY CANNOT BE ADEQUATELY STABILIZED IN PLACE.
4. OVEREXCAVATION AND REPLACEMENT OF UNSUITABLE SOILS SHALL EXTEND LATERALLY AT LEAST 8 INCHES FOR EACH 12 INCH DEPTH OF EXCAVATION BELOW THE BEARING LEVEL.
5. THE EXPOSED SUBGRADE SOILS SHALL BE SCARIFIED AND COMPACTED TO A DEPTH OF AT LEAST 8 INCHES. MOISTURE CONDITIONED WITHIN 1 PERCENT BELOW TO 3 PERCENT ABOVE OPTIMUM MOISTURE CONTENT AND RECOMPACTED TO AT LEAST 95 PERCENT OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698).
6. UNSTABLE AND UNSUITABLE SOILS FOUND DURING CONSTRUCTION SHALL BE REMOVED FULL DEPTH AND REPLACED WITH STRUCTURAL FILL TO PROVIDE SATISFACTORY SUPPORT OF OVERLYING FILLS, SLABS, AND PAVEMENTS, PER THE GEOTECHNICAL REPORT AND AS DIRECTED BY THE ONSITE GEOTECHNICAL REPRESENTATIVE.
7. ALL FOUNDATION AND SLAB SUBGRADES SHALL BE APPROVED BY OWNER'S ONSITE GEOTECHNICAL REPRESENTATIVE PRIOR TO PLACING ANY REINFORCING OR CONCRETE.
8. NEW NON–EXPANSIVE STRUCTURAL FILL SHALL BE COMPOSED OF MATERIAL WITH A PLASTICITY INDEX (PI) OF 8 TO 22 WITH A MAXIMUM LIQUID LIMIT OF 45. ALL FILL MATERIAL SHALL BE FREE OF ORGANICS AND ANY OTHER DELETERIOUS MATERIALS WITH A MAXIMUM ROCK SIZE OF 3 INCHES. APPROVED MATERIALS ARE DEFINED AS THOSE CLASSIFIED BY ASTM D 2487 AS SC, GC, AND SC. FILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 9 INCHES AND SHALL BE PROPERLY MOISTURE CONDITIONED AS FOLLOWS: FOR CLAY FILL WITH A PI > 10 MOISTURE CONDITIONED AT 0 PERCENT TO +4 PERCENT OF THE OPTIMUM MOISTURE CONTENT AND FOR CLAY FILL WITH A PI < 10 OR SAND MOISTURE CONDITIONED AT –2 PERCENT TO +2 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.
9. 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.
10. EXCAVATIONS MADE NEAR EXISTING STRUCTURES SHALL BE MADE WITH CARE TO PREVENT DISTURBANCE OF EXISTING FOUNDATIONS AND SLABS. REFER TO NOTE 10 GENERAL.

CONCRETE

1. MINIMUM COMPRESSIVE STRENGTH (f'c) AT THE END OF 28 DAYS SHALL BE AS FOLLOWS:

A.	PIERS	3000 PSI
B.	GRADE BEAMS.	4000 PSI
C.	FOUNDATION WALLS AND PEDESTALS	4000 PSI
D.	SLABS–ON–GRADE	3500 PSI
E.	TOPPING SLAB	4000 PSI
F.	PRECAST WALL PANELS AND DOUBLE TEES	6000 PSI
G.	EXTERIOR STRUCTURAL CONCRETE	4500 PSI
H.	SIDEWALKS	4000 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.

2. 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 SHOWN ON PLANS 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 STRUCTURAL 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 AND 36 CUBIC YARDS OF CONCRETE 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. ALLOWANCE DOES NOT INCLUDE VARIATIONS IN PIER DEPTHS, REFER TO UNIT COST IN SPECIFICATIONS.

MASONRY

1. CONCRETE MASONRY UNITS SHALL MEET ASTM SPECIFICATION C90 WITH A MINIMUM UNIT COMPRESSIVE STRENGTH = 2000 PSI. THE SPECIFIED DESIGN COMPRESSIVE STRENGTH OF THE CONCRETE MASONRY ASSEMBLY (f'm) SHALL BE 2000 PSI.
2. MORTAR SHALL MEET ASTM SPECIFICATION C270 FOR TYPE "S" MORTAR.
3. GROUT SHALL MEET ASTM SPECIFICATION C476 AND HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2000 PSI.
4. 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.
5. REINFORCING STEEL SHALL MEET ASTM SPECIFICATION A615, GRADE 60.
6. ANCHORS INSTALLED IN HARDENED 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 270 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 ENGINEER OF RECORD.
7. CONSTRUCTION BRACING FOR MASONRY WALLS SHALL BE DESIGNED AND DETAILED BY A STRUCTURAL 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.
8. INCLUDE AN ALLOWANCE IN THE BID PRICE FOR 500 POUNDS OF REINFORCING STEEL AND 250 SQUARE FEET OF 8" CONCRETE MASONRY UNITS 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.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL MEET THE FOLLOWING MINIMUM YIELD STRESS (Fy):

		YIELD	ASTM SPECIFICATION
A.	W, WT SHAPES:	50 KSI	A992
B.	BARS, PLATES, CHANNELS, ANGLES:	36 KSI	A36
C.	SQUARE, RECTANGULAR HSS:	46 KSI	A500, GRADE B
D.	ROUND HSS:	42 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

2. 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. ALL 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–OF–NUT WITH MATCH MARKING, TWIST–OFF–TYPE TENSION CONTROL BOLT ASSEMBLIES (ASTM F1852), OR DIRECT TENSION INDICATORS (ASTM F959).
3. WELDING SHALL MEET ANSI / AWS D1.1, STRUCTURAL WELDING CODE LATEST REVISION. ELECTRODES SHALL BE 70 KSI, LOW HYDROGEN
4. 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.
5. ALL CONNECTIONS, NOT FULLY DETAILED ON THE STRUCTURAL DRAWINGS SHALL BE DESIGNED AND DETAILED BY A STRUCTURAL 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.
6. EXPOSED STEEL LABELED AS ARCHITECTURALLY EXPOSED STEEL REQUIRES STRICTER TOLERANCES FOR CONSTRUCTION. REFER TO SPEC. SECTION 051200 FOR REQUIREMENTS. FLARE BEVEL WELDS FOR ARCHITECTURALLY EXPOSED TUBE SHAPED SECTIONS SHALL BE BEVELED 45 DEGREES, WELDED AND GROUND SMOOTH.
7. REFERENCE SPECIFICATIONS FOR MISC. STEEL REQUIREMENTS NOT SHOWN ON STRUCTURAL PLANS.
8. GALVANIZE ALL STEEL ON EXTERIOR EXPOSED TO THE ELEMENTS INCLUDING MASONRY LINTELS. TOUCH UP ALL FIELD WELDS ON GALVANIZED SURFACES WITH GALVANIZING REPAIR PAINT.
9. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCLUDING THE COSTS FOR ALL MISCELLANEOUS STEEL IN THEIR BID REGARDLESS OF WHETHER THOSE ITEMS ARE INDICATED ON THE STRUCTURAL DRAWINGS. THESE COSTS SHALL INCLUDE BUT ARE NOT LIMITED TO MISCELLANEOUS STEEL ITEMS SHOWN ON ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.
10. PROVIDE GALVANIZED L5x5x3/8 (LLV) GALVANIZED LINTELS TO SUPPORT MASONRY AND CAST STONE AT OPENINGS OTHER THAN DOOR AND WINDOW LOCATIONS. EXTEND ANGLES 4" TO BEAR ON BRICK VENEER EACH END. MAX. CLEAR SPAN = 6'–0"
11. CONTRACTOR SHALL INCLUDE AN ALLOWANCE IN BID PRICE FOR 4000 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

1. 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:
   A. 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.
   B. 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.
   C. 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.
   D. FOR ALL MEMBERS THAT REQUIRE SPECIFIC ORIENTATION, PROVIDE TAG AT ONE END AND DEFINE LOCATION OF TAGGED END ON ERECTION DRAWINGS.
   E. 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.N.O.
2. 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).
3. JOIST RTU LOADS ARE PROVIDED ON THE ROOF FRAMING PLAN, REFERENCE PLANS AND DETAILS FOR LOAD LOCATIONS, VALUES AND SUPPORT FRAMING.
4. 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)
5. DESIGN JOISTS FOR INTERNAL ROOF DRAIN PIPE AND HYDRONIC PIPE. ADD 20 PLF FOR 4 INCH DIAMETER, ADD 30 PLF FOR 5 INCH, ADD 38 FOR 6 INCH, ADD 60 PLF FOR 8 INCH, ADD 87 PLF FOR 10 INCH, 118 PLF FOR 12 INCH, 140 PLF FOR 14 INCH, AND 230 PLF FOR 18 INCH DIAMETER. SUPPORT PIPES AT EVERY JOIST AND/OR 6'–0" O.C. MAX. REFERENCE MECHANICAL DRAWINGS FOR EXACT LOCATION.
6. 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.
7. JOIST DESIGNS SHALL BE PERFORMED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED, EMPLOYED OR RETAINED BY THE JOIST MANUFACTURER.
8. SHOP DRAWING SHALL BE REVIEWED BY THE ARCHITECT AND STUCTURAL 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

1. ALL COLD FORMED METAL FRAMING SHALL HAVE A MINIMUM THICKNESS OF 33 MILS (20 GA) 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 LIP LENGTH OF THE C–SHAPE PORTION SHALL BE A MINIMUM OF 1/2 INCH.
2. WALL STUDS AS BACKING TO MASONRY VENEER SHALL SHALL HAVE A MINIMUM THICKNESS OF 43 MILS (18 GA).
3. METAL FRAMING SHALL BE IN ACCORDANCE WITH THE FOLLOWING, UNLESS NOTED OTHERWISE:

A.	54 MILS (16 GA) AND HEAVIER	ASTM A1003, GRADE 50 TYPE H (ST50H)
B.	43 MILS (18 GA) AND LIGHTER	ASTM A1003, GRADE 33 TYPE H (ST33H)
C.	ACCESSORIES, TRACK AND OTHER MEMBERS	ASTM A1003, GRADE 33 TYPE H (ST33H), MINIMUM

4. DO NOT WELD 33 MILS (20 GA) AND LIGHTER FRAMING, UNLESS SPECIFICALLY NOTED ON THE PLANS AND DETAILS.
5. 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.
6. WELDS SHALL BE PERFORMED BY OPERATORS QUALIFIED IN ACCORDANCE WITH SECTION 6.0 OF AWS D1.3, SHEET METAL.
7. COLD FORMED METAL FRAMING AND THE CONNECTIONS TO THE STRUCTURE SHALL BE DESIGNED AND DETAILED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THIS IS TO INCLUDE (BUT NOT LIMITED TO) HEADERS, JAMBS, STAGE FRAMING, RAMPS, AND THEIR CONNECTIONS. THE DESIGN AND DETAILS SHALL COMPLY 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.
8. 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–MANUFACTURED CANOPIES

1. CANOPY SUPPORT TUBES SHALL BE SPACED A MAXIMUM OF 4'–0" O.C.
2. CANOPY SUPPORT TUBES SHALL BE CONNECTED DIRECTLY TO STRUCTURAL SUBSTRATE (NOT MASONRY/VENEER OR METAL STUD FRAMING).
3. CANOPY CONNECTIONS TO STRUCTURE SHALL BE DESIGNED AND PROVIDED BY THE CANOPY MANUFACTURER AND SHALL BE SIGNED AND SEALED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE PROJECT STATE.
4. CANOPY MANUFACTURER SHALL SUBMIT WITH DRAWINGS AND CALCULATIONS, DESIGN REACTIONS TO THE STRUCTURE. CONNECTION AND WALL DESIGN AT CANOPY LOCATIONS ARE SHOWN ON THESE CONSTRUCTION DOCUMENTS IS PRELIMINARY AND SHALL NOT BE CONSTRUCTED UNTIL WALLACE DESIGN COLLECTIVE HAS COMPLETED REVIEW AND APPROVED THE FINAL SHOP DRAWINGS FOR PRE–MANUFACTURED CANOPIES.

PRE–CAST CONCRETE

1. DESIGN OF PRECAST ELEMENTS, CONNECTIONS, AND CONNECTIONS TO FOUNDATIONS SHALL BE PERFORMED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED.
2. 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.
3. 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.
4. 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.
5. 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 DESIGN COLLECTIVE SHALL BE NOTIFIED IF ANY OF SUCH ITEMS ARE FOUND TO BE OUT OF TOLERANCE PRIOR TO BEGINNING THE ERECTION OF THE PRECAST.
6. 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.
7. THE PRECAST ERECTOR SHALL SURVEY CONSTRUCTION AS ERECTION PROGRESSES TO ENSURE COMPLIANCE WITH ERECTION TOLERANCES.
8. 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.
9. 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.
10. 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.
11. 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 "ZRC COLD GALVANIZING COMPOUND" PAINT OR AS REQUIRED BY THE PROJECT SPECIFICATIONS. ALL EXPOSED STEEL PLATES, SHAPES AND ANCHORS SHALL BE GALVANIZED, U.N.O
12. 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.
13. CONNECTIONS REQUIRING PATCHING SHALL BE PATCHED WITH SUITABLE MATERIAL TO REASONABLY MATCH THE ADJACENT CONCRETE.
14. EXPANSION AND/OR ADHESIVE ANCHOR INSTALLATION AND HOLE PREPARATION SHALL BE PER MANUFACTURERS SPECIFICATIONS.
15. GROUT, WHERE SHOWN IN THESE DRAWINGS, SHALL BE 7,000 PSI NON–SHRINK, NON–METALLIC.
16. CAMBER IS AN INHERENT CONDITION IN ALL PRE–STRESSED FLEXURAL MEMBERS AND THE GENERAL CONTRACTOR SHALL MAKE ALLOWANCES FOR SAME.
17. SEALANT, WHERE SHOWN IN THESE DRAWINGS, SHALL BE THAT APPROVED BY THE ARCHITECT, SUPPLIED BY OTHERS AND COORDINATED THROUGH THE CONSTRUCTION MANAGER.
18. 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.
19. ORIENT MARK ENDS AND/OR MARK FACES OF PRECAST PRODUCTS AS SHOWN IN THESE DRAWINGS.
20. FABRICATOR SHALL SUBMIT DESIGN CALCULATIONS SIGNED AND SEALED BY A STRUCTURAL ENGINEER LICENSED IN THE PROJECT STATE BEFORE FABRICATION.
21. THE INSTALLATION OF ITEMS IN THE PRECAST CONCRETE PANELS AT THE PERIMETER SHALL BE COORDINATED WITH ALL ENTITIES INVOLVED PRIOR TO THE PANEL BUILD SO AS TO HAVE NO EXPOSED CONDUITS (ELECTRICAL AND LIGHTING).
22. 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.
23. INFILL RECESSED AREA IN WALL PANEL WITH HIGH STRENGTH GROUT THAT MEETS THE SAME STRENGTH AS THE PANELS.

DEFERRED STRUCTURAL SUBMITTALS

1. THE FOLLOWING STRUCTURAL COMPONENTS SHALL BE DESIGNED AND SUBMITTED BY OTHERS FOR APPROVAL IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
   A. STRUCTURAL STEEL CONNECTIONS OF FRAMING AND BRACING ELEMENTS.
   B. COLD FORMED METAL STUD FRAMING AND ATTACHMENTS TO STRUCTURE.
   C. STOREFRONT AND CURTAIN–WALL FRAMING, ACCESSORIES, AND ATTACHMENTS TO STRUCTURE.
   D. JOISTS AND METAL DECK.
   E. PRE–MANUFACTURED CANOPIES AND CONNECTION TO STRUCTURE
   F. PRECAST STRUCTURAL ELEMENTS AND CONNECTIONS
2. DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE DESIGNED, SEALED AND SIGNED BY A PROFESSIONAL STRUCTURAL 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.

STRUCTURAL OBSERVATION REQUIREMENTS

1. 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 OF THE BUILDING OFFICIAL OR THE SPECIAL INSPECTOR.
2. A PRE–CONSTRUCTION MEETING SHALL BE HELD AND ATTENDED BY THE ARCHITECT, ENGINEER–OF–RECORD, GENERAL CONTRACTOR, SUB–CONTRACTORS, AND SPECIAL INSPECTOR.
3. 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.
4. AT A MINIMUM, THE FOLLOWING SIGNIFICANT CONSTRUCTION STAGES REQUIRE A SITE VISIT AND AN OBSERVATION REPORT FROM THE STRUCTURAL OBSERVER:
   A. AFTER INSTALLATION OF FIRST OR ALL PIER AND GRADE BEAM REINFORCING AND BEFORE CONCRETE PLACEMENT
   B. AFTER INSTALLATION OF ALL PIER AND GRADE BEAM REINFORCING AND BEFORE CONCRETE PLACEMENT AT SHELTER AREA.
   C. AFTER ERECTION OF FIRST LIFT OF CMU WALL AND BEFORE GROUT PLACEMENT
   D. AFTER ERECTION OF STRUCTURAL STEEL AND JOISTS, AND FASTENING OF METAL ROOF DECK AND BEFORE PLACING INSULATION
   E. AFTER INSTALLATION OF PRECAST WALL PANELS AND SLAB REINFORCING AND BEFORE PLACEMENT OF SLAB ON GRADE.
   F. AFTER INSTALLATION OF PRECAST STRUCTURE AND TOPPING SLAB REINFORCING AND BEFORE PLACEMENT OF TOPPING SLAB.
   G. REFER TO SHEET S006 FOR ADDITIONAL SHELTER OBSERVATIONS REQUIRED.

ABBREVIATIONS

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

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OKLA. C.A. #1460, EXP. 06/30/27

OWASSO
8th GRADE
ADDITION

OWASSO PUBLIC
SCHOOLS
OWASSO, OK
2025
PROJECT

KEY PLAN

REVISIONS

11.25.25
ISSUE DATE

2510081 PROJECT NO
TBS DRAWN BY
DCM CHK'D BY

GENERAL NOTES

S001
SHEET TITLE

SPECIAL INSPECTION REQUIREMENTS

SPECIAL INSPECTIONS REQUIREMENTS (IBC 2018 CHAPTER 17)

1. THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS PER SECTION 1704 OF THE IBC. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR 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.
2. REPORT REQUIREMENTS SHALL CONFORM TO SECTIONS 1704.2.4 AND 1704.5 OF THE IBC. 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 PERMIT APPLICANT AND THE BUILDING OFFICIAL PRIOR TO THE START OF WORK.
3. 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 DEPARTMENT 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.
4. FABRICATORS OF STRUCTURAL LOAD-BEARING OR LATERAL LOAD RESISTING MEMBERS OR ASSEMBLIES SHALL CONFORM TO THE REQUIREMENTS OF SECTION 1704.2.5 OF THE IBC.
5. SPECIAL INSPECTION REPORTS AND A FINAL REPORT IN ACCORDANCE WITH SECTION 1704.2.4 SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO THE TIME THAT PHASE OF WORK IS APPROVED FOR OCCUPANCY.
6. 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.
7. PERIODIC INSPECTION OF STEEL MATERIAL IDENTIFICATION MARKINGS AND CONFORMANCE TO ASTM STANDARDS PER SECTION N.5.2.

IBC 2018 REQUIRED SPECIAL INSPECTIONS

			CONTINUOUS	PERIODIC
		STEEL CONSTRUCTION – STRUCTURAL STEEL (IBC SECTION 1705.2.1)		
1.		SPECIAL INSPECTION AND NONDESTRUCTIVE TESTING OF STRUCTURAL STEEL ELEMENTS IN BUILDINGS, STRUCTURES AND PORTIONS THEREOF SHALL BE IN ACCORDANCE WITH WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF ASC 360.		
		STEEL CONSTRUCTION – COLD FORMED STEEL DECK (IBC SECTION 1705.2.2)		
1.		SPECIAL INSPECTION AND QUALIFICATIONS OF WELDING SPECIAL INSPECTORS FOR COLD-FORMED STEEL FLOOR AND ROOF DECK SHALL BE IN ACCORDANCE WITH WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF SDI QA/QC.		
		STEEL CONSTRUCTION – 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 – WELDING 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
		CONCRETE CONSTRUCTION (IBC TABLE 1705.3)		
1.		INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	---	X
2.		REINFORCING BAR WELDING:		
	A.	VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A 706.	---	X
	B.	INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"	---	X
	C.	INSPECT ALL OTHER WELDS	X	---
3.		INSPECT ANCHORS CAST IN CONCRETE.	---	X
4.		INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS (a)		
	A.	ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X	---
	B.	MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.	---	X
5.		VERIFY USE OF REQUIRED DESIGN MIX.	---	X
6.		PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	---
7.		INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	---
8.		VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	---	X
9.		INSPECT PRESTRESSED CONCRETE FOR:		
	A.	APPLICATION OF PRESTRESSING FORCES; AND	X	---
	B.	GROUTING OF BONDED PRESTRESSING TENDONS.	X	---
10.		INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	---	X
11.		VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	---	X
12.		INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	---	X
		a. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH 17.8.2 IN ACI 318. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, CONTACT THE STRUCTURAL ENGINEER-OF-RECORD FOR SPECIAL INSPECTION REQUIREMENTS.		
		WIND RESISTANCE FOR PRECAST SHELTER STRUCTURE AND COMPONENTS – IBC SECTION 1705.11		
1.		THE PRECAST DOUBLE TEES AND 4 INCHES TOPPING SLAB ARE THE LATERAL FORCES RESISTING SYSTEM ROOF DIAPHRAGM FOR THE SHELTER STRUCTURE. THE PRECAST CONNECTIONS BETWEEN THE DOUBLE TEES AND WALL PANELS, THE SHEAR TIES TO THE TOPPING SLAB, AND THE REINFORCING IN THE TOPPING SLAB SHALL BE INSPECTED PRIOR TO POURING TOPPING SLAB.	---	X
2.		THE SLAB ON GRADE IS THE LATERAL FORCE RESISTING SYSTEM FLOOR DIAPHRAGM FOR THE SHELTER STRUCTURE. THE PRECAST CONNECTIONS BETWEEN THE SLAB ON GRADE AND THE WALL PANELS AND THE REINFORCING IN THE SLAB ON GRADE SHALL BE INSPECTED PRIOR TO POURING SLAB ON GRADE.	---	X
3.		THE CONNECTIONS OF THE EXTERIOR DOORS AND LOUVERS TO THE PRECAST STRUCTURE SHALL BE INSPECTED DURING PLACEMENT.	X	---
4.		THE CONNECTIONS OF THE ROOF AND WALL PENETRATION PROTECTION SHALL BE INSPECTED DURING PLACEMENT.	X	---
5.		THE CONNECTIONS OF THE PRECAST WALL PANELS TO THE FOUNDATIONS SHALL BE INSPECTED PRIOR TO POURING CONCRETE.	---	X
		SOILS (IBC TABLE 1705.6)		
1.		VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	---	X
2.		VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	---	X
3.		PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	---	X
4.		VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	---
5.		PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	---	X
		CAST-IN-PLACE DEEP FOUNDATION ELEMENTS (TABLE 1705.8)		
1.		INSPECT DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT.	X	---
2.		VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM ELEMENT DIAMETERS, BELL DIAMETERS (IF APPLICABLE), LENGTHS, EMBEDMENT INTO BEDROCK (IF APPLICABLE) AND ADEQUATE END-BEARING STRATA CAPACITY. RECORD CONCRETE OR GROUT VOLUMES.	X	---
3.		FOR CONCRETE ELEMENTS, PERFORM TESTS AND ADDITIONAL SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.3	---	---

TMS 402/602-16 SPECIAL INSPECTION REQUIREMENTS

		CONTINUOUS	PERIODIC
	MASONRY CONSTRUCTION – LEVEL 2 QUALITY ASSURANCE (TMS 402 TABLE 3.1 RISK CATEGORY I, II OR III) MINIMUM VERIFICATION REQUIREMENTS (TMS 602 TABLE 3)		
1.	PRIOR TO CONSTRUCTION, VERIFICATION OF COMPLIANCE OF SUBMITTALS		
2.	PRIOR TO CONSTRUCTION, VERIFICATION OF f'm, EXCEPT WHERE SPECIFICALLY EXEMPTED BY CODE		
3.	DURING CONSTRUCTION, VERIFICATION OF SLUMP FLOW AND VISION STABILITY INDEX (VSI) WHEN SELF-CONSOLIDATED GROUT IS DELIVERED TO THE PROJECT SITE		
	SPECIAL INSPECTION REQUIREMENTS (TMS 602 TABLE 4)		
1.	AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE.		
A.	PROPORTIONS OF SITE-PREPARED MORTAR.	---	X
B.	CONSTRUCTION OF MORTAR JOINTS.	---	X
C.	GRADE TYPE AND SIZE OF REINFORCEMENT CONNECTORS, AND ANCHOR BOLTS	---	X
D.	SAMPLE PANEL CONSTRUCTION	---	X
2.	PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE.		
A.	GROUT SPACE	---	X
B.	PLACEMENT OF REINFORCEMENT CONNECTORS, AND ANCHOR BOLTS.	---	X
C.	PROPORTIONS OF SITE-PREPARED GROUT.	---	X
3.	VERIFY COMPLIANCE OF FOLLOWING DURING CONSTRUCTION.		
A.	MATERIALS AND PROCEEDURES WITH THE APPROVED SUBMITTALS	---	X
B.	PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION	---	X
C.	SIZE AND LOCATION OF STRUCTURAL MEMBERS	---	X
D.	TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION.	---	X
E.	WELDING REINFORCEMENT	X	---
F.	PREPARATION, CONSTRUCTION, AND PROTECTIONS OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 50 DEGREES) OR HOT WEATHER (TEMPERATURE ABOVE 90 DEGREES).	---	X
G.	PLACEMENT OF GROUT IS IN COMPLIANCE.	X	---
4.	OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS.	---	X
	SPECIAL INSPECTION REQUIREMENTS		
	** CONTINUOUS SPECIAL INSPECTION: SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS PRESENT WHEN AND WHERE THE WORK TO BE INSPECTED IS BEING PERFORMED.		
	** PERIODIC SPECIAL INSPECTION: SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS INTERMITTENTLY PRESENT WHERE THE WORK TO BE INSPECTED HAS BEEN OR IS BEING PERFORMED.		

AISC 360-16 SPECIAL INSPECTION REQUIREMENTS

1. QUALITY CONTROL (QC) SHALL BE PROVIDED BY THE FABRICATOR AND ERECTOR.
2. QUALITY ASSURANCE (QA) SHALL BE PROVIDED BY OTHERS.
3. NONDESTRUCTIVE TESTING (NDT) SHALL BE PERFORMED BY THE AGENCY OR FIRM RESPONSIBLE FOR QUALITY ASSURANCE (QA).
4. QUALITY ASSURANCE (QA) INSPECTION OF FABRICATED ITEMS SHALL BE MADE AT THE FABRICATOR'S PLANT.
5. QA INSPECTION OF THE ERECTED STEEL SYSTEM SHALL BE MADE AT THE PROJECT SITE.
6. THE QUALITY ASSURANCE INSPECTOR (QAI) SHALL REVIEW MATERIAL TEST REPORTS AND CERTIFICATIONS AS LISTED IN SECTION N3.2 FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.
7. FOR WORK PERFORMED BY APPROVED FABRICATORS AND ERECTORS:
   A. QA INSPECTIONS, EXCEPT NDT, MAY BE WAIVED WHEN THE WORK IS PERFORMED IN A FABRICATING SHOP OR BY AN ERECTOR APPROVED BY THE AUTHORITY HAVING JURISDICTION (AHJ) TO PERFORM THE WORK WITHOUT QA.
   B. NDT OF WELDS COMPLETED IN AN APPROVED FABRICATOR'S SHOP MAY BE PERFORMED BY THAT FABRICATOR WHEN APPROVED BY THE AHJ. WHEN THE FABRICATOR PERFORMS THE NDT, THE QA AGENCY SHALL REVIEW THE FABRICATOR'S NDT REPORTS.
   C. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE AHJ STATING THAT THE MATERIALS SUPPLIED AND WORK PERFORMED BY THE FABRICATOR ARE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
   D. AT COMPLETION OF ERECTION, THE APPROVED ERECTOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE AHJ STATING THAT THE MATERIALS SUPPLIED AND WORK PERFORMED BY THE ERECTOR ARE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.

AISC 360-16, CHAPTER N SPECIAL INSPECTION REQUIREMENTS

			FREQUENCY OF INSPECTION PERFORM	OBSERVE
N5.4 – INSPECTION OF WELDING				
		TABLE N5.4-1 – INSPECTION TASKS PRIOR TO WELDING		
1.		WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	X	---
2.		MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	X	---
3.		MATERIAL IDENTIFICATION (TYPE/GRADE)	---	X
4.		WELDER IDENTIFICATION SYSTEM (a)	---	X
5.		FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY)		
	A.	JOINT PREPARATION	---	X
	B.	DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)	---	X
	C.	CLEANLINESS (CONDITION OF STEEL SURFACES)	---	X
	D.	TACKING (TACK WELD QUALITY AND LOCATION)	---	X
	E.	BACKING TYPE AND FIT (IF APPLICABLE)	---	X
6.		CONFIGURATION AND FINISH OF ACCESS HOLES	---	X
7.		FIT-UP OF FILLET WELDS		
	A.	DIMENSIONS (ALIGNMENT, GAPS AT ROOT)	---	X
	B.	CLEANLINESS (CONDITION OF STEEL SURFACES)	---	X
	C.	TACKING (TACK WELD QUALITY AND LOCATION)	---	X
8.		CHECK WELDING EQUIPMENT	---	X (QCI)
		TABLE N5.4-2 – INSPECTION TASKS DURING WELDING		
1.		USE OF QUALIFIED WELDERS	---	X
2.		CONTROL AND HANDLING OF WELDING CONSUMABLES		
	A.	PACKAGING	---	X
	B.	EXPOSURE CONTROL	---	X
3.		NO WELDING OVER CRACKED TACK WELDS	---	X
4.		ENVIRONMENTAL CONDITIONS		
	A.	WIND SPEED WITHIN LIMITS	---	X
	B.	PRECIPITATION AND TEMPERATURE	---	X
5.		WELDING PROCEDURE SPECIFICATION (WPS) FOLLOWED		
	A.	SETTINGS ON WELDING EQUIPMENT	---	X
	B.	TRAVEL SPEED	---	X
	C.	SELECTED WELDING MATERIALS	---	X
	D.	SHIELDING GAS TYPE / FLOW RATE	---	X
	E.	PREHEAT APPLIED	---	X
	F.	INTERPASS TEMPERTURE MAINTAINED (MIN./MAX.)	---	X
	G.	PROPER POSITION (F, V, H, OH)	---	X
6.		WELDING TECHNIQUES		
	A.	INTERPASS AND FINAL CLEANING	---	X
	B.	EACH PASS WITHIN PROFILE LIMITATIONS	---	X
	C.	EACH PASS MEETS QUALITY REQUIREMENTS	---	X
		TABLE N5.4-3 AND SECTION N5.5 – INSPECTION TASKS AFTER WELDING		
1.		WELDS CLEANED	---	X
2.		SIZE, LENGTH AND LOCATION OF WELDS	X	---
3.		WELDS MEET VISUAL ACCEPTANCE CRITERIA		
	A.	CRACK PROHIBITION	X	---
	B.	WELD/BASE-METAL FUSION	X	---
	C.	CRATER CROSS SECTION	X	---
	D.	WELD PROFILES	X	---
	E.	WELD SIZE	X	---
	F.	UNDERCUT	X	---
	G.	POROSITY	X	---
4.		ARC STRIKES	X	---
5.		k-AREA (b)	X	---
6.		BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	X	---
7.		REPAIR ACTIVITIES	X	---
8.		DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	X	---
9.		ULTRASONIC TESTING (UT) ON ALL CJP GROOVE WELDS IN BUTT, T- AND CORNER JOINTS, IN MATERIALS 5/16 INCH THICK OR GREATER (5.5b) (required in Risk Category III or IV)	X	---
10.		ULTRASONIC TESTING (UT) ON 10% OF CJP GROOVE WELDS IN BUTT, T- AND CORNER JOINTS, IN MATERIALS 5/16 INCH THICK OR GREATER (5.5b) (required in Risk Catgory II)	---	X
11.		THERMALLY CUT SURFACES OF ACCESS HOLES SHALL BE TESTED USING MAGNETIC PARTICLE TESTING (MT) OR PENETRANT TESTING (PT), WHEN FLANGE THICKNESS EXCEEDS 2 INCHES FOR ROLLED SHAPES, OR WHEN THE WEB THICKNESS EXCEEDS 2 INCHES FOR BUILT-UP SHAPES (5.5c)	X	---
12.		(see AISC 360 Section N5-5d for additional special inspections for welded joints subject to fatigue)		
	(a)	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.		
	(b)	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 OF THE WELD.		
		** PERFORM – PERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER.		
		** OBSERVE – OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.		
N5.6 – INSPECTION OF HIGH-STRENGTH BOLTS				
		TABLE N5.6-1 – INSPECTION TASKS PRIOR TO BOLTING (a)		
1.		MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	X (QAI)	X (QCI)
2.		FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	---	X
3.		PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH)	---	X
4.		PROPER BOLTING PROCEDURES SELECTED FOR JOINT DETAIL	---	X
5.		CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	---	X
6.		PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED (a)	X (QCI)	X (QAI)
7.		PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	---	X
		TABLE N5.6-2 – INSPECTION TASKS DURING BOLTING (a)		
1.		FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	---	X
2.		JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	---	X
3.		FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING (b)	---	X
4.		FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES (b)	---	X
		TABLE N5.6-3 – INSPECTION TASKS AFTER BOLTING		
1.		DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	X	---
	(a)	NOT APPLICABLE FOR SNUG TIGHT JOINTS.		
	(b)	FOR PRETENSIONED JOINTS AND SLIP-CRITICAL JOINTS, WHEN THE INSTALLER IS USING THE TURN-OF-NUT METHOD WITH MATCHMARKING TECHNIQUES, THE DIRECT-TENSION-INDICATOR METHOD, OR THE TWIST-OFF-TYPE TENSION CONTROL BOLT METHOD, THE QCI AND QAI NEED NOT BE PRESENT DURING THE INSTALLATION OF FASTENERS.		
		** PERFORM – PERFORM THESE TASKS FOR EACH BOLTED CONNECTION.		
		** OBSERVE – OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.		
N5.7 – OTHER INSPECTION TASKS				
1.		INSPECTION OF GALVANIZED STEEL STRUCTURAL MAIN MEMBERS EXPOSED CUT SURFACES OF GALVANIZED MAIN MEMBERS AND EXPOSED CORNERS OF HSS SHALL BE VISUALLY INSPECTED FOR CRACKS SUBSEQUENT TO GALVANIZING.	X	---
N5.8 – OTHER INSPECTION TASKS				
1.		INSPECT THE STEEL TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION DOCUMENTS SUCH AS BRACES, STIFFENERS, MEMBER LOCATIONS AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION	X	---
2.		INSPECT THE PLACEMENT OF ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. THE DIAMETER, GRADE, TYPE AND LENGTH OF THE ANCHOR ROD OR EMBEDDED ITEM, AND THE EXTENT OR DEPTH OF EMBEDMENT INTO THE CONCRETE, SHALL BE VERIFIED PRIOR TO PLACEMENT OF CONCRETE	X	---
		** PERFORM – PERFORM THESE TASKS FOR EACH CONNECTION.		

SDI QA/QC - 2017 SPECIAL INSPECTION REQUIREMENTS

1. QUALITY CONTROL (QC) AS SPECIFIED IN THE STANDARD SHALL BE PROVIDED BY THE INSTALLER.
2. QUALITY ASSURANCE (QA) AS SPECIFIED IN THE STANDARD SHALL BE PROVIDED BY OTHERS.
3. THE QUALITY ASSURANCE INSPECTOR (QAI) SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE AHJ AND SATISFY THE QUALIFICATIONS NOTED IN SECTION 3.2 OF THE STANDARD.

SDI QA/QC - 2017 STANDARD FOR QUALITY CONTROL AND QUALITY ASSURANCE FOR INSTALLATION OF STEEL DECK

		FREQUENCY OF INSPECTION PERFORM	OBSERVE
	TABLE 1.1 INSPECTION OR EXECUTION TASKS PRIOR TO DECK PLACEMENT		
A.	VERIFY COMPLIANCE OF MATERIALS (DECK AND ALL DECK ACCESSORIES) WITH CONSTRUCTION DOCUMENTS, INCLUDING PROFILES, MATERIAL PROPERTIES, AND BASE METAL THICKNESS.	X	---
B.	DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES	X	---
	TABLE 1.2 INSPECTION OR EXECUTION TASKS AFTER DECK PLACEMENT		
A.	VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION WITH CONSTRUCTION DOCUMENTS	X	---
B.	VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS	X (QAI)	---
C.	DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES	X	---
	TABLE 1.3 INSPECTION OR EXECUTION TASKS PRIOR TO WELDING		
A.	WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE	---	X
B.	MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	---	X
C.	MATERIAL IDENTIFICATION (TYPE/GRADE)	---	X
D.	CHECK WELDING EQUIPMENT	---	X
	TABLE 1.4 INSPECTION OR EXECUTION TASKS DURING WELDING		
A.	USE OF QUALIFIED WELDERS	---	X
B.	CONTROL AND HANDLING OF WELDING CONSUMABLES	---	X
C.	ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE)	---	X
D.	WPS FOLLOWED	---	X
	TABLE 1.5 INSPECTION OR EXECUTION TASKS AFTER WELDING		
A.	VERIFY SIZE AND LOCATION OF WELDS, INCLUDING SUPPORT, SIDELAP, AND PERIMETER WELDS	X	---
B.	WELDS MEET VISUAL ACCEPTANCE CRITERIA	X	---
C.	VERIFY REPAIR ACTIVITIES	X	---
D.	DOCUMENT ACCEPTANCE OR REJECTION OF WELDS	X	---
	TABLE 1.6 INSPECTION OR EXECUTION TASKS PRIOR TO MECHANICAL FASTENING		
A.	MANUFACTURER INSTALLATION INSTRUCTIONS AVAILABLE FOR MECHANICAL FASTENERS	---	X
B.	PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATION	---	X
C.	PROPER STORAGE FOR MECHANICAL FASTENERS	---	X
	TABLE 1.7 INSPECTION OR EXECUTION TASKS DURING MECHANICAL FASTENING		
A.	FASTENERS ARE POSITIONED AS REQUIRED	---	X
B.	FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS	---	X
	TABLE 1.8 INSPECTION OR EXECUTION TASKS AFTER MECHANICAL FASTENING		
A.	CHECK SPACING, TYPE, AND INSTALLATION OF SUPPORT FASTENERS	X	---
B.	CHECK SPACING, TYPE, AND INSTALLATION OF SIDELAP FASTENERS	X	---
C.	CHECK SPACING, TYPE, AND INSTALLATION OF PERIMETER FASTENERS	X	---
D.	VERIFY REPAIR ACTIVITIES	X	---
E.	DOCUMENT ACCEPTANCE OR REJECTION OF MECHANICAL FASTENERS	X	---
	** PERFORM – PERFORM THESE TASKS PRIOR TO FINAL ACCEPTANCE FOR EACH ITEM OR ELEMENT.		
	** OBSERVE – INSPECT THESE ITEMS ON AN INTERMITTENT BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS. FREQUENCY OF OBSERVATIONS SHALL BE ADEQUATE TO CONFIRM THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE APPLICABLE DOCUMENTS.		

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OKLA. C.A. #1460, EXP. 06/30/27

OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS

OWASSO, OK 2025

PROJECT

KEY PLAN

REVISIONS

11.25.25

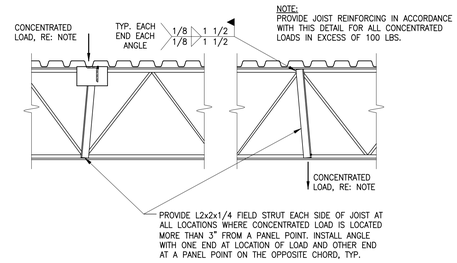
ISSUE DATE

251001 | PROJECT NO
TBS | DRAWN BY
DCM | CHK'D BY

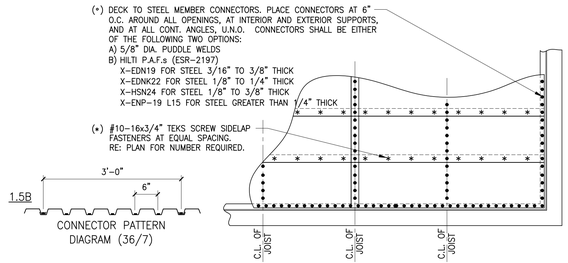
SPECIAL INSPECTIONS

S002

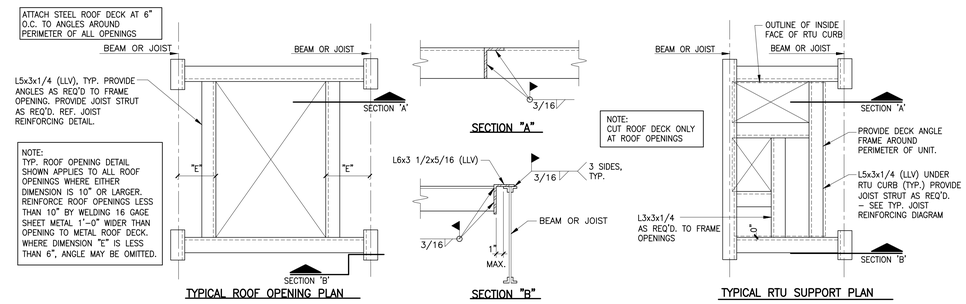
SHEET TITLE



TYPICAL JOIST REINFORCING DIAGRAM



ROOF DIAPHRAGM CONNECTION DETAIL

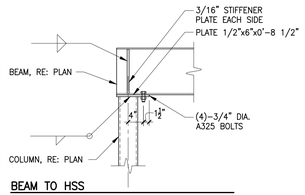


RTU AND ROOF OPENING

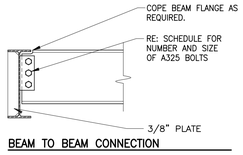
MINIMUM BOLT SCHEDULE						
BEAM	BOLT DIA.	PLATE THICKNESS	NO. OF BOLTS	WELD	ASD/LRFD END REACTION (KIPS)	HOLE TYPE
W8–W10	3/4"	1/4"	2	3/16"	16.3K/24.5K	STD OR SSLT
W12–W14	3/4"	3/8"	3	1/4"	28.8K/43.4K	STD OR SSLT
W16	3/4"	3/8"	4	1/4"	41.5K/62.5K	STD OR SSLT
W18	3/4"	3/8"	5	1/4"	54.1K/81.3K	STD OR SSLT
W21–W24	1"	1/2"	6	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

1. UNLESS INDICATED ON FRAMING PLAN AND CORRESPONDING DETAILS OR NOTES BELOW, SCHEDULE INDICATES THE MINIMUM NUMBER OF BOLTS REQUIRED FOR BEAM CONNECTIONS.
2. CONNECTIONS SHALL BE DESIGNED FOR LRFD FACTORED END REACTIONS SHOWN ON PLANS. IF NO REACTION IS SHOWN ON PLAN, DESIGN FOR REACTION IN SCHEDULE.
3. MAX. tw=0.4375" WITH 3/4" DIA. BOLTS AND 0.5625" WITH 1" DIA. BOLTS.
4. STD = STANDARD HOLES, SSLT = SHORT-SLOTTED HOLES TRANSVERSE TO DIRECTION OF LOAD.
5. 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.



BEAM TO HSS

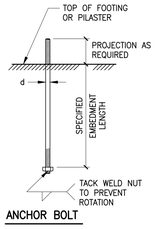


BEAM TO BEAM CONNECTION

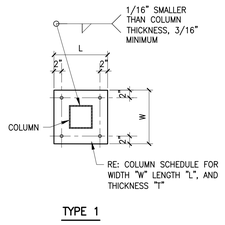
TYPICAL CONNECTION DETAILS

COLUMN SCHEDULE				
MARK	SIZE	BASE PLATE (TxWxL)	ANCHOR BOLTS (DIA.xEMBED)	TYPE
C1	HSS8x8x3/8	1 1/2"x16"x1'-4"	(4)-1 1/2"x1'-0"	1
C2	HSS5x5x1/4	3/4"x11"x0'-11"	(4)-3/4"x1'-0"	1

NOTES:
1. WELD BETWEEN COLUMN AND BASE PLATE SHALL MEET AISC MINIMUM REQUIREMENTS.
2. RE: STEEL NOTE 4 ON S001 FOR GROUT PAD REQUIREMENTS.



ANCHOR BOLT



TYPE 1

COLUMN SCHEDULE AND DETAILS

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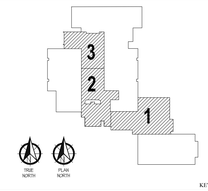
OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS

OWASSO, OK
2025

PROJECT



KEY PLAN

REVISIONS

11.25.25

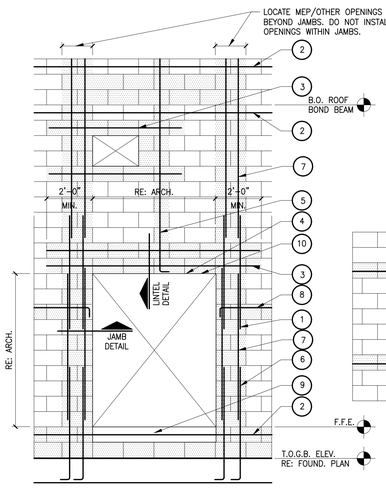
ISSUE DATE

25100I	PROJECT NO
THS	DRAWN BY
DCM	CHKD BY

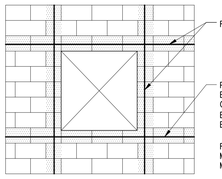
SCHEDULES AND TYPICAL DETAILS

S003

SHEET TITLE



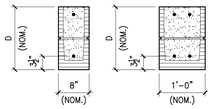
NOTES:
1. REFER CMU REINFORCING DIAGRAM FOR SPLICES IN VERTICAL REINFORCING.
2. BOND BEAM. RE: CMU WALL REINFORCING DIAGRAM.
3. EXTEND GROUTED LINTEL A MINIMUM OF 2'-0" BEYOND FACE OF OPENING EACH SIDE FOR STRAIGHT LINTEL REINFORCEMENT AND 1'-4" FOR HOOKED LINTEL REINFORCEMENT WITH STANDARD ACI HOOK.
4. USE LINTEL BLOCKS ONLY FOR BOTTOM COURSE OF LINTEL BEAMS EXCEPT AT LOCATIONS REQUIRING STEEL PLATES, RE: TYPICAL LINTEL DETAIL ON S004. RE: ARCH FOR LOCATIONS.
5. CONTINUE VERTICAL REINFORCING INTO LINTEL BEAM WITH STANDARD ACI HOOK.
6. PROVIDE MATCHING DOWELS AT ALL VERTICAL REINFORCING LOCATIONS.
7. ALL VERTICAL BARS AT JAMBS AND PILASTERS SHALL BE FULL HEIGHT.
8. WHEN REQUIRED CONTINUE HORIZONTAL BOND BEAM REINFORCING INTO JAMB AND PROVIDE STANDARD ACI HOOK INTO END CELL.
9. PROVIDE ADDITIONAL BOND BEAM DIRECTLY BELOW OPENING WHERE BOTTOM OF OPENING IS NOT AT FINISH FLOOR ELEVATION. EXTEND BOND BEAM 2'-0" MIN. BEYOND EDGE OF OPENING.
10. REFER TO DETAIL TYPICAL LINTEL DETAILS ON S004 FOR VENEER SUPPORT AT OPENINGS



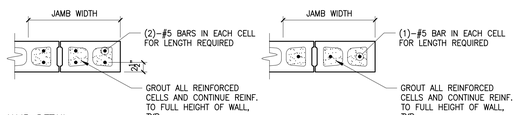
CMU WALL OPENINGS

CMU LINTEL/JAMB SCHEDULE							
LOCATION	WIDTH (W)	CLEAR SPAN	DEPTH (D)	BOTTOM REINF.	TOP REINF.	JAMB WIDTH	VERT. REINF. EA. CELL
STRUCTURAL	8"	UP TO 7'-4"	16"	(1)-#5	----	16"	(1)-#6
	12"	UP TO 10'-0"	16"	(2)-#5	(2)-#5	24"	(2)-#6
PARTITION	8"	UP TO 6'-8"	8"	(1)-#5	----	8"	(1)-#6

NOTES:
1. EXTEND GROUTED LINTEL BEYOND EACH FACE OF OPENING 24 INCHES FOR STRAIGHT BARS AND 15 INCHES FOR BARS WITH STANDARD ACI HOOKS.
2. THE LINTEL/JAMB SCHEDULE IS APPLICABLE TO ALL MASONRY OPENINGS INCLUDING MASONRY PARTITION WALLS.
3. STRUCTURAL WALLS EXTEND TO THE FOUNDATION SYSTEM. PARTITION WALLS BEAR ON A THICKENED SLAB ON GRADE.
4. RE: 34/S200 FOR PIPE PENETRATIONS BELOW GRADE.



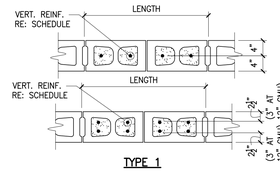
LINTEL DETAIL



JAMB DETAIL

CMU PILASTER SCHEDULE						
MARK	TYPE	LENGTH	L_1	CMU	VERT. REINF.	NOTES
MP1	1	1'-4"	--	8"	(1)-#6 EACH CELL	1,2,3,4
MP2	1	2'-0"	--	8"	(1)-#6 EACH CELL	1,2,3,4
MP3	1	2'-8"	--	8"	(1)-#6 EACH CELL	1,2,3,4
MP4	1	2'-0"	--	12"	(2)-#6 EACH CELL	1,2,3,4
MP5	1	2'-8"	--	12"	(2)-#6 EACH CELL	1,2,3,4
MP6	1	3'-4"	--	12"	(2)-#6 EACH CELL	1,2,3,4

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 S004 '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.



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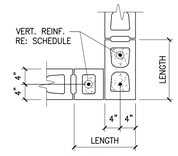
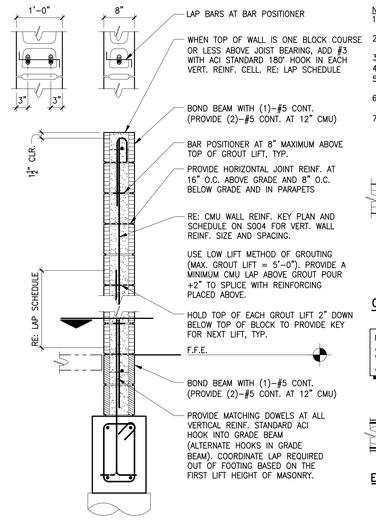
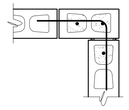


TYPE 2

MASONRY PILASTER SCHEDULE



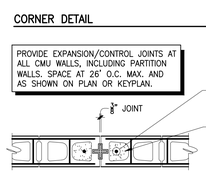
NOTES:
1. GROUT SOLID ALL CELLS WITH REINFORCING – DO NOT RUN CONDUIT IN REINFORCED CELLS.
2. USE BOND BEAM BLOCKS WITH OPEN BOTTOMS ONLY AT BOND BEAM LOCATIONS. DO NOT USE TROUGH-TYPE BLOCKS AT BOND BEAMS.
3. DO NOT CONTINUE BOND BEAM REINFORCING THROUGH CONTROL JOINTS.
4. ALL MASONRY SHALL BE LAID IN RUNNING (COMMON) BOND.
5. RE: DETAILS FOR LOCATION OF ADDITIONAL BOND BEAMS WITH (1)-#5 CONTINUOUS.
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.



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

CORNER DETAIL

PROVIDE EXPANSION/CONTROL JOINTS AT ALL CMU WALLS, INCLUDING PARTITION WALLS. SPACE AT 26' O.C. MAX. AND AS SHOWN ON PLAN OR KEYPLAN.

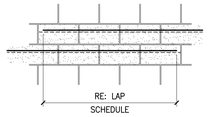


EXPANSION/CONTROL JOINT DETAIL

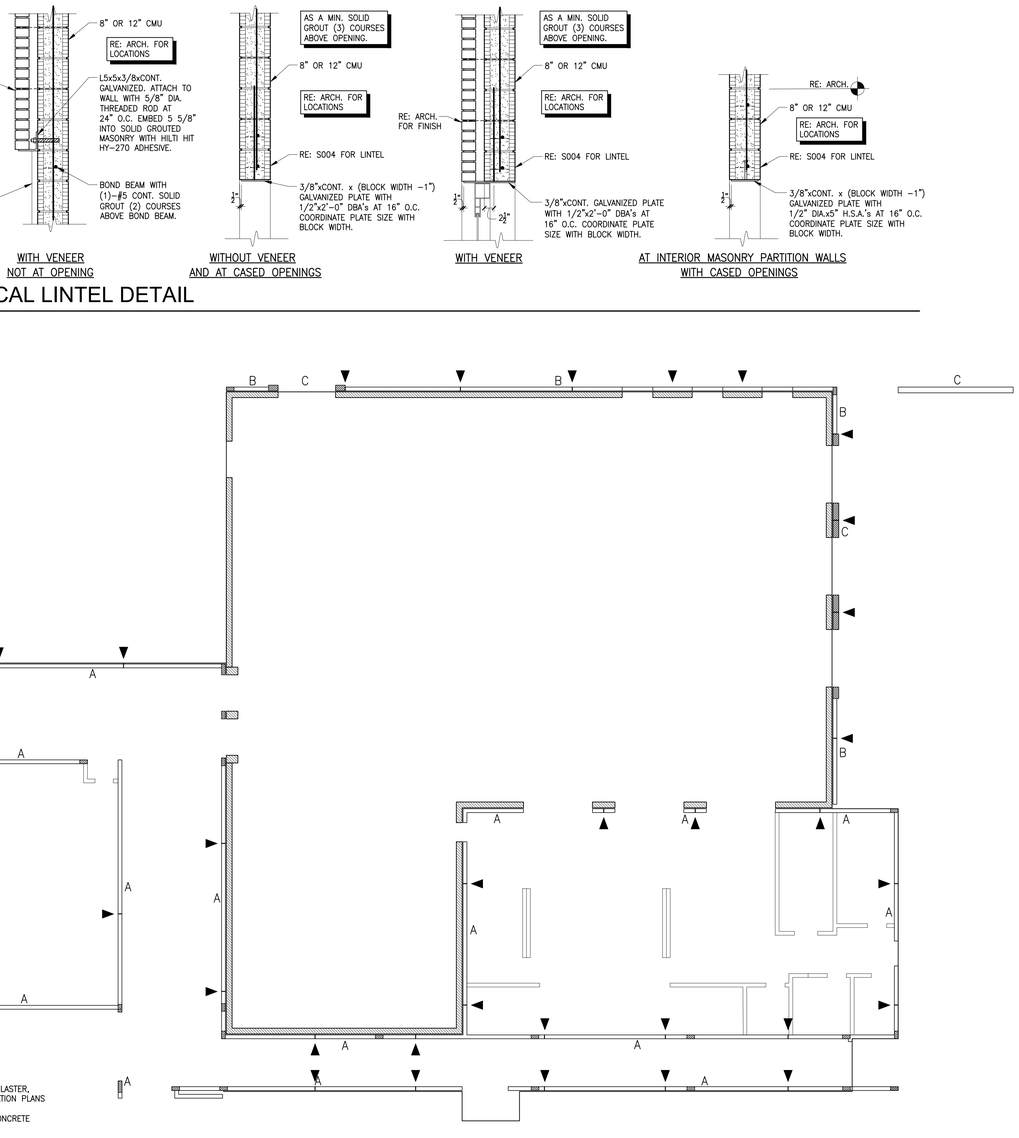
CMU WALL REINFORCING DIAGRAM

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

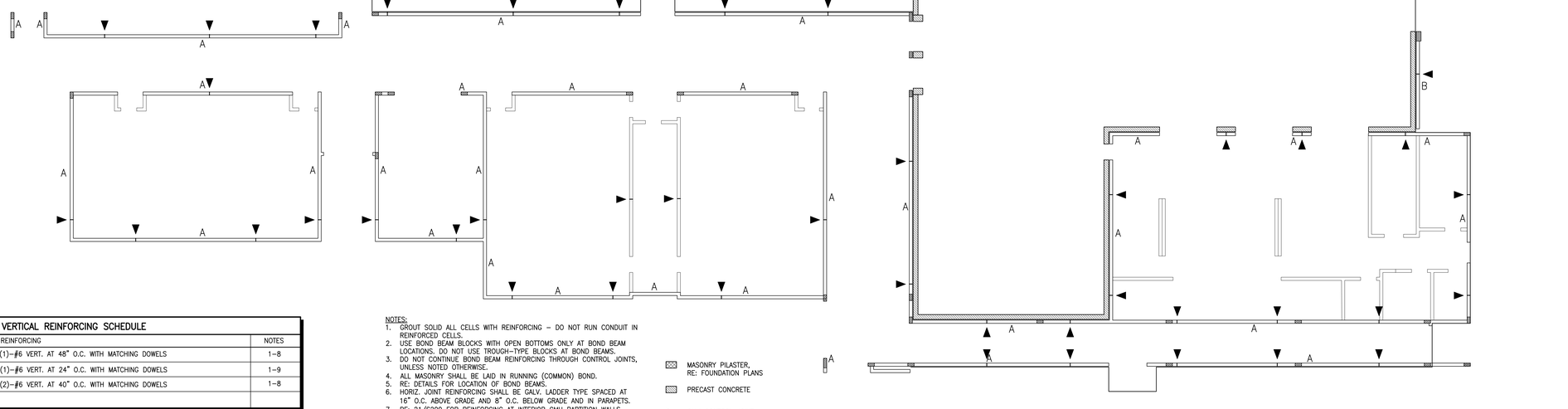
CMU LAP SCHEDULE



BOND BEAM STEP



TYPICAL LINTEL DETAIL



CMU VERTICAL REINFORCING SCHEDULE			
TYPE	WALL SIZE	REINFORCING	NOTES
WALL A	8"	(1)-#6 VERT. AT 48" O.C. WITH MATCHING DOWELS	1-8
WALL B	8"	(1)-#6 VERT. AT 24" O.C. WITH MATCHING DOWELS	1-9
WALL C	12"	(2)-#6 VERT. AT 40" O.C. WITH MATCHING DOWELS	1-8

NOTES:
1. GROUT SOLID ALL CELLS WITH REINFORCING – DO NOT RUN CONDUIT IN REINFORCED CELLS.
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, UNLESS NOTED OTHERWISE.
4. ALL MASONRY SHALL BE LAID IN RUNNING (COMMON) BOND.
5. RE: DETAILS FOR LOCATION OF BOND BEAMS.
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. RE: 21/S200 FOR REINFORCING AT INTERIOR CMU PARTITION WALLS.
8. REFER TO FOUNDATION DETAILS FOR REINFORCING AT RETAINING WALLS. REINFORCE PER SCHEDULE ABOVE F.F.E.
9. SOLID GROUT WALLS.

MASONRY PILASTER, RE: FOUNDATION PLANS

PRECAST CONCRETE

CMU CONTROL JOINT

NORTH

CMU WALL REINFORCING KEYPLAN AND SCHEDULE

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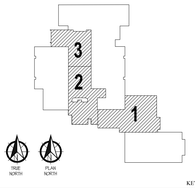
OKLA. C.A. #1460, EXP. 06/30/27

OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS

OWASSO, OK
2025

PROJECT



KEY PLAN

REVISIONS

11.25.25

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2510081 | PROJECT NO
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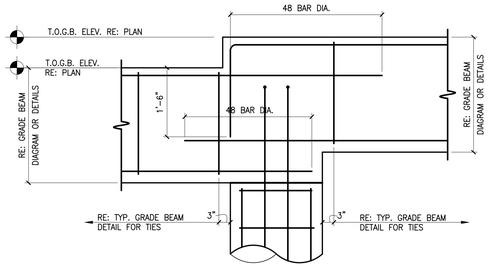
DCM | CHKD BY

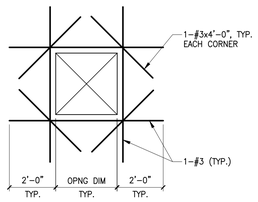
SCHEDULES AND TYPICAL DETAILS

S004

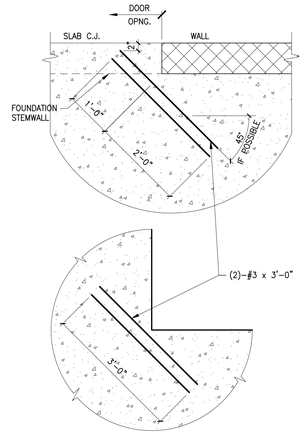
SHEET TITLE



GRADE BEAM STEP DETAIL



TYP SLAB-ON-GRADE OPENING REINFORCING



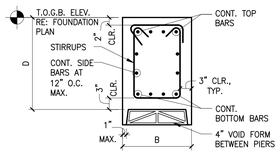
TYP. RE-ENTRANT CORNER

GRADE BEAM SCHEDULE								
MARK	SIZE BxD	CONT. TOP BARS	CONT. BOTTOM BARS	CONT. SIDE BARS	STIRRUPS			NOTES
					SIZE	TYPE	SPACING (EACH END)	
GB1	24x34	(3)-#10	(4)-#9		#4		1 AT 3", 6 AT 6", BALANCE AT 9" O.C.	
GB2	24x24	(4)-#9	(4)-#8		#4		1 AT 3", 4 AT 6", BALANCE AT 9" O.C.	
GB2A	24x24	(4)-#9	(4)-#8		#4		1.3 AT 2", 4 AT 6", BALANCE AT 9" O.C.	
GB3	24x24	(3)-#8	(4)-#7		#4		1 AT 3", 4 AT 6", BALANCE AT 9" O.C.	
GB4	24x24	(3)-#7	(4)-#6		#4		1 AT 3", BALANCE AT 9" O.C.	
GB5	36x24	(5)-#9	(5)-#8	(1)-#6	#4		1 AT 3", BALANCE AT 8" O.C.	4
GB6	36x24	(5)-#7	(5)-#7	(1)-#6	#4		1 AT 3", BALANCE AT 6" O.C.	4
GB7	48x24	RE: 11/S202 AND 11/S202 SIM.						
GB8	54x24	RE: 31/S201						
GB9	16x24	(4)-#6	(5)-#6	(1)-#6	#4		1 AT 3", BALANCE AT 5" O.C.	4

NOTES:
1. APPLICABLE TO ALL – EXTEND TOP REINFORCING FULL LENGTH OF GRADE BEAM.
2. APPLICABLE TO ALL – RE: ARCH. FOR FOUNDATION INSULATION AT EXTERIOR, TYP.
3. APPLICABLE TO ALL – PROVIDE 4" VOID FORMS UNDER ALL GRADE BEAMS.
4. PROVIDE CLOSED-TYPE TIES

GRADE BEAM SCHEDULE

CLOSED-TYPE TIES



SECTION

PIER SCHEDULE										
MARK	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
PIER CAP (WxLxDEPTH)	---	---	---	---	---	---	---	---	---	---
VERTICAL REINFORCING	---	---	---	---	---	---	---	---	---	---
TIES	---	---	---	---	---	---	---	---	---	---
DRILLED PIER (DIAMETER)	2'-0"	2'-0"	2'-0"	3'-0"	1'-6"	1'-6"	2'-0"	2'-0"	2'-0"	2'-0"
REINFORCEMENT	(8)-#7	(8)-#7	(8)-#7	(14)-#8	(8)-#6	(8)-#5	(8)-#5	(8)-#7	(8)-#7	(8)-#7
TIES	#3@10" O.C.	#3@10" O.C.	#3@10" O.C.	#3@10" O.C.	#3@10" O.C.	#3@10" O.C.	#3@10" O.C.	#3@10" O.C.	#3@10" O.C.	#3@10" O.C.
MIN. EMBEDMENT INTO BEDROCK	4'-6"	6'-6"	9'-0"	11'-6"	4'-0"	4'-0"	4'-0"	11'-0"	16'-6"	20'-0"
NOTES	1–5	1–5	1–5	1–4,6	1–5	1–4	1–4	1–5	1–5	1–5

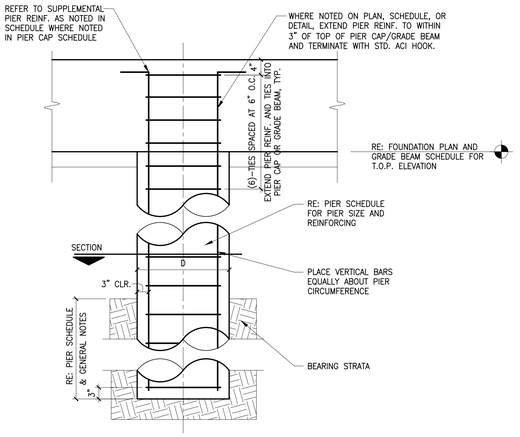
NOTES:
1. PIERS SHALL BE EMBEDDED A MINIMUM OF 2 FEET INTO BEDROCK, U.N.O.
2. CONTRACTOR SHALL ANTICIPATE THE USE OF TEMPORARY CASING FOR PIER INSTALLATION.
3. MINIMUM PIER DEPTH SHALL BE 5'-0" BELOW THE BOTTOM OF GRADE BEAM OR PIER CAP. EXPECT ROCK CORING IN SOME AREAS TO ACHIEVE MIN. PIER DEPTH.
4. PIERS SHALL NOT TERMINATE IN SEVERELY WEATHERED SHALE.
5. EXTEND PIER REINFORCING INTO GRADE BEAM. RE: PIER DETAIL #2
6. REFER TO SUPPLEMENTAL PIER REINF. AT LARGE PIERS.

PIER SCHEDULE

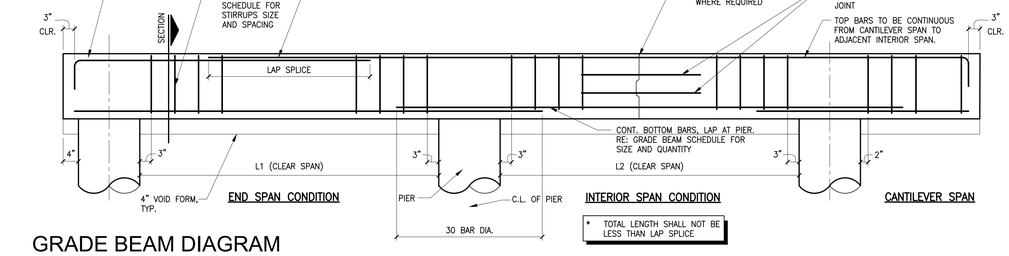
CONCRETE REINFORCING LAP SCHEDULE						
BAR SIZE	LAP					
	f'c=3000 PSI		f'c=3500 PSI		f'c=4000 PSI	
	TOP	OTHER	TOP	OTHER	TOP	OTHER
#3	17"	13"	16"	12"	15"	12"
#4	23"	18"	21"	16"	20"	15"
#5	29"	23"	31"	24"	29"	23"
#6	42"	33"	43"	33"	40"	31"
#7	71"	55"	69"	53"	65"	50"
#8	93"	72"	86"	66"	81"	62"
#9	118"	91"	110"	84"	102"	79"
#10	150"	115"	139"	107"	130"	100"
#11	185"	142"	171"	132"	160"	123"

NOTES:
1. TOP BAR IS A LOCATION WITH 12" OR MORE OF CONCRETE BELOW BAR.

CONCRETE REINF. LAP SCHED.

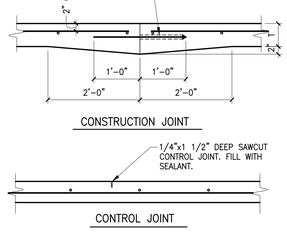


DETAIL 2

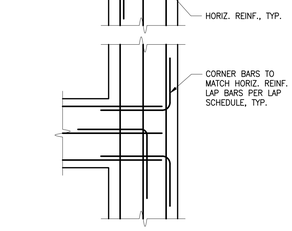


GRADE BEAM DIAGRAM

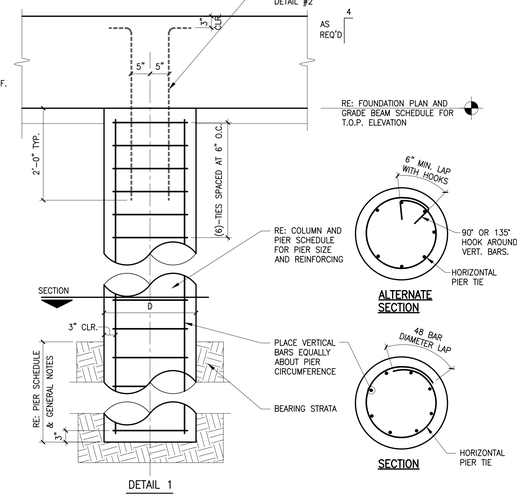
CONTRACTOR NOTE: LOCATION OF CONSTRUCTION JOINT IS CONTRACTOR OPTION.



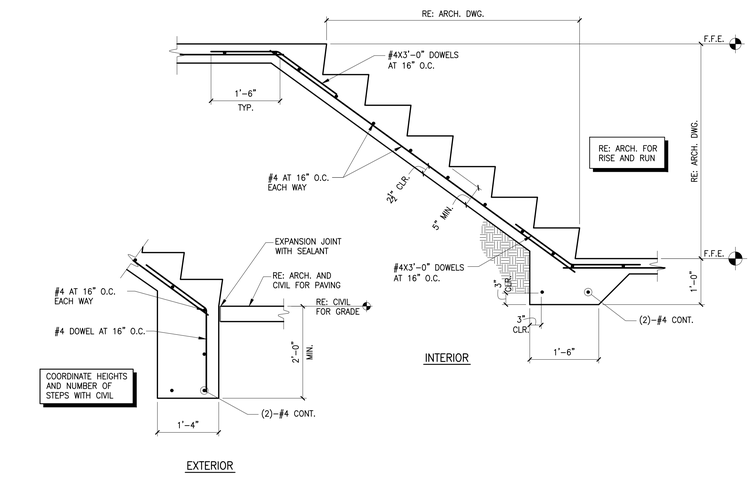
SLAB JOINT DETAILS



CORNER REINFORCING



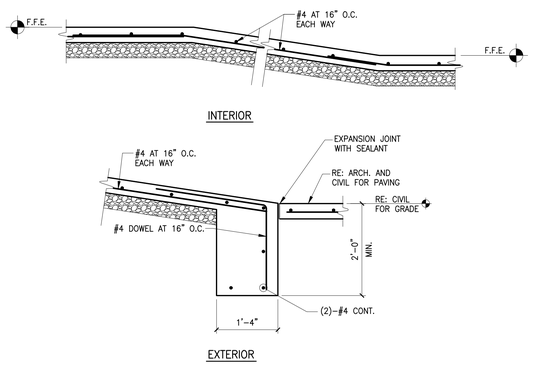
DETAIL 1



INTERIOR

EXTERIOR

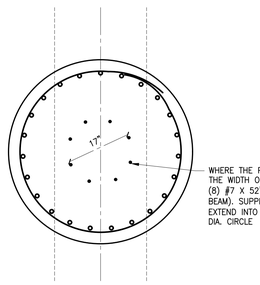
TYP STAIR DETAILS



INTERIOR

EXTERIOR

TYP RAMP DETAILS



SUPPLEMENTAL PIER REINF. AT LARGE PIERS

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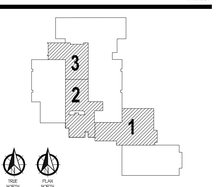
OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS

OWASSO, OK 2025

PROJECT



KEY PLAN

REVISIONS

11.25.25

ISSUE DATE

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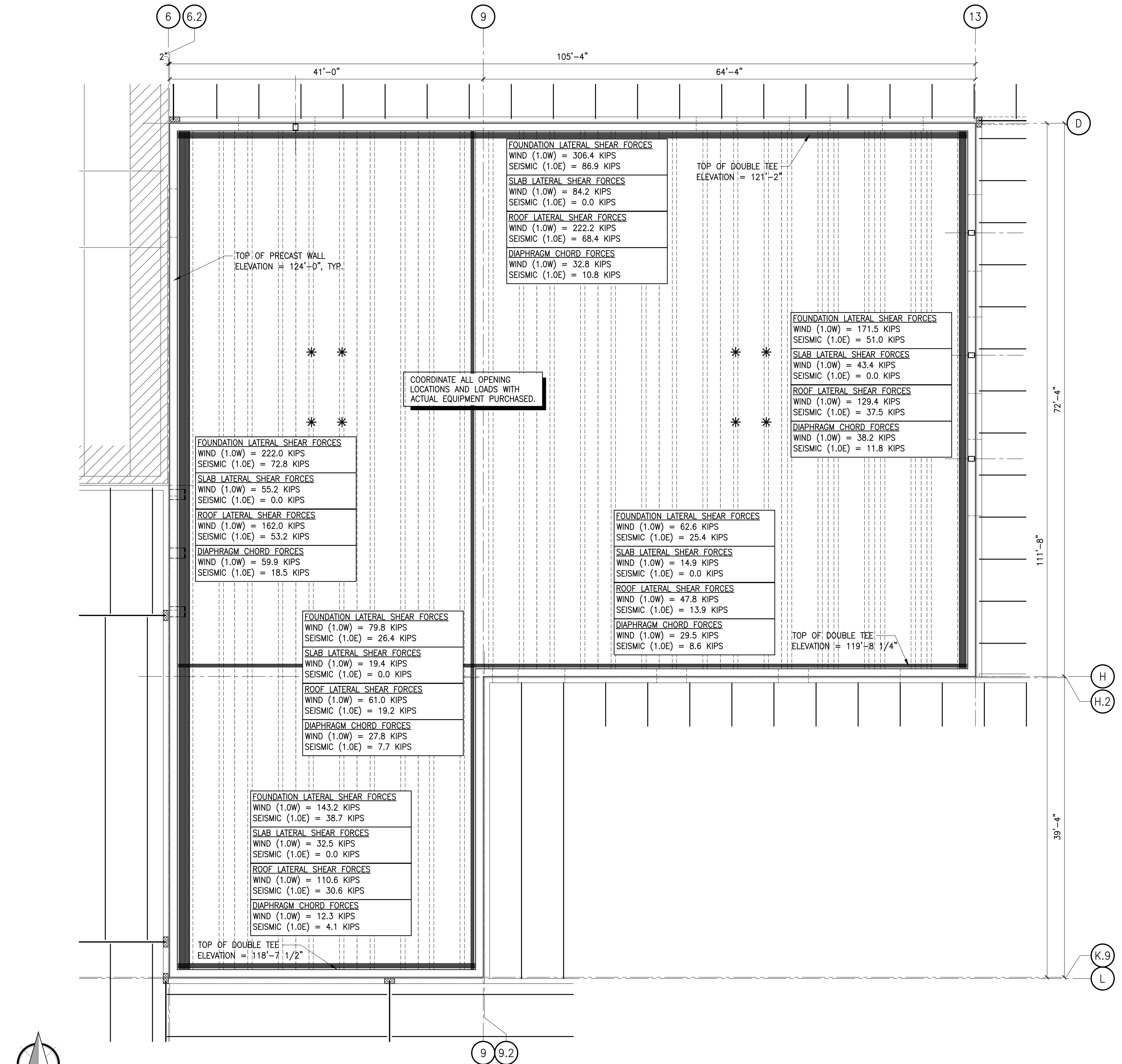
SCHEDULES AND TYPICAL DETAILS

S005

SHEET TITLE



WIND AND SEISMIC LATERAL LOAD PLAN
NTS

DESIGN PARAMETERS - PRECAST SHELTER

1. TYPE OF SHELTER — TORNADO
2. WIND DESIGN CONFORMS TO THE PROVISIONS OF THE ICC/NSSA STANDARD FOR THE DESIGN AND CONSTRUCTION OF STORM SHELTERS – ICC 500, 2014.
3. DESIGN LOAD COMBINATIONS ARE PER ASCE7 AS MODIFIED IN SECTION 302 OF ICC 500, 2014. PRECAST MFR. NOTE: LOAD VALUES ARE PROVIDED AS ULTIMATE LOAD FACTORS, LOAD FACTOR = 1.0W AND 1.0E U.N.O.
4. LIVE LOADS
   - A. ROOF — 100 PSF
5. DEAD LOADS
   - A. 6" TOPPING SLAB — 75 PSF
   - B. OTHER ROOF (COLLATERAL) — 20 PSF
   - C. DEAD LOAD DOES NOT INCLUDE PRECAST SELF–WEIGHT
   - D. DEAD LOAD DOES NOT INCLUDE EQUIPMENT CONCENTRATED LOADS
6. WIND DESIGN DATA
   - A. BASIC WIND SPEED (3 SECOND GUST), V — 250 MPH
   - B. WIND IMPORTANCE FACTOR, I — 1.0
   - C. WIND EXPOSURE CATEGORY — C
   - D. TOPOGRAPHIC FACTOR, Kzt — 1.0
   - E. DIRECTIONALITY FACTOR, Kd — 1.0
   - F. INTERNAL PRESSURE COEFFICIENT, GCpi — +/– 0.55
   - G. WIDTH OF END ZONE
     1. WALLS, a — 8.7 FT
     2. ROOF, 0.6h — 13.0 FT
   - H. DESIGN WIND PRESSURE FOR MAIN WIND FORCE RESISTING SYSTEM
     1. WALLS:
        WINDWARD PRESSURE (WITHOUT INTERNAL) — 99.0 PSF
        LEEWARD PRESSURE (WITHOUT INTERNAL) — 61.9 PSF
        INTERNAL PRESSURE — 80.1 PSF
        SIDEWALL PRESSURE WITH INTERNAL PRESSURE — 166.7 PSF
     2. PARAPETS:
        WINDWARD PRESSURE — 223.2 PSF
        LEEWARD PRESSURE — 148.8 PSF
     3. ROOF ALL OTHER CONDITONS:
        FOR 0 TO h = 0 FT. TO 21.67 FT. — 191.5 PSF
        FOR h TO 2h = 21.67 FT. TO 43.33 FT. — 142.0 PSF
        >2h = >43.33 FT. — 117.2 PSF
7. EARTHQUAKE DESIGN DATA
   - A. SEISMIC IMPORTANCE FACTOR, I — 1.25
   - B. RISK CATEGORY — III
   - C. MAPPED SPECTRAL RESPONSE ACCELERATION, Ss — 0.124
   - D. MAPPED SPECTRAL RESPONSE ACCELERATION, S1 — 0.071
   - E. SITE CLASS — C
   - F. SPECTRAL RESPONSE COEFFICIENT, Sds — 0.108
   - G. SPECTRAL RESPONSE COEFFICIENT, Sd1 — 0.071
   - H. SEISMIC DESIGN CATEGORY — B
   - I. STRUCTURAL SYSTEM — –––
     1) BASIC SEISMIC FORCE–RESISTING SYSTEM TYPE — BEARING WALL SYSTEM
     2) VERTICAL ELEMENT TYPE — ORDINARY PRECAST CONCRETE WALLS (1.0E)
     3) DESIGN BASE SHEAR (1.0E) — 0.045 W
     4) RESPONSE MODIFICATION FACTOR, R — 3.0
8. HYDROSTATIC LOADING — NOT REQUIRED

PRECAST SHELTER GENERAL NOTES

1. INDIVIDUAL PRECAST WALL PANELS SHALL BE CONNECTED TO TRANSFER SHEAR ACROSS PANEL JOINTS AND PERFORM AS A SINGLE SHEAR WALL ALONG CONTINUOUS WALL RUNS.
2. 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, IN 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 AND UPLIFT LOADING.
3. 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.
4. LOADS TO PRECAST STRUCTURE WERE DETERMINED IN ACCORDANCE WITH ICC 500–2014. PRECAST ELEMENTS AND CONNECTIONS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF OKLAHOMA IN ACCORDANCE WITH IBC 2018 WITH THE STATE OF OKLAHOMA AMENDMENTS AND WITH ICC 500–2014.
5. PRECAST ROOF TOPPING SYSTEM SHALL BE 6 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, 2014. 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.
6. 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, 2014.
7. 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, 2014.
8. 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.
9. 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 S005, NOTIFY STRUCTURAL ENGINEER OF RECORD PRIOR TO FABRICATION. ADDITIONAL CHANGES MAY BE REQUIRED.
10. PRECAST MANUFACTURER TO COORDINATE EXPOSED CONNECTIONS WITH ARCHITECT FOR THE AESTHETIC PLACEMENT.
11. REFER TO SHEET S001 FOR FOUNDATION INFORMATION AND FOR ADDITIONAL PRECAST NOTES.
12. REFER TO FOUNDATION PLANS FOR FINISH FLOOR ELEVATION, AND ROOF FRAMING PLANS FOR TOP OF DT ELEVATION.
13. 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 S006. THE DETAILS FOR THESE SYSTEMS ARE DESIGNATED ON SHEETS S201, AND S221. 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 SHEET S005.
14. DUCT AND PIPE PROTECTION IN THE PRECAST STRUCTURE SHALL BE INSPECTED TO COMPLY WITH THE DETAILS ON S221 OR AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
15. ALL PENETRATIONS THROUGH THE STORM SHELTER ENVELOPE LARGER THAN 3 1/2 SQUARE INCHES OR 2 1/16 INCHES IN DIAMETER OR WIDTH SHALL BE PROTECTED AS SHOWN ON THE DETAILS ON SHEET S221. SIZE OF OPENINGS SHALL BE KEPT TO A MINIMUM SIZE AS REQUIRED TO ALLOW THE UTILITIES TO PASS THROUGH THE WALL OR ROOF. THE PIPE OR DUCT SHALL BE TURNED 90 DEGREES AS SOON AS THE UTILITY PENETRATES THE SHELTER ENVELOPE AR AS SHOWN ON THE MEP PLANS. IF SIZE, DIMENSION OR LOCATION OF OPENINGS IN THE SHELTER ENVELOPE AND PIPE AND DUCT SIZES CHANGE FROM THE INFORMATION SUPPLIED ON THE MEP DRAWINGS AND THE DETAILS ON S221, NOTIFY ARCHITECT AND STRUCTURAL ENGINEER OF RECORD PRIOR TO FABRICATION, ADDITIONAL CHANGES MAY BE REQUIRED.
16. PRECAST WALL PANEL TO BE DESIGNED FOR A MINIMUM OF 60 PSF/FT OF DEPTH AT REST PRESSURE AT FINISH FLOOR OFFSET. ADDITIONALLY, DESIGN PANEL FOR A UNIFORM LATERAL LOAD OF 60 PSF DUE TO SURCHARGE BELOW FINISH FLOOR.
17. JOINTS BETWEEN PRECAST WALL PANELS GREATER THAN 3/4" IN WIDTH SHALL BE PROTECTED BY STEEL OR ANOTHER METHOD OTHER THAN CAULKED JOINT PER ICC 500 (2014) 306.8.
18. PRECAST DOUBLE TEE TO BE DESIGNED FOR A MINIMUM 100 PLF DEAD LOAD AND ±300 PLF (1.0W) WIND LOAD EACH LONG SIDE OF RTU.

WIND COMPONENTS AND CLADDING LOADS (1.0W)

BUILDING ELEMENT	SPAN (FT)	WIDTH (FT)	AREA (FT^2)	WIND PRESSURE ZONE 1' (PSF)	WIND PRESSURE ZONE 1 (PSF)	WIND PRESSURE ZONE 2 (PSF)	WIND PRESSURE ZONE 3 (PSF)	WIND PRESSURE ZONE 4 (PSF)	WIND PRESSURE ZONE 5 (PSF)
12" WALLS	VARIES	VARIES	200					–194.1/+181.0	–203.3/+181.0
WALL CONNECTION	–––	–––	50					–208.1/+194.9	–231.2/+194.9
PARAPET	5.0	VARIES	10					–281.2/+476.2	–321.4/+610.1
48" DOUBLE TEE	70.33	8.0	560	–156.7/+109.2	–225.7/+109.2	–283.9/+109.2	–283.9/+109.2		
DOUBLE TEE BRG.	70.33	4.0	280	–178.6/+109.2	–240.8/+109.2	–303.3/+109.2	–322.8/+109.2		
50" DOUBLE TEE	109.67	8.0	875	–142.5/+109.2	–225.7/+109.2	–283.9/+109.2	–283.9/+109.2		
DOUBLE TEE BRG.	109.67	4.0	435	–164.6/+109.2	–229.3/+109.2	–288.6/+109.2	–293.2/+109.2		
DOORS/WINDOWS	VARIES	VARIES	10					–224.2/+211.1	–263.5/+211.1

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

SHELTER NOTES

QUALITY ASSURANCE PLAN

1. REFER TO SHEET S001 AND S002 FOR SPECIAL INSPECTIONS, STRUCTURAL OBSERVATIONS AND REQUIREMENTS.
2. 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.
3. 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–CFTT CONCRETE FIELD TESTING TECHNICIAN – GRADE 1
ACI–CCI CONCRETE CONSTRUCTION INSPECTOR
ACI–LTT LABORATORY TESTING TECHNICIAN – GRADE 1&2
ACI–STT 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–RCSI 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.

1. FOUNDATIONS – FOUNDATION REINFORCING AND PLACEMENT PER CONSTRUCTION DOCUMENTS
   - a. 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.
     1. CONCRETE — ITEMS 1, 3, 4, 5, 6, 7, 8, 10, AND 12
     2. SOILS — ITEMS 1, 2, 3, 4, AND 5
     3. CAST–IN–PLACE DEEP FOUNDATION ELEMENTS — ITEMS 1, 2, AND 3
   - b. STRUCTURAL OBSERVATIONS: AFTER INSTALLATION OF REINFORCING PRIOR TO CONCRETE PLACEMENT FOR OBSERVATION OF REINFORCING, EVERY CONCRETE POUR IN SHELTER AREA.
2. PRECAST CONCRETE SHEAR WALLS – CONNECTION TO FOUNDATIONS AND BETWEEN PANELS PER DETAILS ON SHEET S201 AND S221.
   - a. SPECIAL INSPECTIONS: DURING PLACEMENT OF PRECAST WALL PANELS AND AFTER WELDING OF CONNECTIONS. EVERY PRECAST CONCRETE PANEL IN SHELTER AREAS.
     1. STEEL — TABLE N5.4
        A. WELDING
     2. CONCRETE — ITEM 10
     3. WIND RESISTANCE — ITEMS 4 AND 5
   - b. STRUCTURAL OBSERVATIONS: AFTER INSTALLATION OF WALL PANELS IN SHELTER AREAS. OBSERVATIONS BY PRECAST ENGINEER.
3. CONCRETE SLAB ON GRADE REINFORCING PER FOUNDATION PLANS AND DETAILS ON S201
   - a. 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.
     1. CONCRETE — ITEMS 1, 3, 5, 6, 7, 8 AND 12.
     2. SOILS — INSPECT SLAB SUBGRADE
   - b. 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.
4. WALL CONNECTIONS TO FLOOR SLAB PER PRECAST MANUFACTURER DETAILS
   - a. 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.
     1. CONCRETE — ITEMS 3 AND 4
   - b. 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.
5. STRUCTURAL STEEL FABRICATION
   - a. SPECIAL INSPECTIONS: PRIOR TO AND DURING FABRICATION OF STRUCTURAL STEEL AS REQUIRED.
     1. STEEL
        A. STRUCTURAL STEEL — ITEM 4
6. PRECAST PANEL AND DOUBLE TEE FABRICATION
   - a. SPECIAL INSPECTIONS: (PRIOR TO AND DURING FABRICATION OF PRECAST ELEMENTS) INSPECTION MAY BE WAIVED FOR APPROVED FABRICATORS PER 1704.2.5.
     1. CONCRETE — ITEMS 1 TO 12
7. WALL CONNECTIONS TO PRECAST DOUBLE TEES AND ROOF DIAPHRAGM PER PRECAST MANUFACTURER
   - a. SPECIAL INSPECTIONS: DURING INSTALLATION AND WELDING OF CONNECTIONS PER PRECAST MANUFACTURER DETAIL.
     1. STEEL
        A. STRUCTURAL STEEL — TABLE N5.8
        B. WELDING — TABLE N5.4
     2. CONCRETE — ITEM 3
     3. WIND RESISTANCE — ITEM 1
   - b. STRUCTURAL OBSERVATIONS: AFTER INSTALLATION OF CONNECTIONS AND DOUBLE TEES, OBSERVATIONS BY PRECAST ENGINEER.
8. CONCRETE TOPPING SLAB REINFORCING OVER PRECAST DOUBLE TEES PER FRAMING PLAN, PRECAST MANUFACTURER DETAILS AND DETAILS ON SHEET S221.
   - a. 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.
     1. CONCRETE — ITEM 1, 2, 3, 4, 5, 6, 7, 8, 10, AND 12.
     2. WIND RESISTANCE — ITEM 1.
   - b. 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.
9. DUCT AND PIPE PROTECTION FOR PENETRATIONS IN PRECAST STRUCTURE PER DETAILS ON S221.
   - a. 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.
     1. STEEL
        A. WELDING — TABLE N5.4
     2. CONCRETE — ITEMS 3 AND 4
     3. WIND RESISTANCE FOR CONCRETE SHELTER STRUCTURE AND COMPONENTS — ITEM 3
   - b. STRUCTURAL OBSERVATIONS: AFTER INSTALLATION OF STEEL ELEMENT.
10. DOORS, WINDOWS AND LOUVERS ON PERIMETER OF SHELTER
    - a. SUBMITTALS: APPROVAL REQUIRED PRIOR TO INSTALLATION
      1. PROVIDE DOCUMENTS FOR APPROVAL. DOCUMENTS SHALL INCLUDE CALCULATIONS AND MISSILE TESTING RESULT INFORMATION AS REQUIRED TO MEET THE REQUIRED DEBRIS IMPACT TEST MISSILE CRITERIA.
    - b. SPECIAL INSPECTIONS: DURING INSTALLATION TO OBSERVE CONNECTION OF ELEMENT TO STRUCTURE PER REQUIREMENTS OF MANUFACTURER TO MEET THE REQUIRED DEBRIS IMPACT TEST MISSILE CRITIRIA.
      1. CONCRETE — ITEMS 3 AND 4
      2. WIND RESISTANCE FOR CONCRETE SHELTER STRUCTURE AND COMPONENTS — ITEM 2.

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, 2014. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN:

1.) ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE QUALITY ASSURANCE PLAN.
2.) ACKNOWLEDGEMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.
3.) PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF REPORTS.
4.) IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATIONS.
5.) 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, 2014.

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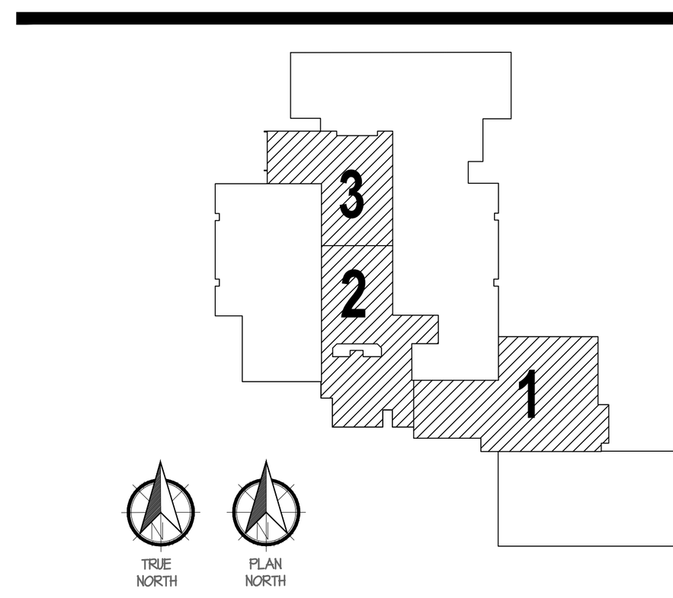
OKLA. C.A. #1460, EXP. 06/30/27

OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS
OWASSO, OK
2025
PROJECT



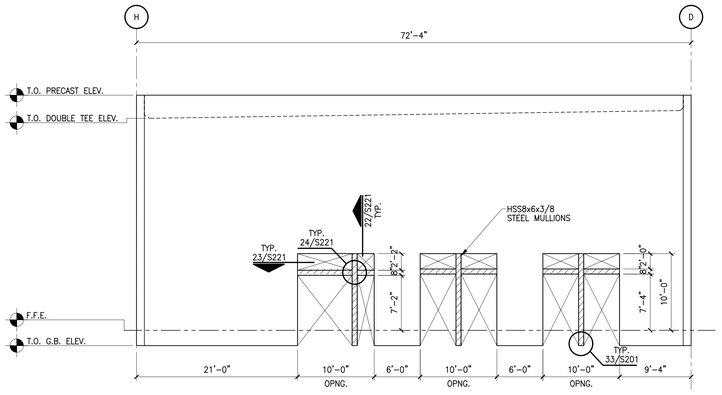
KEY PLAN

REVISIONS

11.25.25
ISSUE DATE

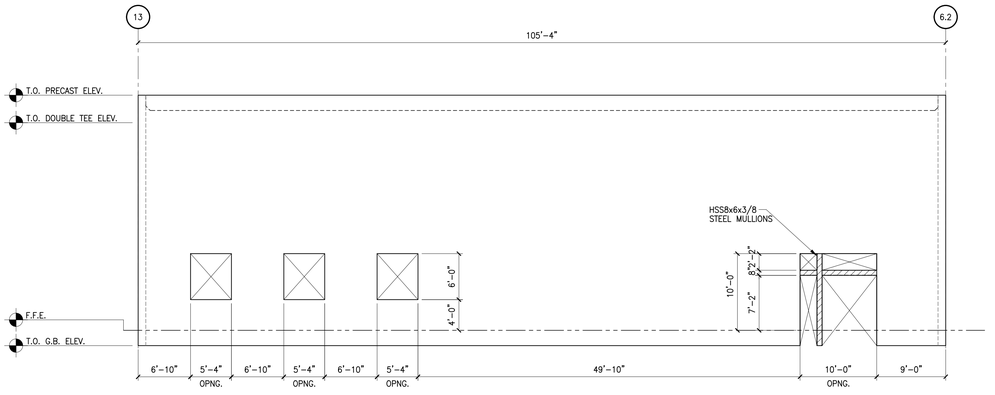
PRECAST SHELTER LOADING

S006
SHEET TITLE



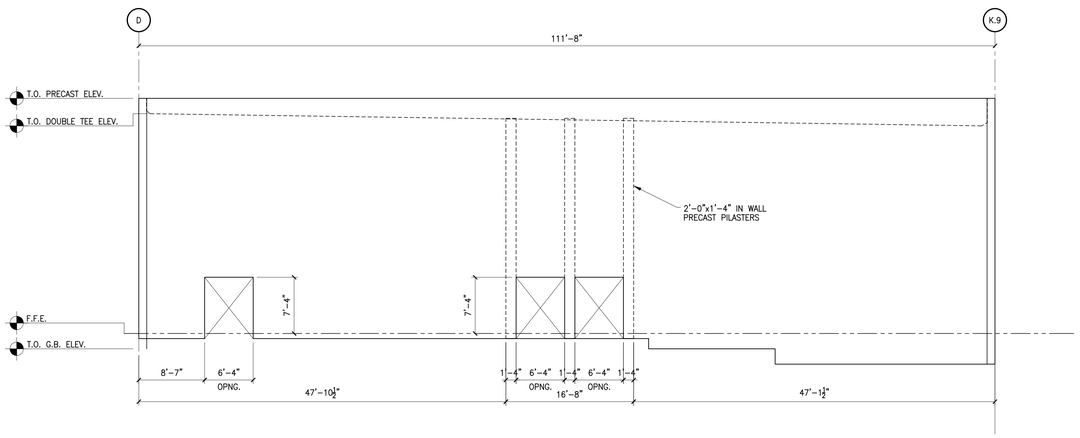
11 PANEL EXTERIOR ELEVATION - GRIDLINES 13

1/8" = 1'-0"



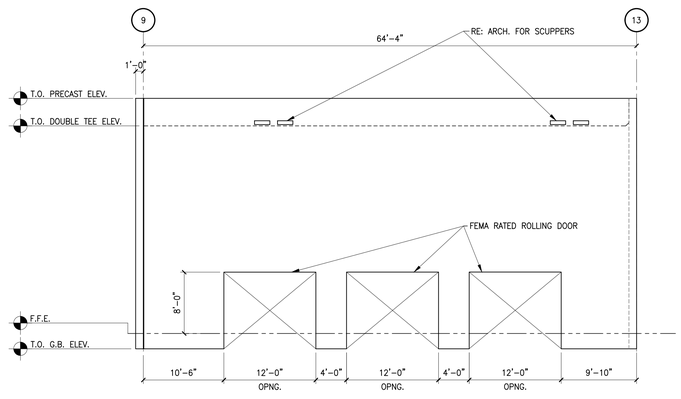
12 PANEL EXTERIOR ELEVATION - GRIDLINE D

1/8" = 1'-0"



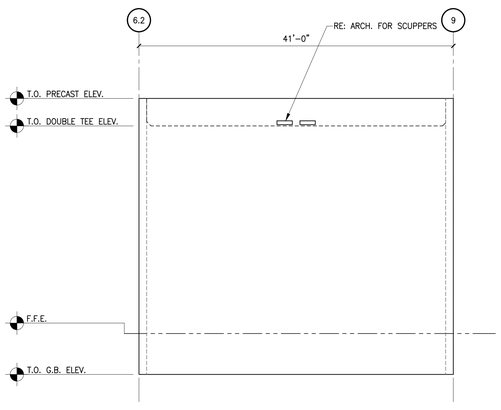
21 PANEL EXTERIOR ELEVATION - GRIDLINE 6.2

1/8" = 1'-0"



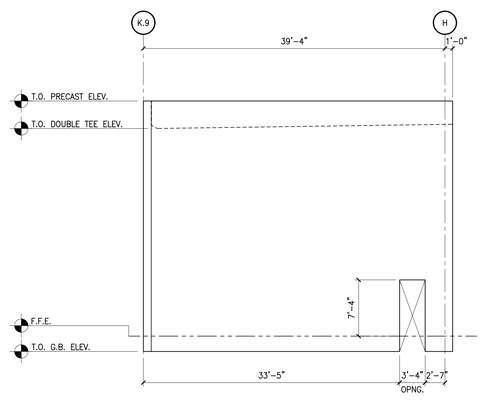
22 PANEL EXTERIOR ELEVATION - GRIDLINE H

1/8" = 1'-0"



31 PANEL EXTERIOR ELEVATION - GRIDLINE K.9

1/8" = 1'-0"



32 PANEL EXTERIOR ELEVATION - GRIDLINE 9

1/8" = 1'-0"

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. RE: ARCH, MEP FOR OPENING DIMENSIONS AND LOCATIONS.
3. RE: S221 FOR OPENING PROTECTION.
4. 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 THAT THERE ARE NO EXPOSED CONDUITS (ELECTRICAL AND LIGHTING).
5. PRECAST MANUFACTURER TO SUBMIT PANEL JOINT LAYOUT FOR REVIEW BY ARCHITECT AND ENGINEER PRIOR TO PRECAST SUBMITTAL REVIEW.
6. PRECAST MANUFACTURER SHALL COORDINATE EMBEDS FOR FEMA RATED DOORS, WINDOWS, AND LOUVERS WITH COMPONENT MANUFACTURERS.
7. PRECAST MANUFACTURER SHALL COORDINATE CONNECTION LAYOUT BETWEEN ALL ELEMENTS WITH ARCHITECT
10. PANEL LIFTING INSERTS SHALL BE LOCATED ON THE EXTERIOR SIDE OF THE WALL PANELS UNLESS OTHERWISE APPROVED BY ARCHITECT.
11. JOINTS BETWEEN PRECAST WALL PANELS GREATER THAN 3/8" IN WIDTH SHALL BE PROTECTED BY STEEL OR ANOTHER METHOD OTHER THAN CAULKED JOINT PER ICC 500 (2014) 306.8.
12. GENERAL CONTRACTOR SHALL COORDINATE ALL OPENINGS IN SHELTER ENVELOPE PRIOR TO PRECAST SUBMITTAL APPROVAL. COORDINATION SHALL INCLUDE OPENING SIZES, LOCATIONS, AND VERIFICATION THAT DUCT/ PIPE TURNS FIT WITHIN SCHEDULES ON S221.
13. PRECAST MANUFACTURER SHALL CONFIRM OPENING LOCATIONS WITH STRUCTURAL ENGINEER OF RECORD PRIOR TO FABRICATION FOR SHROUD APPROVAL.
14. ALL PENETRATIONS THROUGH THE STORM SHELTER ENVELOPE LARGER THAN 3 1/2 SQUARE INCHES OR 2 1/16 INCHES IN DIAMETER OR WIDTH SHALL BE PROTECTED AS SHOWN ON THE DETAILS ON S220. SIZE OF OPENINGS SHALL BE KEPT TO A MINIMUM SIZE AS REQUIRED TO ALLOW THE UTILITIES TO PASS THROUGH THE WALL OR ROOF. THE PIPE OR DUCT SHALL BE TURNED 90 DEGREES AS SOON AS THE UTILITY PENETRATES THE SHELTER ENVELOPE AR AS SHOWN ON THE MEP PLANS. IF SIZE, DIMENSION OR LOCATION OF OPENINGS IN THE SHELTER ENVELOPE AND PIPE AND DUCT SIZES CHANGE FROM THE INFORMATION SUPPLIED ON THE MEP DRAWINGS AND THE DETAILS ON S220, NOTIFY ARCHITECT AND STRUCTURAL ENGINEER OF RECORD PRIOR TO FABRICATION, ADDITIONAL CHANGES MAY BE REQUIRED.

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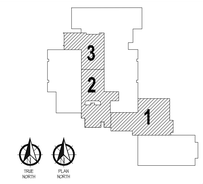
OKLA. C.A. #1460, EXP. 06/30/27

OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS

OWASSO, OK 2025

PROJECT



KEY PLAN

REVISIONS

11.25.25

ISSUE DATE

2510081 | PROJECT NO
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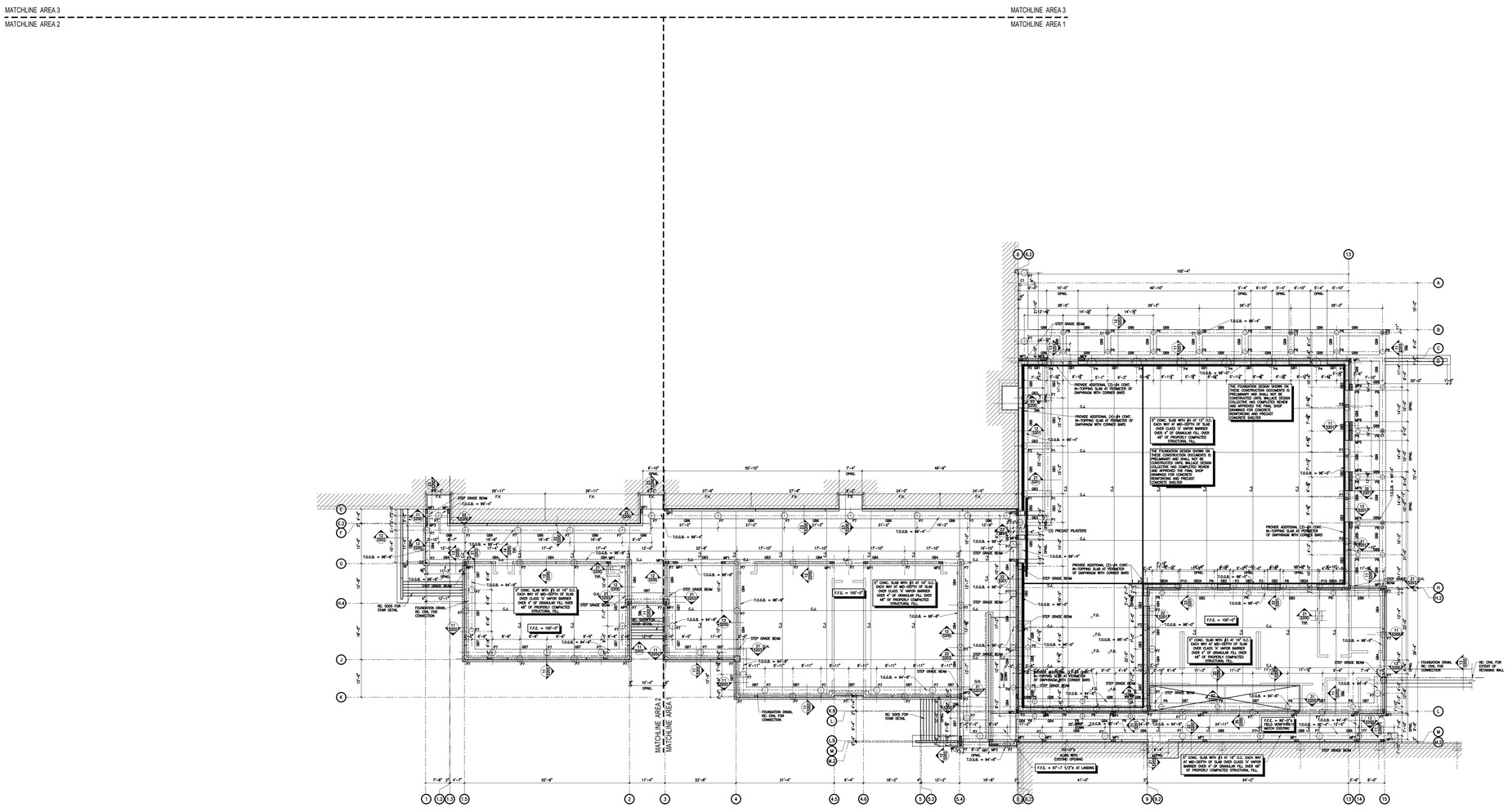
PRECAST PANEL ELEVATIONS

S007

SHEET TITLE



PROVIDE ADDITIONAL (3)-#4 CONT. IN-TOPPING SLAB AT PERIMETER OF DIAPHRAGM WITH CORNER BARS

PROVIDE ADDITIONAL (4)-#4 CONT. IN-TOPPING SLAB AT PERIMETER OF DIAPHRAGM WITH CORNER BARS

PROVIDE ADDITIONAL (2)-#4 CONT. IN-TOPPING SLAB AT PERIMETER OF DIAPHRAGM WITH CORNER BARS

PROVIDE ADDITIONAL (1)-#4 CONT. IN-TOPPING SLAB AT PERIMETER OF DIAPHRAGM WITH CORNER BARS

THE FOUNDATION DESIGN SHOWN ON THESE CONSTRUCTION DOCUMENTS IS PRELIMINARY AND SHALL NOT BE CONSTRUCTED UNTIL WALLACE DESIGN COLLECTIVE HAS COMPLETED REVIEW AND APPROVED THE FINAL SHOP DRAWINGS FOR CONCRETE REINFORCING AND PRECAST CONCRETE SHELTER

5" CONC. SLAB WITH #4 AT 12" O.C. EACH WAY AT MID-DEPTH OF SLAB OVER CLASS 'A' VAPOR BARRIER OVER 4" OF GRANULAR FILL OVER 48" OF PROPERLY COMPACTED STRUCTURAL FILL.

5" CONC. SLAB WITH #3 AT 16" O.C. EACH WAY AT MID-DEPTH OF SLAB OVER CLASS 'A' VAPOR BARRIER OVER 4" OF GRANULAR FILL OVER 48" OF PROPERLY COMPACTED STRUCTURAL FILL.

F.F.E. = 96'-0"± FIELD VERIFY TO MATCH EXISTING

F.F.E. = 97'-7 1/2"± AT LANDING

OVERALL FOUNDATION PLAN
SCALE: 1/32" = 1'-0"

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OWASSO
8th GRADE
ADDITION

OWASSO PUBLIC SCHOOLS
OWASSO, OK
2025
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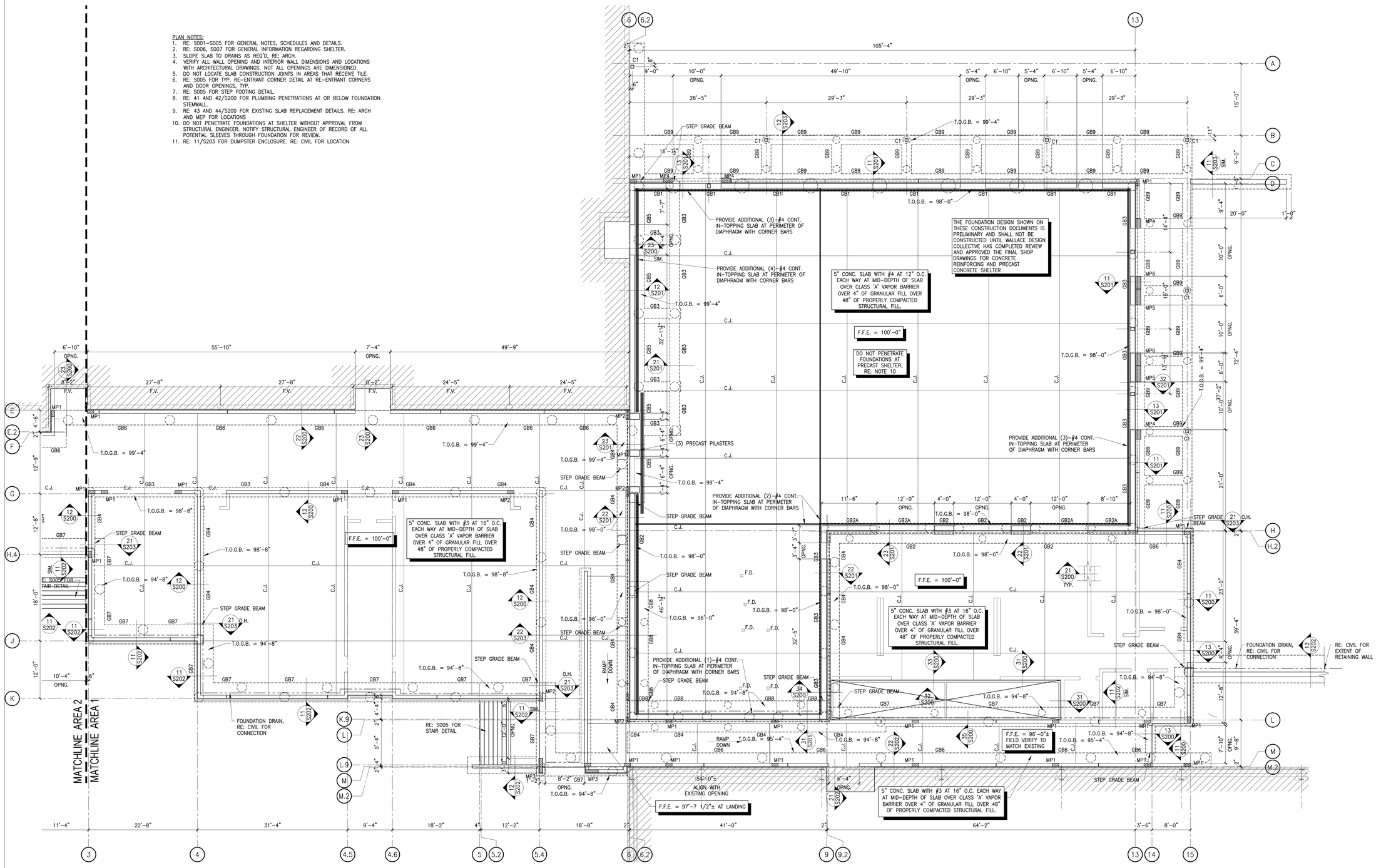
OVERALL
FOUNDATION PLAN

S100
SHEET TITLE



PLAN NOTES:
1. RE: S001–S005 FOR GENERAL NOTES, SCHEDULES AND DETAILS.
2. RE: S006, S007 FOR GENERAL INFORMATION REGARDING SHELTER.
3. SLOPE SLAB TO DRAINS AS REQ'D, RE: ARCH.
4. VERIFY ALL WALL OPENING AND INTERIOR WALL DIMENSIONS AND LOCATIONS WITH ARCHITECTURAL DRAWINGS. NOT ALL OPENINGS ARE DIMENSIONED.
5. DO NOT LOCATE SLAB CONSTRUCTION JOINTS IN AREAS THAT RECEIVE TILE.
6. RE: S005 FOR TYP. RE–ENTRANT CORNER DETAIL AT RE–ENTRANT CORNERS AND DOOR OPENINGS, TYP.
7. RE: S005 FOR STEP FOOTING DETAIL.
8. RE: 41 AND 42/S200 FOR PLUMBING PENETRATIONS AT OR BELOW FOUNDATION STEMWALL.
9. RE: 43 AND 44/S200 FOR EXISTING SLAB REPLACEMENT DETAILS. RE: ARCH AND MEP FOR LOCATIONS
10. DO NOT PENETRATE FOUNDATIONS AT SHELTER WITHOUT APPROVAL FROM STRUCTURAL ENGINEER. NOTIFY STRUCTURAL ENGINEER OF RECORD OF ALL POTENTIAL SLEEVES THROUGH FOUNDATION FOR REVIEW.
11. RE: 11/S203 FOR DUMPSTER ENCLOSURE. RE: CIVIL FOR LOCATION

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

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OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS
OWASSO, OK
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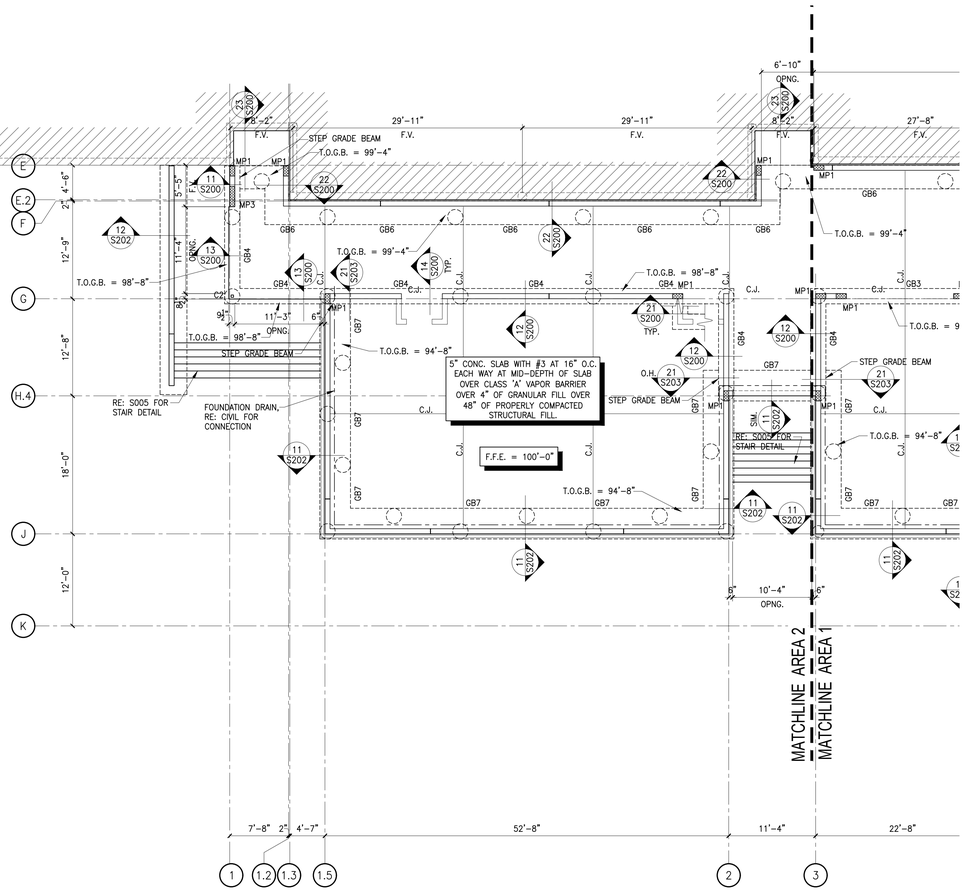
FOUNDATION PLAN AREA 1

S101
SHEET TITLE



PLAN NOTES:
1. RE: S001–S005 FOR GENERAL NOTES, SCHEDULES AND DETAILS.
2. RE: S006, S007 FOR GENERAL INFORMATION REGARDING SHELTER.
3. SLOPE SLAB TO DRAINS AS REQ'D, RE: ARCH.
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11. RE: 11/S203 FOR DUMPSTER ENCLOSURE. RE: CIVIL FOR LOCATION

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

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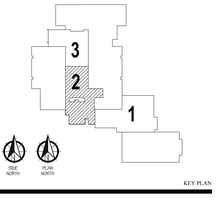
OWASSO PUBLIC SCHOOLS

OWASSO, OK
2025
PROJECT



KEY PLAN

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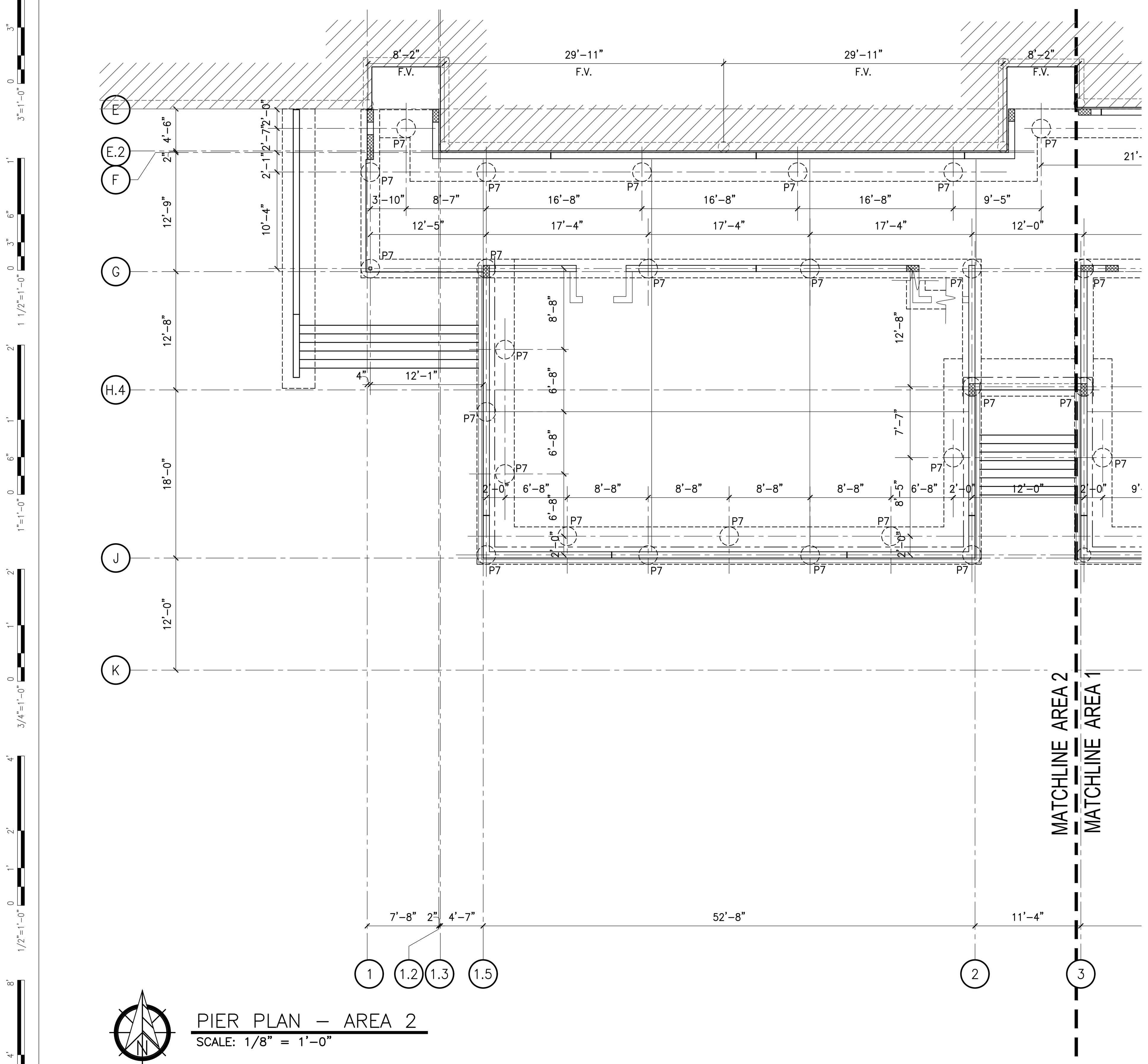
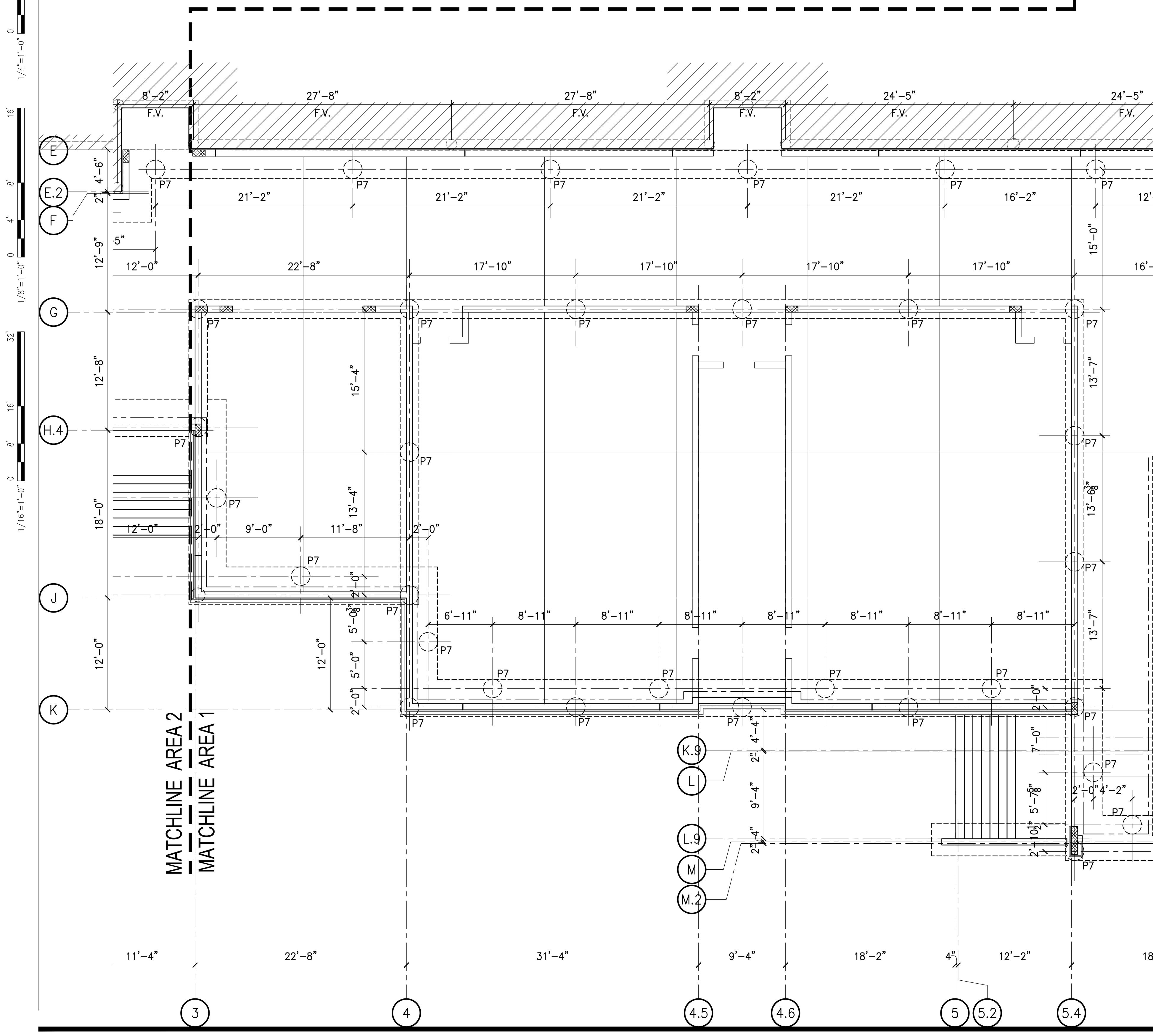
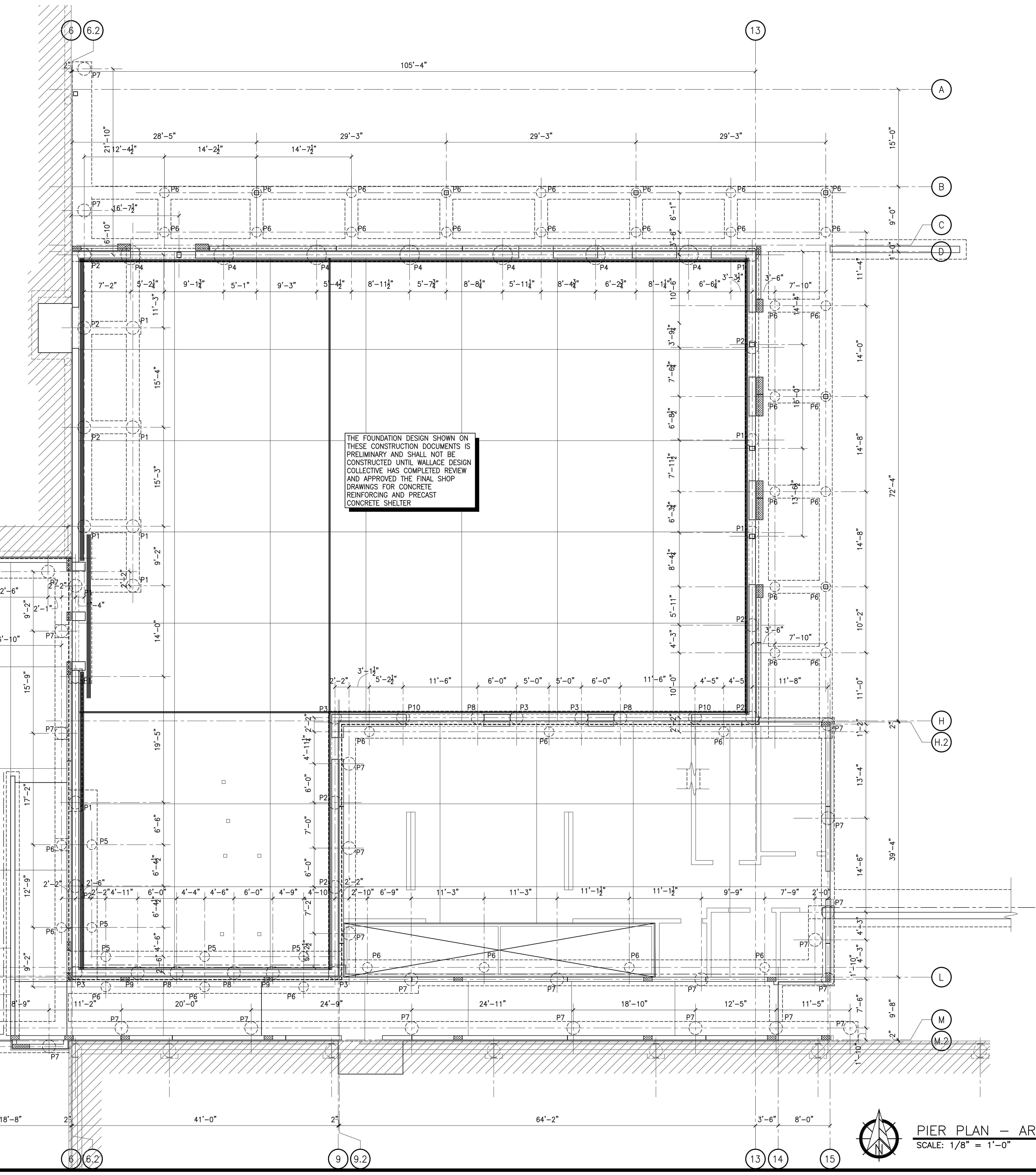
DCM | CHKD BY

FOUNDATION PLAN
AREA 2

S102
SHEET TITLE



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

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

PLAN NOTES:

1. RE: S001–S005 FOR GENERAL NOTES, SCHEDULES AND DETAILS.
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11. RE: 11/S203 FOR DUMPSTER ENCLOSURE. RE: CIVIL FOR LOCATION

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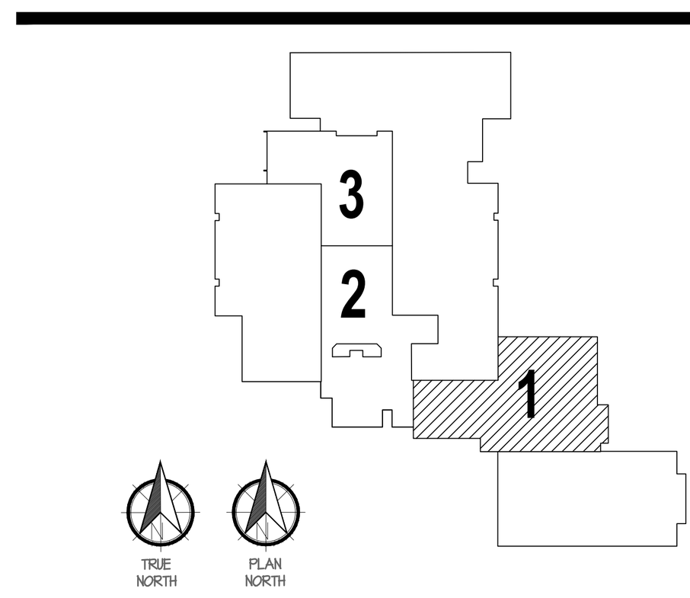
OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS
OWASSO, OK
2025
PROJECT



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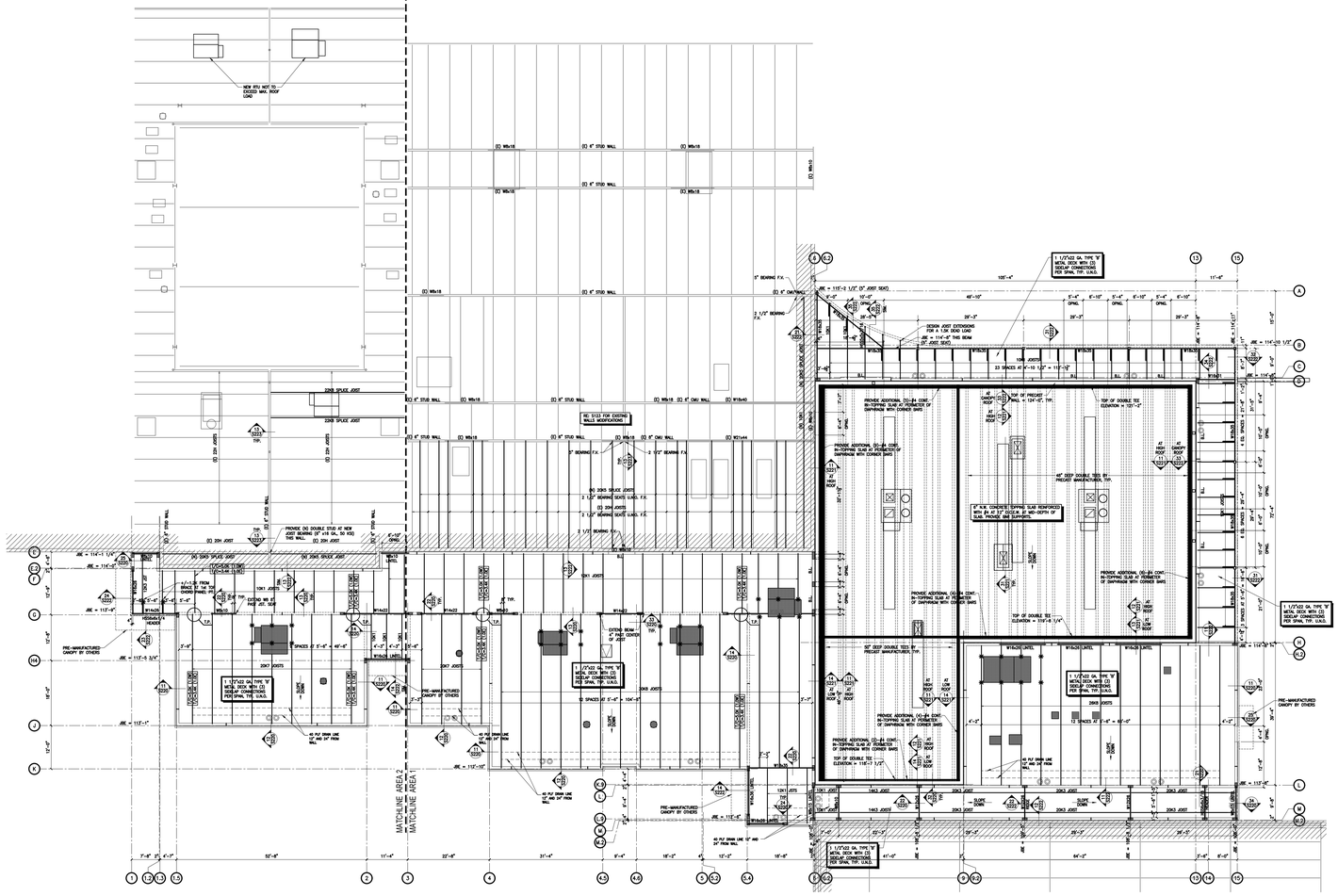
PIER PLAN

S103
SHEET TITLE



OVERALL ROOF FRAMING PLAN
SCALE: 1/32" = 1'-0"

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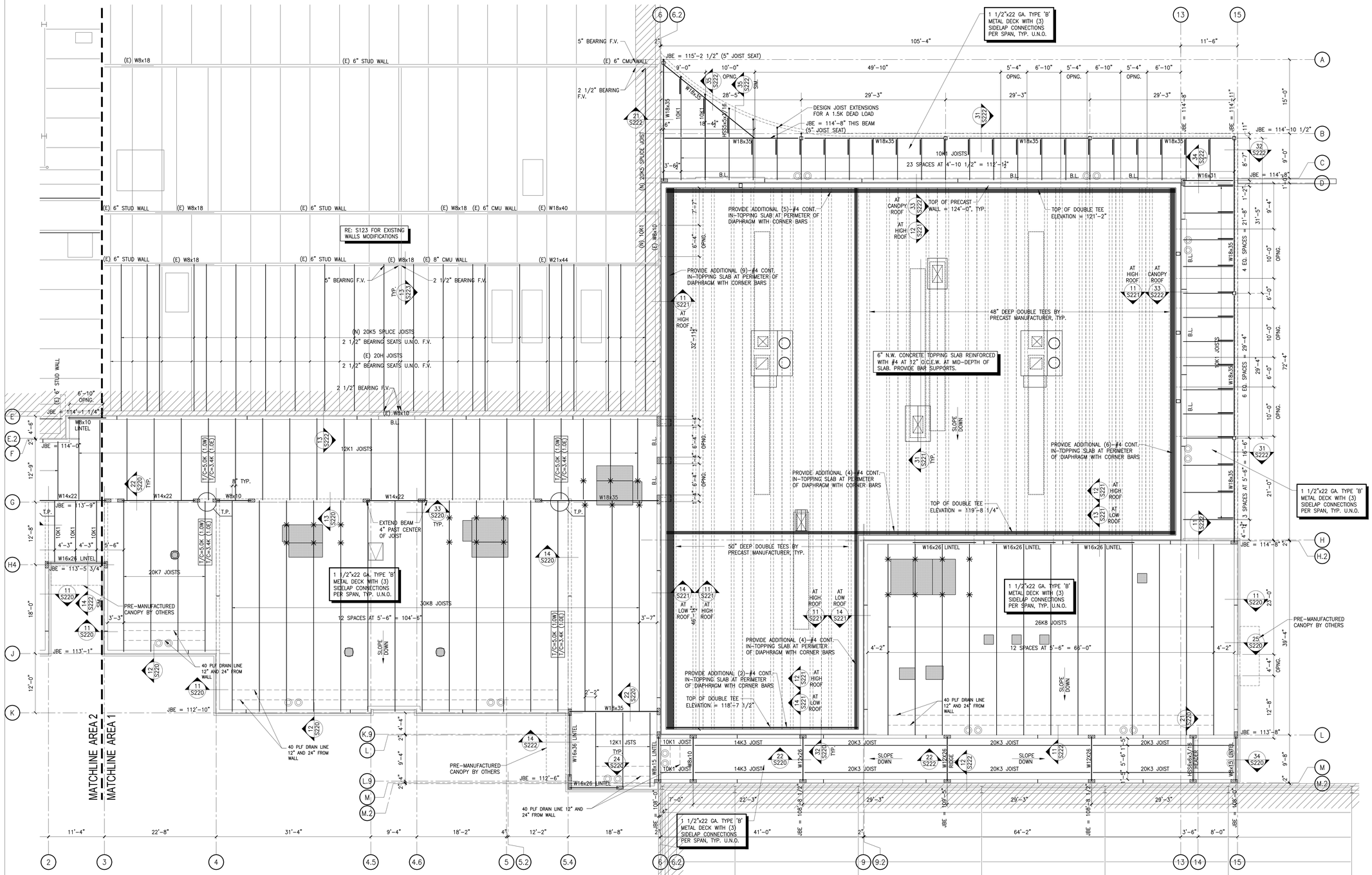
OVERALL ROOF FRAMING PLAN

S120
SHEET TITLE



PLAN NOTES:

1. RE: S001–S005 FOR GENERAL NOTES AND SCHEDULES.
2. RE: S006–S007 FOR GENERAL INFORMATION REGARDING SHELTER.
3. PROVIDE 2 1/2" JOIST SEATS AT K-SERIES JOISTS U.N.O. RE: PLAN.
4. 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.
5. RE: RTU AND ROOF OPENING DETAIL ON S003 FOR ANGLE FRAME SUPPORTS AT RTU's.
6. 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.
7. 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 = xxK/P/xxK/P = 1.0W/1.0E.
8. RE: 31/S220 FOR BRACING AT TOP OF INTERIOR MASONRY PARTITION WALLS..
9. RE: ARCH FOR ROOF HATCH LOCATION
10. FOR MECH., ELEC., PLUMBING OPENINGS IN CMU GREATER THAN 8" WIDE, REINFORCING SHALL BE PROVIDED PER LINTEL AND JAMB SCHEDULE ON S004. OPENINGS IN CMU SHALL AVOID DISRUPTING WALL REINFORCING. IF OPENING CANNOT BE LOCATED TO AVOID WALL REINFORCING, CONTACT THE ENGINEER OF RECORD TO DETERMINE WHAT SHOULD BE DONE.
11. "T.P." INDICATES "TIE PLATE, RE: 15/S222 FOR SIZE AND WELDS.
12. JOIST MANUFACTURER NOTE: DESIGN JOIST FOR 1.0K DEAD GRAVITY LOAD AT EACH ✳.
13. JOIST MANUFACTURER NOTE: DESIGN JOIST FOR ±0.4K (1.0W) LOAD AT EACH ✳.
14. JOIST MANUFACTURER NOTE: ALL WIND/SEISMIC LOADS ARE 1.0W/1.0E U.N.O.

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

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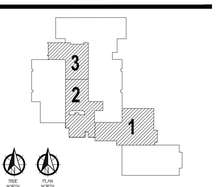
OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS
OWASSO, OK
2025
PROJECT



KEY PLAN

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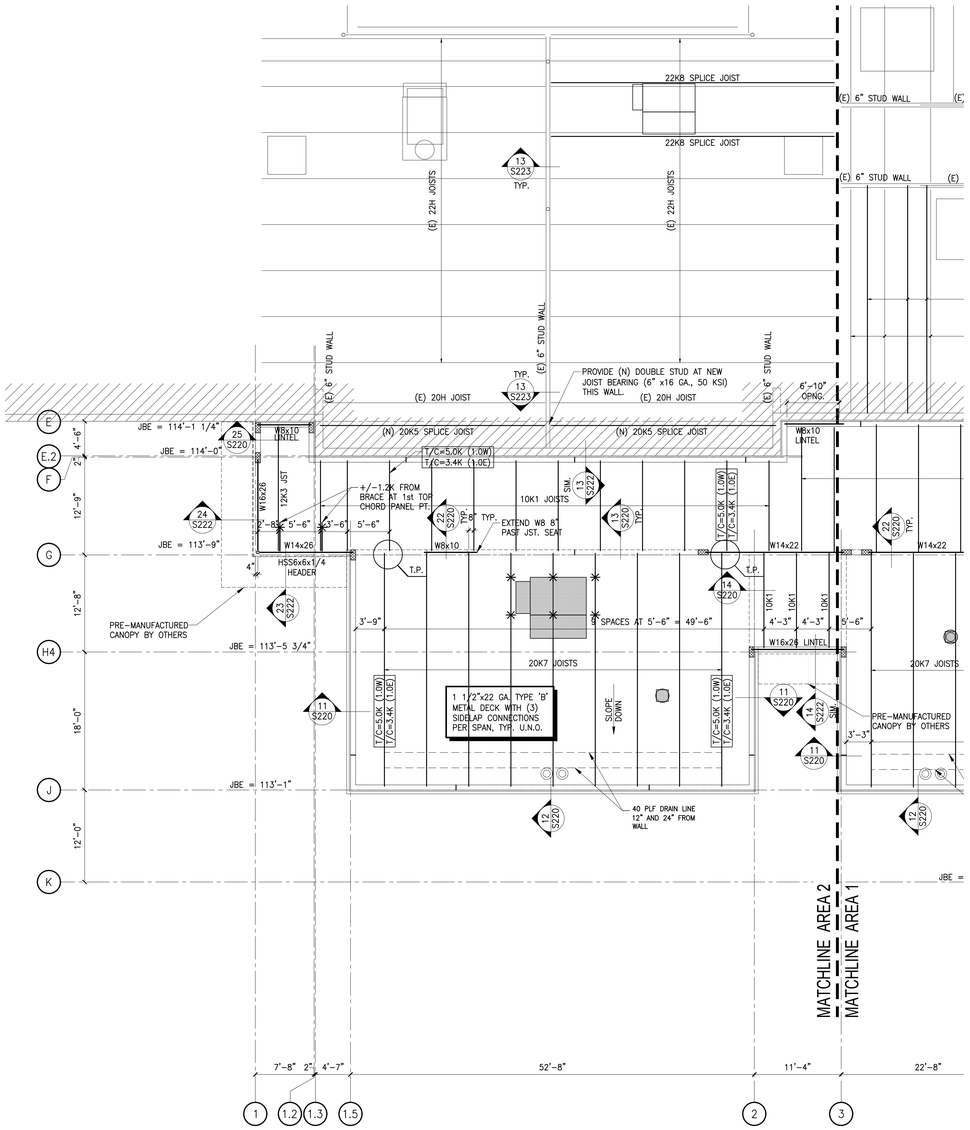
ROOF FRAMING PLAN AREA 1

S121
SHEET TITLE



PLAN NOTES:

1. RE: S001–S005 FOR GENERAL NOTES AND SCHEDULES.
2. RE: S006–S007 FOR GENERAL INFORMATION REGARDING SHELTER.
3. PROVIDE 2 1/2" JOIST SEATS AT K-SERIES JOISTS U.N.O. RE: PLAN.
4. 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.
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6. 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.
7. JOIST MANUFACTURER:
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14. JOIST MANUFACTURER NOTE: ALL WIND/SEISMIC LOADS ARE 1.0W/1.0E U.N.O.

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

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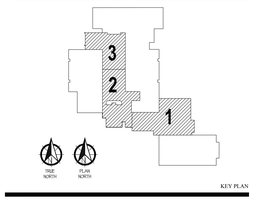
OKLA. C.A. #1460, EXP. 06/30/27

OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS

OWASSO, OK 2025
PROJECT



KEY PLAN

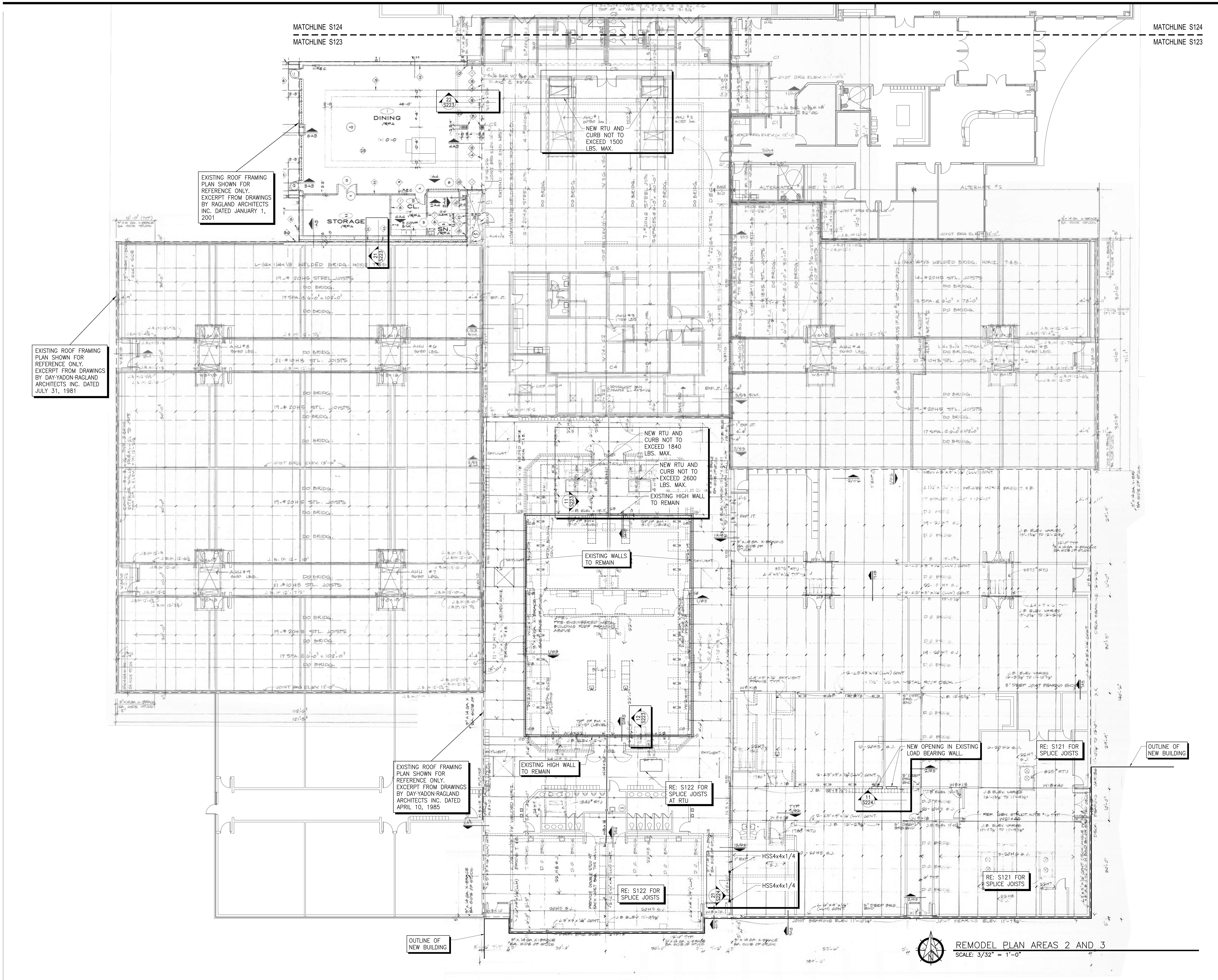
REVISIONS

11.25.25
ISSUE DATE

251081 | PROJECT NO
TBS | DRAWN BY
DCM | CHK'D BY

ROOF FRAMING PLAN AREA 2

S122
SHEET TITLE



MATCHLINE S124
MATCHLINE S123
MATCHLINE S124
MATCHLINE S123
DINING
STORAGE
EXISTING ROOF FRAMING PLAN SHOWN FOR REFERENCE ONLY. EXCERPT FROM DRAWINGS BY RAGLAND ARCHITECTS INC. DATED JANUARY 1, 2001
EXISTING ROOF FRAMING PLAN SHOWN FOR REFERENCE ONLY. EXCERPT FROM DRAWINGS BY DAY-YADON-RAGLAND ARCHITECTS INC. DATED JULY 31, 1981
NEW RTU AND CURB NOT TO EXCEED 1500 LBS. MAX.
NEW RTU AND CURB NOT TO EXCEED 1840 LBS. MAX.
NEW RTU AND CURB NOT TO EXCEED 2600 LBS. MAX.
EXISTING HIGH WALL TO REMAIN
EXISTING WALLS TO REMAIN
EXISTING ROOF FRAMING PLAN SHOWN FOR REFERENCE ONLY. EXCERPT FROM DRAWINGS BY DAY-YADON-RAGLAND ARCHITECTS INC. DATED APRIL 10, 1985
EXISTING HIGH WALL TO REMAIN
RE: S122 FOR SPLICE JOISTS AT RTU
NEW OPENING IN EXISTING LOAD BEARING WALL.
RE: S121 FOR SPLICE JOISTS
OUTLINE OF NEW BUILDING
HSS4x4x1/4
HSS4x4x1/4
RE: S122 FOR SPLICE JOISTS
RE: S121 FOR SPLICE JOISTS
OUTLINE OF NEW BUILDING
REMODEL PLAN AREAS 2 AND 3
SCALE: 3/32" = 1'-0"

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OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS
OWASSO, OK
2025

PROJECT

KEY PLAN

REVISIONS

11.25.25

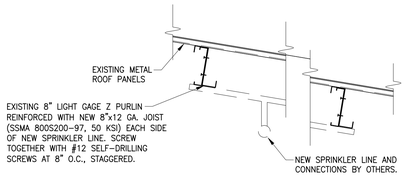
ISSUE DATE

PROJECT NO · DRAWN BY · CHK'D BY

REMODEL PLAN AREAS 2 AND 3

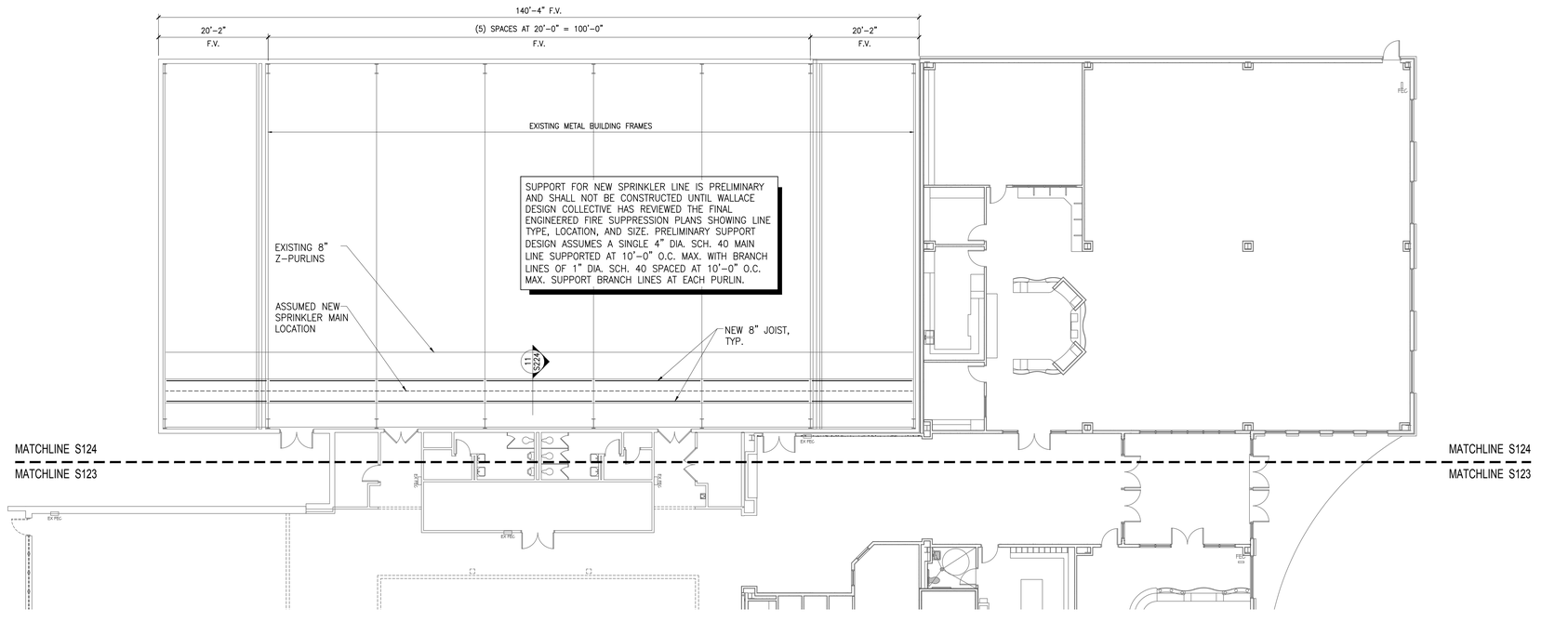
S123

SHEET TITLE



SUPPORT FOR NEW SPRINKLER LINE IS PRELIMINARY AND SHALL NOT BE CONSTRUCTED UNTIL WALLACE DESIGN COLLECTIVE HAS REVIEWED THE FINAL ENGINEERED FIRE SUPPRESSION PLANS SHOWING LINE TYPE, LOCATION, AND SIZE. PRELIMINARY SUPPORT DESIGN ASSUMES A SINGLE 4" DIA. SCH. 40 MAIN LINE SUPPORTED AT 10'-0" O.C. MAX. WITH BRANCH LINES OF 1" DIA. SCH. 40 SPACED AT 10'-0" O.C. MAX. SUPPORT BRANCH LINES AT EACH PURLIN.

11 DETAIL AT NEW SPRINKLER SUPPORT
3/4" = 1'-0"



NORTH GYM PLAN
SCALE: 3/32" = 1'-0"

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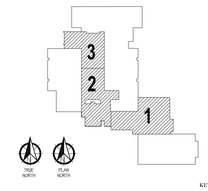
OWASSO
8th GRADE
ADDITION

OWASSO PUBLIC SCHOOLS
OWASSO, OK
2025
PROJECT



KEY PLAN

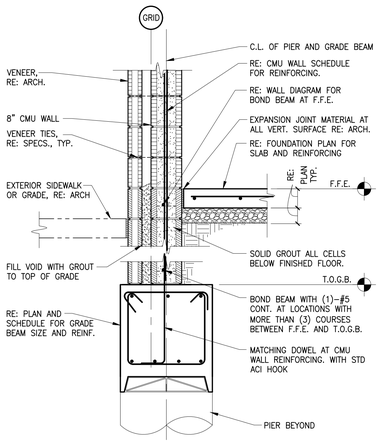
REVISIONS

11.25.25
ISSUE DATE

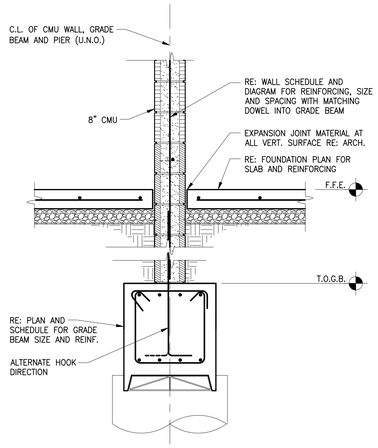
251001 | PROJECT NO
TBS | DRAWN BY
DCM | CHK'D BY

NORTH GYM PLAN AND DETAILS

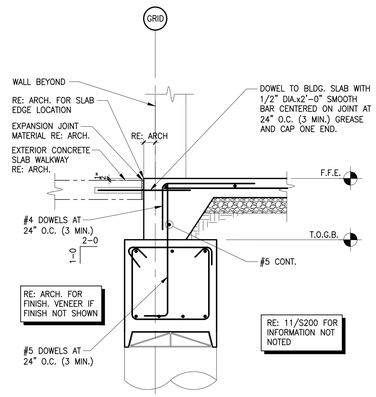
S124
SHEET TITLE



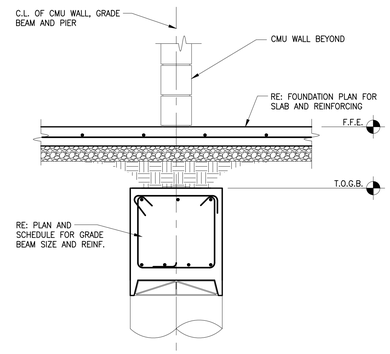
11 EXTERIOR WALL SECTION
3/4" = 1'–0"



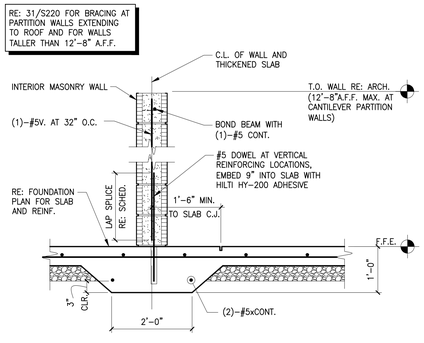
12 INTERIOR GRADE BEAM DETAIL
3/4" = 1'–0"



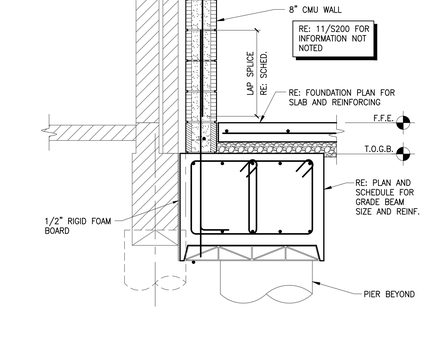
13 SLAB SECTION AT DOORWAY
3/4" = 1'–0"



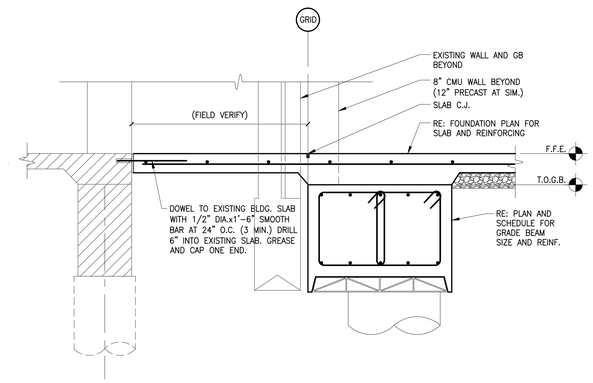
14 SLAB DETAIL AT GRADE BEAM
3/4" = 1'–0"



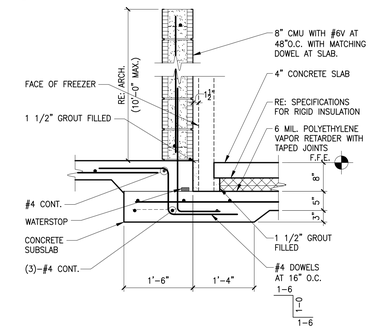
21 INTERIOR PARTITION WALL FOOTING
3/4" = 1'–0"



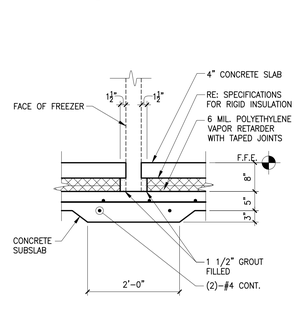
22 SECTION AT EXISTING
3/4" = 1'–0"



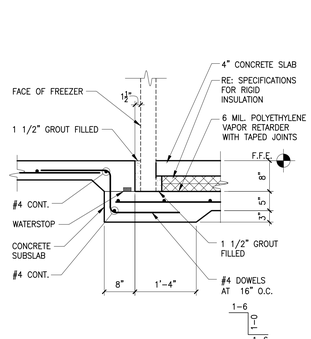
23 SECTION AT DOORWAY TO EXISTING
3/4" = 1'–0"



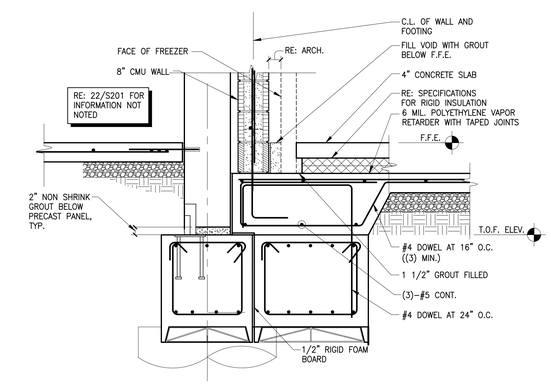
31 INSULATED SLAB SECTION
3/4" = 1'–0"



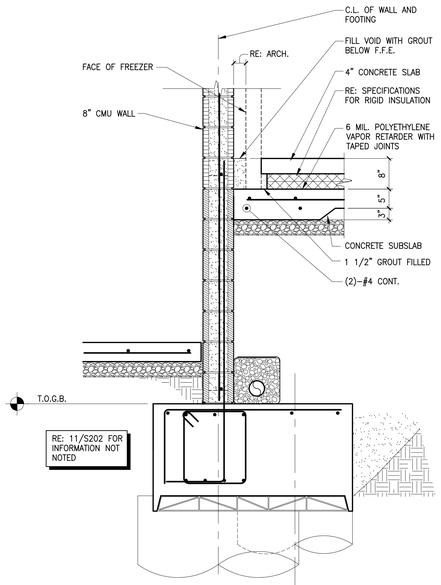
32 INSULATED SLAB SECTION
3/4" = 1'–0"



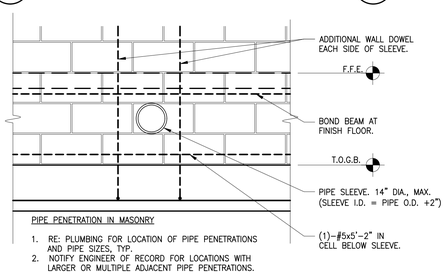
33 INSULATED SLAB SECTION
3/4" = 1'–0"



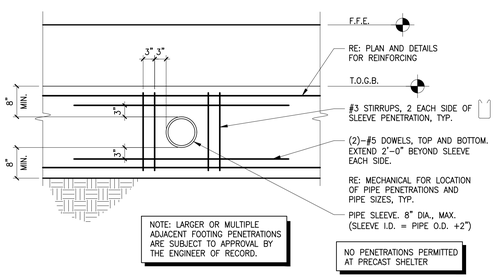
34 INSULATED SLAB SECTION
3/4" = 1'–0"



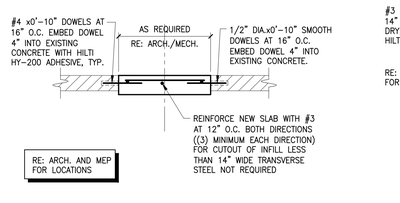
35 INSULATED SLAB SECTION
3/4" = 1'–0"



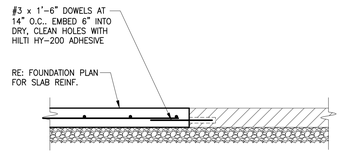
PLUMBING PENETRATIONS AT CMU STEM WALLS
41 3/4" = 1'–0"



42 MECHANICAL PENETRATIONS AT FOUNDATIONS
3/4" = 1'–0"



43 SLAB REPLACEMENT DETAIL
3/4" = 1'–0"



44 SECTION AT EXISTING SLAB
3/4" = 1'–0"

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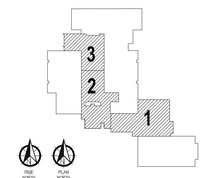
OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS
OWASSO, OK
2025
PROJECT



KEY PLAN

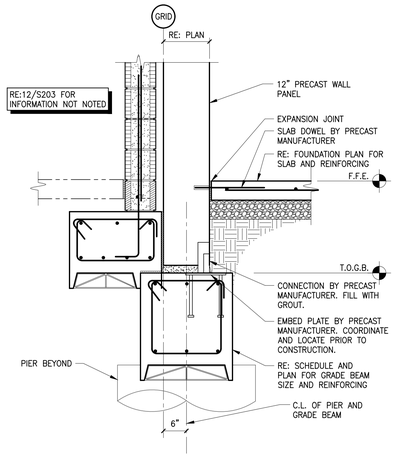
REVISIONS

11.25.25
ISSUE DATE

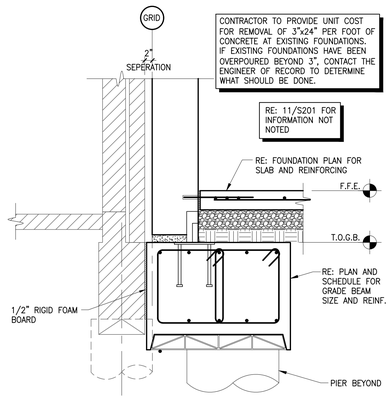
25|008 | PROJECT NO
CHS | DRAWN BY
DCM | CHKD BY

FOUNDATION DETAILS

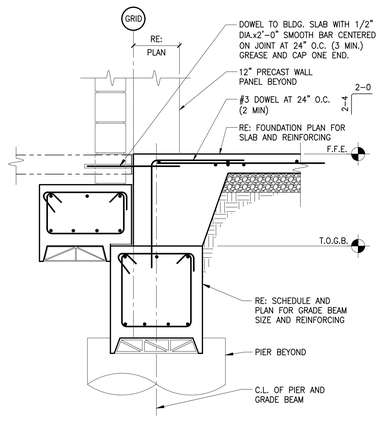
S200
SHEET TITLE



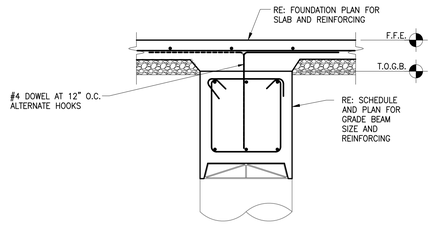
11 FOUNDATION SECTION
3/4" = 1'-0"



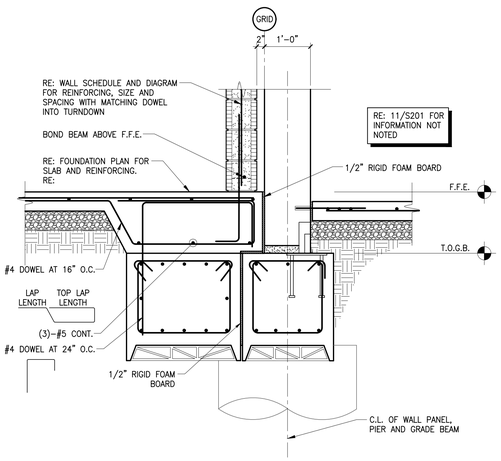
12 SECTION AT EXISTING
3/4" = 1'-0"



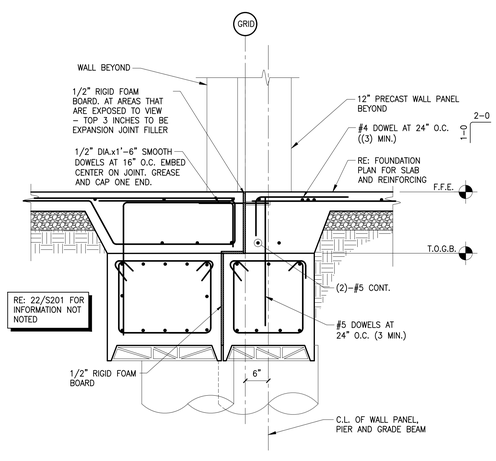
13 SECTION AT DOORWAY
3/4" = 1'-0"



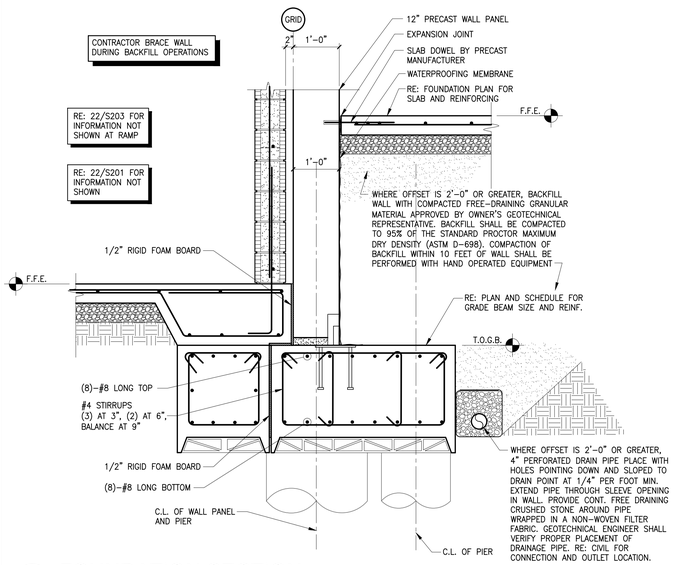
21 SECTION AT GRADE BEAM
3/4" = 1'-0"



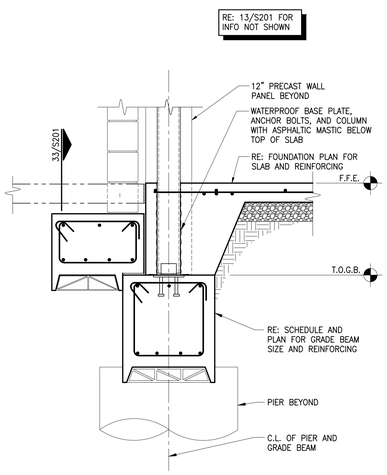
22 FOUNDATION SECTION
3/4" = 1'-0"



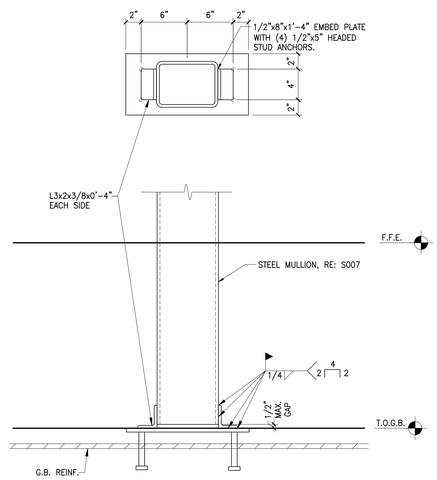
23 FOUNDATION SECTION
3/4" = 1'-0"



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



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



33 SECTION AT DOORWAY
1 1/2" = 1'-0"

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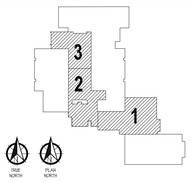
OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS

OWASSO, OK
2025

PROJECT



KEY PLAN

REVISIONS

11.25.25

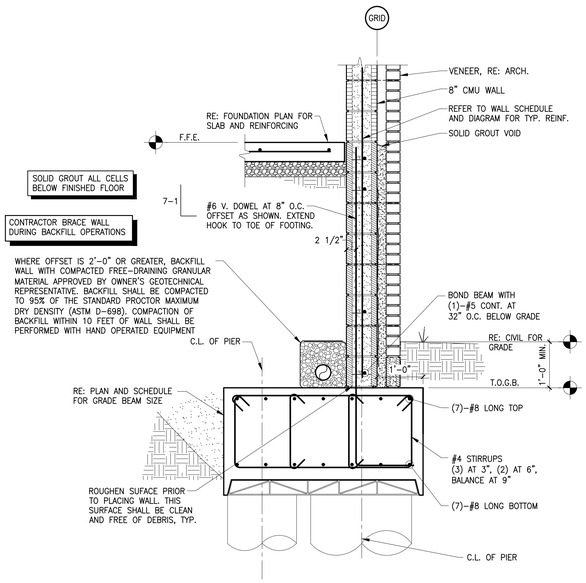
ISSUE DATE

25I001 | PROJECT NO
CHS | DRAWN BY
DCM | CHK'D BY

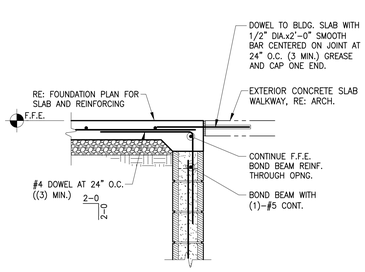
FOUNDATION DETAILS

S201

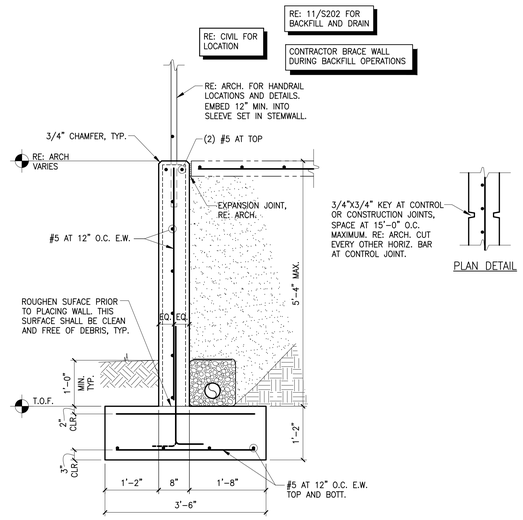
SHEET TITLE



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

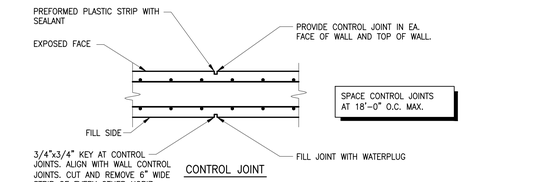


AT SIM.

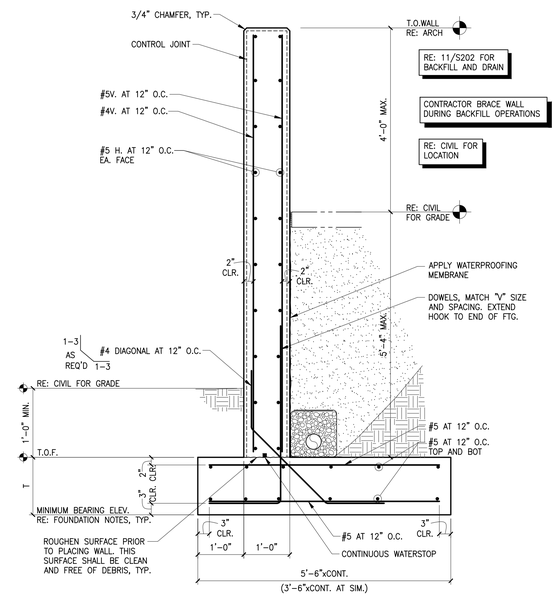


PLAN DETAIL

12 SECTION AT EXTERIOR LANDING AND STAIR
3/4" = 1'-0"



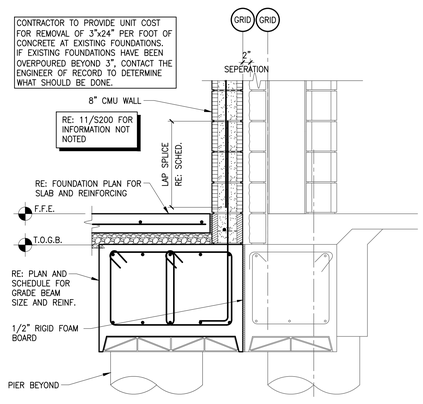
CONTROL JOINT



13 SITE RETAINING WALL
3/4" = 1'-0"

SECTION

21 SECTION AT EXISTING ACTIVITY CENTER
3/4" = 1'-0"



22 SECTION AT EXISTING ACTIVITY CENTER
3/4" = 1'-0"

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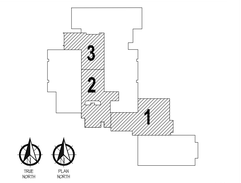
OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS

OWASSO, OK 2025

PROJECT



KEY PLAN

REVISIONS

11.25.25

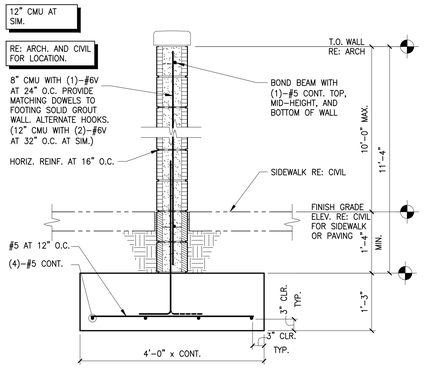
ISSUE DATE

25100I | PROJECT NO
THS | DRAWN BY
DCM | CHKD BY

FOUNDATION DETAILS

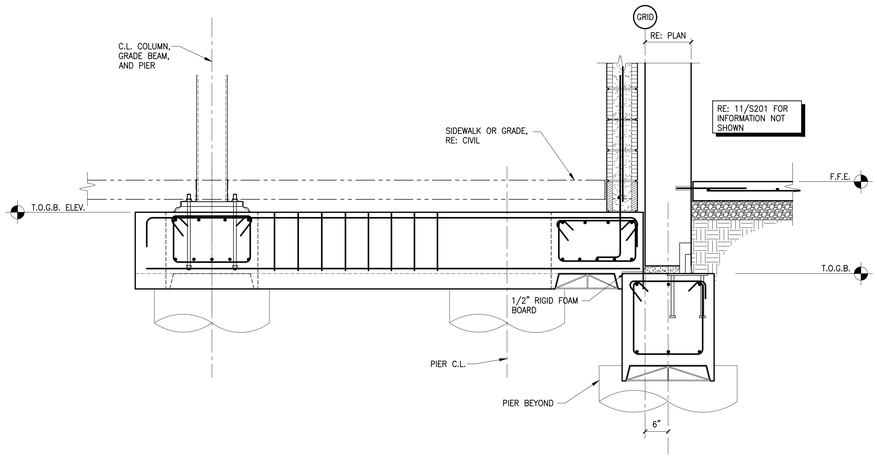
S202

SHEET TITLE



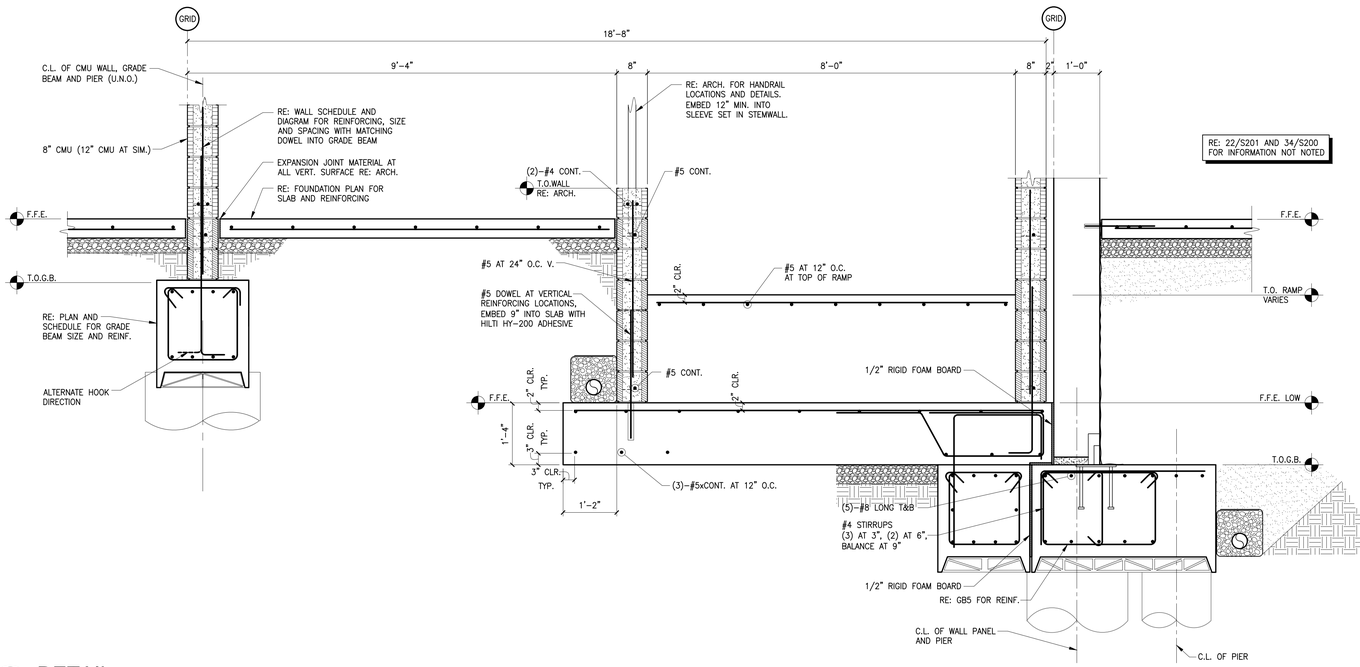
11 SECTION AT FREE STANDING WALL

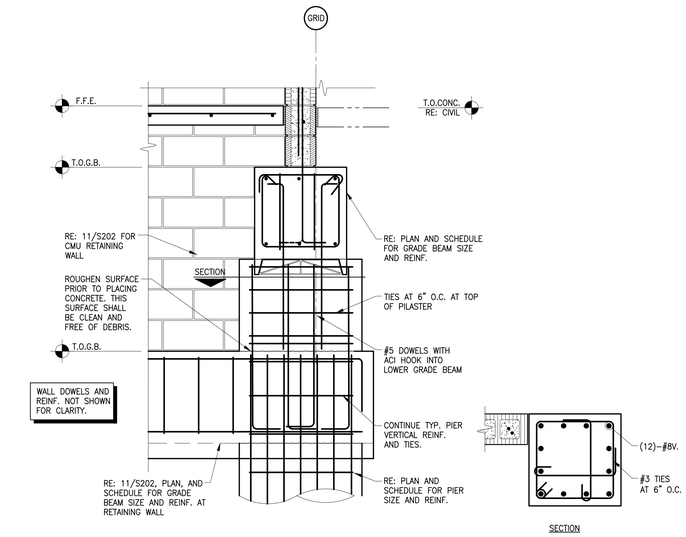
3/4" = 1'–0"



12 CANOPY FOUNDATION SECTION

3/4" = 1'–0"





21 DETAIL

3/4" = 1'–0"

22 DETAIL

3/4" = 1'–0"

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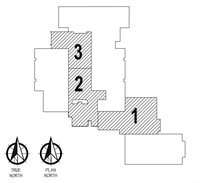
OKLA. C.A. #1460, EXP. 06/30/27

OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS

OWASSO, OK
2025
PROJECT



KEY PLAN

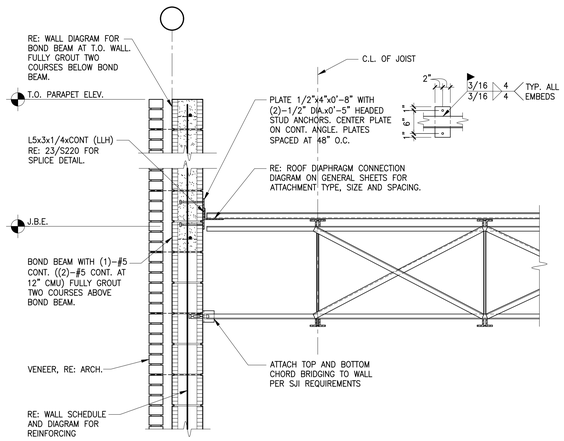
REVISIONS

11.25.25
ISSUE DATE

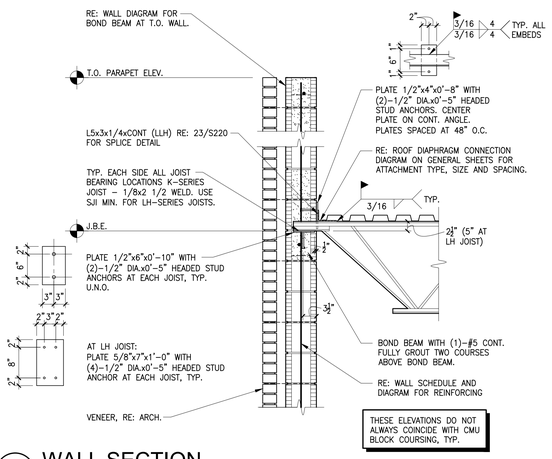
2510081 | PROJECT NO
TJS | DRAWN BY
DCM | CHKD BY

FOUNDATION DETAILS

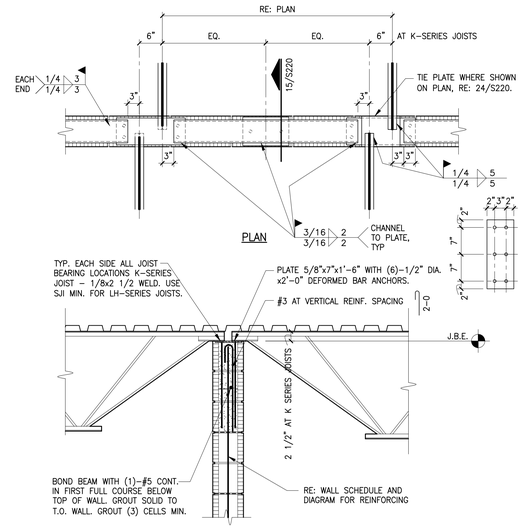
S203
SHEET TITLE



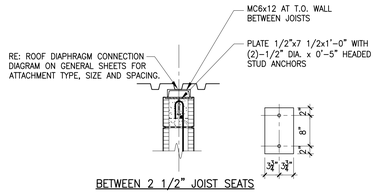
11 WALL SECTION
3/4" = 1'–0"



12 WALL SECTION
3/4" = 1'–0"

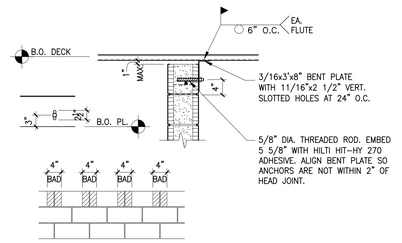


13 SECTION
3/4" = 1'–0"

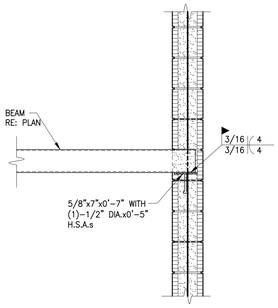


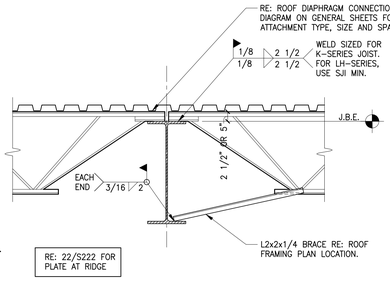
BETWEEN 2 1/2" JOIST SEATS

15 SECTION
3/4" = 1'–0"



14 DECK ALIGNMENT DETAIL
3/4" = 1'–0"

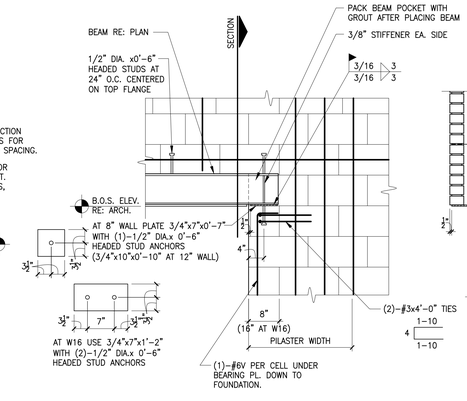




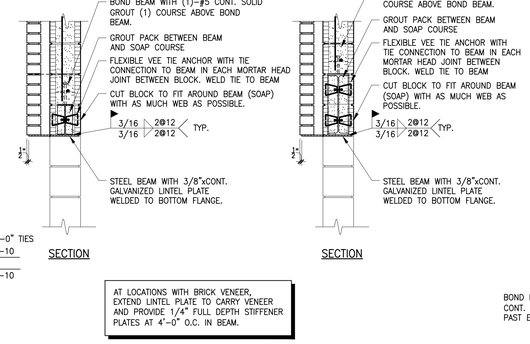
23 SPLICE DETAIL
NO SCALE

21 HEADER BEAM BEARING AT CMU WALL
3/4" = 1'–0"

22 JOIST/BEAM SECTION
3/4" = 1'–0"

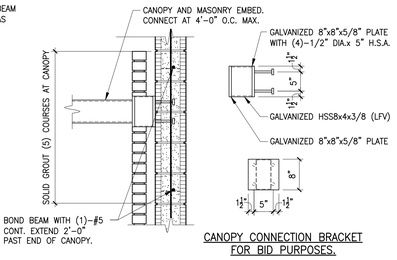


24 BEAM LINTEL DETAIL
3/4" = 1'–0"

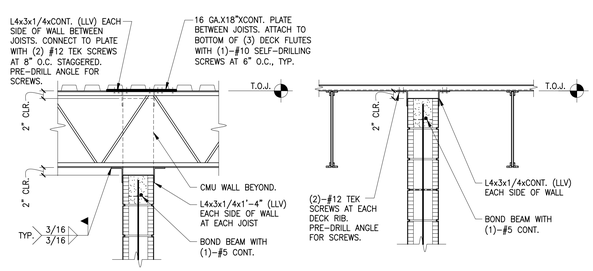


25 CANOPY DETAIL
3/4" = 1'–0"

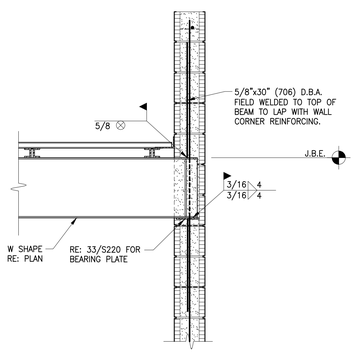
CANOPY MANUFACTURER SHALL SUBMIT WITH DRAWINGS AND CALCULATIONS, DESIGN REACTIONS TO THE STRUCTURE. CONNECTION AND WALL DESIGN AT CANOPY LOCATIONS SHOWN ON THESE CONSTRUCTION DOCUMENTS IS PRELIMINARY AND SHALL NOT BE CONSTRUCTED UNTIL WALLACE DESIGN COLLECTIVE HAS COMPLETED REVIEW AND APPROVED THE FINAL SHOP DRAWINGS FOR PRE–MANUFACTURED CANOPIES



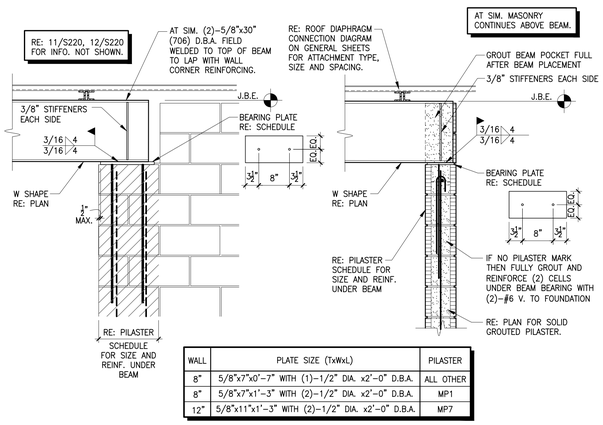
CANOPY CONNECTION BRACKET FOR BID PURPOSES.



31 WALL BRACING DETAIL
3/4" = 1'–0"

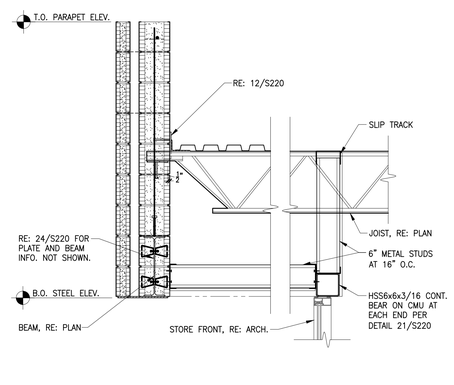


32 BEAM BEARING AT CMU WALL
3/4" = 1'–0"



WALL	PLATE SIZE (TxWxL)	PILASTER
8"	5/8"x7"x0'–7" WITH (1)–1/2" DIA. x2'–0" D.B.A.	ALL OTHER
8"	5/8"x7"x1'–3" WITH (2)–1/2" DIA. x2'–0" D.B.A.	MP1
12"	5/8"x11"x1'–3" WITH (2)–1/2" DIA. x2'–0" D.B.A.	MP7

33 BEAM BEARING DETAIL
3/4" = 1'–0"



34 FRAMING DETAIL
3/4" = 1'–0"

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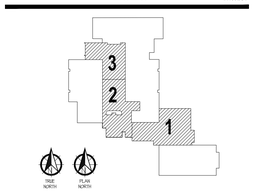
OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS
OWASSO, OK
2025
PROJECT



KEY PLAN

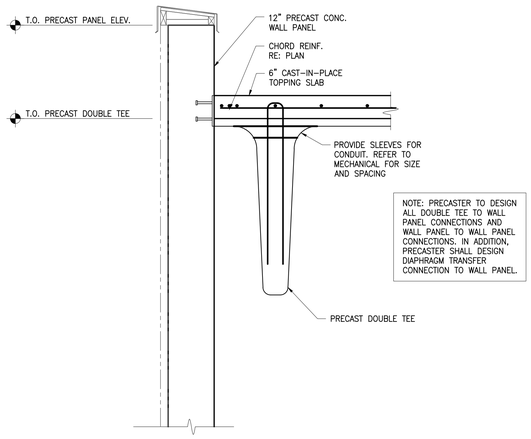
REVISIONS

11.25.25
ISSUE DATE

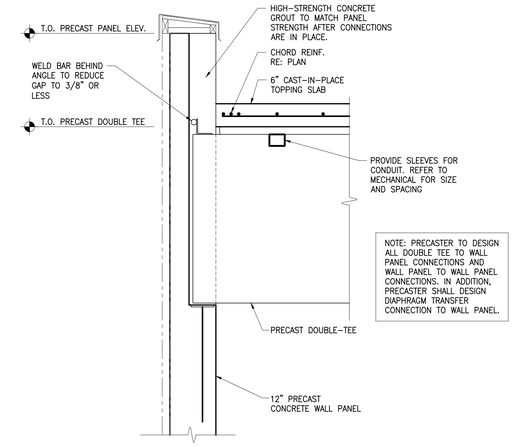
2510081 PROJECT NO
TJBS DRAWN BY
DCM CHKD BY

ROOF FRAMING DETAILS

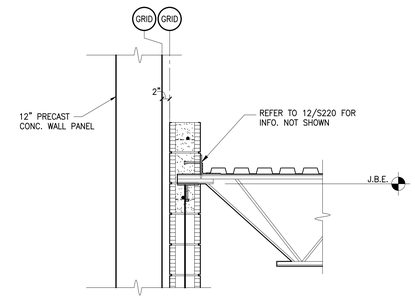
S220
SHEET TITLE



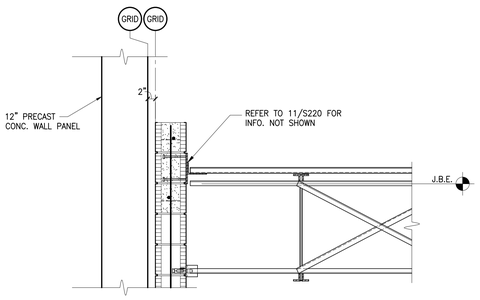
11 DOUBLE-TEE SECTION AT SIDE WALL
3/4" = 1'-0"



12 SECTION AT EXTERIOR BEARING WALL
3/4" = 1'-0"



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



14 ROOF FRAMING DETAIL
3/4" = 1'-0"

21 OPENING PROTECTION FOR MECHANICAL OPENING IN VERTICAL WALL
3/4" = 1'-0"

HEIGHT OF OPENING	DEPTH TO PROTECTION "D" MAX.	LENGTH OF PROTECTION "L"
2"	8"	1'-0"
4"	10"	1'-6"
6"	12"	2'-3"
8"	14"	2'-9"
10"	15"	3'-7"
12"	16"	4'-6"

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

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

24 INTERSECTION
3/4" = 1'-0"

WIDTH OF OPENING 'W' MAX.	DT DEPTH 'D' MAX.	LENGTH OF PROTECTION 'L'
16"	50"	10'-0"
34"	50"	20'-0"
40"	50"	24'-0"
34.5"	48"	20'-0"
50"	48"	30'-0"

31 RTU OPENING DETAIL
3/4" = 1'-0"

32 RTU OPENING DETAIL
3/4" = 1'-0"

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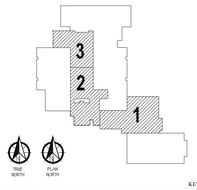
OKLA. C.A. #1460, EXP. 06/30/27

OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS

OWASSO, OK 2025

PROJECT



KEY PLAN

REVISIONS

11.25.25

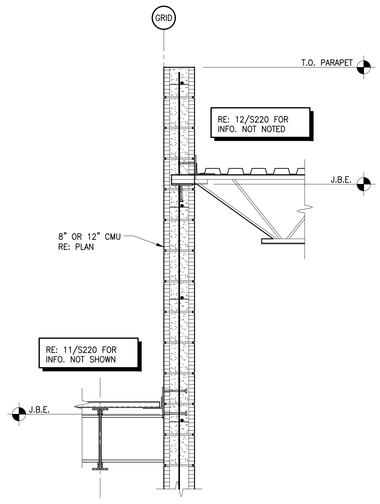
ISSUE DATE

251003 | PROJECT NO
TBS | DRAWN BY
DCM | CHK'D BY

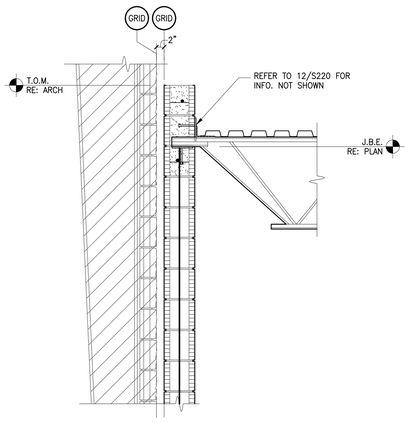
ROOF FRAMING DETAILS

S221

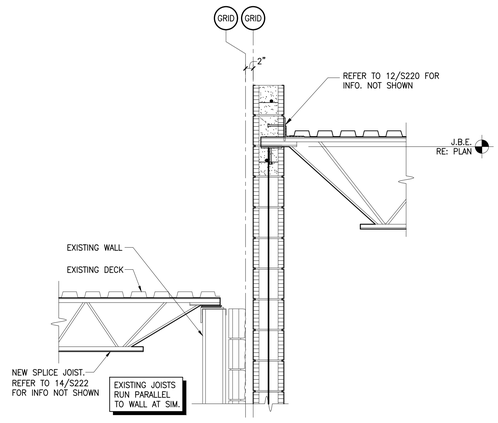
SHEET TITLE



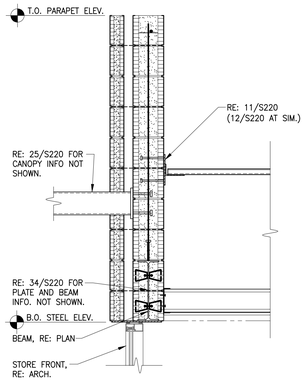
11 ROOF FRAMING DETAIL
3/4" = 1'-0"



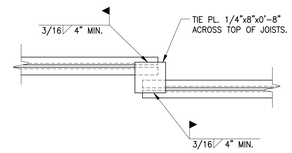
12 SECTION AT EXISTING
3/4" = 1'-0"



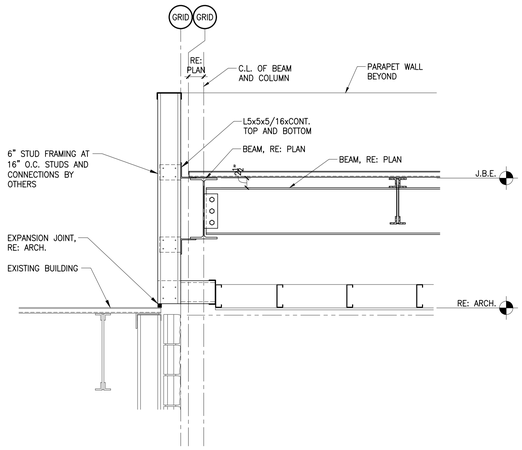
13 SECTION AT EXISTING
3/4" = 1'-0"



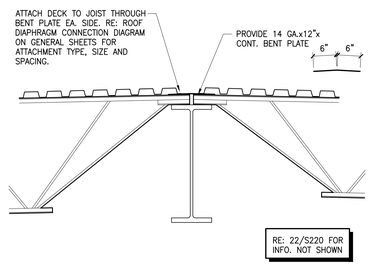
14 FRAMING DETAIL
3/4" = 1'-0"



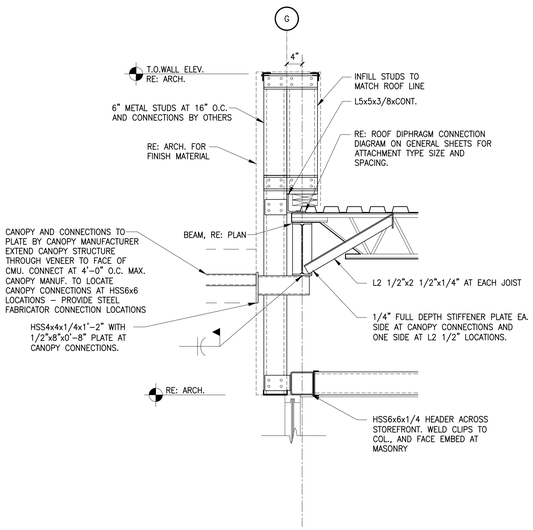
15 TIE PLATE CONNECTION DTL.
3/4" = 1'-0"



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



22 JOIST/BEAM SECTION AT RIDGE
3/4" = 1'-0"



23 ENTRY SECTION
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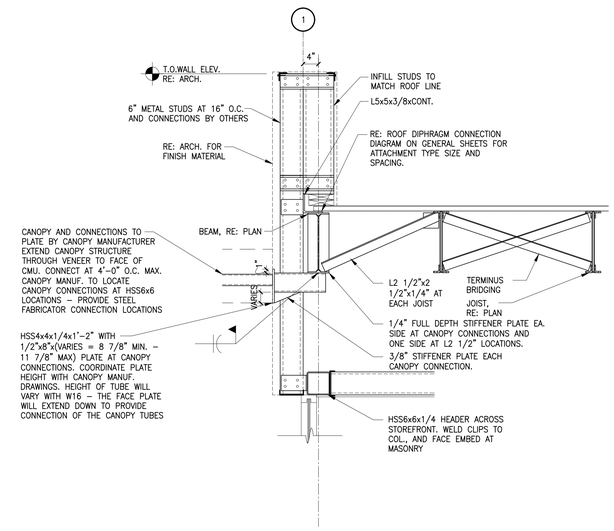

24 ENTRY SECTION
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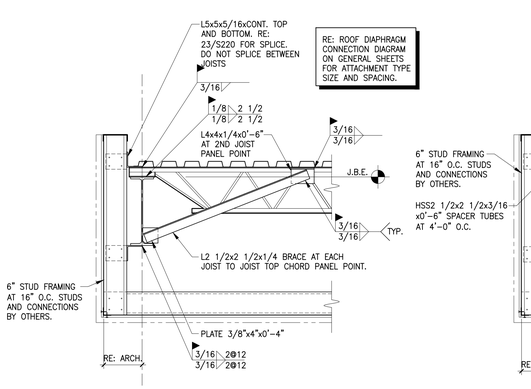
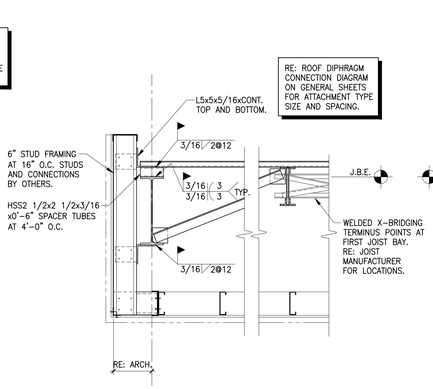
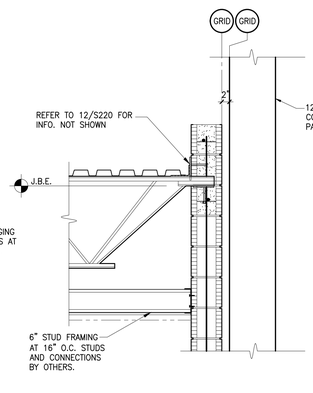


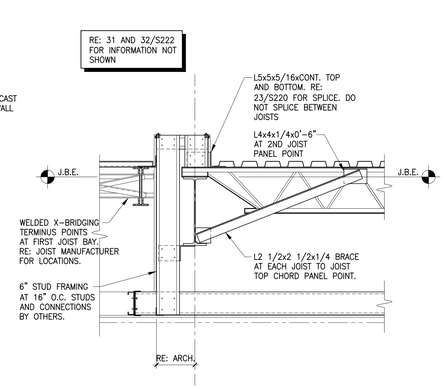
31 CANOPY FRAMING DETAIL
3/4" = 1'-0"



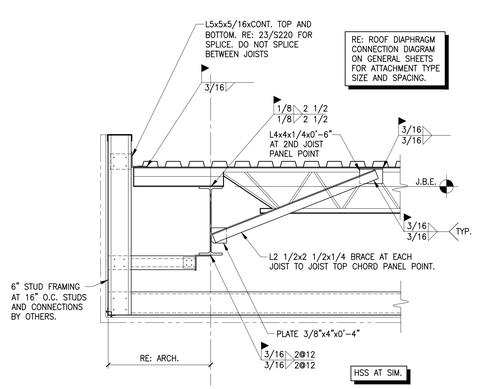
32 CANOPY FRAMING DETAIL
3/4" = 1'-0"



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



34 CANOPY FRAMING DETAIL
3/4" = 1'-0"



35 CANOPY FRAMING DETAIL
3/4" = 1'-0"

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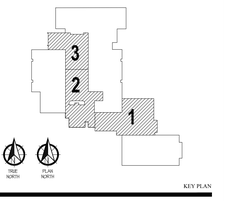
OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS

OWASSO, OK 2025

PROJECT



KEY PLAN

REVISIONS

11.25.25

ISSUE DATE

25100I | PROJECT NO
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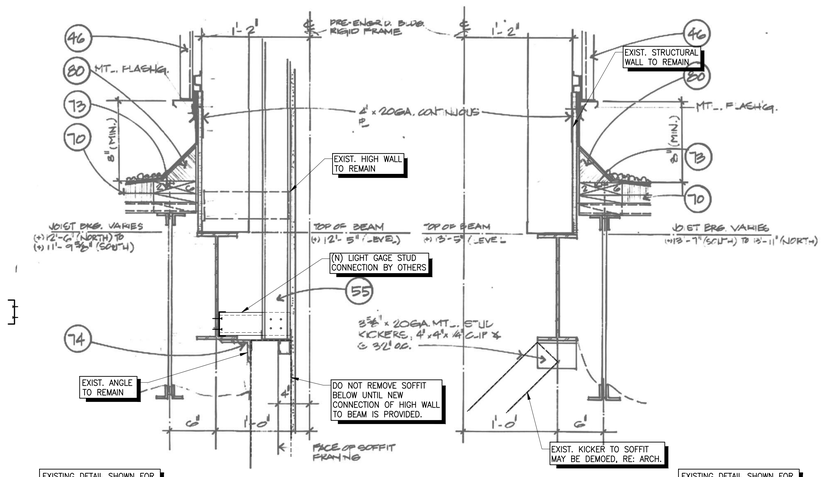
DCM | CHK'D BY

ROOF FRAMING DETAILS

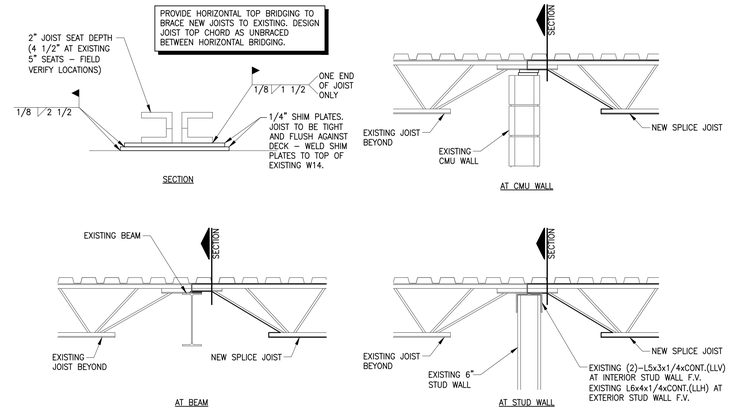
S222

SHEET TITLE



11 SECTION AT EXISTING
3/4" = 1'-0"

12 SECTION AT EXISTING
3/4" = 1'-0"



13 SECTION AT EXISTING
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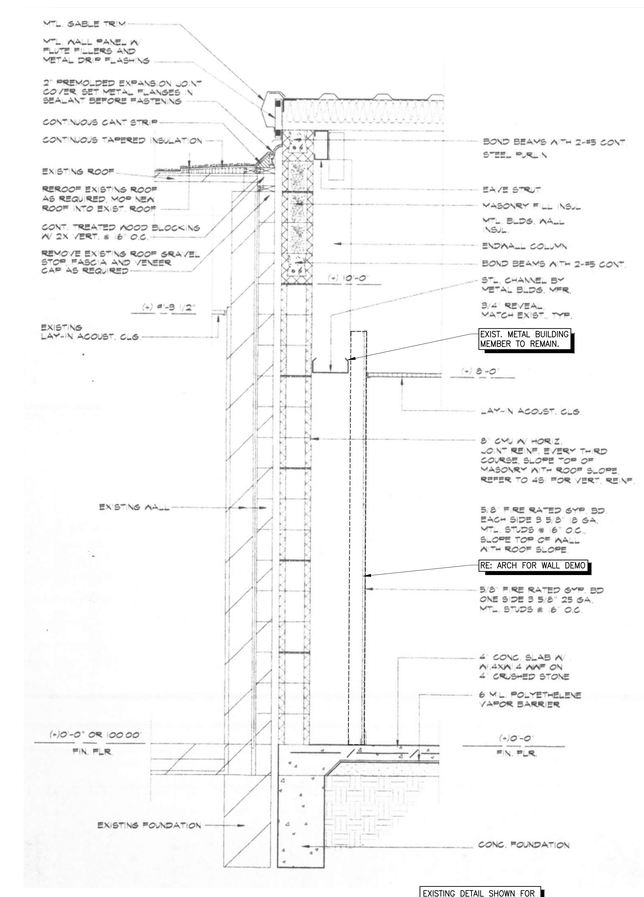

21 SECTION AT EXISTING
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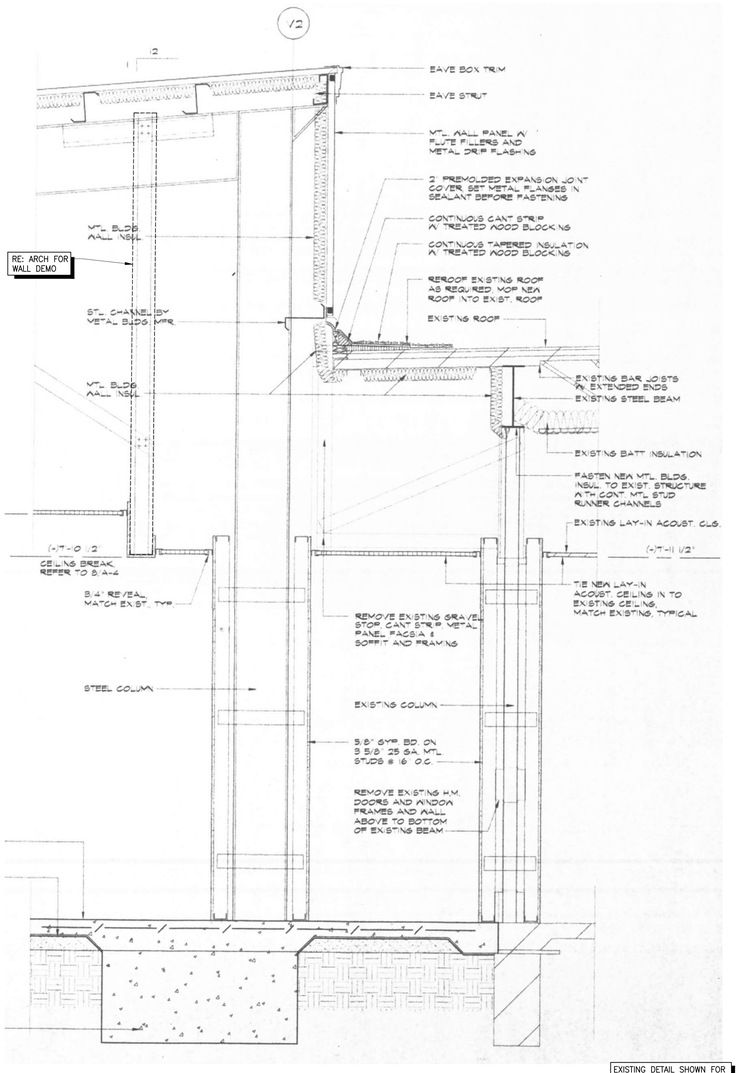

22 SECTION AT EXISTING
3/4" = 1'-0"

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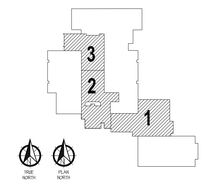
OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS
OWASSO, OK 2025
PROJECT



KEY PLAN

REVISIONS

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25100I | PROJECT NO
THS | DRAWN BY
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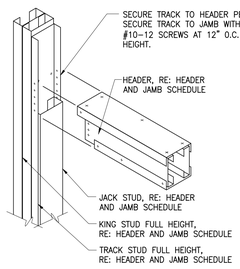
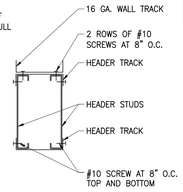
EXISTING DETAILS

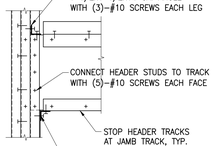
S223
SHEET TITLE



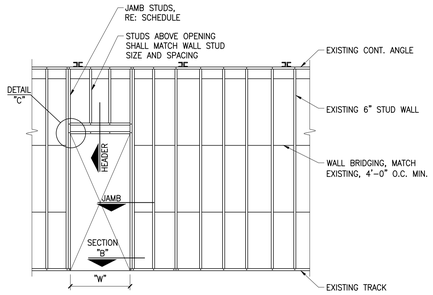
DETAIL "C"



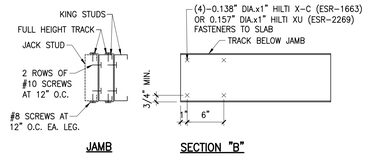
TYPICAL JAMB SCREWS AND WALL STUDS/SCREWS NOT SHOWN FOR CLARITY.



HEADER



LIGHT GAGE STUD DETAIL

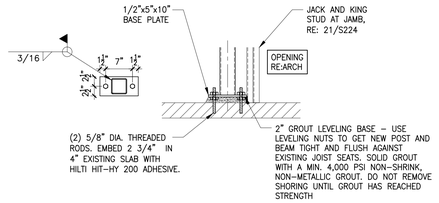


JAMB SECTION "B"

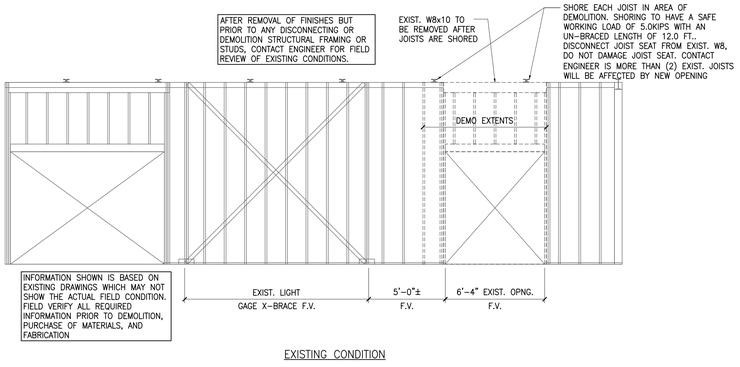
HEADER AND JAMB SCHEDULE							
WALL WIDTH	CLEAR SPAN	HEADER	HEADER TRACK	JACK STUD	KING STUD	FULL HEIGHT TRACK	NOTES
6"	UP TO 3'-4"	(2)-6"x16 GA. (600S162-54)	(2)-6"x16 GA. (600T125-54)	(1)-6"x16 GA. (600S162-54)	(1)-6"x16 GA. (600S162-54)	(1)-6"x20 GA. (600T125-33)	1-4

NOTES:
1. ALL HEADER STUDS SHALL BE UNPUNCHED.
2. ALL STUDS ARE SSMA STUDS, RE: DESIGNATIONS
3. RE: DETAILS FOR ADDITIONAL INFO.
4. 54 MILS (16 GA) AND HEAVIER F_Y = 50 KSI, 43 MILS (18 GA) AND LIGHTER F_Y = 33 KSI
5. FIELD VERIFY EXISTING WALL STUD WIDTH. CONTACT ENGINEER FOR DIRECTION IF STUD WALL DIFFERS FROM WIDTH SHOWN.

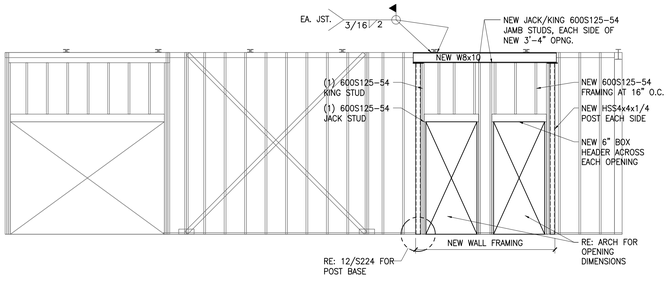
11 LIGHT GAGE HEADER AND JAMB SCHEDULE
3/4" = 1'-0"



12 POST BASE
3/4" = 1'-0"



EXISTING CONDITION



NEW CONDITION

21 LIGHT GAGE HEADER AND JAMB SCHEDULE
N.T.S.

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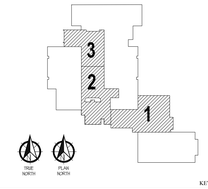
OWASSO 8th GRADE ADDITION

OWASSO PUBLIC SCHOOLS

OWASSO, OK 2025

PROJECT



KEY PLAN

REVISIONS

11.25.25

ISSUE DATE

251001 | PROJECT NO
TBS | DRAWN BY
DCM | CHK'D BY

LIGHT GAGE DETAILS

S224

SHEET TITLE