

STRUCTURAL NOTES:

GENERAL

1. STRUCTURAL NOTES ARE NOT INTENDED TO REPLACE SPECIFICATIONS. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. FOR INCONSISTENCIES STANDARD PRACTICE, THE STRICTER REQUIREMENT SHALL APPLY, AND THE ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.
2. STRUCTURAL CONSTRUCTION DOCUMENTS SHALL BE USED WITH OTHER CONSTRUCTION DOCUMENTS, INCLUDING ARCHITECTURAL, MEP, AND SITE DOCUMENTS. COORDINATE WITH THESE DOCUMENTS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, CHASES, INSERTS, REGLETS, SLEEVES, DEPRESSIONS, ETC., NOT INDICATED ON THE STRUCTURAL DOCUMENTS. ALL DIMENSIONS AND CONDITIONS, EXISTING OR NEW, SHALL BE FIELD VERIFIED. THE ENGINEER SHALL BE NOTIFIED OF DISCREPANCIES PRIOR TO PROCEEDING WITH THE AFFECTED PORTION OF WORK.
3. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE STABILITY AND SAFETY DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF SHEETING, SHORING, TEMPORARY BRACING, GUYS, AND TIEDOWNS. THE CONTRACTOR SHALL PROVIDE SHORING AND BRACING NECESSARY TO PROTECT EXISTING AND ADJACENT STRUCTURES.
4. SECTIONS AND DETAILS SHOWN ON ANY STRUCTURAL DOCUMENTS SHALL BE CONSIDERED TYPICAL FOR SIMILAR CONDITIONS THAT DO NOT HAVE A SPECIFIC SECTION INDICATED, AND SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
5. APPLICABLE FEDERAL, STATE AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED, INCLUDING THE FEDERAL DEPARTMENT OF LABOR OSHA.
6. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON THE STRUCTURE. CONSTRUCTION LOADS SHALL NOT EXCEED THE SPECIFIED DESIGN LIVE LOADS. CONCRETE SLABS AND TOPPINGS SHALL NOT BE LOADED UNTIL THE CONCRETE HAS REACHED AT LEAST 75% OF THE SPECIFIED DESIGN COMPRESSIVE STRENGTH.
7. THE CONTRACTOR'S CONSTRUCTION SEQUENCES SHALL ALLOW FOR THE EFFECTS OF THERMAL MOVEMENTS DURING THE CONSTRUCTION PERIOD, PRIOR TO THE BUILDING BEING ENCLOSED AND TEMPERATURE CONTROLLED. NEGATIVE EFFECTS OF SUCH THERMAL MOVEMENTS, SUCH AS MATERIAL CRACKING, FROST HEAVE, ETC., SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
8. IN THE ABSENCE OF SPECIFIC INSTRUCTIONS TO THE CONTRARY IN THE CONTRACT DOCUMENTS, THE TRADE PRACTICES THAT ARE DEFINED IN ANY CODE OF STANDARD PRACTICE SHALL GOVERN.
9. DO NOT SCALE DRAWINGS TO DETERMINE DIMENSIONS, LOCATIONS, OR SIZES OF ANY ELEMENT.

EXISTING CONDITIONS

1. EXISTING CONDITIONS INDICATED ARE OBTAINED FROM AVAILABLE SOURCES (EXISTING DRAWINGS, FIELD SURVEYS, ETC.) AND ARE NOT GUARANTEED TO BE TRUE AND EXACT. CONTRACTORS SHALL FIELD VERIFY EXISTING CONDITIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.
2. SEE ARCHITECTURAL DRAWINGS FOR EXTENT OF DEMOLITION OF EXISTING CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE DEMOLITION PROCEDURES AND SEQUENCE TO ENSURE STABILITY AND SAFETY DURING DEMOLITION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY SHORING AND BRACING NECESSARY TO SUPPORT AND PREVENT DAMAGE TO REMAINING CONSTRUCTION.

STRUCTURAL DESIGN CRITERIA

1. DESIGN LOADS ARE IN ACCORDANCE WITH THE 2018 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC) INCLUDING LOCAL CODES, WHERE APPLICABLE, AND THE FOLLOWING STANDARDS REFERENCED IN IBC 2018:
ACI 318 - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
ACI 530 - BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
ACI 530.1 - SPECIFICATIONS FOR MASONRY STRUCTURES
ASCE 360 - SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
ASCE 7 - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
2. IBC BUILDING OCCUPANCY CATEGORY: III
3. LIVE LOADS ARE AS FOLLOWS. LIVE LOAD REDUCTIONS HAVE BEEN TAKEN WHERE APPLICABLE, UNO.
ROOF LIVE LOAD 20 PSF
SNOW LOADING IS BASED ON THE FOLLOWING. DRIFTING AND SLIDING SNOW LOADS HAVE BEEN CONSIDERED WHERE APPROPRIATE.
RAIN ON SNOW SURCHARGE WA (Pa > 20 PSF)
GROUND SNOW LOAD, Pg 25 PSF
FLAT ROOF SNOW LOAD 19.25 PSF
SNOW EXPOSURE FACTOR, Ce 1.0
SNOW THERMAL FACTOR, Ct 1.0
SNOW LOAD IMPORTANCE FACTOR, I 1.1
DESIGN SNOW LOAD 30 PSF
5. WIND LOADING IS BASED ON THE FOLLOWING:
BASIC WIND SPEED (3 SEC GUST) 124 MPH
EXPOSURE CATEGORY B
BUILDING CATEGORY: SIMPLE DIAPHRAGM, LOW-RISE, ENCLOSED, RIGID
INTERNAL PRESSURE COEFF. ±0.18

	10 SF	20 SF	50 SF	100 SF
WALLS	25.4, -27.6	24.2, -26.4	22.8, -24.9	21.6, -23.7
WALL CORNERS	25.4, -34.0	24.2, -31.8	22.8, -28.7	21.6, -26.4
ROOF ZONE 1 (0 TO 7)	10.3, -40.5	9.7, -37.8	8.8, -34.3	8.2, -31.6
ROOF ZONE 2 (0 TO 7)	10.3, -53.4	9.7, -50.0	8.8, -45.5	8.2, -42.0
ROOF ZONE 3 (0 TO 7)	10.3, -72.8	9.7, -65.9	8.8, -56.8	8.2, -50.0
6. SEISMIC LOADING IS BASED ON THE FOLLOWING:
SEISMIC IMPORTANCE FACTOR 1.25
SEISMIC SITE CLASS D
SPECTRAL RESPONSE COEFF. (Ss) 0.183g
SPECTRAL RESPONSE COEFF. (S1) 0.043g
SPECTRAL RESPONSE COEFF. (Ss) 0.195g
SPECTRAL RESPONSE COEFF. (Ss) 0.076
LONG PERIOD TRANSITION (T) 6
SEISMIC DESIGN CATEGORY B
ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE
BASIC STRUCTURAL SYSTEM BEARING WALL & BUILDING FRAME
SEISMIC FORCE RESISTING SYSTEM STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE & INTERMEDIATE REINFORCED MASONRY SHEARWALLS
7. LATERAL EARTH PRESSURES ON RETAINING AND BASEMENT WALLS ARE BASED ON THE FOLLOWING PRESUMPTIVE LOADING TO BE VERIFIED DURING CONSTRUCTION:
EQUIVALENT AT-REST FLUID PRESSURE (BASEMENT) 60 PSF
EQUIVALENT ACTIVE FLUID PRESSURE (CANTILEVERED) 45 PSF
EQUIVALENT PASSIVE FLUID PRESSURE 360 PSF
COEFFICIENT OF FRICTION 0.40
COHESION NA
8. DESIGN REACTIONS AND SUPPORT DETAILS FOR ELEVATOR, ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING EQUIPMENT ARE BASED UPON AVAILABLE MANUFACTURER INFORMATION. SUPPORT CONDITIONS MAY NEED TO BE REVISED BASED UPON ACTUAL SUPPLIED EQUIPMENT AND SUPPORT DETAILS.
9. ROOF STEEL JOISTS SHALL BE DESIGNED FOR A FACTORED NET UPLIFT OF 15 PSF.

IBC SPECIAL INSPECTIONS

1. REINFORCED CONCRETE TESTS AND SPECIAL INSPECTIONS ARE REQUIRED BY THE INTERNATIONAL BUILDING CODE AND SHALL BE PERFORMED ON THIS PROJECT IN ACCORDANCE WITH REQUIREMENTS OF IBC CHAPTER 17, "STRUCTURAL TESTS AND SPECIAL INSPECTIONS."
2. AS REQUIRED BY IBC, THE STRUCTURAL TESTS AND SPECIAL INSPECTIONS SHALL BE PERFORMED BY AN INDEPENDENT, APPROVED AGENCY, EMPLOYED BY THE OWNER.
3. COPIES OF ALL REPORTS DOCUMENTING THE SPECIAL INSPECTIONS AND TESTS PERFORMED BY THE INSPECTING AGENT SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD (BAKER, INGRAM & ASSOCIATES).
4. SPECIAL INSPECTIONS SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
FABRICATOR INSPECTION: WHERE FABRICATION OF LOAD-BEARING MEMBERS AND ASSEMBLIES (SUCH AS STRUCTURAL STEEL, LIGHT-GAGE STEEL TRUSSES, ETC.) IS PERFORMED ON THE PREMISES OF A FABRICATOR'S SHOP, SPECIAL INSPECTION SHALL BE PROVIDED TO VERIFY FABRICATION AND QUALITY CONTROL PROCEDURES, IN ACCORDANCE WITH IBC SECTION 1704.2.5.
CONCRETE CONSTRUCTION: SPECIAL INSPECTIONS AND VERIFICATIONS SHALL CONFORM TO IBC SECTION 1705.3 AND TABLE 1705.3 "REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION."
MASONRY CONSTRUCTION: SPECIAL INSPECTIONS AND EVALUATION SHALL CONFORM TO IBC SECTION 1705.4.
STEEL CONSTRUCTION: SPECIAL INSPECTIONS SHALL CONFORM TO IBC SECTION 1705.2, ASCE 360-10, S01 QA/QC AND TABLE 1705.2.3 "REQUIRED SPECIAL INSPECTIONS OF OPEN-WEAVE STEEL JOISTS AND JOIST GRIDERS." STEEL CONSTRUCTION INCLUDES STRUCTURAL STEEL, STEEL JOISTS, STEEL FLOOR, ROOF DECK, AND COLD-FORMED STEEL FRAMING.
SOILS: SPECIAL INSPECTIONS AND EVALUATION SHALL CONFORM TO IBC SECTION 1705.6 AND TABLE 1705.6 "REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOIL."

TYPICAL DETAILS

1. TYPICAL DETAILS APPLY AT ALL APPROPRIATE LOCATIONS.
2. TYPICAL DETAILS ARE GENERALLY NOT CUT ON THE PLANS.
3. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL TYPICAL DETAIL APPLICATIONS.

FOUNDATIONS

1. FOUNDATIONS HAVE BEEN DESIGNED BASED ON A PRESUMPTIVE BEARING CAPACITY OF 2 KSF. PRESUMPTIVE BEARING CAPACITY SHALL BE VERIFIED PRIOR TO PLACING FOUNDATIONS.
2. SPREAD FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL HAVING A MINIMUM SAFE BEARING CAPACITY OF 2 KSF (PRESUMPTIVE).
3. THE BOTTOMS OF EXTERIOR FOOTINGS SHALL BE 36" MINIMUM BELOW FINISH GRADE.
4. EDGES OF FOOTINGS SHALL NOT BE PLACED AT A GREATER THAN 1 (VERTICAL) TO 2 (HORIZONTAL) SLOPE WITH RESPECT TO ANY ADJACENT FOOTING OR EXCAVATION.
5. ADJACENT COLUMN FOOTINGS THAT ABUT SHALL BE SEPARATED BY A PAPER JOINT.
6. FOUNDATION CONCRETE SHALL BE NORMAL WEIGHT HAVING A MINIMUM 28 DAY DESIGN COMPRESSIVE STRENGTH AS FOLLOWS:
SPREAD FOOTINGS 3000 PSI
WALLS & PIERS 4000 PSI
SLAB-ON-GRADE (INTERIOR) 3500 PSI
SLAB-ON-GRADE (EXTERIOR) 5000 PSI (0.40 WIC MAX; F3 EXPOSURE CLASS)
7. PROVIDE AIR-ENTRAIMENT IN ALL CONCRETE EXPOSED TO FREEZE-THAW CONDITIONS DURING THE CONSTRUCTION PRIOR AND/OR IN THE COMPLETED STRUCTURE.

FOUNDATION SUBGRADE PREPARATION REQUIREMENTS

1. A GEOTECHNICAL ENGINEER, LICENSED IN THE JURISDICTION WHERE THE PROJECT IS LOCATED, SHALL OBSERVE, REVIEW, AND APPROVE ALL WORK RELATED TO EXCAVATION, BACKFILL, COMPACTION, SUBGRADE AND SUBBASE PREPARATION AND MATERIAL SELECTION.
2. THE BUILDING SITE SHALL BE STRIPPED OF ANY TOPSOIL, ORGANIC MATTER, VEGETATION, FILL MATERIALS, AND OTHERWISE UNSUITABLE OR SOFT SUBGRADE MATERIALS.
3. UNSUITABLE MATERIALS SHALL BE EXCAVATED DOWN TO RESIDUAL SOIL ELEVATIONS.
4. SOIL BEARING ELEVATIONS SHALL BE VERIFIED BY THE GEOTECHNICAL ENGINEER PRIOR TO BACKFILLING EXCAVATIONS OR CONSTRUCTING FOUNDATIONS.
5. WHERE ROCK IS ENCOUNTERED WITHIN 12 INCHES OF FOUNDATION BEARING ELEVATION (SUBGRADE SHALL BE PROBED TO DETERMINE THIS), UNDERCUT ROCK BY 12 INCHES MIN. BELOW BEARING ELEVATION AND REPLACE WITH COMPACTED STRUCTURAL FILL.
6. AT SLAB-ON-GRADE AREAS, FOLLOWING STRIPPING, THE SUBGRADE SHALL BE PROFFERED WITH A LOADED TANDEM AXLE DUMP TRUCK OR TEN-TON ROLLER UNDER OBSERVATION OF THE GEOTECHNICAL ENGINEER. AREAS WHICH EXHIBIT EXCESSIVE PUMPING OR WEAVING, AS DETERMINED BY THE GEOTECHNICAL ENGINEER, SHALL BE REMOVED AND REPLACED WITH NEW COMPACTED STRUCTURAL FILL.
7. COMPACTED FILL SHALL BE USED TO RAISE EXISTING GRADES TO THE PROPOSED NEW ELEVATIONS WHERE REQUIRED.
8. UNDER SLAB DRAINS, CONSISTING OF A 4 INCH WASHED GRAVEL OR CRUSHED STONE DRAINAGE LAYER (CORRESPONDING TO PA DOT 2B), SHALL BE USED BENEATH THE CONCRETE SLAB-ON-GRADE.

TEMPORARY SHORING SYSTEMS

1. CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, ERECTION, MAINTENANCE, AND MONITORING OF SUPPORT AND UNDERPINNING SYSTEM TO SAFELY COMPLETE THE PERMANENT WORKS, TO PREVENT DAMAGE TO EXISTING BUILDINGS, AND TO PERMANENTLY SUPPORT EXISTING BUILDING ELEMENTS ADJACENT TO THE NEW WORK.
2. CONTRACTOR SHALL ENGAGE AND ASSIGN SUPERVISION OF SUPPORT AND UNDERPINNING SYSTEM TO A QUALIFIED PROFESSIONAL ENGINEER FOUNDATION CONSULTANT.
3. THE SUPPORT AND SHORING SYSTEM SHALL BE SELECTED, DESIGNED AND SUPERVISED BY THE QUALIFIED PROFESSIONAL ENGINEER, ENGINEER SHALL BE LEGALLY AUTHORIZED TO PRACTICE IN JURISDICTION WHERE PROJECT IS LOCATED.
4. SUPPORT INCLUDES THE FACILITIES REQUIRED TO PREVENT MOVEMENT OF EXISTING STRUCTURES UNTIL COMPLETION OF THE NEW PERMANENT SUPPORT. INCLUDE NEEDLING, SHORING, PROPPING, BRACING, CRIBBING AND SHEETING.
5. SUBMIT CERTIFICATION LETTER SIGNED AND SEALED BY THE CONSULTANT CERTIFYING THAT THE SUPPORT AND SHORING SYSTEM AS DESIGNED AND INSTALLED ARE IN COMPLIANCE WITH THE REQUIREMENTS AND GOVERNING CODES AND WILL NOT PRODUCE DAMAGING SETTLEMENTS IN THE EXISTING BUILDING STRUCTURES.

CONCRETE REINFORCING

1. REINFORCED CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318.
2. CONCRETE REINFORCING SHALL CONFORM TO THE FOLLOWING DESIGNATIONS:
DEFORMED BARS ASTM A615, GRADE 60
DEFORMED BARS (WELDABLE) ASTM A706
WELDED WIRE FABRIC ASTM A1064
3. LAP DEFORMED BARS 40 DIA., U.N.O. PROVIDE CORNER AND L BARS AT CORNERS AND INTERSECTIONS. REINFORCING INDICATED AS CONTINUOUS SHALL BE LAPPED. HOOKS SHALL BE STANDARD HOOKS, U.N.O. LAP WELDED WIRE FABRIC SUCH THAT THE OVERLAP OF THE OUTERMOST CROSS-WIRES OF EACH ADJOINING SHEET IS NOT LESS THAN THE SPACING OF THE CROSS-WIRES PLUS TWO IN. U.N.O.
4. PROVIDE CONTINUOUS REINFORCEMENT WHEREVER POSSIBLE, SPLICE ONLY AS SHOWN OR APPROVED. STAGGER SPLICES WHERE POSSIBLE. USE TENSION SPLICE CLASS "B" U.N.O. DOWELS SHALL MATCH THE SIZE AND SPACING OF THE SPECIFIED REINFORCEMENT AND SHALL BE LAPPED WITH TENSION SPLICES.
5. CONCRETE PROTECTION FOR REINFORCEMENT:
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER: 2 IN.
#6 THROUGH #18 BARS 1 1/2 IN.
#5 BAR OR SMALLER 1 1/2 IN.
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
SLABS, WALLS, JOISTS: #14 AND #18 BARS 1 1/2"
#11 AND SMALLER 3/4"
BEAMS, COLUMNS, PIERS: 1 1/2"
6. REINFORCING FOR SLABS ON GRADE, WHERE NOT OTHERWISE SPECIFIED, SHALL BE AS FOLLOWS:
REINFORCING BARS: SEE FOUNDATION AND TYPICAL DETAILS. AT SLAB BLOCKOUT AND RE-ENTRANT CORNERS, PROVIDE 2#4 X 4'-0" DIAGONALS.
WIRE MESH: 6x6 W2.5XW2.9 WWF. REINFORCING SHALL BE SUPPORTED PRIOR TO THE POUR AT MID-DEPTH OF SLAB.
SYNTHETIC FIBER: FIBERGLASS POLYPROPYLENE, IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. REINFORCING FOR CONCRETE TOPPING, WHERE NOT OTHERWISE SPECIFIED, SHALL BE AS FOLLOWS:
REINFORCING BARS: SEE FRAMING AND TYPICAL DETAILS. AT OPENINGS AND RE-ENTRANT CORNERS, PROVIDE 2#4 X 4'-0" DIAGONALS.
WIRE MESH: 6x6 W2.5XW2.9 WWF. REINFORCING SHALL BE SUPPORTED 1" BELOW THE TOP OF SLAB PRIOR TO THE POUR.
8. DETAILING OF CONCRETE REINFORCING AND ACCESSORIES SHALL CONFORM TO ACI DETAILING MANUAL MNL-66, AND WITH ACI 315, MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCING CONCRETE STRUCTURES.

CONCRETE SLABS ON GRADE

1. GEOTECHNICAL ENGINEER SHALL OBSERVE AND APPROVE SUBGRADE BEFORE CONCRETE PLACEMENT.
2. DO NOT PLACE CONCRETE SLABS ON FROZEN GROUND.
3. CONTROL JOINTS ARE REQUIRED IN CONCRETE SLABS-ON-GRADE. REFER TO PLANS AND TYPICAL DETAILS FOR THE JOINT CONSTRUCTION, LOCATIONS, AND SPACING REQUIREMENTS.
4. PROVIDE (2) #4 X 4'-0" LONG BARS DIAGONALLY AT ALL RE-ENTRANT CORNERS.
5. COORDINATE LOCATION AND DIMENSIONS OF RECESSED SLABS.

CONCRETE MASONRY

1. CONCRETE MASONRY CONSTRUCTION SHALL CONFORM TO ACI 530 AND 530.1.
2. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE MASONRY, Fm, SHALL BE 1500 PSI. (MIN. NET AREA COMPRESSIVE STRENGTH OF UNIT = 2000 PSI.)
3. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90.
4. CONCRETE MASONRY REINFORCING SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60.
5. DEFORMED BAR ANCHORS (DBA) SHALL CONFORM TO ASTM A496. DBA SHALL BE WELDED BY AUTOMATIC EQUIPMENT.
6. GROUT SHALL CONFORM TO THE PROPORTIONAL REQUIREMENTS OF ASTM C476. PROVIDE FINE AND COARSE GROUTS APPROPRIATE FOR THE SIZE OF VOID SPACE BEING FILLED. GROUT SHALL HAVE A MINIMUM SLUMP OF 8 INCHES ACHIEVED THROUGH SUFFICIENT WATER CONTENT. WATER REDUCING AND OTHER ADJUTIVES ARE NOT PERMITTED IN GROUT.
7. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI.
8. MORTAR SHALL CONFORM TO ASTM C270, TYPE M OR S, PCL OR MORTAR CEMENT. THE USE OF MASONRY CEMENT IS NOT PERMITTED.
9. REINFORCING VOIDS, AND NON-REINFORCING VOIDS SPECIFIED TO BE GROUTED, IN CONCRETE MASONRY SHALL BE FILLED SOLID WITH GROUT IN 5 FT. MAXIMUM UPLIFTS, FOUR POURS 1 1/2 INCHES BELOW THE BED JOINT TO FORM A KEY AT POUR JOINTS.
10. USE SQUARE ENDED BLOCK TO ENSURE REINFORCED VOIDS ALIGN VERTICALLY.
11. REINFORCED BARS SHALL BE TIED TO DOWELS AND YIELD IN THE PROPER POSITION BY MECHANICAL BAR POSITIONERS DESIGNED FOR THAT PURPOSE.
12. REINFORCING SHALL NOT BE PLUNGED INTO WET GROUT.
13. LAP UNCOATED, DEFORMED BARS 48 BAR DIAMETERS, INCREASE SPECIFIED LAP LENGTHS 50% FOR EPOXY COATED BARS.
14. CONCRETE MASONRY SHALL BE LAID IN RUNNING BOND, UNO. PLASTERS SHALL BE BONDED, UNO.
15. LOAD BEARING CMU SHALL HAVE FULL MORTAR BED JOINTS.
16. PROVIDE LADDER-TYPE HORIZONTAL JOINT REINFORCEMENT AS FOLLOWS:
TYPICAL: 16 IN. O.C. MAX, UNO.
AT BELOW GRADE WALLS: PROVIDE AT 8' O.C.
AT PARAPETS: PROVIDE AT 8' O.C.
AT WALL OPENINGS: PROVIDE ADD'L REINF. NOT MORE THAN 8 IN. ABOVE AND BELOW OPENING. TERMINATE 2 FT. BEYOND OPENING.
17. PROVIDE VERTICAL CONTROL JOINTS IN WALLS AT 24 FT. O.C. MAX, U.N.O.
18. ALL CMU WALLS SHALL BE DOWELED TO SUPPORTING SLABS WITH MINIMUM #4#48 HOOKED DOWELS, UNO. ALL CMU WALLS SUPPORTED DIRECTLY ON STEEL MEMBERS SHALL BE ANCHORED WITH 1/2" DIAMETER X 4" STUD ANCHORS AT 32" O.C. OR WITH #4 X 2'-0" DBAS AT 48" O.C., UNO.
19. THE TOPS OF ALL NON-LOAD BEARING CMU WALL SHALL BE BRACED ACCORDING TO SPECIFIC SECTIONS AND/OR TYPICAL DETAILS.
20. PROVIDE BOND BEAMS FOR WALL THICKNESS AND HEIGHTS AS FOLLOWS:
BOND BEAM UNITS SHALL BE OPEN CELL UNITS THAT PERMIT VERTICAL REINFORCING TO PASS THROUGH.
6" CMU: UP TO 12 FT.: 1#5
UP TO 16 FT.: 1#6
8" CMU: UP TO 16 FT.: 2#5
UP TO 24 FT.: 2#6
10" & 12" CMU UP TO 12 FT.: 2#5
UP TO 24 FT.: 2#6
UP TO 32 FT.: 2#7
14" & 16" CMU UP TO 12 FT.: 3#5
UP TO 24 FT.: 3#6
UP TO 32 FT.: 3#7

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING DESIGNATIONS:
STRUCTURAL STEEL WF SHAPES ASTM A992
OTHER STRUCTURAL STEEL SHAPES ASTM A36, UNO
STEEL BARS, ANGLES AND PLATES ASTM A36, UNO
STIFF PLATES IN MOMENT CONNECTIONS ASTM A572, UNO
SQUARE & RECTANGULAR HSS ASTM A500, GRADE C
2. STRUCTURAL STEEL DESIGN IS AND SHALL BE BASED UPON AISC'S ASD METHOD.
3. BOLTS SHALL BE MINIMUM 3/4 IN. DIA. AND SHALL CONFORM TO THE FOLLOWING DESIGNATIONS, UNO:
HIGH STRENGTH BOLTS ASTM F3125/A325 AND/OR A490
ANCHOR RODS ASTM F1554, GRADE 36
4. BOLTED CONNECTIONS SHALL CONFORM TO RCSC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS".
5. WELDING, WELDING ELECTRODES, AND FLUXES SHALL CONFORM TO AWS D1.1 "STRUCTURAL WELDING CODE - STEEL". ELECTRODES SHALL HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI.
6. GROUT UNDER STEEL COLUMNS OR POST BASEPLATES SHALL BE NON-METALLIC, SHRINKAGE RESISTANT GROUT CONFORMING TO ASTM C1107 AND HAVING A MINIMUM DESIGN COMPRESSIVE STRENGTH OF 5000 PSI. GROUT UNDER STEEL BEAM BEARING PLATES IN CONCRETE OR MASONRY WALLS SHALL CONFORM TO ASTM C476.
7. HIGH STRENGTH BOLTED CONNECTIONS SHALL BE TIGHTENED TO THE SNUG-TIGHT CONDITION, UNO.
8. HIGH STRENGTH BOLTS IN CONNECTIONS USED FOR KICKERS, BRACING MEMBERS OR MOMENT CONNECTIONS THAT ARE FABRICATED WITH SLOTTED HOLES SHALL BE SUB-CRITICAL. IF STANDARD HOLES ARE USED, BOLTS SHALL BE FULLY PRE-TENSIONED.
9. MINIMUM CAPACITY OF BEAM SHEAR CONNECTIONS: DESIGN CONNECTIONS USING THE MAXIMUM TYPICAL UNIFORM LOAD TABLES IN THE AISC MANUAL. FOR NON-COMPOSITE BEAMS THE CONNECTION CAPACITY SHALL BE AT LEAST 50% OF THE MAXIMUM UNIFORM LOAD CAPACITY, UNO. FOR COMPOSITE BEAMS, THE CONNECTION CAPACITY SHALL BE AT LEAST 80% OF THE MAXIMUM TYPICAL UNIFORM LOAD, UNO. REACTIONS NOTED ON DRAWINGS ARE BASED ON ASD.
10. PROVIDE FULL DEPTH CONNECTIONS AT ALL BEAM OR GIRDER TO COLUMN CONNECTIONS.
11. PROVIDE COLUMN CAP PLATES AS FOLLOWS, UNO:
FOR DECK BEARING: 1/4" THICK (PROVIDE WHERE BEAMS DO NOT FRAME INTO BOTH SIDES OF COLUMN)
FOR JOIST BEARING: 1/2" THICK AT K SERIES JOISTS
3/4" THICK AT LH & LH JOISTS
1" THICK AT JOIST GRIDERS
FOR BEAM BEARING: SEE TYPICAL DETAILS, 3/4" MIN.
FOR WOOD TRUSSES BEARING: 1/2" THICK
FOR MOMENT CONNECTIONS: SEE TYPICAL DETAILS
PROVIDE COLUMN CAP PLATES AT ALL HSS COLUMNS
12. WEB STIFFENERS SHALL BE PROVIDED IN WF SHAPES AS FOLLOWS:
COLUMN WEBS: AT FULLY DEVELOPED MOMENT CONNECTIONS, STIFFENERS SHALL BE COMPLETE PENETRATION GROOVE WELDED, SAME THICKNESS AND GRADE AS BEAM FLANGES. WHERE MOMENT CONNECTIONS OCCUR ON COLUMN FLANGES AND COLUMN WEBS, STIFFENER THICKNESS SHALL EQUAL THE VECTOR SUMMATION OF THE RESPECTIVE BEAM FLANGE THICKNESSES.
BEAM WEBS: WHERE BEAM BEARS ON COLUMN, SAME THICKNESS AND STRENGTH AS COLUMN FLANGES.
BEAM WEBS: WHERE COLUMN BEARS ON BEAM, SAME THICKNESS AND STRENGTH AS COLUMN FLANGES.
13. PRIOR TO DETAILING CONNECTIONS FOR STRUCTURAL STEEL, THE STEEL FABRICATOR SHALL SUBMIT FOR APPROVAL REPRESENTATIVE DETAILS FOR EACH TYPE OF PROPOSED STRUCTURAL CONNECTION. SUCH DETAILS SHALL INDICATE DESIGN CAPACITIES. AFTER APPROVAL, THE CONNECTIONS SHALL BE INCORPORATED INTO THE SHOP DRAWINGS.
14. ALL EXTERIOR EXPOSED STRUCTURAL STEEL SHALL BE HOT-DIPPED GALVANIZED.

STEEL JOISTS

1. STEEL JOISTS AND BRIDGING SHALL CONFORM TO SJS STANDARD SPECIFICATIONS FOR K, KSL, VS, LH, DUL, AND SJL SERIES. JOISTS AND SJS RECOMMENDED CODE OF STANDARD PRACTICE FOR STEEL JOISTS AND JOIST GRIDERS.
2. PROVIDE AND ANCHOR BRIDGING LINES ACCORDING TO SJS SPECIFICATIONS. BRIDGING INDICATED ON DRAWINGS IS SCHEMATIC, AND MAY NOT REFLECT THE SJS REQUIRED MINIMUM NUMBER OF LINES.
3. JOIST AND TO COLUMN CONNECTIONS SHALL HAVE BOTTOM CHORD EXTENSIONS. BOTTOM CHORD EXTENSIONS SHALL HAVE POSITIVE ATTACHMENT TO SUPPORT BY BOLTING OR BY WELDING. BOTTOM CHORD EXTENSIONS SHALL BE CONNECTED ONLY AFTER ALL DEAD LOADS ARE APPLIED.
4. K-SERIES JOIST EXTENSIONS SHALL BE TYPE R-1, UNO.
5. PROVIDE JOIST CAMBER ACCORDING TO SJS SPECIFICATION, UNO.
6. REFER TO STRUCTURAL DESIGN CRITERIA FOR NET UPLIFT LOADING REQUIREMENTS FOR ROOF JOISTS AND JOIST GRIDERS. PROVIDE ADDITIONAL WIND UPLIFT BRIDGING LINES AT MEMBER ENDS.
7. MECH/ELECT/PLUMB CONFLICTS WITH JOIST BRIDGING: ALL HORIZONTAL A DIAGONAL BRIDGING SHALL BE INSTALLED AND ANCHORED ACCORDING TO SJS REQUIREMENTS. AFTER DECK IS INSTALLED, BRIDGING MAY BE RE-WORKED AS FOLLOWS TO ACCOMMODATE INSTALLATION OF DUCTS, PIPING, CONDUIT, ETC.:
A. DIAGONAL BRIDGING MAY BE REPLACED WITH HORIZONTAL BRIDGING IN NON-ADJACENT JOIST BAYS. DO NOT REMOVE DIAGONAL BRIDGING IN MORE THAN ONE LOCATION AT A TIME BEFORE REINSTALLING HORIZONTAL BRIDGING.
B. HORIZONTAL BRIDGING MAY BE REMOVED ONLY IN NON-ADJACENT JOIST BAYS. DIAGONAL BRIDGING MUST BE INSTALLED IN BOTH ADJACENT JOIST BAYS, ALIGNED WITH THE LOCATIONS OF HORIZONTAL BRIDGING THAT IS TO BE REMOVED. DO NOT REMOVE HORIZONTAL BRIDGING BEFORE INSTALLING NEW DIAGONAL BRIDGING IN ADJACENT JOIST BAYS.
IF THE ABOVE LIMITATIONS CANNOT BE MET, THE JOIST MANUFACTURER SHALL BE CONTACTED FOR DIRECTION.

METAL DECKING

1. METAL DECKING SHALL CONFORM TO THE FOLLOWING DESIGNATIONS:
ROOF DECK: ASTM A653, GRADE 33
2. METAL DECK SHALL CONFORM TO AISI'S "SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS", TO S01'S "DESIGN MANUAL FOR FLOOR AND ROOF DECKS", AND TO S01'S "MANUAL OF CONSTRUCTION WITH STEEL DECK".
3. WELDING SHALL CONFORM TO AWS D1.3 "STRUCTURAL WELDING CODE - SHEET STEEL".
4. PROVIDE WELDING WASHERS FOR DECK LIGHTER THAN 22 GAGE.
5. SPECIFIED ROOF DECK HAS BEEN DESIGNED TO BE CONTINUOUS OVER 3 SPANS MINIMUM. FOR ONE OR TWO SPAN CONDITIONS, PROVIDE HEAVIER GAGE DECK AS REQUIRED TO SUPPORT APPLICABLE LOADS.
6. FASTEN ROOF DECK PANELS TO SUPPORTING STEEL MEMBERS WITH 5/8" DIA PUDDLE WELDS AT 12" O.C. (364 PATTERN), UNO. FASTEN TO PERIMETER STEEL MEMBERS AT 12" O.C., UNO. MECHANICAL FASTENING METHODS ARE PERMITTED IN LIEU OF WELDING. CONTRACTOR SHALL PROVIDE SUBMITTAL TO INDICATE SPECIFIC FASTENING SYSTEM AND DATA TO INDICATE THAT MECHANICAL FASTENERS MEET OR EXCEED THE DIAPHRAGM CAPACITY ACHIEVED BY THE WELDING PATTERN DESCRIBED ABOVE, OR OTHER SPECIFIC REQUIREMENTS INDICATED.
7. MECHANICALLY FASTEN COMPOSITE FLOOR AND ROOF DECK SIDE LAPS WITH SELF DRILLING NO. 10 SCREWS AT MIDSPAN OR 36" (MAX) O.C., UNO.

COLD FORMED STEEL FRAMING

1. ALL COLD FORMED STEEL FRAMING INDICATED ON THE DRAWINGS IS FOR DESIGN INTENT ONLY. THE COLD-FORMED FRAMING SUBCONTRACTOR SHALL RETAIN THE SERVICES OF A LICENSED PROFESSIONAL ENGINEER TO DESIGN ALL COLD FORMED FRAMING IN ACCORDANCE WITH THE SPECIFIED DESIGN CRITERIA, SIGNED AND SEALED BY THE ENGINEER. DRAWINGS SHALL BE SUBMITTED. INDICATED COLD-FORMED FRAMING SIZES AND GAGES ARE MINIMUMS, AND SHALL NOT BE REDUCED WITHOUT APPROVAL OF THE ARCHITECT/ENGINEER. COLD-FORMED SUB-CONTRACTOR SHALL AT HIS EXPENSE DURING BIDDING PERFORM SUFFICIENT PRELIMINARY TO PRICE A JOB WITH ALL REQUIRED FRAMING SIZES, GAUGES, SPACINGS, FRAME OPENINGS, ACCESSORIES, ETC.
2. THE DESIGN OF COLD FORMED STEEL FRAMING SHALL CONFORM TO AISI'S SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS.
3. COLD FORMED STEEL FRAMING SHALL CONFORM TO ASTM C955 AND C1007, AND TO THE FOLLOWING:
12, 14 AND 16 GAGE STUDS ASTM A653, 5W, GRADE 50, CLASS 1
18 AND 20 GAGE STUDS ASTM A653, C2, GRADE 33
TRACK AND BRIDGING ASTM A653, CW, GRADE 33
4. WELDING SHALL CONFORM TO AWS D1.3 - 18, "STRUCTURAL WELDING CODE - SHEET STEEL".
5. COLD FORMED STEEL FRAMING PRIORITIES SHALL CONFORM TO MARINWARE OR EQUIVALENT.
6. PROVIDE BRIDGING AND BRACING AS SPECIFIED BY MANUFACTURER OR AS REQUIRED BY DESIGN.
7. THE EXTENT OF WORK FOR COLD-FORMED FRAMING IS DETAILED ON THE ARCHITECTURAL DRAWINGS AND PARTIALLY ON THE STRUCTURAL DRAWINGS. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT / ENGINEER.
8. PROVIDE COLD-FORMED ACCESSORIES AS REQUIRED FOR A COMPLETE FRAMING SYSTEM, INCLUDING BUT NOT LIMITED TO, TRACKS, BLOCKING, CLIP ANGLES, SLIDE CLIPS, SHOES, RUNNERS, REINFORCEMENTS, COLD-FORMED TO COLD-FORMED FASTENERS, AND WELDS, AND COLD-FORMED TO STRUCTURE FASTENERS AND WELDS.
9. LOAD BEARING STUDS SHALL HAVE CONTINUITY THROUGH THE FLOOR SYSTEM, AND SHALL BE VERTICALLY ALIGNED THROUGHOUT THE STRUCTURE HEIGHT.
10. ALL BOX HEADER AND OPENING JAMB CONDITIONS SHALL BE DESIGNED BY COLD-FORMED DESIGNER, EVEN IF STEEL MEMBERS ARE REQUIRED.

MECHANICAL ROOFTOP EQPT CURBS, OPENINGS & ROOF ACCESS

1. PROVIDE FRAMING FOR ALL ROOFTOP EQUIPMENT CURBS AND OPENINGS, AND ROOF ACCESS, IN NEW AND EXISTING CONSTRUCTION ACCORDING TO TYPICAL DETAILS, UNO.
2. COORDINATE SIZES AND LOCATIONS OF CURBS AND OPENINGS WITH MECHANICAL DRAWINGS AND MECHANICAL CONTRACTOR AND ROOF ACCESS OPENINGS WITH ARCHITECTURAL DRAWINGS. CURBS AND OPENINGS SHALL BE CENTERED BETWEEN AND ACROSS NEW AND EXISTING ROOF MEMBERS.
3. ALL ROOF JOISTS AND TRUSSES (NEW AND EXISTING) SHALL BE REINFORCED FOR OFF-PLAN POINTS LOADS ACCORDING TO TYPICAL DETAIL.
4. RE-USE EXISTING OPENINGS WHERE POSSIBLE.

MECHANICAL UNIT, DUCTWORK, AND PIPE SUPPORT FROM JOISTS

1. THE FOLLOWING CRITERIA SHALL BE FOLLOWED FOR HANGING NEW MECHANICAL UNITS, DUCTWORK, AND PIPING (MECHANICAL AND PLUMBING) ON STEEL JOISTS IN NEW AND EXISTING CONSTRUCTION:
A. SUPPORTS FOR MECHANICAL UNITS AND DUCTWORK SHALL BE PROVIDED SUCH THAT HANGER LOADS ARE LIMITED TO 250 LBS., WITH A MAXIMUM OF 2 HANGERS PER JOIST
B. SUPPORTS FOR MULTIPLE RUNS OF PIPING 8" TO 6" IN DIAMETER SHALL BE STAGGERED SUCH THAT ONE JOIST SUPPORTS NO MORE THAN TWO PIPES. SPACING OF PIPE SUPPORTS SHALL BE ACCORDING TO INDUSTRY STANDARDS, BUT NO MORE THAN 6 FT. O.C.
C. SUPPORTS FOR MULTIPLE RUNS OF PIPING 8" TO 10" IN DIAMETER SHALL BE STAGGERED SUCH THAT ONE JOIST SUPPORTS NO MORE THAN ONE PIPE. SPACING OF PIPE SUPPORTS SHALL BE ACCORDING TO INDUSTRY STANDARDS, BUT NO MORE THAN 6 FT. O.C.
D. FOR PIPING LARGER THAN 10" IN DIAMETER, OR FOR CASES WHERE THE ABOVE CRITERIA CANNOT BE MET, SUPPLEMENTARY FRAMING SHALL BE PROVIDED TO SUPPORT THE PIPES ON NEW OR EXISTING STEEL GRIDERS AND BEARING WALLS.
2. MECHANICAL UNIT AND PIPING SUPPORTS SHALL NOT OCCUR ON THE SAME JOISTS.
3. IN NO CASE SHALL THE TOTAL WEIGHT SUPPORTED BY A SINGLE JOIST EXCEED 500 LBS UNLESS THE JOIST IS SPECIFICALLY NOTED AND DESIGNED FOR HIGHER LOADS.
4. ALL SUPPORT POINTS SHALL BE LOGICALLY REINFORCED ACCORDING TO TYPICAL DETAIL.

DRILLED ANCHORS

1. EXPANSION ANCHORS SHALL BE (UNO):
HILTI KWIK BOLT II, DEWALT/POWERS POWER STUD, OR EQUIVALENT.
3/4" DIAMETER, U.N.O.
SUFFICIENT LENGTH TO PROVIDE 6 INCH MINIMUM EMBEDMENT, U.N.O.
2. CHEMICAL ADHESIVE ANCHORS SHALL BE (UNO):
HILTI HIT HY200 OR HILTI HIT HY270 AS APPLICABLE, DEWALT/POWERS PURE 110+, OR EQUIVALENT.
3/4" DIAMETER, U.N.O.
SUFFICIENT LENGTH TO PROVIDE 6 INCH MINIMUM EMBEDMENT, U.N.O.
3. GROUT CMU COURSES AT ANCHORS FOR 8" MIN ABOVE AND BELOW ANCHOR LINES
4. ANCHORS IN EXTERIOR APPLICATIONS SHALL BE HOT-DIPPED GALVANIZED.

LINTELS

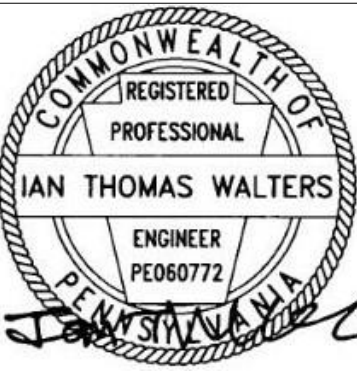
1. PROVIDE LINTELS OVER OPENINGS IN WALLS AT DOORS, WINDOWS, MECHANICAL AND ELECTRICAL SERVICES AND EQUIPMENT, WALLS IN FRONT OF RECESSED ENTRIES, ETC, UNO.
2. CONTRACTOR IS RESPONSIBLE FOR COORDINATION BETWEEN ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR LOCATIONS OF ALL LINTELS. LINTEL LOCATIONS ARE NOT GENERALLY SHOWN ON PLAN.
3. REFER TO LINTEL SCHEDULE FOR LINTEL SIZES.
4. LINTEL TYPES MAY BE STEEL OR CAST-IN-PLACE CONCRETE MASONRY LINTELS. REFER TO THE LINTEL SCHEDULE AND ARCHITECTURAL DRAWINGS FOR TYPE OF LINTEL REQUIRED AT EACH LOCATION.
5. STEEL MATERIALS: REFER TO STRUCTURAL STEEL NOTES. STEEL LINTELS AT EXTERIOR WALLS SHALL BE HOT-DIPPED GALVANIZED.
6. CAST-IN-PLACE MASONRY LINTELS SHALL BE CONSTRUCTED USING U-SHAPED CMU UNITS. REINFORCING SHALL EXTEND BEYOND MASONRY OPENING BY 8" EACH END. SPECIFIED HEIGHT OF MASONRY LINTEL SHALL BE GROUTED IN ONE OPERATION. CIP MASONRY LINTELS SHALL BE SHORED A MINIMUM OF 7 DAYS AFTER GROUTING. REFER TO CONCRETE MASONRY NOTES FOR MATERIAL INFORMATION AND REQUIREMENTS.
7. STEEL STUD CONNECTIONS SHALL CONFORM TO ASTM A106, GRADES 1010 THROUGH 1020 (50 KSI TENSILE STRENGTH), AND SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.1 "STRUCTURAL WELDING CODE - STEEL". DEFORMED BAR ANCHORS (DBA) SHALL CONFORM TO ASTM A496. STUDS AND DBAS SHALL BE WELDED BY AUTOMATIC EQUIPMENT.
8. ALL LINTELS SHALL BEAR 8" MIN ON FULL MORTAR BED. GROUT SOLID 2 COURSES BELOW BEARING, MIN., UNO.
9. WHEN LINTELS HAVE LESS THAN THE SPECIFIED BEARING LENGTH DUE TO AN ADJACENT STEEL COLUMN:
A. FOR STEEL LINTELS, CONNECT LINTEL TO COLUMN
B. FOR PRECAST OR CIP LINTELS, PROVIDE L6X6X3/8 X WIDTH OF LINTEL WELDED TO COLUMN FOR LINTEL BEARING. WHERE BEARING IS EXPOSED, NOTCH LINTEL 50 BOTTOM OF ANGLE AND LINTEL ARE FLUSH.
10. PROVIDE MASONRY ANCHORS AT ALL STEEL BEAMS BEARING ON MASONRY WALLS. ANCHORS SHALL BE LOCATED CLOSE TO BEAM TOP FLANGE.

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WHITE SULPHUR SPRINGS, WEST VIRGINIA

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SCHOOL DISTRICT OF HAVERFORD TOWNSHIP
800 COOPERTOWN ROAD
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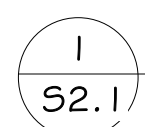


STRUCTURAL NOTES
PROJECT
3758
PLOT SCALE
1/8" = 1'-0"
FILENAME:
DATE
MARCH 10, 2025



PROJECT
3758
PLOT SCALE
1/8" = 1'-0"
FILENAME:
DATE
MARCH 10, 2025

BIA
STRUCTURAL ENGINEERS
BAKER, INGRAM & ASSOCIATES
Lancaster, Pennsylvania
Dover, Delaware
Newark,


$$1/8'' = 1'-0''$$

FOOTING SCHEDULE		
MARK	SIZE	REINFORCING (EACH WAY - BOT)
F4.0	4'-0" x 4'-0" x 1'-0"	4#5
F5.0	5'-0" x 5'-0" x 1'-0"	5#5
F6.0	6'-0" x 6'-0" x 1'-2"	7#5
F7.0	7'-0" x 7'-0" x 1'-6"	6#6
F8.0	8'-0" x 8'-0" x 1'-8"	6#7
F4.0x6.0	4'-0" x 6'-0" x 1'-2"	7#5 SHORT / 5#5 LONG
F6.0x8.0	6'-0" x 8'-0" x 1'-8"	6#7 SHORT / 5#7 LONG

1. FIRST FLOOR REFERENCE ELEVATION = $\phi = 0' - 0"$ = DATUM LEVEL, OF 415.607.
2. ELEVATIONS ARE NOTED FROM REF EL. 0'-0 AS FOLLOWS:
(#-#)
INDICATES TOP OF NEW FOOTING
(#-#)
INDICATES TOP OF PIER
(#-#)
INDICATES TOP OF EXISTING FOOTING
3. FOUNDATION MEMBERS ARE DESIGNATED AS FOLLOWS:

FOOTING MARK - SEE SCHEDULE

PIER MARK - SEE FOUNDATION DETAILS
B# #
COLUMN BASE PLATE - SEE FOUNDATION SECTIONS
4. SLAB ON-GRADE TYPE 1 SHALL BE A VAPOR BARRIER, W/ GKG - W2.9XW2.9 W/ WF ON 4" DRAINAGE FILL & FAVOR BARRIER.
5. SLAB ON-GRADE TYPE 2 SHALL BE A VAPOR BARRIER, W/ GKG - W2.9XW2.9 W/ WF ON 4" DRAINAGE FILL & FAVOR BARRIER.
6. COORDINATE WITH ARCHT, MECH, ELEC, AND PLUMB DRAWINGS FOR FLOOR SLOPES, DRAINS, OPENINGS, DEPRESSIONS, ETC., NOT SHOWN ON THIS PLAN, AT ALL TOILETS AND OTHER ROOMS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT INDICATED.
8. EXISTING CONSTRUCTION SHOWN THIS -----, TO BE FIELD VERIFIED PRIOR TO DETAILING, FABRICATION AND CONSTRUCTION.
9. UNDER SLAB PLUMBING SHOWN THIS -----, SEE TYPE DETAILS FOR STEPPED FOOTINGS & PLUMBING LINES.
10. BOTTOM OF NEW FOOTINGS SHALL MATCH ADJACENT BOTTOM OF EXISTING FOOTINGS.
11. SEE FOOTINGS AS REFINISHED.
12. PROVIDE (2) #4 X 4" DIAGONAL BARS AT EACH RE-ENTRANT SLAB-ON-GRADE CORNERS.
13. REFER TO STRUCTURAL NOTES ON S6.1.
14. REFER TO TYPICAL DETAILS ON S6.1 & S6.2.



Diagram of a building footprint with five rooms labeled A, B, C, D, and E. Room A is shaded with diagonal lines. Below the footprint are two circular arrows: one pointing straight up labeled "CONSTRUCTION NORTH" and one pointing towards the upper right labeled "TRUE NORTH".

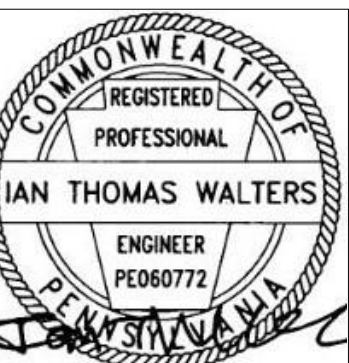
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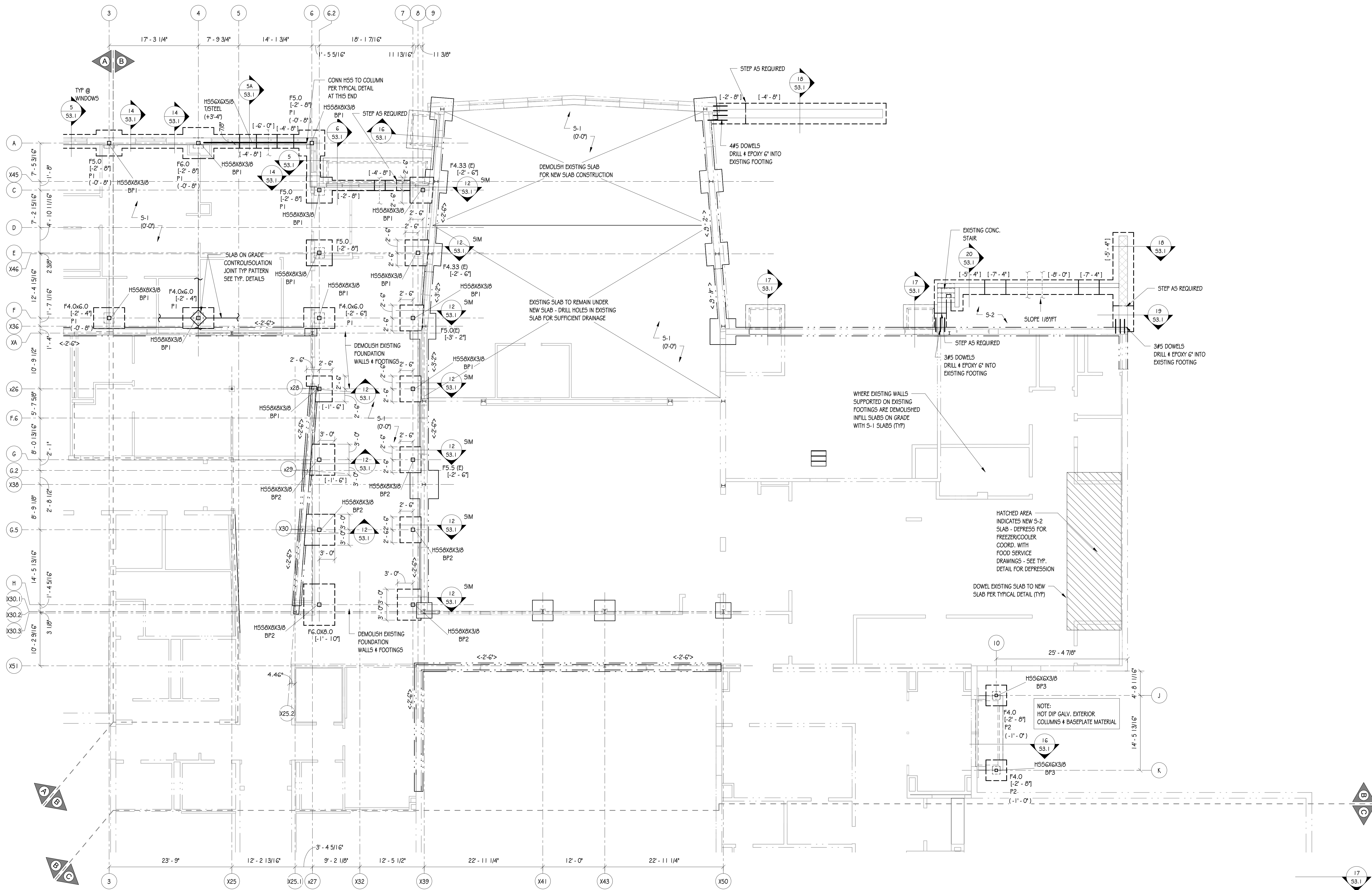
FIRST FLOOR FOUNDATION
PLAN - UNIT A

PLOT SCALE:
As indicated

DATE: **MARCH 10, 2025**

PROJECT
3758

S2.1



FIRST FLOOR FOUNDATION PLAN - UNIT B

1
S2.2

1/8" = 1'-0"

FOOTING SCHEDULE		
MARK	SIZE	REINFORCING (EACH WAY - BOT)
F4.0	4'-0 x 4'-0 x 1'-0	4#5
F5.0	5'-0 x 5'-0 x 1'-0	5#5
F6.0	6'-0 x 6'-0 x 1'-2	7#5
F7.0	7'-0 x 7'-0 x 1'-6	6#6
F8.0	8'-0 x 8'-0 x 1'-8	6#7
F4.0x6.0	4'-0 x 6'-0 x 1'-2	7#5 SHORT / 5#5 LONG
F6.0x8.0	6'-0 x 8'-0 x 1'-8	6#7 SHORT / 5#7 LONG

FOUNDATION / FIRST FLOOR PLAN NOTES

- FIRST FLOOR REFERENCE ELEVATION = 0'-0" = DATUM ELEV. OF 415.60.
- ELEVATIONS ARE NOTED FROM REF. EL. 0'-0" AS FOLLOWS:
(-#-#) INDICATES TOP OF NEW FOOTING
(-#-#) INDICATES TOP OF PIER
(-#-#) INDICATES TOP OF EXISTING FOOTING
- FOUNDATION MEMBERS ARE DESIGNATED AS FOLLOWS:
FOOTING MARK - SEE SCHEDULE
PIER MARK - SEE FOUNDATION DETAILS
COLUMN BASE PLATE - SEE FOUNDATION SECTIONS
- SLAB-ON-GRADE TYPE 5-1 SHALL BE A 4" SLAB ON GRADE REINF. W/ 6X6 - W2.9XW2.9 WWF ON 4" DRAINAGE FILL & VAPOR BARRIER.
SLAB-ON-GRADE TYPE 5-2 SHALL BE A 5" SLAB ON GRADE REINF. W/ 6X6 - W2.9XW2.9 WWF ON 4" DRAINAGE FILL & VAPOR BARRIER.
COORDINATE WITH ARCH, MECH, ELEC. AND PLUMB DRAWINGS FOR FLOOR SLOPES, DRAINS, OPENINGS, DEPRESSIONS, ETC., NOT SHOWN ON THIS PLAN, AT ALL TOILETS AND OTHER ROOMS.
- REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT INDICATED.
- EXISTING CONSTRUCTION SHOWN THUS TO BE FIELD VERIFIED PRIOR TO DETAILING, FABRICATION AND CONSTRUCTION.
- UNDER SLAB PLUMBING SHOWN THUS SEE TYP. DETAILS FOR STEPPED FOOTINGS @ PLUMBING LINES.
- BOTTOM OF NEW FOOTINGS SHALL MATCH ADJACENT BOTTOM OF EXISTING FOOTINGS. STEP FOOTINGS AS REQUIRED.
- PROVIDE (2) #4 X 4'-0" DIAGONAL BARS AT ALL RE-ENTRANT SLAB-ON-GRADE CORNERS.
- REFER TO STRUCTURAL NOTES ON S1.1.
- REFER TO TYPICAL DETAILS ON S6.14 S6.2.



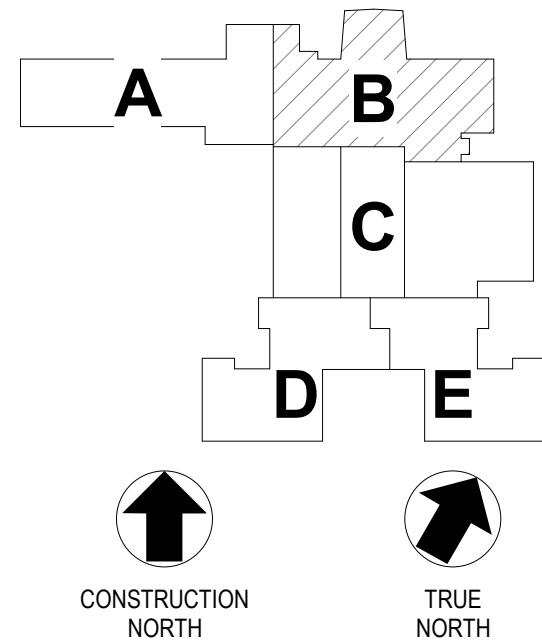
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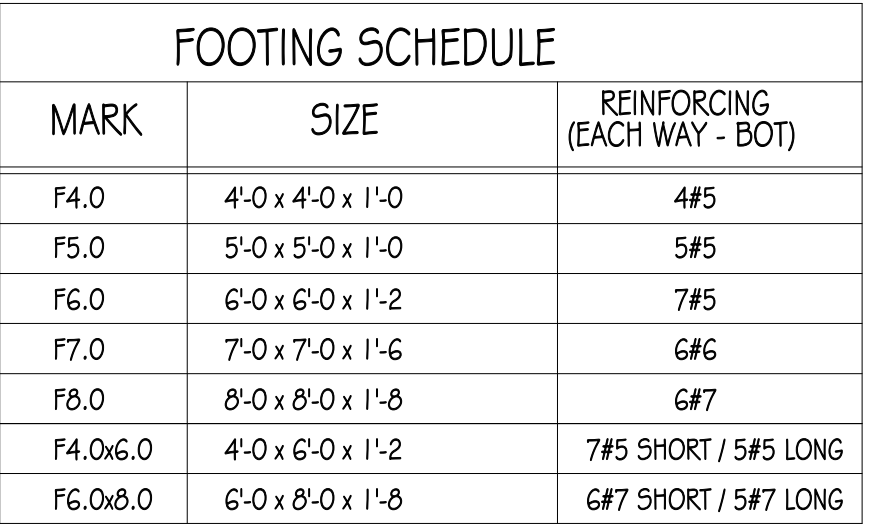
KEY PLAN



REVISIONS

NO.	DATE	NAME	DESCRIPTION OF CHANGES

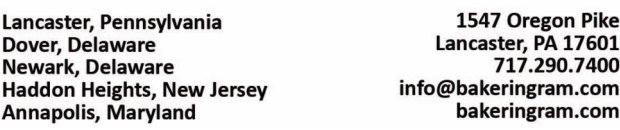
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1. FIRST FLOOR REFERENCE ELEVATION $= 0'-0"$ = DATUM ELEV. OF 415.60.
2. ELEVATIONS ARE NOTED FROM REF. $= 0'-0"$ AS FOLLOWS:

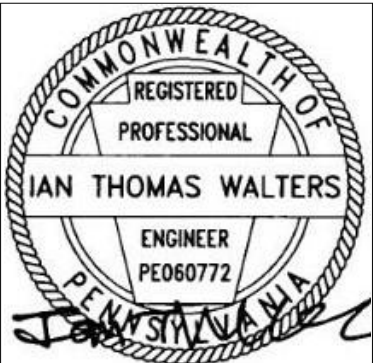
[+/-#]	INDICATES TOP OF NOO FOOTING
[#]	INDICATES TOP OF FIER
[#]	INDICATES TOP OF EXISTING FOOTING
3. FOUNDATION MEMBERS ARE DESIGNATED AS FOLLOWS:

FF #	FOOTING MARK - SEE SCHEDULE
FF#	COLUMN MARK - SEE FOUNDATION DETAILS
FF#	PILUM BASE PLATE - SEE FOUNDATION SECTIONS
4. SLAB-ON-GRADE TYPE 5 SHALL BE A 4" SLAB ON GRADE REIN. W/ GIG - W2.3XW2.9
 4" W/ 4" DRAINAGE FILL & VAPOR BARRIER.
 SLAB-ON-GRADE TYPE 5-2 SHALL BE A 5" SLAB ON GRADE REIN. W/ GIG - W2.3XW2.9
 W/ 4" DR. DRAINAGE FILL & VAPOR BARRIER.
 COORDINATE WITH ARCHT. MECH. ELEC. AND PLUMB DRAWINGS FOR FLOOR SLOPES,
 DRAINS, OPENINGS, DEPRESSIONS, ETC., NOT SHOWN ON THIS PLAN, AT ALL TOOLS
 AND OTHER ROOMS.
5. REFER TO REFERENCE DRAWINGS FOR DIMENSIONS NOT INDICATED.
6. EXISTING CONSTRUCTION SHOWN THIS -----, TO BE FIELD VERIFIED PRIOR TO
 DESTROYING, FABRICATION AND CONSTRUCTION.
7. UNDER SLAB PLUMBING SHOWN THIS -----, SEE TYP DETAILS FOR STEPPED
 FOOTINGS @ PLUMBING LINES.
8. BOTTOM OF NOO FOOTINGS SHALL MATCH ADJACENT BOTTOM OF EXISTING FOOTINGS
 STEP FOOTINGS AS REQUIRED.
9. PROVIDE (2) 4" X 4'-0" DIAGONAL BRAC. AT RE-ENTRANT SLAB-ON-GRADE CORNERS
10. REFER TO STRUCTURAL NOTES ON 5, 6 & 1.
11. REFER TO TYPICAL DETAILS ON 5, 6 & 1.

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WHITE SULPHUR SPRINGS, WEST VIRGINIA

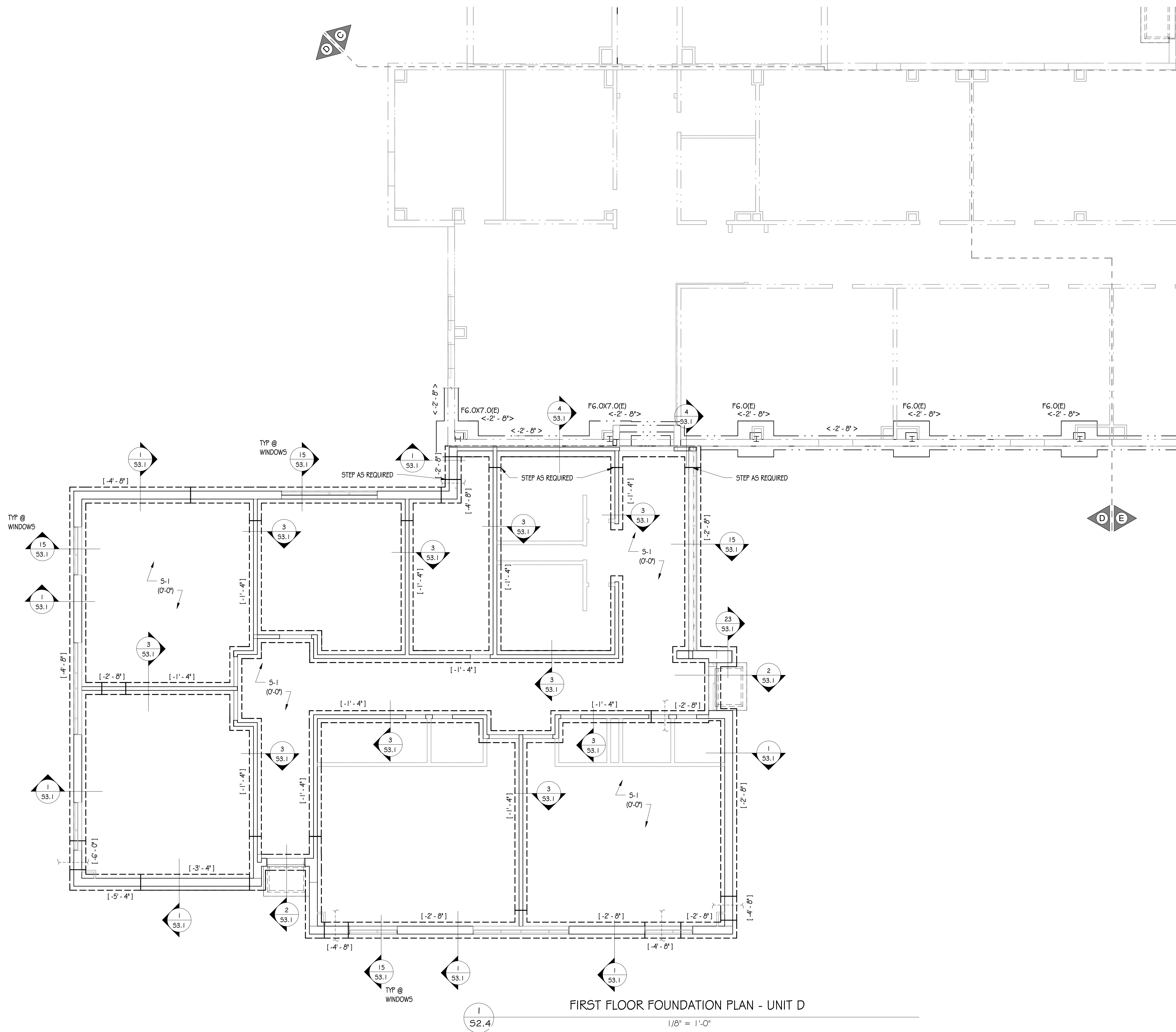
ADDITIONS AND RENOVATIONS TO
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PROJECT
3758

S2.3

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FOOTING SCHEDULE		
MARK	SIZE	REINFORCING (EACH WAY - BOT)
F4.0	4'-0 x 4'-0 x 1'-0	4#5
F5.0	5'-0 x 5'-0 x 1'-0	5#5
F6.0	6'-0 x 6'-0 x 1'-2	7#5
F7.0	7'-0 x 7'-0 x 1'-6	6#6
F8.0	8'-0 x 8'-0 x 1'-8	6#7
F4.0&6.0	4'-0 x 6'-0 x 1'-2	7#5 SHORT / 5#5 LONG
F6.0&8.0	6'-0 x 8'-0 x 1'-8	6#7 SHORT / 5#7 LONG

- FOUNDATION / FIRST FLOOR PLAN NOTES
- FIRST FLOOR REFERENCE ELEVATION = 0'-0" = DATUM ELEV. OF 415.60.
 - ELEVATIONS ARE NOTED FROM REF EL 0'-0" AS FOLLOWS:
 - (-#'-#") INDICATES TOP OF NEW FOOTING
 - (-#'-#") INDICATES TOP OF PIER
 - (-#'-#") INDICATES TOP OF EXISTING FOOTING
 - FOUNDATION MEMBERS ARE DESIGNATED AS FOLLOWS:
 - F#.# FOOTING MARK - SEE SCHEDULE
 - P#.# PIER MARK - SEE FOUNDATION DETAILS
 - B#.# COLUMN BASE PLATE - SEE FOUNDATION SECTIONS
 - SLAB-ON-GRADE TYPE S-1 SHALL BE A 4" SLAB ON GRADE REINF. W/ 6X6 - W2.9XW2.9 WWF ON 4" DRAINAGE FILL & VAPOR BARRIER.
 - SLAB-ON-GRADE TYPE S-2 SHALL BE A 5" SLAB ON GRADE REINF. W/ 6X6 - W2.9XW2.9 WWF ON 4" DRAINAGE FILL & VAPOR BARRIER.
 - COORDINATE WITH ARCH, MECH, ELEC, AND PLUMB DRAWINGS FOR FLOOR SLOPES, DRAINS, OPENINGS, DEPRESSIONS, ETC., NOT SHOWN ON THIS PLAN, AT ALL TOILETS AND OTHER ROOMS.
 - REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT INDICATED.
 - EXISTING CONSTRUCTION SHOWN THUS -----, TO BE FIELD VERIFIED PRIOR TO DETAILING, FABRICATION AND CONSTRUCTION.
 - UNDER SLAB PLUMBING SHOWN THUS -----, SEE TYP DETAILS FOR STEPPED FOOTINGS @ PLUMBING LINES.
 - BOTTOM OF NEW FOOTINGS SHALL MATCH ADJACENT BOTTOM OF EXISTING FOOTINGS. STEP FOOTINGS AS REQUIRED.
 - PROVIDE (2) #4 X 4'-0" DIAGONAL BARS AT ALL RE-ENTRANT SLAB-ON-GRADE CORNERS.
 - REFER TO STRUCTURAL NOTES ON S1.1.
 - REFER TO TYPICAL DETAILS ON S6.1 & S6.2.



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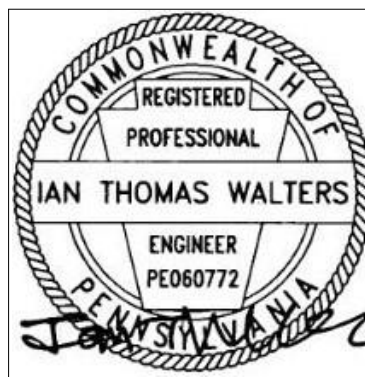


FIRST FLOOR FOUNDATION
PLAN - UNIT D

PLOT SCALE:
As indicated

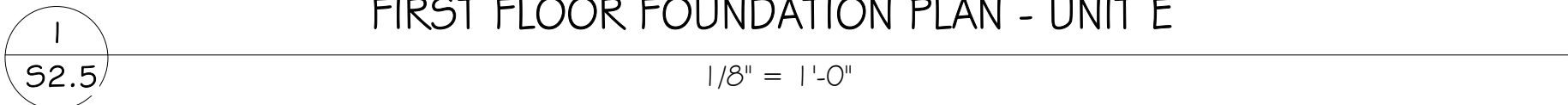
FILENAME:

DATE:
MARCH 10, 2025



PROJECT
3758

S2.4



FOOTING SCHEDULE		
MARK	SIZE	REINFORCING (EACH WAY - BOT)
F4.0	4'-0" x 4'-0" x 1'-0"	4#5
F5.0	5'-0" x 5'-0" x 1'-0"	5#5
F6.0	6'-0" x 6'-0" x 1'-2"	7#5
F7.0	7'-0" x 7'-0" x 1'-6"	6#6
F8.0	8'-0" x 8'-0" x 1'-8"	6#7
F4.0x6.0	4'-0" x 6'-0" x 1'-2"	7#5 SHORT / 5#5 LONG
F6.0x8.0	6'-0" x 8'-0" x 1'-8"	6#7 SHORT / 5#7 LONG

1. FIRST FLOOR REFERENCE ELEVATION = 0'-0" = DATUM ELEV. OF 415.60'.
ELEVATIONS ARE NOTED FROM REF EL 0'-0" AS FOLLOWS:

[+ #.#] INDICATES TOP OF NEXT FOOTING
[+ #.#'] INDICATES TOP OF FLOOR
[- #.#'] INDICATES TOP OF EXISTING FOOTING

2. FOUNDATION MEMBERS ARE DESIGNATED AS FOLLOWS:

#.# FOOTING MARK - SEE SCHEDULE
#.# PER MARK - SEE FOUNDATION DETAILS

3. BPR COLUMN BASE PLATE - SEE FOUNDATION SECTIONS

4. SLAB-ON-GRADE TYPE 1 SHALL BE A 5" SLAB ON GRADE REINF. W/ G6 - W2.30X2.9 WWF ON 4" DRAINAGE FILL 4" VAPOR BARRIER.

5. SLAB-ON-GRADE TYPE 2 SHALL BE A 5" SLAB ON GRADE REINF. W/ G6 - W2.30X2.9 WWF ON 4" DRAINAGE FILL 4" VAPOR BARRIER.

COORDINATE WITH ARCH, MECH, ELEC, AND PLUMB DRAWINGS FOR FLOOR SLOPES, DRAINS, OPENINGS, DEPRESSIONS, ETC., NOT SHOWN ON THIS PLAN, AT ALL TOILETS AND OTHER ROOMS.

6. PROVIDE DETAILING DRAWINGS FOR DIMENSIONS NOT INDICATED.

7. EXISTING CONSTRUCTION SHOWN THIS -----, TO BE FIELD VERIFIED PRIOR TO DETAILING, FABRICATION AND CONSTRUCTION.

8. UNDER SLAB PLUMBING SHOWN THIS -----, SEE TYP DETAILS FOR STEPPED FOOTINGS @ PLUMBING LINES.

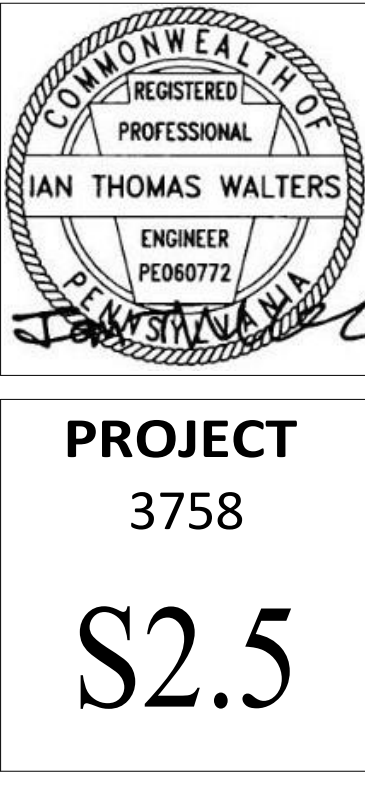
9. BOTTOM OF NEXT FOOTING SHALL MATCH ADJACENT BOTTOM OF EXISTING FOOTINGS.

10. OTHER FOOTINGS AS REQUIRED.

11. PROVIDE (2 #4 x 9") DIAGONAL BARS AT ALL RE-ENTRANT SLAB-ON-GRADE CORNERS.

0. REFER TO STRUCTURAL NOTATIONS ON 51.1.

1. REFER TO TYPICAL DETAILS ON 51.4-56.2.

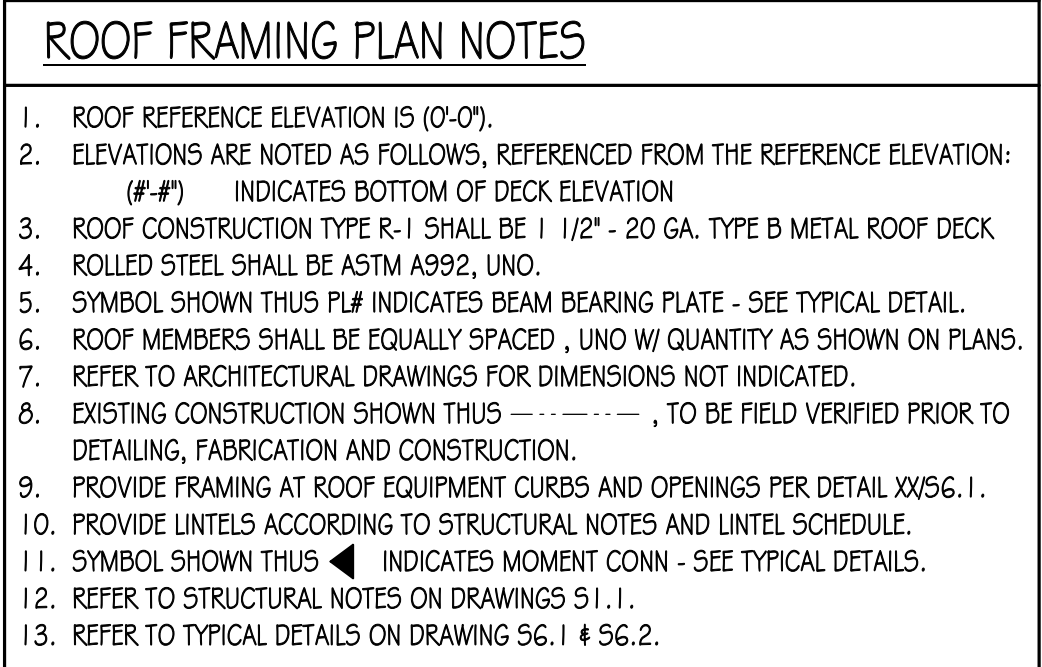
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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
IAN THOMAS WALTERS
PE060772

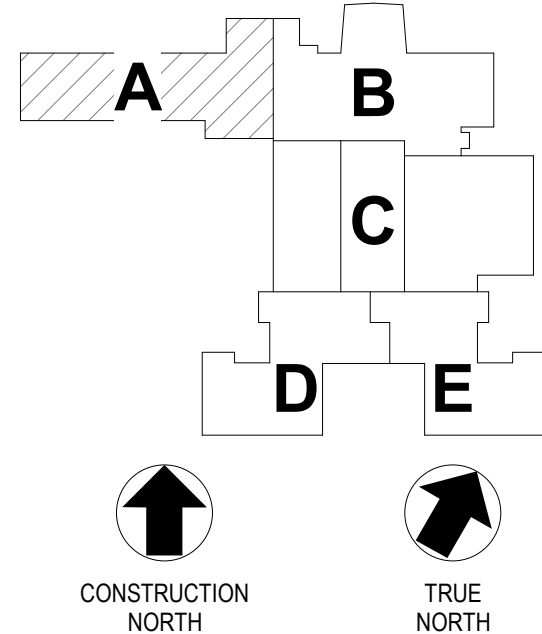
ROOF FRAMING PLAN - UNIT A	
PLOT SCALE:	As indicated
FILENAME:	
DATE:	MARCH 10, 2025

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S2.6

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KEY PLAN



REVISIONS

[illegible]

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$$1/8'' = 1'-0''$$

1. REFERENCE ELEVATION IS 15'-0".
2. ELEVATIONS ARE NOTED AS FOLLOWS, REFERENCED FROM THE REFERENCE ELEVATION -
(#.#'). INDICATES BOTTOM OF DECK ELEVATION
3. ROOF CONSTRUCTION TYPE R-1 SHALL BE 1/2" - 20 GA. TYPE B METAL ROOF DECK
4. ROLLED STEEL SHALL BE ASTM A992, UN90.
5. SYMBOL SHOWS THIS PLU INDICATES BEAM BEARING PLATE - SEE TYPICAL DETAIL.
6. ROOF MEMBERS SHALL BE EQUALLY SPACED, UNO, AND W/ QUANTITY AS SHOWN ON PLANS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT INDICATED.
8. EXISTING CONSTRUCTION SHOWS THIS - - - - - , TO BE FIELD VERIFIED PRIOR TO DETAILING, FABRICATION AND CONSTRUCTION.
9. PROVIDE FINISH OF ROOFING AND FLASHING AND OPENINGS PER DETAIL W056.1.
10. PROVIDE LISTS ACCORDING TO STRUCTURAL NOTES AND LINTAL SCHEDULE.
11. SYMBOL SHOWS THIS ◀ INDICATES MOMENT CONN. - SEE TYPICAL DETAILS.
12. REFER TO STRUCTURAL NOTES ON DRAWINGS S1.1.
13. REFER TO TYPICAL DETAILS ON DRAWING S6.1 & S6.2.

[illegible]

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CHARLOTTESVILLE, VIRGINIA

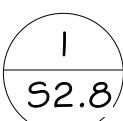
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Dover, Delaware Lancaster, PA 17601
Newark, Delaware 717.290.7400
Haddon Heights, New Jersey info@bakingram.com
Annapolis, Maryland bakingram.com


$$1/8'' = 1'-0''$$

1. ROOF REFERENCE ELEVATION IS 0'-0".
2. ELEVATIONS ARE NOTED AS FOLLOWS, REFERENCED FROM THE REFERENCE ELEVATION:
(R-#) INDICATES BOTTOM OF DECK / INTERIOR FLOOR SLAB.
3. ROOF CONSTRUCTION TYPE IS 5045 SEE 11-27 - 20 GA. TYPE B METAL ROOF DECK WITH 1/2" BEAM SPACING.
4. SYMBOL SHOWN THRU PL# INDICATES BEAM BEARING PLATE - SEE TECHNICAL DETAIL.
5. ROOF MEMBERS SHALL BE EQUALLY SPACED, UNL QTY / QUANTITY AS SHOWN ON PLANS.
6. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT INDICATED.
7. EXISTING CONSTRUCTION SHALL BE MAINTAINED, UNLESS OTHERWISE NOTED, TO FIELD VERIFIED PRIOR TO DETAILING, FABRICATION AND CONSTRUCTION.
8. PROVIDE FRAMING AT ROOF EQUIPMENT CURBS AND OPENINGS PER X056.1.
9. PROVIDE UNITS ACCORDING TO STRUCTURAL NOTES AND UNTEL SCHEDULE.
10. SYMBOL SHOWN THRU ◀ INDICATES REINFORCING BARS - SEE TECHNICAL DETAIL.
11. REFER TO STRUCTURAL DETAILS ON DRAWINGS 5-1.
12. REFER TO STRUCTURAL DETAILS ON DRAWING 56-1 & 56-2.

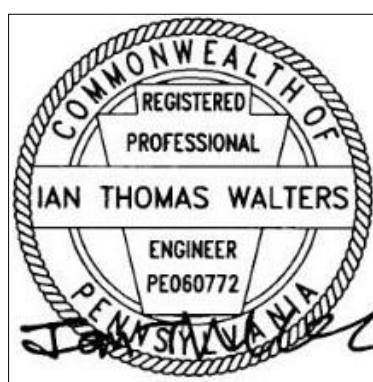
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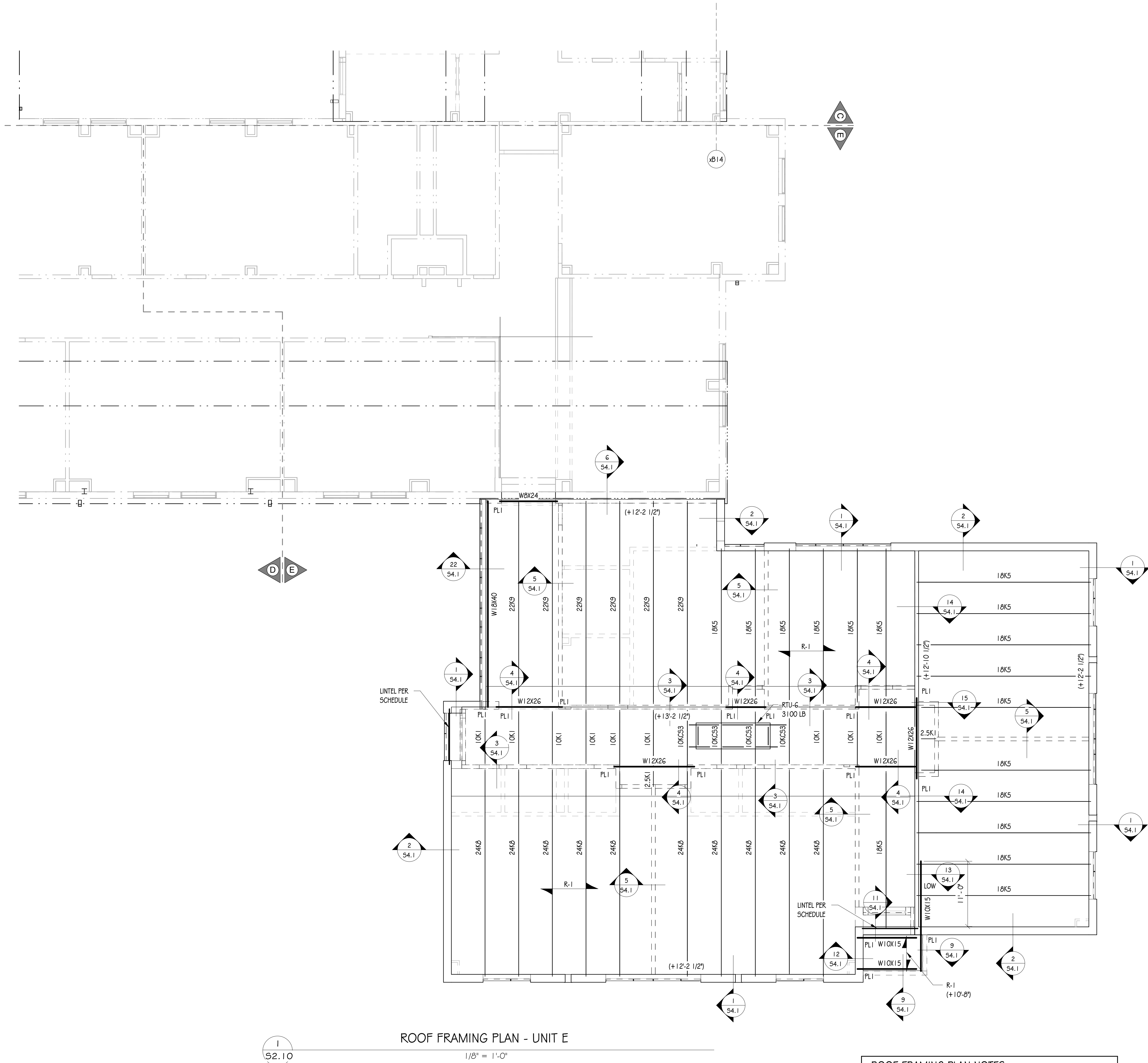
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S2.8

[illegible]

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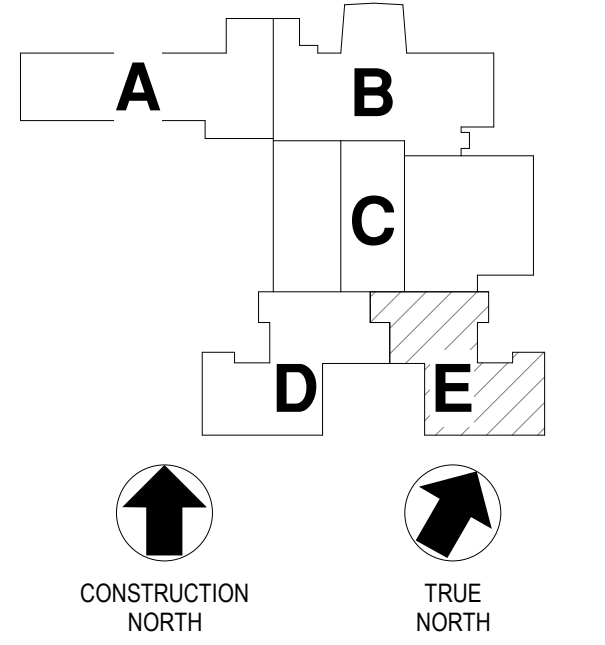


ROOF FRAMING PLAN NOTES

1. ROOF REFERENCE ELEVATION IS 10'-0".
2. ELEVATIONS ARE NOTED AS FOLLOWS, REFERENCED FROM THE REFERENCE ELEVATION: (#'-#").
3. ROOF CONSTRUCTION TYPE R-1 SHALL BE 1 1/2" - 20 GA. TYPE B METAL ROOF DECK.
4. ROLLED STEEL SHALL BE ASTM A992, UNO.
5. SYMBOL SHOWN THUS PLF INDICATES BEAM BEARING PLATE - SEE TYPICAL DETAIL.
6. ROOF MEMBERS SHALL BE EQUALLY SPACED, UNO WQ QUANTITY AS SHOWN ON PLANS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT INDICATED.
8. EXISTING CONSTRUCTION SHOWN THUS ---, TO BE FIELD VERIFIED PRIOR TO DETAILING, FABRICATION AND CONSTRUCTION.
9. PROVIDE FRAMING AT ROOF EQUIPMENT CURBS AND OPENINGS PER DETAIL XX56.1.
10. PROVIDE LINTELS ACCORDING TO STRUCTURAL NOTES AND LINTEL SCHEDULE.
11. SYMBOL SHOWN THUS ◀ INDICATES MOMENT CONN - SEE TYPICAL DETAILS.
12. REFER TO STRUCTURAL NOTES ON DRAWINGS S1.1.
13. REFER TO TYPICAL DETAILS ON DRAWING 56.1 & 56.2.

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KEY PLAN



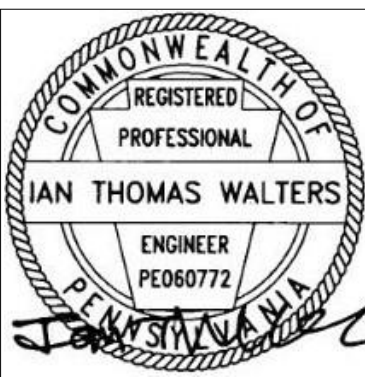
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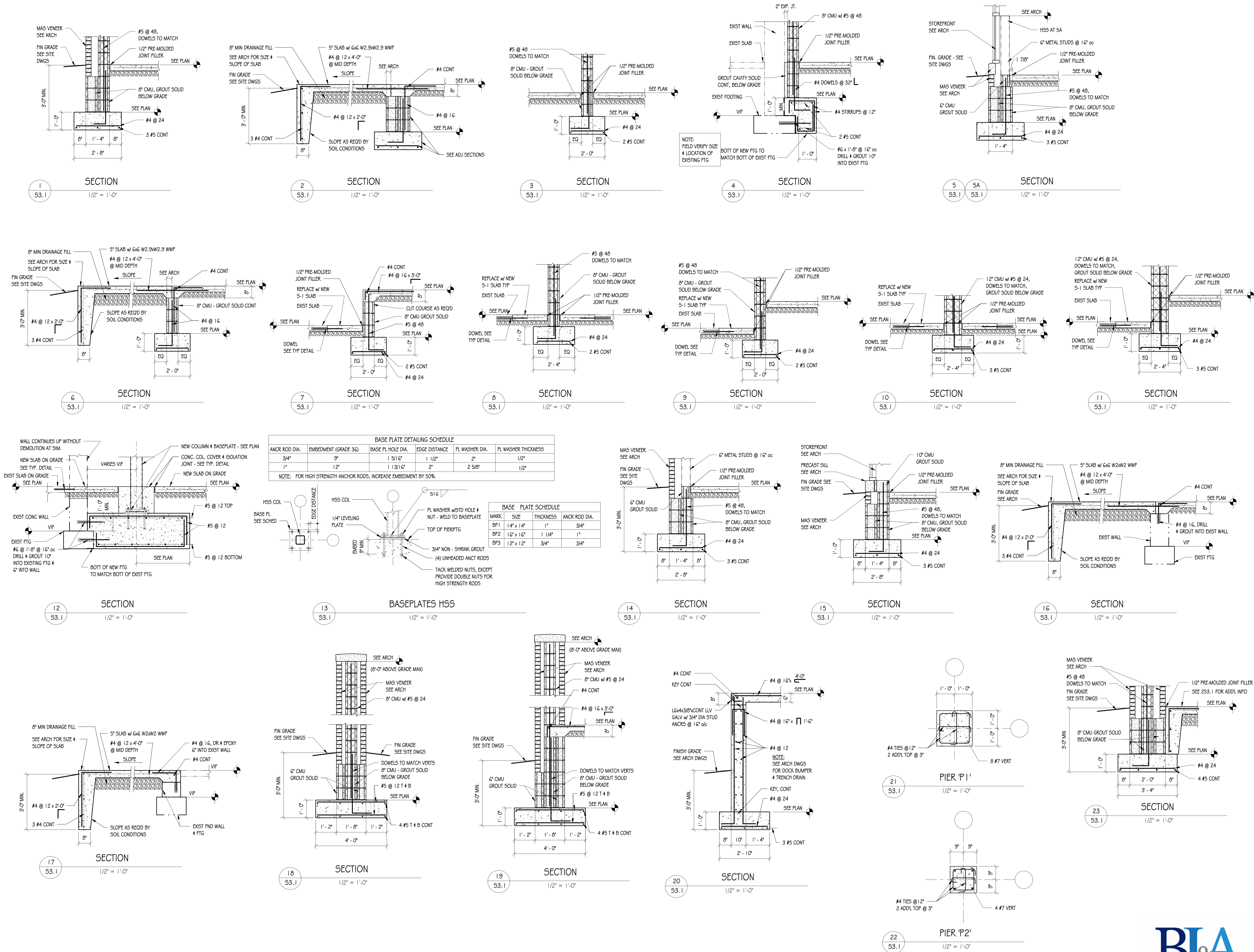
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ROOF FRAMING PLAN - UNIT E
PLOT SCALE: As indicated
FILENAME:
DATE: MARCH 10, 2025

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S2.10



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NO.	DATE	DESCRIPTION OF CHANGES

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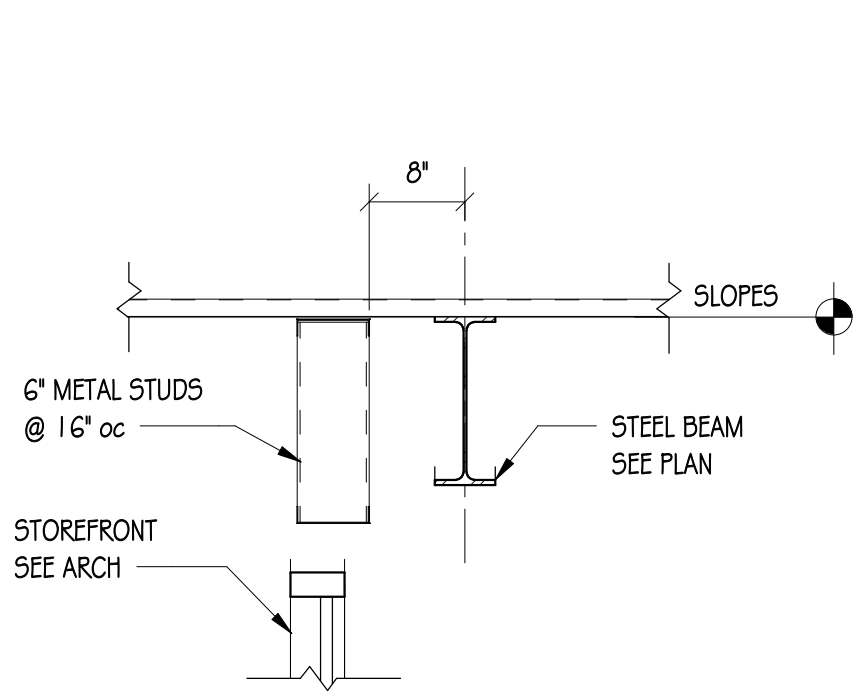
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FOUNDATION SECTIONS
PLOT SCALE:
As indicated
FILENAME:
DATE:
MARCH 10, 2025

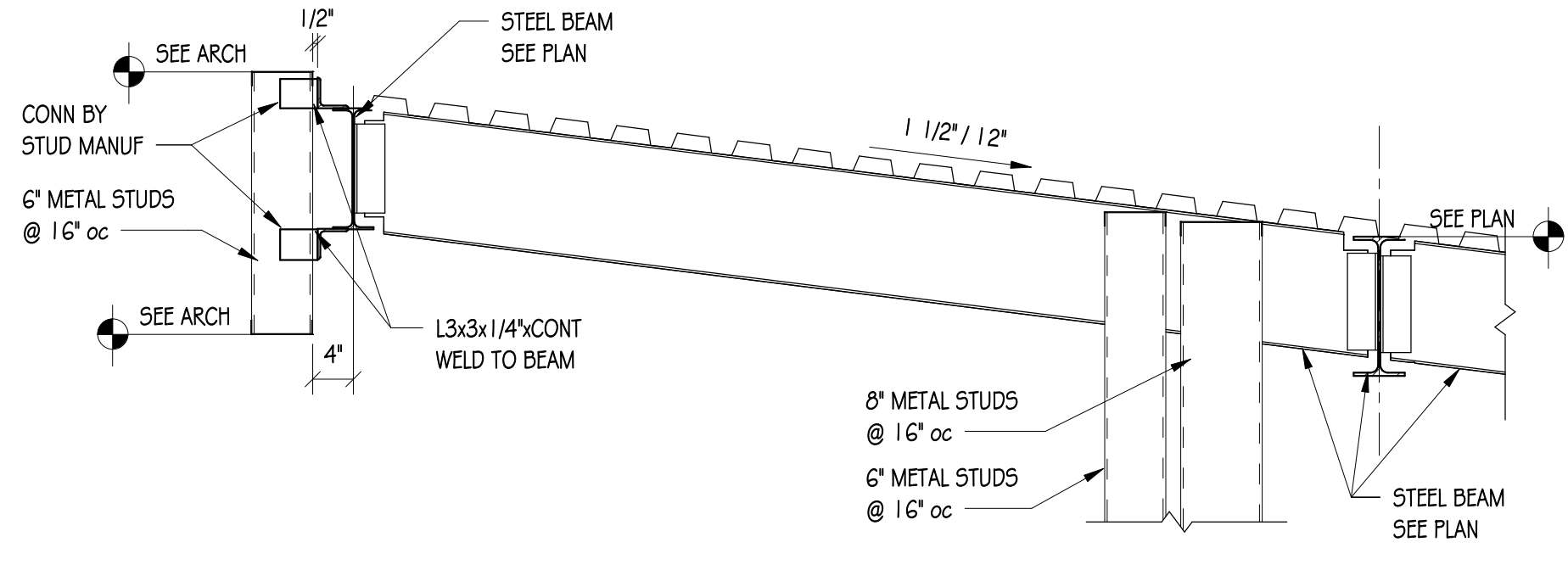
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S3.1

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REGISTERED PROFESSIONAL
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ENGINEER
PED00772

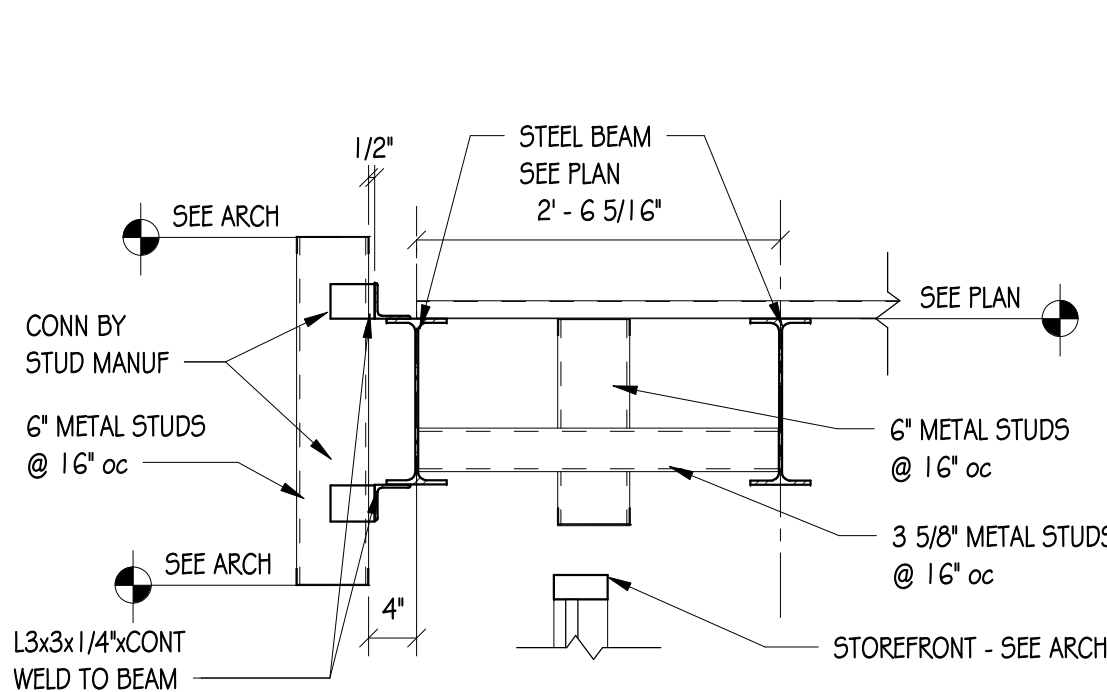
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STRUCTURAL ENGINEERS
BAKER, INGRAM & ASSOCIATES
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Dover, Delaware
Newark, Delaware
Haddon Heights, New Jersey
Annapolis, Maryland
1547 Oregon Pike
Lancaster, PA 17601
717-292-7400
info@bakeringram.com
bakeringram.com



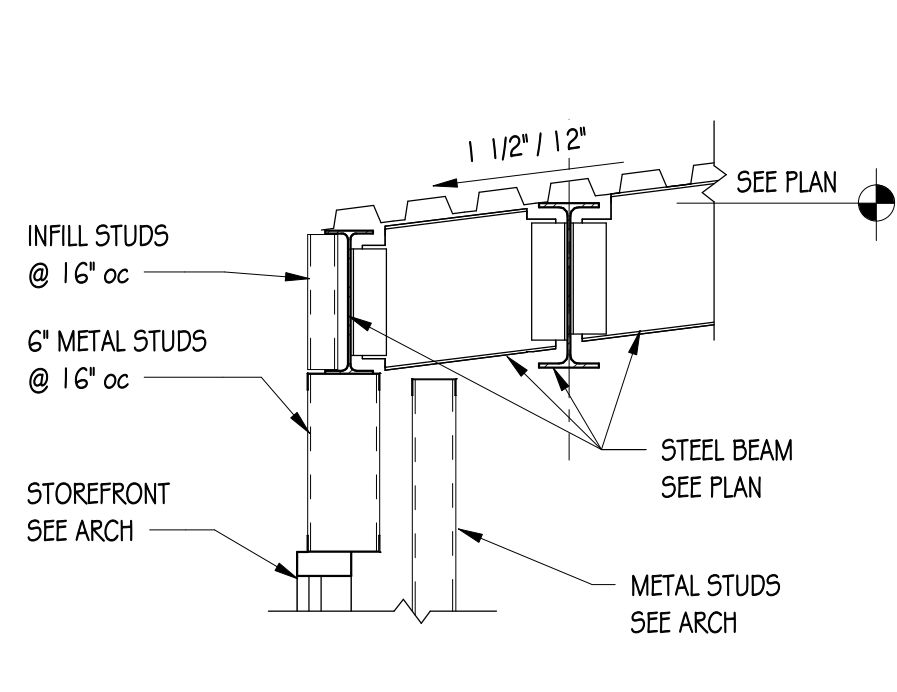
1
SECTION
3/4" = 1'-0"



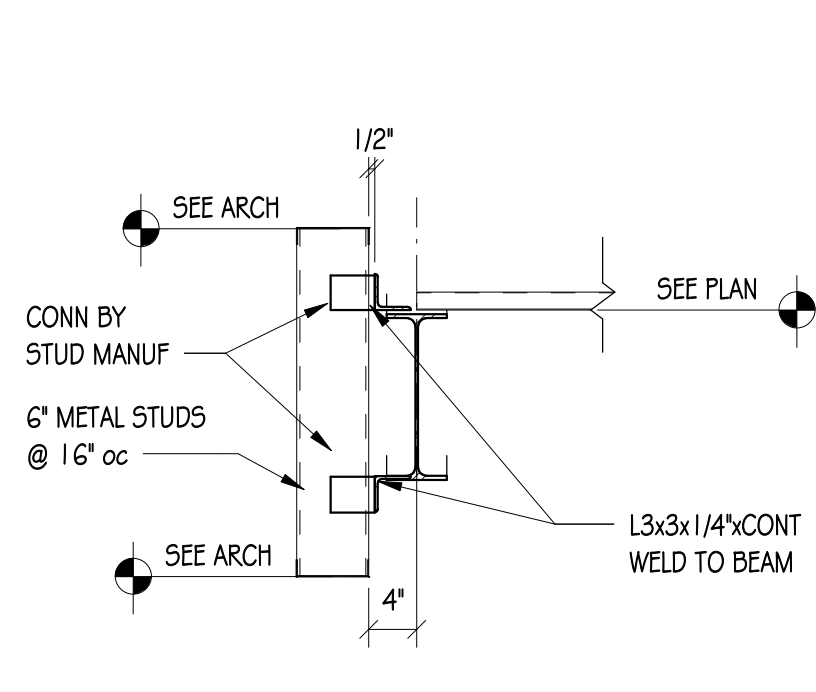
2
SECTION
3/4" = 1'-0"



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



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



5
SECTION
3/4" = 1'-0"

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NO.	DATE	NAME	DESCRIPTION OF CHANGES

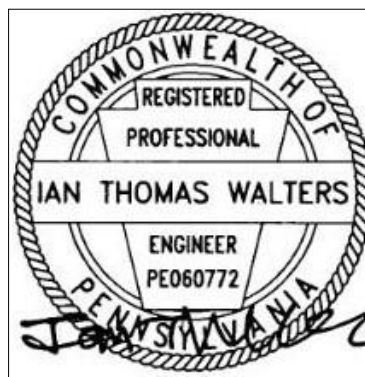
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Annapolis, Maryland

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Lancaster, PA 17601
717-292-7400
info@bakeringram.com
bakeringram.com

FRAMING SECTIONS

PLOT SCALE:

3/4" = 1'-0"

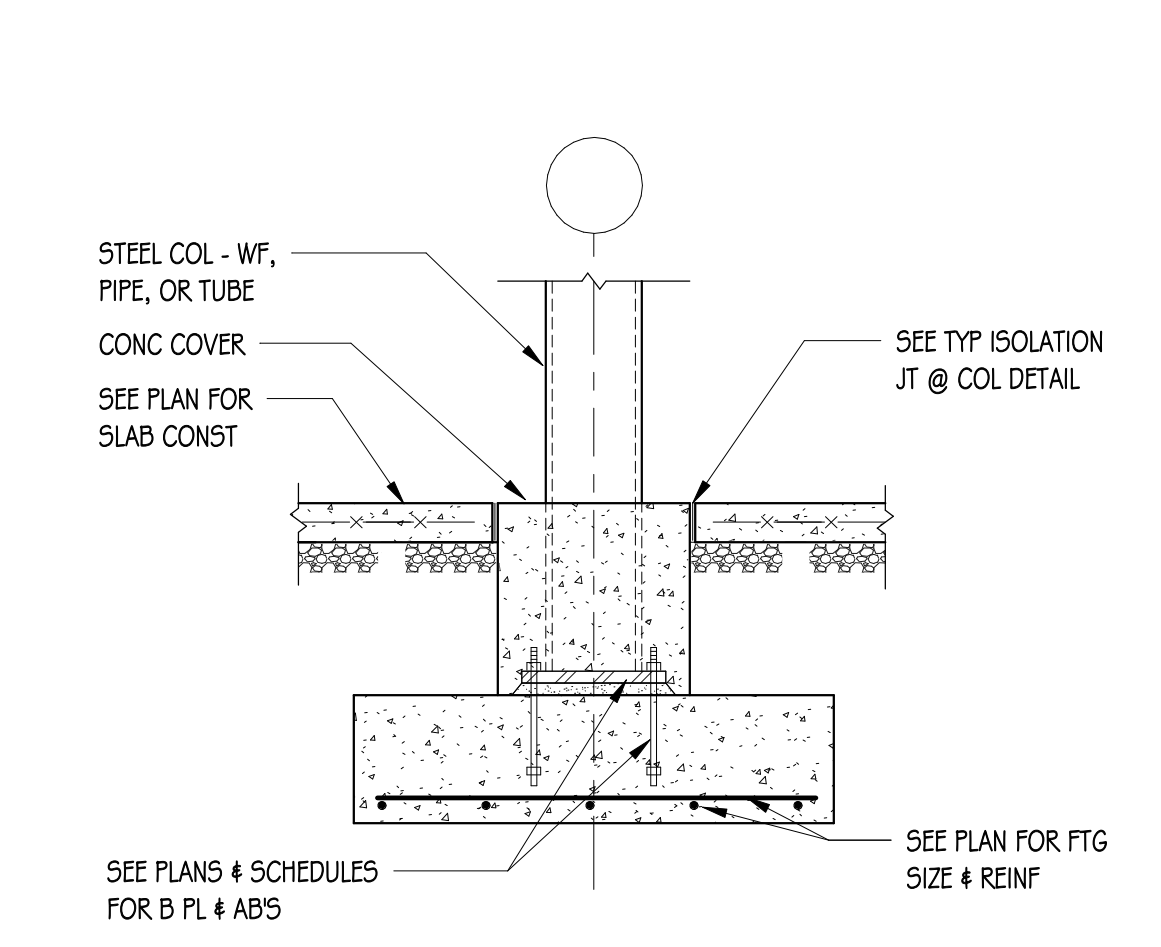
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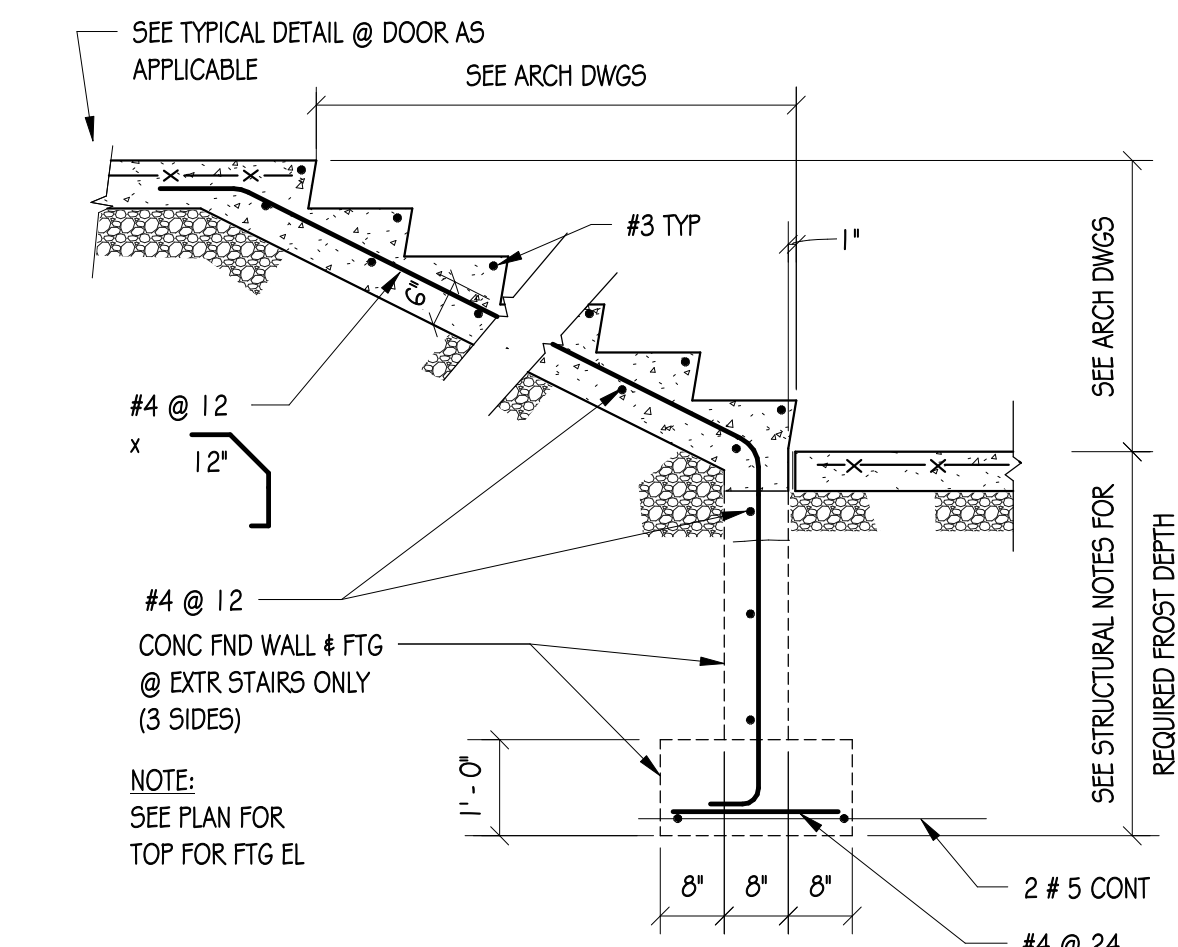
MARCH 10, 2025

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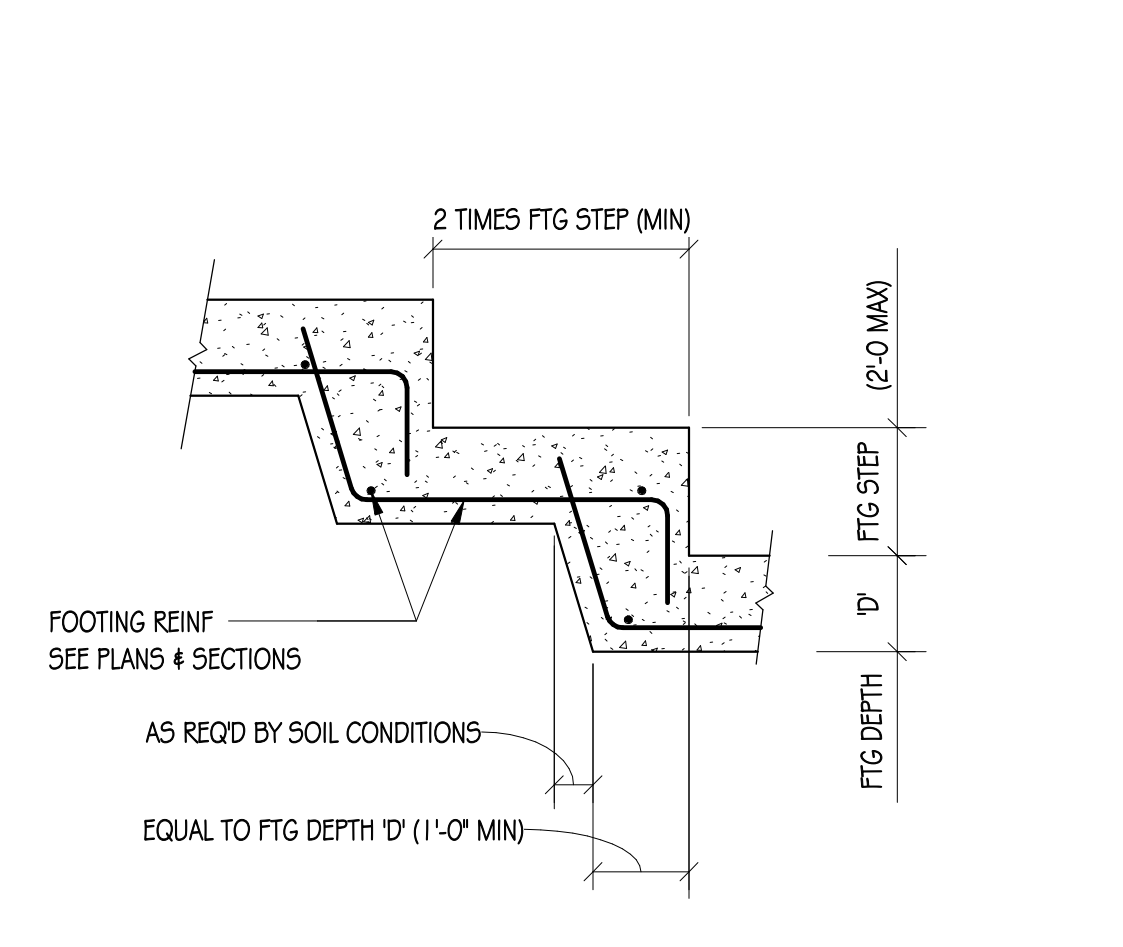
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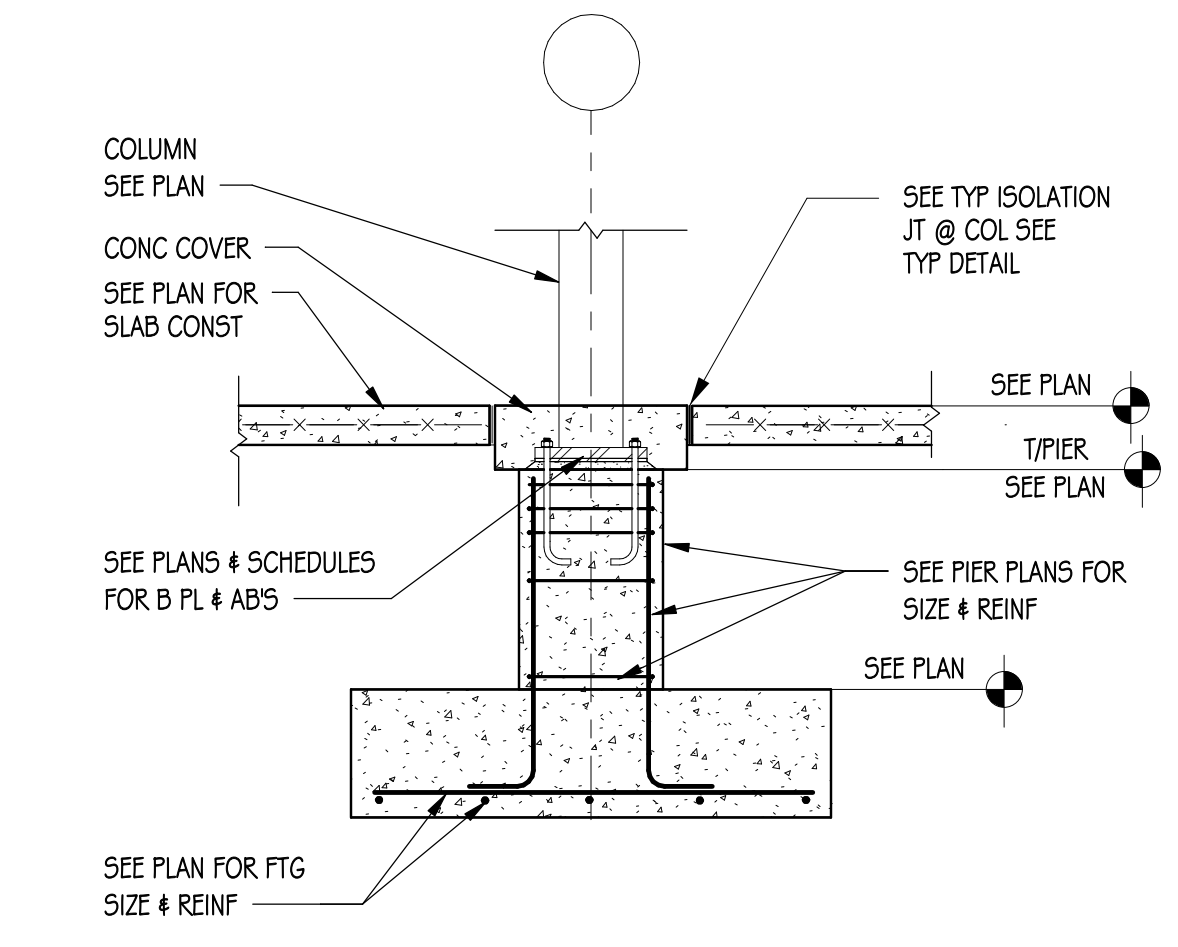
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S6.1
COL & BASE PL CONC COVER
1/2" = 1'-0"



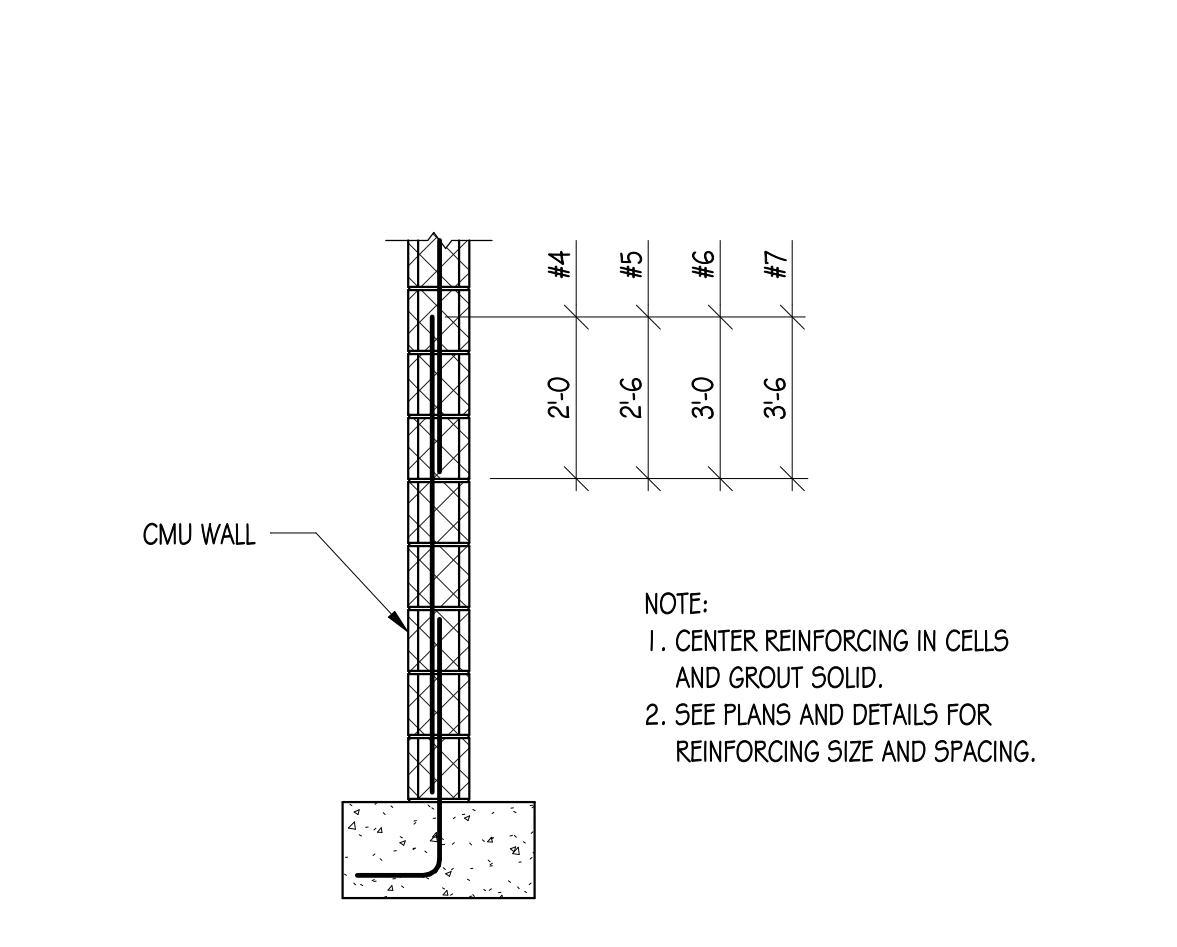
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S6.1
CONCRETE STAIR DETAIL
1/2" = 1'-0"



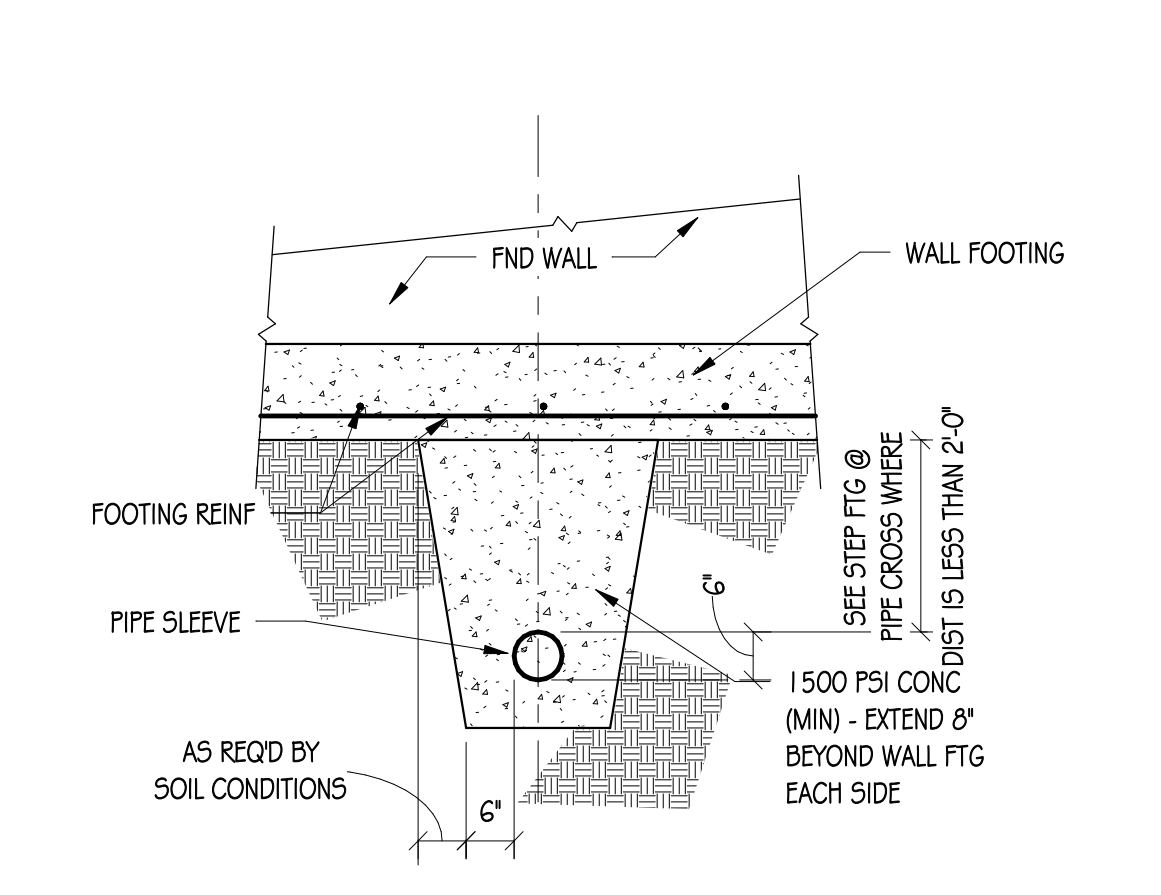
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S6.1
FOOTING STEP DETAIL
1/2" = 1'-0"



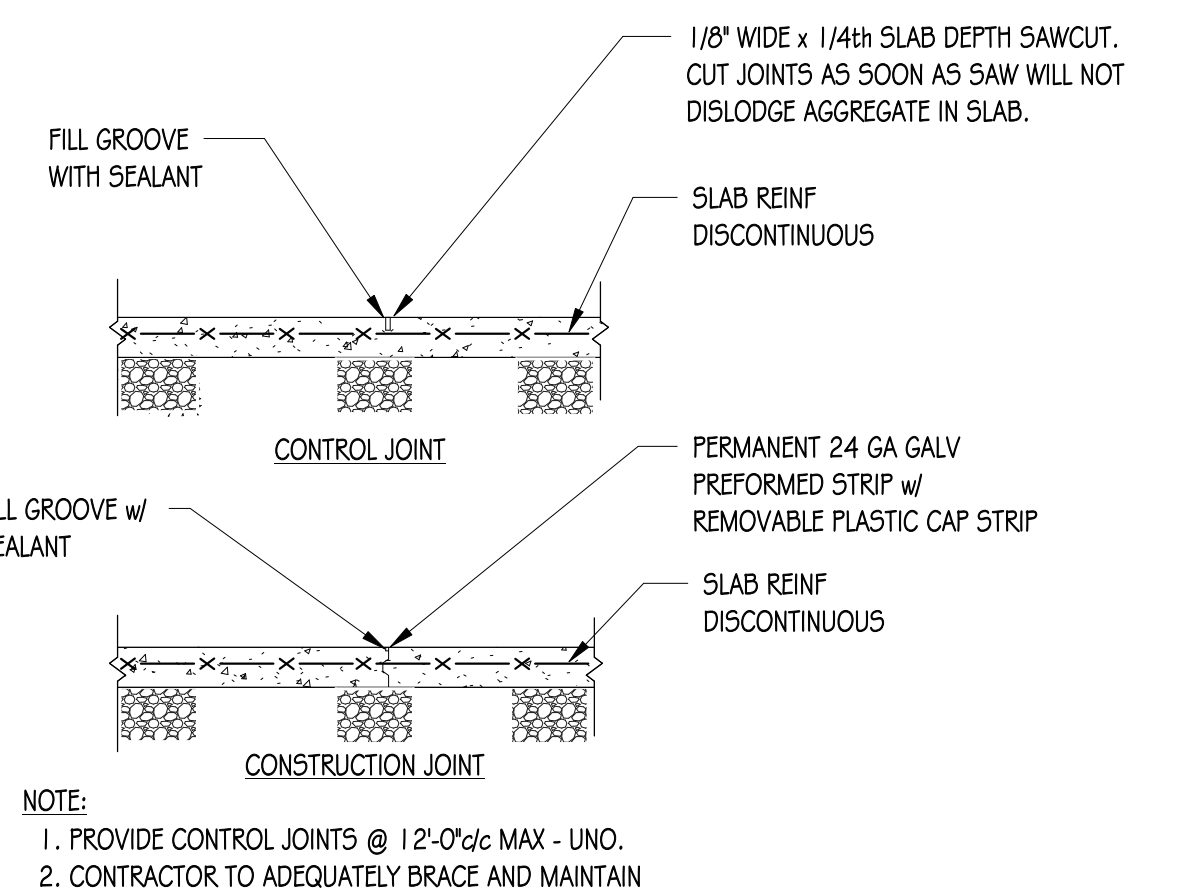
4
S6.1
PIER SECTION
1/2" = 1'-0"



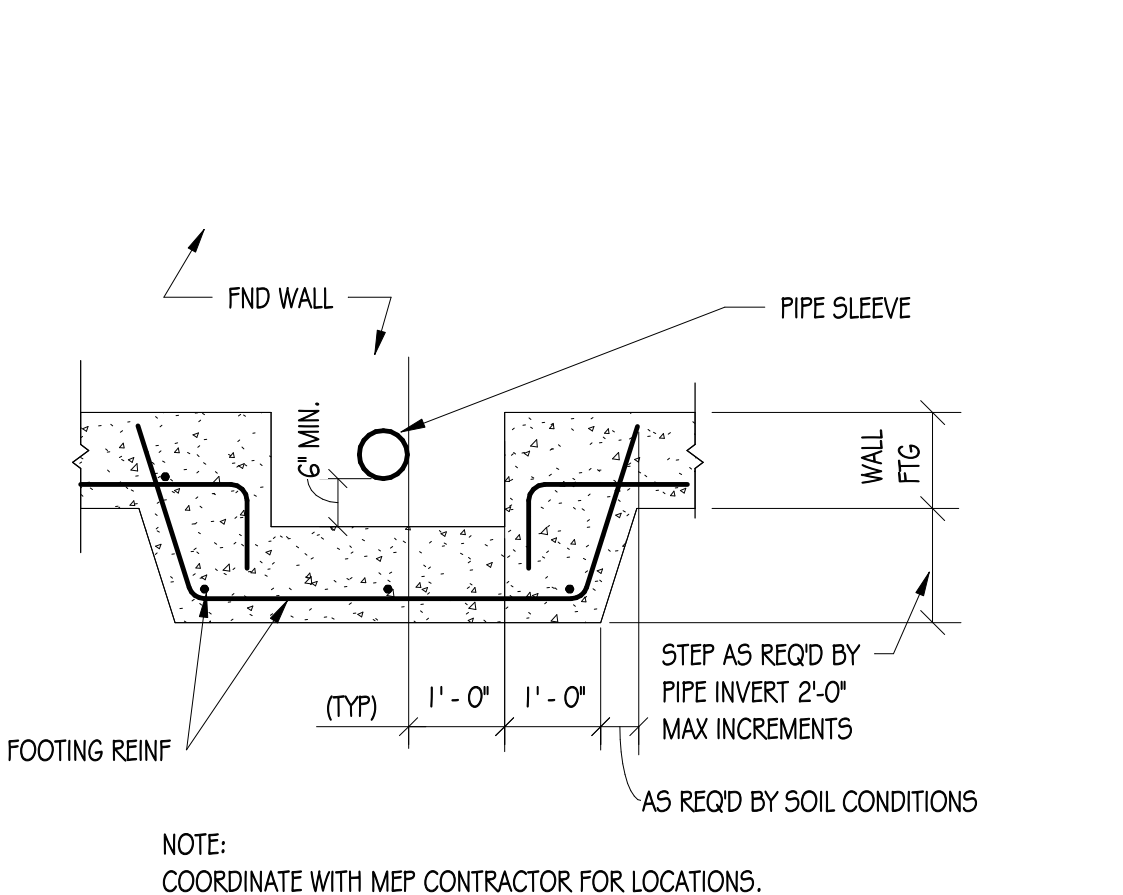
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S6.1
REINF LAP SPlice DETAIL
1/2" = 1'-0"



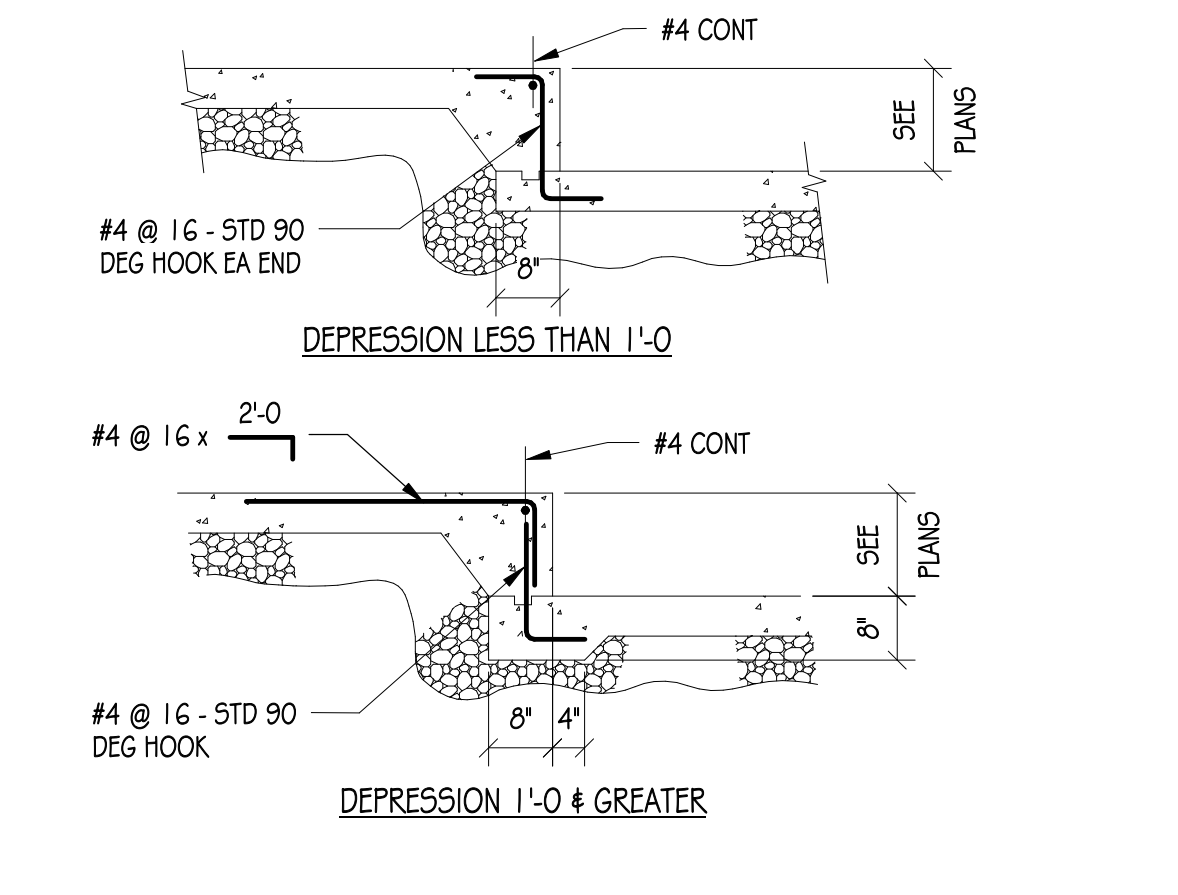
6
S6.1
PIPE CROSSING BELOW WALL FTG.
1/2" = 1'-0"



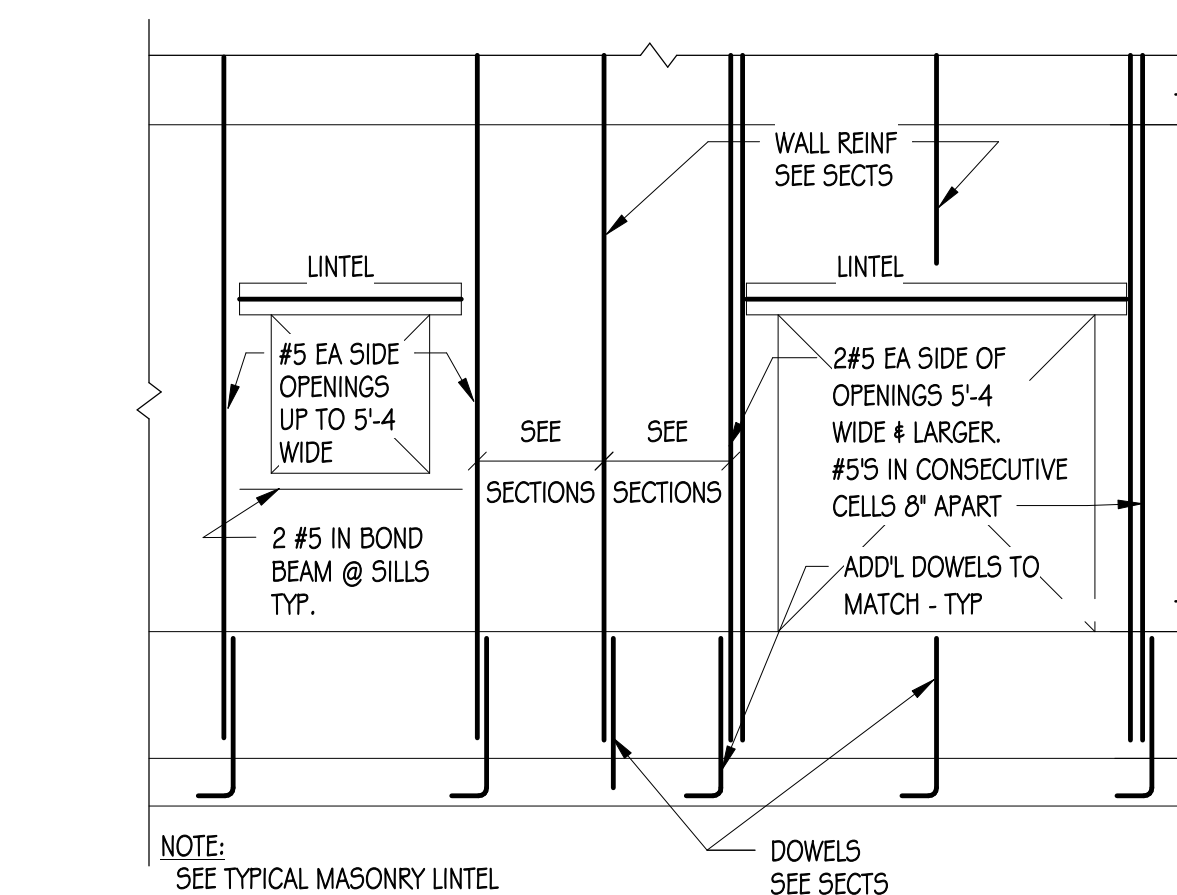
7
S6.1
SLAB CONST/CONTROL JOINT
1/2" = 1'-0"



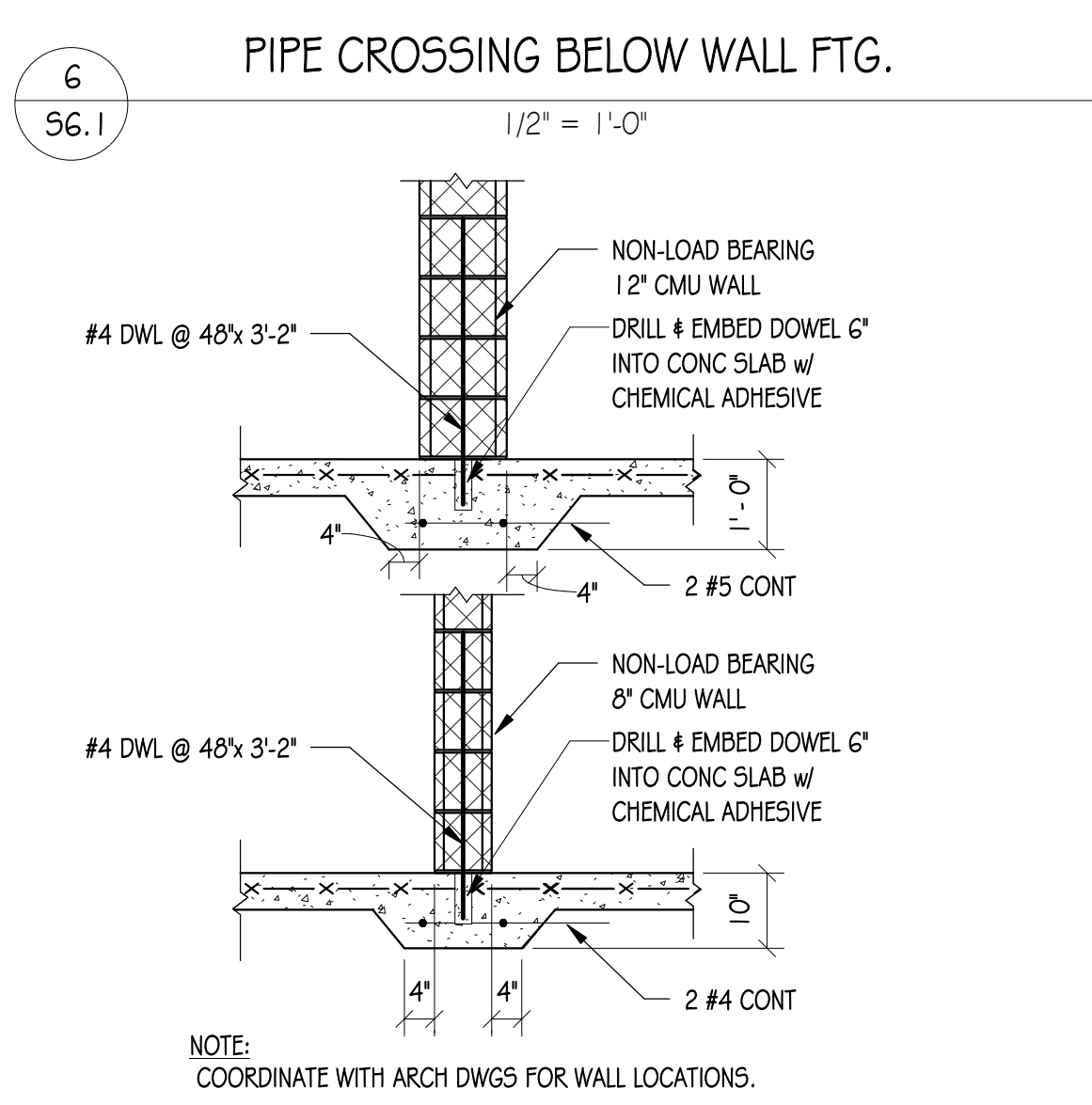
8
S6.1
STEP FTG @ PIPE CROSSING
1/2" = 1'-0"



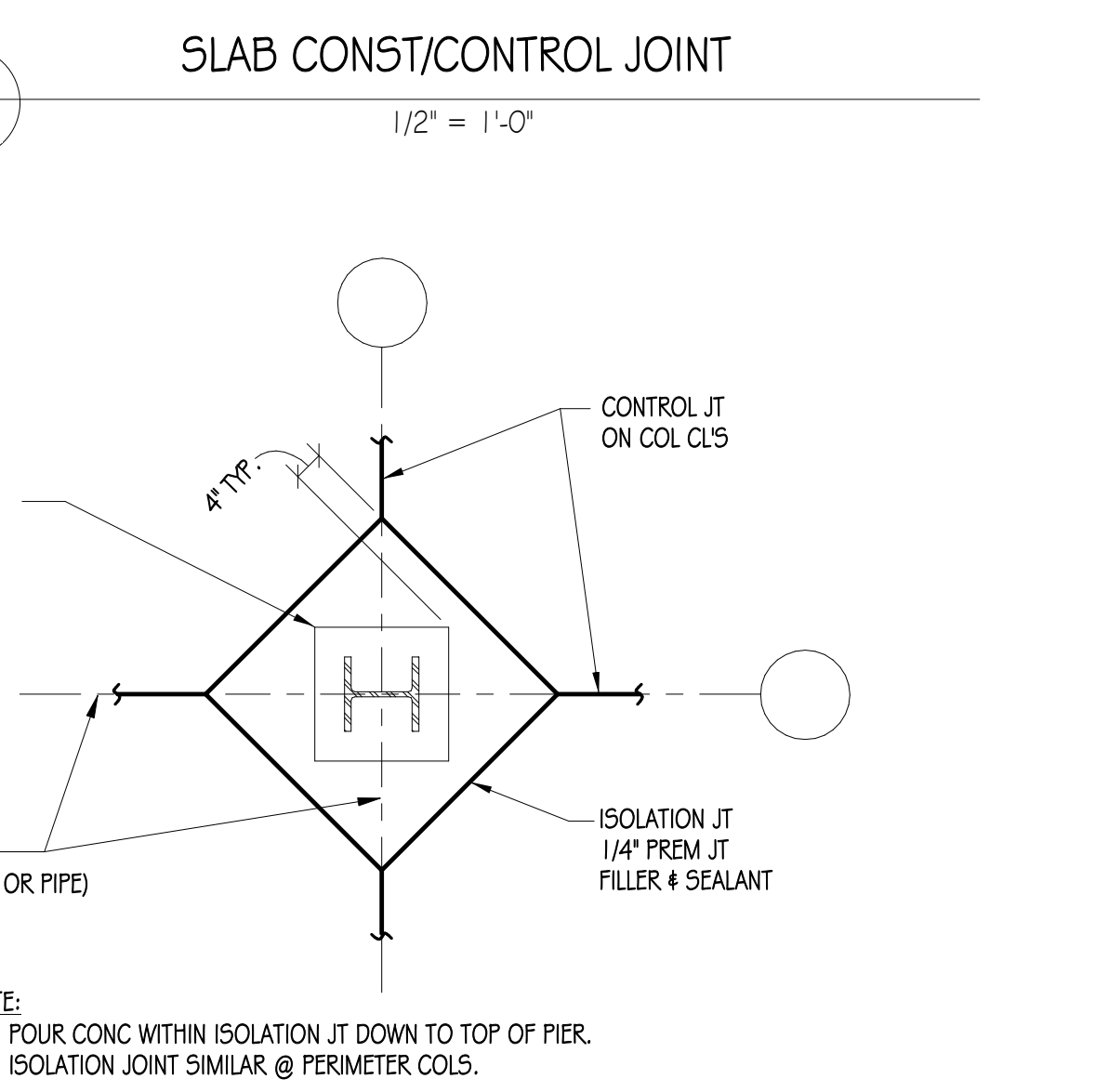
9
S6.1
SLAB DEPRESSION DETAILS
1/2" = 1'-0"



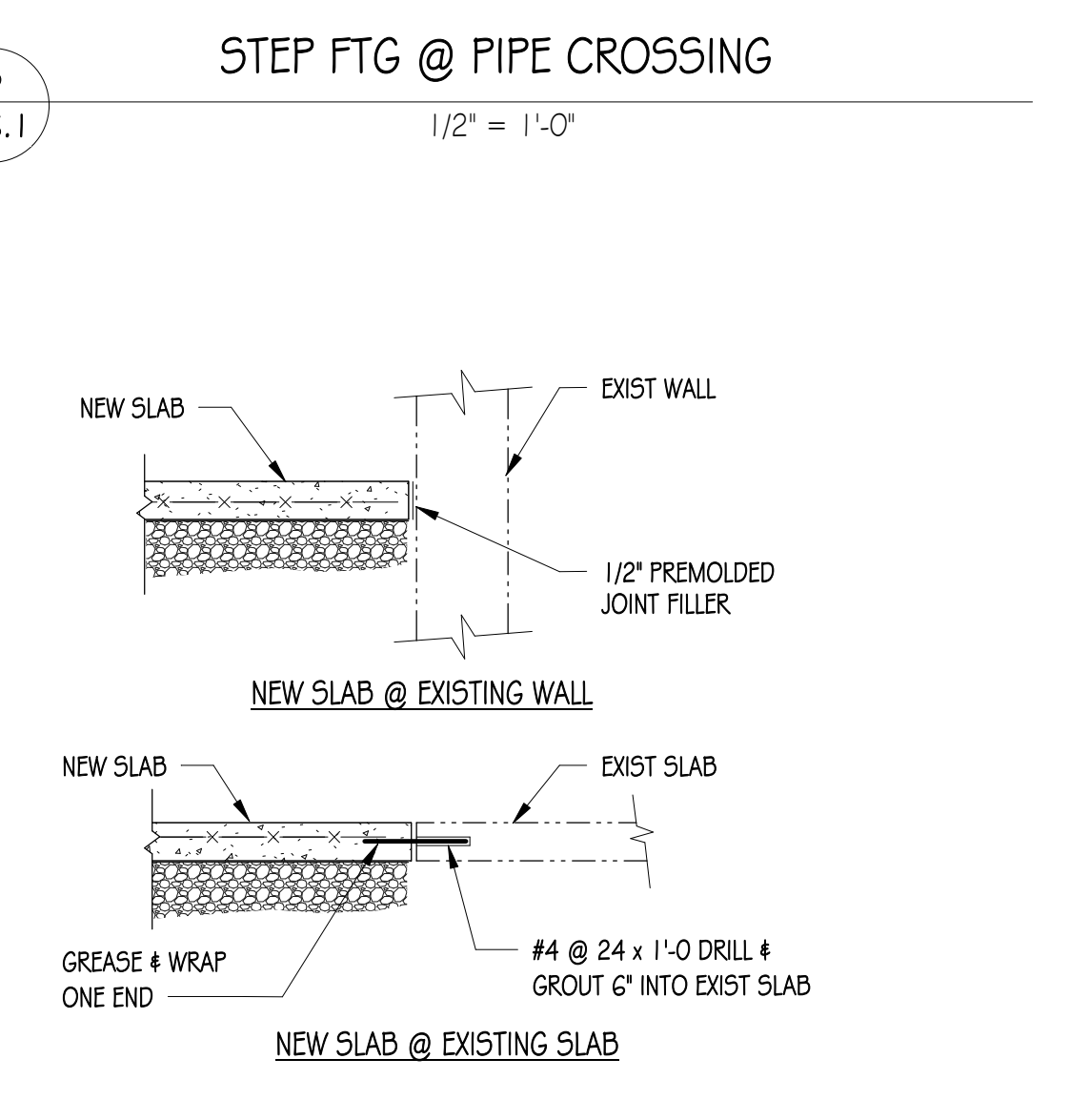
10
S6.1
REINF @ MASONRY OPNGS
3/4" = 1'-0"



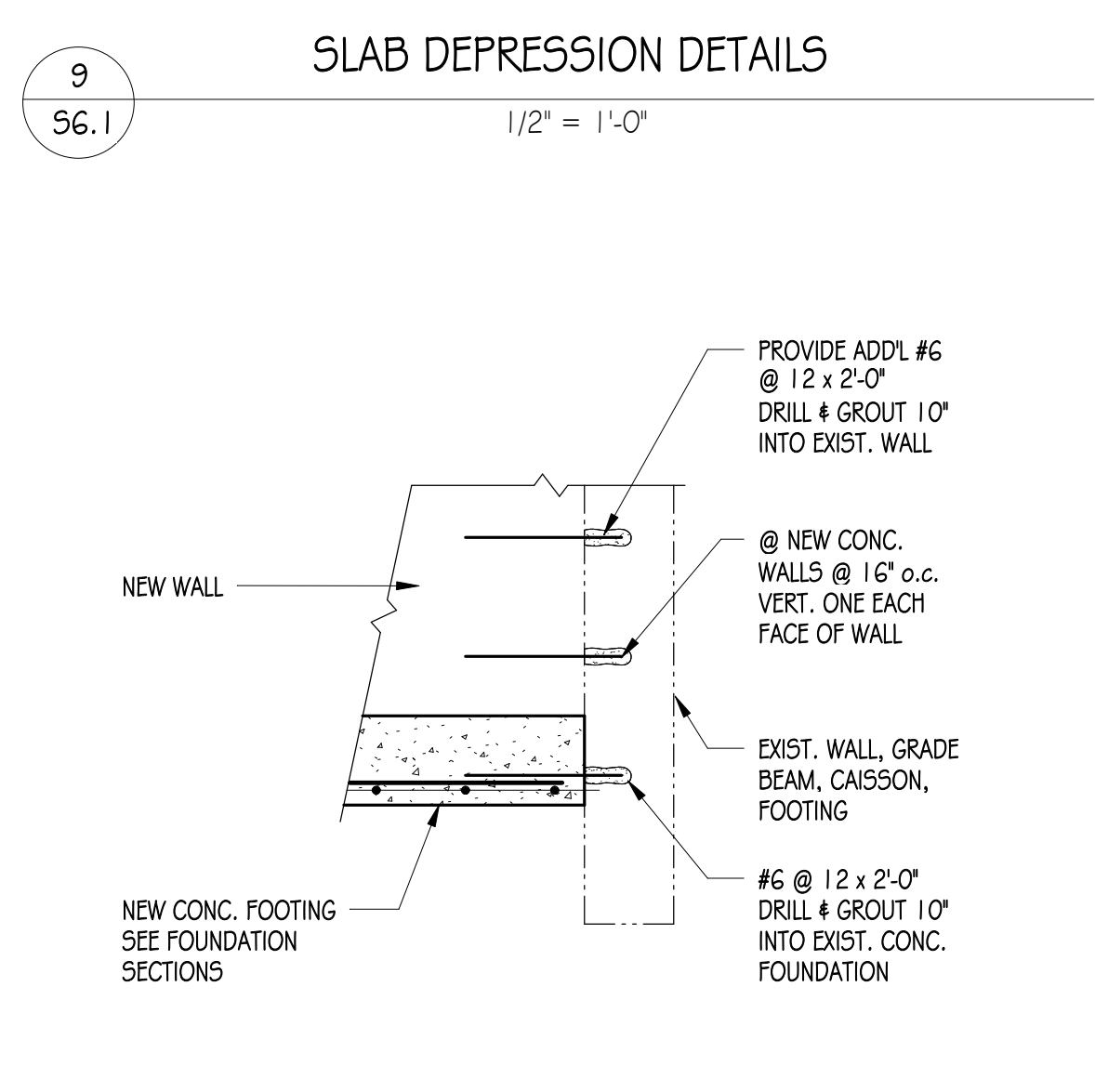
11
S6.1
THICKENED SLAB DETAIL w/ ADH ANCR
1/2" = 1'-0"



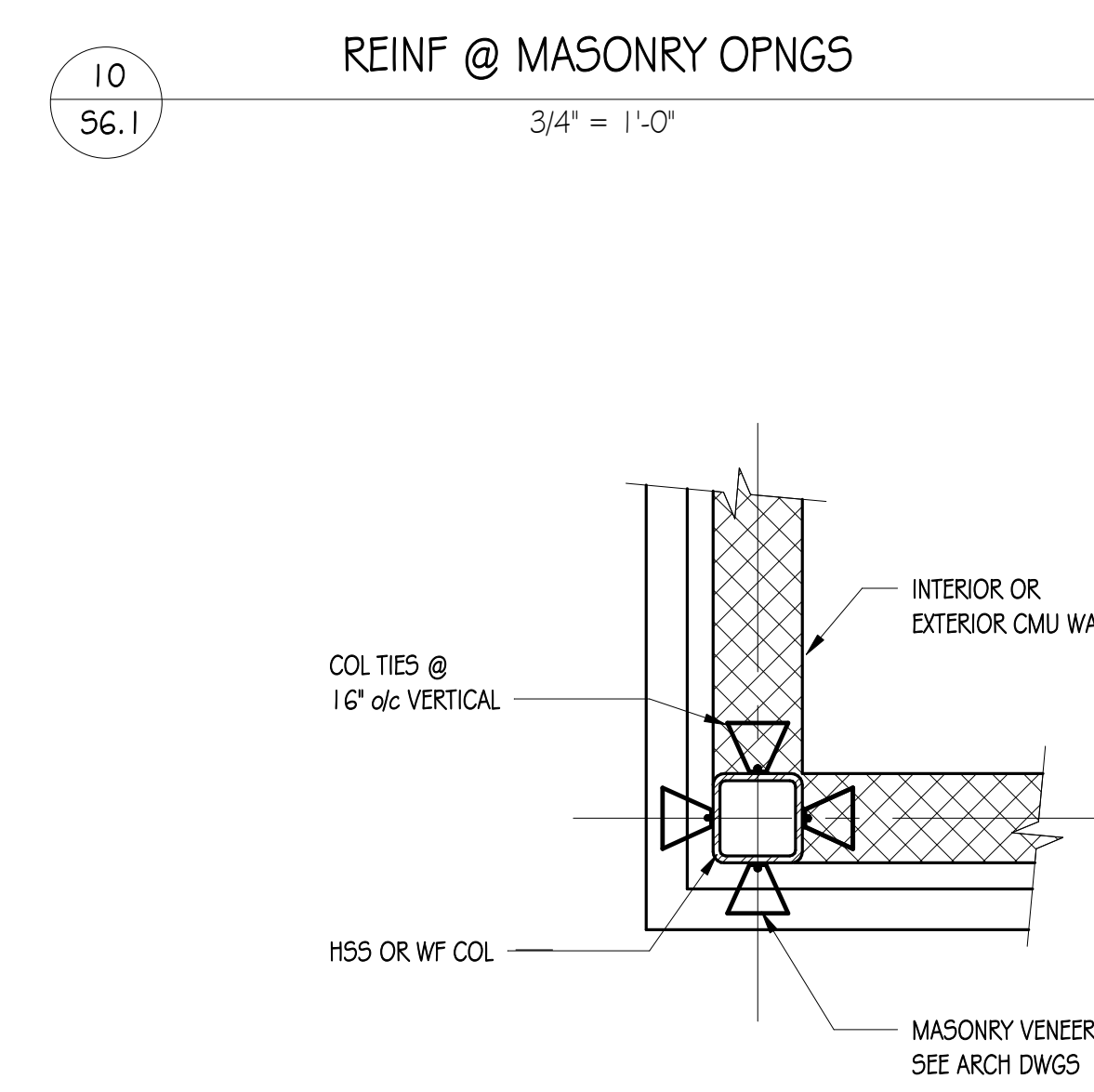
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S6.1
SLAB ISOLATION JT @ COLS
1/2" = 1'-0"



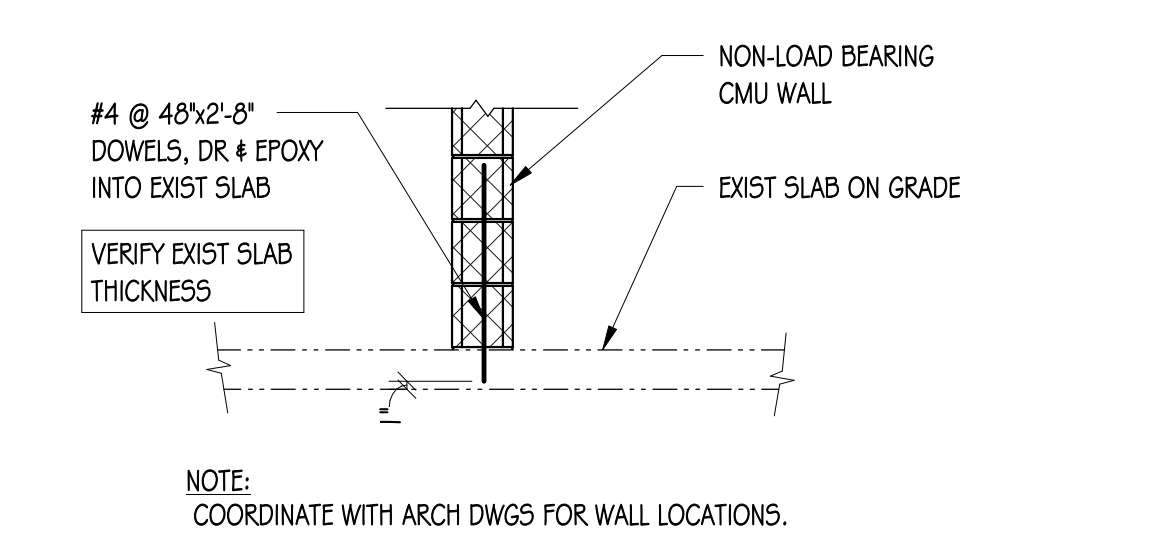
13
S6.1
NEW SLAB/EXISTING INTERFACE
1/2" = 1'-0"



14
S6.1
TYPICAL FOOTING TO EXISTING FOUNDATION INTERFACE
3/4" = 1'-0"



15
S6.1
COL/CMU WALL TIE DETAIL
3/4" = 1'-0"



16
S6.1
NON-LOAD BEARING CMU DETAIL
1/2" = 1'-0"

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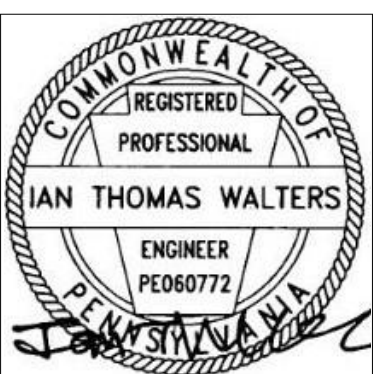
REVISIONS

NO.	DATE	BY	NAME	DESCRIPTION OF CHANGES

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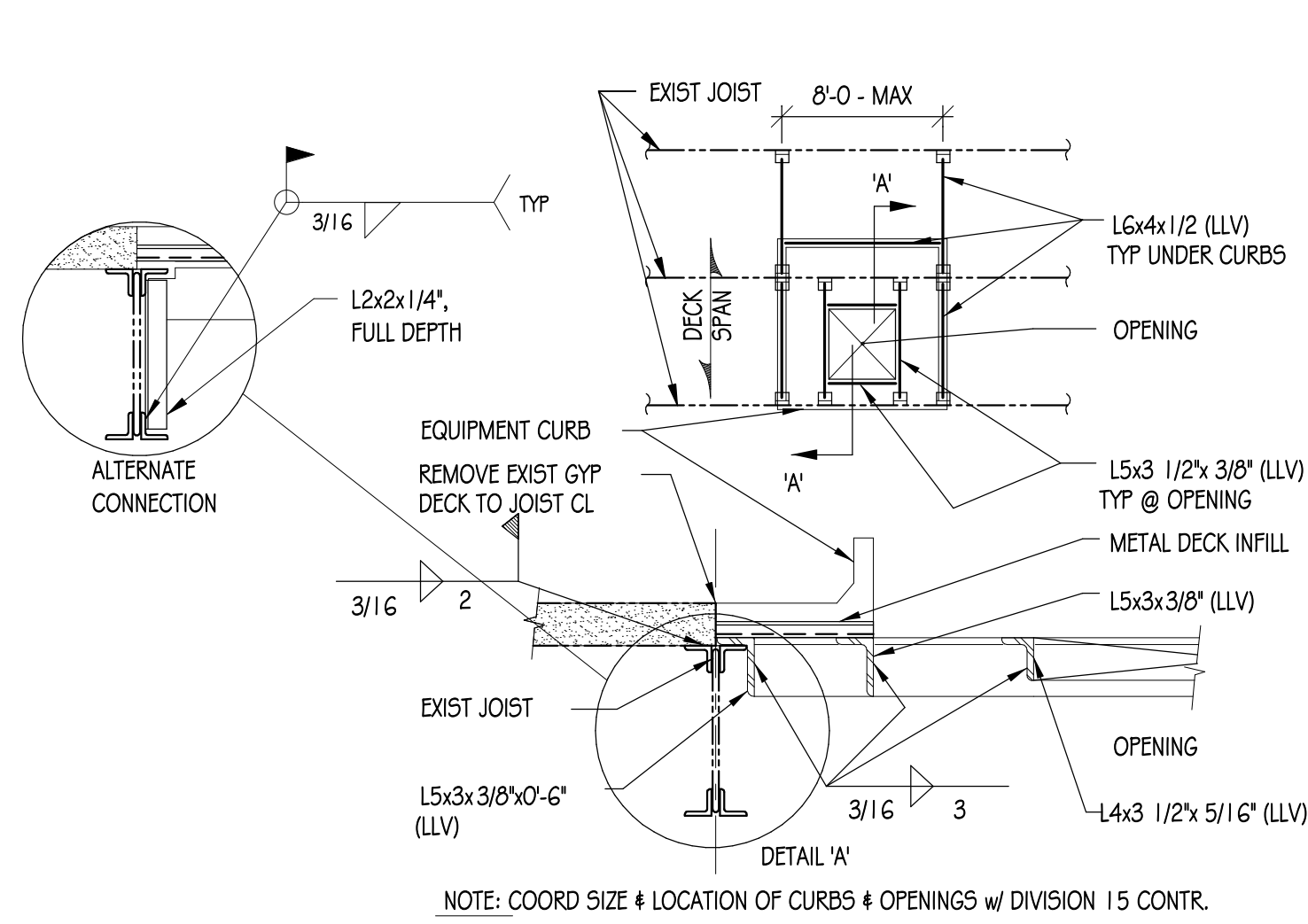


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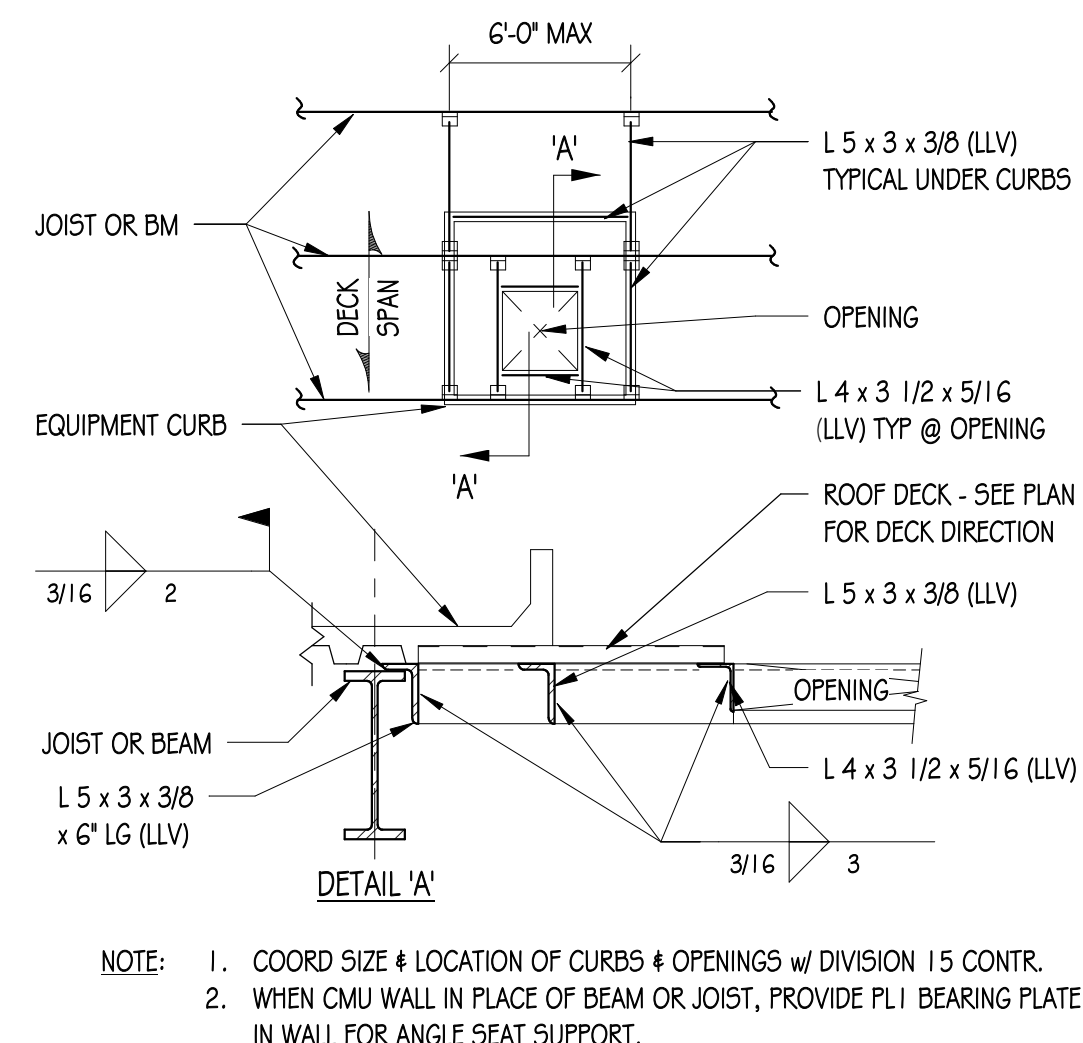
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TYPICAL DETAILS
PLOT SCALE: As indicated
FILENAME:
DATE: MARCH 10, 2025

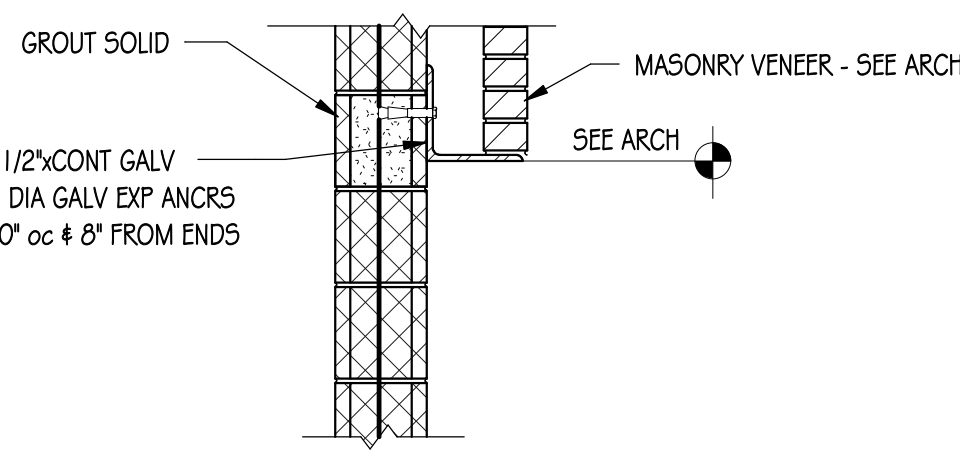
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S6.1



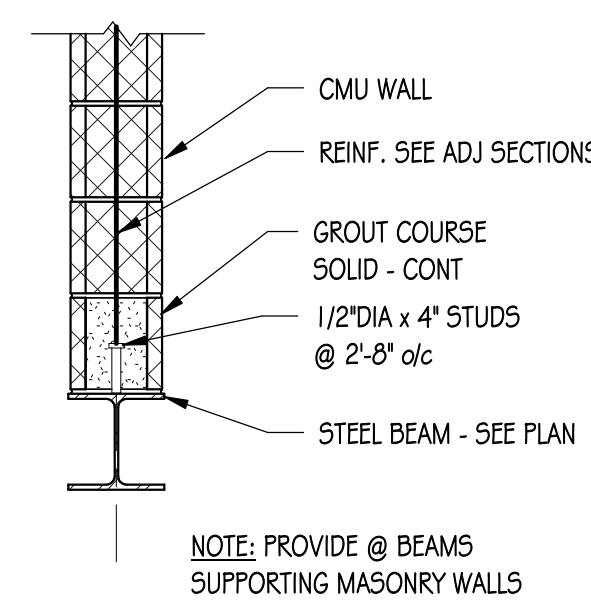
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S6.2
FRMG @ ROOF EQUIP @ CURBS & OPNGS @ EXISTING ROOFS
3/4" = 1'-0"



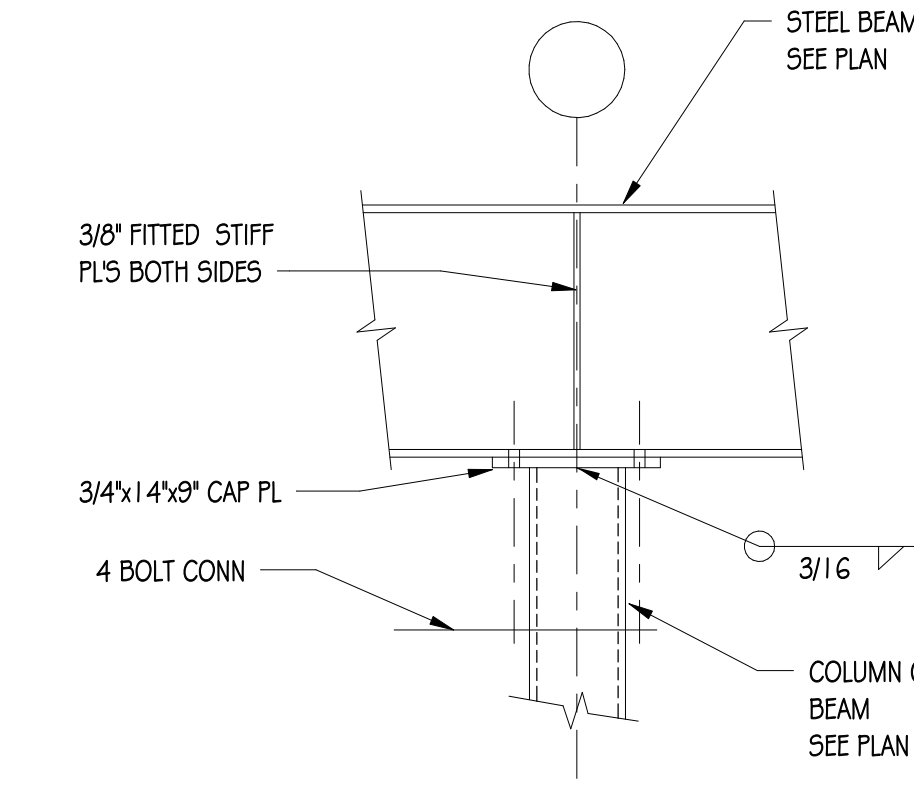
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S6.2
FRMG @ ROOF EQUIP CURBS & OPNGS
3/4" = 1'-0"



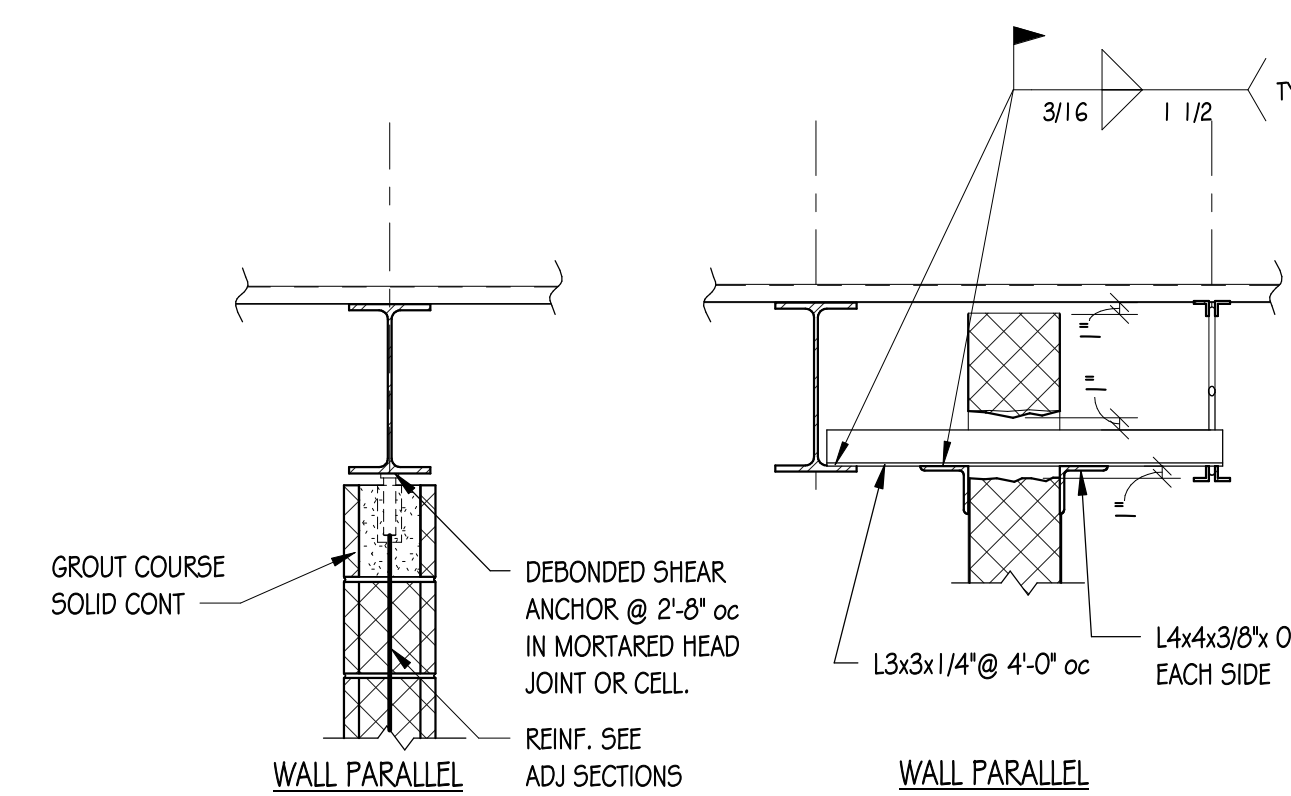
3
S6.2
VENEER SUPPORT DETAIL
3/4" = 1'-0"



4
S6.2
STEEL BEAM/CMU WALL
3/4" = 1'-0"

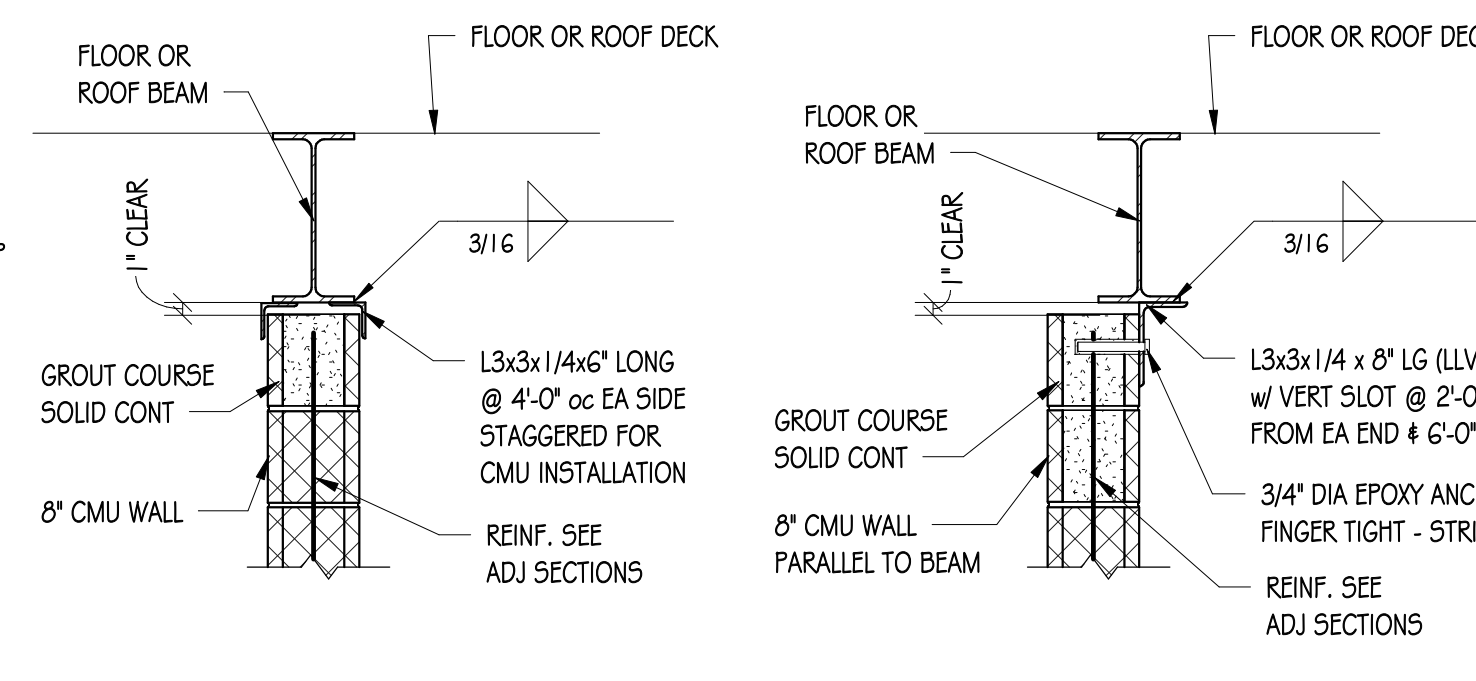


5
S6.2
STEEL BEAM CANTILEVER
3/4" = 1'-0"

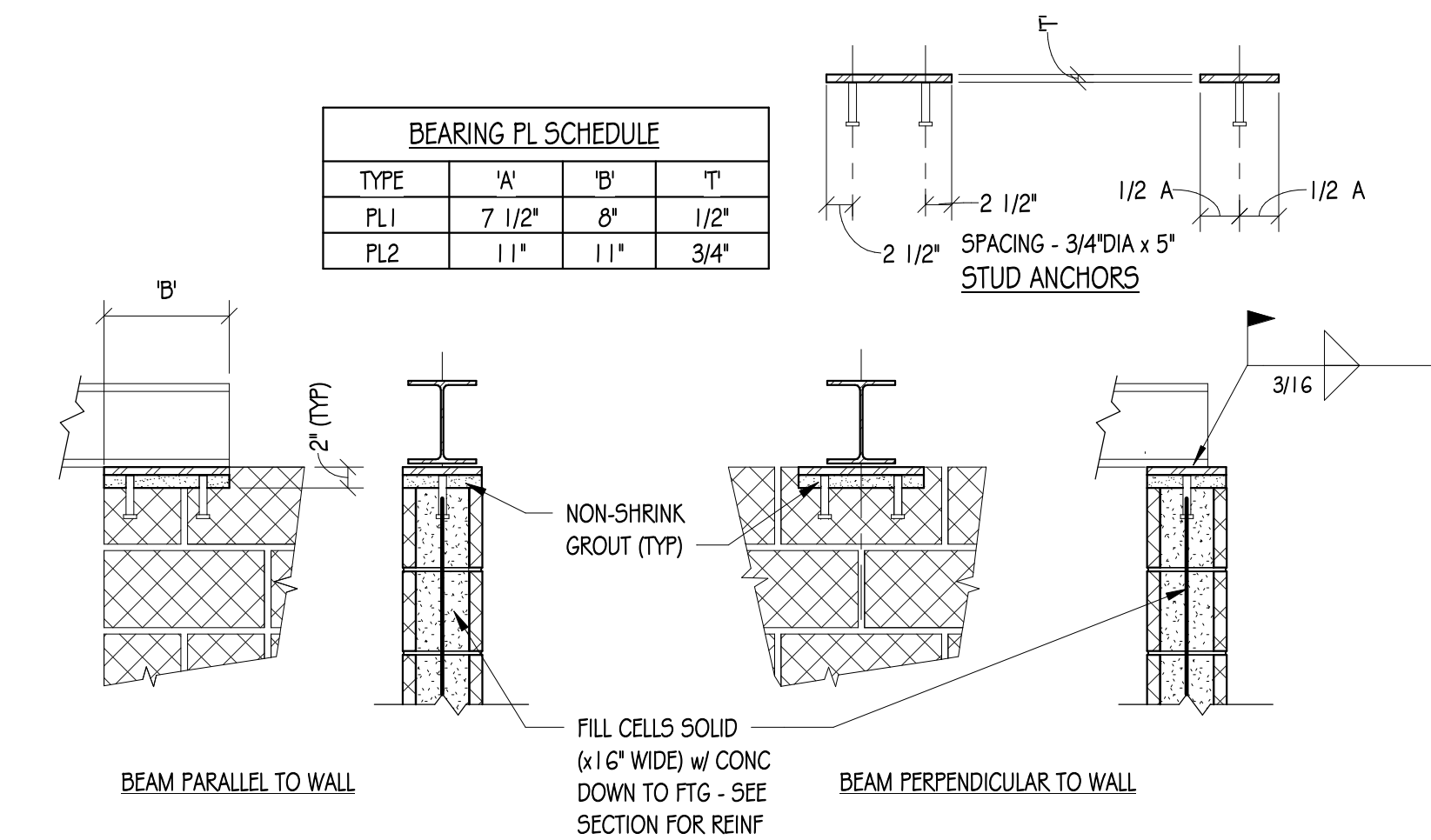


6
S6.2
NON-LOAD BEARING CMU WALL BRACING DETAILS
3/4" = 1'-0"

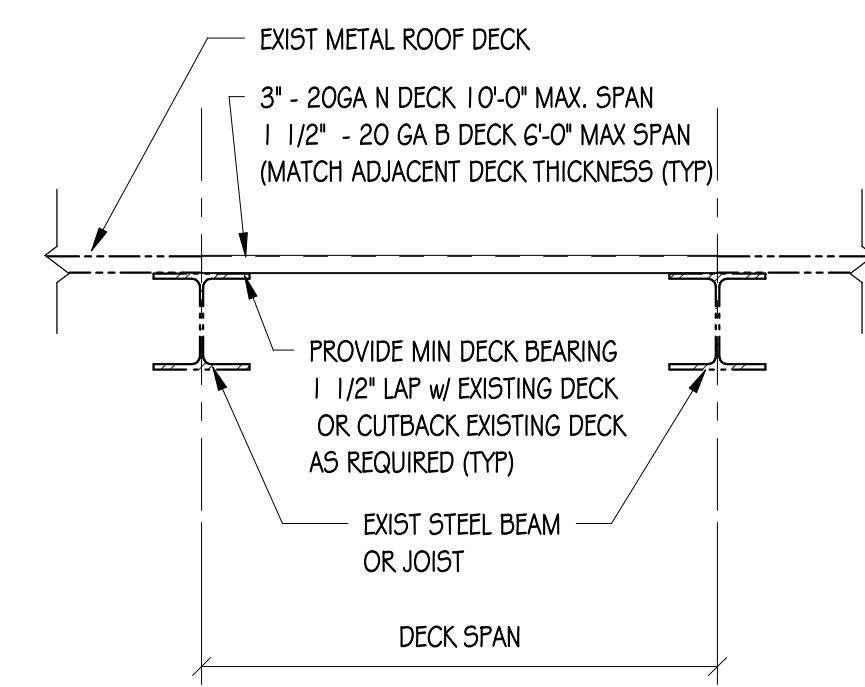
NOTE: VARIATIONS OF THESE DETAILS SHALL BE USED WHERE LOCATION OF WALL BELOW VARIES.



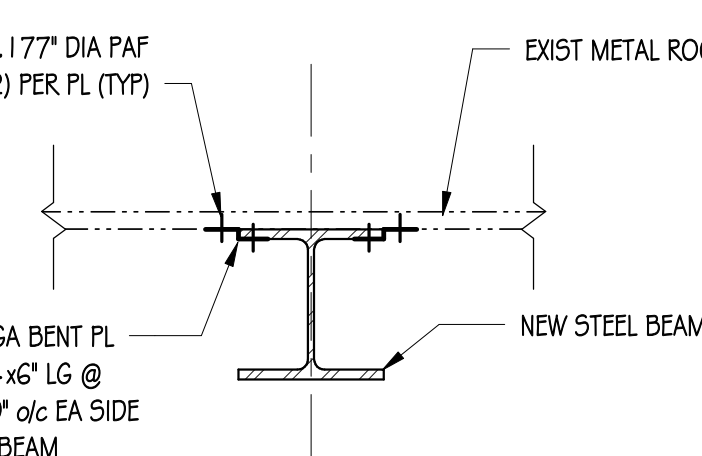
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S6.2
TYPICAL CANTILEVER BEAM AT GIRDER
3/4" = 1'-0"



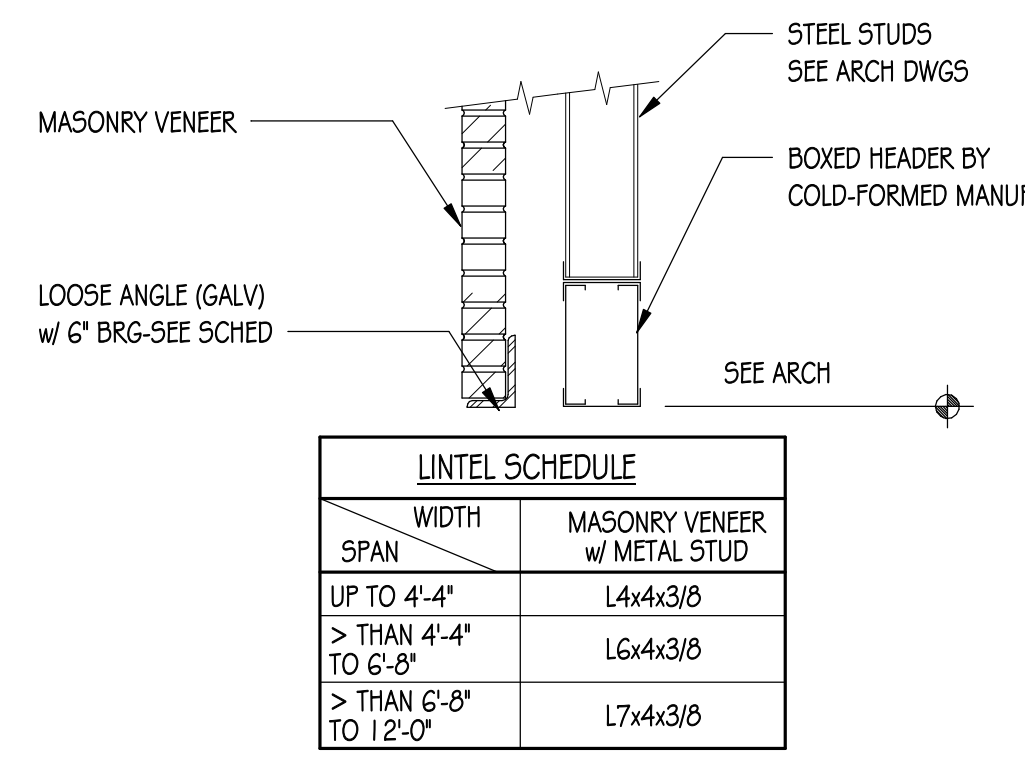
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S6.2
STEEL BEAM/CMU WALL BEARING DETAIL
3/4" = 1'-0"



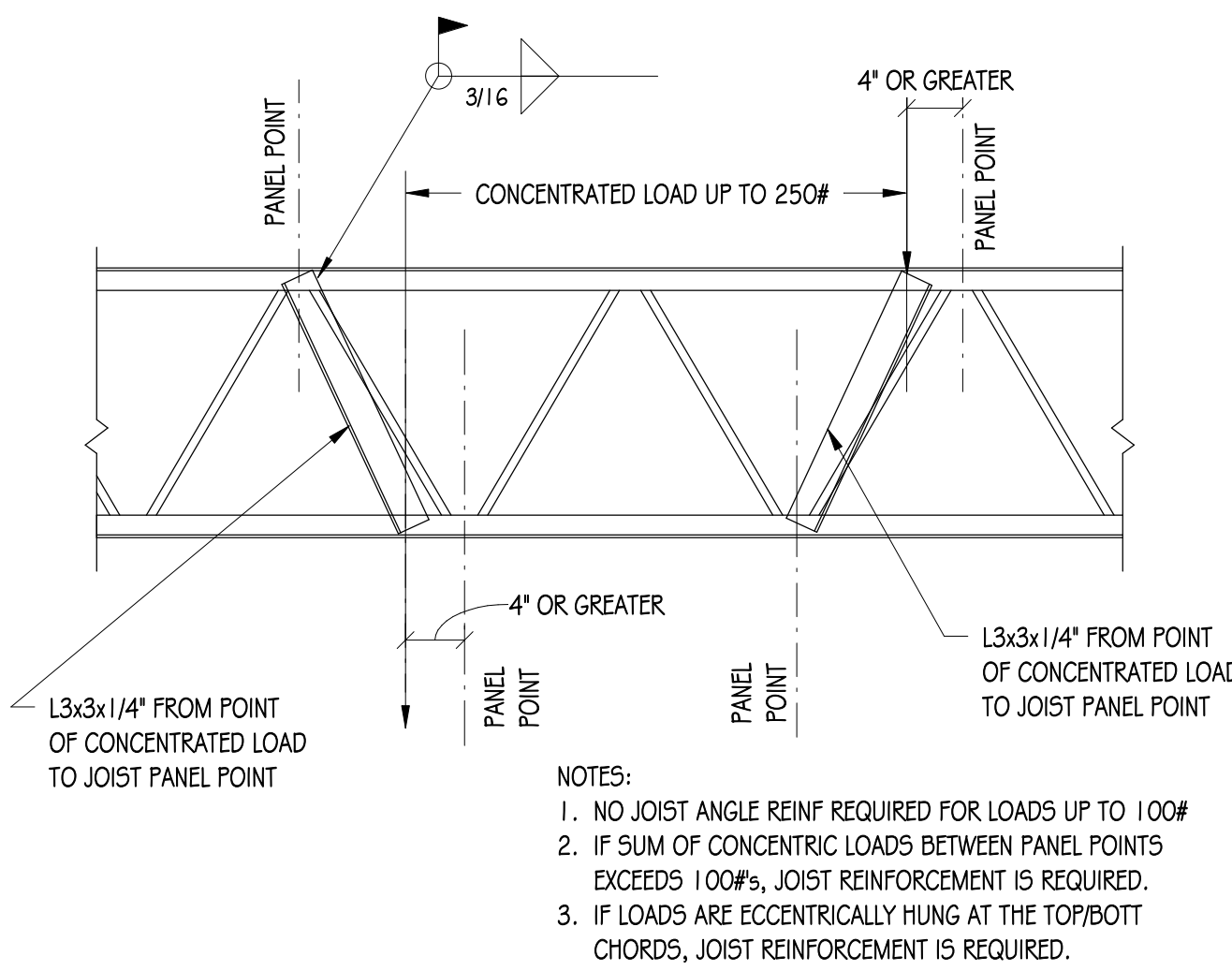
9
S6.2
TYPICAL ROOF DECK INFILL DETAIL
3/4" = 1'-0"



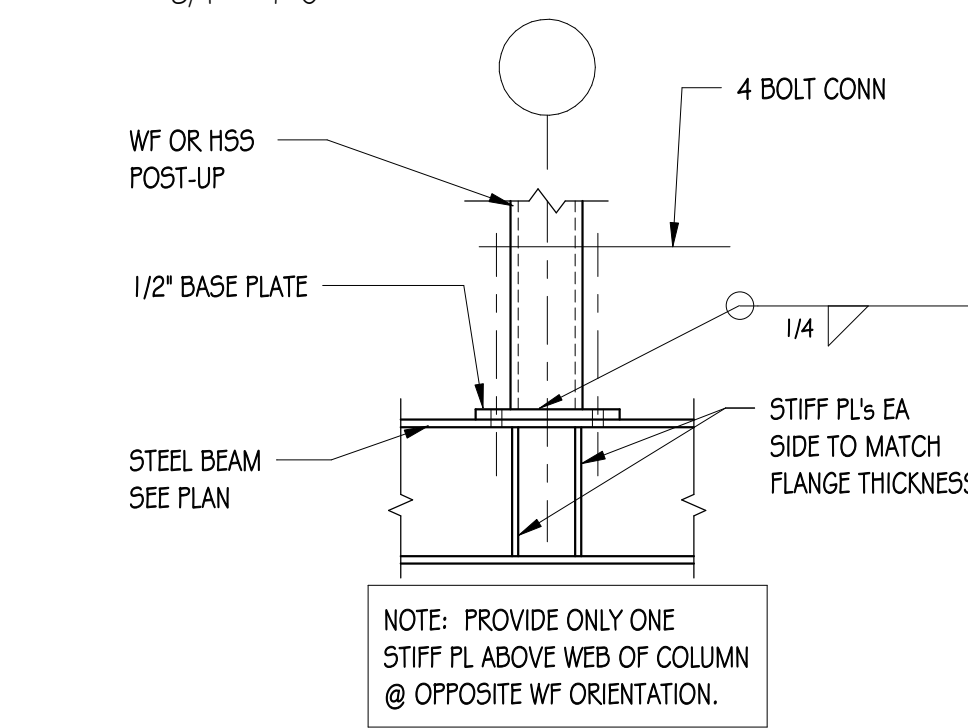
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S6.2
DECK CONN TO NEW BEAM UNDER EXIST ROOF DECK
3/4" = 1'-0"



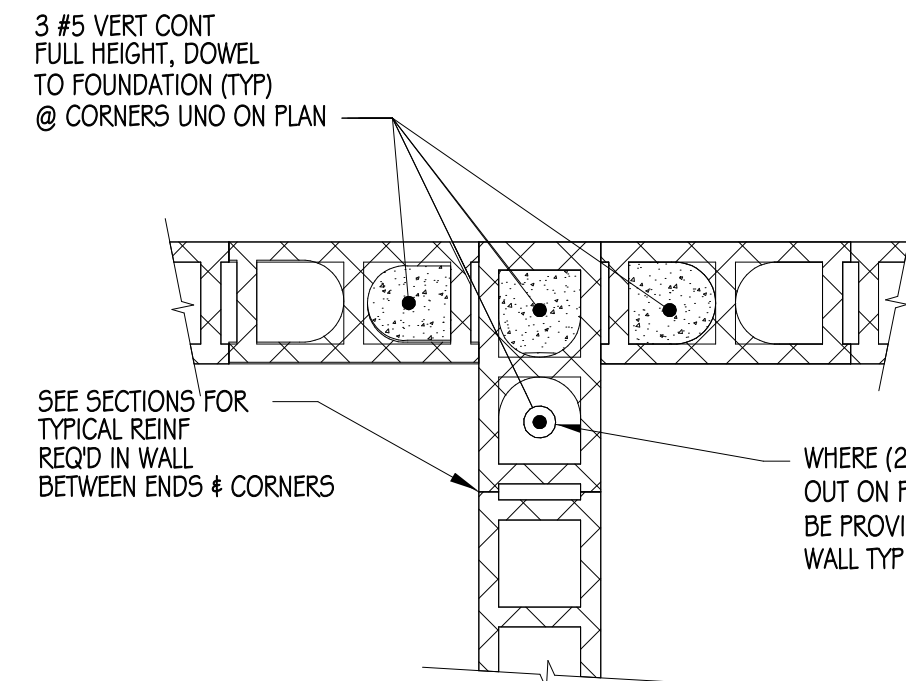
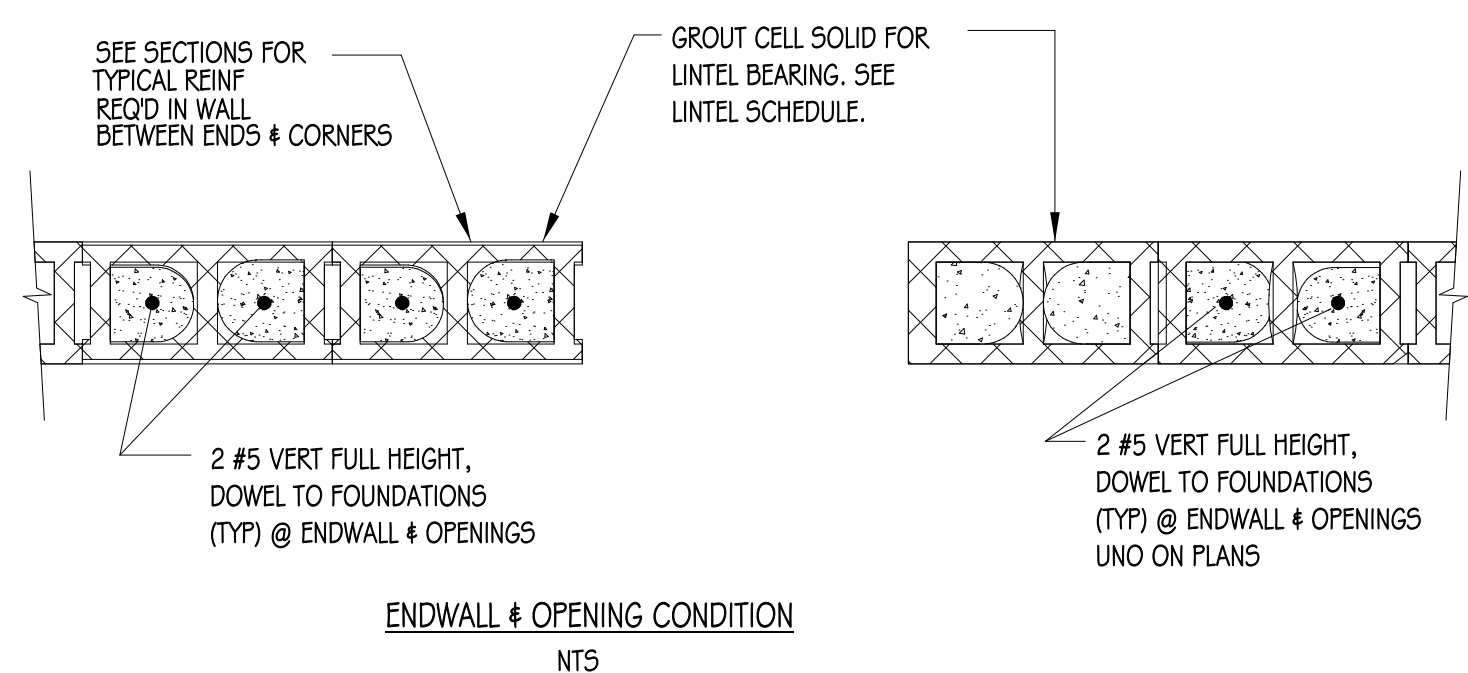
11
S6.2
MAS VENEER/STEEL STUD LINTEL w/ SCHED
3/4" = 1'-0"



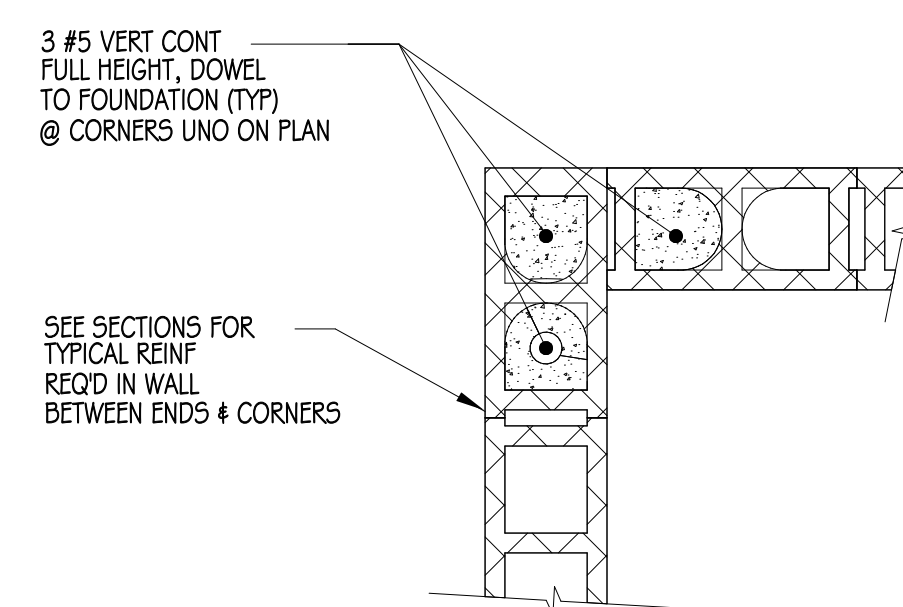
12
S6.2
POINT LOAD JOIST REINFORCING
3/4" = 1'-0"



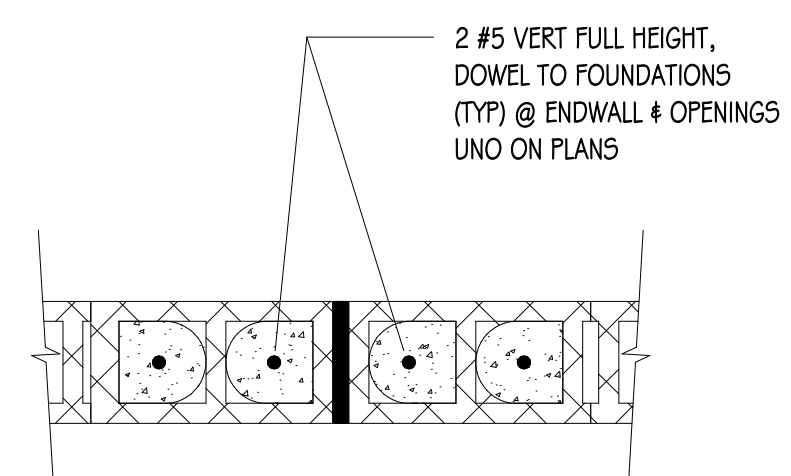
13
S6.2
COLUMN POST DETAIL
3/4" = 1'-0"



CMU WALL CONDITION
NTS



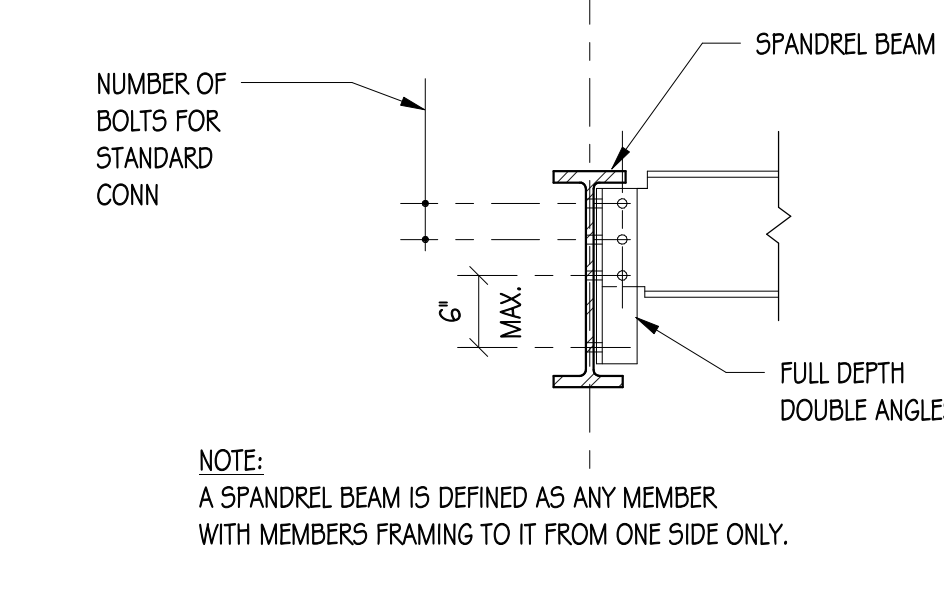
CORNER CMU WALL CONDITION
NTS



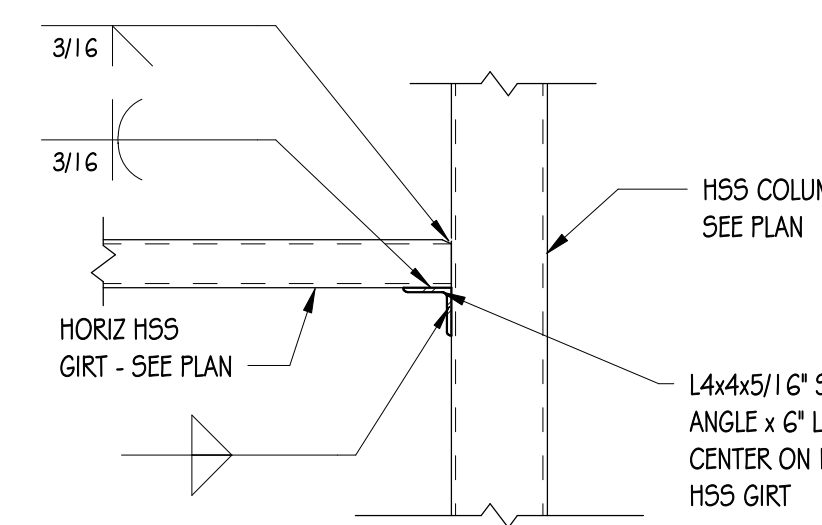
CONTROL JOINT CONDITION
NTS

NOTES:
1. PROVIDE SIMILAR REINFORCING WHERE COLUMNS ARE WITHIN WALLS.
2. SEE TYPICAL DETAIL FOR ADDL INFORMATION @ OPENINGS IN CMU WALLS.

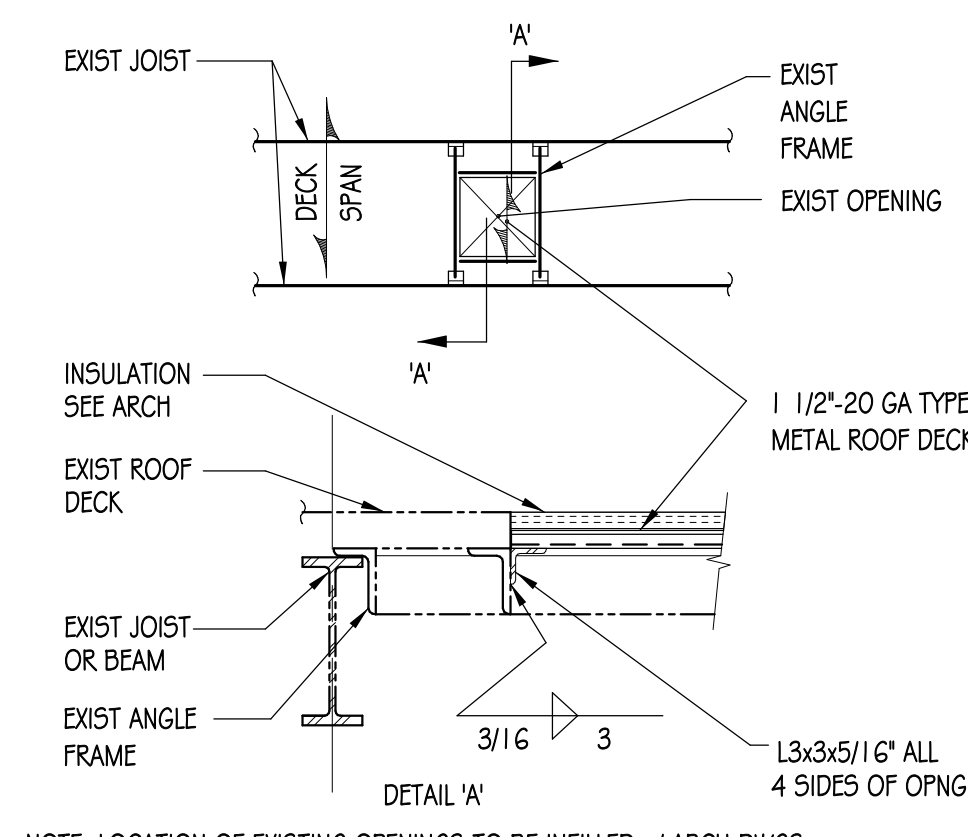
14
S6.2
MASONRY WALL DETAILS
3/4" = 1'-0"



15
S6.2
FRAMING CONN @ SPANDREL BEAMS
3/4" = 1'-0"



17
S6.2
HSS GIRT TO HHS COLUMN DETAIL
3/4" = 1'-0"



16
S6.2
FRAMING @ ROOF OPNGS INFILL
3/4" = 1'-0"

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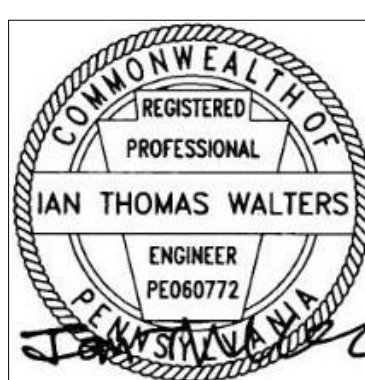
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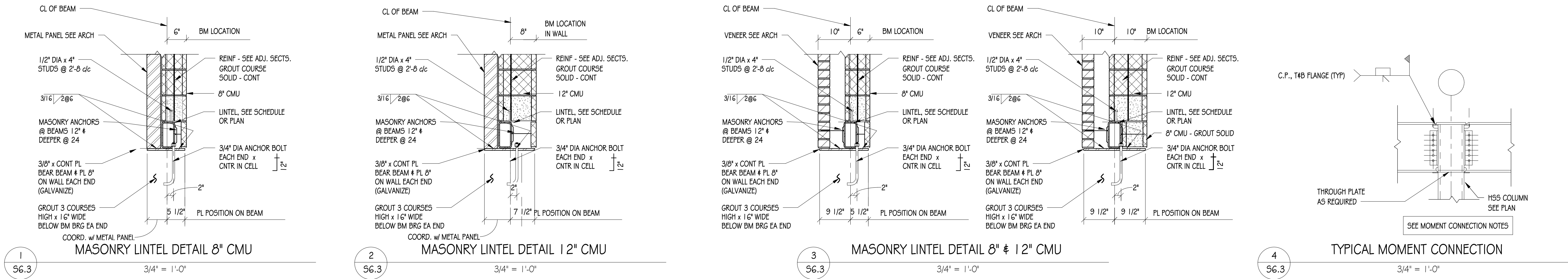
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S6.2

TYPICAL DETAILS
PLOT SCALE:
3/4" = 1'-0"
FILENAME:
DATE:
MARCH 10, 2025



LINTEL SCHEDULE										
SPAN	NEW & EXISTING INTERIOR					NEW & EXISTING EXTERIOR				NEW FIREWALLS
	6"	8"	10"	12"	14"	4" CMU + MAS VENEER	6" CMU + MAS VENEER	8" CMU + MAS VENEER	12" CMU + MAS VENEER	8" CMU
UP TO 4'-4"	WT5x13	2-L 5 x 3 1/2 x 5/16	W6x24 + 9" X 3/8" CONT PL	2-L 5 x 3 1/2 x 5/16 + L 6 x 4 x 3/16	2-L 6 x 4 x 5/16 + L 5 x 5 x 3/16	1/2"DIAx4"LG HEADED STUDS @ 2'-0" c/c HSS6x4 x5/16" PL 3/8"	1/2"DIAx4"LG HEADED STUDS @ 2'-0" c/c HSS6x4 x5/16" PL 3/8"	1/2"DIAx4"LG HEADED STUDS @ 2'-0" c/c HSS6x4 x5/16" PL 3/8"	1/2"DIAx4"LG HEADED STUDS @ 2'-0" c/c HSS6x4 x5/16" PL 3/8"	2- #4 B
GRTR THAN 4'-4" TO 6'-0"	WT5x13	2-L 6 x 3 1/2 x 3/8	W6x24 + 9" X 3/8" CONT PL	2-L 6 x 3 1/2 x 3/8 + L 6 x 4 x 3/8	2-L 6 x 4 x 3/8 + L 5 x 5 x 3/8	1/2"DIAx4"LG HEADED STUDS @ 2'-0" c/c HSS6x4 x3/8" PL 3/8"	1/2"DIAx4"LG HEADED STUDS @ 2'-0" c/c HSS6x4 x3/8" PL 3/8"	1/2"DIAx4"LG HEADED STUDS @ 2'-0" c/c HSS6x4 x3/8" PL 3/8"	1/2"DIAx4"LG HEADED STUDS @ 2'-0" c/c HSS6x4 x3/8" PL 3/8"	2- #4 T 4 2 #5B
GRTR THAN 6'-0" TO 12'-0"	WT5x13	W6x24	W6x26 + 9" X 3/8" CONT PL	W6x26 + 11" X 3/8" CONT PL	W6x26 + 13" X 3/8" CONT PL	1/2"DIAx4"LG HEADED STUDS @ 2'-0" c/c HSS12x4 x3/8" PL 3/8"	1/2"DIAx4"LG HEADED STUDS @ 2'-0" c/c HSS12x4 x3/8" PL 3/8"	1/2"DIAx4"LG HEADED STUDS @ 2'-0" c/c HSS12x4 x3/8" PL 3/8"	1/2"DIAx4"LG HEADED STUDS @ 2'-0" c/c HSS12x4 x3/8" PL 3/8"	2- #4 T 4 2 #5B
GRTR THAN 12'-0" TO 16'-0"	NA	W6x26	W6x35 + 9" X 3/8" CONT PL	W6x35 + 11" X 3/8" CONT PL	NA	1/2"DIAx4"LG HEADED STUDS @ 2'-0" c/c HSS16x4 x3/8" PL 3/8"	1/2"DIAx4"LG HEADED STUDS @ 2'-0" c/c HSS16x4 x3/8" PL 3/8"	1/2"DIAx4"LG HEADED STUDS @ 2'-0" c/c HSS16x4 x3/8" PL 3/8"	1/2"DIAx4"LG HEADED STUDS @ 2'-0" c/c HSS16x4 x3/8" PL 3/8"	N/A

PROJECT CONDITIONS:

1. UNTELS ARE REQUIRED FOR ALL OPENINGS IN MASONRY WALLS (DOORS, WINDOWS, MEP OPENINGS, WALLS IN FRONT OF RECESSES, ETC)
2. UNLESS SPECIFICALLY IDENTIFIED, UNTELS FOR OPENINGS IN MASONRY WALLS ARE NOT SHOWN ON PLANS. CONTRACTOR IS REQUIRED TO REFERENCE ARCHITECTURAL AND MEP DRAWINGS FOR ALL OPENINGS THAT REQUIRE UNTELS.
3. CONTRACTOR IS RESPONSIBLE FOR LAYOUT AND COORDINATION OF UNTELS FOR ALL OPENINGS IN MASONRY WALL CONSTRUCTION.
4. CONTRACTOR IS REQUIRED TO SUBMIT SHOP DRAWINGS TO SHOW LINTEL LAYOUT FOR ALL OPENINGS IN MASONRY WALL CONSTRUCTION.
5. MINIMUM STRUCTURAL REQUIREMENTS FOR UNTELS ARE SHOWN IN THIS SCHEDULE. CONTRACTOR HAS THE OPTION TO PROVIDE ALTERNATE LINTEL CONFIGURATION TO ACCOMMODATE INSTALLATION OR EXISTING CONDITIONS. ALTERNATE CONFIGURATIONS ARE SUBJECT TO REVIEW AND APPROVAL.

FABRICATION AND INSTALLATION:

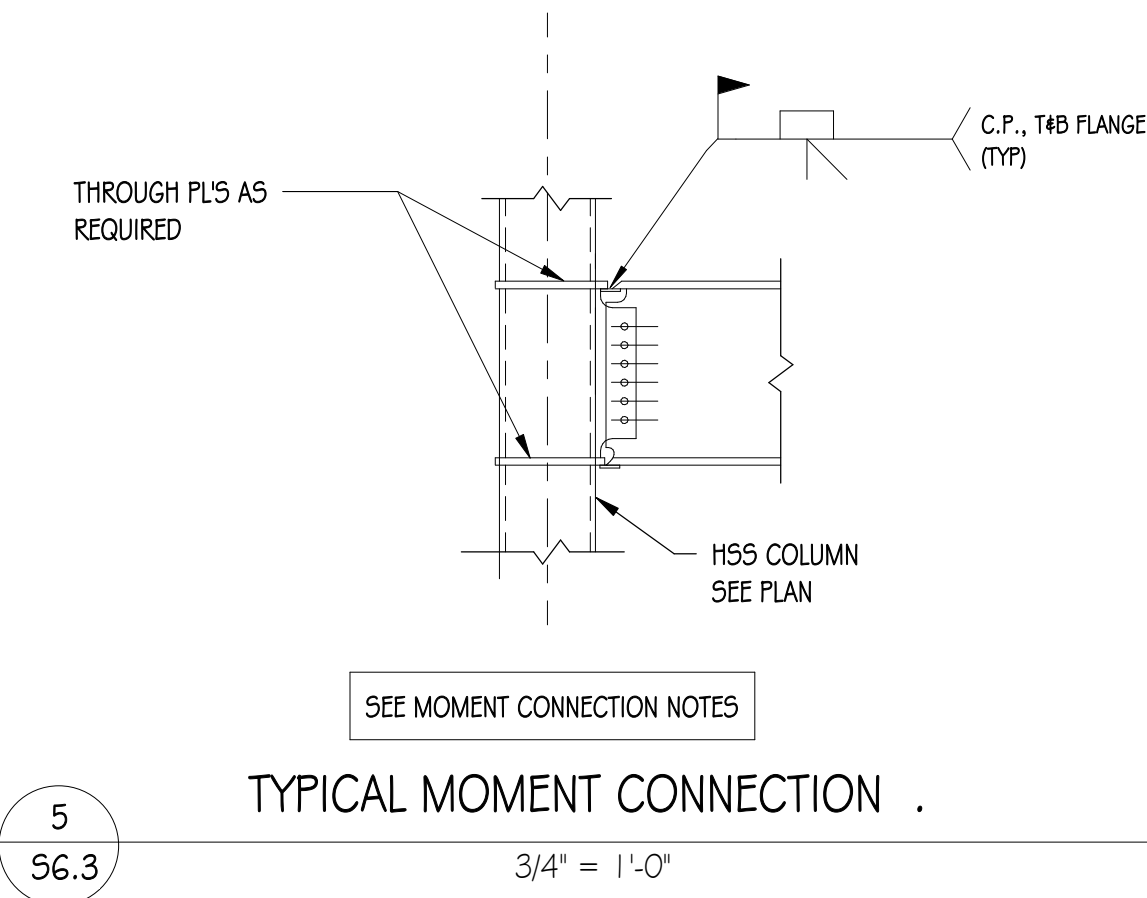
1. SPAN LENGTH = MASONRY OPENING DIMENSION
2. HOT-DIP GALVANIZE ALL STEEL UNTELS & PLATES USED IN EXTERIOR WALLS.
3. WELD BACK-TO-BACK DOUBLE ANGLES TOGETHER.
4. INSTALL UNEQUAL LEG ANGLES WITH LONG LEG VERTICAL.
5. PROVIDE 1/2" DIA, 4" LG STUD ANCHORS AT 2'-0" o/c ON TOP OF FLANGE OF ALL W-SHAPE UNTELS.
6. PROVIDE MASONRY ANCHORS @ 16" o/c HORIZONTAL SPACING ON WEBS OF W-SHAPE UNTELS TO RECEIVE MASONRY INFILL.

BEARING CONDITIONS (ON NEW OR EXISTING MASONRY):

1. FOR SPANS UP TO 6'-0", GROUT MASONRY SOLID, 2 COURSES DEEP AND 1 1/2" WIDE, BELOW BEARING.
2. FOR SPANS OVER 6'-0", GROUT MASONRY SOLID, FULL HEIGHT, BELOW BEARING.
3. MINIMUM BEARING LENGTH EQUALS 8" FOR SPANS UP TO 12'-0".
4. MINIMUM BEARING LENGTH EQUALS 12" FOR SPANS OVER 12'-0".
5. PROVIDE BEARING PLATES AND ANCHOR BOLTS AT BEARING LOCATIONS IN ACCORDANCE WITH TYPICAL DETAILS.
6. WHERE UNTELS BEAR LESS THAN 16" AWAY FROM STEEL COLUMNS, EXTEND AND CONNECT LINTEL TO STEEL COLUMN.

TYPICAL WELD - PLATE TO WF

TYPICAL WELD - PLATE TO HSS



MOMENT CONNECTION NOTES	
1.	MOMENT CONNECTIONS SHALL DEVELOP THE FULL BEAM MOMENT CAPACITY UNLESS A LOWER MOMENT CAPACITY REQUIREMENT IS INDICATED ON PLAN.
2.	C.P. INDICATES COMPLETE PENETRATION.
3.	STIFFENER AND CAP PLATE REQUIREMENTS:
A.	PROVIDE STIFFENERS OF SAME GRADE AND THICKNESS AS BEAM FLANGE, (3/8" MIN.)
B.	WHERE MOMENT CONNECTIONS OCCUR IN BOTH DIRECTIONS, STIFFENER THICKNESS SHALL BE EQUAL TO THE SQUARE ROOT OF (T1 ² + T2 ²) WHERE T1 AND T2 EQUAL THE RESPECTIVE BEAM FLANGE THICKNESSES (3/8" MIN.).
4.	CAP PLATES SHALL BE WELDED TO DEVELOP THE BEAM FLANGE TENSION CAPACITY.
5.	THE STEEL FABRICATOR SHALL BE RESPONSIBLE FOR THE DESIGN OF THE CONNECTIONS. SIGNED AND SEALED CALCULATIONS SHALL BE SUBMITTED FOR REVIEW.

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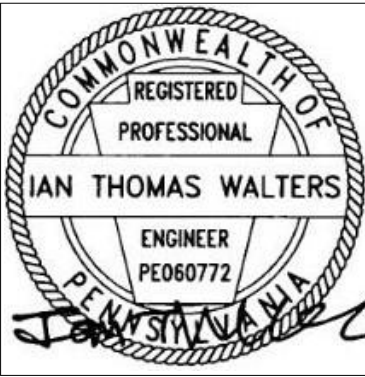
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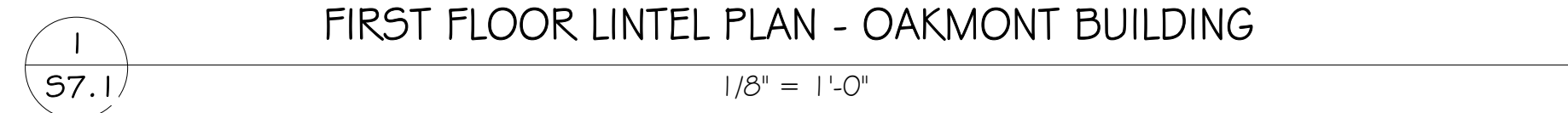
TYPICAL DETAILS
PLOT SCALE:
3/4" = 1'-0"
FILENAME:
DATE:
MARCH 10, 2025

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S6.3


$$1/8^{\circ} = 1'-0''$$

REVISIONS

[illegible]

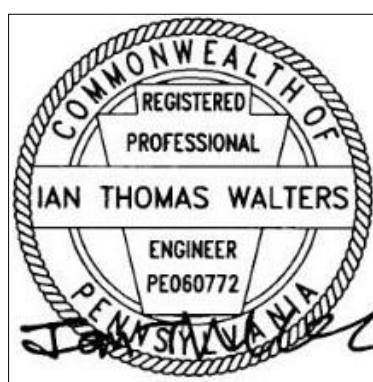
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FIRST FLOOR LINTEL PLAN -
OAKMONT BUILDING

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

FILENAME:

DATE: **MARCH 10, 2025**

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S7.1