

**ENVIRONMENTAL LOADS:**

SNOW: Ss	= 1.3 KPa
Sr	= 0.10 KPa
RAIN: (24 HRS)	= 80 mm
WIND: q 1/10	= 0.40 KPa
q 1/50	= 0.52 KPa
SEISMIC: Sa (0.2)	= 0.14
Sa (0.5)	= 0.07
Sa (1.0)	= 0.03
Sa (2.0)	= 0.02
PGA	= 0.07

**GENERAL NOTES:**

–DESIGN CODE: NATIONAL BUILDING CODE OF CANADA – LATEST ALBERTA BUILDING CODE – LATEST

–THE CONTRACTOR SHALL OBTAIN WHATEVER FIELD DIMENSIONS ARE NECESSARY TO COMPLETE THE WORK CALLED FOR ON THE DRAWINGS.

–DO NOT SCALE DRAWINGS.

–CHECK WITH MECHANICAL, REFRIGERATION AND ELECTRICAL DRAWINGS FOR OPENINGS, INSERTS, AND EMBLEMENTS REQUIRED IN CONCRETE.

–VERIFY ALL DIMENSIONS, ELEVATIONS, AND SCOPES OF WORK WITH THE DRAWINGS PRIOR TO COMMENCING CONSTRUCTION.

–IF ANY UNSOUND STRUCTURAL CONDITIONS ARE CREATED OR OBSERVED DURING CONSTRUCTION, REPORT THEM IMMEDIATELY TO TRL & ASSOC. LTD.

–STRUCTURAL DRAWINGS SHOW THE COMPLETE STRUCTURE. THEY DO NOT SHOW COMPONENTS WHICH MAY BE NECESSARY FOR SAFETY DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY ON AND ABOUT THE WORK SITE DURING CONSTRUCTION.

–THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY RELOCATION OF PIPES, PIPE HANGERS, CONDUITS, ETC. THAT INTERFACE WITH CARRYING OUT THIS WORK.

–THESE NOTES AND DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER RELATED DOCUMENTS.

**CONCRETE NOTES:****GENERAL:**

–ALL CONCRETE, REINFORCEMENT, ACCESSORIES AND PROCEDURES SHALL MEET OR EXCEED THE APPLICABLE CSA STANDARD FOR THAT PRODUCT. USE ONLY PRODUCTS SUITABLE FOR THE INTENDED FINAL USE AND CONDITIONS PREVALENT DURING CONSTRUCTION. PROTECT ALL MATERIALS FROM THE WEATHER DURING STORAGE AND INSTALLATION.

–CEMENT: PORTLAND CEMENT CONFORMING TO CAN/CSA-A5/A8/A362-M89. SEE SCHEDULE FOR TYPE.

–AGGREGATES: CLEAN, WELL GRADED, UNCOATED SAND AND COARSE AGGREGATES FROM AN APPROVED SOURCE CONFORMING TO CAN/CSA-A23.1-M00.

–WATER: POTABLE FROM AN APPROVED MUNICIPAL SOURCE.

–ADMIXTURES: SHALL CONFORM WITH CAN 3-A266M.

–READY MIX CONCRETE: DESIGNED AND SUPPLIED BY THE SUPPLIER IN A QUALITY CONTROLLED PLANT CONFORMING TO CAN/CSA-A23.1-M00. UNLESS NOTED OTHERWISE, SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 25 MPa. SEE ATTACHED SCHEDULE FOR DETAILED REQUIREMENTS.

–CONCRETE EXPOSED TO FREEZE–THAW CONDITIONS SHALL MEET EXPOSURE CLASSIFICATION F-2, 25 MPa, MAXIMUM WATER/CEMENT RATIO 0.55, AIR CONTENT CATEGORY 2 AS SPECIFIED IN CAN/CSA-A23.1-M00, UNLESS NOTED OTHERWISE.

–CONCRETE EXPOSED TO DEICING CHEMICALS SHALL MEET EXPOSURE CLASSIFICATION C-2, 32 MPa, MAXIMUM WATER/CEMENT RATIO 0.45, AIR CONTENT CATEGORY 1 AS SPECIFIED IN CAN/CSA-A23.1-M00 UNLESS NOTED OTHERWISE.

–CONCRETE EXPOSED TO MULTIPLE EXPOSURE CONDITIONS SHALL MEET COMBINED EXPOSURE CLASSIFICATION REQUIREMENTS TO MOST SEVERE COMBINATION AS SPECIFIED IN CAN/CSA-A23.1-M00 UNLESS NOTED OTHERWISE.

–CONCRETE EXPOSED TO SULPHATE ATTACK SHALL MEET A MINIMUM EXPOSURE CLASSIFICATION S-2, 32 MPa, MAXIMUM WATER/CEMENT RATIO 0.45, PORTLAND CEMENT TYPE 50 AS SPECIFIED IN CAN/CSA-A23.1-M00 UNLESS NOTED OTHERWISE.

–THE VARIATION OF 28 DAY COMPRESSIVE TEST RESULTS SHALL BE IN ACCORDANCE WITH CLAUSE 17.5 OF CAN/CSA-A23.1.000 WHERE TEST RESULTS INDICATE THAT CONCRETE IS NOT OF THE SPECIFIED QUALITY, THE OWNER MAY REQUEST ONE OR MORE OF THE REQUIREMENTS OUTLINED IN CLAUSE 17.5 OF CAN/CSA-A23.1. FIELD CURED SPECIMENS SHALL NOT BE USED AS THE BASIS FOR ACCEPTANCE OR REJECTION OF THE CONCRETE.

–CONCRETE TESTING FOR SLUMP, AIR CONTENT, AND COMPRESSIVE STRENGTH SHALL BE PERFORMED BY AN APPROVED TESTING LABORATORY IN ACCORDANCE WITH CAN/CSA-A23.1 FOR EACH POUR AND TYPE OF CONCRETE PLACED IN A GIVEN DAY. LARGE POURS SHALL HAVE A TEST CONDUCTED ON EACH 100 m<sup>3</sup> OF CONCRETE PLACED. TESTING WILL BE PAID FOR AND CONTROLLED BY THE CONTRACTOR EXCEPT FOR RETESTS DUE TO DEFECTIVE WORK BY THE TESTING AGENCY. THE WORK BEING BID IS BID BY SUB-CONTRACTORS TO THE CONTRACTOR. TEST RESULTS TO BE FORWARDED TO TRL & ASSOCIATES LTD. IN A TIMELY MANNER.

–ALL CONCRETE SHALL BE PLACED IN ITS FINAL POSITION WITHIN 120 MINUTES OF ORIGINAL BATCHING.

–CURING PROCEDURES AND PROTECTION OF CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF CSA STANDARD CAN/CSA-A23.1-M00. NEW CONCRETE SHALL NOT BE ALLOWED TO FREEZE UNDER ANY CIRCUMSTANCES. THE CONTRACTOR SHALL PAY THE COSTS RELATED TO DAMAGE BY UNDER STRENGTH OR IMPROPERLY CURED CONCRETE.

**REINFORCEMENT:**

–ALL REINFORCING BARS SHALL BE MANUFACTURED AND MEET THE REQUIREMENTS OF CSA STANDARD G 30.18-M92, BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT.

–ALL REINFORCING BARS SHALL BE GRADE 400 MPa(60 KSI).

–EPOXY COATED REINFORCEMENT (WHERE SPECIFIED) SHALL BE MANUFACTURED, FABRICATED, STORED, HANDLED, AND INSTALLED IN STRICT ACCORDANCE WITH THE CSA STANDARDS AND INDUSTRY PRACTICE.

–SPICES, BENDS, AND PLACEMENT SHALL CONFORM TO CAN/CSA-A23.1-M00 AND CAN3 A23.3-M00. REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE LATEST VERSION OF THE ACI DETAILING MANUAL. PROVIDE MATCHING CORNER BARS FOR ALL HORIZONTAL BARS (SEE DETAILS).

–ALL REINFORCING MESH SHALL BE CHAIRED AND SECURELY TIED IN PLACE USING STANDARD TIES AND CHAIRS.

–ALL WELDED WIRE MESH SHALL BE MANUFACTURED AND MEET THE REQUIREMENTS OF CSA STANDARD G 30.5-M83 WELDED STEEL WIRE FABRIC FOR CONCRETE REINFORCEMENT.

–ALL WELDED WIRE MESH SHALL BE SUPPLIED IN FLAT SHEETS. ALL WELDED WIRE MESH SHALL BE CHAIRED IN PLACE TO THE REQUIRED COVER AS SPECIFIED BELOW.

–THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO TRL & ASSOCIATES LTD. AT LEAST TWO WEEKS PRIOR TO CONSTRUCTION IN ORDER TO PERMIT A TIMELY REVIEW OF REINFORCING DETAILS. CORRECTIVE PROCEDURES FOR REINFORCING PLACED WITHOUT PRIOR REVIEW, SHALL BE CARRIED OUT AT THE CONTRACTORS EXPENSE.

–STANDARD: CONFORMING TO ASTM A820-90, TYPE 1, COLD DRAWN HIGH TENSILE DEFORMED STEEL WIRE. TENSILE STRENGTH 1000 MPa (145,000 PSI)

**FOUNDATION NOTES:**

–ALL FOOTINGS SHALL BEAR ON NATIVE UNDISTURBED SOIL HAVING AN ALLOWABLE BEARING CAPACITY OF 145 KPa. PRIOR TO PLACEMENT OF CONCRETE FOR FOOTINGS, THE CONTRACTOR SHALL RETAIN THE SERVICES OF A CERTIFIED TESTING LABORATORY TO VERIFY THAT THE SOIL IS ACCEPTABLE TO ACHIEVE THE SPECIFIED BEARING CAPACITY. WRITTEN CONFIRMATION OF THE INSITU SOIL BEARING CAPACITY SHALL BE FORWARDED TO TRL & ASSOCIATES WITHIN 24 HRS. OF TESTING. THE OWNER WILL PAY FOR THE COST OF ALL TESTING EXCEPT FOR RETESTS DUE TO DEFECTIVE WORKMANSHIP.

–FOOTING ELEVATIONS AND WALL DEPTHS SHALL BE CONFIRMED AND ADJUSTED IN ACCORDANCE WITH THE SOILS CONSULTANTS REQUIREMENTS. IN NO CASE SHALL THE DEPTH BE REDUCED TO LESS THAN THE REQUIRED FROST COVER WITHOUT WRITTEN INSTRUCTIONS FROM TRL & ASSOCIATES LTD. AND THE GOVERNING AUTHORITIES.

–UNLESS SHOWN OTHERWISE, FOUNDATIONS SHALL BE BACKFILLED EVENLY ON BOTH SIDES TO PREVENT MOVEMENT. BACKFILL HEIGHTS SHALL NOT VARY BY MORE THAN 300 mm (12 INCHES) FROM ONE SIDE TO THE OTHER. EXERCISE EXTREME CAUTION DURING BACKFILL OPERATIONS TO PREVENT DAMAGE TO THE CONCRETE.

–SUPPLY AND PLACEMENT OF ALL TEMPORARY SHORING AND BRACING IS THE CONTRACTORS RESPONSIBILITY AND SHALL MEET ALL APPLICABLE STANDARDS AND LAWS.

–ALL DISCREPANCIES IN DETAILS AND DIMENSIONS SHALL BE BROUGHT TO THE ATTENTION OF TRL & ASSOCIATES LTD. PRIOR TO COMMENCING RELATED WORK. DRAWINGS ARE NOT TO BE SCALED.

–PLASTIC COATED VIBRATORS MUST BE USED WITH EPOXY COATED REINFORCEMENT. SLAB CONCRETE MUST BE VIBRATED TO ENSURE GOOD COMPACTION.

–REFER TO THE SOILS REPORT PREPARED BY GLOBAL ENGINEERING & TESTING LTD. FILE NO. 052-187-80 DATED SEPTEMBER, 2005.

**FLOOR SLAB SUPPORTED ON GRADE:**

–REMOVE ALL UNACCEPTABLE MATERIAL AS IDENTIFIED IN THE GEOTECHNICAL REPORT. PREPARE THE EXPOSED SUBBASE IN ACCORDANCE WITH THE GEOTECHNICAL REQUIREMENTS. RETAIN THE SERVICES OF A GEOTECHNICAL TESTING FIRM TO CONFIRM THE PREPARED SUB BASE AS THAT MEETING THE REQUIREMENTS OF THE GEOTECHNICAL REPORT.

–BACKFILL AS REQUIRED BY CONDITIONS WITH 75mm (3 INCH MINUS) PIT RUN GRAVEL OR OTHER PREVIOUSLY APPROVED SOIL. FINAL 150mm (6 INCHES) SHALL BE 25mm (1 INCH MINUS) WELL GRADED CRUSHED GRAVEL MIX. BACKFILL SHALL BE COMPACTED TO A UNIFORM DRY DENSITY OF 98% STANDARD PROCTOR MAXIMUM DRY DENSITY, IN COMPACTED LAYERS NOT EXCEEDING 150mm (6 INCHES). BACKFILL DEPTHS EXCEEDING 1200mm (4 FEET) SHALL BE COMPACTED TO A UNIFORM DRY DENSITY OF 100% STANDARD PROCTOR MAXIMUM DRY DENSITY, IN COMPACTED LAYERS NOT EXCEEDING 150mm (6 INCHES). SEE ALSO GEOTECHNICAL REPORT FOR REQUIREMENTS.

–THE CONTRACTOR SHALL RETAIN THE SERVICES OF A CERTIFIED TESTING LABORATORY TO VERIFY THE DENSITIES OF PLACED AND COMPACTED BACKFILL. THE OWNER WILL PAY FOR THE COST OF ALL TESTING EXCEPT FOR RETESTS DUE TO DEFECTIVE WORKMANSHIP. COPIES OF ALL DENSITY TESTING SHALL BE FORWARDED TO TRL & ASSOCIATES LTD. WITHIN 24 HRS. OF TESTING.

–REINFORCEMENT SHALL BE CHAIRED OFF THE SUB GRADE PRIOR TO PLACING CONCRETE. PRE-MOISTEN THE GRAVEL PRIOR TO PLACING CONCRETE IF NO VAPOUR BARRIER IS REQUIRED.

–CONCRETE SHALL BE PLACED, SCREEDED AND FLOATED TO ENSURE A WELL COMPACTED, VOID FREE SLAB. SEE ALSO BID DOCUMENTS.

–FINISH SHALL BE IN ACCORDANCE WITH CSA STANDARDS AND AS SPECIFIED ON THE DRAWINGS AND BID DOCUMENTS.

–PROVIDE SAW CUTS OR CONTROL JOINTS AT 4500mm (15 FEET) CENTERS EACH WAY UNLESS NOTED OTHERWISE ON THE DRAWINGS OR DETAILS. SLABS SHALL BE SAW CUT WITHIN 24 HOURS OF PLACEMENT. PERFORM SAWCUTTING FOR CONTROL JOINTS USING DRY METHOD (SOFT-CUT SAW) AS SOON AS POSSIBLE AFTER CONCRETE PLACEMENT (MAX. 24 HOURS), WITHOUT LEAVING TREADMARKS, DISINTEGRATE AND BEFORE UNCONTROLLED SHRINKAGE OCCURS. POUR COLD JOINTS SHALL BE KEVED AND DOWELLED AS SHOWN ON THE DRAWINGS AND DETAILS, OR APPROVED BY THE ARCHITECT AND TRL & ASSOCIATES.

**FORM WORK AND FALSE WORK**

– FABRICATE AND ERECT FORM WORK IN ACCORDANCE WITH CAN/CSA-S269.3 TO PRODUCE FINISHED CONCRETE CONFORMING TO SHAPE, DIMENSIONS, LOCATIONS AND LEVELS INDICATED WITHIN TOLERANCES REQUIRED BY CAN/CSA-A23.1.

– CLEAN FORM WORK IN ACCORDANCE WITH CAN/CSA-A23.1, BEFORE PLACING CONCRETE.

– SUBMIT ENGINEER SEALED SHOP DRAWINGS FOR ALL FORM WORK AND FALSEWORK. DRAWINGS TO BE SEALED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE PROVINCE OF ALBERTA.

– UNLESS OTHERWISE NOTED LEAVE FORM WORK IN PLACE FOR THE FOLLOWING MINIMUM PERIODS OF TIME AFTER PLACING CONCRETE

- WALLS 7 DAYS
- COLUMNS 1 DAY
- STRUCTURAL BEAMS AND SLABS 7 DAYS OR THREE DAYS WHEN REPLACED BY ADEQUATE RESHORING
- FOOTINGS AND ABUTMENTS 3 DAYS

– REMOVE FORM WORK WHEN THE CONCRETE HAS ACHIEVED 80% OF ITS DESIGN STRENGTH OR MINIMUM PERIODS NOTED ABOVE, WHICHEVER COMES LATER AND REPLACE IMMEDIATELY WITH ADEQUATE RESHORING.

– RESHORING TO REMAIN IN PLACE UNTIL CONCRETE HAS ACHIEVED FULL 28 DAY DESIGN STRENGTH AS VERIFIED BY CONCRETE TEST IN ACCORDANCE WITH A23.1

– PROVIDE ALL NECESSARY RESHORING OF MEMBERS WHERE EARLY REMOVAL OF FORMS MAY BE REQUIRED OF WHERE MEMBERS MAY BE SUBJECTED TO ADDITIONAL LOADS DURING CONSTRUCTION AS REQUIRED

– SPACE RESHORING IN EACH PRINCIPAL DIRECTION AT NOT MORE THAN 3000 mm APART.

– REUSE FORM WORK AND FALSE WORK SUBJECT TO REQUIREMENTS OF CAN/CSA-A23.1.

**STRUCTURAL FIELD REVIEW:**

–THE CONTRACTOR SHALL COOPERATE WITH ALL TESTING, INSPECTION AND QUALITY CONTROL PERSONNEL REQUIRED ON THE SITE AND WILL PROVIDE CASUAL LABOUR FORCES AS REQUIRED TO ASSIST IN ALL THE FIELD REVIEW PROCEDURES. THE CONTRACTOR SHALL GIVE REASONABLE NOTICE TO THESE AGENCIES PRIOR TO REQUIRING THEIR SERVICES.

–ALL REINFORCEMENT SHALL BE REVIEWED IN PLACE BY TRL & ASSOCIATES LTD. PRIOR TO PLACING THE CONCRETE. ALL REINFORCEMENT SHALL BE IN PLACE AND SECURED AT THE TIME OF THE REVIEW. PROVIDE 24 HOURS NOTICE PRIOR TO POURS.

**STRUCTURAL STEEL NOTES:****GENERAL NOTES:**

–ALL STRUCTURAL STEEL, MISCELLANEOUS STEEL, ACCESSORIES AND PROCEDURES SHALL MEET OR EXCEED THE APPLICABLE CSA STANDARD FOR THAT PRODUCT. USE ONLY PRODUCTS SUITABLE FOR THE INTENDED FINAL USE AND CONDITIONS PREVALENT DURING CONSTRUCTION. PROTECT ALL MATERIALS FROM THE WEATHER DURING STORAGE AND INSTALLATION.

–DESIGN, DETAIL, AND FABRICATE ALL CONNECTIONS IN A QUALITY CONTROLLED SHOP TO CISC HANDBOOK OF STEEL CONSTRUCTION. CONNECTIONS ARE TO BE DESIGNED FOR THE LOADS INDICATED ON THE DRAWINGS OR WHERE SPECIFIED LOADS ARE NOT SPECIFIED, UNLESS OTHERWISE NOTED, PROVIDE CAPACITY OF ONE-HALF THE MEMBER SHEAR (MINIMUM TWO BOLTS PER CONNECTION). SHOP DWGS. BEARING THE STAMP A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE PROJECT PROVINCE ARE TO BE SUBMITTED FOR THE DESIGN OF ALL CONNECTIONS.

–STRUCTURAL STEEL: STEEL SECTIONS AND PLATES CONFORMING TO CAN3-G40.20-M81 AND CAN3-G40.21-M81, GRADE 350W.

–STRUCTURAL STEEL: HOLLOW STRUCTURAL SECTIONS CONFORMING TO CAN3-G40.20-M81 AND CAN3-G40.21-M81, GRADE 350W.

–ANCHOR BOLTS: ANCHOR BOLTS, NUTS AND WASHERS CONFORMING TO ASTM A307-82A (HOT DIPPED GALVANIZED WHERE CALLED ON DRAWINGS).

–BOLLARDS: PIPE BOLLARDS FABRICATED FROM STANDARD WALL PIPE OR HSS QUALITY STEEL WITH A MINIMUM WALL THICKNESS OF 6.35 MM (0.25 INCH) (HOT DIPPED GALVANIZED WHERE CALLED ON DRAWINGS).

–WELDING: WELDING, MATERIALS AND PROCEDURES CONFORMING TO CSA-W59-1982. ALL WELDING TO BE PERFORMED BY CERTIFIED WELDERS, COPY OF CERTIFICATE SHALL BE FORWARDED TO TRL & ASSOCIATES LTD AT THE START OF THE PROJECT WITH THE SHOP DRAWINGS AND AT THE START OF FIELD ERECTION FOR FIELD WELDING.

–CONNECTIONS: DESIGNED, DETAILED AND FABRICATED BY THE SUPPLIER IN A QUALITY CONTROLLED SHOP CONFORMING TO CSA STANDARDS. CONNECTIONS ARE TO BE DESIGNED FOR UNIFORM LOADS ON MEMBER WHERE SPECIFIC LOADS ARE NOT SPECIFIED. ENGINEER SEALED SHOP DRAWINGS TO BE SUBMITTED FOR ALL CONNECTIONS.

–GALVANIZING: HOT DIPPED GALVANIZING CONFORMING TO CSA-G164-M1981, MINIMUM 600 G/M2.

–PAINTING: ONE COAT SHOP PRIMER PAINT (COLOUR GREY) COMPLYING WITH CISC/CPMA STANDARD 1-73A.

**STRUCTURAL FIELD REVIEW:**

–THE CONTRACTOR SHALL COOPERATE WITH ALL TESTING, INSPECTION AND QUALITY CONTROL PERSONNEL REQUIRED ON THE SITE AND WILL PROVIDE CASUAL LABOUR FORCES AS REQUIRED TO ASSIST IN ALL THE FIELD REVIEW PROCEDURES. THE CONTRACTOR SHALL GIVE REASONABLE NOTICE TO THESE AGENCIES PRIOR TO REQUIRING THEIR SERVICES.

–ALL REINFORCEMENT SHALL BE REVIEWED IN PLACE PRIOR TO PLACING THE CONCRETE BY TRL & ASSOCIATES LTD. ALL REINFORCEMENT SHALL BE IN PLACE AND SECURED AT THE TIME OF THE REVIEW. PROVIDE 24 HOURS NOTICE PRIOR TO POURS.

**TIMBER NOTES:**

–ALL LUMBER, SHEATHING AND MANUFACTURED WOOD PRODUCTS SHALL MEET OR EXCEED THE APPLICABLE CSA STANDARD FOR THAT PRODUCT. USE ONLY PRODUCTS SUITABLE FOR THE INTENDED FINAL USE AND CONDITIONS PREVALENT DURING CONSTRUCTION. PROTECT ALL MATERIALS FROM THE WEATHER DURING STORAGE AND INSTALLATION.

–ALL STUDS TO BE SPF #2 OR BETTER.

–ALL WOOD LINTELS, JOISTS, POSTS, AND BEAMS TO BE SPF #2 OR BETTER.

–ALL FRAMING LUMBER SHALL BE KILN DRIED TO A MOISTURE CONTENT OF LESS THAN 19% AT THE TIME OF MANUFACTURE.

–ALL WOOD FRAMING TO CONFORM TO PART 9 OF THE PROVINCIAL BUILDING CODE UNLESS OTHERWISE SHOWN ON THE DRAWINGS.

–ALL BUILT UP WOOD BEAMS SHALL BE SUPPORTED BY A POST CONSISTING OF A MINIMUM OF 1 (ONE) STUD FOR EACH PLY OF BEAM WHEN INCORPORATED IN A WALL. ALL FREE STANDING BUILT UP POSTS SHALL BE A MINIMUM OF 3 (THREE) LAMINATIONS. SEE DRAWINGS FOR EXCEPTIONS TO THIS REQUIREMENT.

–ALL BUILT UP LAMINATED VENEER TYPE BEAMS SHALL BE SUPPORTED BY A POST CONSISTING OF A MINIMUM OF 1 (ONE) MORE STUD THAN THE NUMBER OF PLYS OF BEAM WHEN INCORPORATED IN A WALL (E.G. 3 STUDS FOR A 2 PLY BEAM). ALL FREE STANDING BUILT UP POSTS SHALL BE A MINIMUM OF 3 (THREE) LAMINATIONS. SEE DRAWINGS FOR EXCEPTIONS TO THIS REQUIREMENT.

–ALL BUILT UP WOOD LINTELS FOR WINDOWS AND DOORS SHALL BE SUPPORTED BY A MINIMUM OF 1 (ONE) STUD PLUS 1 (ONE) CRIPPLE (JACK), EACH END, SECURELY TIED INTO THE WALL. INTERMEDIATE POSTS FOR CONTINUOUS LINTELS SHALL MEET THE BEAM REQUIREMENTS ABOVE. SEE DRAWINGS FOR EXCEPTIONS TO THIS REQUIREMENT.

–ALL BUILT UP LAMINATED VENEER TYPE LINTELS FOR WINDOWS AND DOORS SHALL BE SUPPORTED BY A MINIMUM OF 1 (ONE) STUD PLUS 2 (TWO) CRIPPLES (JACKS), EACH END, SECURELY TIED INTO THE WALL. INTERMEDIATE POSTS FOR CONTINUOUS LINTELS SHALL MEET THE BEAM REQUIREMENTS ABOVE. SEE DRAWINGS FOR EXCEPTIONS TO THIS REQUIREMENT.

–ALL 2 (TWO) STOREY WALLS AND SPLIT LEVEL WALLS WITHOUT INTERMEDIATE FLOORS SHALL BE BALLOON FRAMED TO PREVENT HINGING. NO SPLICES UNLESS DETAILED OTHERWISE.

–ALL SUB-FLOOR SHEATHING SHALL BE GLUED TO THE JOISTS IN ADDITION TO NAILS OR SCREWS UTILIZING A PRODUCT SUITABLE FOR CONSTRUCTION AND THE PREVALENT WEATHER CONDITIONS.

–ALL SUBFLOOR SHEATHING SHALL BE FASTENED WITH A MINIMUM OF 2 1/2" NAILS AT 12" O.C. U.N.O.

–ALL ROOF SHEATHING SHALL BE FASTENED USING 2 1/2" NAILS @ 6" O.C. MAXIMUM AT PANEL EDGES AND 12" O.C. INTERMEDIATE.

–ALL WALL SHEATHING SHALL BE FASTENED USING 3" NAILS AT 6" O.C. MAXIMUM AT PANEL EDGES AND 12" O.C. INTERMEDIATE.

–THE CONTRACTOR SHALL BRING ANY DISCREPANCIES IN DIMENSIONS ETC., TO THE ATTENTION OF THE OWNERS REPRESENTATIVE PRIOR TO COMMENCING WORK.

–ALL TEMPORARY BRACING AND GUARDS SHALL BE THE CONTRACTORS RESPONSIBILITY.

**CONCRETE COVER TO REINFORCEMENT SCHEDULE:**

LOCATION	COVER mm (INCHES)	COMMENTS
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**FOOTINGS:**

TOP: 50mm

BOTTOM: 75mm

SIDES: 75mm

**FOUNDATIONS:**

BOTTOM: 50mm

AGAINST SOIL: 40mm

INTERIOR: 25mm

**SLAB ON GRADE:**

TOP: 40mm

BOTTOM: 40mm

–CONTRACTOR SHALL NOT CUT, DRILL, NOTCH OR MODIFY THE TRUSSES EXCEPT IN STRICT ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS AND THE APPROVAL OF THE OWNERS REPRESENTATIVE.

–ALL TEMPORARY BRACING AND GUARDS SHALL BE THE CONTRACTORS RESPONSIBILITY.

–GRIDER TRUSS LOCATIONS INDICATED ON PLAN NOT TO BE ALTERED WITHOUT APPROVAL FROM TRL & ASSOCIATES.

**STEEL STUDS****GENERAL**

–STEEL STUD STEEL FRAMING INCLUDES WIND BEARING STUDS, AXIAL LOAD BEARING STUDS, FLOOR JOISTS, CEILING JOISTS, ROOF JOISTS AND ROOF RAFTERS.

–IN ACCORDANCE WITH CAN3-S136.

–CONFORM TO THE REQUIREMENTS OF SPECIFIED FIRE RATED ASSEMBLIES.

–DESIGN BRIDGING TO PREVENT MEMBER ROTATION AND MEMBER TRANSLATION PERPENDICULAR TO THE MINOR AXIS. PROVIDE FOR SECONDARY STRESS EFFECTS DUE TO TORSION BETWEEN LINES OF BRIDGING.

–MAXIMUM DEFLECTIONS UNDER SPECIFIED LOADS SHALL CONFORM TO THE FOLLOWING:

1. LIVE LOAD DEFLECTIONS OF WALL STUDS SUPPORTING MATERIALS SUSCEPTIBLE TO CRACKING (EG. MASONRY VENEER L/720 WALL STUDS SUPPORTING ALL OTHER MATERIALS L/360 (EG. METAL CLADDING, SYNTHETIC VENEERS).
2. FLOOR JOISTS L/360.
3. ROOF JOISTS AND RAFTERS L/360.
4. BUILDING SWAY DUE TO ALL EFFECTS 1/400 OF BUILDING HEIGHT OR 1/500 OF STOREY HEIGHT.

–THE SPACING OF MEMBERS SHALL NOT EXCEED THE FOLLOWING:

	WALL STUDS	400mm (16") O/C
FLOOR JOISTS	400mm (16") O/C	
CEILING JOISTS	600mm (24") O/C	
ROOF JOISTS	600mm (24") O/C	
ROOF RAFTERS	600mm (24") O/C	

–WIND BEARING METAL STUDS.

–WIND BEARING METAL STUDS SHALL CONFORM TO THE MINIMUM SIZES AND SPACINGS DEFINED IN THE SCHEDULE BELOW, UNLESS NOTED OTHERWISE.

(A) WIND BEARING WALL STUDS SUPPORTING MATERIALS OTHER THAN BRICK MASONRY VENEER

SPAN (ft)	SIZE	THICKNESS	SPACING	LIVE LOAD DEFLECTION
0-4700 (0 TO 15'-6")	203 (8")	0.91mm (20 GA)	400 (16") o.c.	L/360
4700-7000 (15'-6" TO 23'-0")	203 (8")	1.22mm (18 GA)	400 (16") o.c.	L/360

(B) WIND BEARING STUDS BACKING BRICK MASONRY VENEER

SPAN (ft)	SIZE	THICKNESS	SPACING	LIVE LOAD DEFLECTION
0-7000 (0 TO 23'-0")	203 (8")	1.22mm (18 GA)	400 (16") o.c.	L/720

STUD CONNECTIONS SPACED @ 600 O.C. VERT. AND SPACED @ 800 O.C. HORIZONTAL.

–WHERE MASONRY VENEER HEIGHT ON WALL EXCEEDS 1.5M (5'-0") PROVIDE FERO SHEAR –CONNECTIONS BETWEEN LIGHTWEIGHT STEEL FRAMING MEMBERS SHALL BE BY

BE BASED ON THE MANUFACTURER'S LOWER BOUND TEST VALUES MULTIPLIED BY THE APPROPRIATE RESISTANCE FACTOR, AS GIVEN IN CAN3-S136 M.

–SUBMIT SHOP DRAWINGS BEARING THE STAMP AND SIGNATURE OF A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF ALBERTA. INCLUDE ALL NECESSARY SHOP DETAILS AND ERECTION DIAGRAMS. INDICATE MEMBER SIZES, LOCATIONS, THICKNESSES EXCLUSIVE OF COATING, COATINGS AND MATERIALS. INCLUDE CONNECTION DETAILS FOR ATTACHING FRAMING TO ITSELF AND FOR ATTACHMENT TO THE STRUCTURE. SHOW SPLICE DETAILS WHERE PERMITTED. INDICATE DESIGN LOADS.

**MATERIALS**

–STEEL COATINGS TO A 591 STEEL SHEET, COLD-ROLLED, ELECTROLYTIC ZINC-COATED.

–STEEL TO CAN3-S136 AND SHALL BE IDENTIFIED AS TO SPECIFICATION, TYPE, GRADE AND MECHANICAL PROPERTIES.

**EXECUTION**

–WELDS SHALL CONFORM TO CSA W59 AND/OR ANSI/AWS D1.3, WHICHEVER IS APPLICABLE. TOUCH-UP WELDS WITH ZINC RICH PAINT.

–SCREWS – PENETRATION BEYOND JOINED MATERIALS SHALL BE NOT LESS THAN 3 EXPOSED THREADS.

–LIGHTWEIGHT STEEL FRAMING SHALL BE ERECTED TRUE AND PLUMB WITHIN THE SPECIFIED TOLERANCES.

–ERECTION TOLERANCES IN ACCORDANCE WITH CSSBI 50M.

–CUTTING OF MEMBERS MAY BE BY SAW OR SHEAR. TORCH CUTTING IS NOT PERMITTED.

–SPlicing OF AXIAL LOAD BEARING MEMBERS IS NOT PERMITTED.

**CONCRETE SCHEDULE:**

LOCATION	EXPOSURE	TYPE	STRENGTH	% AIR	AGG. SIZE	SLUMP	COMMENTS
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This drawing must not be scaled.  
 The contractor shall verify all levels, datums, and dimensions prior to commencement of work. All errors and omissions must be reported to the Architects immediately.  
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Issue No.	Date	Description
1	2012-07-26	ISSUED FOR BUILDING PERMIT
2	2012-08-10	ISSUED FOR CONSTRUCTION
3	2012-08-22	RE-ISSUED FOR CONSTRUCTION DWG S2.1

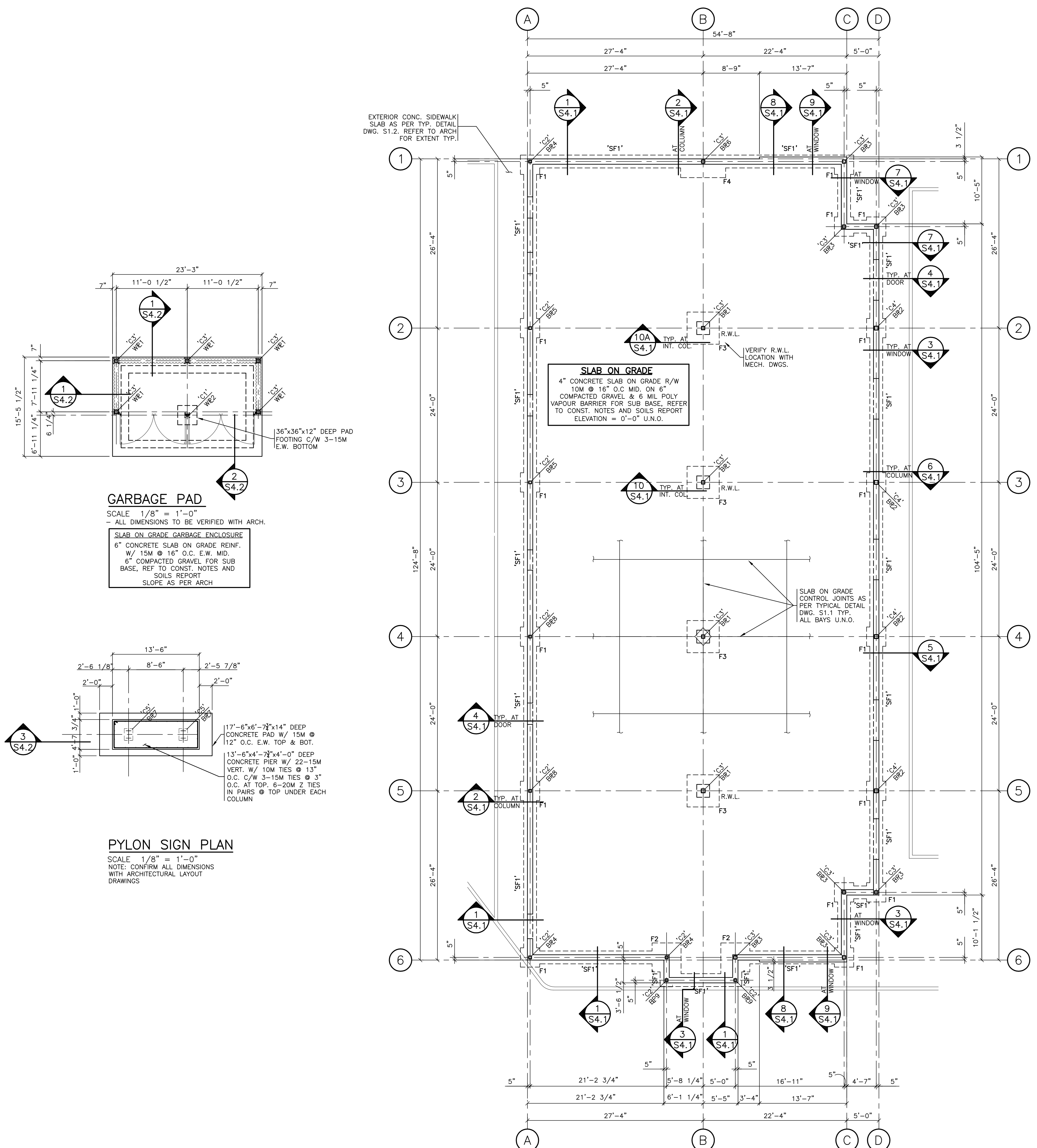


500 RANCH MARKET RETAIL DEVELOPMENT

500 RANCH MARKET STRATHMORE, ALBERTA

MAIN FLOOR & FOUNDATION PLAN

scale: AS NOTED  
 drawn by: PP  
 checked by: BR  
 project no: 2012-072  
 date issued: -



seal

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Issue No.	Date	Description
1	2012-07-26	ISSUED FOR BUILDING PERMIT
2	2012-08-10	ISSUED FOR CONSTRUCTION



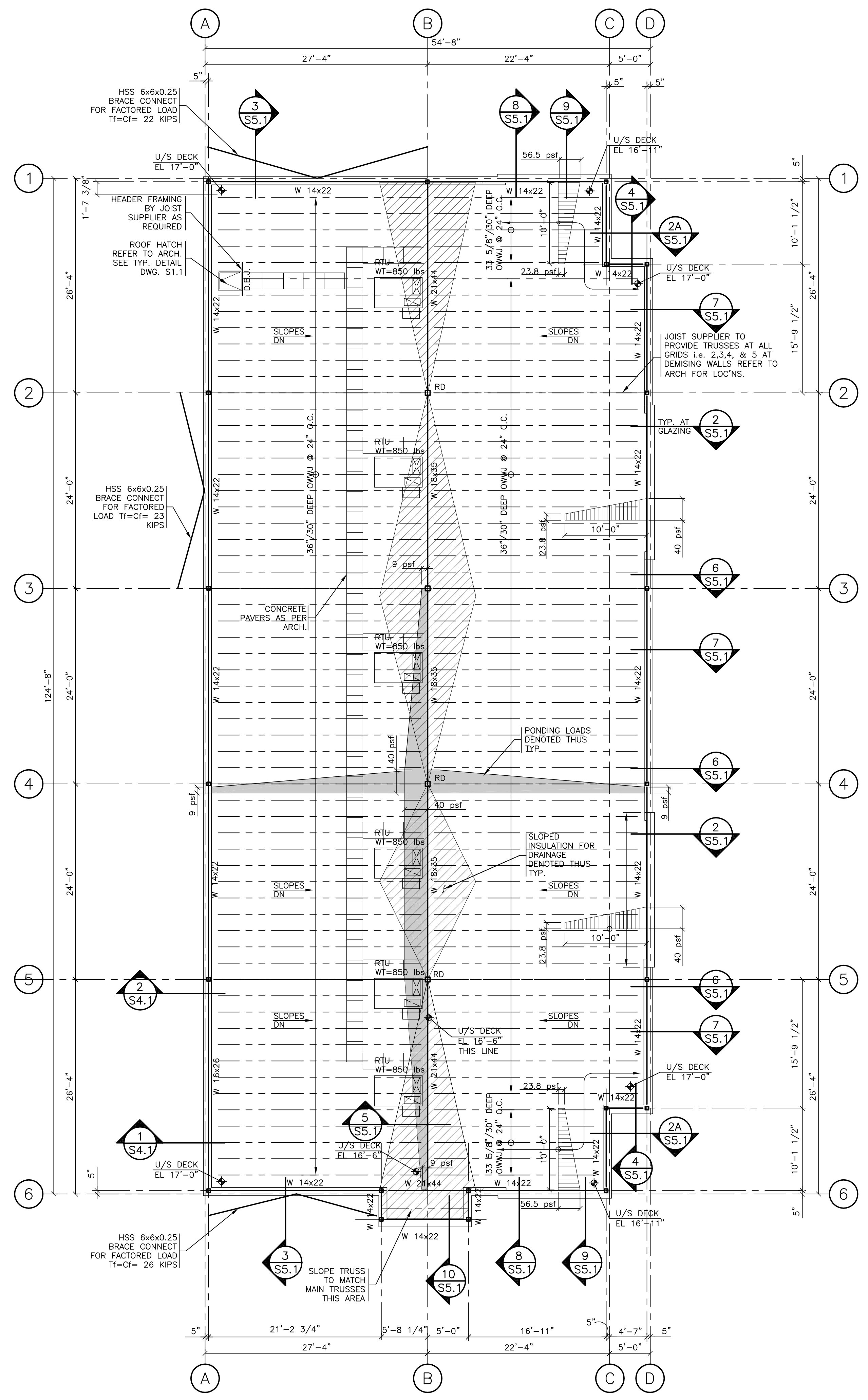
project title  
**500 RANCH MARKET RETAIL DEVELOPMENT**

**500 RANCH MARKET STRATHMORE, ALBERTA**

drawing title  
**ROOF FRAMING PLAN**

scale: AS NOTED  
 drawn by: PP  
 checked by: BR  
 project no: 2012-072  
 date issued: -

re-issue no: sheet no:



**ROOF FRAMING PLAN**

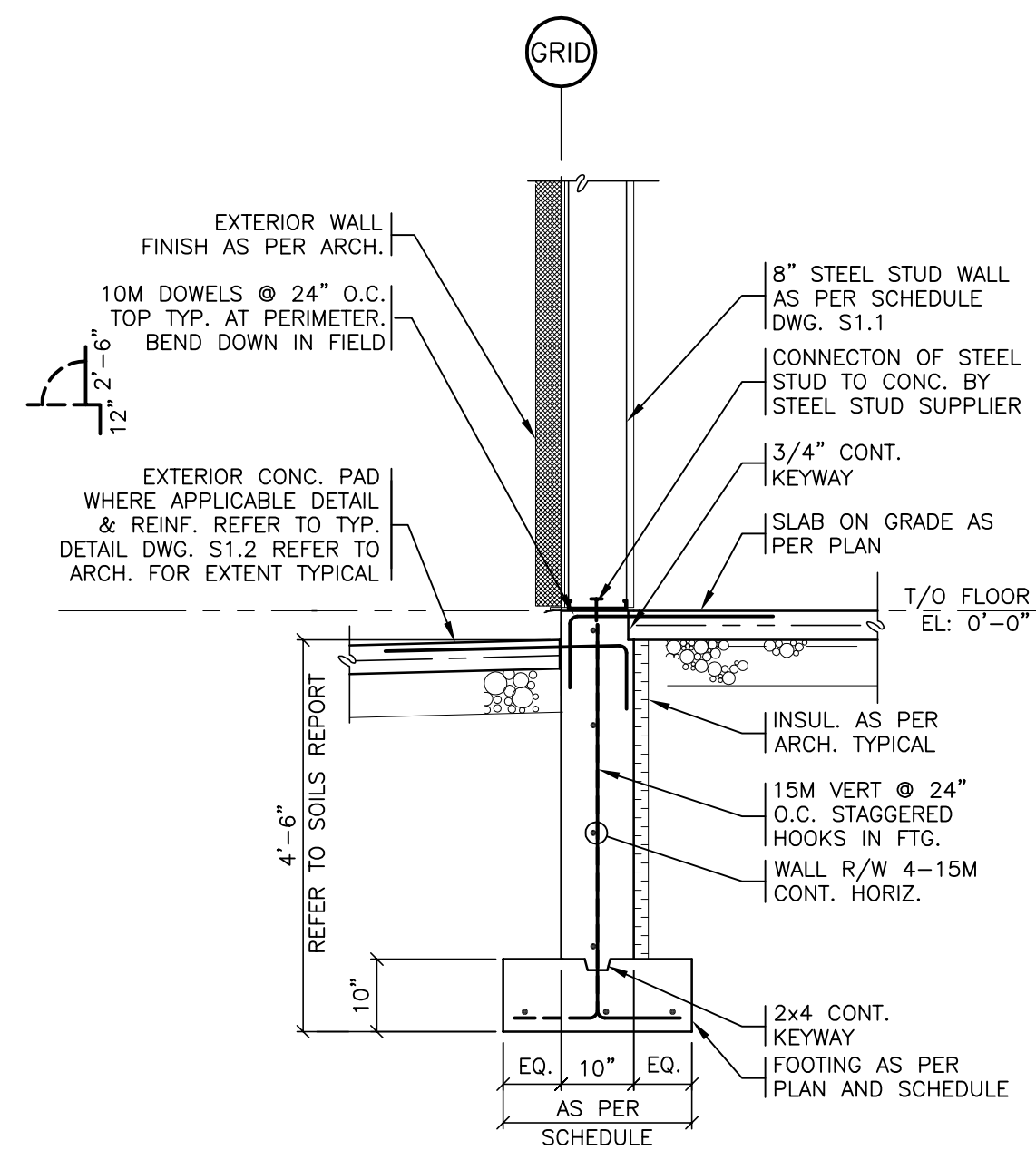
SCALE = 1/8" = 1'-0"

- NOTES:**
- U/S TRUSS ELEV. SEE ALSO ARCH
  - ALL TYPICAL ROOF TRUSSES ARE DENOTED ON PLAN THUS
  - T.O. STEEL BEAM AS PER SECTIONS ON DWG. S5.1 ALSO SEE ARCH. MAX. SPECIFIED DEFLECTION CRITERIA FOR ROOF AS FOLLOWS  
 $\Delta T = L/240$   
 $\Delta L = L/360$
  - 'DBJ' ON PLAN DENOTES DOUBLE BLOCKING JOIST BY JOIST SUPPLIER
  - ALL TRUSSES TO BE HELD DOWN USING MGA CONNECTORS TRI CLIPS OR APPROVED EQUIVALENT

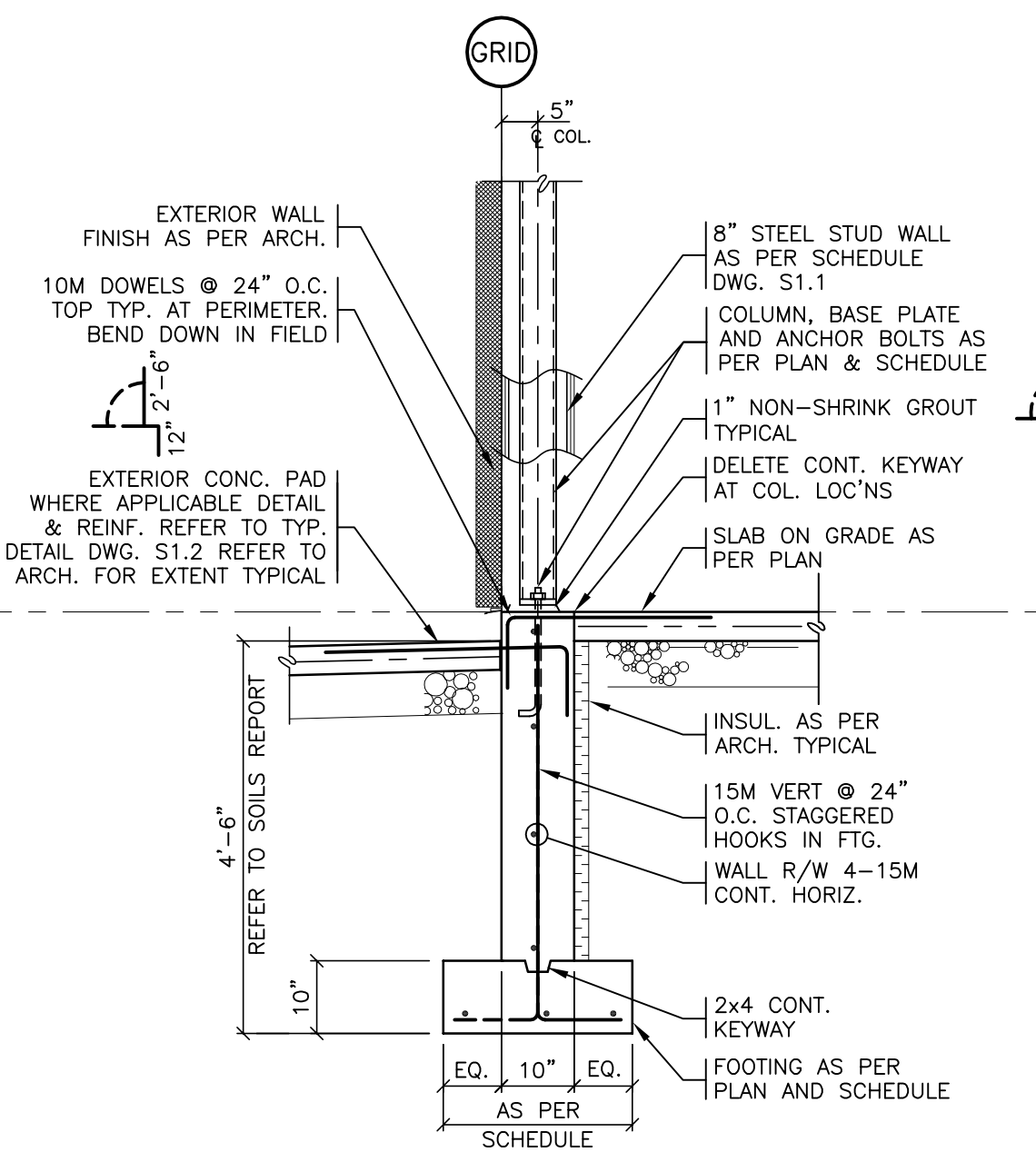
**ROOF DESIGN LOADS:**

LIVE LOAD = 24 psf + SNOW DRIFT OR PONDING (WHICHEVER PRODUCES THE WORST EFFECT)  
 DEAD LOAD = 24 psf + MECHANICAL + PAVERS

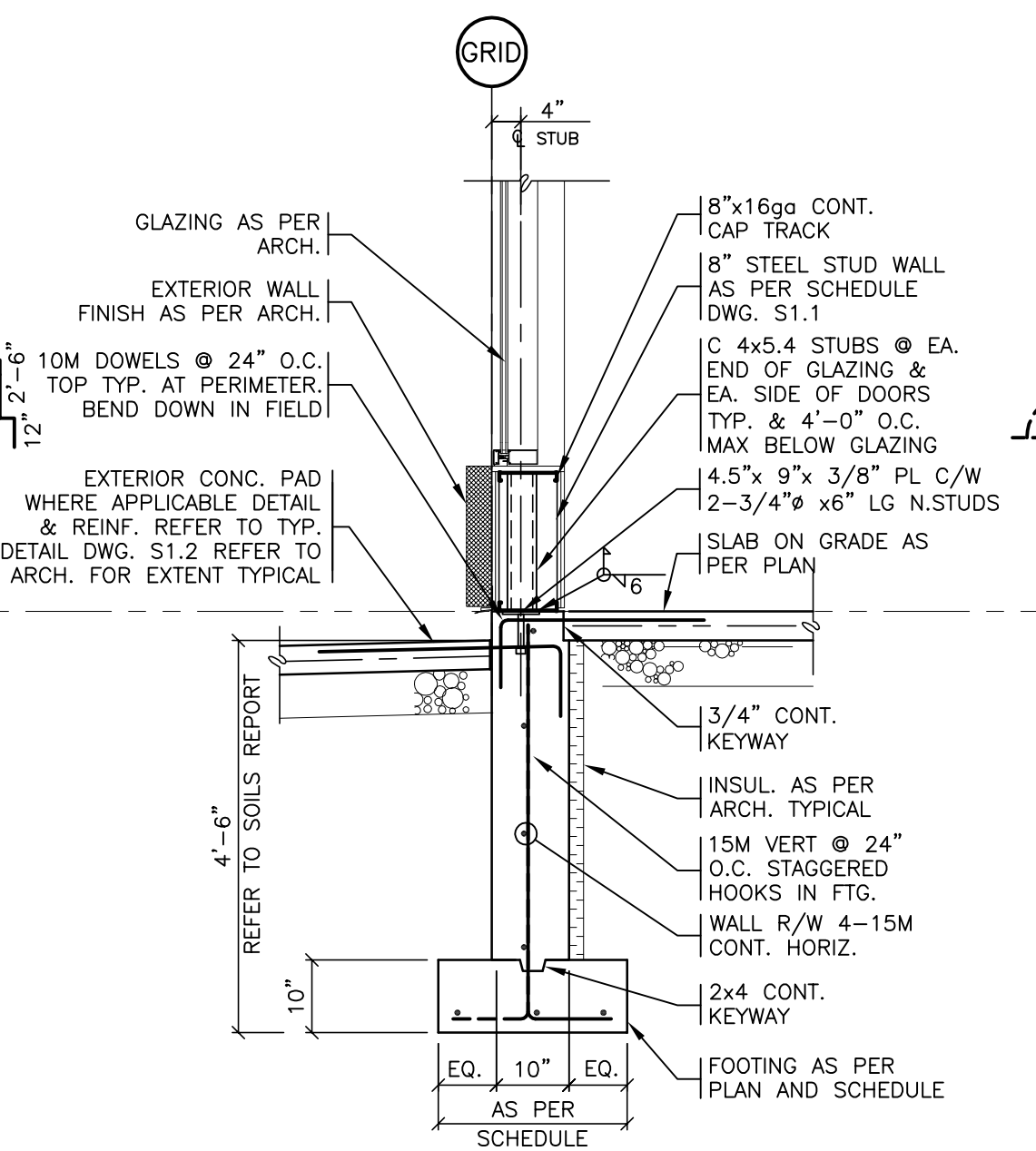
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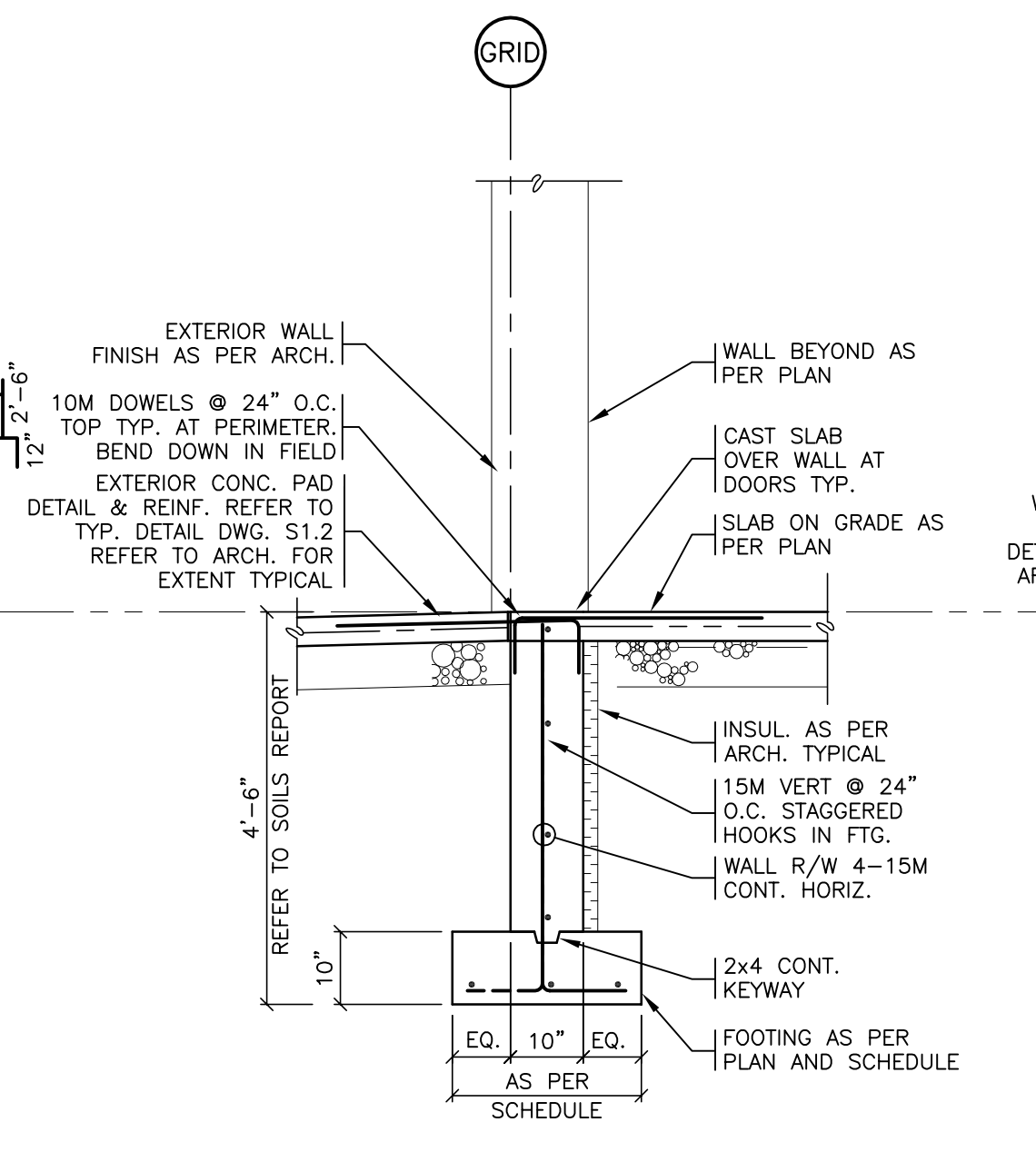
1 SECTION  
 S4.1 SCALE 1/2" = 1'-0"



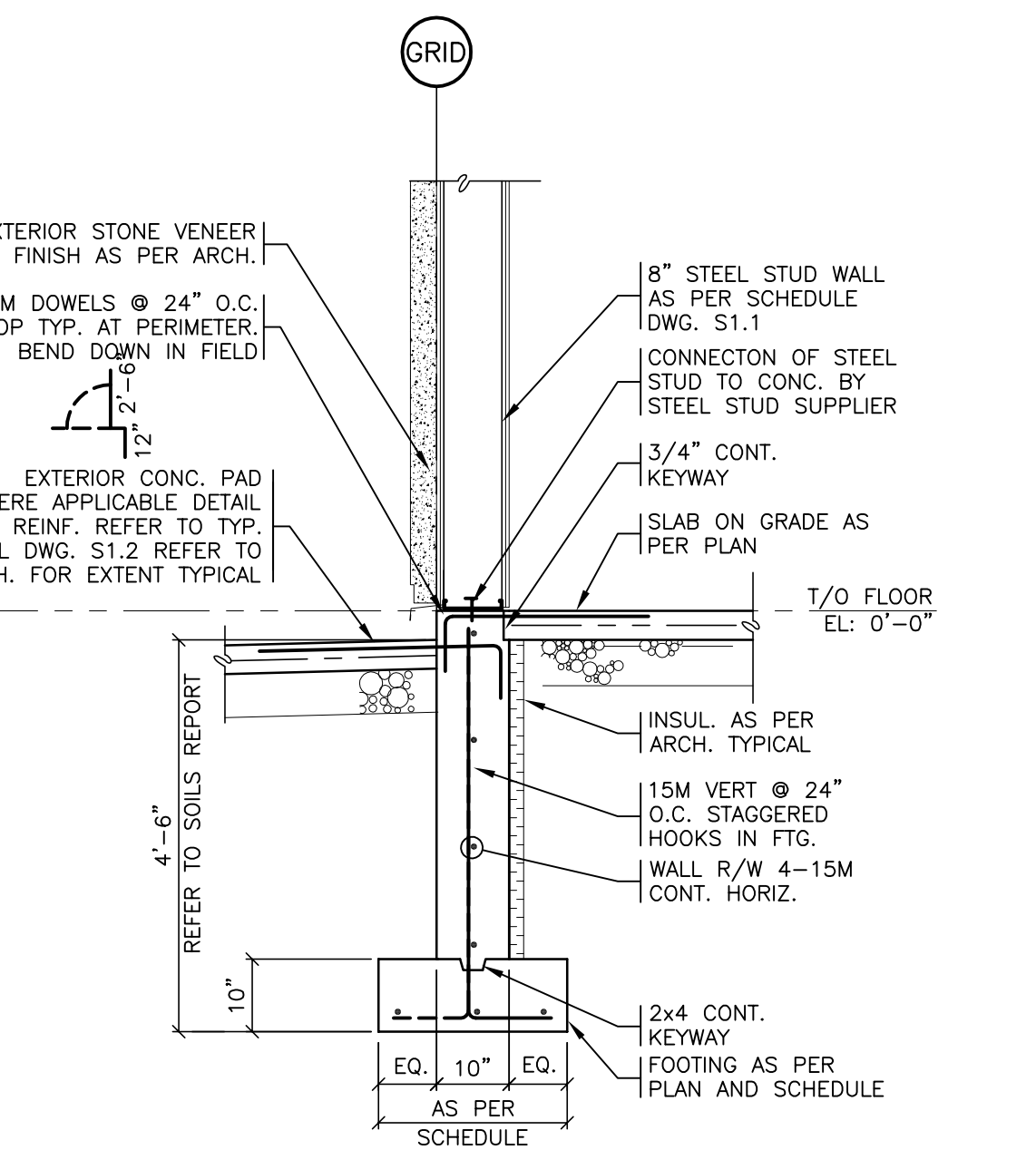
2 SECTION AT COLUMN  
 S4.1 SCALE 1/2" = 1'-0"



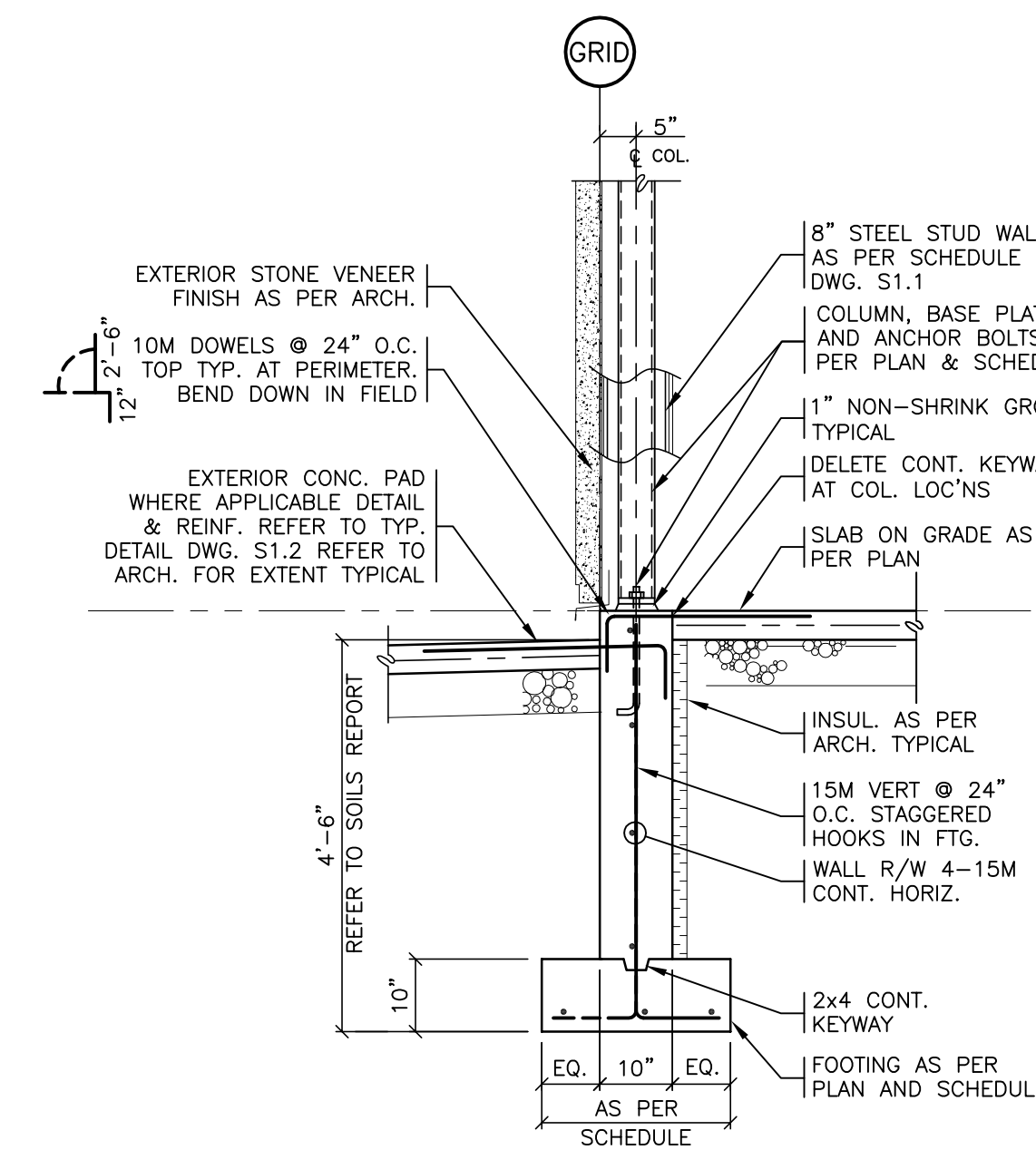
3 SECTION AT GLAZING  
 S4.1 SCALE 1/2" = 1'-0"



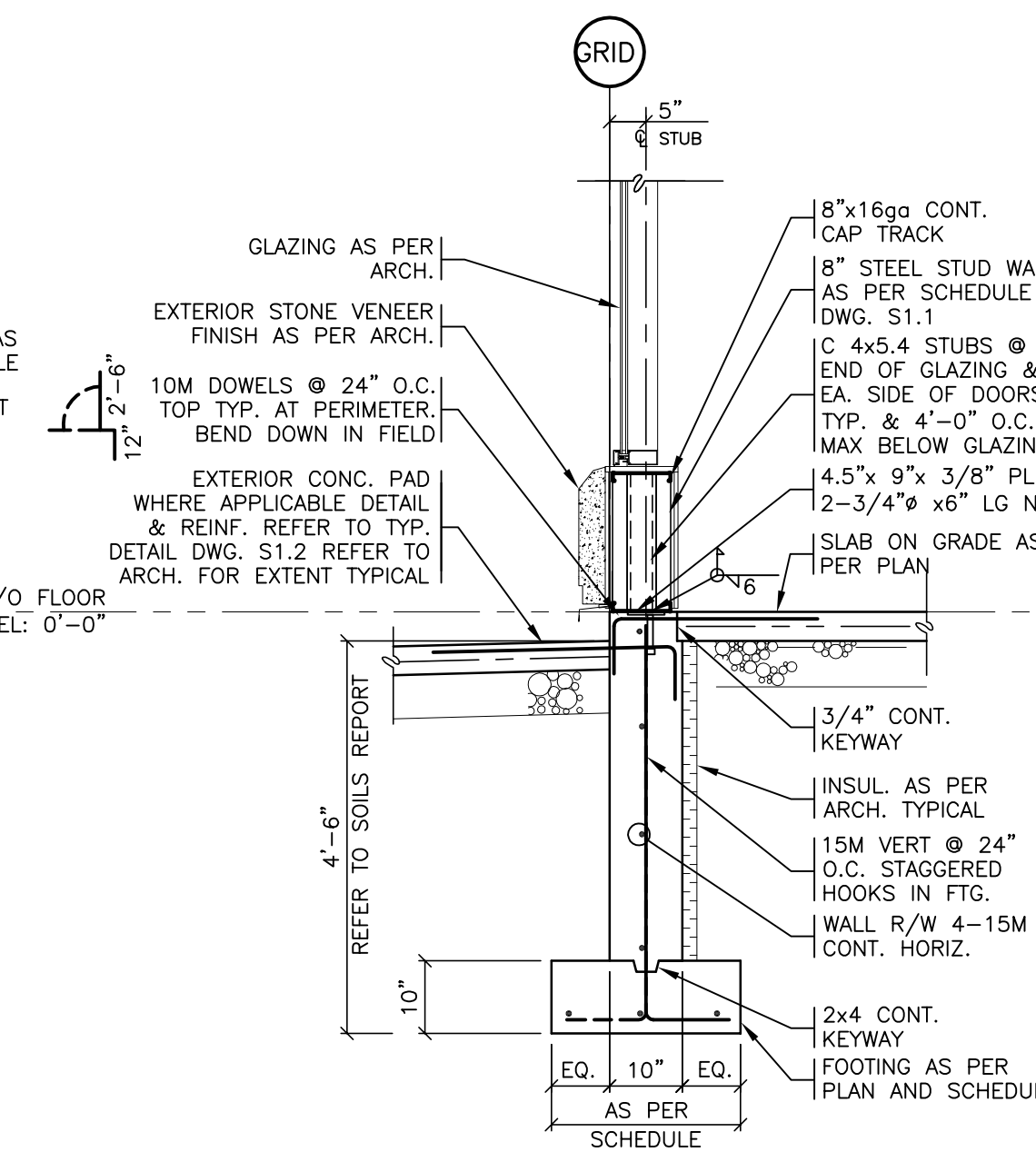
4 SECTION AT DOOR  
 S4.1 SCALE 1/2" = 1'-0"



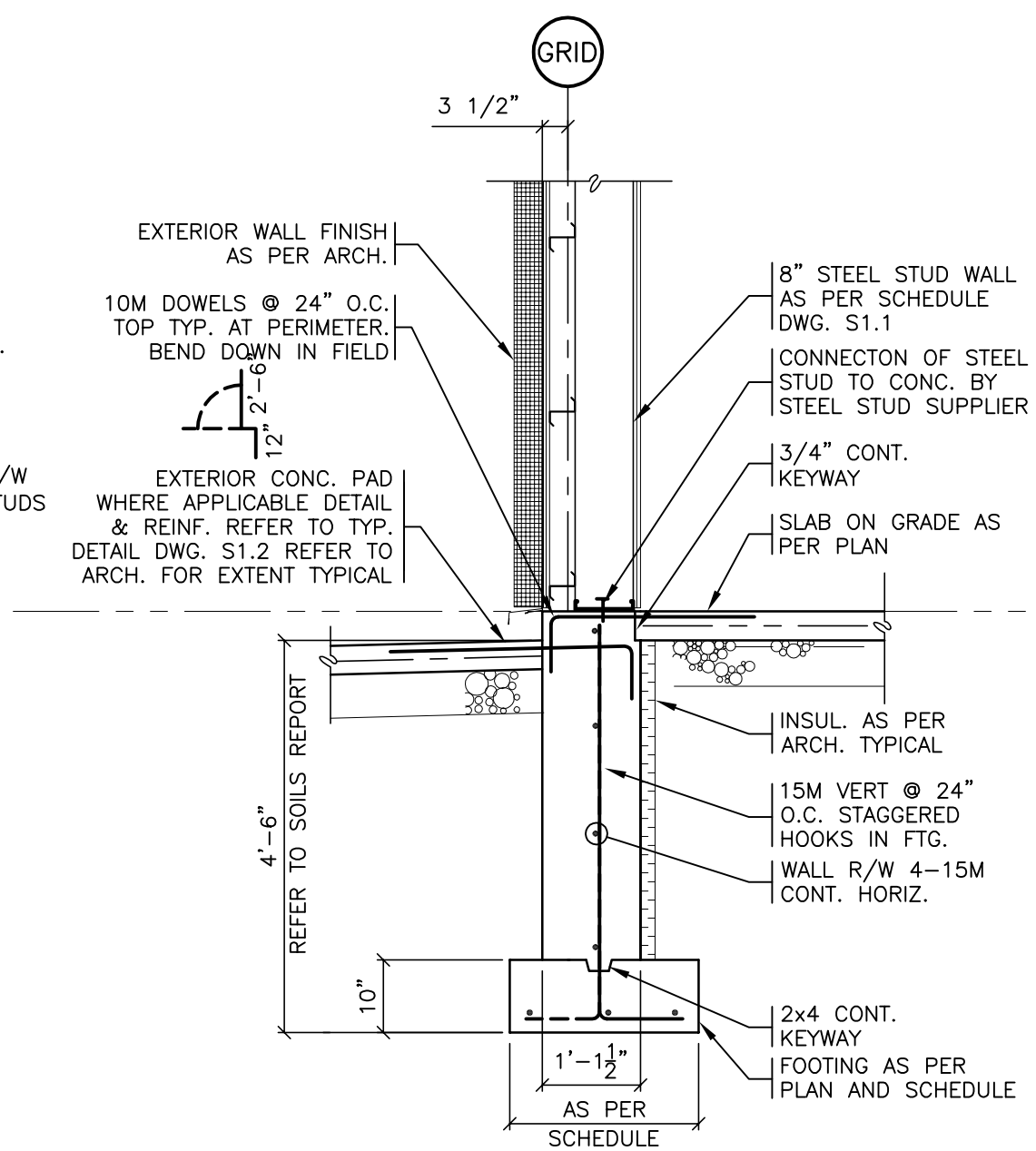
5 SECTION  
 S4.1 SCALE 1/2" = 1'-0"



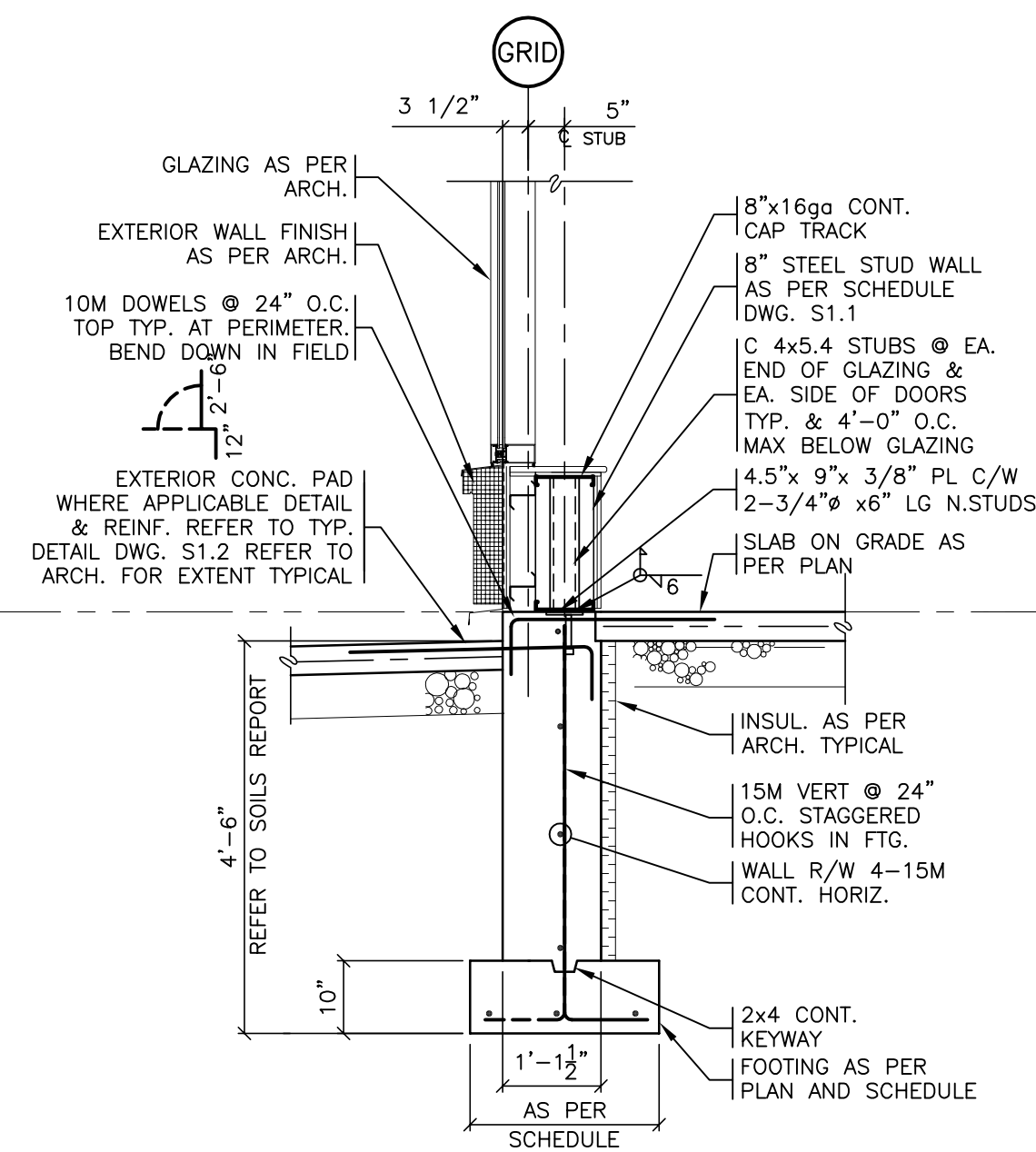
6 SECTION AT COLUMN  
 S4.1 SCALE 1/2" = 1'-0"



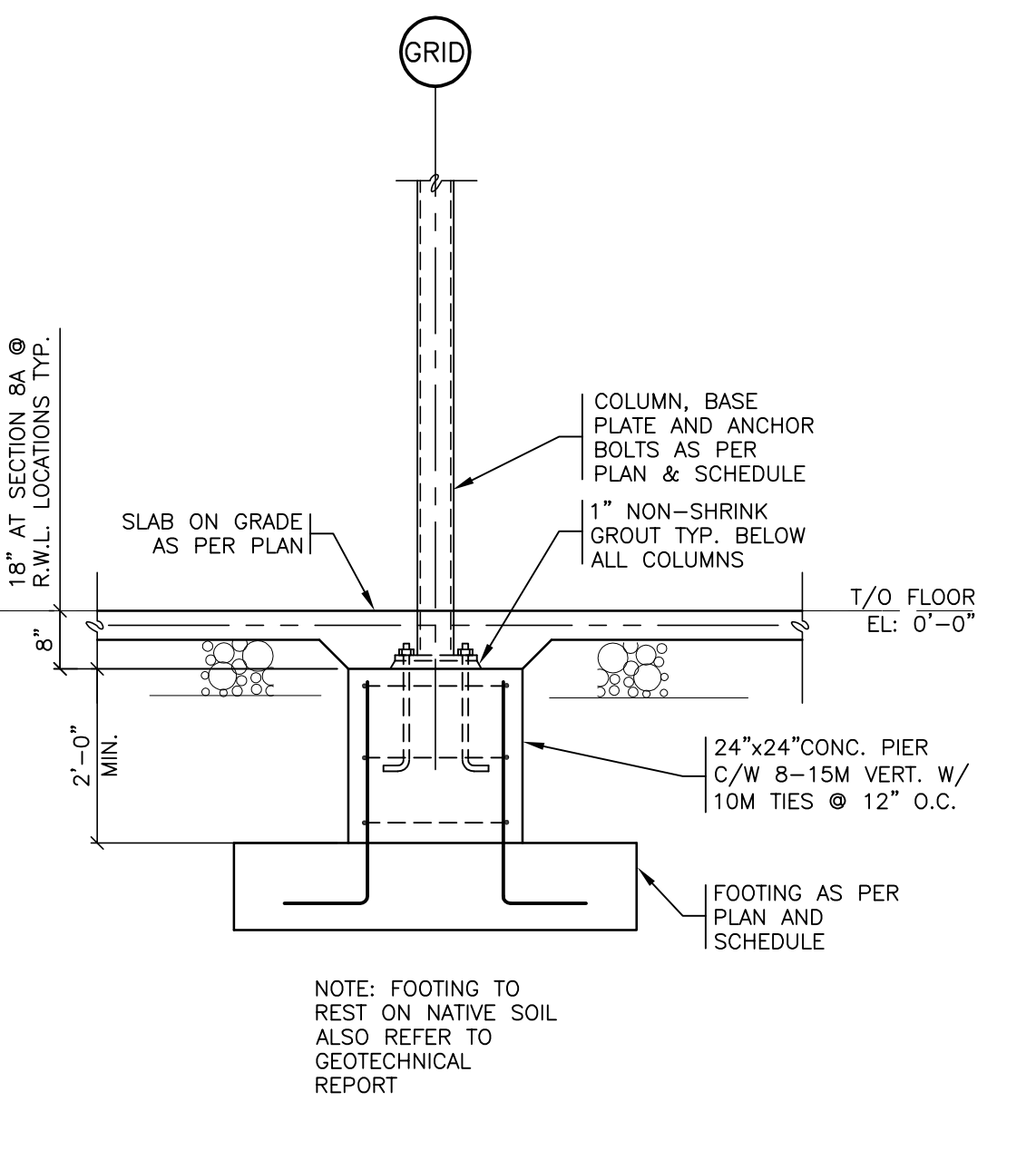
7 SECTION AT GLAZING  
 S4.1 SCALE 1/2" = 1'-0"



8 SECTION  
 S4.1 SCALE 1/2" = 1'-0"



9 SECTION AT GLAZING  
 S4.1 SCALE 1/2" = 1'-0"



10A SECTION AT INT. COL.  
 S4.1 SCALE 1/2" = 1'-0"

Issue No.	Date	Description
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client



project title

500 RANCH MARKET RETAIL DEVELOPMENT

500 RANCH MARKET STRATHMORE, ALBERTA

drawing title

FOUNDATION SECTIONS

scale: AS NOTED  
 drawn by: PP  
 checked by: BR  
 project no: 2012-072  
 date issued: -

re-issue no: sheet no:

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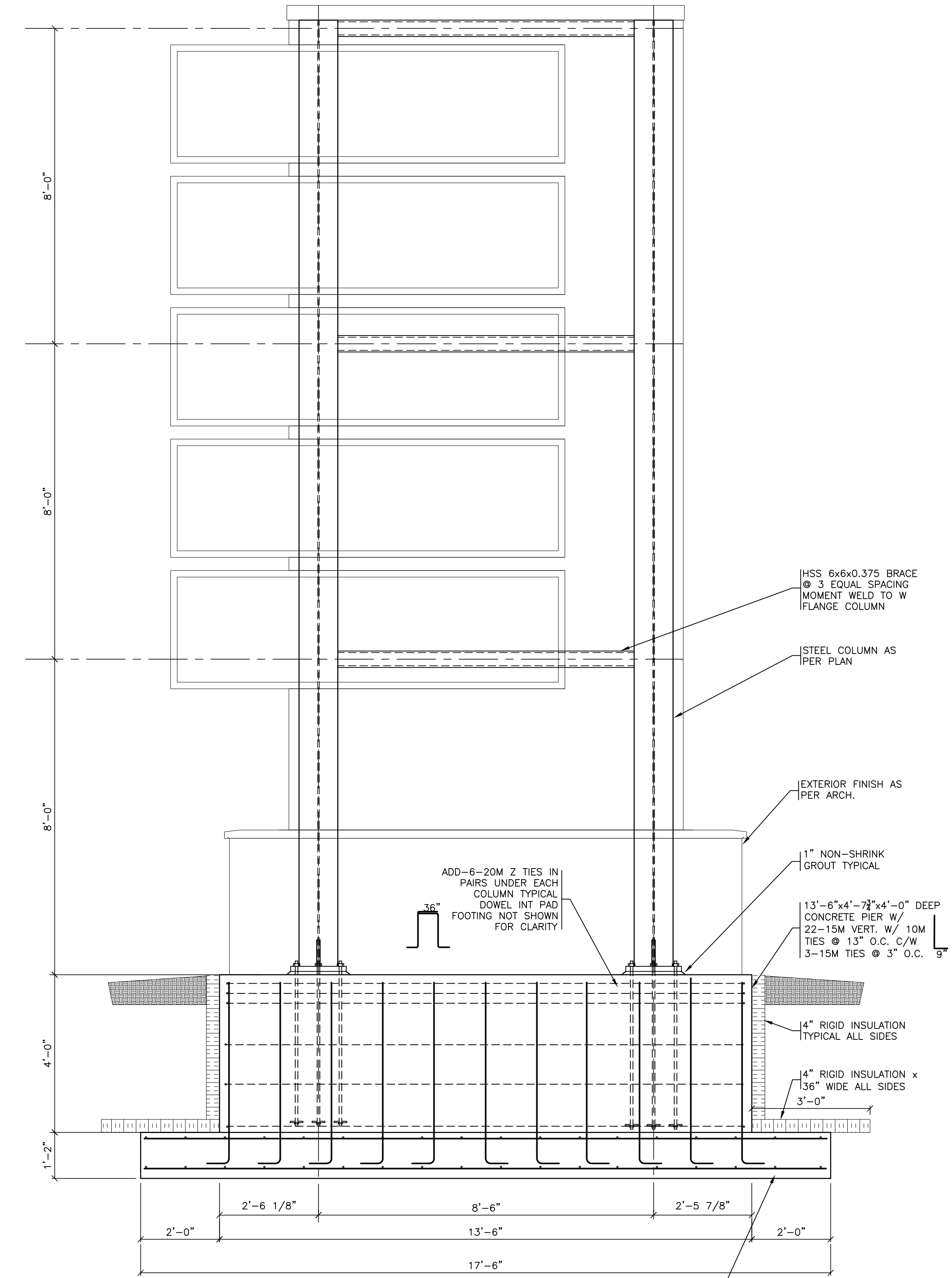
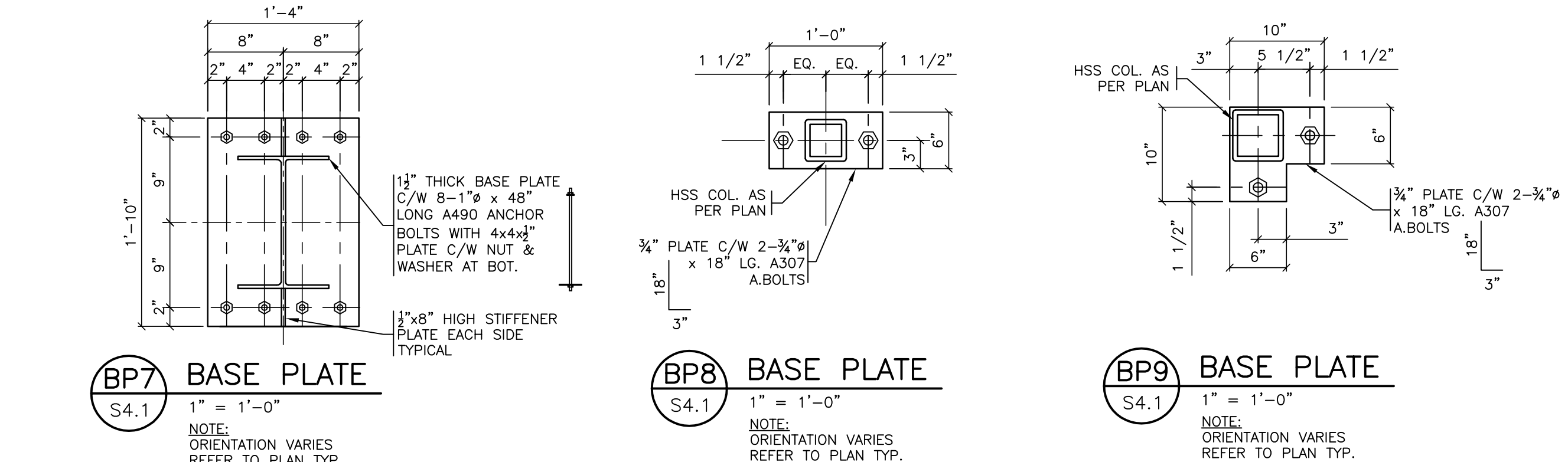
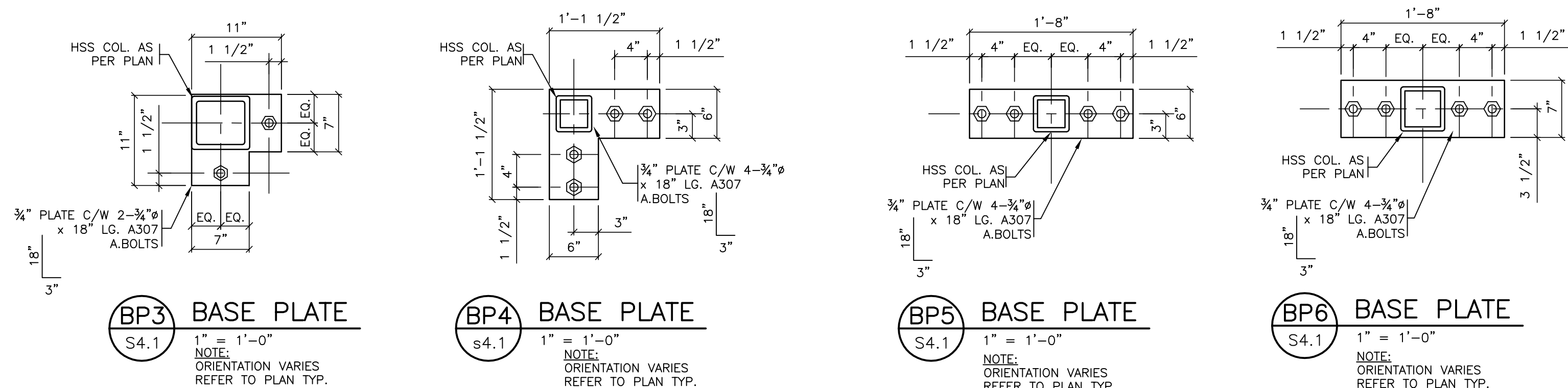
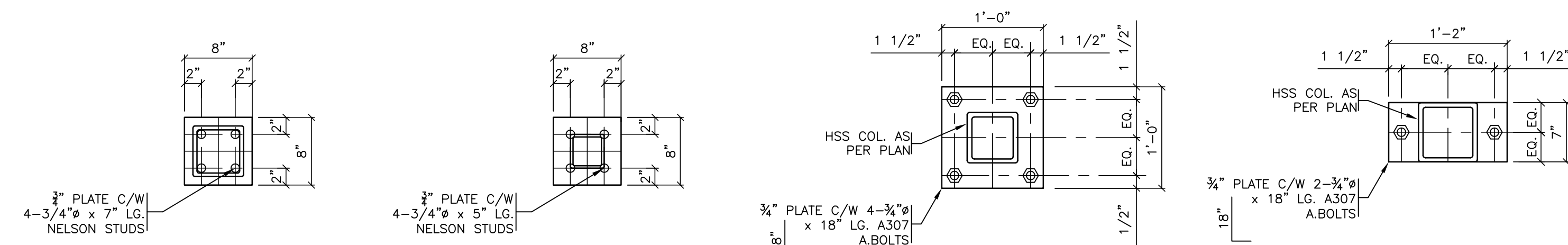
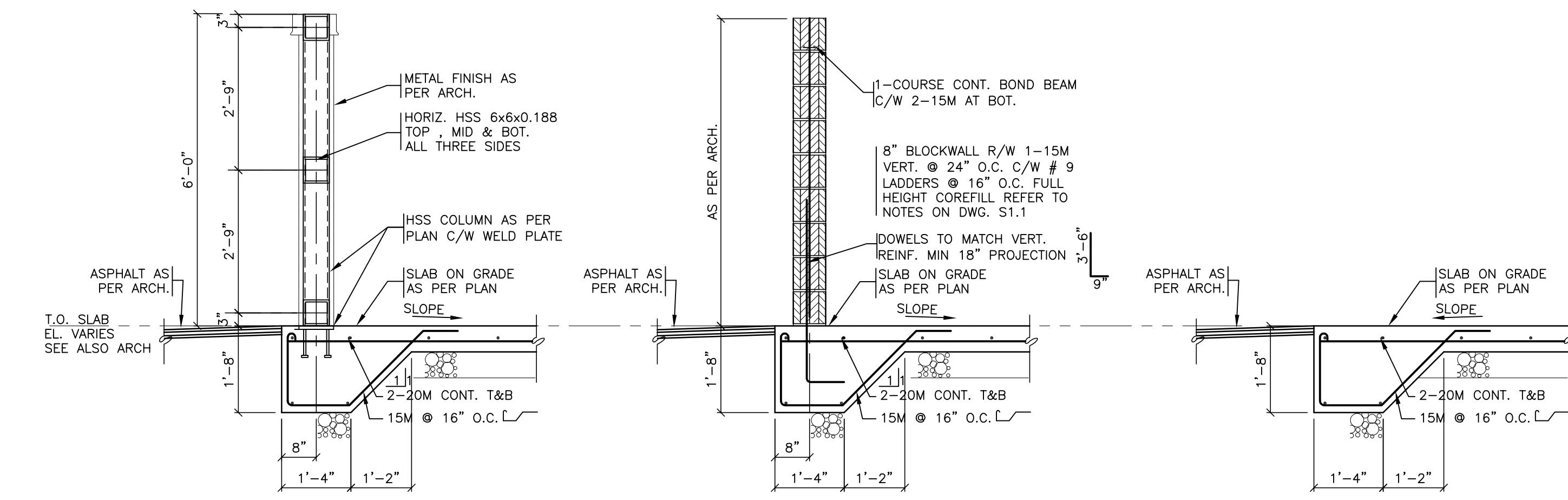


500 RANCH MARKET RETAIL DEVELOPMENT

500 RANCH MARKET STRATHMORE, ALBERTA

FOUNDATION SECTIONS & DETAILS

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17'-6" x 6'-7" x 14" DEEP CONCRETE PAD W/ 15M @ 12" O.C. E.W. TOP & BOT.

4" RIGID INSULATION x 36" WIDE ALL SIDES

13'-6" x 4'-7" x 4'-0" DEEP CONCRETE PIER W/ 22-15M VERT. W/ 10M TIES @ 13" O.C. C/W 3-15M TIES @ 3" O.C.

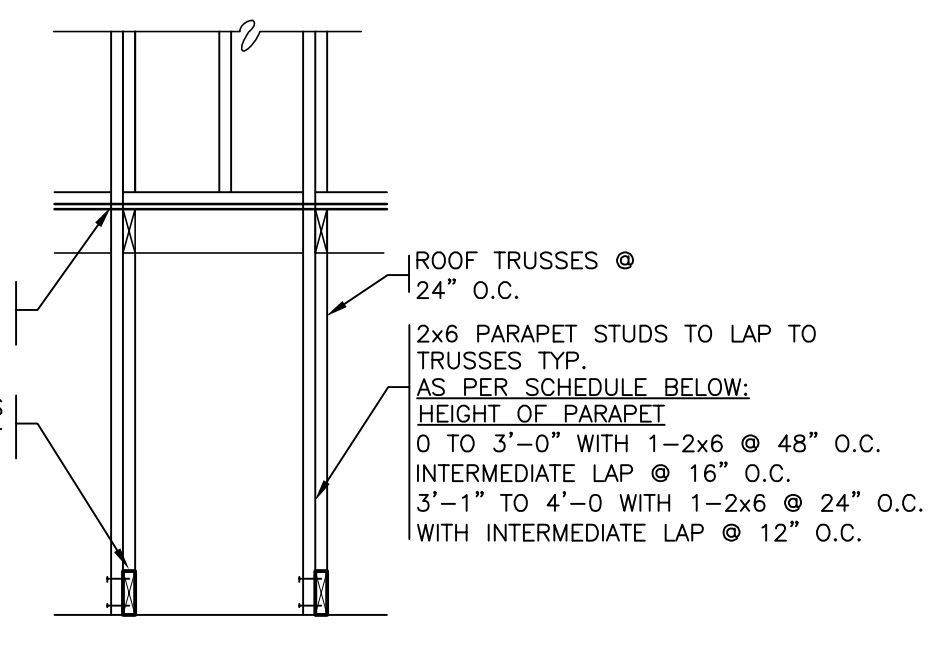
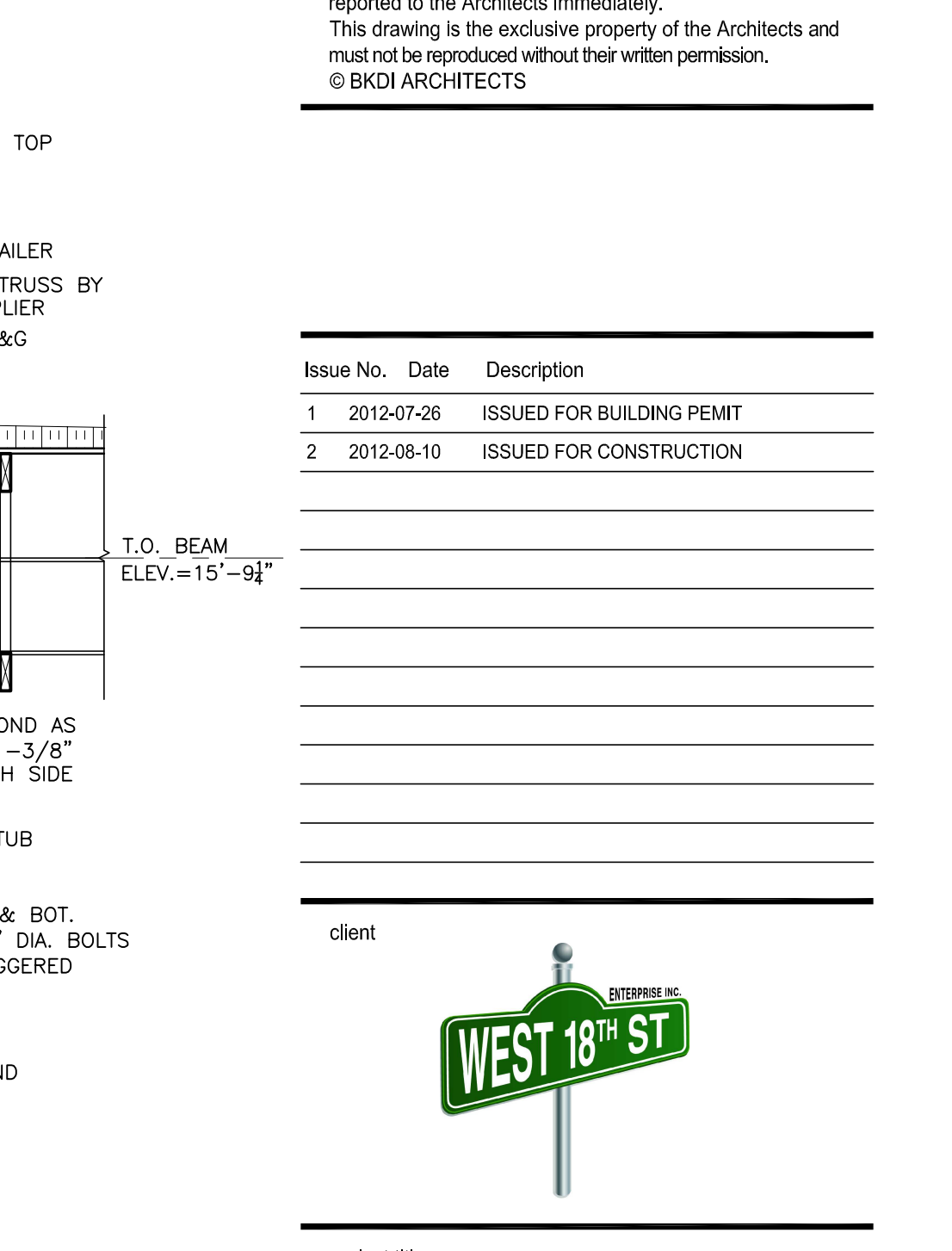
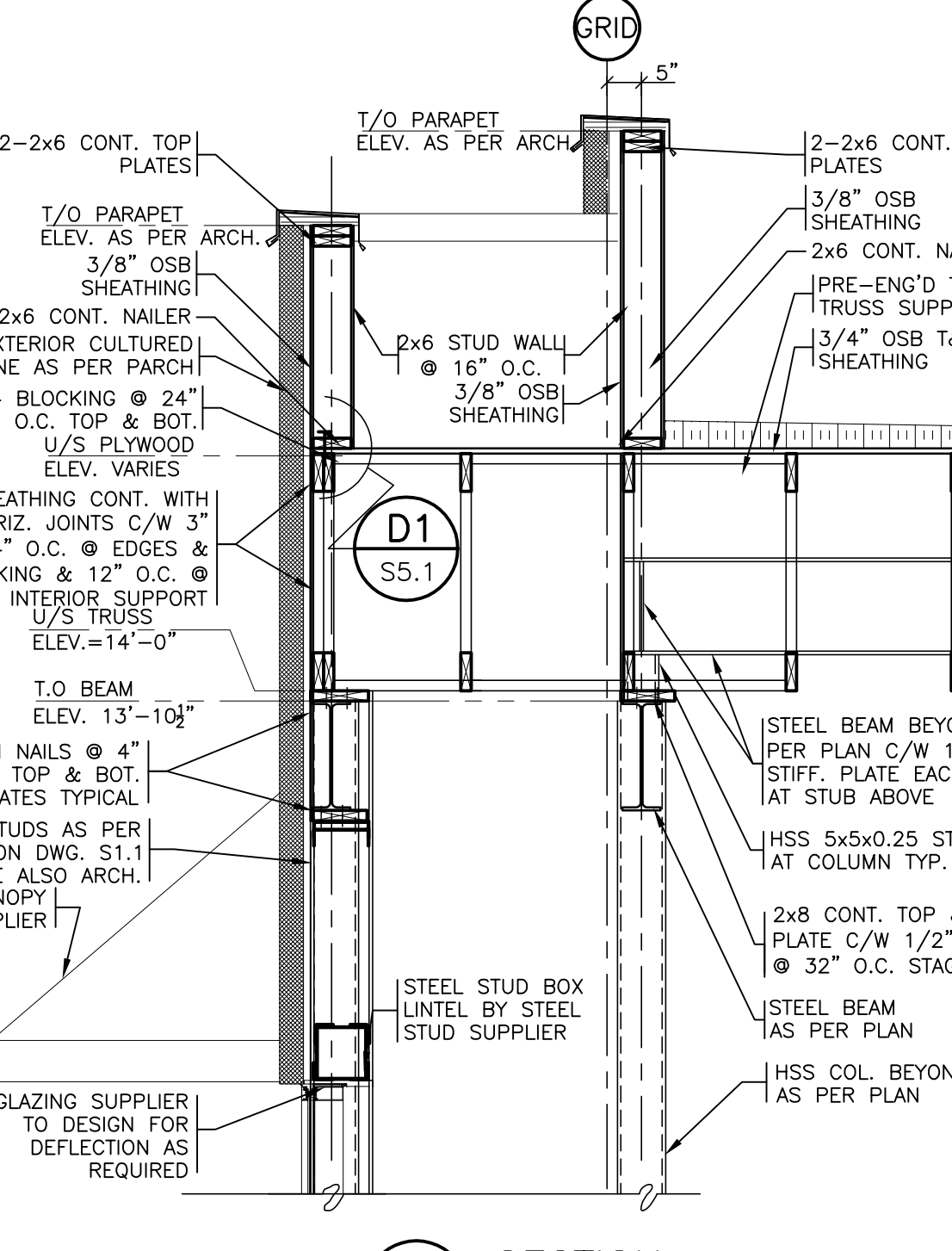
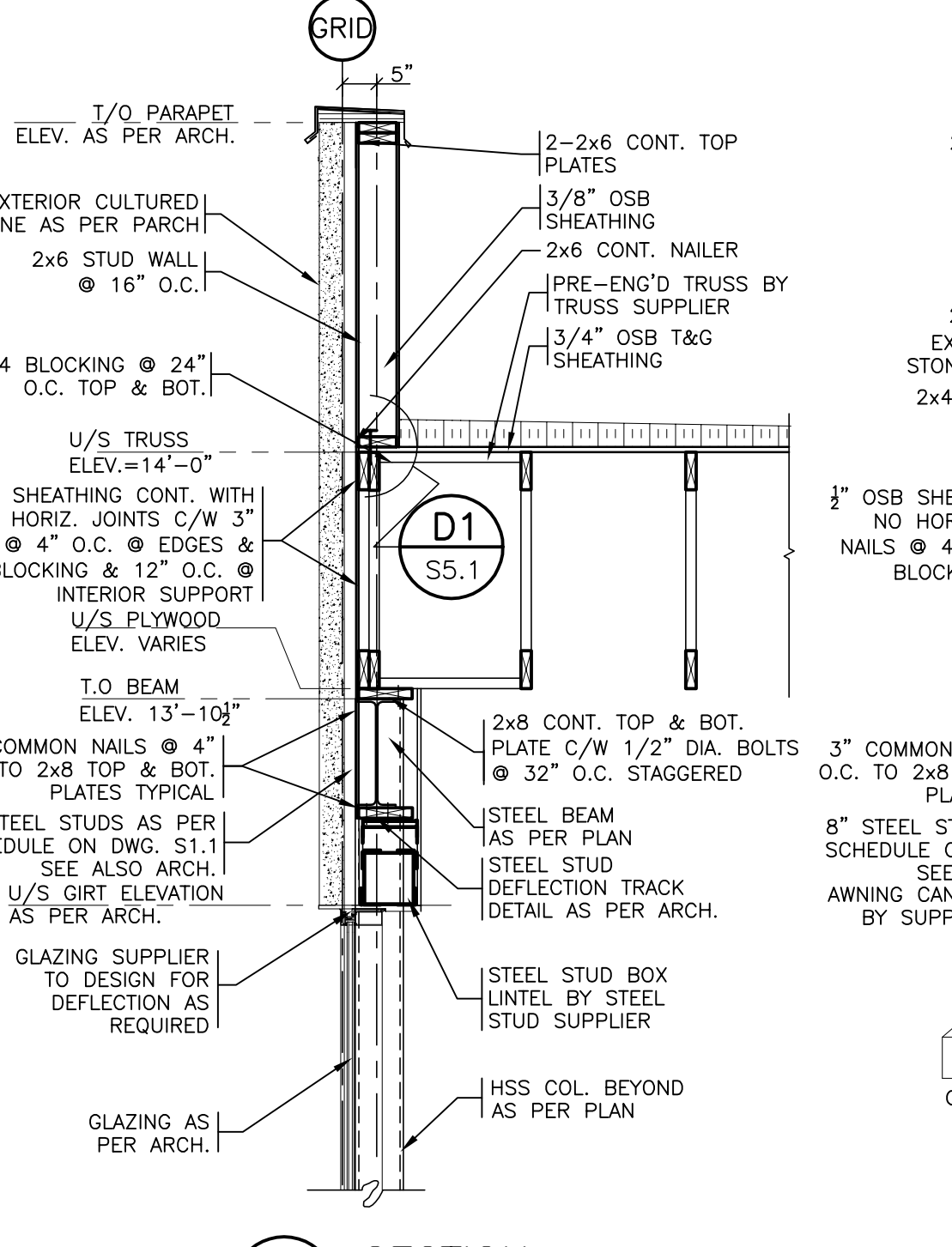
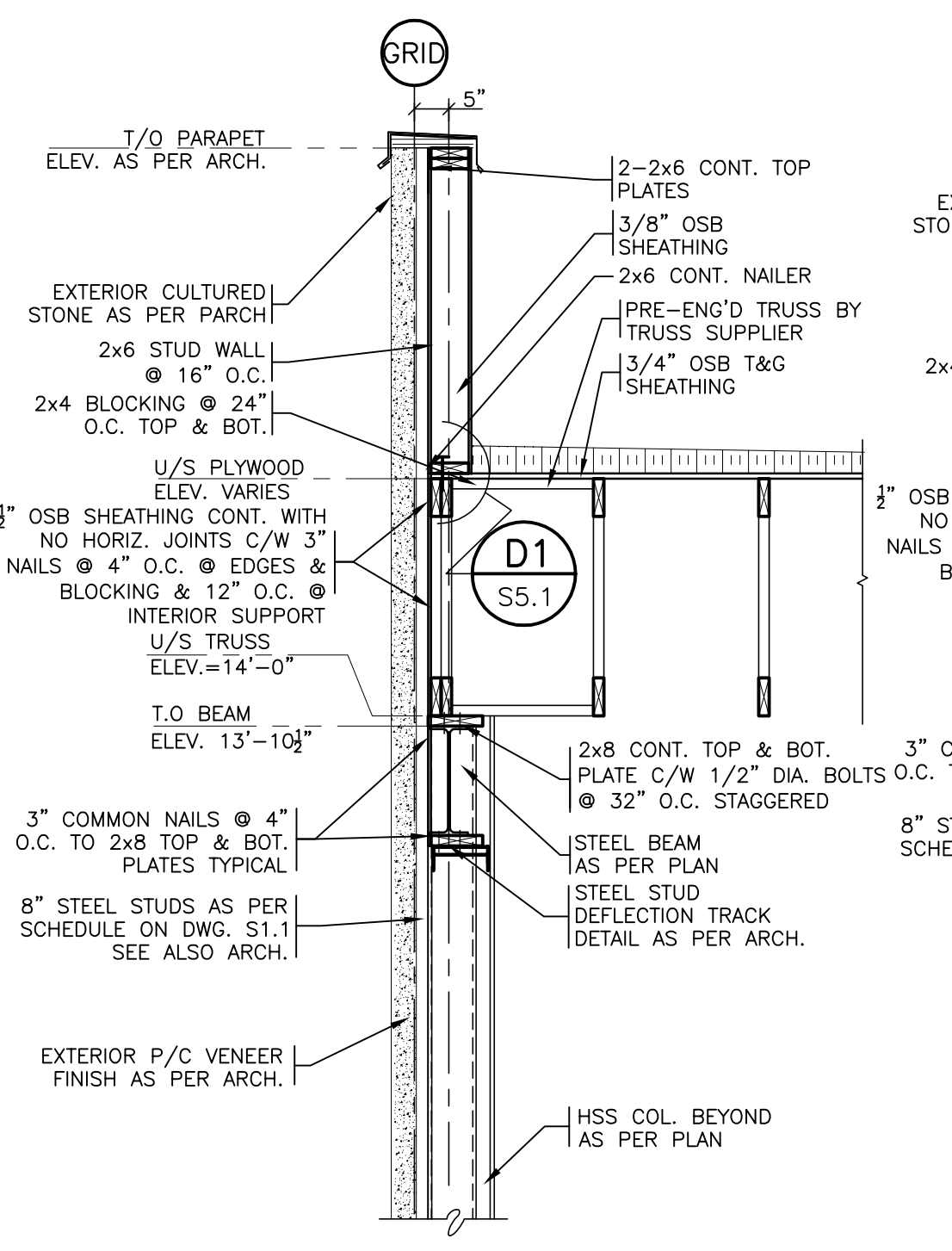
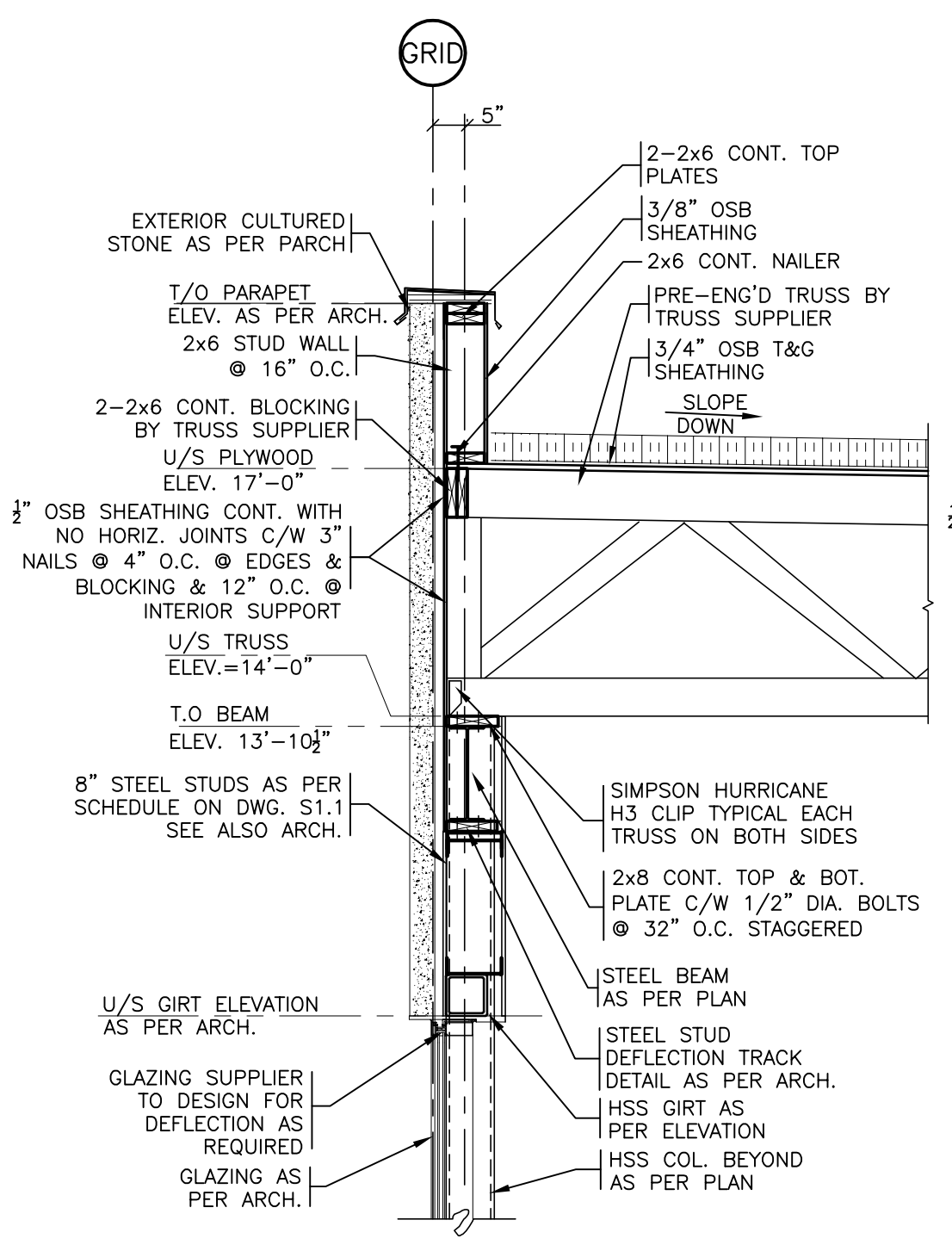
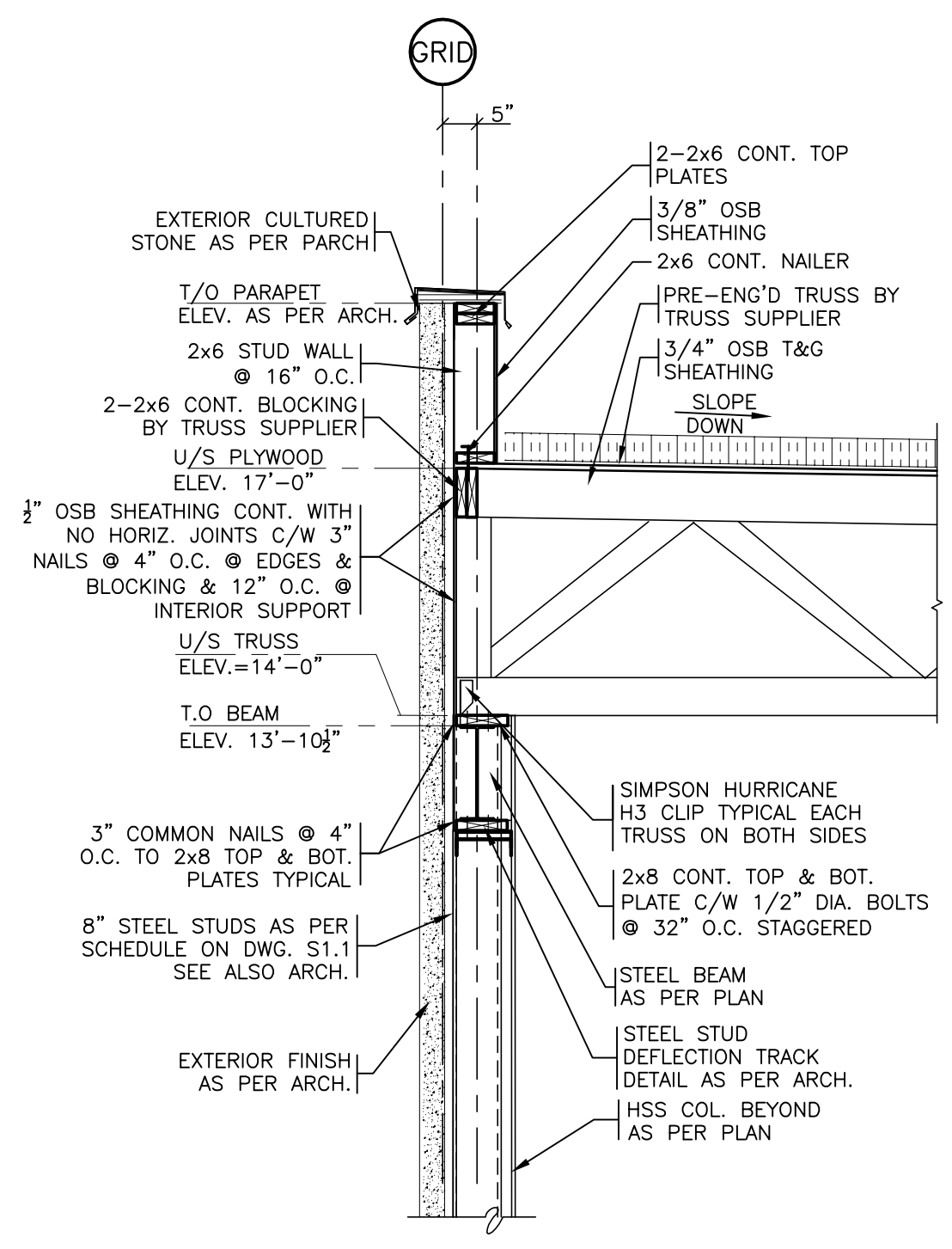
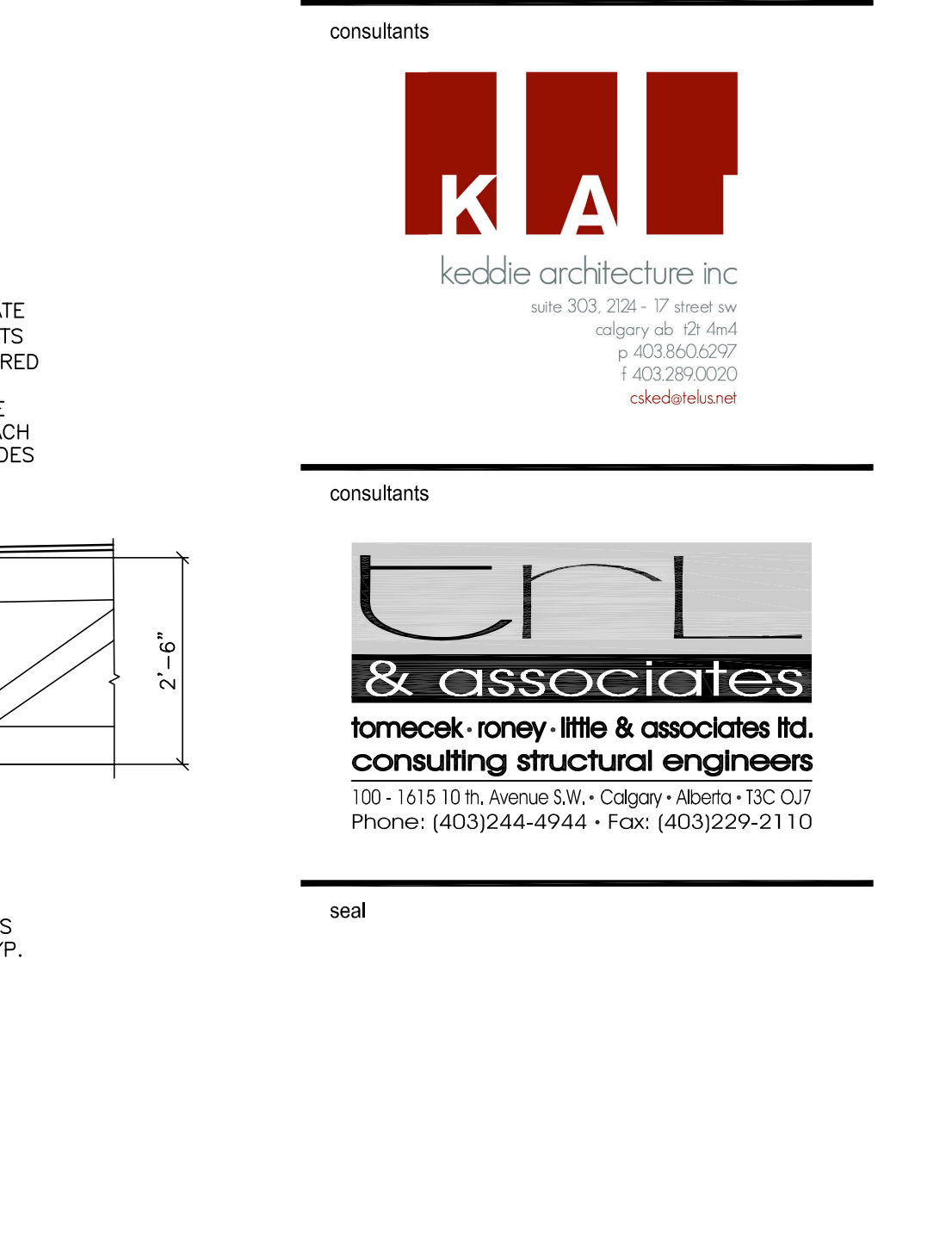
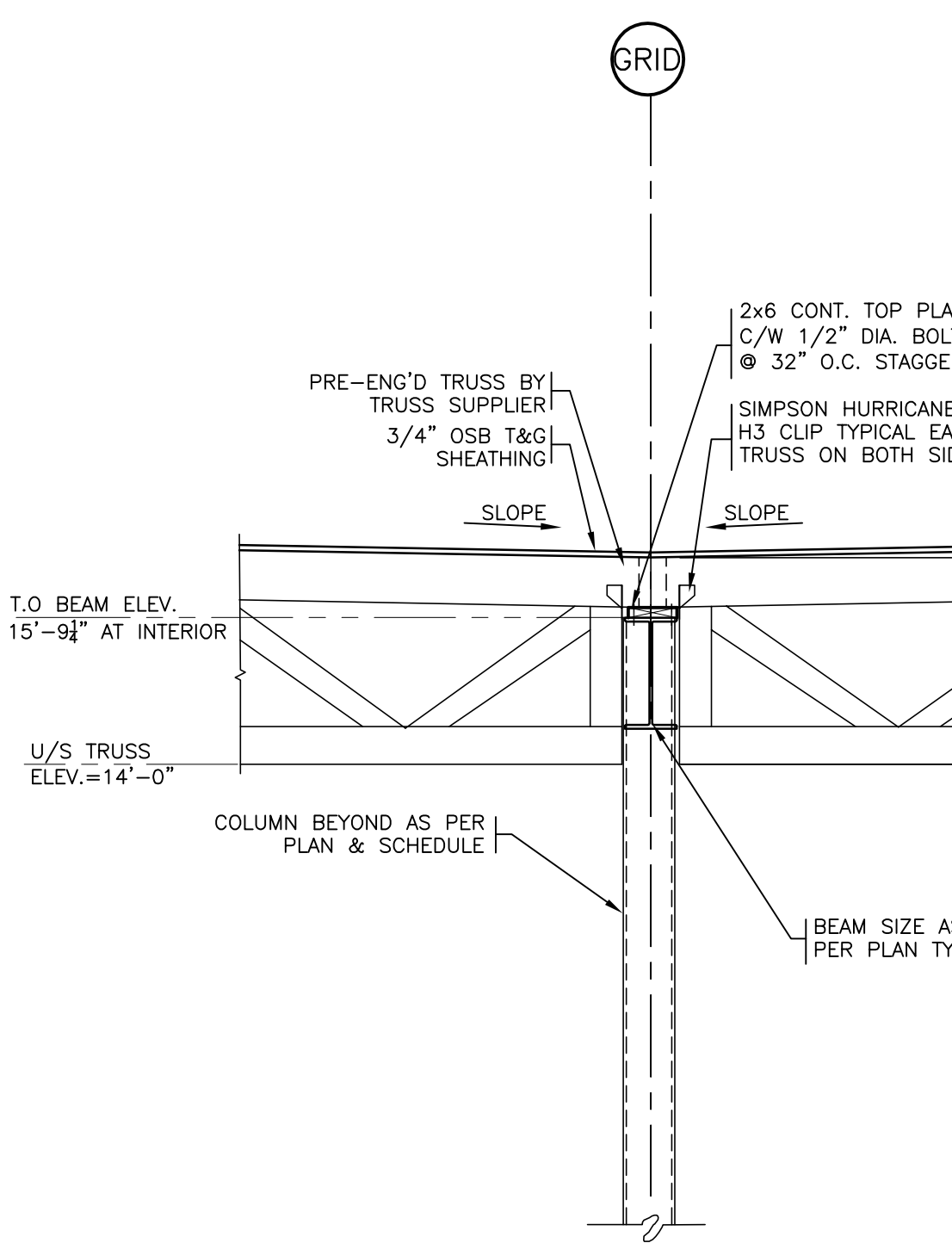
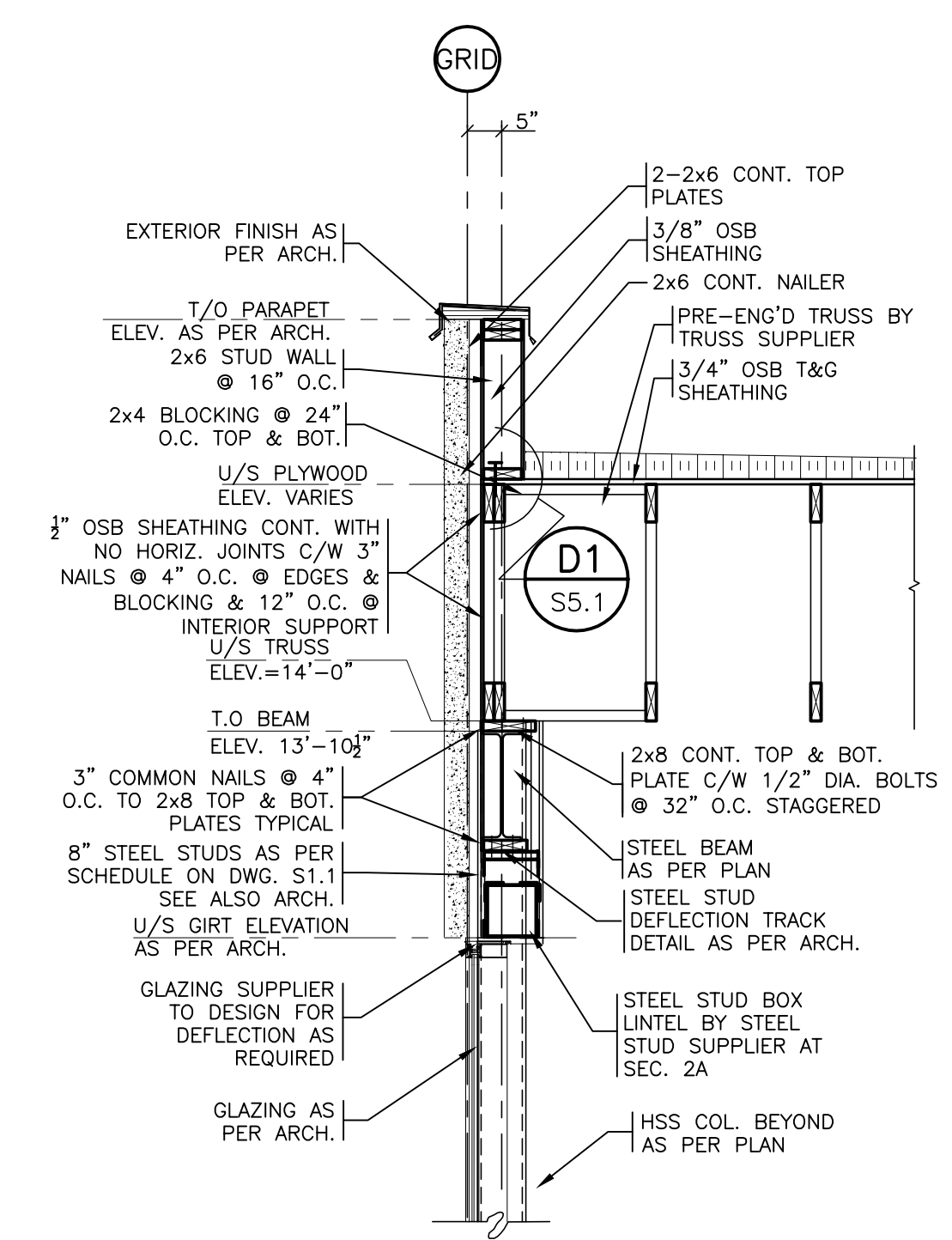
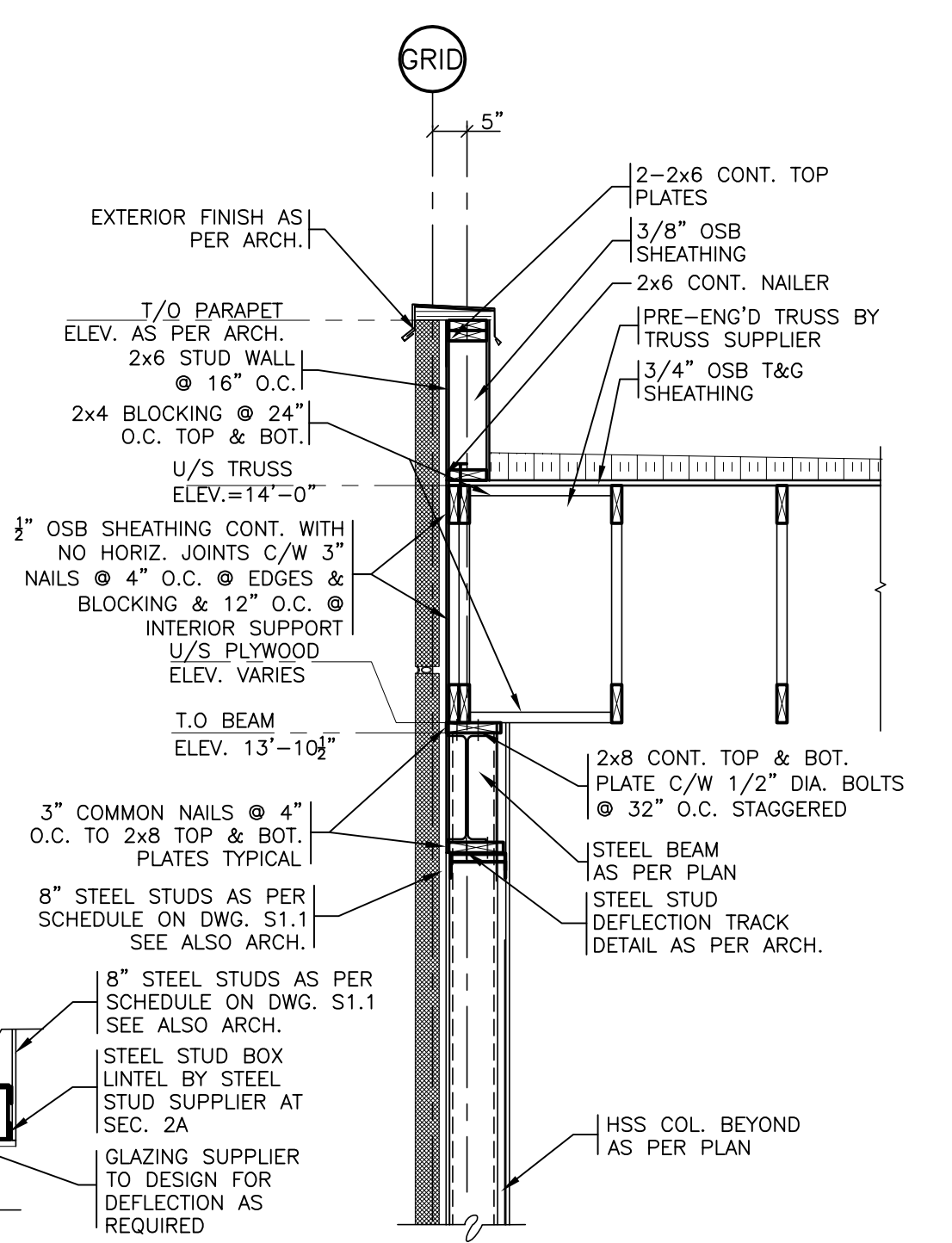
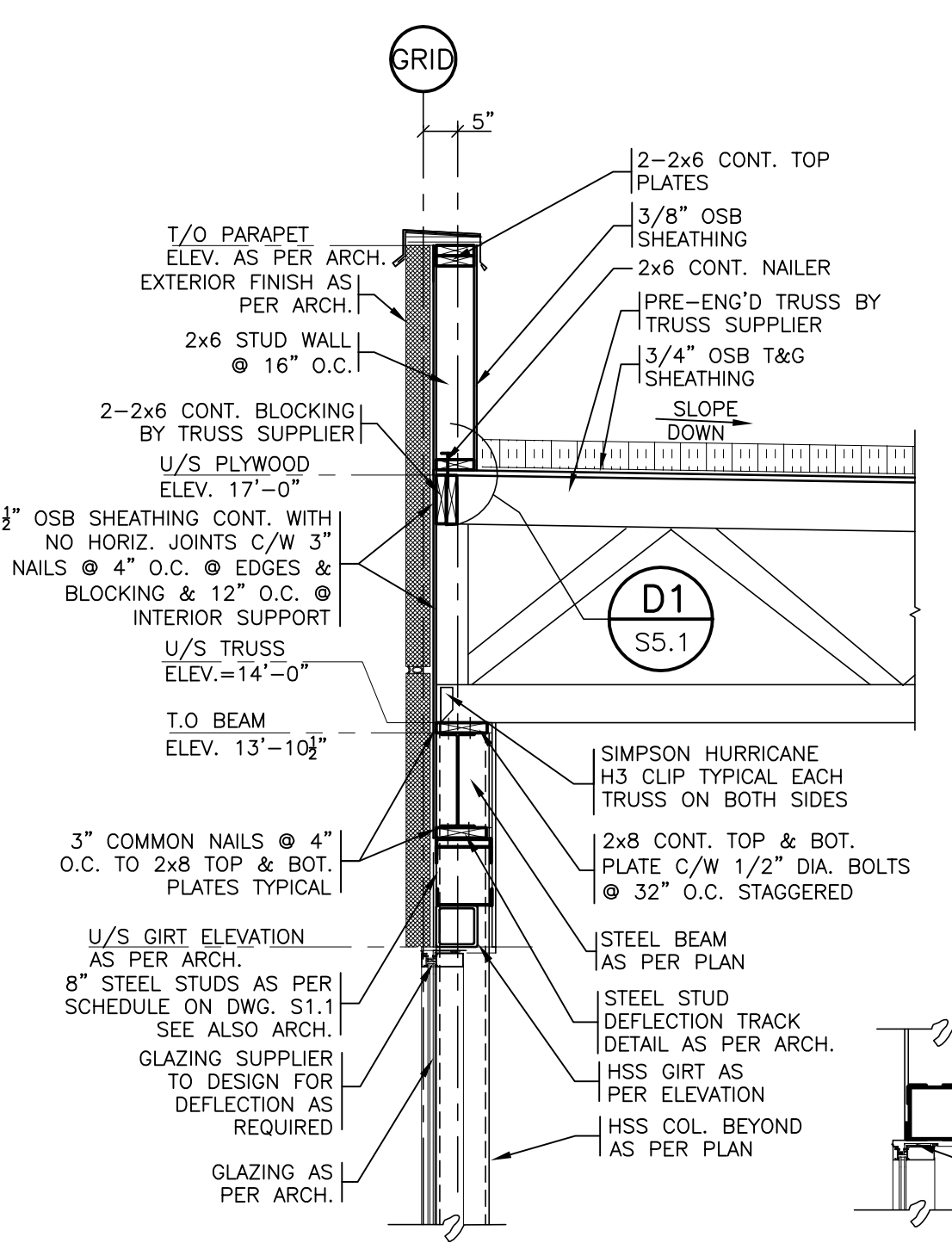
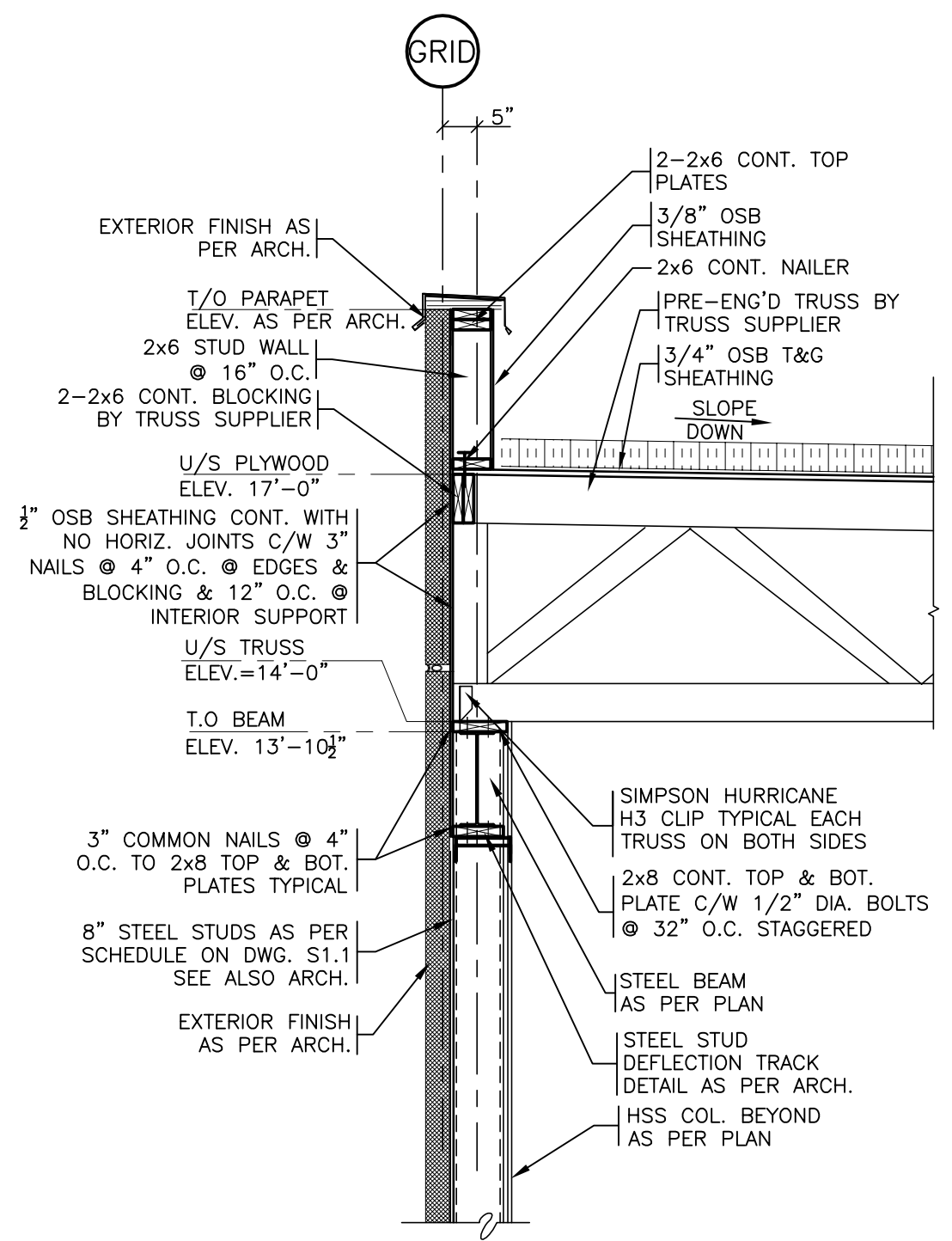
1" NON-SHRINK GROUT TYPICAL

EXTERIOR FINISH AS PER ARCH.

HSS 6x6x0.375 BRACE @ 3 EQUAL SPACING MOMENT WELD TO W FLANGE COLUMN

STEEL COLUMN AS PER PLAN

ADD-6-20M Z TIES IN PAIRS UNDER EACH COLUMN TYPICAL DOWEL INT PAD FOOTING NOT SHOWN FOR CLARITY



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 p 403.860.3297  
 f 403.891.0220  
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consultants  
**TRL**  
 & associates  
 tomceck - roney - little & associates ltd.  
 consulting structural engineers inc.  
 100 - 1615 10th Avenue S.W. • Calgary • Alberta • T3C 0J7  
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**500 RANCH MARKET STRATHMORE, ALBERTA**

drawing title  
**ROOF FRAMING SECTIONS**

scale:	AS NOTED
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checked by:	BR
project no:	2012-072
date issued:	-
re-issue no:	sheet no:

**S5.1**



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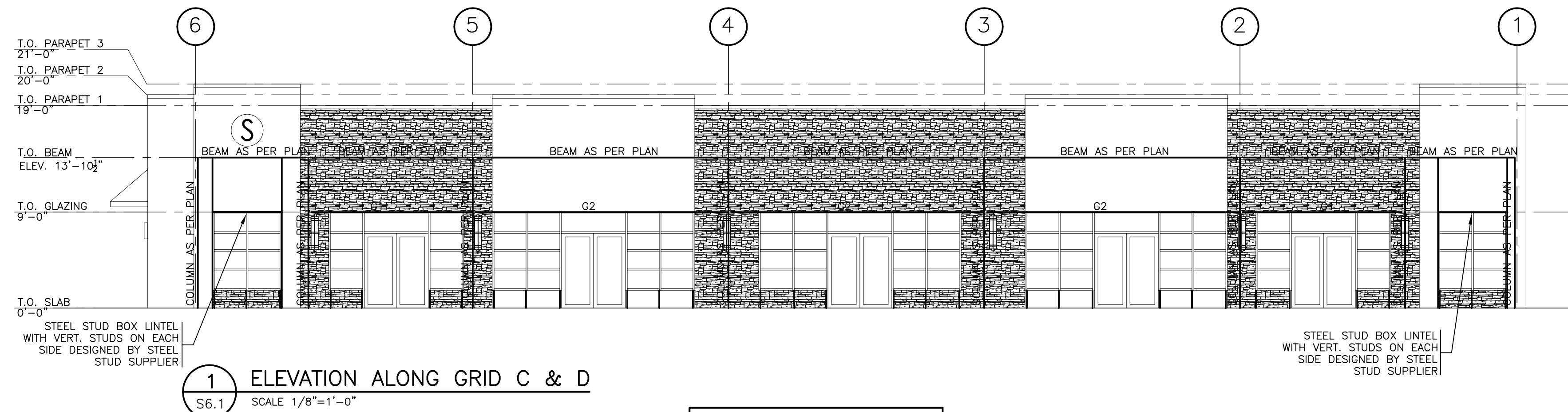
500 RANCH MARKET RETAIL DEVELOPMENT

500 RANCH MARKET STRATHMORE, ALBERTA

ELEVATIONS

scale:	AS NOTED
drawn by:	PP
checked by:	BR
project no:	2012-072
date issued:	-

S6.1



GIRT SCHEDULE	
MARK	DESCRIPTION
'G1'	HSS 6x6x0.250
'G2'	HSS 7x7x0.250

