APPLICABLE CODES :

INTERNATIONAL BUILDING CODE (IBC 2021):
2018 VIRGINIA CONSTRUCTION CODE (VCC 2018)
2018 VIRGINIA RESIDENTIAL CODE (VCC2018)
2018 VIRGINIA EXISTING BUILDING CODE
2018 VIRGINIA MECHANICAL CODE
2018 VIRGINIA PLUMBING CODE
2018 VIRGINIA FUEL GAS CODE
2018 VIRGINIA MAINTENANCE CODE
2018 VIRGINIA ENERGY CONSERVATION CODE
2018 VIRGINIA FIRE CODE
2018 INTERNATIONAL SWIMMING POOL AND SPA CODE
2017 VIRGINIA ELECTRIC CODE
2012 NFPA 101-LIFE SAFETY CODE

APPLICABLE STANDARDS:

ASCE 7-16: MIN. DESIGN LOADS ON BUILDINGS AND OTHER STRUCTURES
ACI 318-14: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AISC STEEL CONSTRUCTION MANUAL (LATEST EDITION)
TMS 402/602-16: BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES
AWC 2018 NATIONAL DESIGN SPECIFICATION FOR WOOD W/ ALL SUPPLEMENTS
AWC 2018 SPECIAL DESIGN PROVISIONS FOR WIND AND SEISMIC W/ COMMENTARY
AWS D1.1 STRUCTURAL WELDING CODE FOR STEEL (2011)
ALUMINUM DESIGN MANUAL 2015

DESIGN DATA

IBC-2021
(130- EXPOSURE D)

WINDBORNE DEBRIS AREA	YES
V(ult) ULTIMATE DESIGN WIND SPEED	130 MPH
V(ASD) NOMINAL DESIGN WIND SPEED	101 MPH
RISK CATEGORY	II
SURFACE ROUGHNESS	D
DESIGN	ENCLOSED
INTERNAL PRESSURE COEFFICIENT (+/-)	0.18

HEIGHT & EXPOSURE COEFFICIENT ADJUSTMENT FACTOR = 1.66

COMPONENTS AND CLADDING

	DESIGN PRESSURE PSF	
ROOF SLOPE (21-27 DEGREES)	4.4/12 - 6/12	
ZONE 1	22.6	-40.5
ZONE 2e, 2r, 3	22.6	-56.0
WALL		
ZONE 4	30.2	-32.9
ZONE 5	30.2	-40.5
GARAGE DOOR:		
9X7	26.7	-30.2
16X7	25.7	-28.6

SOFFIT PRESSURES TO BE SAME AS WALL PRESSURES

h = 30 FT
a= 4 FT

LOADING	LIVE	
LIVE LOAD (FLOOR)	40	PSF
LIVE LOAD (ROOF)	20	PSF

SOIL BEARING CAPACITY 2,000 PSF ASSUMED

001 BUILDING CODES & LOADINGS:

THE STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2018 VIRGINIA CONSTRUCTION CODE AND/ OR MORE RESTRICTIVE REQUIREMENTS FOR LOADS GIVEN BELOW UNLESS DIFFERENT LOADING CRITERIA IS CALLED ON FOLLOWING SHEETS. REFER TO DRAWINGS FOR LOAD SCHEDULE.

GRAVITY LOADING	UNIFORM LIVE LOAD	UNIFORM DEAD LOAD	CONC. LOAD
FLOOR	40PSF	20PSF	-
BALCONIES (U.N.O)	60PSF	-	-
BALCONIES/DECK (SINGLE FAMILY)	40PSF (U.N.O)	-	-
ROOFS	20PSF	20PSF	-
ATTIC (NO STORAGE/LIVING)	10PSF	-	-
GUARDS AND HANDRAILS	50PLF	-	200LBF
GUARD IN-FILL COMPONENTS	-	-	50LBF
STAIRS	40PSF	-	-
GARAGES	40PSF	-	-

002 DRAWING & DIMENSION COORDINATION

1. THESE DRAWINGS COMPLY WITH THE MORE RESTRICTIVE REQUIREMENT OF THE 2018 VIRGINIA CONSTRUCTION CODE AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
2. THE CONTRACTOR SHALL MAINTAIN IN THE FIELD OFFICE COPIES OF ALL THE STANDARDS AND SPECIFICATIONS REFERENCED BY THE CONTRACT DOCUMENTS.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK
4. THE ENGINEER WILL CLOUD OR OTHERWISE INDICATE REVISIONS TO THESE DOCUMENTS ONLY AFTER THEY HAVE BEEN ISSUED FOR CONSTRUCTION. CHANGES PRIOR TO THAT DATE WILL NOT BE CLOUDED. CHANGES AND/OR REVISIONS, AFTER THE CONSTRUCTION SET IS ISSUED WILL BE CLOUDED IN AN ATTEMPT TO BRING TO THE CONTRACTOR'S ATTENTION ANY MAJOR ITEMS. HOWEVER, IT SHALL BE SOLELY THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE PRICING AND CONSTRUCTION OF ALL REQUIREMENTS OF THESE DOCUMENTS, INCLUDING REVISIONS (FLAGGED OR UN-FLAGGED) WITH ALL OF HIS SUPPLIERS AND SUBCONTRACTORS.

F'C = 3000 PSI		LAP SPLICE TABLE		F'Y = 60 KSI
BAR SIZE	COMP LAP	TENSION BARS	HOOKED BAR DEVELOPMENT	
			90 DEG.	180 DEG.
#3	12"	32.5"	14.5"	15.5"
#4	15"	43"	19"	19.5"
#5	19"	53.5"	24"	24"
#6	23"	64.5"	28.5"	28.5"
#7	27"	93.5"	33.5"	33.5"

F'C = 4000 PSI		LAP SPLICE TABLE		F'Y = 60 KSI
BAR SIZE	COMP LAP	TENSION BARS	HOOKED BAR DEVELOPMENT	
			90 DEG.	180 DEG.
#3	12"	28"	14.5"	15.5"
#4	15"	37"	17.5"	18"
#5	19"	46.5"	22"	22"
#6	23"	55.5"	26.5"	26.5"
#7	27"	81"	31"	31"

003 CAST-IN-PLACE CONCRETE

CIP CONCRETE TO BE MIXED AND PLACED IN ACCORDANCE WITH THE FOLLOWING STANDARDS:
ACI 301-16 "SPECIFICATIONS FOR STRUCTURAL CONCRETE"
ACI 318-14 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND COMMENTARY"
ALL REINFORCED CONCRETE TO HAVE 28 DAY COMPRESSIVE STRENGTHS AS FOLLOWS: ALL STRUCTURAL ELEMENTS (BEAMS, COLUMNS, AND LINTELS) F'C = 4,000 PSI IF NOT STATED ON PLAN.
ALL CONCRETE TO BE USED IN FOUNDATION AND SLABS TO BE MIN. F'C=4000 PSI AND REINFORCING STEEL TO BE MIN. F'Y=60KSI.

004 CONCRETE MASONRY UNIT:

ALL MASONRY CONSTRUCTION TO BE IN ACCORDANCE WITH TMS 402/602-16 BUILDING CODE REQUIREMENTS AND SPECS FOR MASONRY STRUCTURES AND ALL APPLICABLE LOCAL BUILDING CODE PROVISIONS. ALL MASONRY WALLS TO BE CONSTRUCTED ENTIRELY OF UNITS CONFORMING TO ASTM C 90, AND MASONRY REINFORCED WITH #9 GAGE LADDER TYPE HORIZONTAL REINFORCING LOCATED AT 16" O.C. ALL MASONRY TO BE LAID IN TYPE "S" MORTAR (1800 PSI ON THE JOB) WITH FULL HEAD AND BED JOINTS.

MASONRY UNITS SHALL HAVE A MINIMUM NET AREA COMPRESSIVE STRENGTH OF 1,900PSI (F'M = 1500 PSI). CERTIFICATION OF BLOCK STRENGTH SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW.

005 STRUCTURAL STEEL:

ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS". STRUCTURAL STEEL TO CONFORM TO:

ASTM A36	PLATES, ANGLES, AND CHANNELS
ASTM A53 GR B	PIPES
ASTM A500 GR B	HSS
ASTM A307	ANCHOR BOLTS
ASTM A992	W-SHAPES

ALL SHOP AND FIELD CONNECTIONS SHALL BE MADE WITH ASTM A325-94 HIGH STRENGTH BOLTS OR WELDING. ANY CONNECTION NOT SPECIFICALLY DETAILED SHALL BE DESIGNED BY THE SPECIALTY ENGINEER FOR THE FORCES SHOWN ON THE STRUCTURAL CONSTRUCTION DOCUMENTS. WHERE FORCES ARE NOT PROVIDED DESIGN SHALL BE BASED ON THE MAXIMUM LOAD CAPACITIES OF THE CONNECTING MEMBERS. ALL STRUCTURAL SUBMITTALS REQUIRING ENGINEERING INPUT SHALL BE ACCOMPANIED BY DESIGN CALCULATIONS AND BE SIGNED AND SEALED BY THE SPECIALTY ENGINEER. ALL STEEL AT AND BELOW FINISHED GRADE TO BE FIELD PAINTED AND COVERED WITH CONCRETE PER ACI 318-14 TABLE 20.6.1.3.1

006.SITE PREPARATION NOTES

1. THE BUILDING SHALL BE PREPARED AND TESTED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.

2. IF THE SITE PREPARATION REQUIREMENTS ARE NOT SPECIFIED BY A GEOTECHNICAL REPORT THE FOLLOWING PROCEDURES SHOULD BE USED AS A MINIMUM.

A. WITHIN AN AREA A MINIMUM OF 5 FEET BEYOND THE BUILDING LIMITS EXCAVATE A MINIMUM OF 4" OF EXISTING SOIL REMOVE ALL ORGANICS, PAVEMENT, ROOTS, DEBRIS AND OTHERWISE UNSUITABLE MATERIAL

B. THE SURFACE OF THE EXPOSED SUBGRADE SHALL BE INSPECTED FOR POCKETS OF SOFT OR UNSUITABLE MATERIAL EXCAVATE UNSUITABLE SOIL AS DIRECTED BY THE GE0TECHNICAL ENGINEER/TESTING AGENCY

C. FILL ALL EXCAVATED AREAS WITH APPROVED CONTROLLED FILL PLACE IN 8-INCH LIFTS AND COMPACT TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY BASED ON THE MODIFIED PROCTOR TEST

D. ALL CONTROLLED FILL MATERIAL SHALL BE A SELECT GRANULAR MATERIAL FREE FROM ALL ORGANICS OR OTHERWISE DELETERIOUS MATERIAL

E. PROVIDE FILED DENSITY TESTS FOR EACH 1,500 S F OF BUILDING AREA FOR EACH LIFT OF CONTROLLED FILL

007 GENERAL NOTES.

1. THE CONTRACTOR/OWNER IS TO VERIFY ALL SITE CONDITIONS, PROPERTY DIMENSIONS, AND PRODUCT AVAILABILITY, OPENINGS FOR WINDOWS AND DOORS AND ATTACHMENT REQUIREMENTS, DIMENSIONS OF PRODUCTS, INCLUDING APPLIANCES ARE THE RESPONSIBILITY OF THE CONTRACTOR/OWNER.
2. ALL STRUCTURAL DESIGN HAS BEEN CARRIED OUT PER THE PROVISIONS OF CHAPTER 16 OF THE BUILDING CODE, AS WELL AS ASCE 7-16.
3. ENGINEERING DESIGNS PROVIDED IN THESE DETAIL SPECIFICATIONS REPRESENT THE MINIMUM DESIGN CRITERIA FOR CONSTRUCTION TO THE CODES IDENTIFIED ABOVE.
4. ANY PRODUCT OR MATERIAL SUBSTITUTION IS PERMITTED AS LONG AS THE SUBSTITUTION IS EQUAL TO OR GREATER THAN THE ORIGINAL SPECIFIED PRODUCT ALL TESTING DATA OR PRODUCT VERIFICATION IS THE RESPONSIBILITY OF THE CONTRACTOR THE ENGINEER HAS NOT PROVIDED REVIEW OF SUCH MATERIAL UNLESS OTHERWISE SPECIFIED.
5. THE PRESUMPTIVE LOAD-BEARING VALUES OF THE FOUNDATION SOIL IS TO BE 2000PSF BASED ON THE TABLE R401.4.1, 2018 VIRGINIA RESIDENTIAL CODES.
6. ENGINEER HAS NOT PROVIDED ANY JOB SITE INSPECTIONS UNLESS SPECIFICALLY ARRANGED.
7. CLADDING PRODUCTS ARE TO BE INSTALLED TO THE MANUFACTURES SPECIFICATIONS, AND TO COMPLY WITH THE 2018 VIRGINIA CONSTRUCTION CODES, AND ASCE7-16 THE CONTRACTOR IS TO PROVIDE ANY INSTALLATION GUIDELINES OR PRODUCT TESTING REQUIRED BY THE BUILDING OFFICIAL IF REQUESTED.
8. ALL CONSTRUCTION WORK AND DESIGN IS SUBJECT TO THE REVIEW AND INTERPRETATION OF THE BUILDING OFFICIALS CONTRACTOR ACKNOWLEDGES THAT ADDITIONAL ENGINEERING DETAILS, AND/OR REQUIREMENTS MAY BE REQUESTED/REQUIRED BY THE PERMITTING AUTHORITY HAVING JURISDICTION, AND SUCH REQUIREMENTS MAY ALTER THE ORIGINAL PROPOSED DESIGN THESE ADJUSTMENTS COULD SUBJECT THE CONTRACTOR TO ADDITIONAL EXPENSES AND ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
9. HOMEOWNER ASSOCIATION, DEED RESTRICTIONS AND ZONING REQUIREMENTS, ETC ARE THE RESPONSIBILITY OF THE CONTRACTOR AND NO VERIFICATION OR COMPLIANCE IS EXPRESSED OR IMPLIED BY THE ENGINEER
10. THE STRUCTURE HAS BEEN DESIGNED TO BE SELF-SUPPORTING AND STABLE WHEN CONSTRUCTION IS COMPLETE THE CONTRACTOR IS RESPONSIBLE FOR ERECTION PROCEDURES AND SEQUENCE OF SUCH TO PROVIDE SAFETY OF WORKERS, THE BUIDING AND ALL COMPONENTS OF THE BUILDING ALL TEMPORARY BRACING IS THE RESPONSIBILITY OF THE CONTRACTOR
11. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE POSITIVE DRAINAGE FROM THE STRUCTURE OR BUILDING TO ALL APPLICABLE CODES AND ORDINANCES SITE DRAINAGE IS ALSO THE CONTRACTORS RESPONSIBILITY THE ENGINEER HAS ACKNOWLEDGED NO REVIEW, COMMENT OR COMPLIANCE.
12. NO ENVIRONMENTAL STUDIES HAVE BEEN PERF0RMED BY THE ENGINEER, AND IF REQUIRED ARE THE RESPONSIBILITY OF THE CONTRACT.
13. THE DESIGN OF ALL PRE-ENGINEERED ROOF TRUSSES INCLUDING GIRDERS FLOOR TRUSSES, AND ALL BEAMS ARE TO BE DESIGNED TO MEET THE 2015 IBC (w/ STATE AMENDMENTS) AND ASCE 7-16 THE DESIGN IS TO INDICATE THE ENGINEER OF RECORD WHO DESIGNED THEM AND BEAR THE SEAL OF SUCH ENGINEER. ALL LATERAL AND CROSS BRACING REQUIRED IS TO BE SPECIFIED BY THE DESIGNER THE TRUSS OR FLOOR SYSTEM DESIGN SHALL NOT EXERT LATERAL LOADS ON ANY WALL SYSTEM, INTERIOR OR EXTERIOR THE DESIGN IS ALSO TO INDICATE THE MAGNITUDE OF THE LOADS AND ANY PROVISIONS REQUIRED THE CONTRACTOR ASSUMES THE RESPONSIBILITY OF REVIEW OF THE PRE-ENGINEERED SYSTEMS AND ANY COMPLIANCE NECESSARY ANY DEVIATION FROM THE PROPOSED DESIGNS MAY REQUIRE ADDITIONAL REVIEW AND MODIFICATION.
14. ALL PERMANENT TRUSS BRACING, IN ADDITION TO TRUSS BRACING SPECIFIED BY THE TRUSS ENGINEER SHALL BE INSTALLED PER THE DETAIL IN THESE SHEETS, AND IN ACCORDANCE TO BWT-76 AND HIB-91
15. ALL MATERIAL INSTALLATIONS ARE TO BE PER THE CODES AND STANDARDS REFERENCED

008.FASCIA & SOFFIT VENTING

1. MINIMUM 2"x4" SUB FASCIA NAILED TO TRUSS TAILS w/(2) 16d NAILS AT EACH TRUSS - (EACH PLY WHEN MULTIBLE TRUSS.
2. TYPICAL DRIP EDGE & SOFFIT/FASCIA INSTALLED TO MFG SPECIFICATIONS.
3. SEE ALUMINUM ENGINEERING SPECIFICATIONS SUPPLIED BY OTHERS FOR FASCIA OR OVERHANG REQUIREMENTS WHEN SCREEN ENCLOSURES OR STRUCTURAL GUTTERS ARE DESIGNED TO BE ATTACHED TO FASCIA NO VENTING IF USING SPRAY FOAM INSULATION.

009.GENERAL STRUCTURAL NOTES

1. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND THE SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES, AND OTHER ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING WORK. THE ENGINEER WILL NOT ADVISE ON NOR ISSUE DIRECTION AS TO SAFETY PRECAUTIONS AND PROGRAMS.
3. THE STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHODS OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY GUYING AND BRACING REQUIRED SHORING, TEMPORARY SUPPORTS, ETC., IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE METHODS, TECHNIQUES AND SEQUENCES OR PROCEDURES TO PERFORM THE WORK. THE SUPERVISION OF THE WORK IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. DRAWING INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION, WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, THE STANDARD DETAILS CONTAINED IN THE E.O.R. DETAIL SHEETS ATTACHED SHALL BE USED.
6. LOADING APPLIES TO THE STRUCTURE DURING THE PROCESS OF CONSTRUCTION SHALL BE EXCEED THE SAFE FRAMING IS PROPERLY CONNECTED TOGETHER AND UNTIL ALL TEMPORARY BRACING IS IN PLACE.

010.GENERAL FOUNDATION NOTES

1. R403.1.4 MINIMUM DEPTH
EXTERIOR FOOTINGS SHALL BE PLACED NOT LESS THAN 12 INCHES (305 MM) BELOW THE UNDISTURBED GROUND SURFACE. WHERE APPLICABLE, THE DEPTH OF FOOTINGS SHALL ALSO CONFORM TO SECTION R403.1.4.1.

2. R403.1.4.1 FROST PROTECTION
EXCEPT WHERE OTHERWISE PROTECTED FROM FROST, FOUNDATION WALLS, PIERS AND OTHER PERMANENT SUPPORTS OF BUILDINGS AND STRUCTURES SHALL BE PROTECTED FROM FROST BY ONE OR MORE OF THE FOLLOWING METHODS:

2.1. EXTENDED BELOW THE FROST LINE SPECIFIED IN TABLE R301.2.(1).
2.2. CONSTRUCTED IN ACCORDANCE WITH SECTION R403.3.
2.3. CONSTRUCTED IN ACCORDANCE WITH ASCE 32.
2.4. ERECTED ON SOLID ROCK.

3. FOOTINGS SHALL NOT BEAR ON FROZEN SOIL UNLESS THE FROZEN CONDITION IS PERMANENT.

EXCEPTIONS:
3.1. PROTECTION OF FREE-STANDING ACCESSORY STRUCTURES WITH AN AREA OF 600 SQUARE FEET (56 M2) OR LESS, OF LIGHT-FRAME CONSTRUCTION, WITH AN EAVE HEIGHT OF 10 FEET (3048 MM) OR LESS SHALL NOT BE REQUIRED.
3.2. PROTECTION OF FREE-STANDING ACCESSORY STRUCTURES WITH AN AREA OF 400 SQUARE FEET (37 M2) OR LESS, OF OTHER THAN LIGHT-FRAME CONSTRUCTION, WITH AN EAVE HEIGHT OF 10 FEET (3048 MM) OR LESS SHALL NOT BE REQUIRED.
3.3. DECKS NOT SUPPORTED BY A DWELLING NEED NOT BE PROVIDED WITH FOOTINGS THAT EXTEND BELOW THE FROST LINE.

4. R403.3 FROST-PROTECTED SHALLOW FOUNDATIONS
FOR BUILDINGS WHERE THE MONTHLY MEAN TEMPERATURE OF THE BUILDING IS MAINTAINED AT NOT LESS THAN 64°F (18°C), FOOTINGS ARE NOT REQUIRED TO EXTEND BELOW THE FROST LINE WHERE PROTECTED FROM FROST BY INSULATION IN ACCORDANCE WITH FIGURE R403.3(1) AND TABLE R403.3(1). FOUNDATIONS PROTECTED FROM FROST IN ACCORDANCE WITH FIGURE R403.3(1) AND TABLE R403.3(1) SHALL NOT BE USED FOR UNHEATED SPACES SUCH AS PORCHES, UTILITY ROOMS, GARAGES AND CARPORTS, AND SHALL NOT BE ATTACHED TO BASEMENTS OR CRAWL SPACES THAT ARE NOT MAINTAINED AT A MINIMUM MONTHLY MEAN TEMPERATURE OF 64°F (18°C).
MATERIALS USED BELOW GRADE FOR THE PURPOSE OF INSULATING FOOTINGS AGAINST FROST SHALL BE LABELED AS COMPLYING WITH ASTM C578.

ABBREVIATIONS

ADD'L	=	ADDITIONAL	EA.	=	EACH
ARCH.	=	ARCHITECTURAL	E.E.	=	EACH END
BAL.	=	BALANCE	E.F.	=	EACH FACE
B.L.	=	BRICK LEDGE	E.J.	=	EXPANSION JOINT
BOT.	=	BOTTOM	EL.	=	ELEVATION
C.J.	=	CONTRACTION JOINT	ELECT.	=	ELECTRICAL
C	=	CENTER LINE	E.W.	=	EACH WAY
CA	=	COLUMN ABOVE	E.O.S.	=	EDGE OF STRUCTURAL SLAB
CB	=	COLUMN BELOW	E.O.D.	=	EDGE OF DECK
C.C.	=	CENTER TO CENTER	EQUIV.	=	EQUIVALENT
CL.	=	CLEAR	FIN.	=	FINISHED
COL.	=	COLUMN	FL.	=	FLOOR
CONC.	=	CONCRETE	FTG.	=	FOOTING
CONN.	=	CONNECTION	HORIZ.	=	HORIZONTAL
CONSTR.	=	CONSTRUCTION	H.D.G.	=	HOT DIP GALVANIZED
CONT.	=	CONTINUOUS	H.P.	=	HIGH POINT
DET.	=	DETAIL	JT.	=	JOINT
DIA.	=	DIAMETER	JS.	=	JOIST SUBSTITUTES
DWG.	=	DRAWING	L.L.H.	=	LONG LEG HORIZONTAL
DWLS	=	DOWELS	L.L.V.	=	LONG LEG VERTICAL

L.P.	=	LOW POINT	SIM.	=	SIMILAR
LT.	=	LIGHT	S.J.	=	SOFT JOINT
L.W.	=	LIGHT WEIGHT	S.O.G.	=	SLAB ON GRADE
MAX.	=	MAXIMUM	SQ.	=	SQUARE
M.C.	=	MOMENT CONNECTION	S.S.	=	STAINLESS STEEL
MFR.	=	MANUFACTURER	ST.	=	STEEL
MIN.	=	MINIMUM	STD.	=	STANDARD
N.F.	=	NEAR FACE	STIFF.	=	STIFFENER
N0.	=	NUMBER	S.W.	=	SHORT WAY
NTS	=	NOT TO SCALE	SYM.	=	SYMMETRICAL
O.C.	=	ON CENTER	T&B	=	TOP & BOTTOM
OPNG.	=	OPENING	T.O.F.	=	TOP OF FOOTING
P.A.F.	=	POWDER ACTUATED FASTENERS	T.O.ST.	=	TOP OF STEEL
P.C.	=	PRECAST CONCRETE	TYP.	=	TYPICAL
PL	=	PLATE	U.O.N.	=	UNLESS OTHERWISE NOTED
P.T.	=	PRESSURE TREATED	VERT.	=	VERTICAL
REINF.	=	REINFORCEMENT	V.I.F.	=	VERIFY IN FIELD
REQD.	=	REQUIRED	W.P.	=	WORKING POINT
SCHED.	=	SCHEDULE	WT.	=	WEIGHT
SECT.	=	SECTION	W.W.F.	=	WELDED WIRE FABRIC
B.O.B	=	BOTTOM OF BEAM	A.F.F.	=	ABOVE FINISHED FLOOR
B.O.L	=	BOTTOM OF LINTEL	A.G.F.	=	ABOVE GRADE FINISH
R.C.C.	=	REINFORCED CEMENT CONCRETE			

COMMONWEALTH OF VIRGINIA
CRAIG E. GUNDERSON
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PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Craig E. Gunderson, P.E. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on electronic copies.

Digitally signed by Craig E Gunderson
Date: 2023.10.24 10:28:40-04'00'

REV 1:	REV 4:
REV 2:	REV 5:
REV 3:	REV 6:

DRAWN BY: VS
CHECKED BY: SP
PROJECT #: 2324201
SCALE: AS PER PLAN
SHEET TITLE:
COVER SHEETS & NOTES
SHEET NUMBER:
G-1

R318.1 SUBTERRANEAN TERMITE CONTROL METHODS

IN AREAS SUBJECT TO DAMAGE FROM TERMITES AS INDICATED BY TABLE R301.2(1), PROTECTION SHALL BE BY ONE, OR A COMBINATION, OF THE FOLLOWING METHODS:

1. CHEMICAL TERMITICIDE TREATMENT IN ACCORDANCE WITH SECTION R318.2.
2. TERMITE-BAITING SYSTEM INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE LABEL.
3. PRESSURE-PRESERVATIVE-TREATED WOOD IN ACCORDANCE WITH THE PROVISIONS OF SECTION R317.1.
4. NATURALLY DURABLE TERMITE-RESISTANT WOOD.
5. PHYSICAL BARRIERS IN ACCORDANCE WITH SECTION R318.3 AND USED IN LOCATIONS AS SPECIFIED IN SECTION R317.1.
6. COLD-FORMED STEEL FRAMING IN ACCORDANCE WITH SECTIONS R505.2.1 AND R603.2.1.

R318.1.1 QUALITY MARK

LUMBER AND PLYWOOD REQUIRED TO BE PRESSURE-PRESERVATIVE TREATED IN ACCORDANCE WITH SECTION R318.1 SHALL BEAR THE QUALITY MARK OF AN APPROVED INSPECTION AGENCY THAT MAINTAINS CONTINUING SUPERVISION, TESTING AND INSPECTION OVER THE QUALITY OF THE PRODUCT AND THAT HAS BEEN APPROVED BY AN ACCREDITATION BODY THAT COMPLIES WITH THE REQUIREMENTS OF THE AMERICAN LUMBER STANDARD COMMITTEE TREATED WOOD PROGRAM.

R318.1.2 FIELD TREATMENT

FIELD-CUT ENDS, NOTCHES AND DRILLED HOLES OF PRESSURE-PRESERVATIVE-TREATED WOOD SHALL BE RETREATED IN THE FIELD IN ACCORDANCE WITH AWPA M4.

R318.2 CHEMICAL TERMITICIDE TREATMENT

CHEMICAL TERMITICIDE TREATMENT SHALL INCLUDE SOIL TREATMENT OR FIELD-APPLIED WOOD TREATMENT. THE CONCENTRATION, RATE OF APPLICATION AND METHOD OF TREATMENT OF THE CHEMICAL TERMITICIDE SHALL BE IN STRICT ACCORDANCE WITH THE TERMITICIDE LABEL.

R318.3 BARRIERS

APPROVED PHYSICAL BARRIERS, SUCH AS METAL OR PLASTIC SHEETING OR COLLARS SPECIFICALLY DESIGNED FOR TERMITE PREVENTION, SHALL BE INSTALLED IN A MANNER TO PREVENT TERMITES FROM ENTERING THE STRUCTURE. SHIELDS PLACED ON TOP OF AN EXTERIOR FOUNDATION WALL SHALL BE USED ONLY IF IN COMBINATION WITH ANOTHER METHOD OF PROTECTION.

R318.4 FOAM PLASTIC PROTECTION

IN AREAS WHERE THE PROBABILITY OF TERMITE INFESTATION IS "VERY HEAVY" AS INDICATED IN FIGURE R301.2(7), EXTRUDED AND EXPANDED POLYSTYRENE, POLYISOCYANURATE AND OTHER FOAM PLASTICS SHALL NOT BE INSTALLED ON THE EXTERIOR FACE OR UNDER INTERIOR OR EXTERIOR FOUNDATION WALLS OR SLAB FOUNDATIONS LOCATED BELOW GRADE. THE CLEARANCE BETWEEN FOAM PLASTICS INSTALLED ABOVE GRADE AND EXPOSED EARTH SHALL BE NOT LESS THAN 6 INCHES (152 MM).

EXCEPTIONS:

1. BUILDINGS WHERE THE STRUCTURAL MEMBERS OF WALLS, FLOORS, CEILINGS AND ROOFS ARE ENTIRELY OF NONCOMBUSTIBLE MATERIALS OR PRESSURE-PRESERVATIVE-TREATED WOOD.
2. WHERE IN ADDITION TO THE REQUIREMENTS OF SECTION R318.1, AN APPROVED METHOD OF PROTECTING THE FOAM PLASTIC AND STRUCTURE FROM SUBTERRANEAN TERMITE DAMAGE IS USED.
3. ON THE INTERIOR SIDE OF BASEMENT WALLS.

CONCRETE / MASONRY NOTES

1. ALL CONCRETE SHALL BE F'c = 4000 PSI. U.N.O. IN CONCRETE NOTES AND FOLLOWING SHEETS
2. MASONRY SHALL USE TYPE S MORTAR, F'm = 1900 PSI. U.N.O IN 004 ON SHEET G-1
3. REINFORCING STEEL SHALL SATISFY ASTM A615, GRADE 60.
4. WHERE INDICATED ON FLOOR PLANS, PROVIDE CONCRETE FILLED CELL WITH REINFORCING STEEL FROM FOOTING TO TIE BEAM HOOKED & TIED BEFORE INSPECTION. IF GROUT LIFT EXCEEDS 4'-0", AN INSPECTION HOLE TO VERIFY GROUTING SHALL BE PROVIDED AT THE BOTTOM CELL.
5. PROVIDE (1) #5 VERTICAL REINFORCING STEEL ELECTRICAL GROUND TO FOUNDATION STEEL.
6. FOUNDATION DOWELS AND VERTICAL REINFORCING SPACES AS SHOWN ON FLOOR PLANS. IN THE EVENT OF CONFLICTS, THE FLOOR PLANS SHALL TAKE PRECEDENCE OVER THE FOUNDATION PLAN. ALL FOOTINGS TO BE SMOOTH AND LEVEL.
7. LAP LENGTH OF INDIVIDUAL BARS WITHIN A BUNDLE SHALL BE THAT FOR THE INDIVIDUAL BAR, INCREASED 20% FOR THREE-BAR BUNDLE, AND 33% FOR FOUR-BAR BUNDLE.
8. INDIVIDUAL BARS WITHIN A BUNDLE TERMINATED WITHIN THE SPAN OF THE BEAM SHALL TERMINATE AT DIFFERENT POINTS WITH AT LEAST 40Db STAGGER.
9. A FILLED CELL WITH (1) #5 VERTICAL SHALL BE LOCATED AT GIRDER TRUSSES.
10. MINIMUM COVER FOR CAST IN PLACE CONCRETE AS BELOW:
    - 10.1. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3 IN.
    - 10.2. CONCRETE EXPOSED TO EARTH OR WEATHER:
      - 10.2.1. #6 THROUGH #18 REBAR: 2 IN.
      - 10.2.2. #5 REBAR, W31 OR D31 WIRE AND SMALLER: $1\frac{1}{2}$ IN.
    - 10.3. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
      - 10.3.1. SLABS, WALLS, JOISTS:
        - 10.3.1.1. #14 AND #18 REBARS: $1\frac{1}{2}$ IN.
        - 10.3.1.2. #11 REBAR AND SMALLER: $\frac{3}{4}$ IN.
      - 10.3.2. BEAMS, COLUMNS:
        - 10.3.2.1. PRIMARY TIES, REINFORCEMENTS, STIRRUPS, SPIRALS: $1\frac{1}{2}$ IN.
11. EMBEDDED TRUSS ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
12. EMBEDDED ANCHORS/TIEDOWNS SHALL MIN 3" COVER.
13. MASONRY WALLS SHALL BE BRACED IN ACCORDANCE WITH "STANDARD PRACTICE FOR BRACING MASONRY WALLS UNDER CONSTRUCTION" MASON CONTRACTORS ASSOCIATION OF AMERICA, JULY 2001.
14. THE CONCRETE TIE BEAM AT THE TOP OF ALL WALLS SHALL BE AN 8" X 16" WITH (1) #5 CONTINUOUS TOP AND BOTTOM. (U.N.O.)
15. BEAM SIZES SHOWN ON DRAWINGS ARE MINIMUM NOMINAL DIMENSIONS. BEAMS SIZES MAY BE INCREASED BY UP TO 12" TO ACCOMMODATE ON-SITE BEAM REQUIREMENTS PROVIDED THAT THE DISTANCE BETWEEN THE TOP AND BOTTOM REINFORCING STEEL REMAINS THE SAME OR IS INCREASED.
16. REINFORCING STEEL LAP LENGTH IN CONCRETE AND/OR MASONRY SHALL BE:
    - #5 REBAR: 27"
    - #6 REBAR: 32"
    - #7 REBAR: 36"
17. CMU WALL SECTIONS 4 FOOT OR GREATER IN LENGTH w/ VERTICAL REBAR IN IN A FILLED CELL @ EACH END SHALL BE CONSIDERED A SHEAR WALL. A FILLED CELL w/ VERTICAL REBAR SHALL BE @ EACH SIDE OF ALL OPENINGS, WINDOWS & DOORS & UNDER ALL GIRDER TRUSSES
18. MISSING DOWEL:
    PRE-DRILL HOLE TO MIN. 8" DEPTH, CLEAN HOLE w/ AIR COMPRESSER, FILL HOLE $\frac{1}{2}$ TO $\frac{2}{3}$ RDS FULL STARTING FROM BOTTOM OF HOLE TO PREVENT AIR POCKETS, DOWEL MUST BE CLEAN & OIL FREE, SLOWLY TURN UNTIL DOWEL CONTACTS THE BOTTOM OF THE HOLE AT FOOTING. ALLOW 24 HOUR CURE TIME. USE ONLY HIGH STRENGTH EPOXY (HILTI HY-150)
19. WHEN CLAY OR OTHER UNSUITABLE SOILS ARE ENCOUNTERED IN FOOTING EXCAVATIONS, CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD. EOR SHALL DETERMINE THE NEED FOR SOILS INVESTIGATION & ANY MODIFICATIONS TO THE FOUNDATION DESIGN AS NECESSARY.

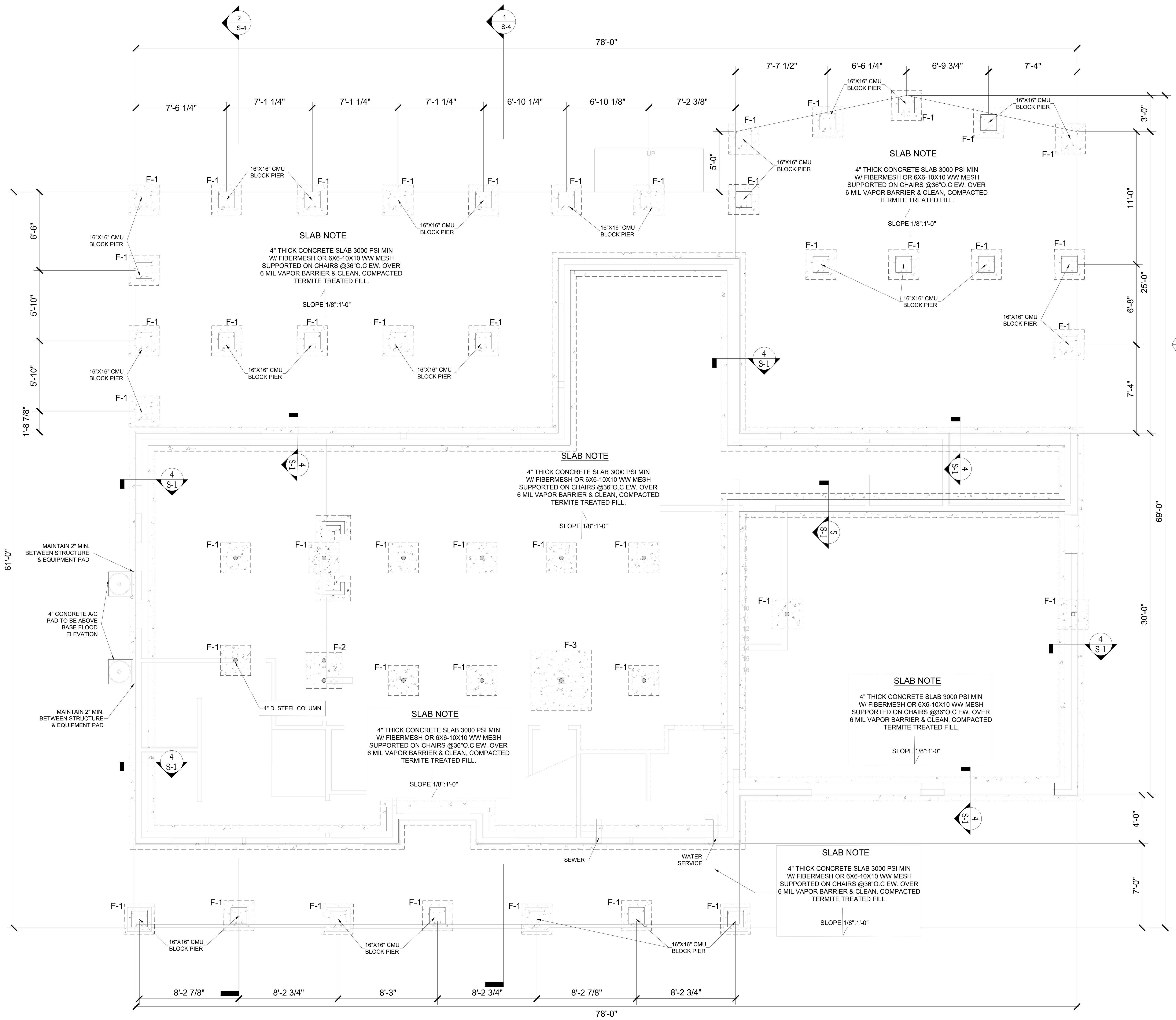
FLOOD VENTING (IF APPLICABLE):

A MINIMUM OF TWO (2) FEMA APPROVED VENTS PER ENCLOSED AREA & EACH MUST BE ON AT LEAST TWO (2) DIFFERENT SIDES OF THE EXTERIOR WALLS. THE BOTTOM OF THE FLOOD VENT OPENING MUST BE NOT HIGHER THAN 12 INCHES ABOVE THE ADJACENT GRADE & THE TOP OF THE OPENING MUST BE BELOW THE BASE FLOOD ELEVATION (B.F.E.). THE AMOUNT OF VENTS REQUIRED SHALL BE CALCULATED BY THE FOLLOWING; (1) SQ. INCH OF VENT FOR EVERY (1) SQ. FOOT OF ENCLOSED SPACE BELOW THE BASE FLOOD ELEVATION.

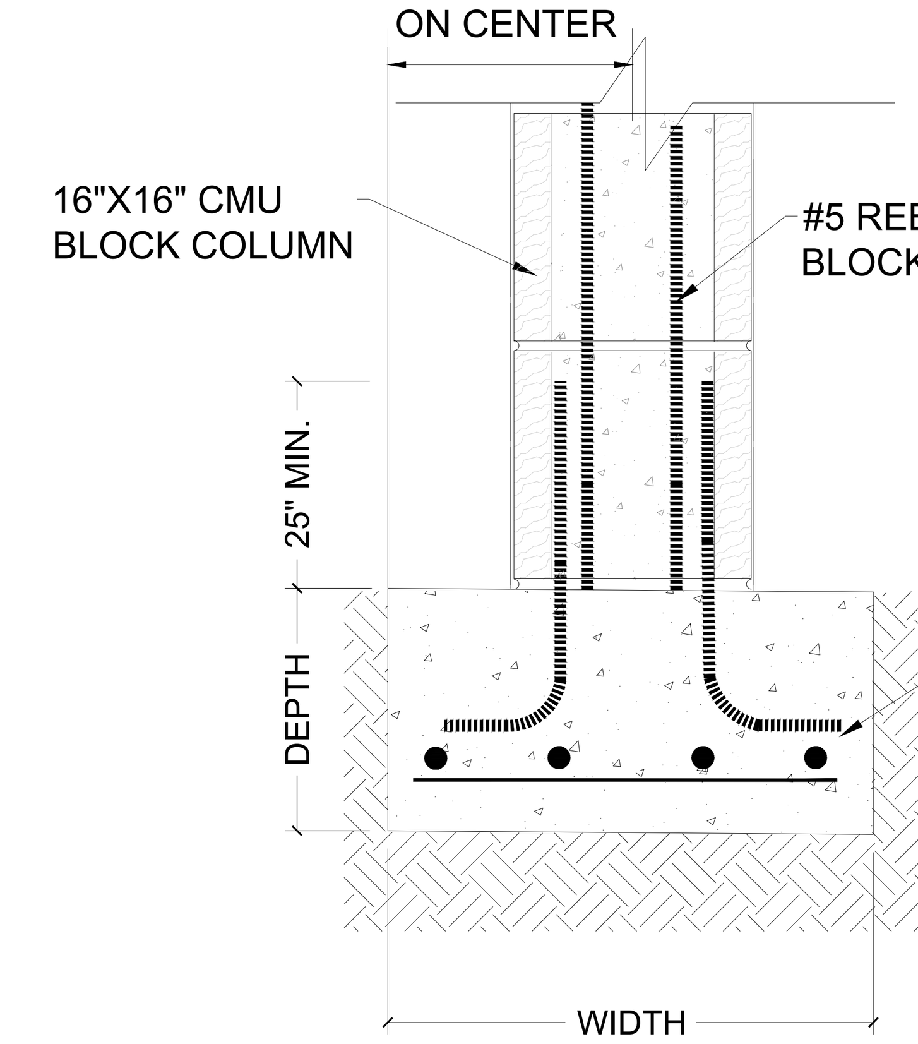
REV 1:	REV 4:
REV 2:	REV 5:
REV 3:	REV 6:
DRAWN BY: VS	
CHECKED BY: SP	
PROJECT #: 2324201	
SCALE: AS PER PLAN	

SHEET TITLE:
COVER SHEETS & NOTES

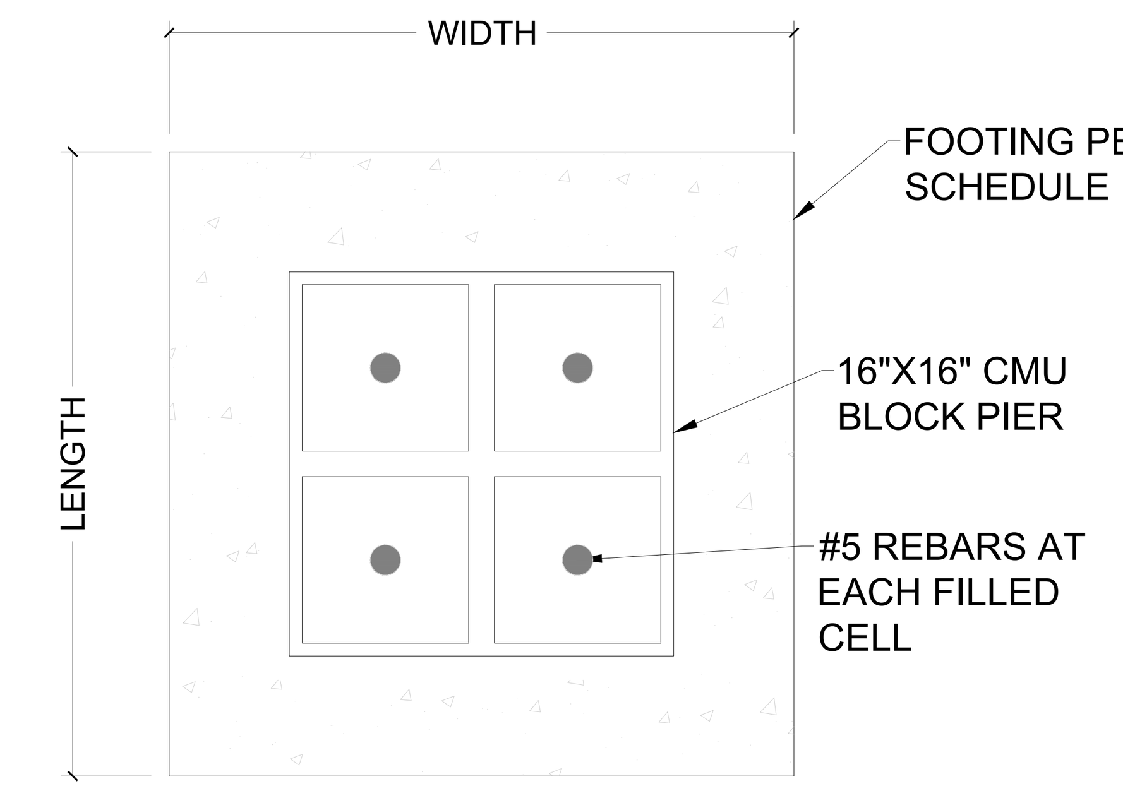
SHEET NUMBER:
G-2



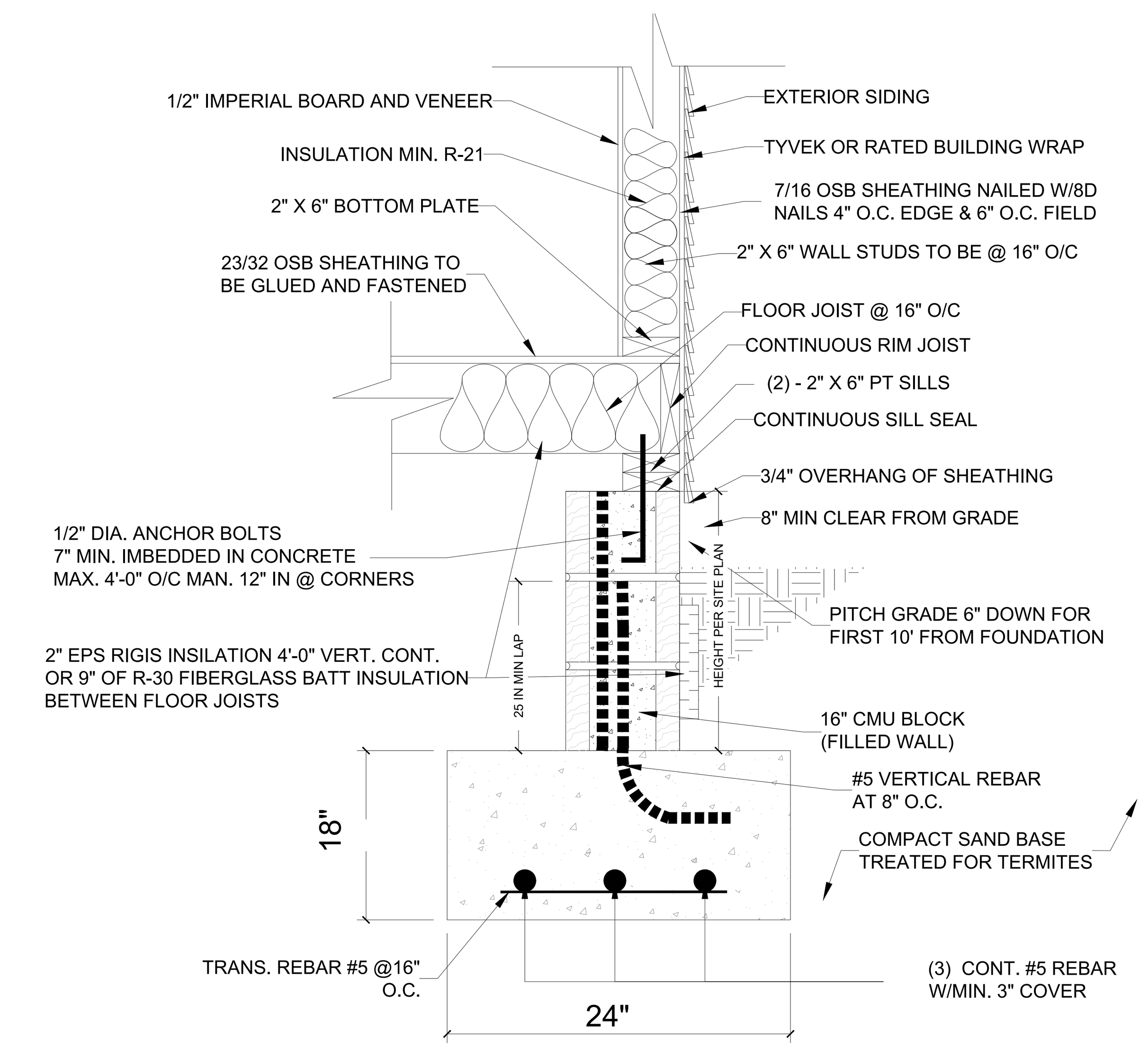
1 S-1 FOUNDATION PLAN
3/16"=1'-0"



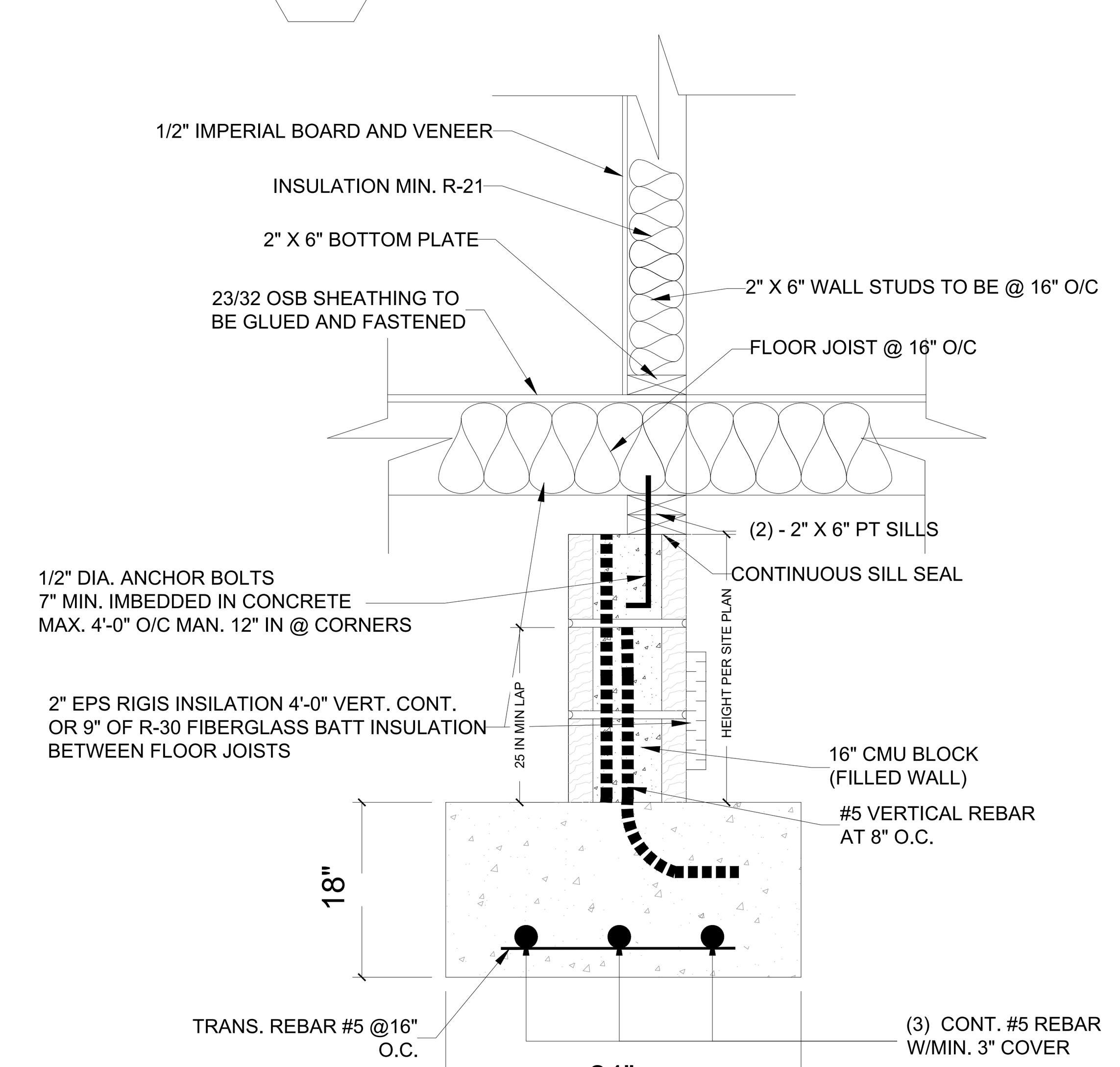
2 S-1 CONCRETE PIER ISOLATED FOOTER DETAIL
N.T.S.



3 S-1 CONCRETE PIER ISOLATED FOOTER DETAIL (PLAN VIEW)
N.T.S.



4 S-1 TYPICAL FLOOR TO FOUNDATION DETAIL
N.T.S.



5 S-1 TYPICAL FLOOR TO FOUNDATION DETAIL
N.T.S.

FOOTING SCHEDULE AND NOTES

MARK	LENGTH	WIDTH	DEPTH	BOTTOM BARS	NOTES
F-1	2'-6"	2'-6"	1'-6"	(4)#5 E.A. WAY BOT.	ISOLATED FOOTER
F-2	3'-0"	3'-0"	1'-6"	(4)#5 E.A. WAY BOT.	ISOLATED FOOTER
F-3	5'-0"	5'-0"	1'-6"	(7)#5 E.A. WAY BOT.	ISOLATED FOOTER

1. THIS FOUNDATION PLAN ONLY CONVEYS STRUCTURAL INFO. RELATED TO THE FOUNDATION. FOR GENERAL FEATURES, DIMENSIONS, CONDUITS, ELECT. EMBEDS, STEP HEIGHTS, ETC., SEE ARCH. PLAN. ARCHITECTURAL PLAN SHOWN HERE IN FOR REFERENCE ONLY.
2. FTGS. & FND. SHALL BE IN ACCORDANCE w/ LOCAL BUILDING CODES.
3. SOIL COMPACTION AND FILL SHALL BE COMPACTED TO A MIN. OF 95% MODIFIED PROCTOR IN ACCORDANCE WITH ASTM D 1557.

BEAMS, GIRDERS & COLUMN NOTES:

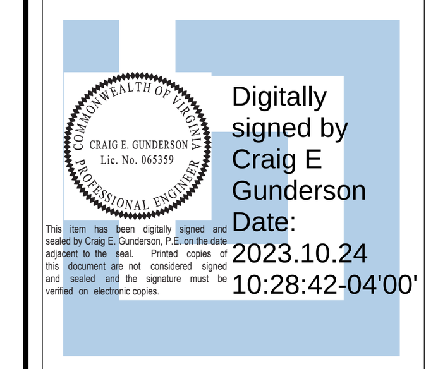
1. CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI-301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" LATEST EDITION
2. ALL CONCRETE SHALL BE 4,000 PSI @ 28 DAYS w/ MAX. SLUMP OF 5"
3. REINFORCEMENT SHALL COMPLY w/ ASTM A-615, GRADE 60 FABRICATED IN ACCORDANCE w/ "THE MANUAL OF STANDARD PRACTICE" BY CRSI
4. ALL REINFORCEMENT SPLICES SHALL BE LAPPED 40 BAR DIAMETERS
5. ALL BARS TO BE CONTINUOUS AROUND CORNERS & ACROSS BEAMS

CONTRACTOR NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO VERIFY ALL COMPATIBILITY OF STRUCTURAL DRAWINGS w/ ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION.

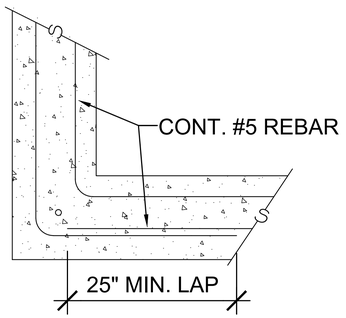
NOTE:

IT IS ACCEPTABLE TO USE SIMILAR SIZE SPF IN LUE OF SYP #2 FOR ALL BEAMS, POSTS AND STUDS PROVIDED ON THIS PLAN SET.

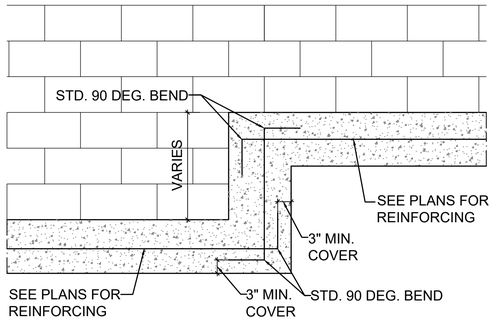


REV 1:	REV 4:
REV 2:	REV 5:
REV 3:	REV 6:

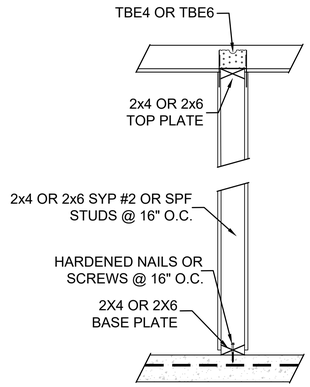
DRAWN BY: VS
CHECKED BY: SP
PROJECT #: 2324201
SCALE: AS PER PLAN
SHEET TITLE:
FOUNDATION PLAN
SHEET NUMBER:
S-1



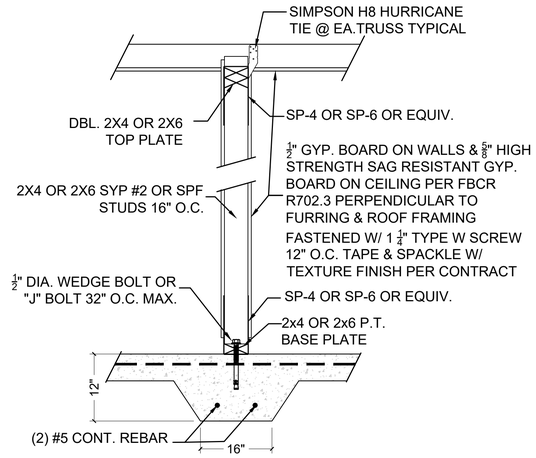
1 S-1.1 FOOTING STEEL LAP
NTS



2 S-1.1 STEP FOOTER DETAIL (TYP)
NTS



3 S-1.1 NON LOAD BEARING INTERIOR WOOD FRAMED WALL DETAIL
N.T.S.



4 S-1.1 LOAD BEARING INTERIOR FRAMED WALL
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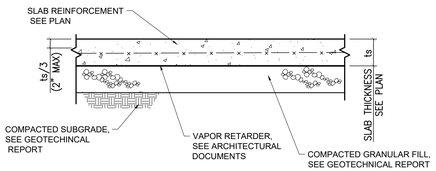
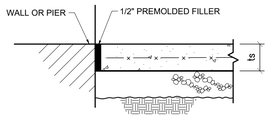
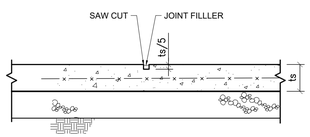


SLAB-ON-GRADE
N.T.S.



ISOLATION JOINT
N.T.S.



CONTRACTION(CONTROL) JOINT
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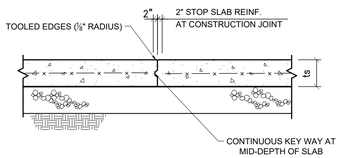

CONSTRUCTION JOINT
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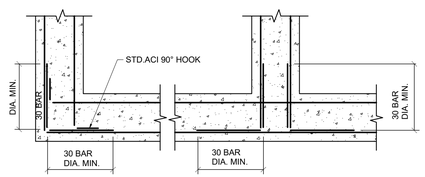
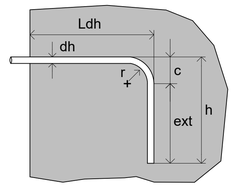


CONC. INTERSECTION DOWELS
N.T.S.

5 S-1.1 CONTRACTION, CONSTRUCTION & ISOLATION JOIST
N.T.S

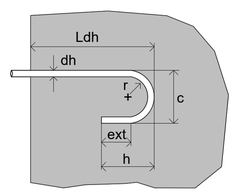
STANDARD HOOK DEVELOPMENT LENGTH:

90° STANDARD HOOK



Ldh = 18.26 x *db*
Ldh = 11.41 in.
r = 3.00 x *db* = 1.88 in.
c = 2.50 in.
ext = 7.50 in.
h = 10.00 in.

180° STANDARD HOOK



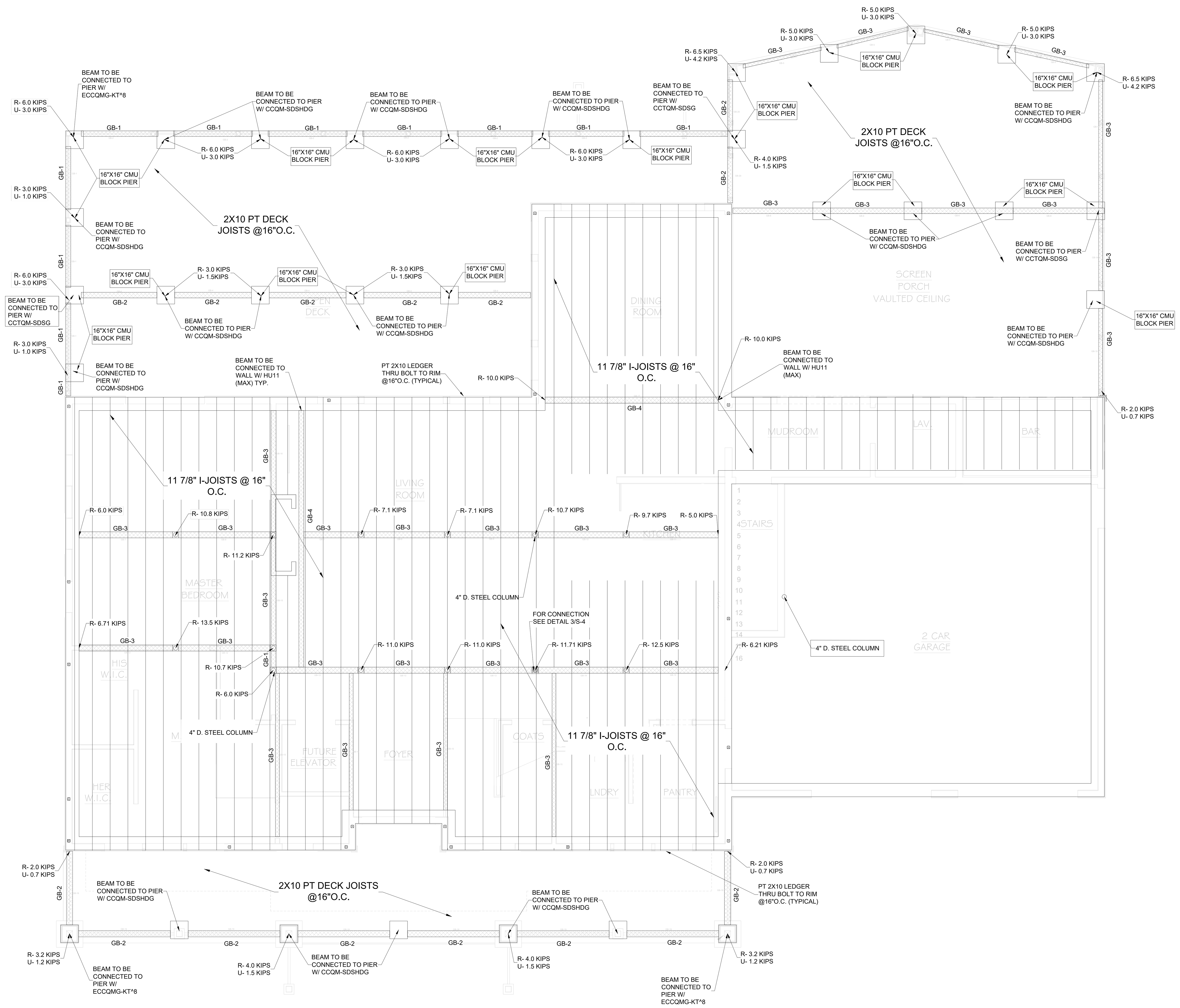
Ldh = 18.26 x *db*
Ldh = 11.41 in.
r = 3.00 x *db* = 1.88 in.
c = 5.00 in.
ext = 2.50 in.
h = 5.00 in.

CRAIG E GUNDERSON P.E. Lic. No. 86359 STATE OF FLORIDA
Digitally signed by Craig E Gunderson
Date: 2023.10.24 10:28:43-04'00'

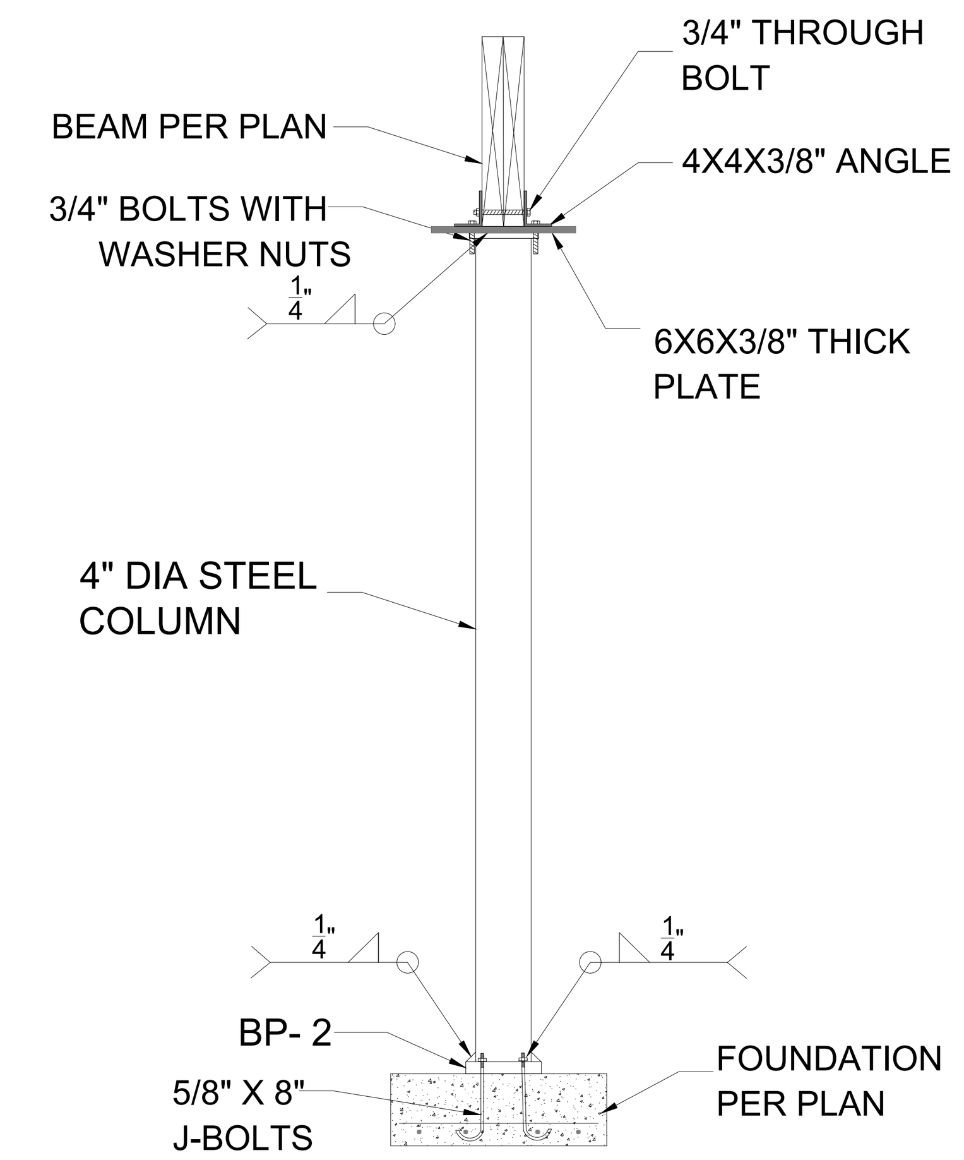
REV 1:	REV 4:
REV 2:	REV 5:
REV 3:	REV 6:
DRAWN BY: VS	
CHECKED BY: SP	
PROJECT #: 2324201	
SCALE: AS PER PLAN	

SHEET TITLE:
DETAILS & NOTES

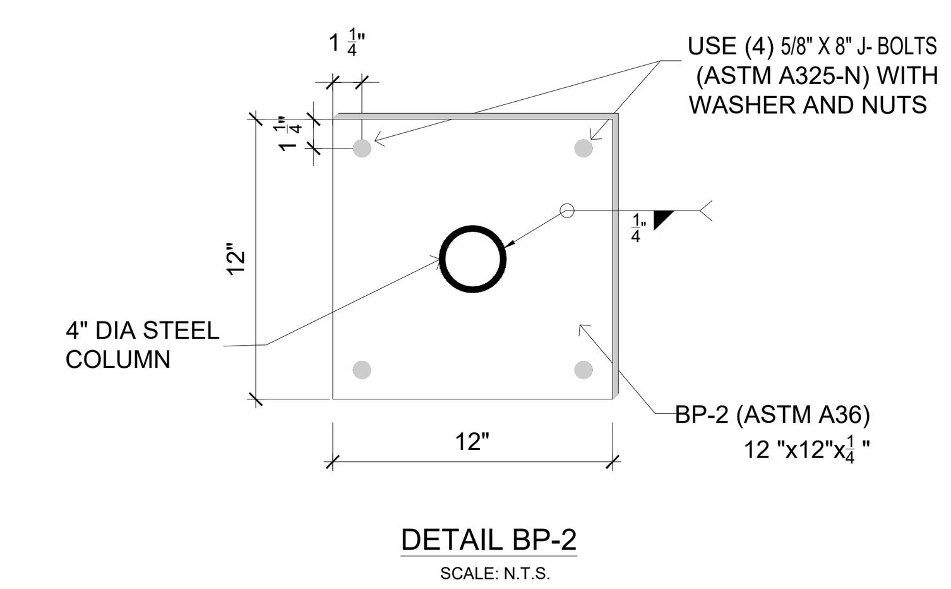
SHEET NUMBER:
S-1.1



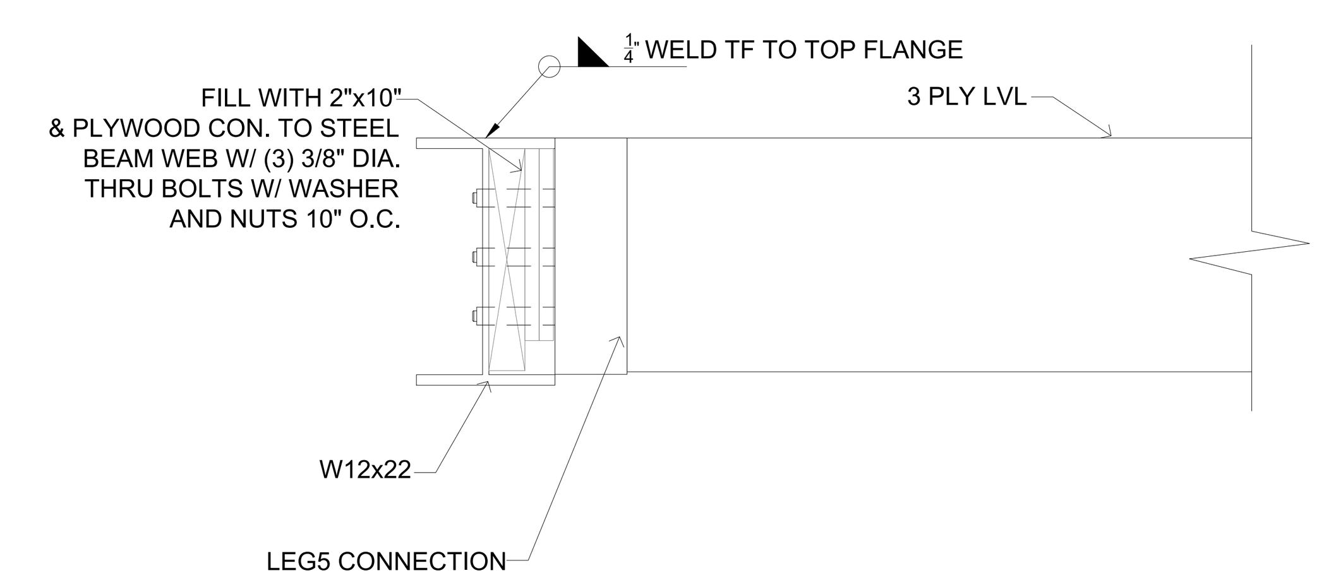
1 S-2 FIRST FLOOR FRAMING PLAN
3/16" = 1'-0"



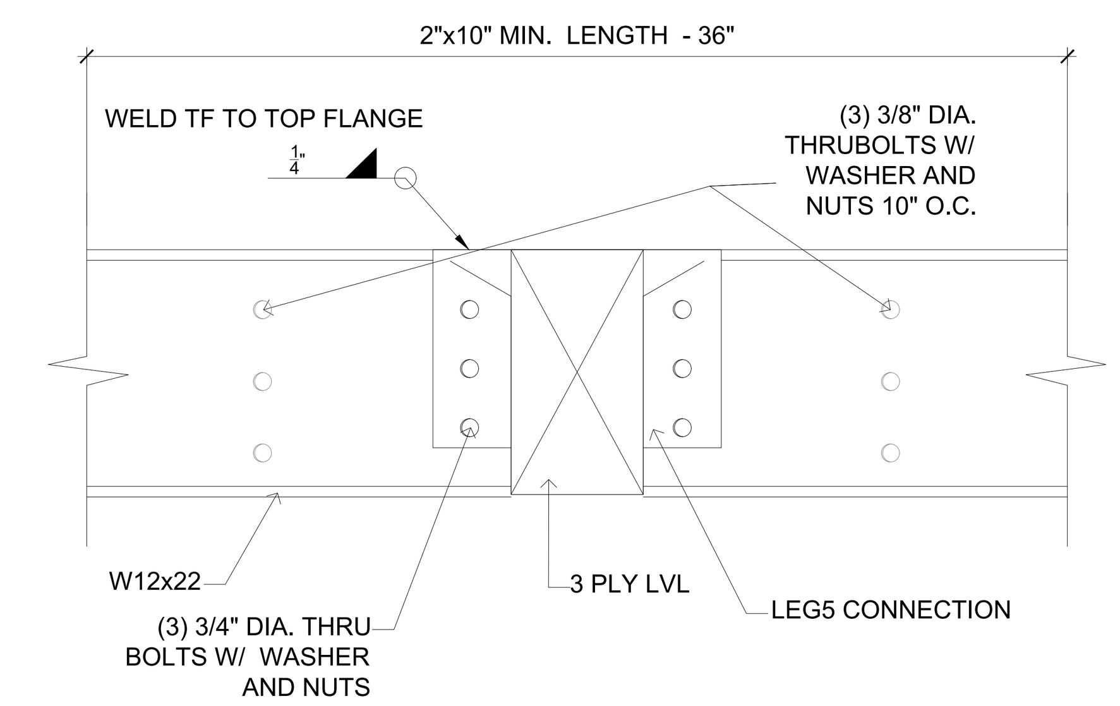
2 S-2 STEEL COLUMN TO WOOD BEAM DEATIL TYP.
N.T.S



DETAIL BP-2
SCALE: N.T.S.



FRONT VIEW

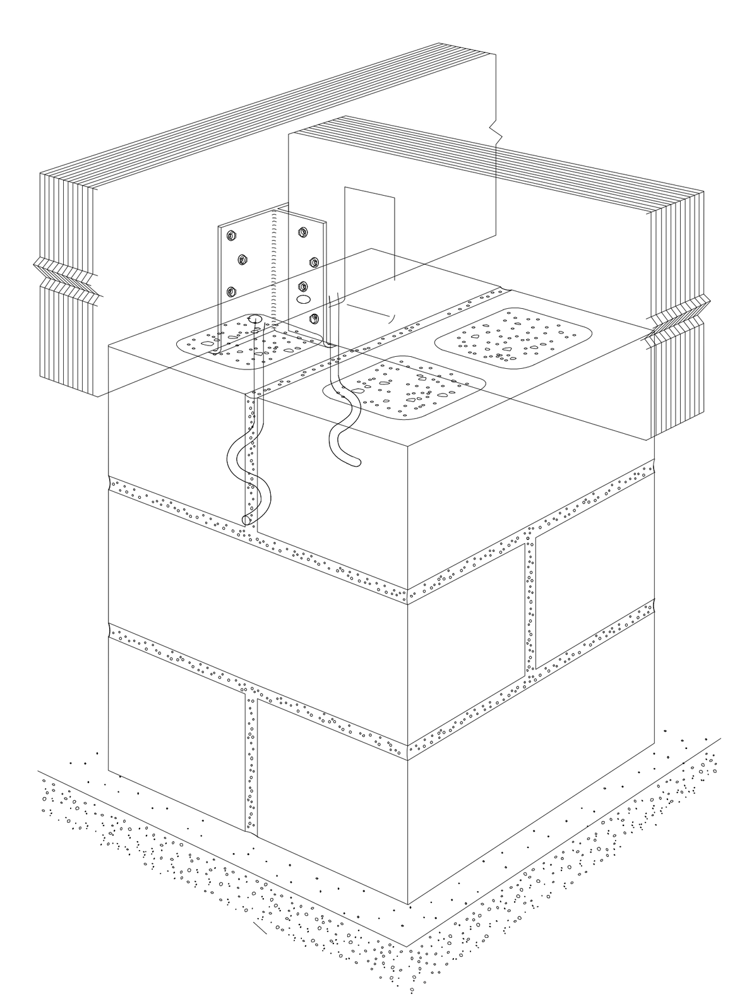


SIDE VIEW

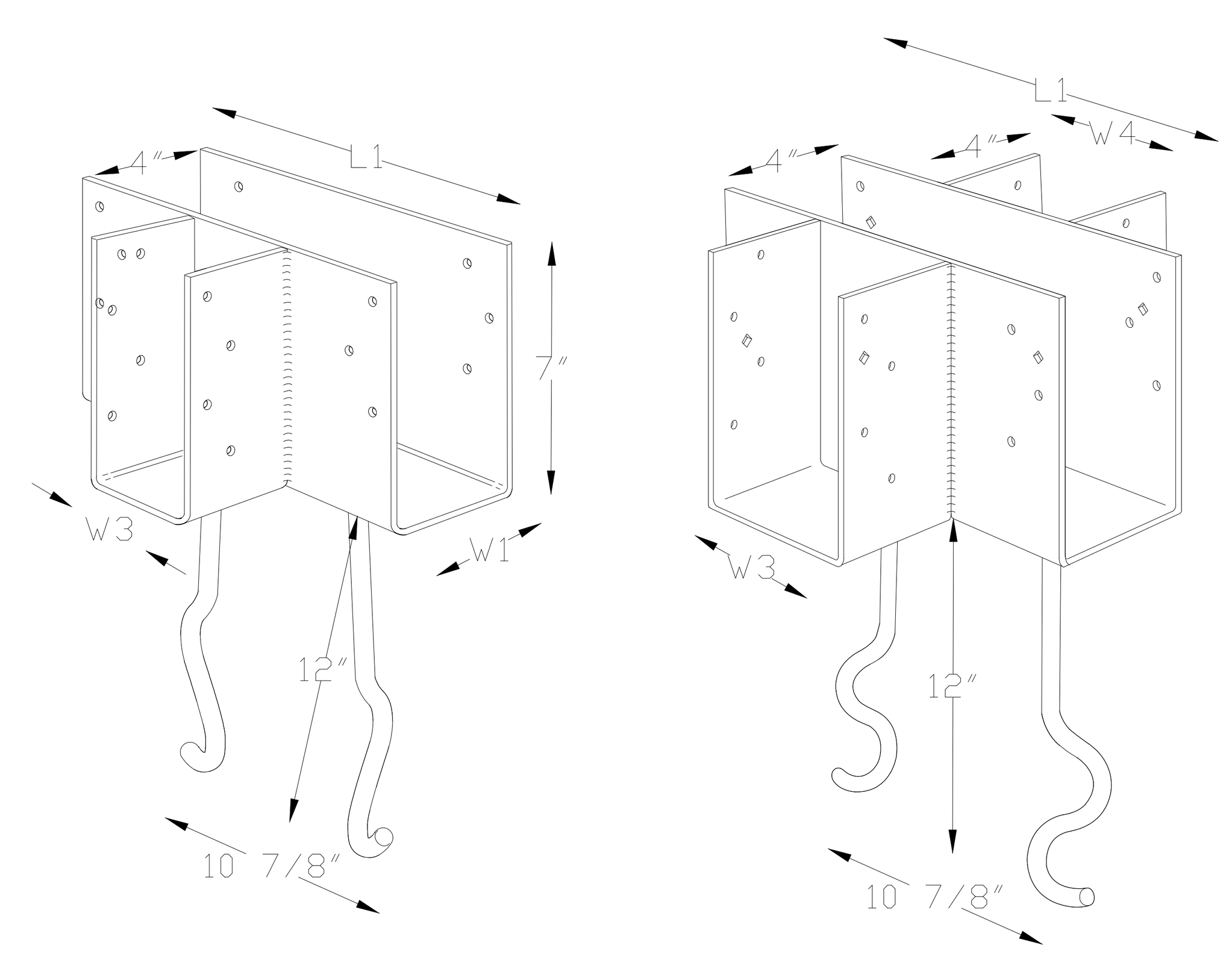
3 S-2 (3) PLY LVL BEAM TO W-STEEL BEAM
NTS

SECTION	BEAM SIZE
GB-1	(3) 2X10 SYP #2
GB-2	(3) 2X12 SYP #2
GB-3	(2) 1 3/4"X 11 7/8" 2.0E LVL
GB-4	(3) 1 3/4"X 11 7/8" 2.0E LVL

NOTE: PROVIDE 2X4 SYP #2 WITH TAPCON TO INCREASE THE BEARING LENGTH OF THE BEAM



TYPICAL CCTQM INSTALLATION
NTS

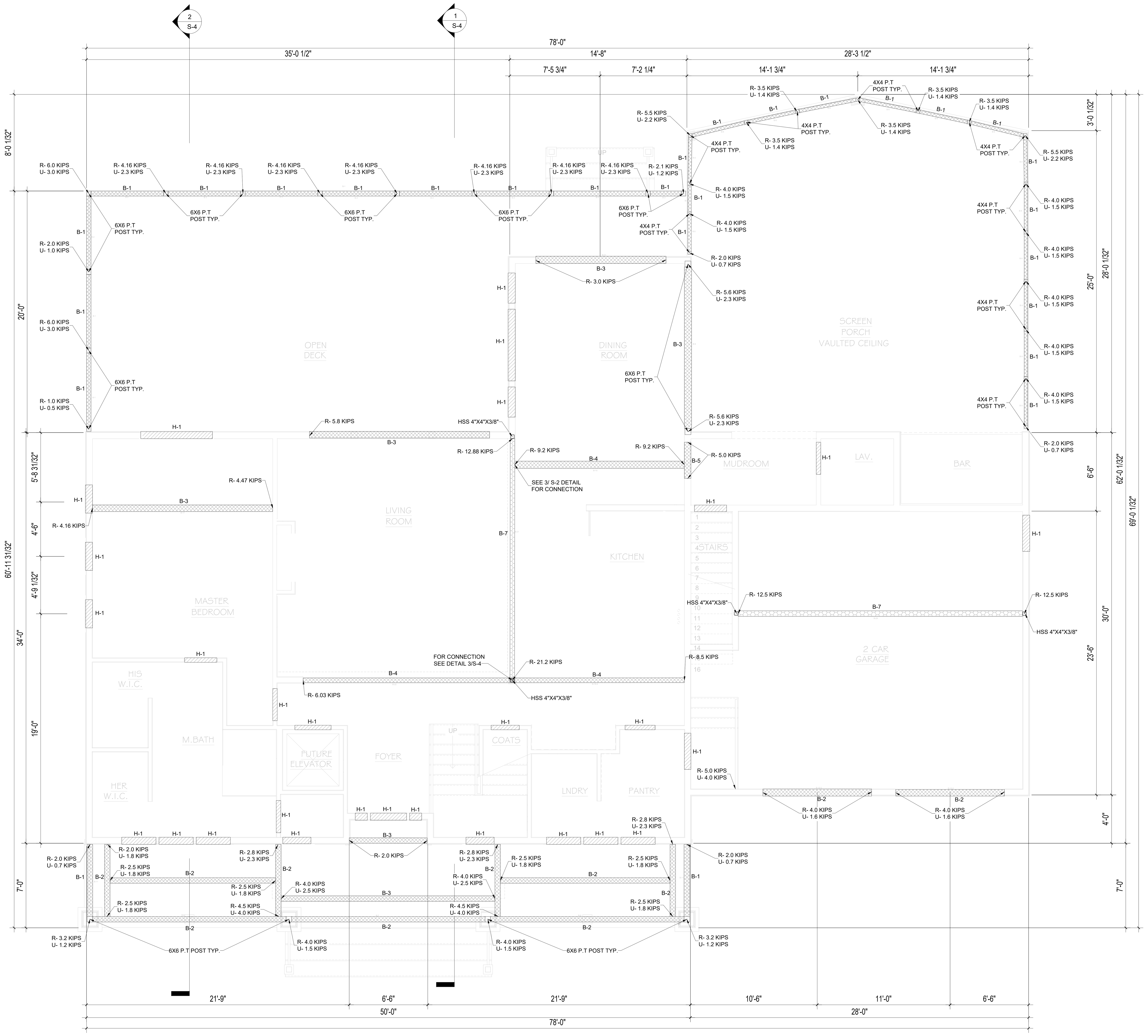


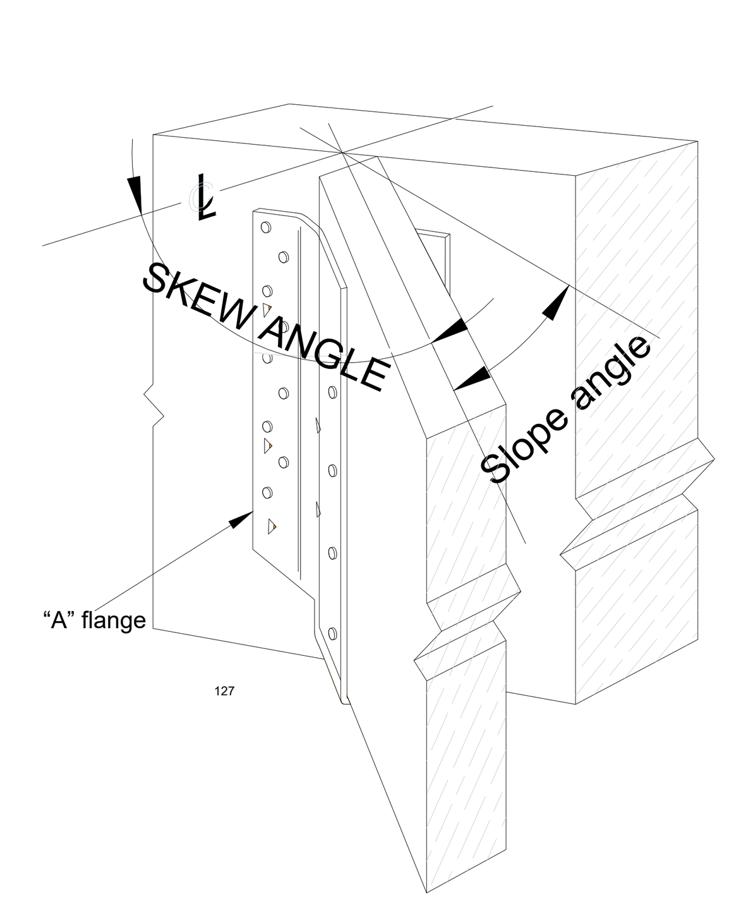
TYPICAL CCTQM , CCCQM
NTS

Digitally signed by Craig E Gunderson
Date: 2023.10.24 10:28:43-04'00'

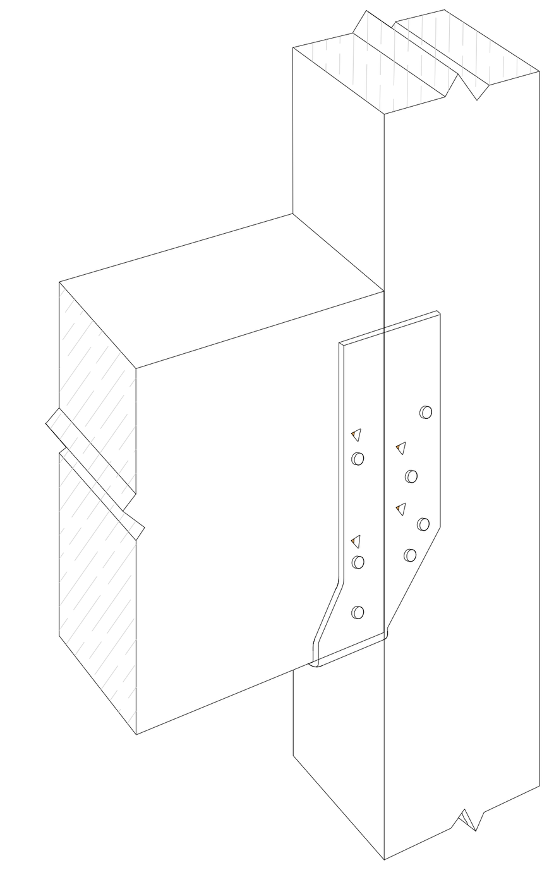
REV 1:	REV 4:
REV 2:	REV 5:
REV 3:	REV 6:

DRAWN BY: VS
CHECKED BY: SP
PROJECT #: 2324201
SCALE: AS PER PLAN
SHEET TITLE:
FIRST FLOOR FRAMING PLAN
SHEET NUMBER:
S-2

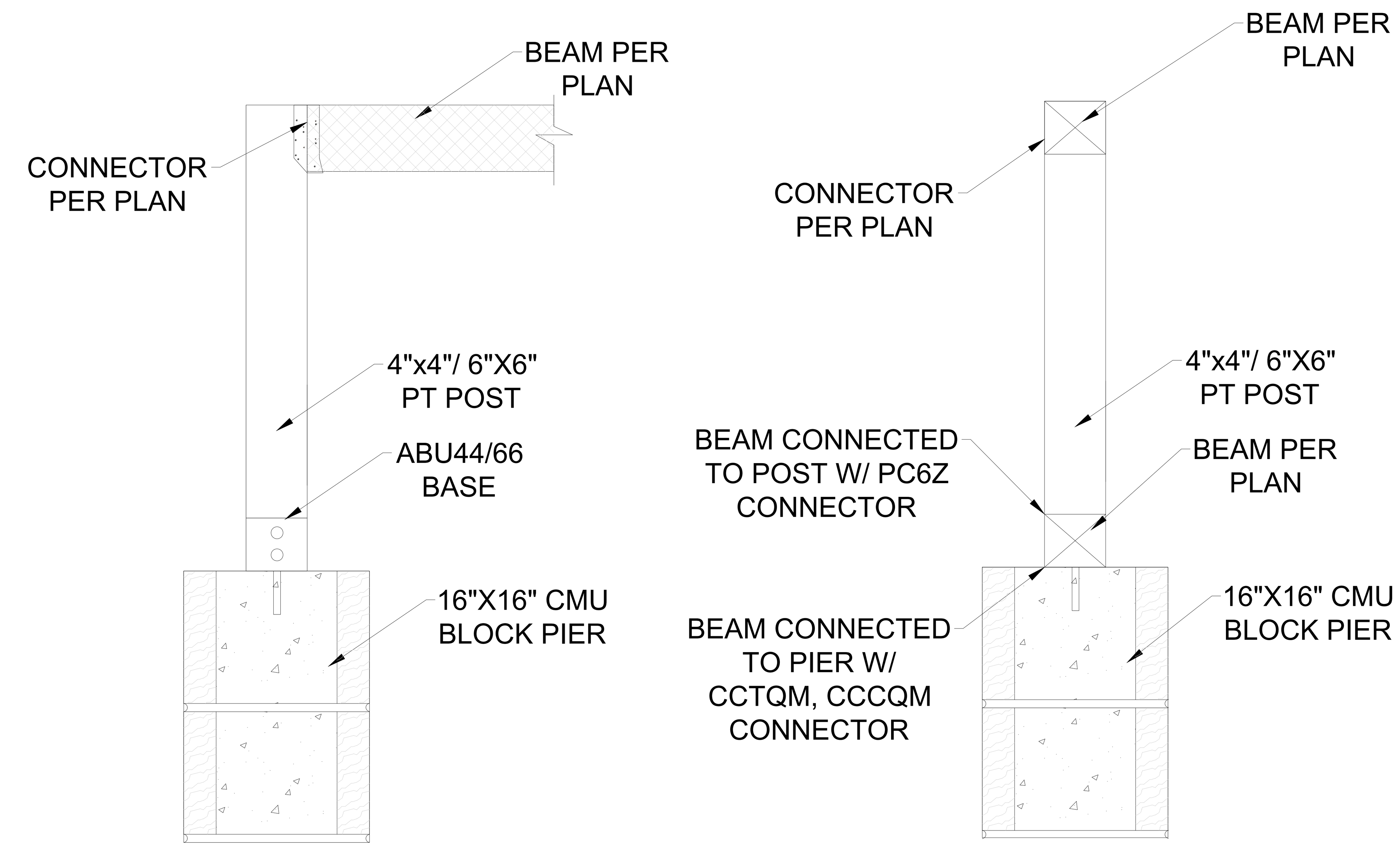




Typical HU Sloped Down, Skewed Right Installation



Typical HU Installation Manufactured with Flanges Straight



TYPICAL PT POST CONNECTION DETAILS
NTS

1 / S-3 FIRST FLOOR BEAM & COLUMN PLAN
3/16"=1'-0"

- HEADER
- WOOD BEAM
- STEEL BEAM

HEADER SCHEDULE

SECTION	BEAM SIZE
H-1	(2) 2X10 SYP #2

CONNECTOR SCHEDULE

MEMBER	TO MEMBER	CONNECTOR
B-1	4X4 POST,6X6 POST, WALL	HU210-2 , HUS210-2
B-2	6X6 POST, WALL, BEAM	HU9
B-3	6X6 POST, BEAM, WALL	HU11
B-4	WALL	HU312-2
B-6	BEAM	HU28-2

BEAM SCHEDULE

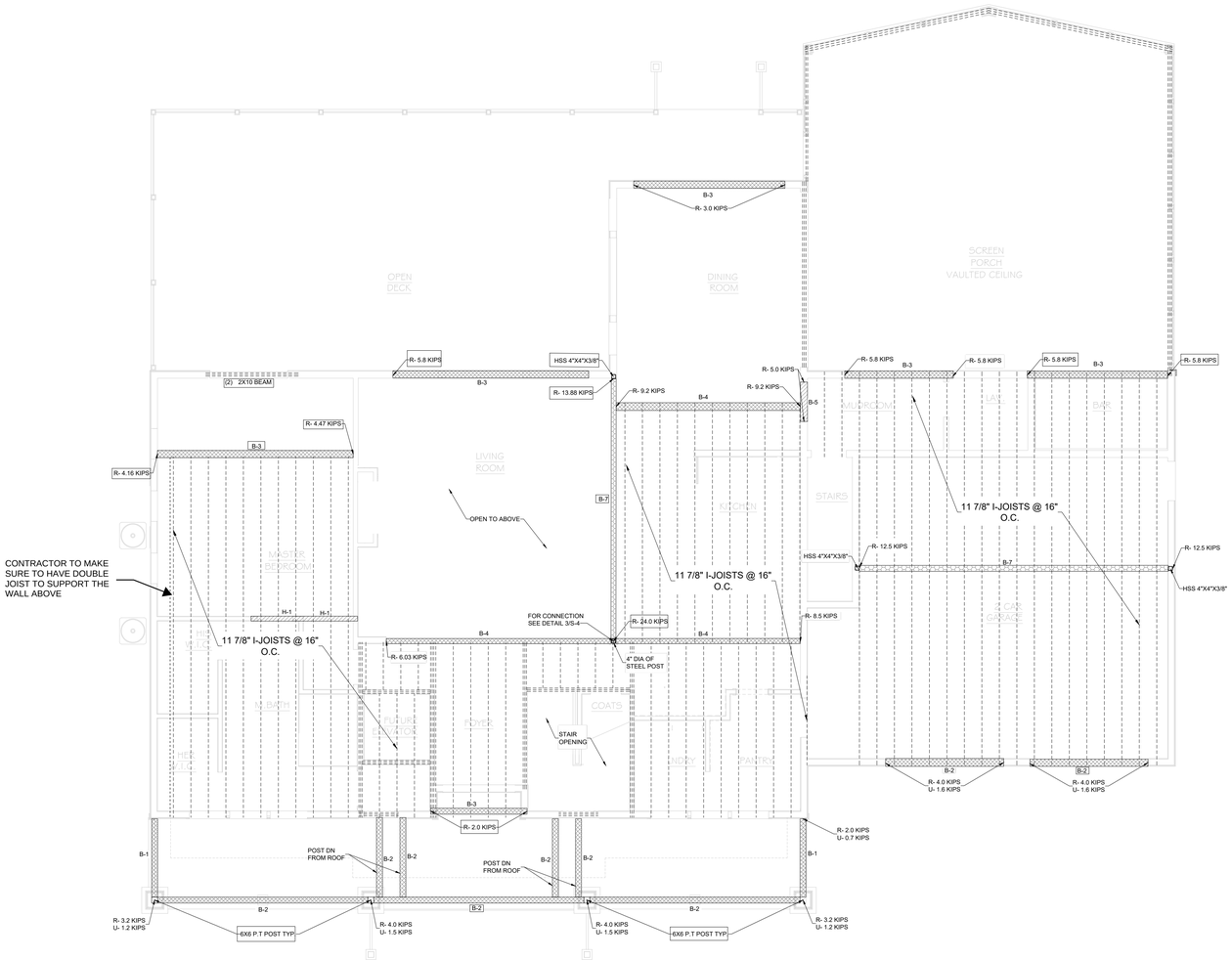
SECTION	BEAM SIZE
B-1	(2) 2X10 SYP #2
B-2	(2) 1 3/4"X 9 1/4" 2.0E LVL
B-3	(2) 1 3/4"X 11 7/8" 2.0E LVL
B-4	(3) 1 3/4"X 11 7/8" 2.0E LVL
B-5	(3) 1 3/4"X 9 1/4" 2.0E LVL
B-6	(2) 2X8 SYP #2
B-7	W 12X22 STEEL BEAM

Digitally signed by Craig E Gunderson
Date: 2023.10.24 10:28:44-04'00'

KOLENY HOUSE
BAR POINT RD,
LANCASTER VA 22503

REV 1:	REV 4:
REV 2:	REV 5:
REV 3:	REV 6:

DRAWN BY: VS
CHECKED BY: SP
PROJECT #: 2324201
SCALE: AS PER PLAN
SHEET TITLE:
FIRST FLOOR BEAM & COLUMN PLAN
SHEET NUMBER:
S-3

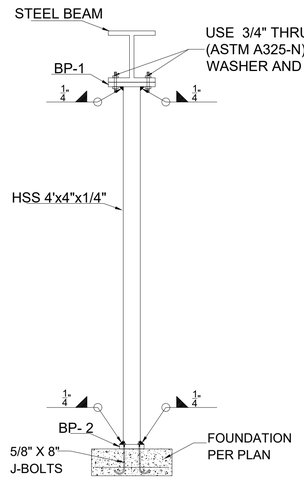


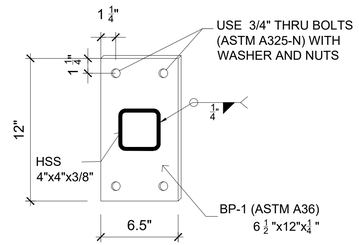
1 S-4 SECOND FLOOR FRAMING PLAN

3/16" = 1'-0"

STEEL COLUMN SCHEDULE

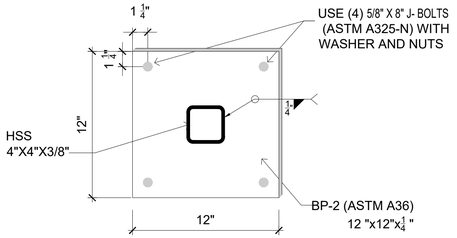
SHAPE	SIZE	COLUMN BASE PLATE	J- BOLT	EMBEDMENT	TOP PLATE	WELD
SC	HSS 4X4X$\frac{3}{8}$"	PL 12X12X1/4"	(4) 5/8" X8"	8" MIN.	PL 6.5"X12"X3/8"	1/4" FILLET WELD





DETAIL BP-1

SCALE: N.T.S.

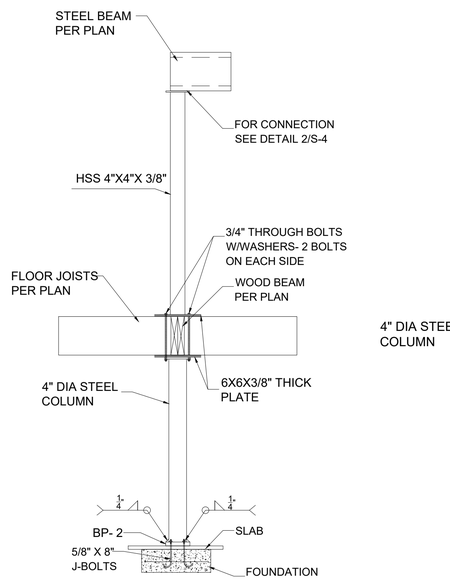


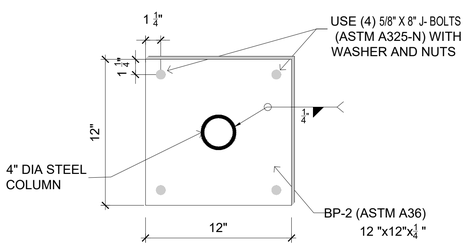
DETAIL BP-2

SCALE: N.T.S.

2 S-4 STEEL POST W/STEEL BEAM CONNECTION DETAIL

N.T.S





DETAIL BP-2

SCALE: N.T.S.

3 S-4 TYPICAL STEEL POST CONNECTION DETAIL

N.T.S

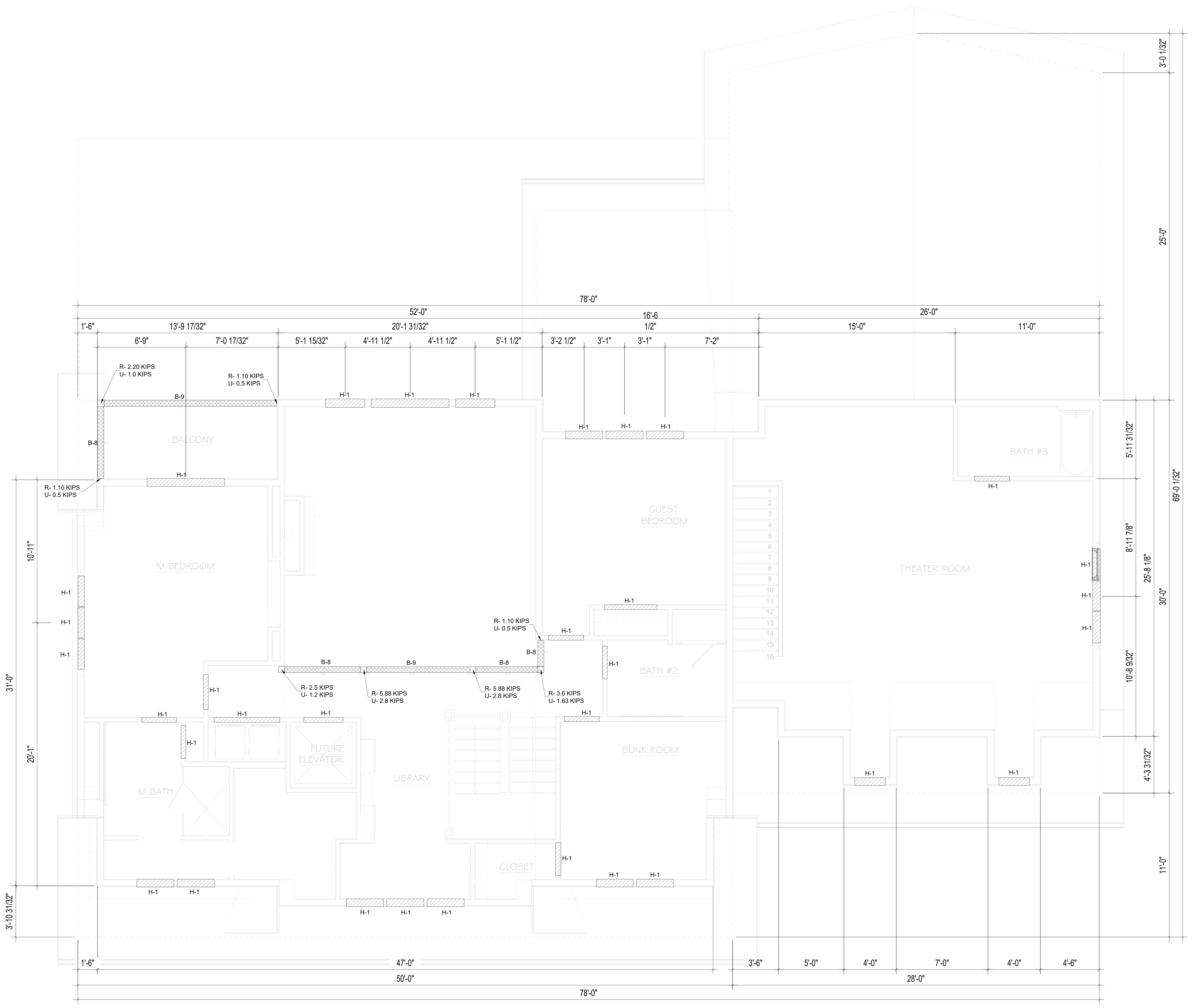
REV 1:	REV 4:
REV 2:	REV 5:
REV 3:	REV 6:
DRAWN BY: VS	
CHECKED BY: SP	
PROJECT #: 2324201	
SCALE: AS PER PLAN	

SHEET TITLE:

SECOND FLOOR FRAMING PLAN

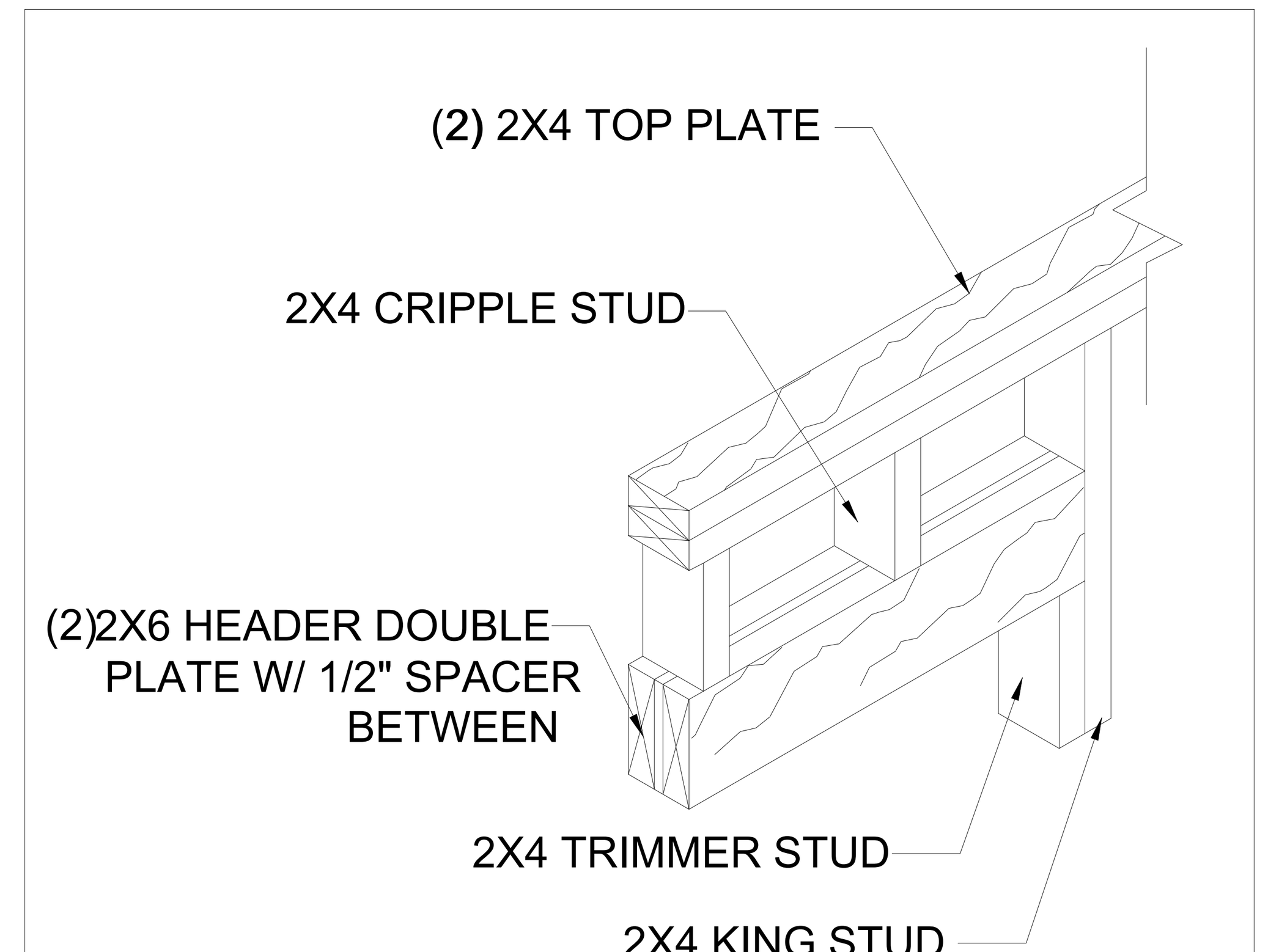
SHEET NUMBER:

S-4



1 S-5 SECOND FLOOR BEAM & COLUMN PLAN

3/16"=1'-0"



HEADER DETAIL FOR ALL INTERIOR OPENINGS, TYP.

NOT TO SCALE

BEAM SCHEDULE

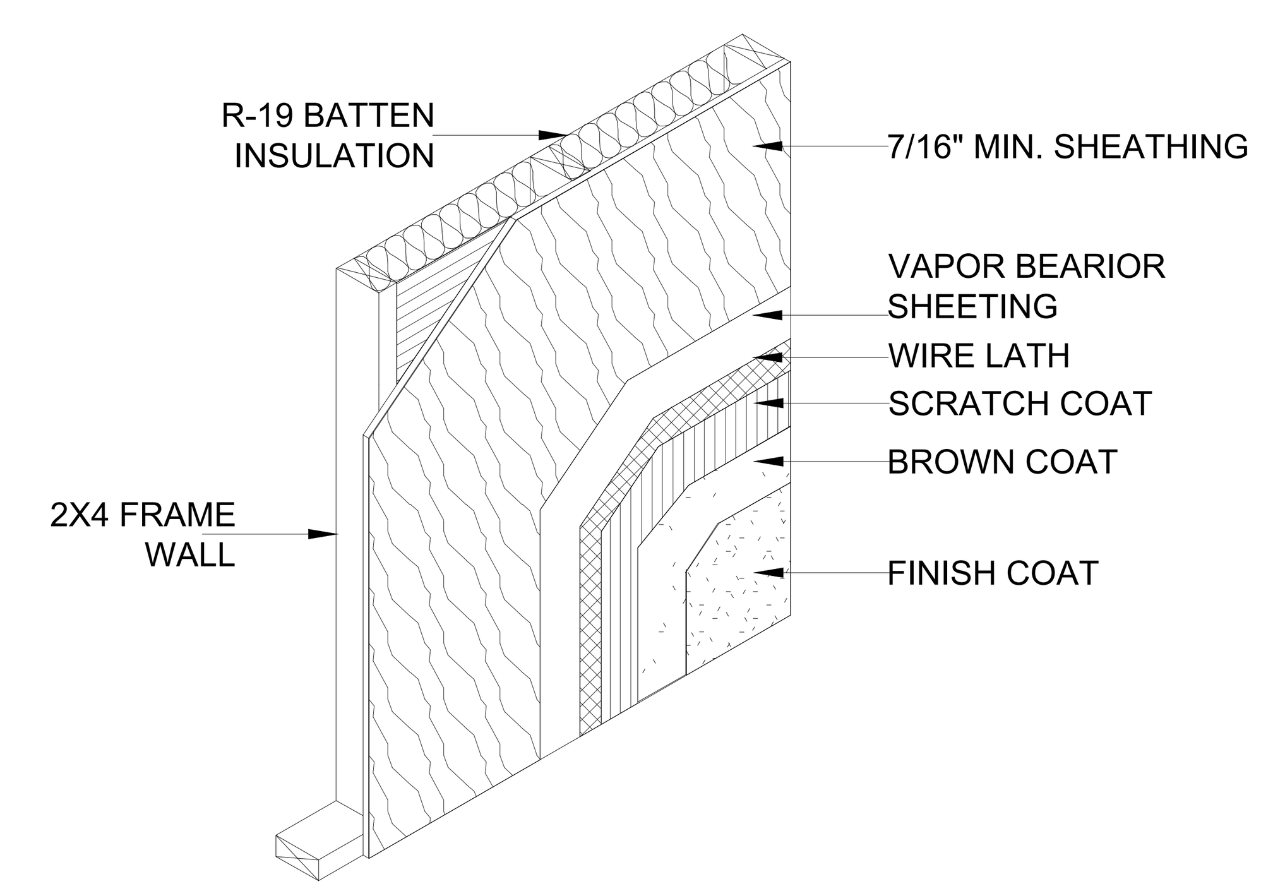
SECTION	BEAM SIZE
B-8	(2) 2X12 SYP #2
B-9	(2) 1 3/4"X 9 1/4" 2.0E LVL

HEADER SCHEDULE

SECTION	BEAM SIZE
H-1	(2) 2X10 SYP #2

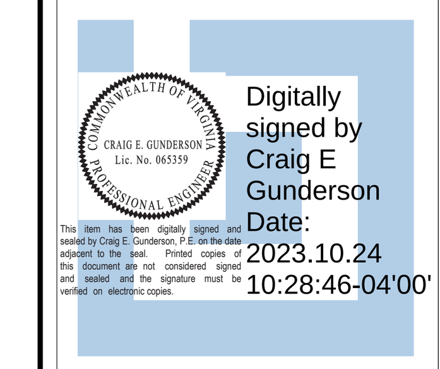
CONNECTOR SCHEDULE

MEMBER	TO MEMBER	CONNECTOR
B-8	6X6 POST, WALL	HU212-2 , HUS212-2
B-9	6X6 POST, WALL	HU9



FRAME WALL STUCCO DETAIL

N.T.S



REV 1:	REV 4:
REV 2:	REV 5:
REV 3:	REV 6:

DRAWN BY: VS

CHECKED BY: SP

PROJECT #: 2324201

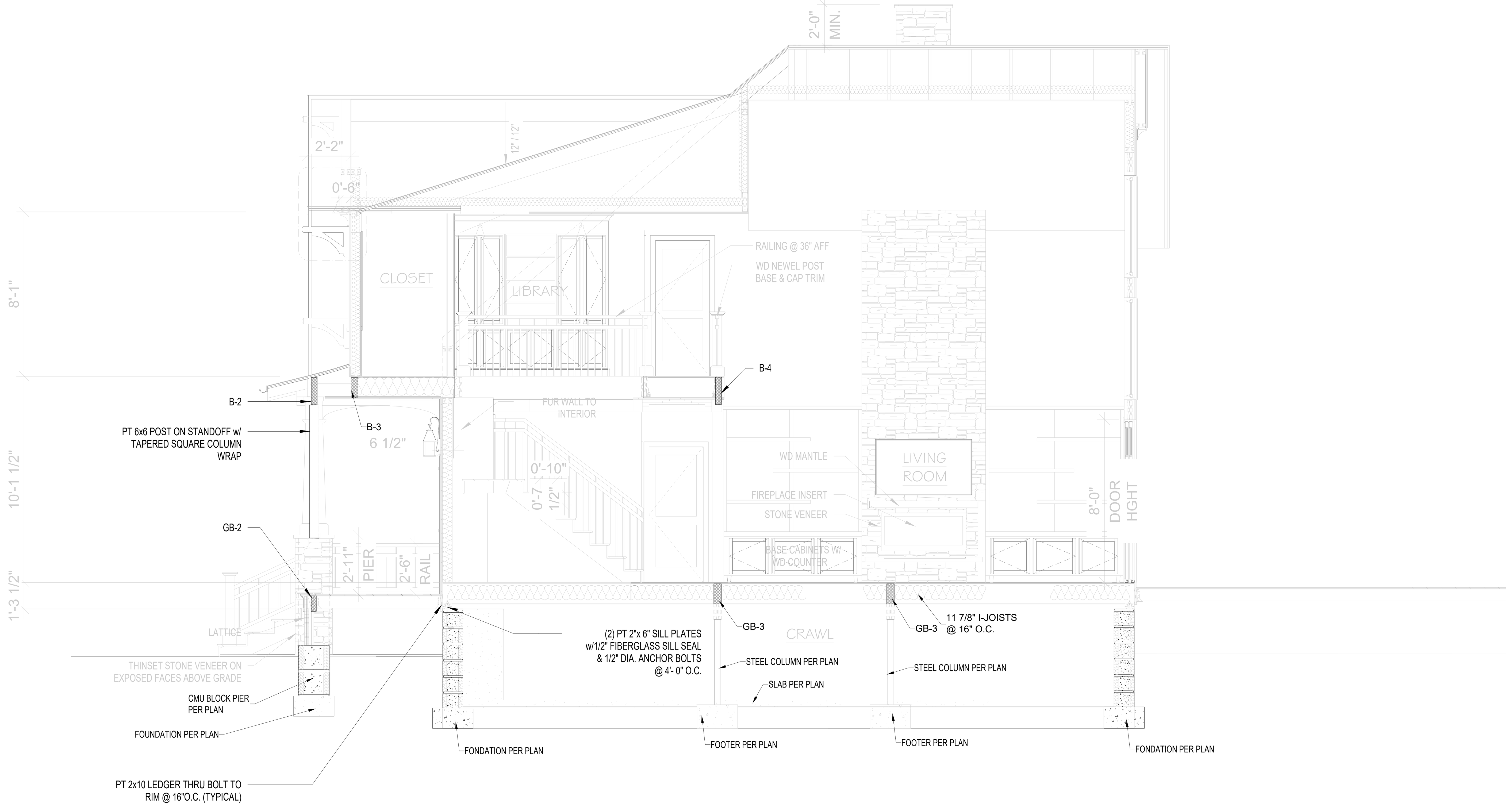
SCALE: AS PER PLAN

SHEET TITLE:

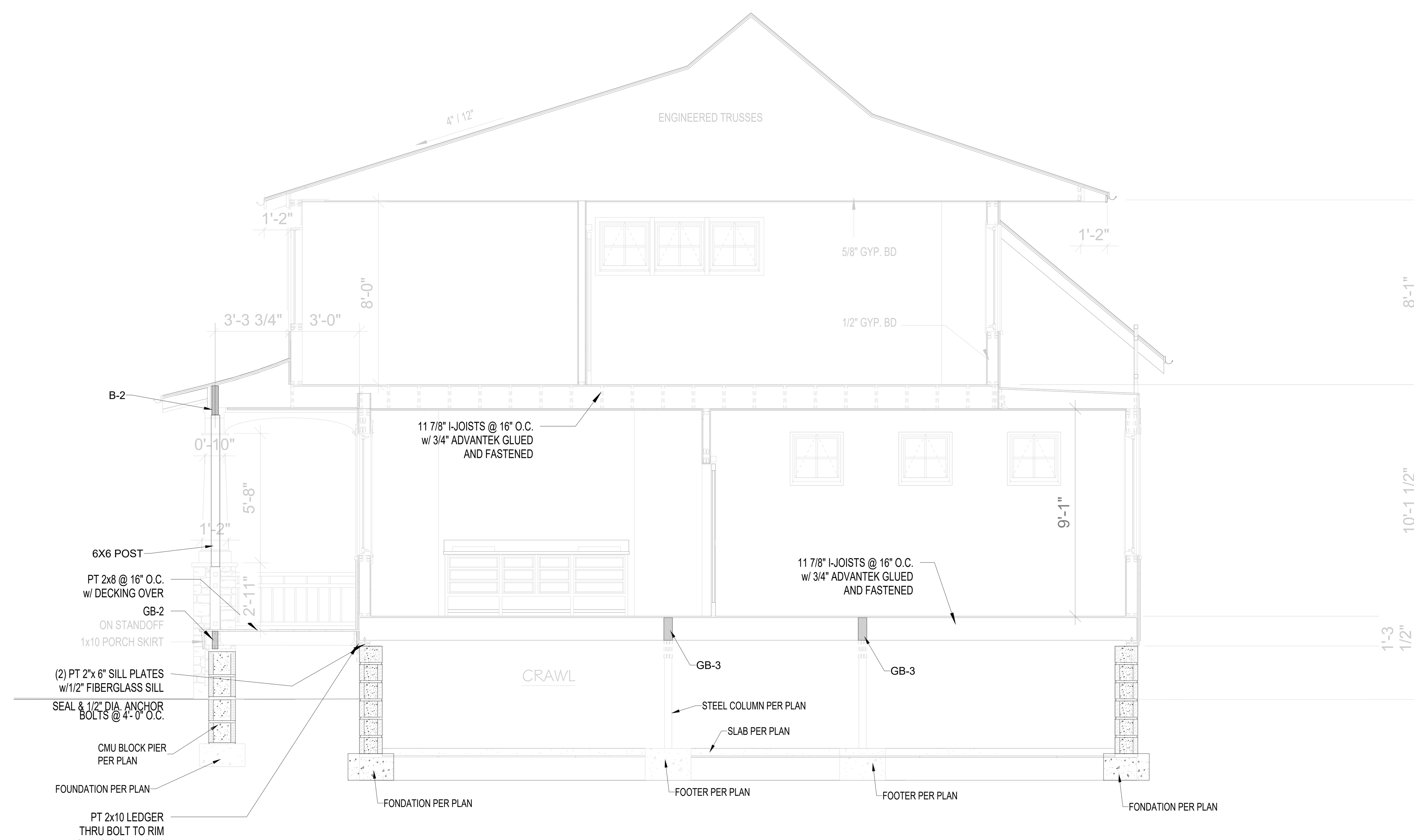
SECOND FLOOR BEAM & COLUMN PLAN

SHEET NUMBER:

S-5



1
S-6
SECTION-1
1/4" = 1'-0"



2
S-6
SECTION-2
1/4" = 1'-0"

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REV 3:	REV 6:

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PROJECT #: 2324201

SCALE: AS PER PLAN

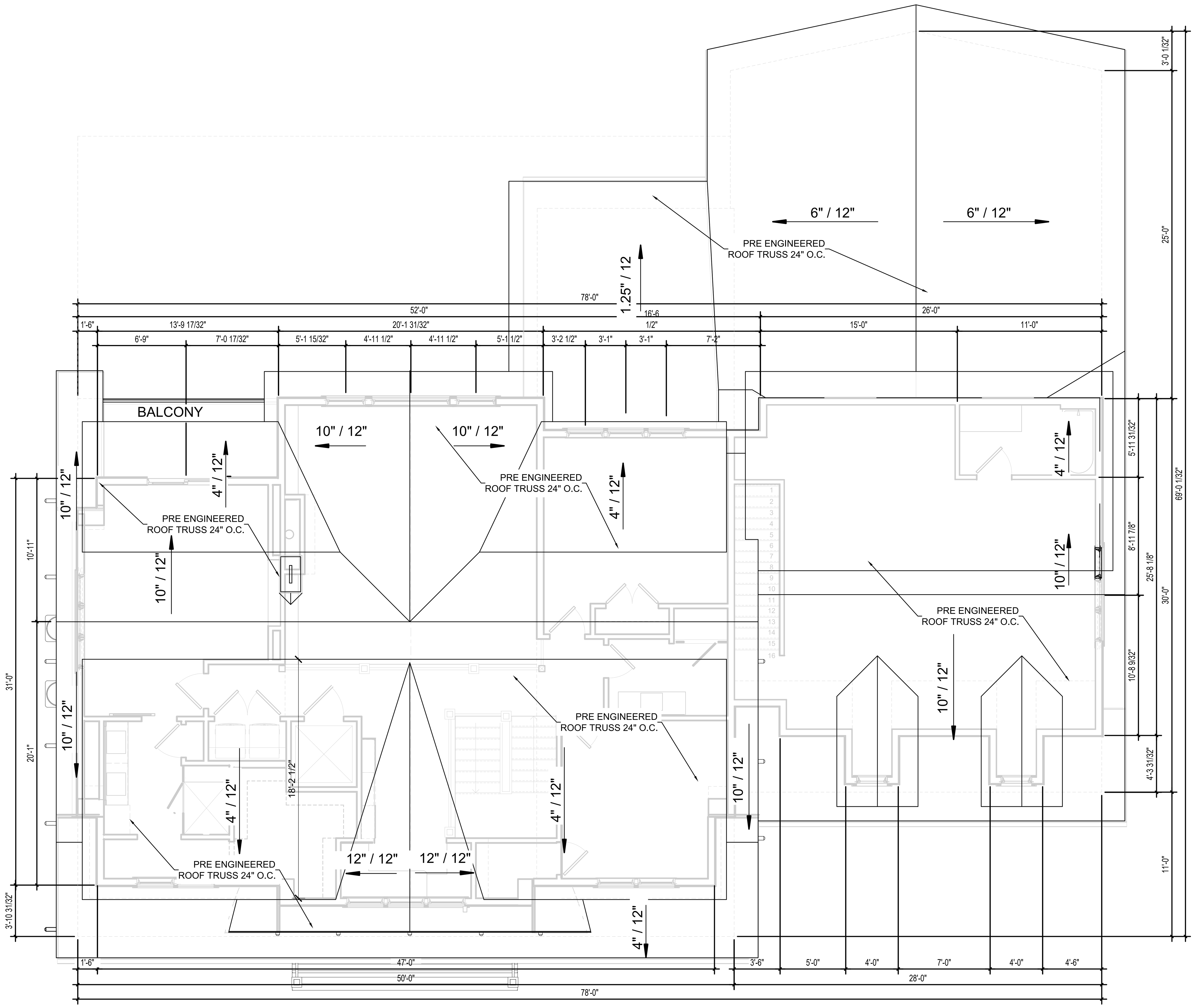
SHEET TITLE:

SECTIONS

SHEET NUMBER:

S-6

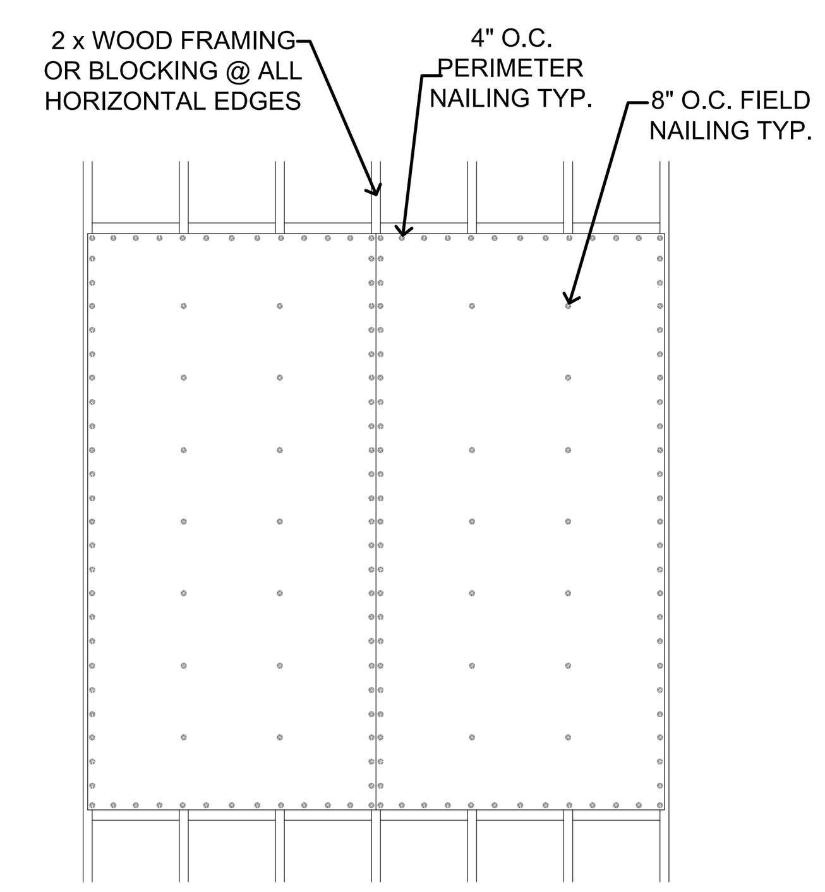
Temporary Non-Final Plans. These plans are temporary and are not to be used for construction, permitting or bidding. The Engineer of Record must review and approve the truss plans before any construction begins. Bearing walls, truss connectors, foundations, and all other structural elements of this project are subject to change based on a review of the truss plans. Only after a review of the truss plans can the Engineer of Records issue a final set of plans for construction, permitting or bidding.



1
S-7

ROOF PLAN

3/16"=1'-0"



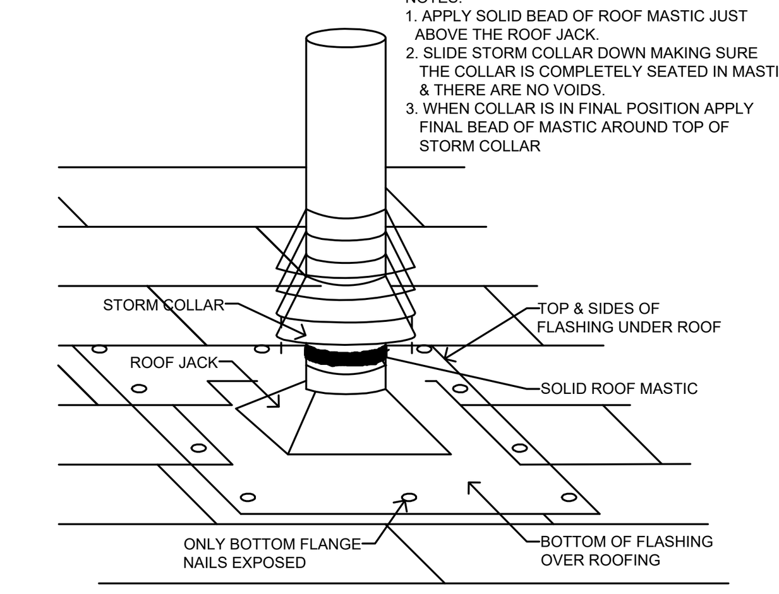
1. PROVIDE MIN. 7/16" SHEATHING w/ 8d COMMON NAILS @ 4" & 8" SPACING.
2. SHEATHING SHALL BE INSTALLED w/ FACE GRAIN PARALLEL TO STUDS.
3. ALL HORIZONTAL JOINTS SHALL BE INSTALLED OVER FRAMING OR BLOCKING.
4. SINGLE STORY APPLICATION: SHEATHING SHALL BE ATTACHED TO BOTTOM PLATE & TOP MEMBER OF DOUBLE TOP PLATE.

NOTE:
WALL SHEATHING TO BE USED AS SHEAR WALL & UPLIFT RESISTANCE.
SEE FLOOR PLANS FOR SHEAR WALL SEGMENT ANCHOR REQUIREMENTS.

TYPE II WALL SHEATHING NAILING REQUIREMENTS

SCALE: N.T.S.

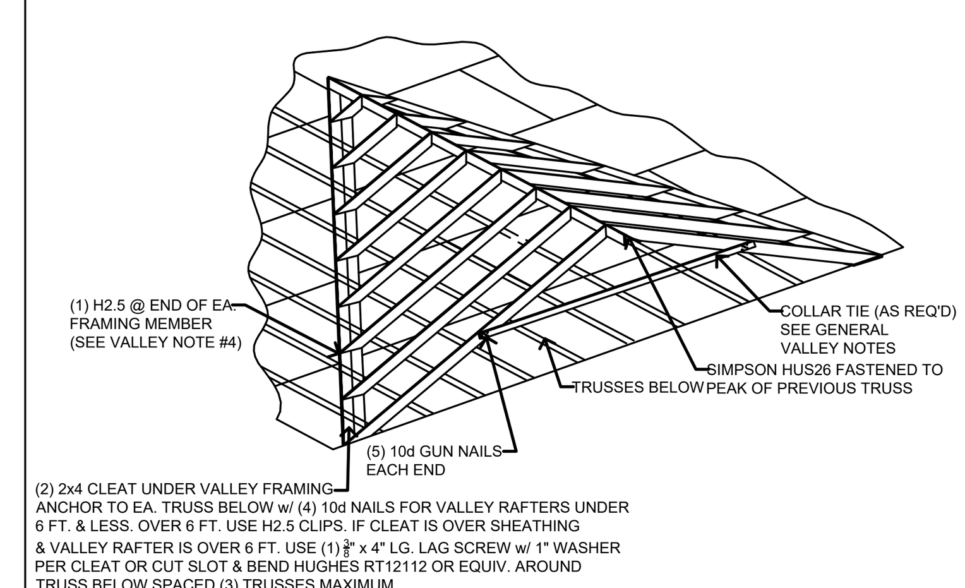
NOTES:
1. APPLY SOLID BEAD OF ROOF MASTIC JUST ABOVE THE ROOF JACK.
2. SLIDE STORM COLLAR DOWN MAKING SURE THE COLLAR IS COMPLETELY SEATED IN MASTIC & THERE ARE NO VOIDS.
3. WHEN COLLAR IS IN FINAL POSITION APPLY FINAL BEAD OF MASTIC AROUND TOP OF STORM COLLAR



VENT PIPE PENETRATION

SCALE: N.T.S.

GENERAL VALLEY NOTES:
1. RAFTERS TO BE 2x4 SPACED 24" O.C. UP TO 8 FT., USE 2x6 UP TO 12 FT.
2. RAFTER LENGTHS (FROM RIDGE TO CLEAT) OVER 12'-0" TO HAVE 2x4 COLLAR TIE OR KICKER @ $\frac{1}{2}$ RAFTER SPAN (UP TO 24 FT. MAX. RAFTER LENGTH)
3. RIDGE BOARD SHALL BE 2x6 MIN. OR 2x4 RAFTERS & 2x8 MIN. FOR 2x6 RAFTERS.
4. ATTACH RAFTERS 4 FT. OR LONGER TO RIDGE BOARD & CLEAT USING (1) SIMPSON H2.5 CONNECTOR, NAILED w/ (8) 8d & ALL OTHERS TOE-NAIL w/ 10d.



VALLEY FRAMING DETAIL

SCALE: N.T.S.

ROOF UNDERLAYMENT APPLICATION

REFER TO INTERNATIONAL BUILDING CODE, RESIDENTIAL - 2021 SECTION 905.1.1 FOR ROOF UNDERLAYMENT. UNDERLAYMENT FOR ROOF SLOPES 2:12 AND GREATER SHALL CONFORM TO APPLICABLE STANDARDS LISTED IN THE CHAPTER.

IBC 2021 TABLE R803.2.2 MIN. ROOF SHEATHING THICKNESS

RAFTER / TRUSS SPACING 24" O.C.	WIND SPEED							
	115 mph	120 mph	130 mph	140 mph	150 mph	160 mph	170 mph	180 mph
MIN. SHEATHING THICKNESS, INCHES (PANEL SPAN RATING) EXPOSURE B	7/16 (24/16)	7/16 (24/16)	7/16 (24/16)	7/16 (24/16)	15/32 (32/16)	19/32 (40/20)	19/32 (40/20)	19/32 (40/20)
MIN. SHEATHING THICKNESS, INCHES (PANEL SPAN RATING) EXPOSURE C	7/16 (24/16)	7/16 (24/16)	15/32 (32/16)	19/32 (40/20)	19/32 (40/20)	19/32 (40/20)	19/32 (40/20)	23/32 (48/24)
MIN. SHEATHING THICKNESS, INCHES (PANEL SPAN RATING) EXPOSURE D	15/32 (32/16)	19/32 (40/20)	19/32 (40/20)	19/32 (40/20)	19/32 (40/20)	19/32 (40/20)	23/32 (48/24)	23/32 (48/24)

IBC 2021 TABLE R803.2.3.1 MIN. ROOF SHEATHING ATTACHMENT

RAFTER / TRUSS SPACING 24" O.C.	WIND SPEED															
	115 mph		120 mph		130 mph		140 mph		150 mph		160 mph		170 mph		180 mph	
	E	F	E	F	E	F	E	F	E	F	E	F	E	F	E	F
EXPOSURE B																
RAFTER / TRUSS SG = 0.42	6	6	6	6	6	6	6	6	6	6	4	4	4	4	4	4
RAFTER / TRUSS SG = 0.49	6	12	6	12	6	6	6	6	6	6	6	6	6	6	6	6
EXPOSURE C																
RAFTER / TRUSS SG = 0.42	6	6	6	6	6	6	4	4	4	4	4	4	3	3	3	3
RAFTER / TRUSS SG = 0.49	6	6	6	6	6	6	6	6	6	6	6	6	4	4	4	4
EXPOSURE D																
RAFTER / TRUSS SG = 0.42	6	6	6	6	4	4	4	4	4	4	3	3	3	3	3	3
RAFTER / TRUSS SG = 0.49	6	6	6	6	6	6	6	6	4	4	4	4	4	4	4	4

E = NAIL SPACING ALONG PANEL EDGES (INCHES)
F = NAIL SPACING ALONG INTERMEDIATE SUPPORTS IN THE PANEL FIELD (INCHES)
a) FOR SHEATHING LOCATED A MIN. OF 4 FT. ON EA. SIDE OF RIDGES & HIPS, NAIL SPACING IS PERMITTED TO BE 6" O.C. ALONG PANEL EDGES & 6" O.C. ALONG INTERMEDIATE SUPPORTS IN PANEL FIELD.
b) WHERE RAFTER / TRUSS SPACING IS LESS THAN 24 IN. O.C., ROOF SHEATHING FASTENING IS PERMITTED TO BE IN ACCORDANCE WITH THE AWC WFCM OR THE AWC NDS.

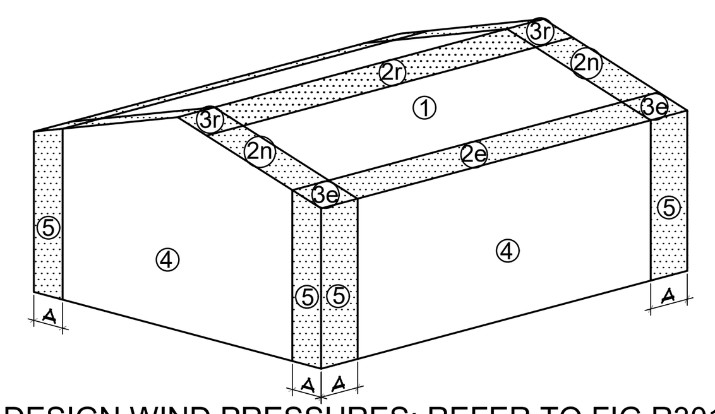
ATTIC VENT CALCULATION							
PROVIDE ATTIC VENTILATION IN COMPLIANCE W/IBC RESIDENTIAL CODE THE REQUIRED NET FREE VENTILATING AREA OF NOT LESS THAN 1/150 OF THE SPACE VENTILATED AREA MAY BE REDUCED TO 1/300 PROVIDED THAT AT LEAST 40% AND NOT MORE THEN 50% OF THE REQUIRED VENTING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE ATTIC OR RAFTER SPACE. UPPER VENTILATORS SHALL BE LOCATED NOT MORE THEN 3' BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE. NOTE TYPICAL VENTILATION INCLUDES 1. SOFFIT VENTS (AREA:6.42 SQ.IN. PER FOOT-VERIFY W/ MANUFACTURER)							
AREA 1 - AREA VENTIALATION REQUIRED - UPPER AND LOWER VENTS PROVIDED							
4027	S.F. ATTIC AREA / 150 =			26.85		S.F. X 144 =	3865.92
3865.92	S.I. /2 =	1932.96	S.I. UPPER AND LOWER VENTILATION REQR'D				
UPPER VENTILATION PROVIDED							
					Provided	Required	
18 SI/FT GAF COBRA RIDGE VENT			108.00	FT =	1944	1932.96	S.I.
LOWER VENTILATION PROVIDED							
6.42 SI/ FT SOFFIT VENTS (MIN.)			302.00	FT =	1938.84	1932.96	S.I.

S E P A R A T E   P E R M I T S   R E Q U I R E D

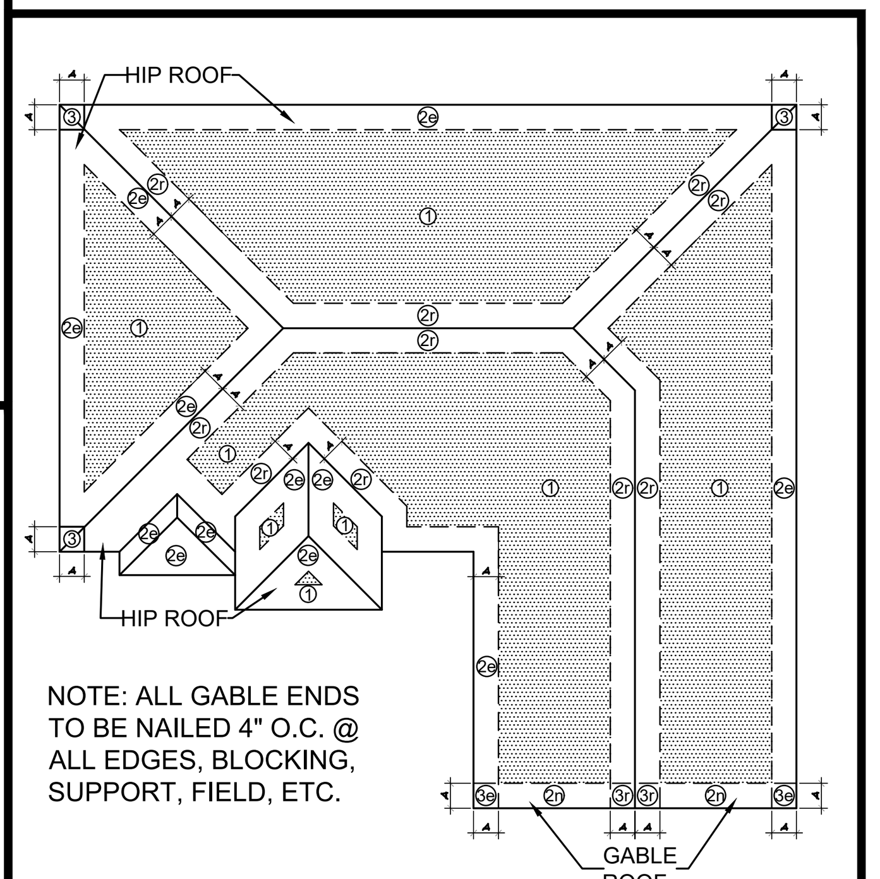
ALL FIRE PROTECTION SYSTEMS, FUEL, GAS, SIGNAGE AND OTHER BUILDING COMPONENTS REQUIRED BY LOCAL BUILDING AND FIRE AUTHORITIES TO BE INSTALLED OR MODIFIED VIA SEPARATE PERMIT, AND WHICH ARE AFFECTED BY THE WORK PROPOSED HEREIN, SHALL BE DULY INSTALLED OR MODIFIED ONLY THROUGH SEPARATE PERMIT AUTHORIZATION FROM THE AUTHORITY(S) HAVING JURISDICTION.

ROOF PLAN NOTES

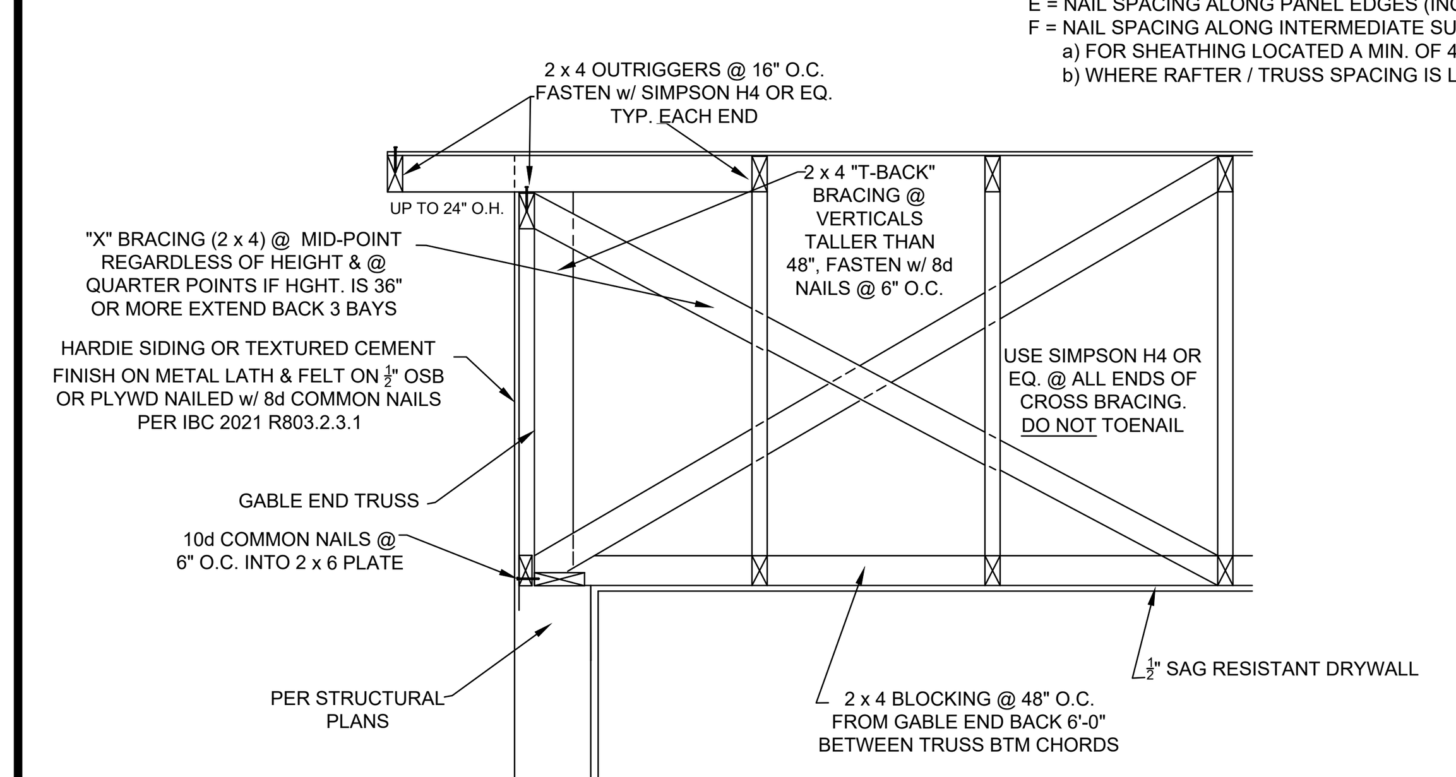
1. MINIMUM PRE-FABRICATED ROOF TRUSS DESIGN LOADS TO BE:
   TOP CHORD LIVE LOAD: 20 P.S.F.
   TOP CHORD DEAD LOAD: 15 P.S.F.
   BOTTOM CHORD: 10 P.S.F.
   TOTAL OF 45 P.S.F.
2. TRUSS ENGINEER IS RESPONSIBLE FOR THE DESIGN OF TRUSS SYSTEM, ROOF FRAMING PLAN & MUST PROVIDE ENGINEERING FOR ALL TRUSSES, TRUSS TO TRUSS CONNECTORS, BEAM BUCKETS/HANGER & UPLIFT DESIGN LOADS. ALL OF WHICH SHALL BE CLEARLY & COMPLETELY SPECIFIED ON TRUSS MANUFACTURER'S ENGINEERING DOCUMENTS.
3. ALL FLASHING & EAVE METAL TO BE 26 GUAGE, G-90 GALV. STEEL. FLASHING TO BE INSTALLED AT ALL WALL/ ROOF INTERSECTIONS, GUTTERS (IF APPLICABLE) WHEREVER THERE IS A CHANGE IN ROOF SLOPE / DIRECTION EXCEPT HIP & RIDGE JUNCTIONS & ALL AROUND ROOF OPENINGS.



DESIGN WIND PRESSURES: REFER TO FIG R301.2(7) COMPONENT AND CLADDING PRESSURE ZONES (2021 IBC-R)



NOTE: ALL GABLE ENDS TO BE NAILED 4" O.C. @ ALL EDGES, BLOCKING, SUPPORT, FIELD, ETC.

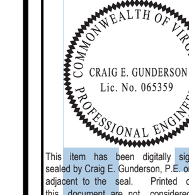


GABLE END CONNECTION

NOT TO SCALE

ROOF NOTES:

1. PRE-ENGINEERED WOOD ROOF TRUSSES @ 24" O.C.
2. TYPICAL 6:12 PITCH UNLESS NOTED OTHERWISE. (SEE MFG. TRUSS PLANS).
3. 2'-0" ROOF OVERHANGS UNLESS NOTED OTHERWISE.
4. TRUSS MANUFACTURER TO SUBMIT ENGINEERED TRUSS DRAWINGS FOR APPROVAL.
5. COORDINATION OF CONSTRUCTION INCLUDING VERIFICATION OF DIMENSIONS & FIELD CONDITIONS, IS THE RESPONSIBILITY OF THE CONTRACTOR ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN FIRM PRIOR TO CONSTRUCTION.
6. PROVIDE ATTIC VENTILATION AS REQUIRED BBY LOCAL RESIDENTIAL BUILDING CODE.
7. ROOF PLAN FOR DESIGN PURPOSES ONLY. TRUSS MANUFACTURER TO SUBMIT ENGINEERED TRUSS DRAWINGS FOR APPROVAL.



This item has been digitally signed and sealed by Craig E. Gunderson, P.E. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on electronic copies.

Digitally signed by Craig E Gunderson
Date: 2023.10.24 10:28:48-04'00'

REV 1:	REV 4:
REV 2:	REV 5:
REV 3:	REV 6:

DRAWN BY: VS
CHECKED BY: SP
PROJECT #: 2324201
SCALE: AS PER PLAN

SHEET TITLE:
ROOF PLAN & DETAILS

SHEET NUMBER:
S-7

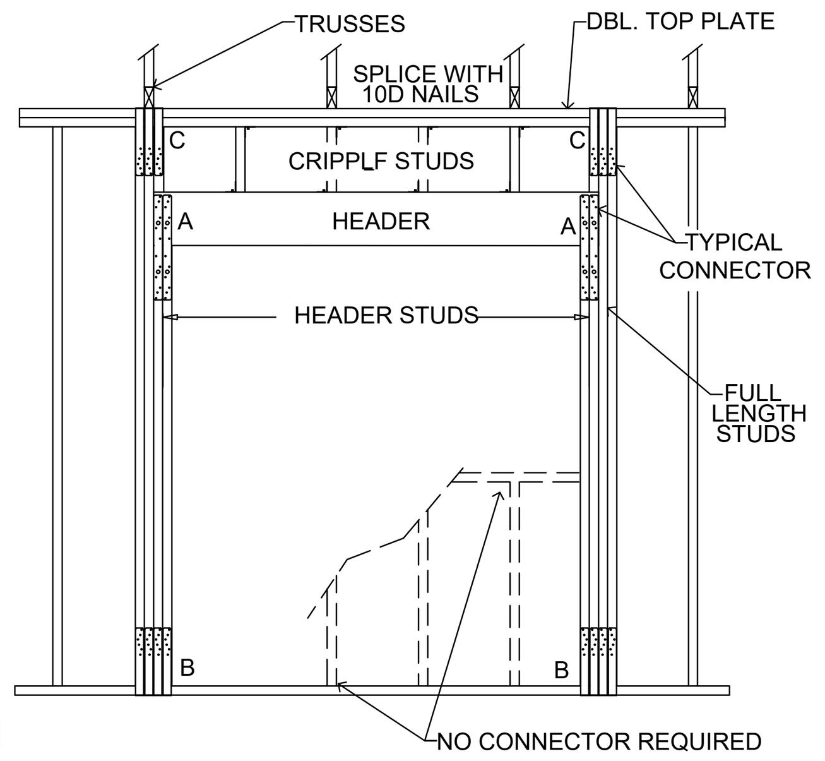
1. THE HEADER STUD SHALL NOT BE REQUIRED IF THE HEADER IS SUPPORTED BY A SUITABLE FRAMING ANCHOR.

2. IF GO BOLT OR PRO BOLT OR TIE MAX ANCHOR OR SIMPSON SYSTEM IS INSTALLED, CONNECTORS INDICATED IN THIS DETAIL ARE NOT REQUIRED.

UNSUPPORTED WALL HEIGHT	STUD SPACING	MAXIMUM HEADER SPAN (FEET)					
		4'	6'	9'	12'	15'	18'
		NUMBER OF HEADER STUDS SUPPORTING END OF HEADER					
		1	1	2	3	3	3
		NUMBER OF FULL LENGTH STUDS AT EACH END OF HEADER					
10' OR LESS	12 INCHES	2	2	3	3	3	3
	16 INCHES	2	2	3	3	3	3
	24 INCHES	1	2	2	2	2	2
GREATER THAN 10'	12 INCHES	2	2	3	4	5	5
	16 INCHES	2	2	3	3	4	4
	24 INCHES	1	2	2	2	3	3

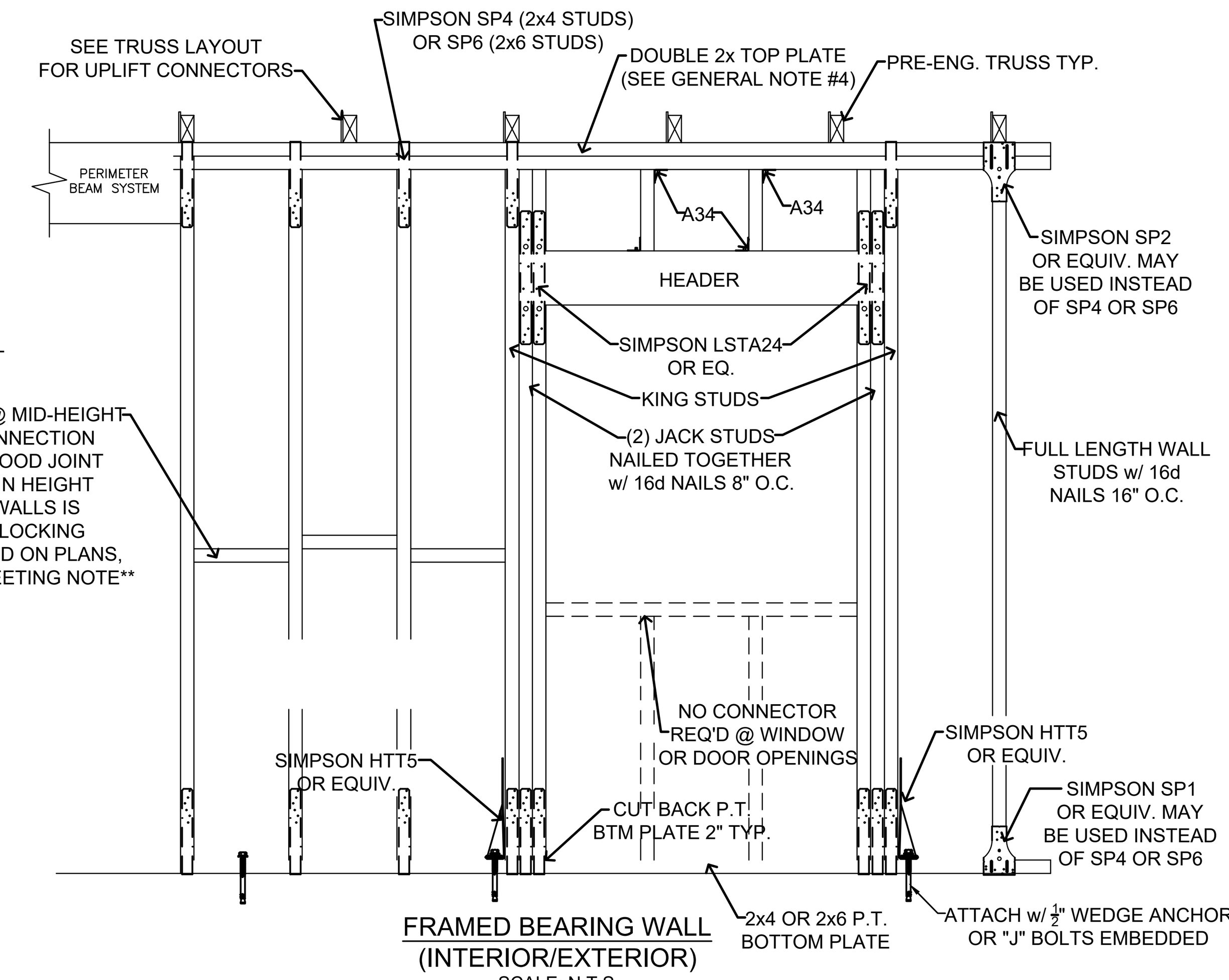
STRAP LOCATION	FASTENERS 10d x 1 ½" NAILS	UPLIFT
2x4 AND 2x6 WALL		
SIMPSON MSTA (flat strap)		
A	10	760
A	14	1065
A	16	1215
A	18	1370
2x4 WALL		
SIMPSON SP4		
B,C	6	735
SIMPSON SPH4		
B,C	10	1240
B,C	12	1360
2x6 WALL		
STRAP LOCATION	FASTENERS 10d x 1 ½" NAILS	UPLIFT
SIMPSON SP6		
B,C	6	735
SIMPSON SPH6		
B,C	10	1240
B,C	12	1360

ALL CONNECTORS MAY BE AS SHOWN OR SUBSTITUTED WITH EQUAL OR GREATER CONNECTORS



DOUBLE TOP PLATE SPLICE NAILING REQUIREMENT:

(2) 10D NAILS EACH SIDE OF SPLICE
SPLICE TO BE STAGGERED MIN OF 4' FROM ANY OTHER SPLICE
PLATES TO BE NAILED TOGETHER 16" OC MIN WITH 10D NAILS



FRAMED BEARING WALL (INTERIOR/EXTERIOR)
SCALE: N.T.S.

NOTE SCHEDULE	
#1	1/2" X 5" TITEN HD ANCHOR BOLT W/ 2" WASHER @ 6" FROM ALL CORNERS & OPENINGS, & 32" O.C. MAX.
#2	SIMPSON SP4 @ BOTTOM OF ALL FULL LENGTH & JACK STUDS @ ALL DOOR/ WINDOW OPENINGS
#3	SIMPSON SP4 @ TOP & BOTTOM OF FULL LENGTH STUDS @ 32" O.C.
#4	SIMPSON SP4 @ TOP OF ALL FULL LENGTH STUDS @ ALL DOOR/ WINDOW OPENINGS
#5	CONNECT ALL JACK STUDS TO HEADER W/ SIMPSON LSTA12 @ ALL DOOR/ WINDOW OPENINGS
#6	CONNECT DBL TOP PLATE TO HEADER W/ SIMPSON SP4 @ 16" FROM EACH END, & 32" O.C. MAX.

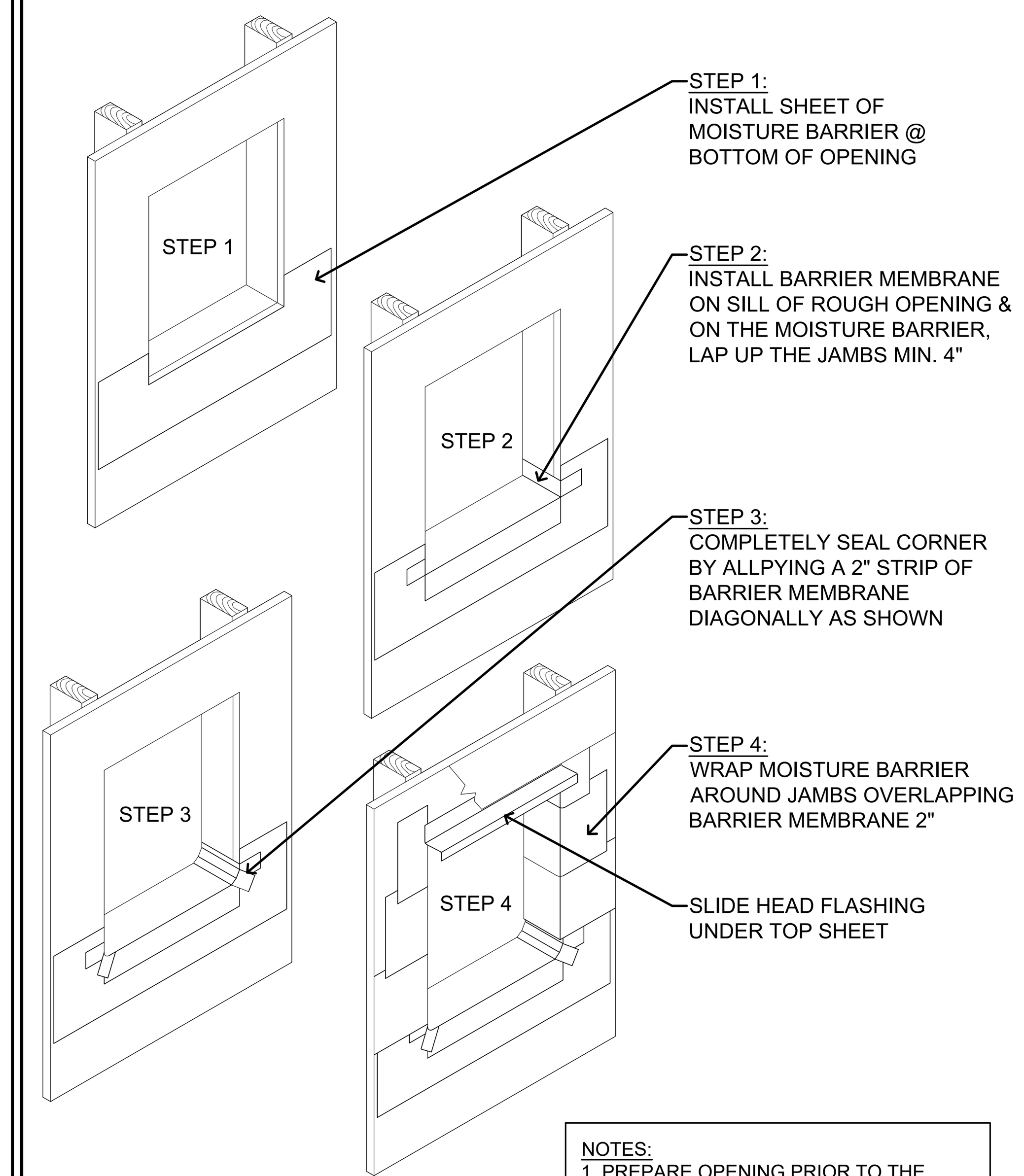
FULL LENGTH/ JACK STUD SCHEDULE	
OPENING WIDTH	
1'-0" TO 4'-0"	(1) JACK STUD EACH END, (2) FULL LENGTH STUD EACH END
4'-1" TO 6'-0"	(1) JACK STUD EACH END, (2) FULL LENGTH STUDS EACH END
6'-1" TO 9'-0"	(2) JACK STUDS EACH END, (3) FULL LENGTH STUDS EACH END
9'-1" TO 12'-0"	(3) JACK STUDS EACH END, (3) FULL LENGTH STUDS EACH END

NOTE:
DBL 2 x12 HEADER MAX. SPAN = 12'-1" ALL OTHER SPANS SHALL BE SPECIFIED

Frame 2x4-Bearing Wall-Header Schedule
N.T.S.

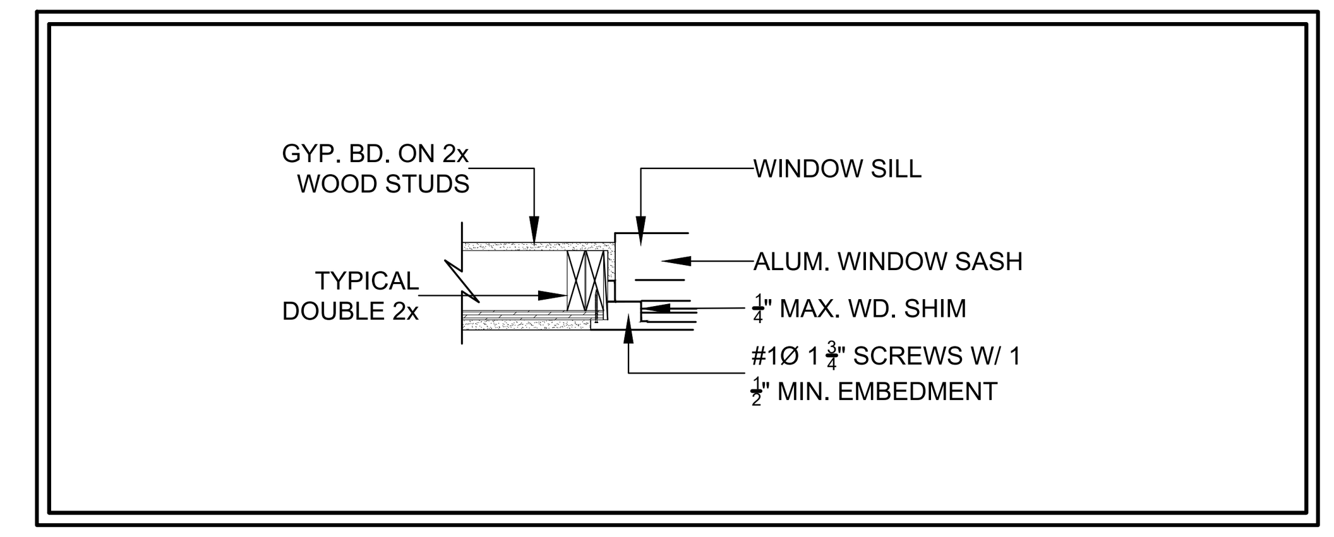
TYPICAL HANGER SCHEDULE

SOLID SAWN JOIST HANGERS:
2x10 -FACE MOUNT- SIMPSON LUS210
2x10 -TOP FLANGE- SIMPSON HU210TF
(2)2x10 -FACE MOUNT- SIMPSON LUS210-2
(2)2x10 -TOP FLANGE- SIMPSON HUS210-2TF

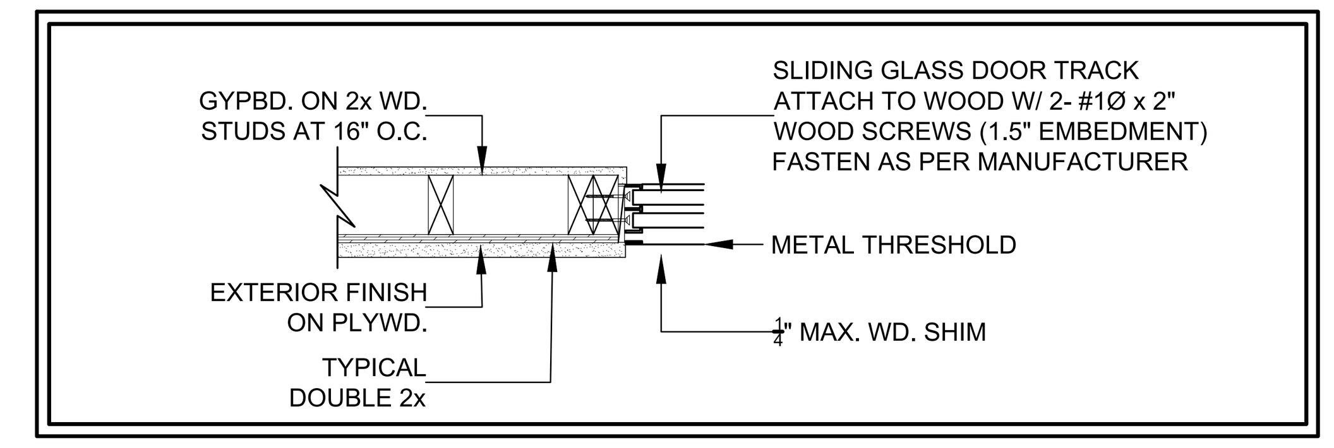


NOTES:
1. PREPARE OPENING PRIOR TO THE INSTALLATION OF THE WINDOW OR MECHANICAL EQUIPMENT. COORDINATE INSTALLATION w/ OTHER SUBTRADES
2. PROVIDE MOISTURE BARRIER & OTHER ASSOCIATED TRIM & ACCESSORIES.
3. PROVIDE FLASHING @ SILL TO DRAIN WATER TO THE EXTERIOR.

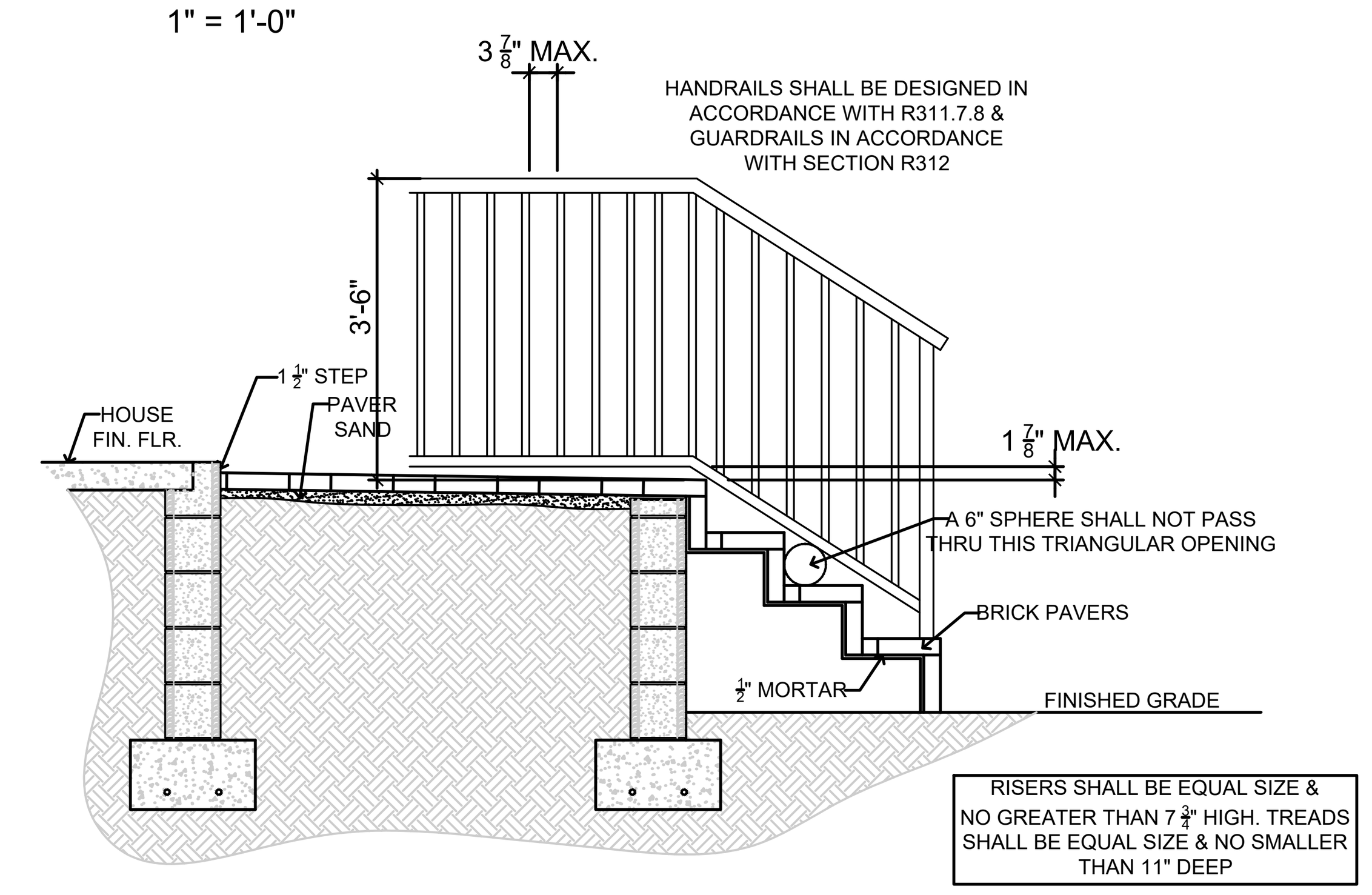
ROUGH OPENING PREPARATION
SCALE: N.T.S.



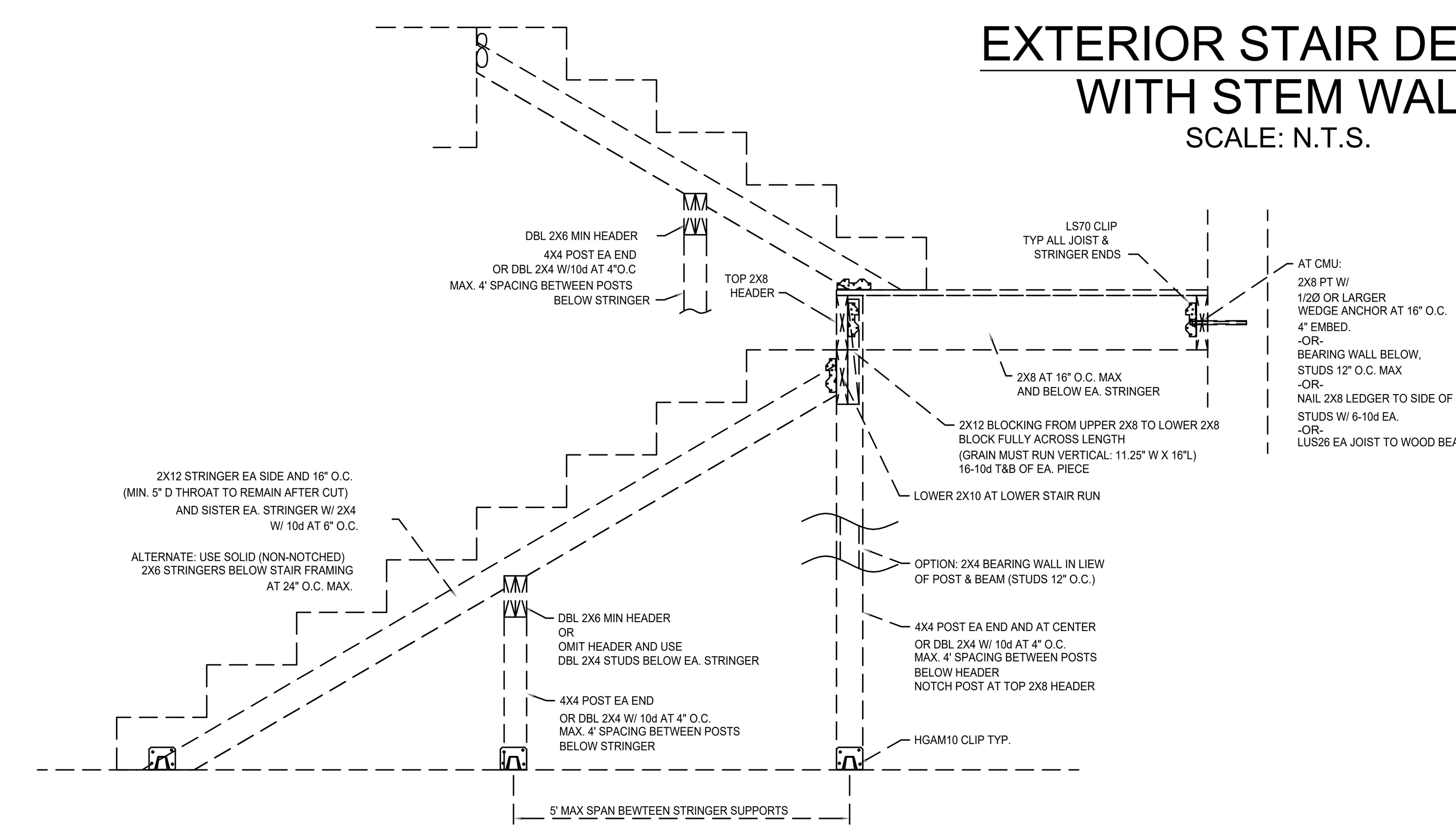
WINDOW JAMB TO WOOD FRAME, HEAD SIMILAR
1" = 1'-0"



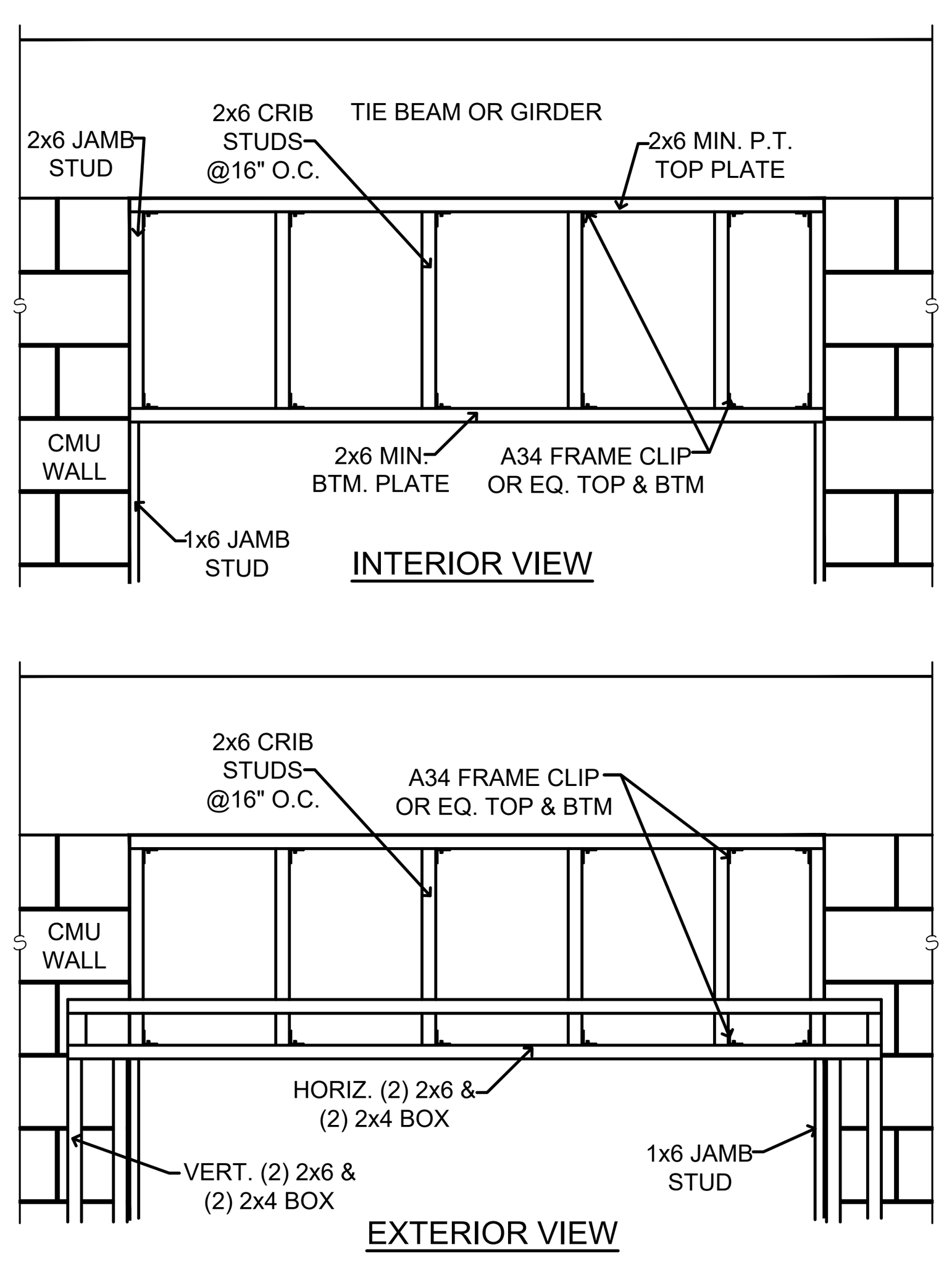
SL. GL. DR. JAMB TO WOOD FRAME, HEAD SIMILAR
1" = 1'-0"

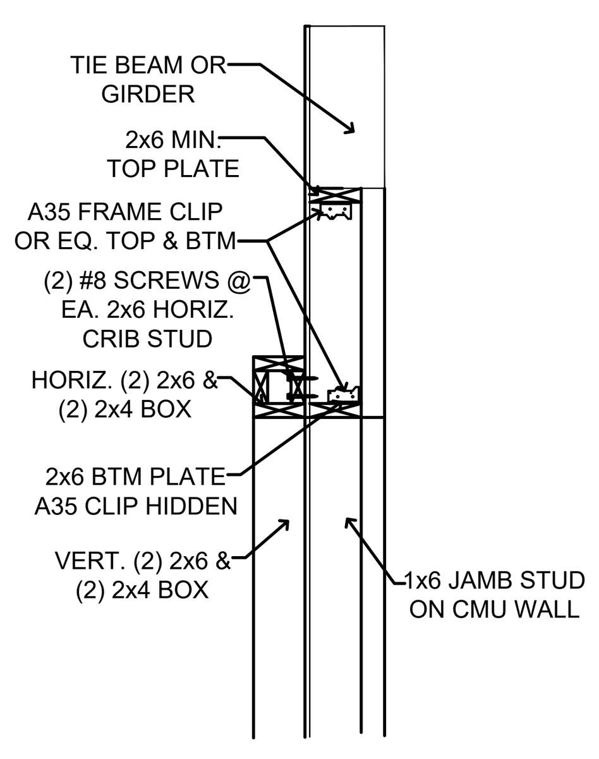


EXTERIOR STAIR DETAIL WITH STEM WALL
SCALE: N.T.S.



TYP. INTERIOR FRAMED STAIRCASE DETAIL
SCALE: N.T.S.





SIDE VIEW

NOTE: IF CRIB STUDS ARE NOT REQ'D, BOX 2x4 ADJACENT TO WALL CONNECTS DIRECTLY TO THE BEAM w/ $\frac{3}{16}$" x 3 ¾" LG. TAPCONS 6" FROM ENDS @ 16" O.C.

NOTE: HORIZ. BOX MAY BE CONSTRUCTED w/ 2x8 IN LIEU OF THE 2x6 MEMBERS IF THE POCKET FOR THE SLIDING GLASS DOOR REQUIRES MORE DEPTH. VERIFY THIS PRIOR TO INSTALLATION.

SLIDING GLASS DOOR POCKET DETAIL
SCALE: N.T.S.

NOTES:
1. ATTACH 2x6 TOP PLATE TO TIE BEAM OR GIRDER w/ $\frac{3}{16}$" X 3 ¾" MIN. TAPCONS STARTING 6" FROM ENDS @ 16" O.C.
2. ATTACH 2x6 BOTTOM PLATE TO CMU WALL EA. END w/ A35 CLIP w/ (4) 10d NAILS IN TOP PLATE & (3) $\frac{3}{16}$" TAPCONS IN CMU WALL. (CLIP MAY BE ON TOP OR BOTTOM OF PLATE).
3. ATTACH 2x6 JAMB STUDS TO CMU WALL w/ $\frac{3}{16}$" x 3 ¾" LG. TAPCONS STARTING 8" FROM TOP @ 16" O.C.
4. ATTACH 1x6 JAMB PLATES TO CMU w/ $\frac{3}{16}$" x 2 ¾" LG. TAPCONS STARTING 8" FROM TOP 16" O.C.
5. ATTACH 2x6 CRIB STUDS TO TOP & BOTTOM PLATES w/ A34 CLIPS w/ (2) 10d NAILS IN CRIB STUD & (2) 10d NAILS IN PLATE.
6. ATTACH 2x4 SIDE PLATE OF BOX ADJACENT TO FACE OF WALL TO CRIB STUDS w/ (2) #8 x 4" LG. WOOD SCREWS PER STUD.
7. ATTACH 2x6PLATES TO 2x4 PLATES IN BOX w/ 16d NAILS STARTING 6" FROM ENDS 16" O.C.
8. VERTICAL BOX ONLY REQUIRED AT END WHERE JAMB STRIP IS ATTACHED. ALSO 2x4 BLOCKS IN VERTICAL BOX ARE NOT REQUIRED TO BE FULL LENGTH.
9. ALL STRUCTURAL LUMBER MUST BE S.Y.P. #2

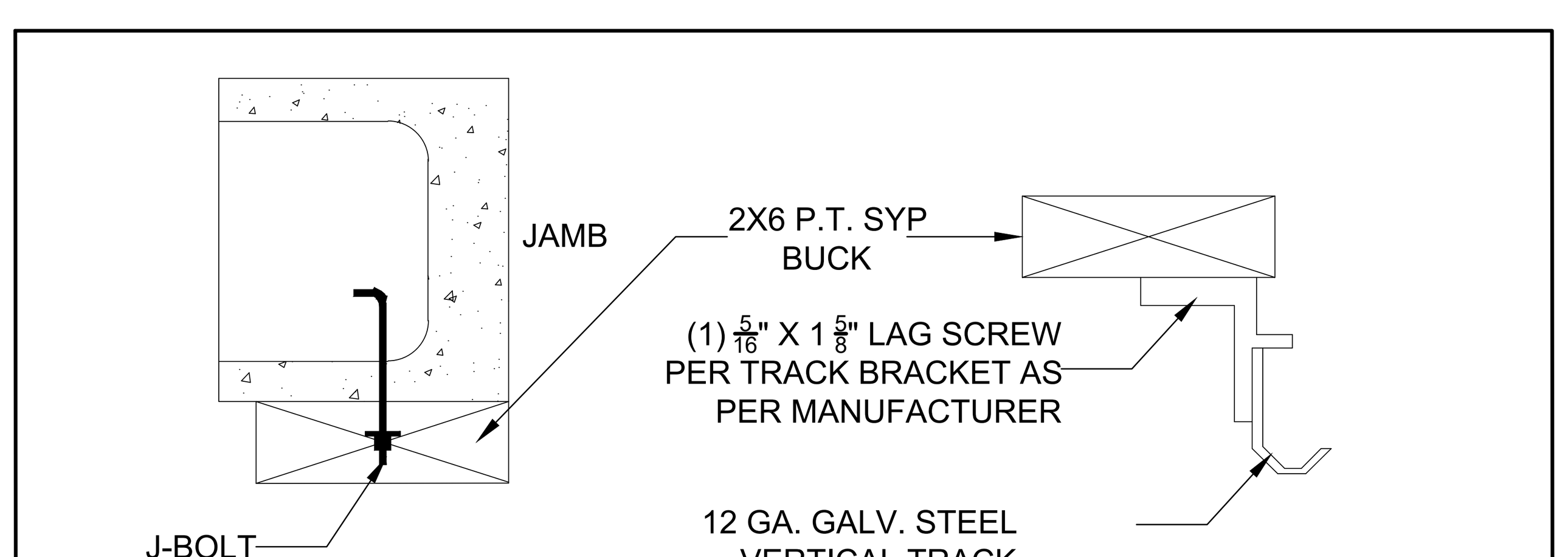
1. CRIPPLE STUDS @ 16" O.C. MAX. (IF NECESSARY) FASTEN w/ (1) SIMPSON LSTA24 STRAP. ATTACH UP FACE, OVER TOP PLATE & NAIL, OR (1) STRAP TOP & BOTTOM FOR WALL HEIGHTS OVER 8 FT.

2. IF FULL SIZE HEADER IS USED IN LIEU OF CRIPPLE STUDS, NO STRAPPING REQ'D EXCEPT AT ENDS. NAIL BOTTOM PLATE TO HEADER w/ (2) ROWS OF 16d NAILS @ 8" O.C.

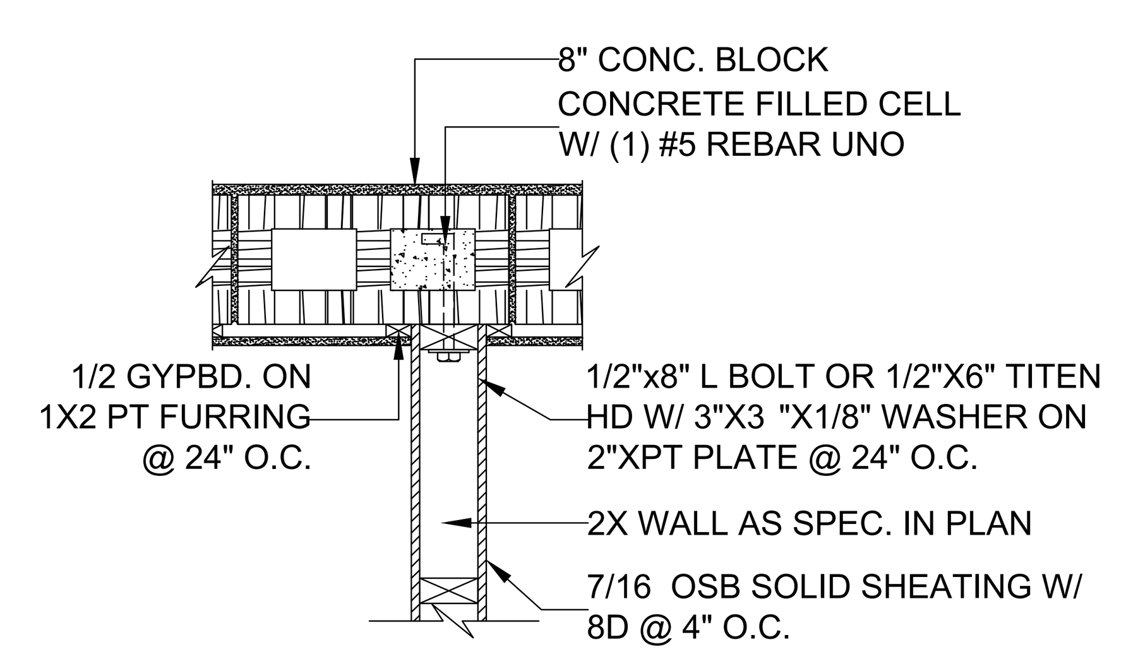
3. RUN TOP PLATE CONTINUOUS OVER STUDS @ WALL, BLOCK ALL SLICES BETWEEN STUDS.

4. EXTERIOR NON-BEARING WALL TO PROVIDE GAP BETWEEN TOP PLATE BOTTOM CORD OF TRUSS. SEE TRUSS MFG. TRUSS PROFILES FOR DEFLECTION SPECIFICATIONS.

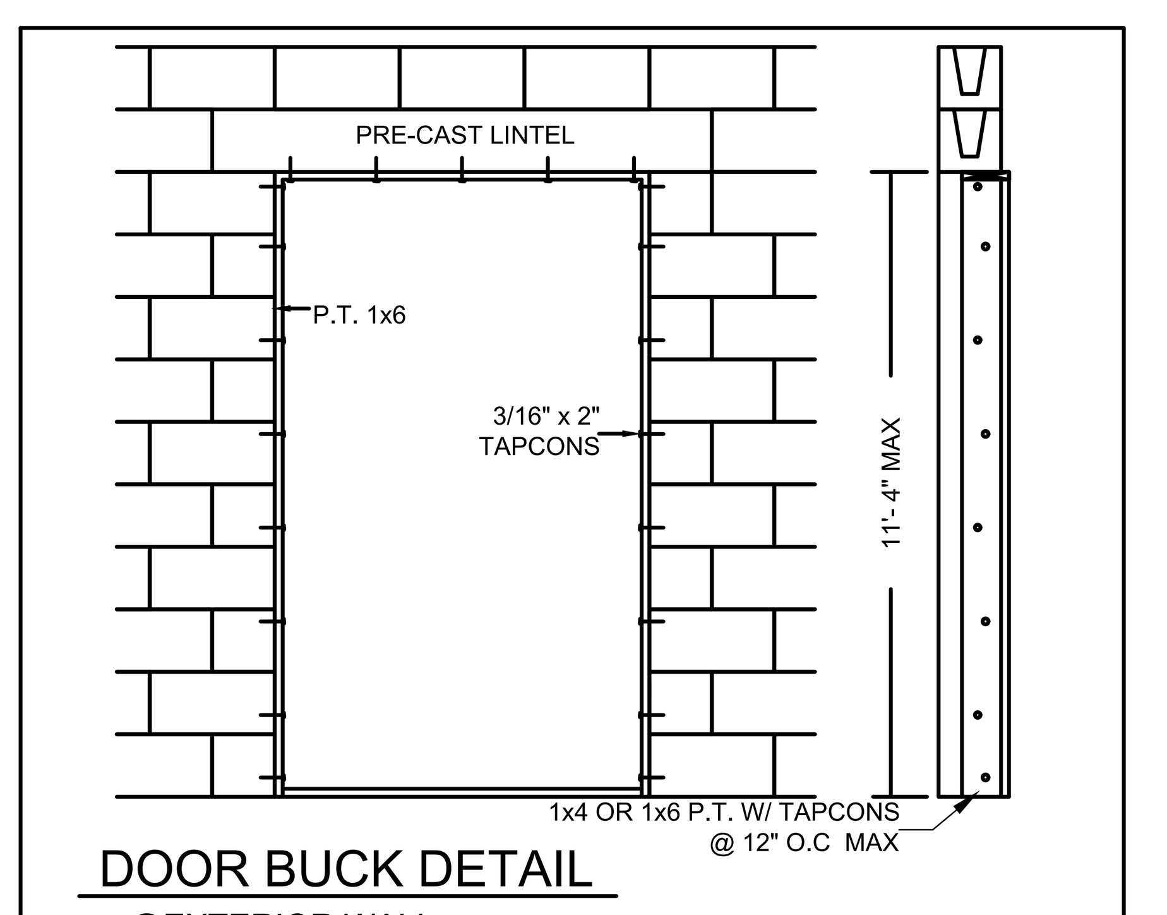
5. UNLESS SPECIFIED OTHERWISE, ALL BEARING, SHEAR & EXTERIOR NON-BEARING WALLS, TRUSS WIND BRACING, BEAMS & HEADERS SHALL BE DOUGLAS FIR-LARCH, HEM FIR OR SPRUCE-PINE-FIR OR EQUAL CONSTRUCTION GRADE OR BETTER
(fB = 850 p.si., Ft = 375 psi, Fv = 70 psi, Fc = 335 psi, Fcll = 1200 psi, E = 1,000,000 psi)
WHEN SPECIFIED SOUTHERN PINE SHALL BE #2 GRADE OR BETTER
(fB = 975 p.si., Ft = 550 psi, Fv = 90 psi, Fc = 480 psi, Fcll = 1350 psi, E = 1,400,000 psi)



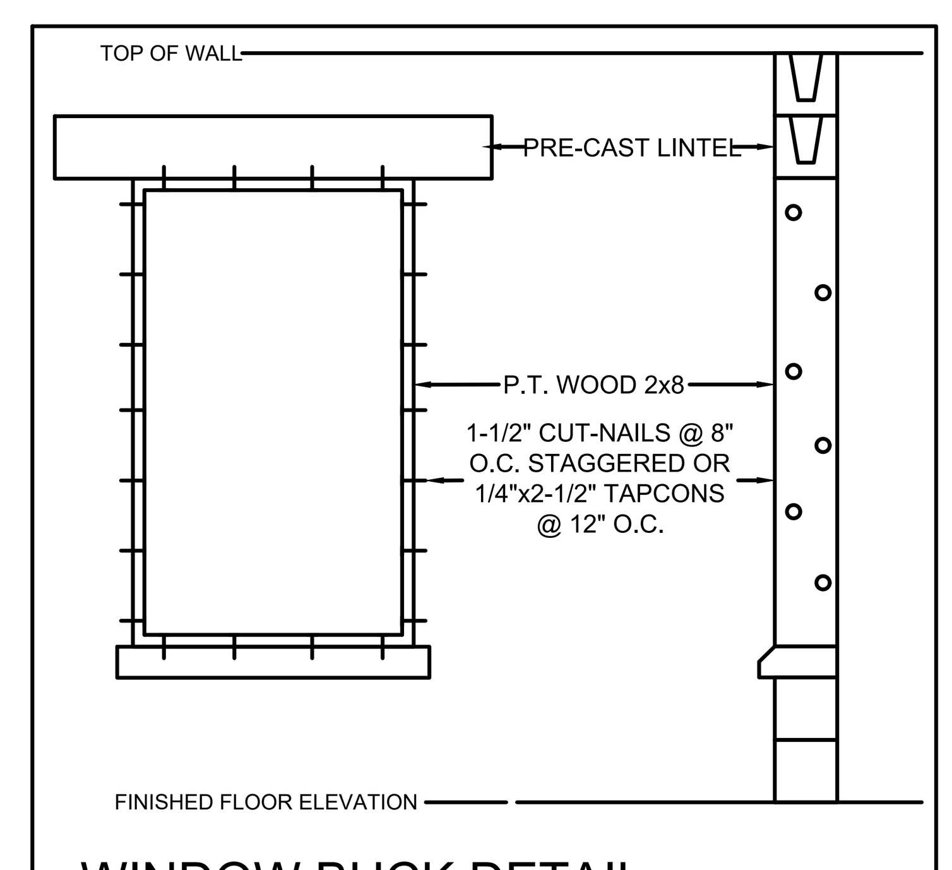
TYP. GARAGE DOOR BUCK & VERTICAL TRACK INSTALLATION
NOT TO SCALE



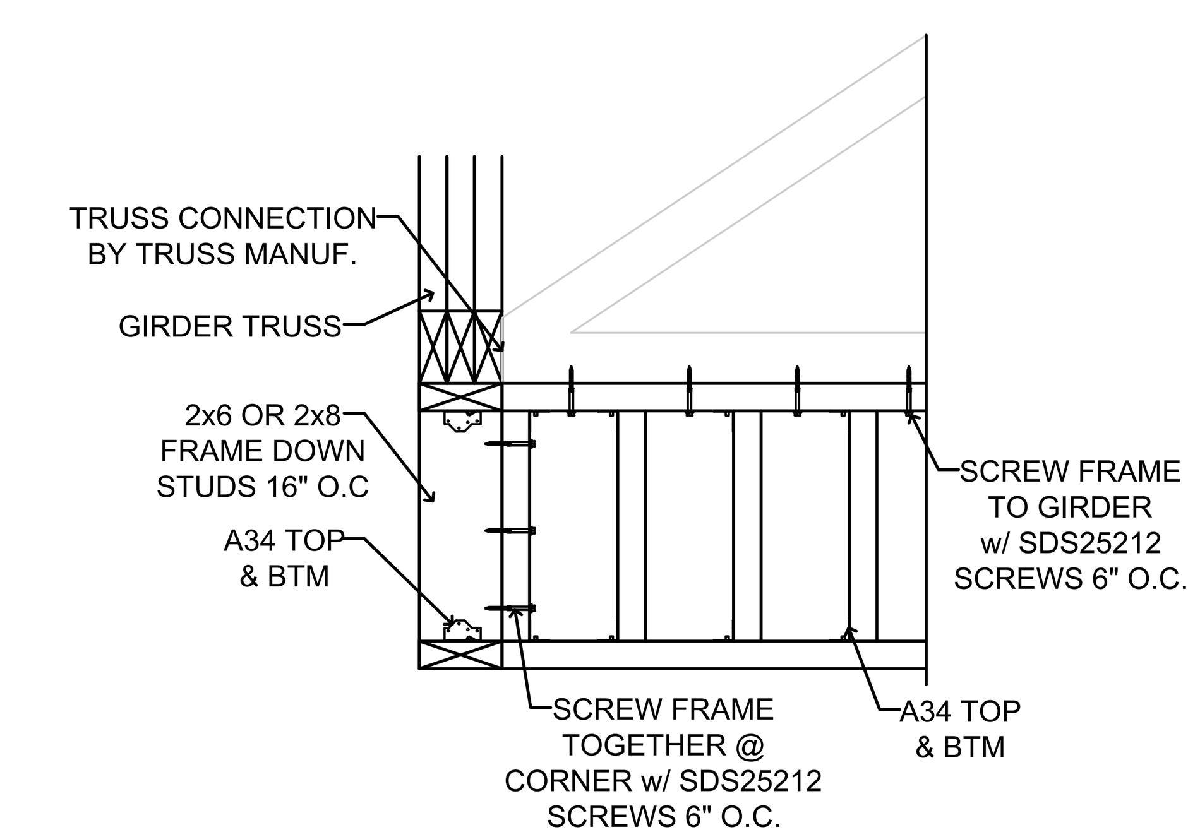
MIXED CONST. DETAIL
NOT TO SCALE



DOOR BUCK DETAIL
@EXTERIOR WALL



WINDOW BUCK DETAIL
@EXTERIOR WALL



FRAMED HEADER DETAIL @ CORNER SLIDER
SCALE: N.T.S.

Digitally signed by Craig E Gunderson
Date: 2023.10.24 10:28:48-04'00'

REV 1:	REV 4:
REV 2:	REV 5:
REV 3:	REV 6:

DRAWN BY: VS
CHECKED BY: SP
PROJECT #: 2324201
SCALE: AS PER PLAN
SHEET TITLE:
DETAILS & NOTES
SHEET NUMBER:
S-8