

STRUCTURAL COVER SHEET

JEFFERSON ELEMENTARY SCHOOL ADDITION AND REMODEL

600 N. FILLMORE STREET JEROME, ID



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 This document is preliminary in nature and is not a final, signed and sealed document

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Revisions	Description	Date
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JEFFERSON ELEMENTARY SCHOOL ADDITION AND REMODEL

600 N. FILLMORE STREET JEROME, ID

DATE: 12/09/22
 LKV PROJECT #: Client Number

DRAWN BY: GT
 CHECKED BY: KF

Project Status

DRAWING NO.:
S0.01
STRUCTURAL COVER SHEET

Sheet List

DWG #	DRAWING TITLE	ORIGINAL SUBMITTAL	REV. #	REV. DATE
S0.01	STRUCTURAL COVER SHEET	12/09/22		
S0.02	STRUCTURAL DESIGN NOTES	12/09/22		
S0.03	STRUCTURAL DESIGN NOTES	12/09/22		
S0.04	STRUCTURAL DESIGN NOTES	12/09/22		
S0.05	SPECIAL INSPECTION TABLES	12/09/22		
S1.10	OVERALL FOUNDATION PLAN	12/09/22		
S1.11	AREA A FOUNDATION PLAN	12/09/22		
S1.12	AREA B FOUNDATION PLAN	12/09/22		
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S5.01	GENERAL CONCRETE DETAILS	12/09/22		
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S5.41	GENERAL WOOD FRAMING DETAILS	12/09/22		
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S8.01	MASONRY ROOF FRAMING DETAILS	12/09/22		

SHOP DRAWINGS

- Shop drawings and material submittals shall be submitted to the Architect and Structural Engineer of Record prior to any fabrication or construction. Electronic submittals shall be made where possible. Any submittals containing hard copies shall include one reproducible and one copy; reproducible will be marked and returned. Additional copies of reviewed shop drawings are the responsibility of the general contractor. No modifications or substitution of drawings and specifications will be accepted via shop drawing review. Contractor shall review and stamp shop drawings prior to submission to the Architect/Structural Engineer. Contractor shall review for completeness and compliance with contract documents including addendum's, clarifications, etc. See also note 7.
- Submit shop drawings to the Architect/Structural Engineer as indicated or specified for review prior to fabrication. Review will be for general conformance with design intent conveyed in contract documents.
- When an engineer is required to sign and stamp shop drawings and calculations, ensure seal indicates engineer as registered in state where project site occurs.
- Shop drawings are not a part of contract documents, therefore, Architect's/Structural Engineer's review does not constitute an authorization to deviate from terms and conditions of the contract. See also note 7.
- Review of submittals by the structural engineer will include checking for conformance with the design concept and general compliance with the information given in the construction documents. It will not include reviews of the accuracy or completeness of items such as quantities, dimensions, weights or thicknesses, fabrication processes, construction means or methods, coordination with the work of other trades, or construction safety precautions. Review of a specific item shall not indicate that the structural engineer has reviewed the entire assembly of which the item is a component. The structural engineer shall not be responsible for any deviations from the construction documents not brought to the structural engineer's attention in writing.
- Submittals processed by the structural engineer are not change orders
- Shop drawings will be rejected for incompleteness, lack of coordination with other portions of contract documents, lack of calculation (if required), or where modifications or substitutions are indicated without prior review per paragraph A above. Resubmittals shall be clouded and dated for all changes to the submittal. Only clouded portions of resubmittal will be reviewed and Structural Engineer of Record's review stamp applied to only these areas.
- Submit shop drawings and calculations to governing code authority when specifically indicated or requested.
- Maintain a copy of all shop drawings reviewed by the Architect/Structural Engineer at site during construction period.
- Structural Engineer requires 10 working days after receipt of shop drawings and calculations for processing.
- As a minimum shop drawing submittals shall include the following items plus, additional items listed in the project specifications for structural review, but not be limited to:
 - A. Construction sequence description
 - B. Contractor Quality Control testing procedures when required in specifications
 - C. Concrete mix designs
 - D. Concrete construction joint plans
 - E. Concrete reinforcing bar shop drawings and placing plans
 - F. Reinforcing bar mill certificates shall be available upon request
 - G. Concrete accessories material specification, size and location
 - H. Precast concrete members shown on structural documents
 - I. Non-shrink grout material specifications and manufacturer's installation recommendations
 - J. Masonry materials and mix designs
 - K. Masonry reinforcing bar shop drawings and placing plans.
 - L. Masonry veneer out-of-plane anchorage system
 - M. Fabrication shop AISC Certification or statement of equivalent testing and inspection procedures.
 - N. Structural steel mill certificates shall be available upon request
 - O. Structural steel shop and erection drawings
 - P. Welding Procedure Specifications and certifications
 - Q. Metal deck material submittal
 - R. Metal deck and accessories layout
 - S. Open web steel joist layout, accessories, and calculations
 - T. Glued laminated members (certificates shall be on site and be available upon request)
 - U. Engineered wood beams (certificates shall be on site and be available upon request)

GENERAL

- The Contractor shall verify all dimensions prior to starting construction. The Architect shall be notified of any discrepancies or inconsistencies.
- Summary of Work: Project consists of new construction as shown on these Contract Documents used in coordination with the Architectural and other discipline's documents. See also note 7.
- Warranty: The EOR has used the degree of care and skill ordinarily exercised under similar circumstances by members of the profession in this locale and no other warranty, either expressed or implied, is made in connection with rendering professional services.
- Structure noted in the drawings as existing or by others, shall be field verified by the contractor and any discrepancies noted shall be reported to the Architect/Structural Engineer.
- Construction documents include but are not limited to: drawings, plan notes, typical details, general notes, custom details, specifications, etc. In addition to those prepared by other disciplines.
- Do not scale the drawings for dimensions not shown.
- Notes and details on the drawings shall take precedence over general notes, typical details, and the project specifications. Where discrepancies between specifications and drawings occur, use the more stringent requirement.
- Typical details and schedules indicated may not be specifically referenced on the drawings. The contractor is responsible to determine where each typical detail or schedule applies. If locations are found where no typical detail, typical schedule, or specific detail applies, notify the Architect/Structural Engineer. Drawings indicate general and typical details of construction. Typical details and general notes shall apply even if not specifically denoted on plans, uno. Where conditions are not specifically indicated similar details of construction shall be used, subject to review and approval by the Architect and the Structural Engineer of Record.
- The contract Structural drawings and specifications represent the finished structure. They do not indicate the method of construction. Contractor to provide construction means, methods, techniques, sequences and procedures as required. Contractor to provide adequate excavation procedures, shoring, bracing and erection procedures complying with national, state and local safety ordinances. The Contractor shall provide all measures necessary to protect the structure during construction. Such measures shall include, but not be limited to: bracing and shoring for loads due to hydrostatic, earth, wind or seismic forces, construction equipment, temporary loading, etc.
- Observation visits (site visits) by representatives of Architect/Structural Engineer do not include inspection of construction means and methods. Site visits during construction are not continuous nor detailed inspection services which are to be performed by others. Observations are performed solely for the purpose of determining if the Contractor understands design intent shown in the contract drawings. Observations do not guarantee Contractor's performance and are not to be construed as supervision or verification of construction.
- Notify the Structural Engineer prior to constructing or fabricating, when drawings by others show openings, pockets, etc., not shown on the structural drawings, but which are located in the structural members.
- Products that require a report on code compliance shall have an ICC-ES or IAPMO report evaluated for the above listed governing building code. Where required by the governing jurisdiction, a submittal as an alternate material and method is required for all reports evaluated to an earlier edition of the IBC. Reports evaluated to codes other than the above listed code are not permitted, unless allowed by the governing jurisdiction.
- Contractor shall investigate the site during clearing and earth work operations for filled excavations or buried structures such as cesspools, cisterns, foundations, utilities, etc. If any such structures are found, the Structural Engineer shall be notified immediately.
- Construction materials shall be spread out when placed on framed floors or roofs. The construction material load shall not exceed the design live load per square foot. Provide adequate shoring and/or bracing where structure has not attained design strength.
- See the architectural drawings for the following: Size and location of door and window openings, size and location of interior and exterior non-bearing partitions, size and location of concrete curbs, floor drains, slopes, depressed areas, changes in level, chamfers, grooves, inserts, size and location of floor and roof openings, floor and roof finishes, stair framing and details, dimensions not shown on the structural drawings, ceiling assemblies, exterior wall assemblies, etc.
- See mechanical, plumbing, and electrical drawings for the following: Pipes, sleeves, hangers, trenches, wall, floor, and/or roof openings, duct penetration, electrical conduit runs, boxes, outlets in walls and slabs, concrete inserts for electrical, mechanical or plumbing fixtures, size and location of machine or equipment bases, anchor bolts for mounts, etc., except as shown or noted. See also note 13.
- For mechanical and electrical equipment anchorage that is to be designed by others, see IBC section 1613 and ASCE 7 chapter 13. Use isolators, fasteners and bracing approved by ICC-ES or approved third party capable of transmitting code required lateral loads. Secure suspended equipment with lateral bracing.
- For piping and ductwork bracing to be designed by others, see the latest edition of "Guidelines for Seismic Restraints of Mechanical Systems" by the Sheet Metal and Air Conditioning Contractors National Association.

ABBREVIATIONS

AB.	Anchor Bolt	L.W.	Light Weight
ACI	American Concrete Institute	MFR.	Manufacturer
ADD.	Addition	M.	Bending Moment
ADD'L	Additional	MSTL.	Moment
AFF.	Above Finish Floor	MAX.	Maximum
AGGR.	Aggregate	MB.	Machine Bolt
AIA	American Institute of Architects	MECH.	Mechanical
AISC	American Institute of Steel Construction	MED.	Medium
ASIS	American Iron and Steel Institute	MEZZ.	Mezzanine
AL.	Alternate	MIN.	Minimum
ANSI	American National Standards Institute	MISC.	Miscellaneous
APA	American Plywood Association	MIX.	Mixture
APPROX.	Approximate	MK.	Mark
ARCH.	Architect or Architectural	ML.	Micro Lam
ASTM	American Society for Testing and Materials	MULT.	Multiple
AVG.	Average	N	North
AWIS	American Welding Society	NF.	Near Face
BOTT.	Bottom	NO. or #	Number
BD.	Board	NOAL.	Nominal
BLDG.	Building	NTS.	Not to Scale
BLDG.	Blocking	NS.	Near Side
BOD. or BO DECK	Bottom of Deck	OC.	On Center
BPL.	Base Plate	OD.	Outside Diameter
BRG.	Bearing	OPP.	Opposite
C	Channel	ORIG.	Original
CG.	Center of Gravity	OSB	Oriented Strand Board
CF.	Cubic Foot	OVS.	Oversized
COORD.	Coordinate	OWSJ	Open Web Steel Joist
CFS	Cold Formed Steel	PAF.	Powder Actuated Fastener
CJ.	Control Joint	PAR.	Parallel
CJP.	Complete Joint Penetration	PCF.	Pounds Per Cubic Foot
CL.	Center Line	PEMB	Pre-Manufactured Building
CLR.	Clear	PEN.	Penetration
COL.	Column	PERM.	Permanent
CONC.	Concrete	PERP.	Perpendicular
CONN.	Connection	PL.	Plate
CONSTR.	Construction	PP.	Partial Pen.
CONT.	Continuous	PROJ.	Project
CMU	Concrete Masonry Units	PS.	Pounds Per Square Foot
CY.	Cubic Yard	P.T.	Post Tension, Post Tensioned
		P.T.	Pressure Treated
DIAG.	Diagonal	QTR.	Quarter
DLA	Diameter		
DM.	Dimensions	RAD. or R.	Radius
DF-L	Douglas Fir-Larch	REC.	Recommendation(s)
DWG.	Drawing	REC.	Reference
E	Each	REF.	Reinforce, Reinforced,
EA.	East	REFD.	Reinforcement or Reinforcing
EB.	Expansion Bolt	RESUM.	Resumed
EJ.	Expansion Joint	REV.	Revised or Revision
ELEC.	Electric or Electrical	RM.	Room
EL. or ELEV.	Elevation of Elevator	RO.	Rough Opening
ENG.	Engineer	S	South
EQD. or EO DECK	Edge of Deck	SCHED.	Schedule
EOR.	Engineer of Record	SF.	Strut Force
EN.	Edge Nail (Nailing)	SHTG.	Shathing
EQ.	Equal	SH.	Shim
EQUIP.	Equipment	SK.	Sketch
EST.	Estimate	SPECS.	Specifications
EXIST. / (E)	Existing	SS.	Stainless Steel
EXT.	Exterior	SSTL.	Sheet Piled Hole Transverse
FAB.	Fabrication		to Direction of Load
FD.	Floor Drain	STD.	Standard
FF.	Fat Face	STR.	Strap
FIN.	Finish	STRUCT.	Structural
FLR.	Floor	SYM.	Symmetrical
FND.	Foundation	T&G	Tongue and Groove
FS	Fat Side	T&NB	Top and Bottom
FT. or'	Feet or Foot	TAN.	Tangent
FTG.	Footing	THK.	Thick
		THRU.	Through
GALV.	Galvanize	TJI	Truss Joist I-Joist
GC.	General Contractor	TO.	Top Of
GEN.	General (Notes)	TOC. or TO CONC.	Top of Concrete
GLB.	Glue Lamin Beam	TOP. or TO FTG.	Top of Footing
GR. or GRD.	Grade	TOL.	Tolerance
GRND.	Ground	TOM. or TO MASONRY	Top of Masonry
HD.	Hold-down	TOS. or TO STL.	Top of Steel
HORIZ.	Horizontal	TOW. or TO WALL	Top of Wall
ID.	Inside Diameter	TRANV.	Transverse
IF.	Inside Face	TYP.	Typical
IN. or"	Inches	UNO.	Unless Noted Otherwise
INCL.	Included or Included	VERT.	Vertical
JNT.	Joint	V.I.F.	Verify in the Field
K	Kip (1,000 lbs.)	VOL.	Volume
KO.	Knockout	W	West
LESK	LOCHSA ENGINEERING SKETCH	WF	Wide Flange
LAM.	Laminated	WP.	Work Point
L.	L	WT.	Weight
L.H.E.	Low Hydrogen Electrode	X-HVY	Extra Heavy
LLBB	Long Back To Back	X-S	Extra Strong
LLH	Long Leg Horizontal	YD.	Yard
LLV	Long Leg Vertical	ZL	Double Angle
LOC.	Locations		
LONG.	Longitudinal		
LVL.	Laminated Veneer Lumber		

SYMBOL LEGEND

SLOPE → Slope Direction (down / up)

← Span Direction

↖ 99'-0" Miscellaneous Elevation

↖ 99'-10" Floor or Steel Elevation

— Rigid Connection

▨ Masonry (CMU) Wall

▤ Concrete Wall

▧ Earth

— New Construction

--- Existing Construction

--- Existing Construction Beyond

Elevation Reference

Section Cut

LFRS Lateral Force Resisting System

Fastener Notation

Quantity

(2) 1 1/4"x3"

Fastener Length

Fastener Diameter Size

Symbols for Concrete per ACI

AT Spacing - Center to Center

Direction in Which Bars Extend

Limits of Area Covered By Bars or Post Tension

Symbols for Structural Steel per AISC

Brace Up

Brace Frame

Brace Down

Change (Step) in Elevation

Slip Critical Connection

Number of Bolts per Row

Number of Rows

Revision Cloud and Number

Number of Nelson Studs required

Camber size

W12x19 [10] c=3/4"

AISC beam designation

Depth of steel joist

14K Series of steel joist

Welding symbols per AWS

STRUCTURAL LOADS

SNOW LOADS:		
Ground Snow Load	Pg = 30 psf	
Importance Factor	Is = 1.1	
Exposure Factor	Ce = 1.0	
Flat Roof Snow Load	Pf = 23.10 psf	
Thermal Factor	Ct = 1.00	
Snow Drifts	As indicated on drawings.	
WIND LOADS:		
Basic Wind Speed	Vult = 109 mph	
	Vasd = 85 mph	
Risk Category	-	
Exposure	C	
Internal Pressure Coefficient	GCp1 ± 0.18	
WIND BASE SHEAR (ASD):		
Wind X (East-West)	X kips	Wind Y (North-South) X kips
SEISMIC LOADS:		
Risk Category	-	
Importance Factor	Ie = 1.25	
Soil Site Class	C	
Mapped Spectral Response Acceleration		
SS = 0.174 g	S1 = 0.08 g	
SOIL FACTOR COEFFICIENTS:		
Fa = 1.3	Fv = 1.5	
SPECTRAL RESPONSE COEFFICIENT:		
SDS = 0.151 g	SD1 = 0.08 g	
SEISMIC DESIGN CRITERIA:		
Seismic Response Coefficient:	CS = 0.943	
Seismic Design Category	B	
Analysis Procedure	Equivalent Lateral Force (ELF) Procedure	
Structural System	Ordinary Reinforced Masonry Shear Walls	
Response Modification Factor	2.0	
Tabulated Overstrength Factor	2.5	
SEISMIC BASE SHEAR (ASD):		
Seismic X (East-West)	X kips	Seismic Y (North-South) X kips
ADDITIONAL ITEMS:		
Building Location	42.729017, -114.507928	
Mean Building Height	25 feet	
REDUNDANCY FACTORS:		
North/South Direction	rho = 1.0	
East/West Direction	rho = 1.0	
ROOF LIVE LOADS:		
Roof Live Load	20 psf (reducible)	
SCHOOL LIVE LOADS:		
Concentrated Loads (All Conditions)	1000 lbs	
Gymnasium, Main Floor and Balconies	100 psf (non-reducible)	
STORAGE LIVE LOADS:		
Light Storage	125 psf (non-reducible)	
Heavy Storage	250 psf (non-reducible)	
MISCELLANEOUS LIVE LOADS:		
Marquees	75 psf (Except one and two family dwellings)	
Guardrails/Balcony Rails	50 pfl or 200lbs.	
Mechanical Equipment	Weights Furnished by Manufacturer	

CONCRETE

- All aspects of work pertaining to the concrete construction shall be in accordance with ACI 318-14, 'Building Code Requirements for Structural Concrete' and the latest edition of 'Specifications for Structural Concrete for Buildings', ACI 301, with modifications as noted on the project drawings and/or specifications.
- Concrete mix designs shall be submitted to the Structural Engineer for review. All mix designs shall be designed by a qualified testing laboratory and shall be wet stamped by a Civil Engineer licensed in the State of ID. Base design mix per compliance requirements of ACI 318-14 Section 26.4.
- Portland cement shall conform to ASTM C150 Type I or II concrete minimum, use Type V where the concrete is in contact with soil and to a height 12' min. above the soil. Concrete that will be exposed to sulfate - containing solutions shall comply with IBC Section 1904.3. Severe (S2) and Very Severe (S3) sulfate exposures as identified in the project geotechnical report, the water cement ratio shall not exceed 0.45 and shall not exceed 0.50 for Moderate (S1) sulfate exposure. Type II cement shall be used at all other locations in the structure.
- Fly ash may be used in concrete mixes. The fly ash shall conform to ASTM C618 Class F. The loss of ignition shall be limited to 2%. The addition rate for fly ash shall be limited to 15% of the cement weight. The contractor shall submit all certificates showing the fly ash is in accordance with the above criteria.
- Do not use concrete or grout containing chlorides.
- All concrete exposed to freeze - thaw cycles shall contain 6% +/- 1% of entrained air.
- Hard rock concrete - aggregate shall conform to all requirements and tests of ASTM C33 and project specifications. Exceptions may be used only with approval of the Structural Engineer. Provide concrete mix design with proven shrinkage characteristics of less than 0.0005 inches/inch. Lightweight concrete - aggregate shall be in accordance with ASTM C330 and project specifications. Lightweight concrete mix designs shall be tested prior to approval, for shrinkage in accordance with ASTM C157. Shrinkage shall not exceed 0.0005 inches / inch.

8. Structural concrete 28-day strengths & types are as follows:

Location of Concrete	Strength, psi	Type	EXPOSURE CATEGORY/CLASS*			
			F#	S#	W#	C#
Lean Mix	3000	Hard Rock	F0	S0	W1	C1
Footings	4000	Hard Rock	F0	S0	W1	C1
Stern Walls	3500	Hard Rock	F1	S1	P0	C0
Slab on Grade (Lowrise)	4000	Hard Rock	F0	S0	W1	C1

*Table 19.3.1.1 - Exposure Categories and Classes

Category	Class	Condition	
Freezing and thawing (F)	F0	Concrete not exposed to freezing-and-thawing cycles	
	F1	Concrete exposed to freezing-and-thawing cycles with limited exposure to water	
	F2	Concrete exposed to freezing-and-thawing cycles with frequent exposure to water	
	F3	Concrete exposed to freezing-and-thawing cycles with frequent exposure to water and exposure to deicing chemicals	
Sulfate (S)	S0	Water-soluble sulfate (SO ₄ ²⁻) in soil, percent by mass (1)	Dissolved sulfate (SO ₄ ²⁻) in water, ppm(2)
	S1	0.10 ≤ SO ₄ ²⁻ < 0.20	150 ≤ SO ₄ ²⁻ < 1500 or seawater
	S2	0.20 ≤ SO ₄ ²⁻ ≤ 2.00	1500 ≤ SO ₄ ²⁻ ≤ 10000
	S3	SO ₄ ²⁻ > 2.00	SO ₄ ²⁻ > 10000
In contact with water (W)	W0	Concrete dry in service Concrete in contact with water and low permeability is not required	
	W1	Concrete in contact with water and low permeability is required	
Corrosion protection of reinforcement (C)	C0	Concrete dry or protected from moisture	
	C1	Concrete exposed to moisture but not to an external source of chlorides	
	C2	Concrete exposed to moisture and an external source of chlorides from deicing chemicals, salt, brackish water, seawater, or spray from these sources	

POST INSTALLED MECHANICAL ANCHORS

- Mechanical anchors shall not be installed without prior approval of engineer unless specifically detailed on the drawings.
- Over-drill as indicated by the Anchor Manufacturer, and to the depth indicated on the structural drawings.
- Clean hole per manufacture requirements.
- The following expansion type anchors are structurally acceptable for use in uncracked, cracked, and seismic concrete applications:
 - Simpson Strong-Bolt 2 Wedge Anchor – ICC ESR-3037
 - Hilti Kwik Bolt TZ – ICC ESR-4266
 - Dewalt Power-Stud+ SD2, SD4, SD6 – ICC ESR-2502
- The following expansion type anchors are structurally acceptable for use in fully grouted masonry:
 - Hilti Kwik Bolt 3 – ICC ESR-1385
 - Dewalt Power-Stud+ SD1 – ICC ESR-2966
- The following screw type anchors are structurally acceptable for use in uncracked, cracked, and seismic concrete applications:
 - Simpson Titen HD – ICC ESR-2713
 - Hilti KH-EZ – ICC ESR-3027
 - ITW RedHead Tapcon – ICC ESR-2202
 - Dewalt SCREW-BOLT+ – ICC ESR-3889
- The following drop in type anchors are structurally acceptable for use in uncracked, cracked, and seismic pt and hollow plank concrete applications:
 - Hilti HDI-P TZ – ICC ESR-4236
 - Dewalt Mini-Undercut + – ICC ESR-3912
- The following screw type anchors are structurally acceptable for use in fully grouted masonry:
 - Simpson Titen HD - ICC ESR-1056
 - Hilti KW-EZ - ICC ESR-3056
 - DeWalt SCREW-BOLT+ - ICC ESR-4042
- Installation and inspection of post installed anchors shall be performed as required by ICC reports and manufacturer's instructions.

- The modulus of elasticity of concrete, shall be tested in accordance with ASTM C469 for framed concrete slabs and beams and shall be at least the value given by the equations in section 19.2.2.1 of ACI 318 for the specified concrete 28-day strength.
- All concrete shall be ready mix concrete and shall be mixed and delivered in accordance with ASTM C94 or ASTM C685.
- Dry pack or grout under baseplates, sill plates, etc., see specifications. Strength requirements are as required for concrete. Minimum grout strength shall be $f_c = 7,000$ psi.
- Concrete forms shall be laid out and constructed to provide the specified cambers indicated on the structural drawings.
- Submit shop drawings to Architect/Structural Engineer indicating locations of concrete joints for review prior to placing concrete. Place joints at locations to minimize effects of shrinkage as well as being placed at points of low stress.
- Concrete placement shall be in accordance with ACI standard 304 and project specifications. Provide keys in construction joints unless detailed otherwise. Thoroughly clean, remove lances and thoroughly wet and remove standing water in construction joints before placing new concrete. At vertical joints, slush with a coat of neat cement before placing new concrete.
- Roughen concrete surface to a full amplitude of 1/4 inch where masonry walls intersect concrete or where new concrete interfaces with existing concrete.
- If columns and walls are placed with a floor, two hours must elapse between end of column or wall placement and beginning of the floor placement.
- Clear coverage of concrete over reinforcing bars shall be as follows:

Location of Concrete	Minimum Concrete Cover
Concrete cast against and permanently exposed to earth	3"
Concrete exposed to earth or weather: #8 through #18 bar #5 bar and smaller	2" 1 1/2"
Concrete not exposed to weather or in contact with ground, UNO:	
Slabs, Walls, Joist: #14 and #18 bar, #11 bar and smaller.	1 1/2" 3/4"
Beams, Columns: Primary reinforcing, ties stirrups, spirals	1 1/2"
Slab on grade:	2" clear from top
Precast concrete (Manufactured under plant control conditions):	See ACI 318-14 Table 20.6.1.3.3
Prestressed concrete coverage:	See ACI 318-14 Table 20.6.1.3.2

- Prior to concrete placement, all reinforcing bars, anchor bolts and other concrete inserts shall be well secured in position.
- Mechanical pipes or electrical conduit shall not pass through concrete columns or beams unless specifically detailed.
- Unless otherwise indicated in the mechanical or electrical drawings or project specifications, mechanical pipes and electrical conduits which pass through slab on grade, concrete on steel deck, framed concrete floors and walls do not require sleeves. If sleeves are required, the sleeves shall be installed prior to placing concrete. Do not cut any reinforcing which may interfere with sleeve placement. Coring openings in concrete is not permitted. Notify the Structural Engineer in advance of conditions not shown on the structural drawings.
- With the exception of slabs on grade and concrete on steel deck, the outside diameter of mechanical pipes and/or embedded electrical conduits (other than those passing through) shall not exceed 1/3 of the slab thickness and shall be centered between the top and bottom reinforcing, unless specifically detailed otherwise. Concentrations of mechanical pipes and/or electrical conduits shall be avoided except where detailed openings are provided. Conduit and pipe shall be spaced at 3" or 3 diameters on center, whichever is larger.
- For slabs on grade and concrete on steel deck no pipes or conduits shall be placed within the indicated concrete slab thickness and shall be located below the slab unless specifically detailed otherwise.
- The projecting corners of columns, beams, and walls, etc., shall be formed with a 3/4 in. chamfer, unless otherwise noted on architectural drawings or specifications.
- Maintain concrete above 50 degrees Fahrenheit and in a moist condition for a minimum of 7 days after placement unless otherwise accepted by Architect/Structural Engineer.
- Any curing compounds used on concrete that is to receive a resilient tile finish shall be approved by the Finish Applicator before use.
- Contractor to coordinate floor flatness and levelness with architectural drawings and/or equipment manufacturer's requirements.

REINFORCING STEEL (FOR CONCRETE AND MASONRY)

- All reinforcing steel shall be detailed and placed in accordance with the 'Building Code Requirements for Reinforced Concrete' (ACI 318) and the Manual of Standard Practice for Reinforced Concrete Construction' by CRSI and WCRSI as modified by the project drawings and specifications.
- Deformed reinforcing bars shall conform to the requirements of ASTM A615 grade 60 and ASTM A706 grade 60 for deformed weldable bars.
- Welding of reinforcing is permitted only where shown on the drawings or when approved by the structural engineer. Welding of reinforcing bars shall be with low hydrogen electrodes in accordance with the 'Recommended Practices for Welding Reinforcing Steel, Etc.', American Welding Society, AWS D1.4 and IBC table 1704.4.1 all reinforcing to be welded shall conform to ASTM A706 grade 60 uno.
- All reinforcing bar bends shall be made cold.
- Lap splices made at locations other than those specifically indicated on the drawings shall require approval by engineer prior to any fabrication or construction activities.
- Reinforcing dowels between footings and walls or columns shall be the same number, size, spacing and grade as the specified vertical reinforcing, uno.
- All reinforcing bars shall be marked so their identification can be made when the final in-place inspection occurs.
- Welded wire fabric shall conform to ASTM A185.
- Minimum lap of welded wire fabric shall be 6 inches or one full mesh and one half, whichever is greater.
- In addition to all the reinforcing steel indicated on the drawings, the contractor shall provide for an allowance of two tons of reinforcing bars to be furnished, fabricated and placed during the progression of work as may be directed by the Structural Engineer.
- Submit shop drawings to structural engineer: Placing drawings that detail fabrications, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

DEFERRED / DELEGATED STRUCTURAL COMPONENTS

- Components referred to as Deferred Structural Components shall comply with these notes. These elements have not been permitted under the base building application. The contractor will be required to submit the component system documents to the building official for approval. The documents shall be stamped and signed by a structural engineer licensed by the state where the project is located. The deferred structural components shall not be installed until the design and submittal documents have been approved by the building official.
- Prior to building department submittal, the deferred structural components submittals shall receive cursory review by Structural Engineer of Record for loads imposed on primary structure and general conformance with design concept of the project and general compliance with the information given in the Structural Contract Documents. Review of submittals does not constitute approval or acceptance of unauthorized deviation from Contract Documents.
- Submittals of contractor-designed components shall include the designing structural engineer's stamp and signature, as noted above. The submittal shall be approved by the component vendor prior to review by the Structural Engineer of Record.
- The designing professional is responsible for code conformance and all necessary connections not specifically called out on architectural or structural contract documents.
- Submittals shall include details of connections to primary structure that indicate magnitude and direction of all loads imposed at point of connection.
- Design criteria shall be provided with submittal and calculations shall be made available upon request.
- Refer to other discipline's contract documents for additional deferred components that may require structural design and details. Connections of these elements shall not induce torsion on structural members.
- Deferred Structural Components shall be manufactured, delivered, handled, stored, and field erected in conformance with instructions prepared by the component vendor.
- The following list includes the items that are defined as Deferred Structural Components. Additional items may be included in the project specifications.
- Deferred structural components:
 - Metal or pre-cast stairs and landings
 - Fall restraint systems
 - Handrails, guards, grab bars, and wall mounted shower seats
 - Marquees and canopies unless detailed on Contract Documents
 - Precast structural members
 - Open web steel joist
 - Plywood web joists (if different than specified on drawings)
 - Pre-manufactured wood trusses
 - Pre-manufactured metal buildings
 - Metal Grating and/or stair treads
 - Window shades and light shelves
 - Masonry veneer out-of-plane anchorage system

EPOXY INSTRUCTIONS FOR ANCHORING REBAR AND BOLTS

- Epoxy shall not be installed without prior approval of engineer unless specifically detailed on the drawings.
- Bars must be deformed or threaded for the full embedment depth in epoxy.
- Over-drill bar diameter as indicated by the Epoxy Manufacturer, and to the depth indicated on the structural drawings.
- Clean hole per manufacture requirements.
- Any dirt, rust, and oil on the bars shall be removed.
- During the epoxy mixing and application process, install in strict accordance with ICC Report and the Epoxy Manufacturer's specifications exactly.
- Vertical holes to be filled from the bottom are to use an epoxy gel. See also note 12.
- The following epoxy systems are acceptable for use in fully grouted masonry:
Hilti HIT-HY 270 – ICC ESR-4143
Simpson SET-XP – IAPMO UESR-0265
Dewalt AC100+ GOLD – ICC ESR-3200
- The following epoxy systems are acceptable for use in uncracked, cracked and seismic concrete applications:
Hilti HIT-HY 200 – ICC ESR-3187
Simpson SET-XP – ICC ESR-2508
Dewalt Pure110+ – ICC ESR-3298
Simpson AT-XP – IAPMO UESR-0263
Hilti HIT-RE 500 V3 – ICC ESR-3814
Dewalt AC200+ – ICC ESR-4027
- Threaded anchor rods shall be ASTM F1554 Grade 55 unless noted otherwise.
- Use of any other epoxy in a seismic / cracked concrete location will only be considered with an approved third party evaluation report that includes recognition of earthquake resistance in accordance with the current IBC.
- Installation of adhesive anchors that are to be under sustained tension loading in horizontal to vertically overhead orientation shall be done by a certified adhesive anchor installer (AA) as certified through ACl and in accordance with ACI 318-2014 (section 17.8.2.2). Proof of current certification shall be submitted to the engineer for approval prior to commencement of installation.
- Per ACI 318-2014 (Section 17.1.2) adhesive anchors shall be installed in concrete having a minimum age of 21 days at time of anchor installation. For installation sooner than 21 days consult adhesive manufacturer.
- If temperature of base material at time of adhesive installation is at 45 degrees (Fahrenheit) or less, an "acrylic" (cold weather) adhesive is required.

INSTRUCTIONS TO BIDDERS

- Under no circumstances shall these drawings be "Final Bid" until the project is fully permitted.
- All preliminary pricing efforts shall be considered to be estimates only and shall include the necessary contingencies, allowances, alternates, etc., as appropriate to account for modifications and additions that will occur to the drawings during the finalization of the design and permitting.
- The owner or contractor shall utilize the following minimum contingencies for each of the structural element costs to be used at the sole discretion of the structural engineer:

Progress Set	7% Minimum
--------------	------------

All of the "Final Bid" contingencies not used by the structural engineer shall be refunded to the owner prior to closeout of the project.
- Any modifications, deletions or eliminations to the structural bidding and contingency requirements without the consent of the structural engineer, shall automatically indemnify the structural engineer of any costs that may arise during the design and construction of the project.
- Where discrepancies occur within the drawings the contractor will either resolve the discrepancies with the architect before bidding or include the greater cost item in the bid and resolve the discrepancy prior to construction.
- This drawing package is being submitted for approval only. Any materials ordered or constructed based on this drawing package prior to final approval from the Architect and Engineer-of-Record is at risk of the framing contractor. Framing contractor is advised to obtain final approved drawing package prior to ordering material and/or construction.
- In addition to the steel included on the drawings, the contractor shall provide a 5% allowance of steel to be finished, fabricated and installed during the progression as may be directed by the structural engineer. In the event the allowance is not completely exhausted, the contractor should be prepared to issue a credit to the owner for the remaining portion of the allowance.



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Revisions
Description
Date

JEFFERSON ELEMENTARY SCHOOL ADDITION AND REMODEL
600 N. FILLMORE STREET JEROME, ID

DATE: 12/09/22
LKV PROJECT # Client Number

DRAWN BY: GT
CHECKED BY: KF

Project Status

DRAWING NO.:
S0.02
STRUCTURAL DESIGN NOTES

Special Conditions: Disclaimer

- The owner and contractor must be aware that the following conditions existing within the structure:
- To avoid long term damage to the structure, swimming pools and planters placed on elevated slabs must have a premium moisture barrier and drainage system installed so that water does not come in contact with structural members. A testing and maintenance program of the moisture barrier and drainage system should be implemented to insure the integrity of the system for the life of the structure.
 - This structure will move over it's lifetime due to imposed lateral forces and temperature and shrinkage induced forces. Architectural finishes (ceilings, wallboards, floor tile, etc.) will need to be installed with crack control and/or expansion joints as well as other procedures following industry standards to accommodate this movement. Failure to do so could result in cracking of finishes.

FACADE / VENEER SYSTEMS

- Provide out-of-plane anchorage for all Facade / Veneer systems. The contractor is to coordinate the appropriate anchorage configuration with the Facade / Veneer system referenced within the construction documents. Such considerations would include, but not be limited to: structural support framing, sheathing, rigid insulation, air gaps, joint layouts, etc.
- Anchors are to be sized and spaced as required to resist seismic loads in accordance with ASCE 7, Chapter 13.
- Refer to architectural details for any further requirements.

MECHANICAL OPENINGS

- General Contractor shall coordinate locations of all mechanical openings, including, but not limited to, trash chutes, plumbing shafts and ventilation shafts. Coordination shall include the Architect of Record (AOR) and all subcontractors, including mechanical subcontractors, and joist and decking suppliers.
- Coordination shall be completed and approved prior to bid document completion.

SHOTCRETE

- All aspects of work pertaining to the shotcrete construction shall be in accordance with IBC section 1908, ACI 506.2 "Specification for Shotcrete" and ACI 506R-16 "Guide to Shotcrete", with modifications as noted on the project drawings and/or specifications.
- Shotcrete mix designs shall be submitted to the Structural Engineer for review. All mix designs shall be designed by a qualified testing laboratory and shall be wet stamped by a Civil Engineer licensed in the State of ____ Base design mix on field experience or trial mixtures as stipulated in ACI RAP-12.
- All materials, mixing and application shall comply with ACI 506 R-05 and ACI RAP-12.

Conform to the following shotcrete requirements:	
Compressive strength (F _c):	4500 psi
Aggregate size:	3/8" max.
Slump:	1" (plus or minus 1/2")
- Shotcrete mixes shall contain fiber additives to be coordinated with the shotcrete applicator and the ready-mix company for the purpose of minimizing drying shrinkage.
- The application of shotcrete shall be performed by a company specializing in performing shotcrete work with a minimum of 5 years of documented experience and whose applicators are ACI C660 Certified Nozzlemen.
- Shotcrete shall be thoroughly mixed and used within 45 minutes.
- Ensure that the temperature of materials and surrounding air are a minimum of 50 degrees F prior to, during and 7 days after completion of work. Suspend shotcrete operations during high winds, rainy weather or excessively hot or cold temperatures when the work cannot be protected.
- Surfaces to receive shotcrete shall be roughened to 1/4" amplitude, cleaned and wet. Surfaces receiving shotcrete shall be kept damp for several hours prior to shotcrete application. Bonding agents are not to be used without the approval of the engineer.
- Alignment wires shall be used to establish thickness and plane of required surfaces. Install alignment wires at corners and offsets not established by forms.
- Provide a minimum of 3 test panels per IBC 1908.10.2 for each mix design and each shooting position to be encountered. The panels shall be of identical thickness, reinforcement and reinforcement placement as required for the shotcrete work. Testing firm may require additional test panels. Coordinate the test panel procedure with the testing firm prior to beginning the work.
- Preconstruction tests where required, shall be performed in accordance with IBC 1908.5.
- A quality control program shall be implemented. ACI 506.2 should be used as the basis for the quality control procedures.
- Verify the bond of set shotcrete by sounding for voids with a hammer.
- Maintain finished surfaces wet for 7 days.

MASONRY

- All reinforced masonry materials and construction shall conform to the following:
 - International Building Code Chapter 21
 - Building Code Requirements for Masonry Structures TMS 402
 - Specification for Masonry Structures TMS 602
- All masonry block shall conform to ASTM C90 grade N-1, F_m= ____ psi min and a minimum block net compressive strength of ____ psi, per IBC Section 2105.2 and tested in conformance with IBC Section 2105.2.2.2
- Mortar shall be Type S conforming to ASTM C 270 and Articles 2.1 (materials) and 2.6A (mixing) of TMS 602, IBC Section 2105.2 and project specifications.
- Grout shall be fine or coarse grout and shall conform to Article 2.2 (materials) and 2.6B (mixing) of TMS 602, and ASTM C476 or has a compressive strength at 28 days that meets or exceeds F_m but shall not be less than ____ psi as tested per ASTM C1019.
- All masonry materials shall be submitted to the Structural Engineer for review, prior to ordering materials, in accordance with Section 1.5 of the TMS 602. Additionally, all mix designs shall be tested/designed by a qualified testing laboratory and stamped by an engineer licensed in the state the project is located.
- All Masonry block shall be laid in Running Bond as defined in TMS402. Stack Bond is not allowed unless specifically specified on plans. Refer to architectural drawings for surface and height of units and joint type.
- Solid grout all masonry below grade, all cells containing reinforcing and all horizontal bond beams and lintels for extents indicated unless noted otherwise on the drawings. In seismic design category D and above solid grout all masonry walls.
- Grout shall be placed in accordance with TMS 602 Section 3.5 and Table 7.
- Masonry reinforcing bars shall be per notes under 'Reinforcing Steel'.
- Placement of reinforcing bars, ties and anchors shall conform to TMS 602 Section 3.4 unless noted otherwise on drawings. See also sheet S5.11.
- Reinforcing bars in masonry shall be lapped 72 bar diameters, (db), unless noted otherwise in drawings. See also detail ____.
- Unless noted otherwise on plans, minimum wall reinforcement shall be:
 - #5 bar vertical centered in wall at 16 inches on center. Provide (2) #5 continuous vertical bars at all wall ends, corners, intersections and each side of control joints.
 - Provide #5 bar each face at jambs of openings in walls.
 - Provide (2) #5 bars horizontal in a continuous 8 inch deep minimum bond beam at all floor and roof lines and provide (2) #5 bar horizontal in a continuous 8 inch deep minimum bond beam at 48 inches on center between floor and roof lines, above roof lines and at top of parapets.
 - Provide (2) #5 bars continuous at the bottom of a 24 inch deep solid grouted masonry lintel above openings in wall and extending 24 inches beyond edges of openings.
 - Provide #5 bar horizontal in a continuous 8 inch deep minimum bond beam at sills of openings in wall and extending 24 inches beyond edges of openings. Unless noted otherwise on plans provide (6) #5 bars, 3 each face in 3 grouted cells centered on beams for beams bearing at an angle to wall and (6) #5 bars, 3 each face in 3 grouted cells at end of wall for beams bearing at wall ends.
- Unless noted otherwise on plans, masonry control joints shall be located such that no straight run exceeds 24'-0" and shall not be located within 24 inches of the edge of an opening in the masonry or within 24 inches of a beam bearing location. If masonry control joints are not shown on the plans, the contractor shall provide a masonry control joint shop drawing layout for review and acceptance from the architect and structural engineer prior to beginning masonry construction.
- Coring openings in masonry construction is not permitted without prior approval from the architect and structural engineer.
- No pipes or electrical conduit shall pass through masonry lintels unless specifically detailed in plans.
- Mechanical pipes and electrical conduits which pass through masonry walls do not require sleeves, unless otherwise indicated in the project specifications, mechanical and/or electrical drawings. If sleeves are required, install sleeves before grouting. Do not cut any reinforcing which may interfere with sleeve placement. Notify the Structural Engineer in advance of conditions not shown on the structural drawings.
- Refer to architectural drawings for the following items: Jointing Plan, Surface and height of units, Laying pattern, Mortar joint finishing, weep hole spacing and locations, etc.

DECK CONNECTION, MECHANICAL FASTENERS

- Connection of steel deck diaphragms shall be as specified on plan, unless approved otherwise.
- Use mechanical deck fasteners in lieu of welds only when specified on plan or when approved by the engineer prior to installation.
- Fasteners for attachment of steel deck to bar joist and structural steel framing shall be:
 - Hilti X-HSN 24 (1/8 in. up to and including 3/8 in.) ICC ESR-2197 & ICC ESR-2776
 - Hilti X-ENP-19 L15 (1/4 in. or thicker) ICC ESR-2197 & ICC ESR-2776
 - Spacing of fasteners shall be as indicated on plans, UNO. Note that additional mechanical fasteners compared to welds might be required.
- The contractor shall arrange for manufacturer's field representative to provide installation training for all products to be used, prior to commencement of work at no additional cost.
- Only trained installers shall fasten the metal deck to the structural steel. A record of training shall be kept on site and be made available to the EOR and inspector as requested.
- The contractor shall submit a pin placement plan to the EOR.
- Sidelap connection type and spacing shall be as indicated on plans.

FALL ARREST / WINDOW WASHING SYSTEMS

- Fall arrest and/or window washing systems are considered deferred submittals and shall be designed and certified by others.
- General Contractor shall coordinate fall arrest and/or window washing systems, if required, including anchorage and connections to roof and/or wall components. Coordination shall include the Architect of Record (AOR) and all subcontractors, including joist and decking suppliers, panelizing suppliers and fall arrest/window washing systems suppliers.
- Coordination shall be completed and approved prior to bid document completion.
- General Contractor shall provide shop drawings for fall arrest and/or washing systems for review prior to fab.
- Fall arrest and/or window washing equipment supplier is responsible of the design and installation of all components and shall be in compliance with all requirements of the Authority Having Jurisdiction (AHJ).

FOUNDATION - Boise

- The design of the foundation system is based on the Geotechnical report (and any addenda) prepared by the following company:

Company:	EHM ENGINEERS, INC
Report No.:	EHM No. 129-14
Dated:	06/24/2014
- The foundation system is designed based on the following:

Soil Bearing Capacity	2500 psf
Frost Depth	24"
Equivalent Fluid Pressure Unconstrained	-
Equivalent Fluid Pressure Constrained	-
Passive Pressure	304.5 psf
Friction Coefficient	-
- It is recommended that the contractor shall retain the services of a Geotechnical Engineer to perform necessary testing and inspections for quality control to ensure that the recommendations of chapter 18 of the IBC and presumptive soil loads noted above are complied with and achievable. If the recommendations of chapter 18 of the IBC and the presumptive soil loads noted above are not achievable, all work shall stop and the architect and structural engineer shall be notified immediately.
- The contractor shall provide for proper dewatering of excavations from surface water, ground water, seepage, etc.
- Drainage systems, including foundation, roof and surface drains, shall be installed as directed by the Geotechnical Report and IBC Section 1805.
- Vapor retarder placed below slab on grade shall conform to ASTM E 1643 and ASTM E 1745. Coordinate placement with Geotech and/or Architectural drawings.
- The Contractor shall provide for the installation and design of all cribbing, sheathing and shoring required to safely and adequately retain the earth banks and support any existing structures in accordance with all national, state and local safety ordinances.
- All abandoned utilities, footings, etc., that interfere with the new construction shall be removed. Notify the Structural Engineer should any foundations for existing structures be encountered that are not shown on the structural drawings.
- Footings shall be placed and estimated according to depths shown on the drawings. Excavations for footings shall be approved by the Geotechnical Engineer prior to placing the concrete and reinforcing. The Contractor shall notify the Geotechnical Engineer when the excavations are ready for inspection. The Geotechnical Engineer shall submit a letter of compliance to the Owner. Should soil encountered at these depths not be approved by the Geotechnical Engineer, modified footing elevations or footing designs may be subject to additional engineering fees.
- All excavations shall be properly backfilled. Footing backfill and utility trench backfill within the building perimeter shall be mechanically compacted in layers, to the approval of the Geotechnical Engineer. See Geotechnical report for requirements. Backfill by flooding will not be permitted.
- The Contractor shall not backfill behind retaining walls before the concrete or masonry walls have reached full design strength. The Contractor shall brace or protect all building and pit walls below grade from lateral loads until attaching floors are completely in place and have reached full design strength. The Contractor shall provide for the design, any required permits and the installation of such bracing and protection.
- Sub-base below slabs on grade shall be supported on natural grade or structural fill as directed in the Geotechnical report or by a geotechnical engineer. Sub-grade will be compacted per the recommendations of the geotechnical engineer and no sub-grade rutting will be allowed at time of concrete placement under slabs on grade.
- Unless otherwise noted, footings shall be centered below columns or walls.
- EXISTING UTILITIES:
 - The contractor shall determine the location of all adjacent underground utilities prior to any excavation, shoring, pile driving, or pier drilling. Any utility information shown on the plans and details are approximate and not verified by the structural Engineer of record. Contractor is to provide protection of any utilities or underground structures during construction.
- NEW UTILITIES:
 - Contractor to determine the location of all new below grade utilities and coordinate placement with new footings, see general details for foundation at or adjacent to excavations and utilities.
- RETAINING WALLS:
 - Grade on either side of concrete walls shall not vary by more than 4", uno. Slope of backfill shall not exceed 12H to 1V, uno. Backfill behind all retaining walls with free draining, granular fill installed per the Geotechnical Report. Provide for subsurface drainage. Design pressures used for the design of retaining walls are based on drained conditions.
 - Retaining walls are to be designed for active and passive soil pressures, see note 2.
 - Provide temporary shoring for tops of walls if backfill is placed prior to the supporting structure being constructed. Supporting structure is the floor framing and sheathing completely installed and attached to perpendicular walls.

SHOT PINS

- Shot pin fasteners shall not be installed without prior approval of engineer unless specifically detailed on the drawings.
- Installation and special inspection of fasteners shall be performed as required by ICC reports and manufacturers instructions.
- Shot pins shall not be used for seismic anchoring or bracing applications, unless approved by the governing jurisdiction.
- Shot pins in post-tension concrete are permitted only when the supplier can show that concrete spalling will not occur and are located so as to preclude damage to tendons and tendon anchorage.
- See plans and details for spacing. Shot pins driven into concrete base material shall maintain a minimum edge distance at all concrete elements of 3" and minimum fastener spacing shall be 4". For interior and exterior framing, pins shall have a 3/4" and 1" minimum penetration respectively. Minimum concrete thickness shall be 3 times the penetration depth. Concrete shall attain full design strength prior to installing shot pins. Shot pins driven into steel base material shall maintain a minimum edge distance at all steel elements of 1/2" and minimum fastener spacing shall be 1". Length of pin shall be as required to penetrate through steel member uno. At steel thicker than 3/4", pins shall have a minimum point penetration of 1/2". Shot pins driven into solid grouted masonry shall maintain a minimum 4" distance from the top, bottom and edges of the wall and a minimum 1" distance from mortar joints. No more than one fastener may be installed in an individual CMU cell.
- The following shot pins are approved for non-tension, shear only use in solid grouted masonry: Hilti Low Velocity X-U (0.157" dia.) – ICC ESR-2269
- The following shot pins are approved for non-tension, shear only use in uncracked concrete: Hilti Low Velocity X-U (0.157" dia.) – ICC ESR-2269
- The Following shot pins are approved for tension and shear in steel: Hilti Low Velocity X-U (0.157" dia.) – ICC-ESR 2269



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Revisions	Description	Date
#		

JEFFERSON ELEMENTARY SCHOOL ADDITION AND REMODEL
600 N. FILLMORE STREET JEROME, ID

DATE: 12/09/22
LKV PROJECT # Client Number

DRAWN BY: GT
CHECKED BY: KF

Project Status

DRAWING NO.:

S0.03
STRUCTURAL DESIGN NOTES

OVERALL PLAN NOTES

1. For structural design notes, see sheets starting at S0.01.
2. Architectural backgrounds are shown for reference only. The dimensions shown apply to structural elements only. For dimensions not shown, see architect of record submittal.
3. Contractor shall field verify existing structural conditions. If any discrepancies are found, contractor shall contact the Architect and Structural Engineer before performing alteration work.
4. For additional information not shown, see plans.



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600 N. FILLMORE STREET JEROME, ID

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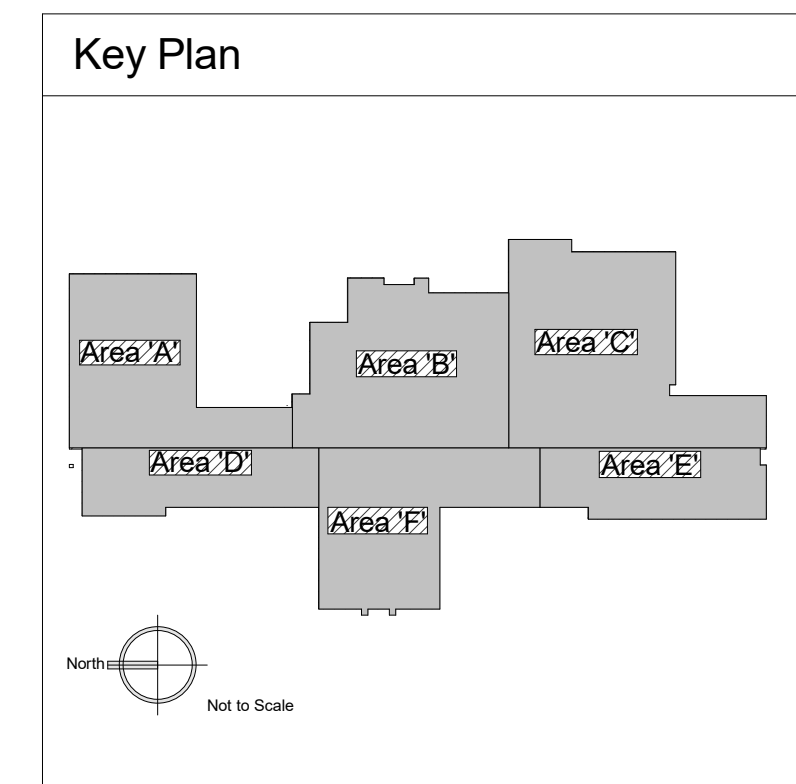
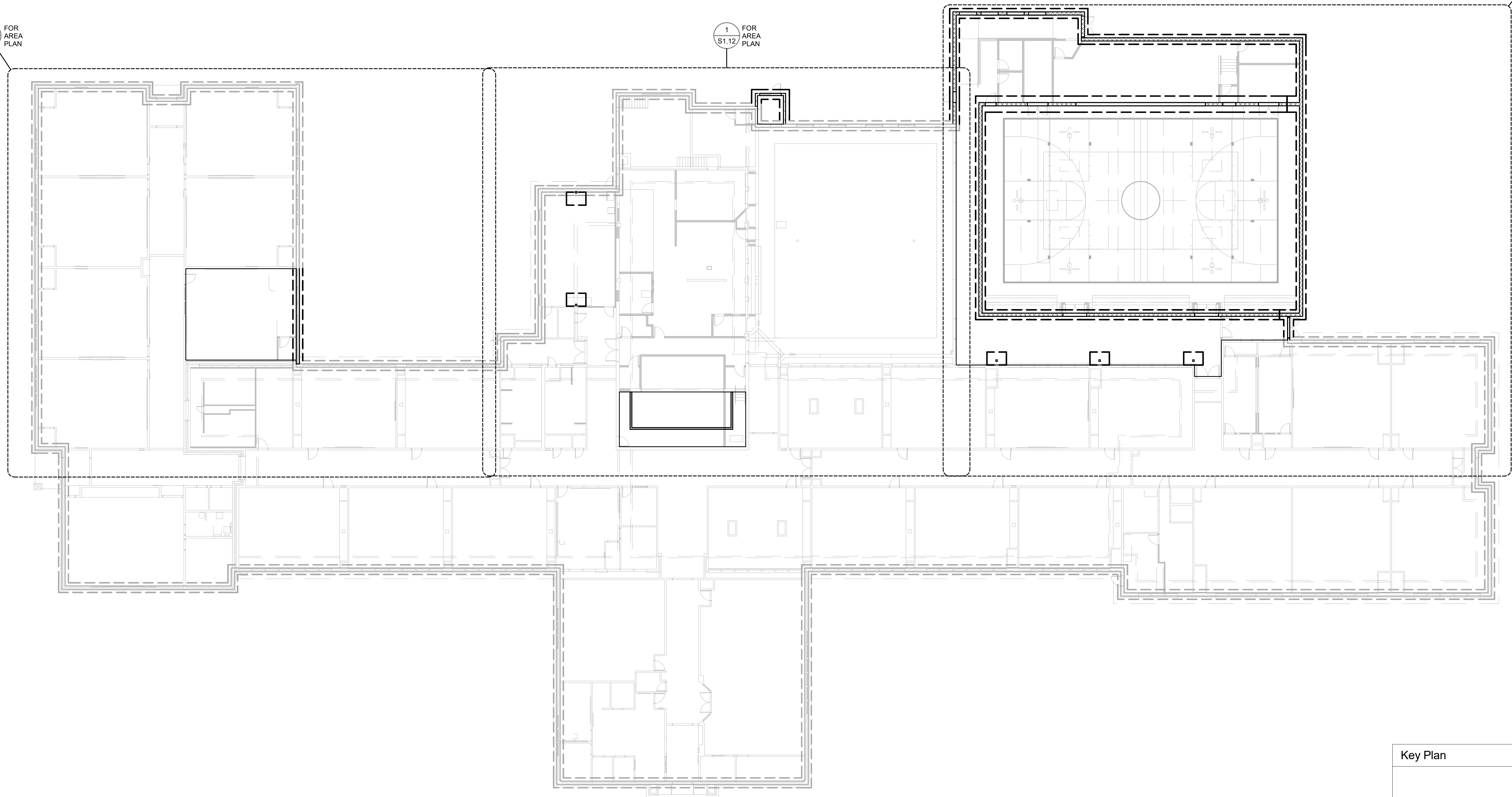
DRAWING NO.:

S1.10
OVERALL FOUNDATION PLAN

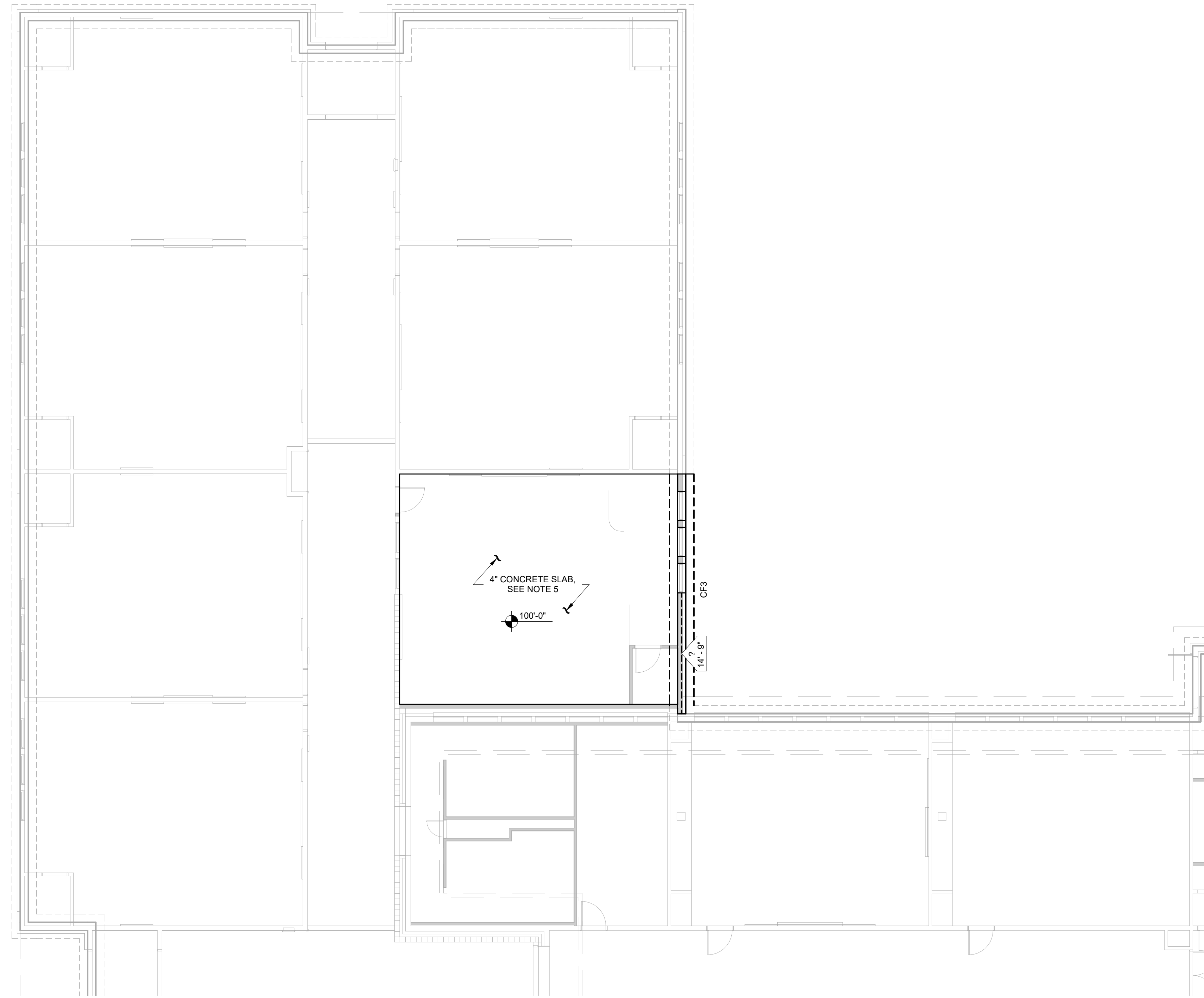
1 FOR AREA PLAN
S1.11

1 FOR AREA PLAN
S1.12

1 FOR AREA PLAN
S1.13



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



- ### FOUNDATION PLAN NOTES
- For structural design notes, see sheets starting at S0.01.
 - Architectural backgrounds are shown for reference only. The dimensions shown apply to structural elements only. For dimensions not shown, see architect of record submittal.
 - Contractor shall field verify existing structural conditions. If any discrepancies are found, contractor shall contact the Architect and Structural Engineer before performing alteration work.
 - Top of concrete floor reference elevation = 100'-0" typical uno thus. $\bullet \cdot X' - X''$
 - Slab on grade shall be 4" thick concrete with 4x4 W2.9xW2.9 welded wire fabric, placed 2" clear from top of concrete. See architectural drawings for slab depressions, slopes, etc.
 - Top of exterior footing shall be elevation 98'-0" max. and top of interior footing shall be 99'-4" max., typ. uno. thus $\bullet \cdot X' - X''$
 - Contractor to coordinate slab on grade control joints with 1 / S5.03.
 - See Geo-Tech report for under slab and footing requirements.
 - For general concrete/foundation details, see sheets S5.01 and S5.02.
 - F# and CF# Denotes footing type, see 6 / S4.01.
 - Contractor to coordinate placement of utilities thru or adjacent to the footings or stem walls with detail 1 / S5.02 or the footings may be stepped per 2 / S5.02 at contractors option, typ.
 - ---S---S Indicates step(s) in footing, see 2 / S5.02.
 - BPL # Denotes base plate type, see 1 / S4.01.
 - HD# Denotes wood hold-down, see 3 / S4.02 for wood hold-down schedule.
 - --- Denotes recess, sloped or elevated floor elevations, coordinate size and location with arch.
 - --- 12" HI-R Masonry wall
 $f_m = 2000$ psi
 #5 vertical at 16" oc., centered
 (2) #5 horizontal at 48" oc. in bond beam.
 Provide additional reinforcing at wall openings, ends, corners and intersections per detail sheet S5.11, special inspection is required. See sheet S5.11 for masonry typ. details. Solid grout all cells. All masonry bearing walls are to be considered LFRS.
 - C/J Denotes masonry control joint location, see 3 / S5.11 for construction. Coordinate with architectural for locations.
 - For typical elevated concrete pad or curb construction, see 5 / S5.02 or 6 / S5.02. Coordinate size, location, and thickness with equipment supplier.
 - --- Denotes wood shear wall, see 7 / S4.01.
 For construction Information, see 10 / S5.41.
 All wood shear walls are to be considered LFRS.
 Contractor to field coordinate actual wall lengths and hold-down locations with architectural drawings.
 - For all structural walls and shear walls not shown on this plan, see the framing plan at the floor or roof above.
 - ---P# Denotes pillar, see 1 / S4.02.
 - --- 8" masonry wall
 $f_m = 2000$ psi
 #5 vertical at 24" oc., centered
 (2) #5 horizontal at 48" oc. in bond beam.
 Provide additional reinforcing at wall openings, ends, corners and intersections per detail sheet S5.11, special inspection is required. See sheet S5.11 for masonry typ. details. Solid grout all cells. All masonry bearing walls are to be considered LFRS.

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 Phone (208) 342-7168
 LE JOB #22-24217

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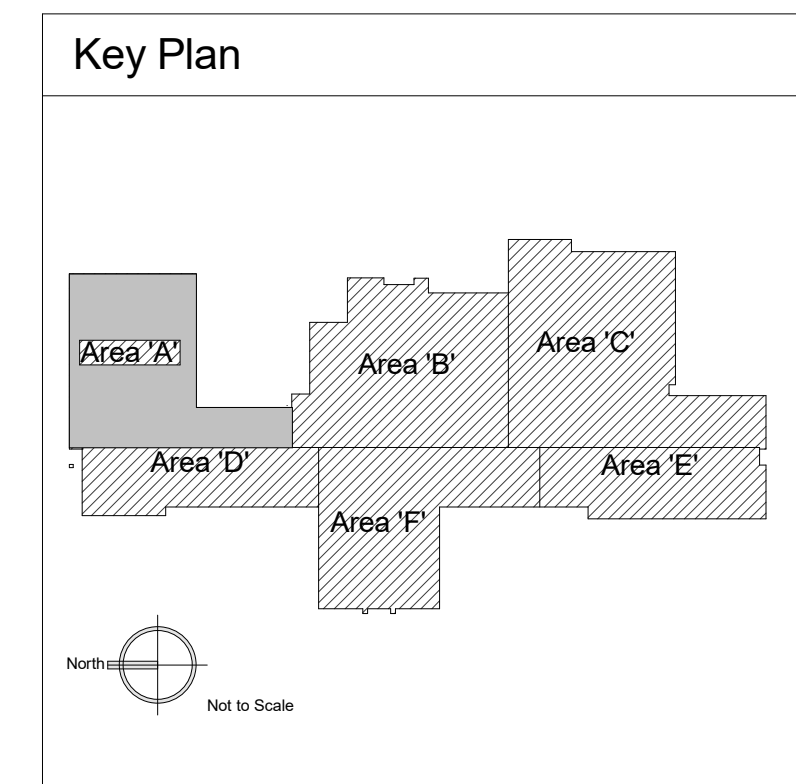
Revisions	Description	Date
#		

JEFFERSON ELEMENTARY SCHOOL ADDITION AND REMODEL
 600 N. FILLMORE STREET JEROME, ID

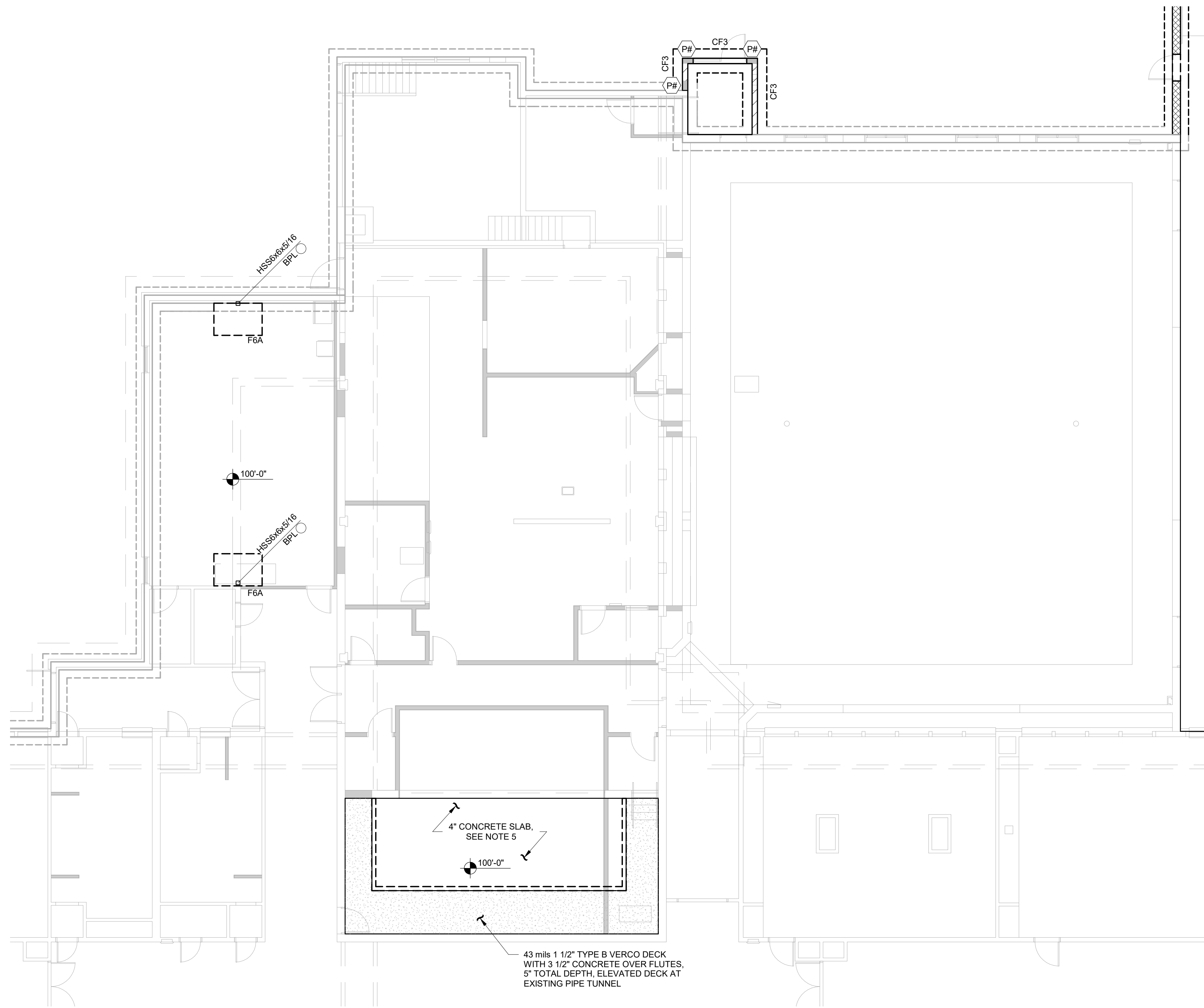
DATE: 12/09/22
 LKV PROJECT #: Client Number
 DRAWN BY: GT
 CHECKED BY: KF

Project Status

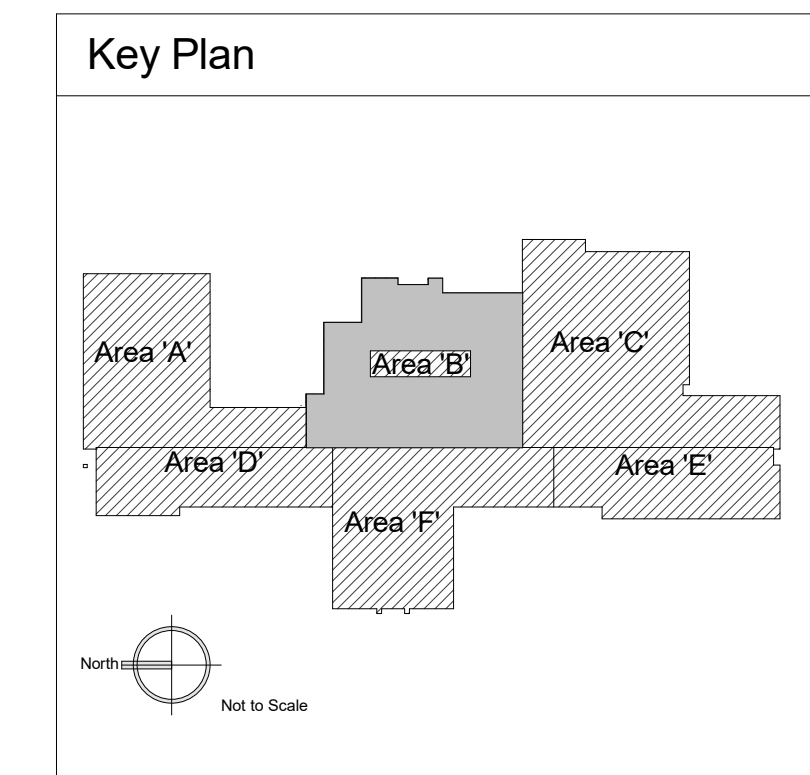
DRAWING NO.: **S1.11**
 AREA A FOUNDATION PLAN



1 AREA A FOUNDATION PLAN
 1/8" = 1'-0"



FOUNDATION PLAN NOTES	
1.	For structural design notes, see sheets starting at S0.01.
2.	Architectural backgrounds are shown for reference only. The dimensions shown apply to structural elements only. For dimensions not shown, see architect of record submittal.
3.	Contractor shall field verify existing structural conditions. If any discrepancies are found, contractor shall contact the Architect and Structural Engineer before performing alteration work.
4.	Top of concrete floor reference elevation = 100'-0" typical uno thus. \bullet X' - X"
5.	Slab on grade shall be 4" thick concrete with 4x4 W2.9xW2.9 welded wire fabric, placed 2" clear from top of concrete. See architectural drawings for slab depressions, slopes, etc.
6.	Top of exterior footing shall be elevation 98'-0" max. and top of interior footing shall be 99'-4" max., typ. uno. thus \bullet X' - X"
7.	Contractor to coordinate slab on grade control joints with 1 / S5.03.
8.	See Geo-Tech report for under slab and footing requirements.
9.	For general concrete/foundation details, see sheets S5.01 and S5.02.
10.	F# and CF# Denotes footing type, see 6 / S4.01.
11.	Contractor to coordinate placement of utilities thru or adjacent to the footings or stem walls with detail 1 / S5.02 or the footings may be stepped per 2 / S5.02 at contractors option, typ.
12.	$\text{---} \text{S} \text{---}$ Indicates step(s) in footing, see 2 / S5.02.
13.	BPL # Denotes base plate type, see 1 / S4.01.
14.	HD# Denotes wood hold-down, see 3 / S4.02 for wood hold-down schedule.
15.	Denotes recess, sloped or elevated floor elevations, coordinate size and location with arch.
16.	12" Hi-R Masonry wall f _m = 2000 psi #5 vertical at 16" oc., centered (2) #5 horizontal at 48" oc. in bond beam. Provide additional reinforcing at wall openings, ends, corners and intersections per detail sheet S5.11, special inspection is required. See sheet S5.11 for masonry typ. details. Solid grout all cells. All masonry bearing walls are to be considered LFRS.
17.	CJ Denotes masonry control joint location, see 3 / S5.11 for construction. Coordinate with architectural for locations.
18.	For typical elevated concrete pad or curb construction, see 5 / S5.02 or 6 / S5.02. Coordinate size, location, and thickness with equipment supplier.
19.	Denotes wood shear wall, see 7 / S4.01. For construction Information, see 10 / S5.41. All wood shear walls are to be considered LFRS. Contractor to field coordinate actual wall lengths and hold-down locations with architectural drawings.
20.	For all structural walls and shear walls not shown on this plan, see the framing plan at the floor or roof above.
21.	P# Denotes pillar, see 1 / S4.02.
22.	8" masonry wall f _m = 2000 psi #5 vertical at 24" oc., centered (2) #5 horizontal at 48" oc. in bond beam. Provide additional reinforcing at wall openings, ends, corners and intersections per detail sheet S5.11, special inspection is required. See sheet S5.11 for masonry typ. details. Solid grout all cells. All masonry bearing walls are to be considered LFRS.



1 AREA B FOUNDATION PLAN
1/8" = 1'-0"



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Revisions	Description	Date
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600 N. FILLMORE STREET JEROME, ID

DATE: 12/09/22
LKV PROJECT #: Client Number

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Project Status

DRAWING NO.:

S1.12
AREA B FOUNDATION PLAN

Revisions	Description	Date
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JEFFERSON ELEMENTARY SCHOOL ADDITION AND REMODEL
600 N. FILLMORE STREET JEROME, ID

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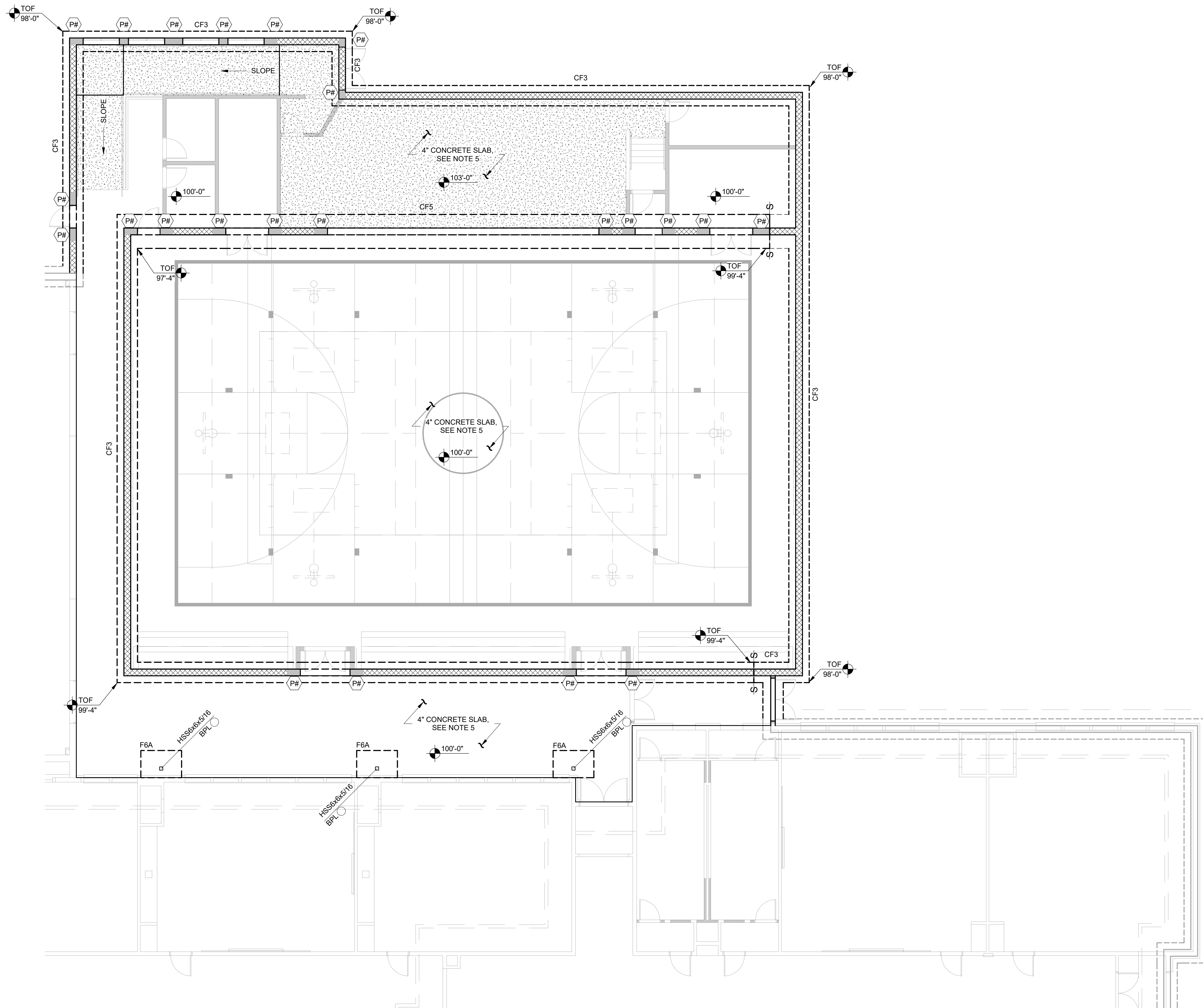
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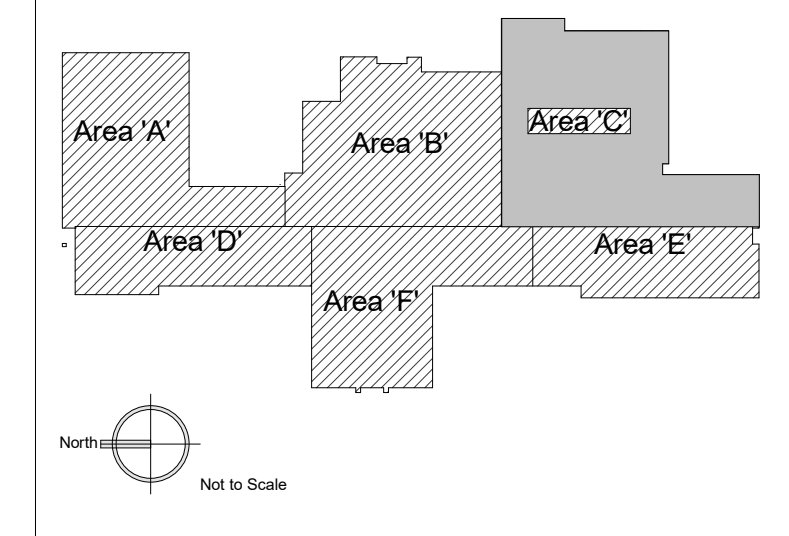
S1.13
AREA C FOUNDATION PLAN

FOUNDATION PLAN NOTES

- For structural design notes, see sheets starting at S0.01.
- Architectural backgrounds are shown for reference only. The dimensions shown apply to structural elements only. For dimensions not shown, see architect of record submittal.
- Contractor shall field verify existing structural conditions. If any discrepancies are found, contractor shall contact the Architect and Structural Engineer before performing alteration work.
- Top of concrete floor reference elevation = 100'-0" typical uno thus. $X' - X''$
- Slab on grade shall be 4" thick concrete with 4x4 W2.9xW2.9 welded wire fabric, placed 2" clear from top of concrete. See architectural drawings for slab depressions, slopes, etc.
- Top of exterior footing shall be elevation 98'-0" max. and top of interior footing shall be 99'-4" max., typ. uno thus. $X' - X''$
- Contractor to coordinate slab on grade control joints with 1 / S5.03.
- See Geo-Tech report for under slab and footing requirements.
- For general concrete/foundation details, see sheets S5.01 and S5.02.
- F# and CF# Denotes footing type, see 6 / S4.01.
- Contractor to coordinate placement of utilities thru or adjacent to the footings or stem walls with detail 1 / S5.02 or the footings may be stepped per 2 / S5.02 at contractors option, typ.
- Indicates step(s) in footing, see 2 / S5.02.
- BPL # Denotes base plate type, see 1 / S4.01.
- HD# Denotes wood hold-down, see 3 / S4.02 for wood hold-down schedule.
- Denotes recess, sloped or elevated floor elevations, coordinate size and location with arch.
- 12" HI-R Masonry wall
f_m = 2000 psi
#5 vertical at 16" oc., centered
(2) #5 horizontal at 48" oc. in bond beam.
Provide additional reinforcing at wall openings, ends, corners and intersections per detail sheet S5.11, special inspection is required. See sheet S5.11 for masonry typ. details. Solid grout all cells. All masonry bearing walls are to be considered LFRS.
- CJ Denotes masonry control joint location, see 3 / S5.11 for construction. Coordinate with architectural for locations.
- For typical elevated concrete pad or curb construction, see 5 / S5.02 or 6 / S5.02. Coordinate size, location, and thickness with equipment supplier.
- Denotes wood shear wall, see 7 / S4.01.
For construction Information, see 10 / S5.41.
All wood shear walls are to be considered LFRS.
Contractor to field coordinate actual wall lengths and hold-down locations with architectural drawings.
- For all structural walls and shear walls not shown on this plan, see the framing plan at the floor or roof above.
- Denotes pillar, see 1 / S4.02.
- 8" masonry wall
f_m = 2000 psi
#5 vertical at 24" oc., centered
(2) #5 horizontal at 48" oc. in bond beam.
Provide additional reinforcing at wall openings, ends, corners and intersections per detail sheet S5.11, special inspection is required. See sheet S5.11 for masonry typ. details. Solid grout all cells. All masonry bearing walls are to be considered LFRS.



Key Plan



1 AREA C FOUNDATION PLAN
1/8" = 1'-0"

OVERALL PLAN NOTES

1. For structural design notes, see sheets starting at S0.01.
2. Architectural backgrounds are shown for reference only. The dimensions shown apply to structural elements only. For dimensions not shown, see architect of record submittal.
3. Contractor shall field verify existing structural conditions. If any discrepancies are found, contractor shall contact the Architect and Structural Engineer before performing alteration work.
4. For additional information not shown, see plans.



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600 N. FILLMORE STREET JEROME, ID

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DRAWN BY: GT
CHECKED BY: KF

Project Status

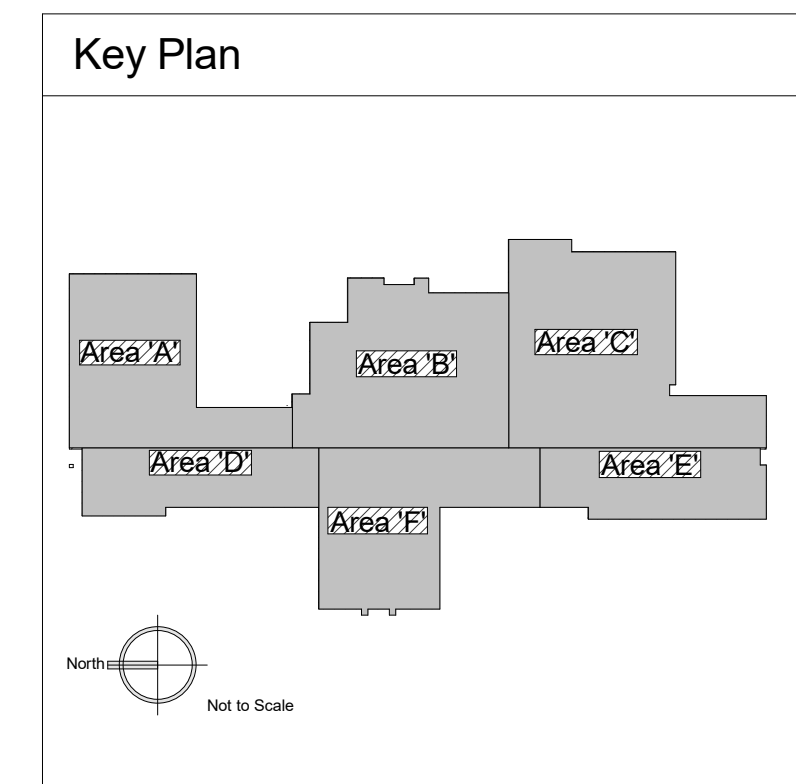
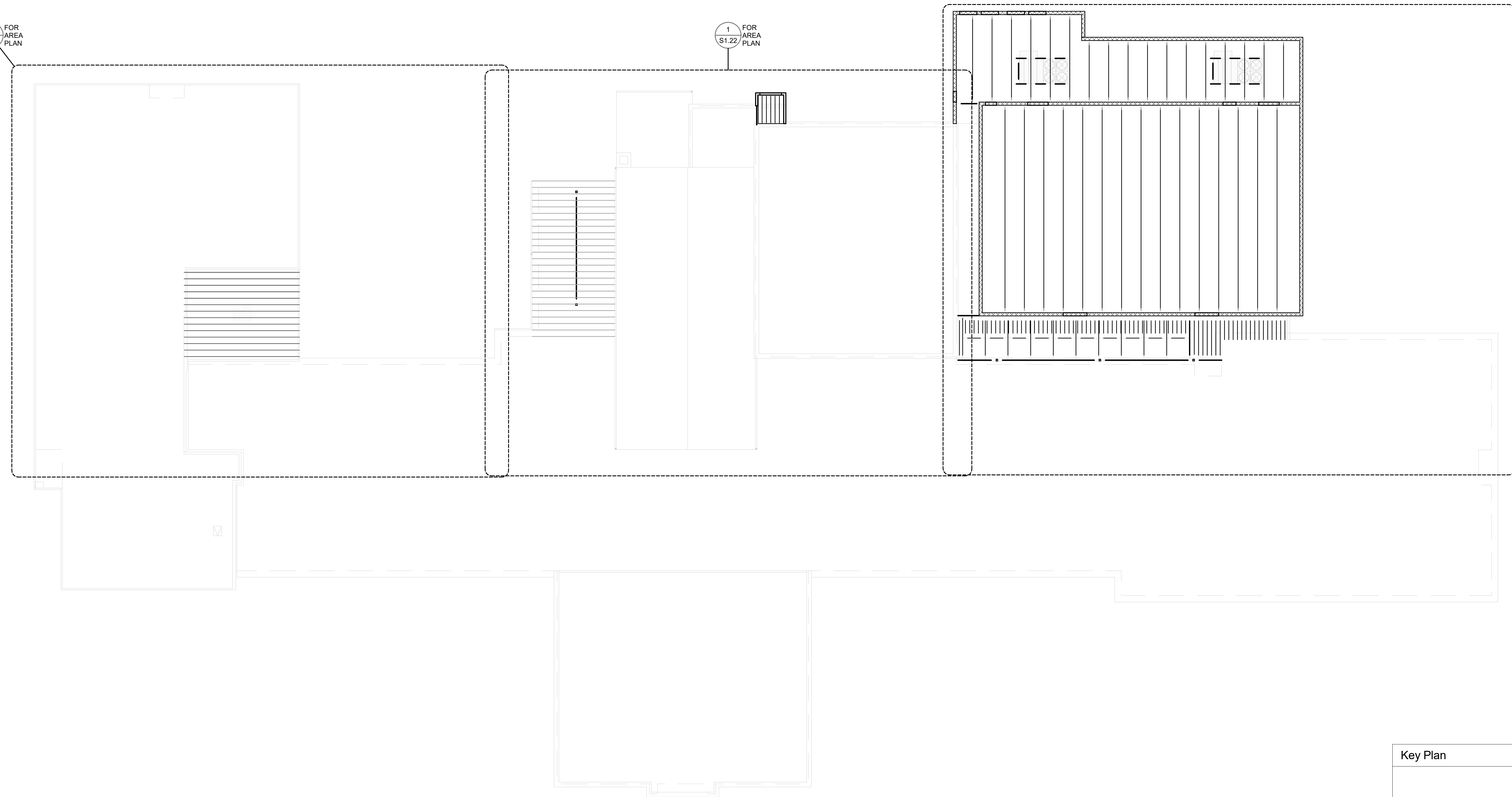
DRAWING NO.:

S1.20
OVERALL ROOF FRAMING PLAN

1 FOR AREA PLAN
S1.21

1 FOR AREA PLAN
S1.22

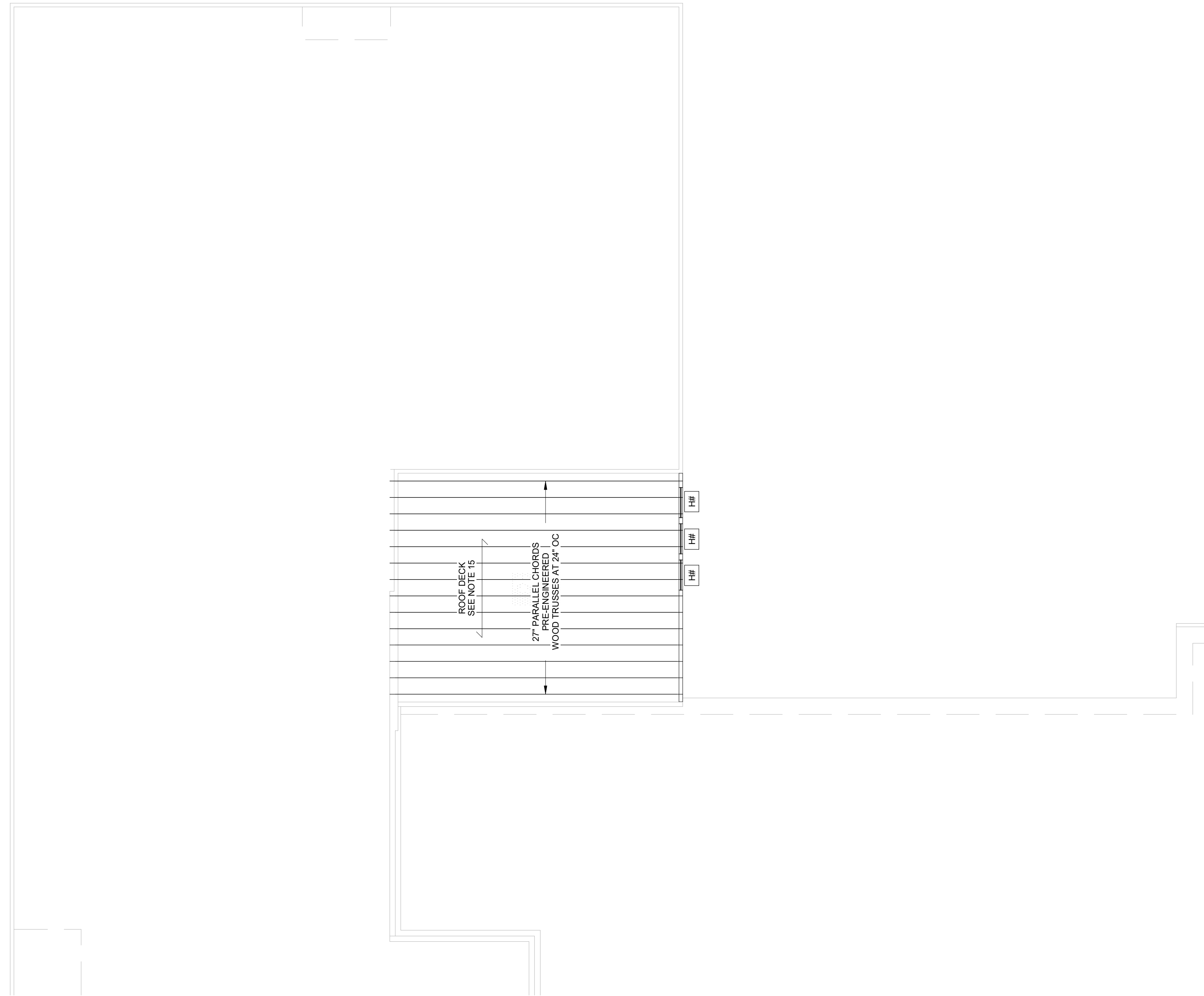
1 FOR AREA PLAN
S1.23



1 OVERALL ROOF FRAMING PLAN
1/16" = 1'-0"

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12/09/22 12:11:38 PM
Revit 22

1 AREA A ROOF FRAMING PLAN
 1/8" = 1'-0"



ROOF FRAMING PLAN NOTES

- For structural design notes, see sheets starting at S0.01.
- Architectural backgrounds are shown for reference only. The dimensions shown apply to structural elements only. For dimensions not shown, see architect of record submittal.
- Field verify existing structural conditions. If any discrepancies are found, contractor shall contact the Architect and Structural Engineer before performing alteration work.
- For general framing details, see sheets S5.01 thru S5.42.
- 000#

Roof supported mechanical unit with operating weight. Provide framing under mechanical unit curb. Coordinate exact location, size and number of deck penetrations with mechanical. For additional information, see 2 / S5.21.
- Field coordinate roof openings and support framing locations. For typical deck reinforcing at deck penetrations, see 2 / S5.21.
- For steel deck schedule and loading plan see S2.01.
- For beam to beam or beam to column connection, see 1 / S5.21 and - / --- unless specifically detailed.
- BOD

X'-X"

Denotes bottom of deck elevation. Work point is a projection up from grid or the center of framing/wall below.
- L#

Denotes masonry lintel, see schedule on S4.02.
- H#

Denotes header, see schedule on 5 / S4.01 .
- In addition to all loads indicated on plans, the joist manufacturer shall design all floor and roof joists for a 500 pound concentrated dead load at any location along the length of top chord, and a 250 pound concentrated dead load at any location along the length of bottom chord. The added load indicated above do not need to act simultaneously.
- Joist manufacturer to apply 1/2" natural camber on first joist from wall.
- Roof Deck

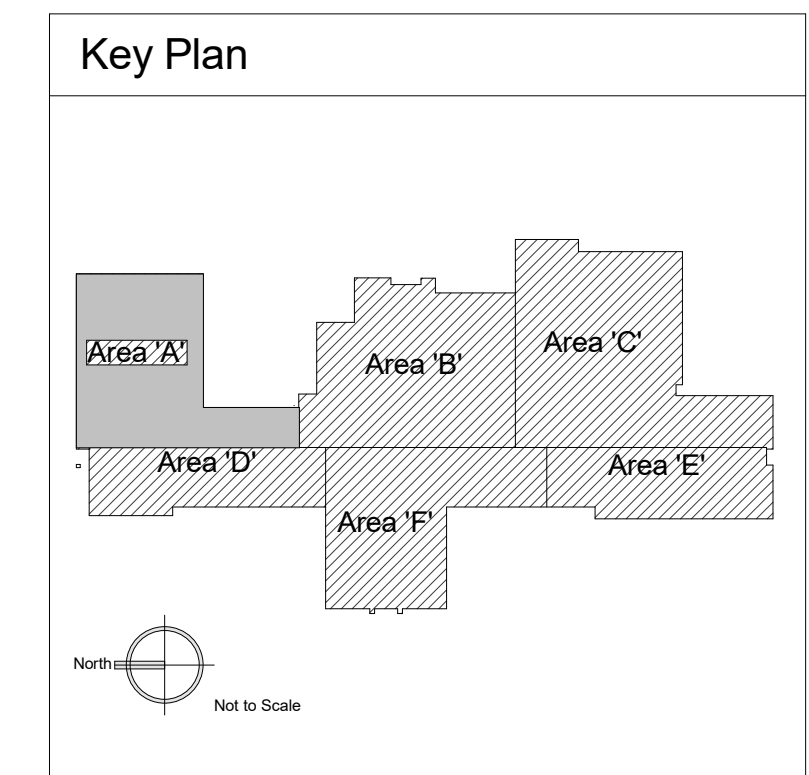
19/32" APA T&G sheathing 40/20

Nailing patterns:

10d at 6" oc., all panel edges.

10d at 12" oc., at intermediate supports stagger panel joints.

For more information see



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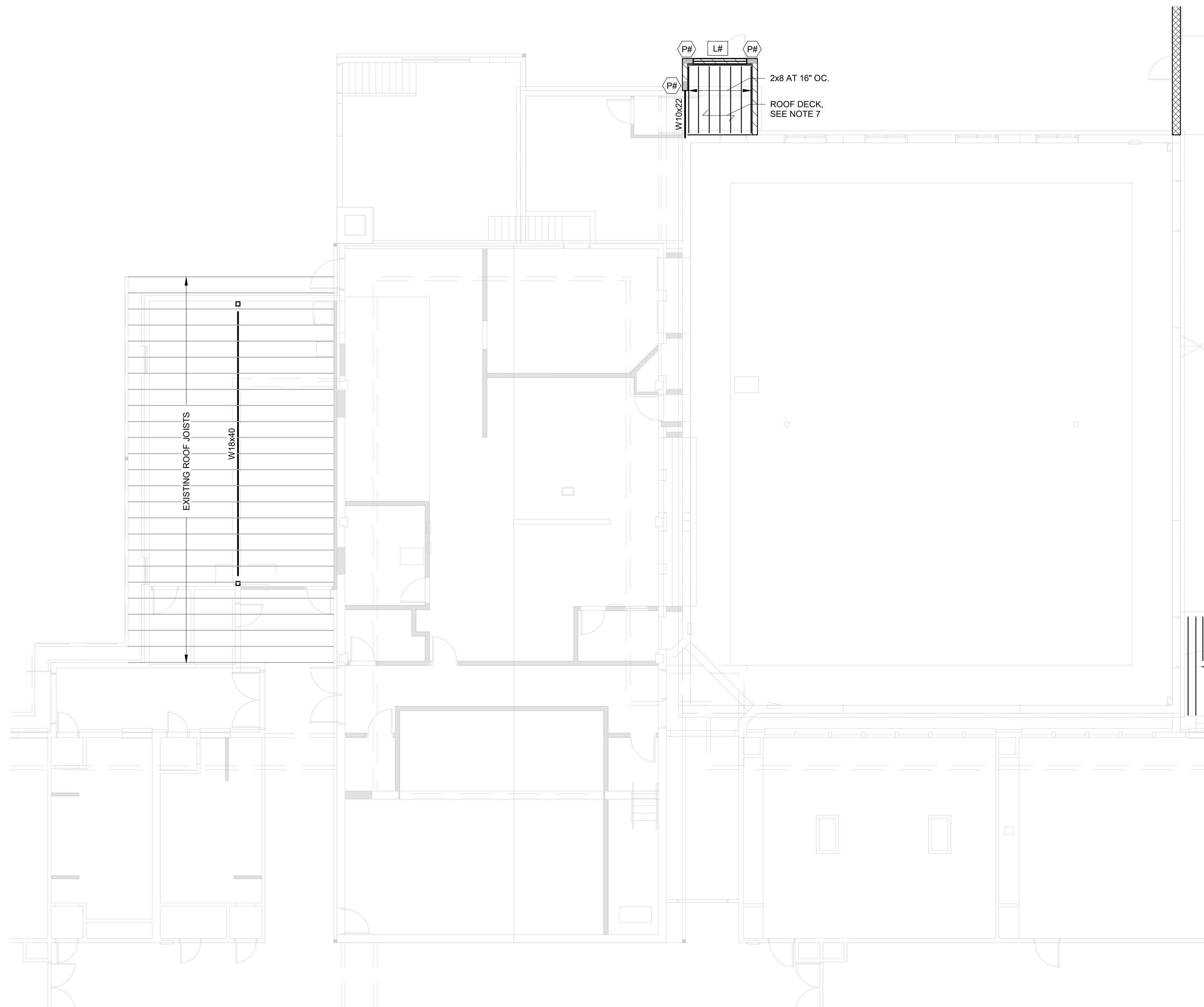
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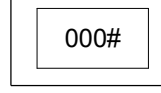
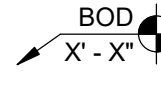
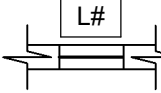
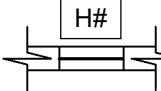
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DRAWING NO.:

S1.21
 AREA A ROOF FRAMING PLAN

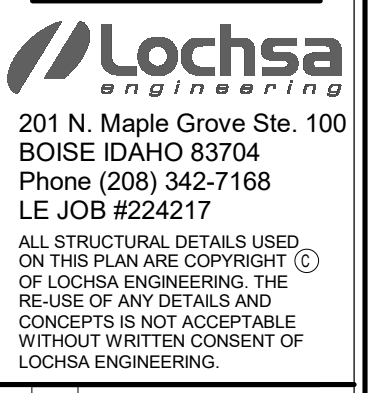


ROOF FRAMING PLAN NOTES

1. For structural design notes, see sheets starting at S0.01.
2. Architectural backgrounds are shown for reference only. The dimensions shown apply to structural elements only. For dimensions not shown, see architect of record submittal.
3. Field verify existing structural conditions. If any discrepancies are found, contractor shall contact the Architect and Structural Engineer before performing alteration work.
4. For general framing details, see sheets S5.01 thru S5.42.
5.  Roof supported mechanical unit with operating weight. Provide framing under mechanical unit curb. Coordinate exact location, size and number of deck penetrations with mechanical. For additional information, see 2 / S5.21.
6. Field coordinate roof openings and support framing locations. For typical deck reinforcing at deck penetrations, see 2 / S5.21.
7. For steel deck schedule and loading plan see S2.01.
8. For beam to beam or beam to column connection, see 1 / S5.21 and - / - unless specifically detailed.
9.  Denotes bottom of deck elevation. Work point is a projection up from grid or the center of framing/wall below.
10.  Denotes masonry lintel, see schedule on S4.02.
11. Joist bridging to be designed by joist manufacturer per SJI. For additional information, see 4 / S5.22 and 2 / S5.22.
12.  Denotes header, see schedule on 5 / S4.01 .
13. In addition to all loads indicated on plans, the joist manufacturer shall design all floor and roof joists for a 500 pound concentrated dead load at any location along the length of top chord, and a 250 pound concentrated dead load at any location along the length of bottom chord. The added load indicated above do not need to act simultaneously.
14. Joist manufacturer to apply 1/2" natural camber on first joist from wall.
15. Roof Deck
 19/32" APA T&G sheathing 40/20
 Nailing patterns:
 10d at 6" oc., all panel edges.
 10d at 12" oc., at intermediate supports stagger panel joints.
 For more information see



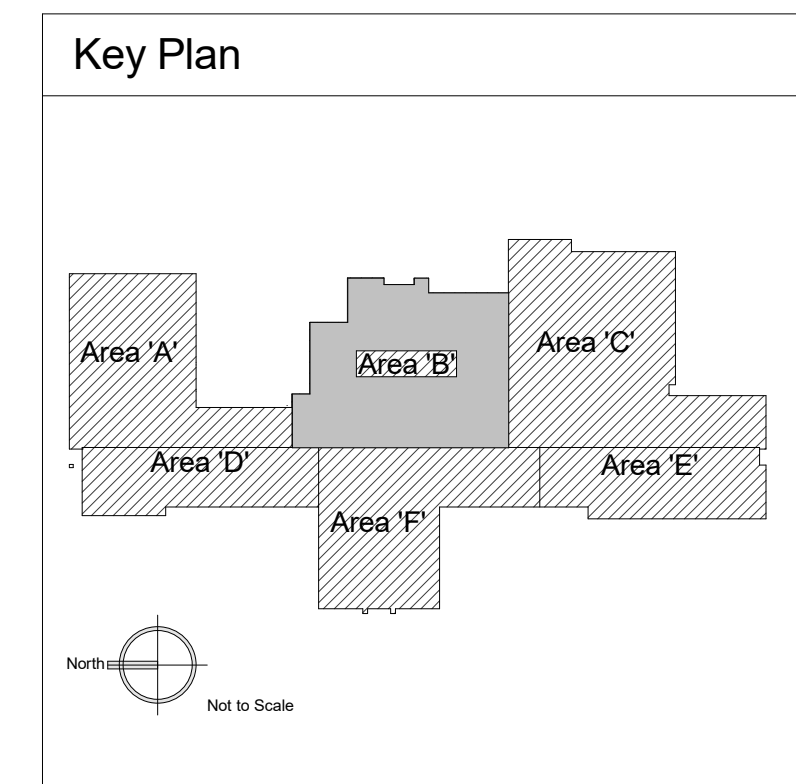
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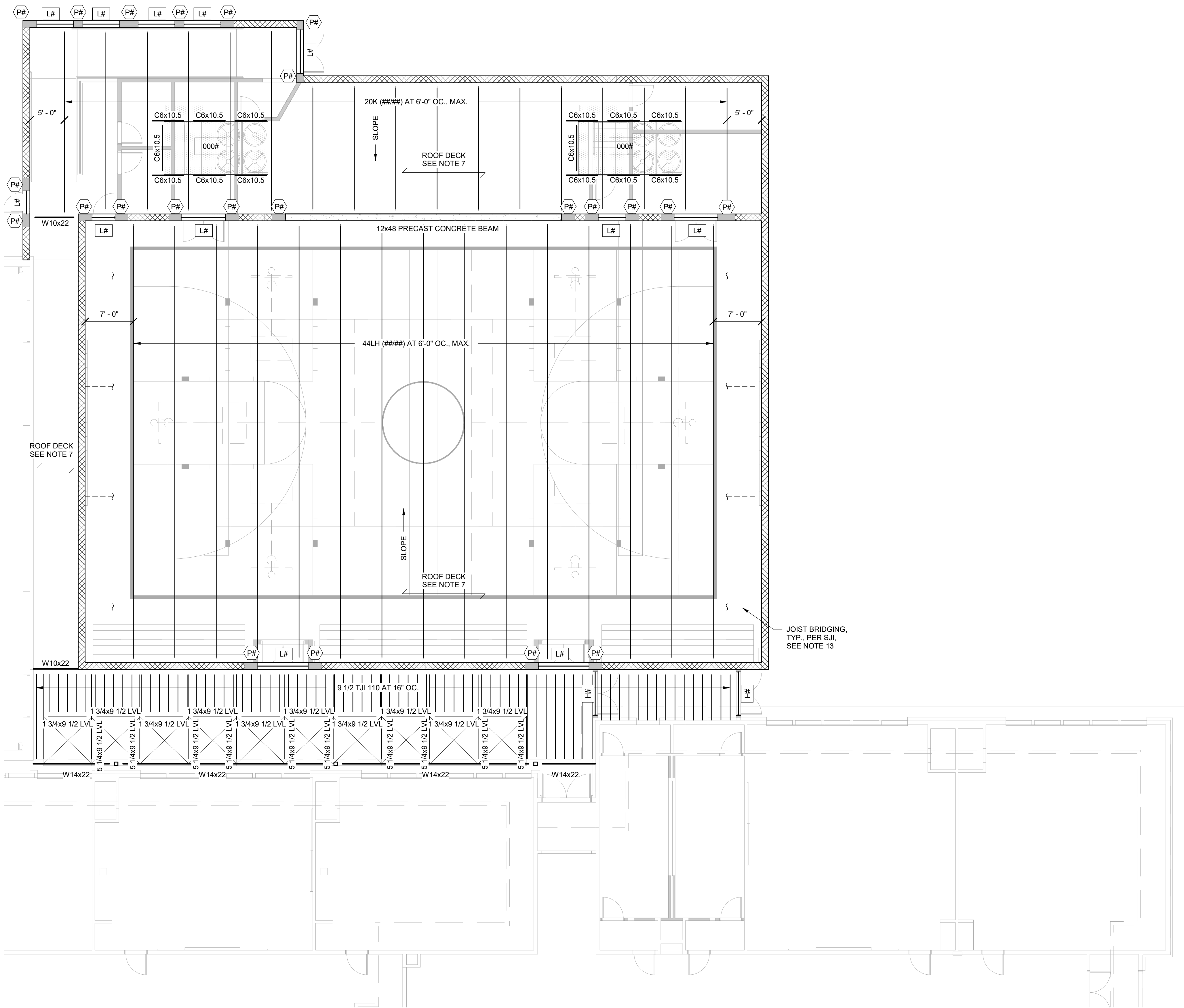
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 600 N. FILLMORE STREET JEROME, ID

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 DRAWING NO.:
S1.22
 AREA B ROOF FRAMING PLAN



1 AREA B ROOF FRAMING PLAN
 1/8" = 1'-0"



ROOF FRAMING PLAN NOTES

- For structural design notes, see sheets starting at S0.01.
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- 000#

Roof supported mechanical unit with operating weight. Provide framing under mechanical unit curb. Coordinate exact location, size and number of deck penetrations with mechanical. For additional information, see 2 / S5.21.
- Field coordinate roof openings and support framing locations. For typical deck reinforcing at deck penetrations, see 2 / S5.21.
- For steel deck schedule and loading plan see S2.01.
- For beam to beam or beam to column connection, see 1 / S5.21 and - / - unless specifically detailed.
- BOD

X' - X'

Denotes bottom of deck elevation. Work point is a projection up from grid or the center of framing/wall below.
- L#

Denotes masonry lintel, see schedule on S4.02.
- H#

Denotes header, see schedule on 5 / S4.01 .
- In addition to all loads indicated on plans, the joist manufacturer shall design all floor and roof joists for a 500 pound concentrated dead load at any location along the length of top chord, and a 250 pound concentrated dead load at any location along the length of bottom chord. The added load indicated above do not need to act simultaneously.
- Joist manufacturer to apply 1/2" natural camber on first joist from wall.
- Roof Deck

19/32" APA T&G sheathing 40/20

Nailing patterns:

10d at 5' oc., all panel edges.

10d at 12' oc., at intermediate supports stagger panel joints.

For more information see

LKV ARCHITECTS

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Boise, Idaho 83706

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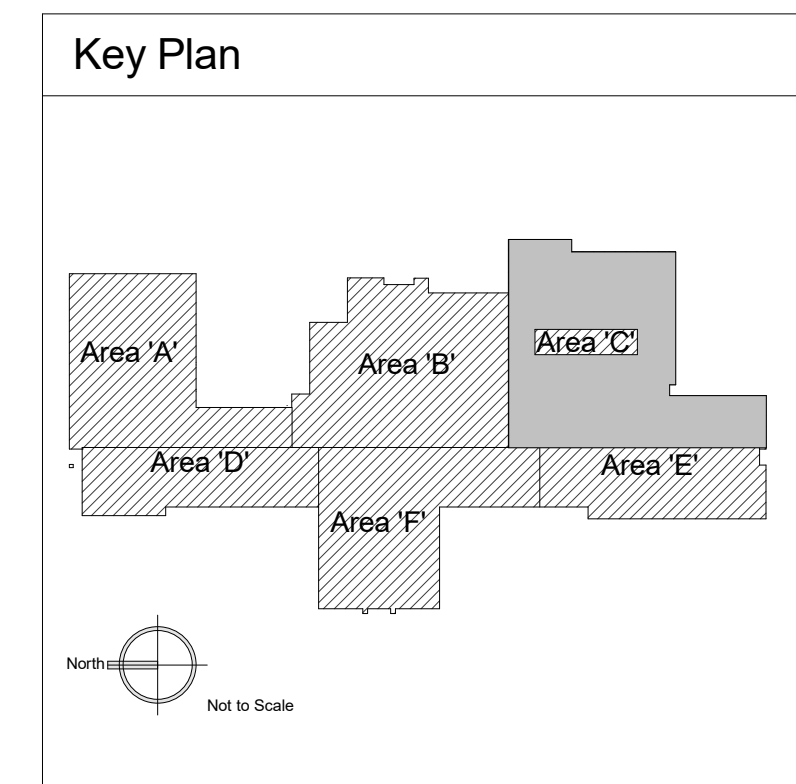
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DRAWING NO.:
S1.23
AREA C ROOF FRAMING PLAN

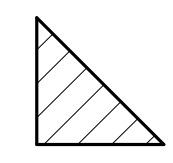
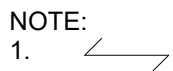


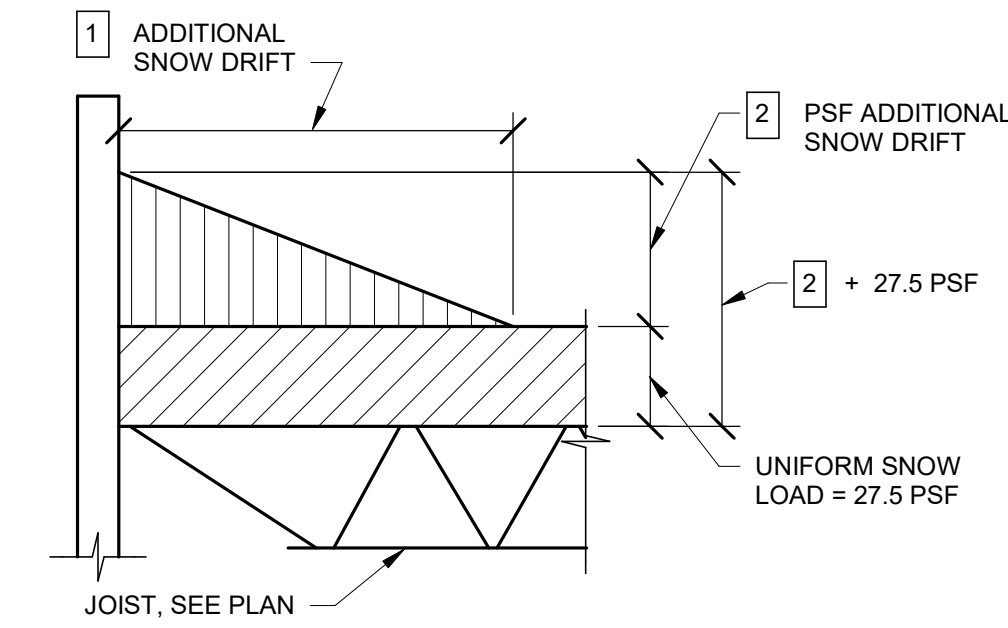
1 AREA C ROOF FRAMING PLAN
1/8" = 1'-0"

ENGINEER TO EDIT

STEEL DECK SCHEDULE										
TYPE	DESCRIPTION	mils	SIDE LAP CONNECTION	CONNECTION TO SUPPORTING MEMBERS PERP. TO FLUTES	CONNECTION TO SUPPORTING MEMBERS PARALLEL TO FLUTES	CONCRETE THICKNESS OVER FLUTES	TOTAL SLAB THICKNESS	REINFORCING UNO.	SHORING REQUIRED WHERE SINGLE SPANS EXCEED	COMMENTS SEE NOTE 7
DK1	1 1/2" TYPE B VERCO	43	BUTTON PUNCH AT 24" OC.	(4) 1/2" DIA. PUDDLE WELDS PER SHEET	1/2" DIA. PUDDLE WELDS AT 18" OC.	4"	5 1/2"	6x6 W2.9xW2.9	8'-0"	TYP. FLOOR
DK2	1 1/2" TYPE HSB36 VERCO	43	BUTTON PUNCH AT 12" OC.	(7) 1/2" DIA. PUDDLE WELDS PER SHEET	1/2" DIA. PUDDLE WELDS AT 12" OC.	-	-	-	-	TYP. ROOF

NOTES:
 1. Reinforcing to be placed 1 1/2" clear from top of concrete uno.
 2. Deck shall be continuous for (3) or more spans ((4) supports) where possible.
 3. See architectural drawings for flooring, roofing, insulation, etc.
 4. Comments are provided for reference only, for actual deck type layout see plans and legend.

LOAD LEGEND SCHEDULE	
	DENOTES SNOW DRIFT AREA TO BE INCLUDED IN JOIST DESIGN BY MANUFACTURER. LOADS ARE AS INDICATED ON THE SNOW DRIFT SCHEDULE S4.01.
NOTE: 1. 	Denotes deck direction.



SNOW DRIFT SCHEDULE		
MARK	1 LENGTH	2 DRIFT
(A)	3'-0"	15 psf
(B)	X'-X"	XXpsf

STEEL DECK SCHEDULE
NO SCALE

1

SNOW DRIFT SCHEDULE
NO SCALE

2



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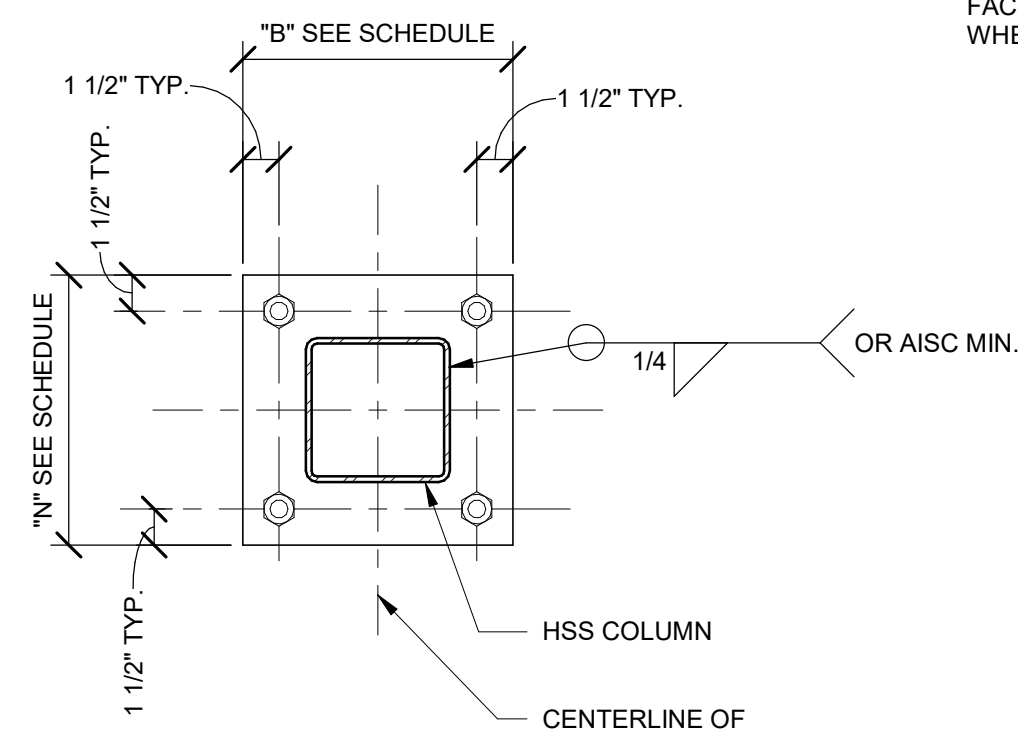
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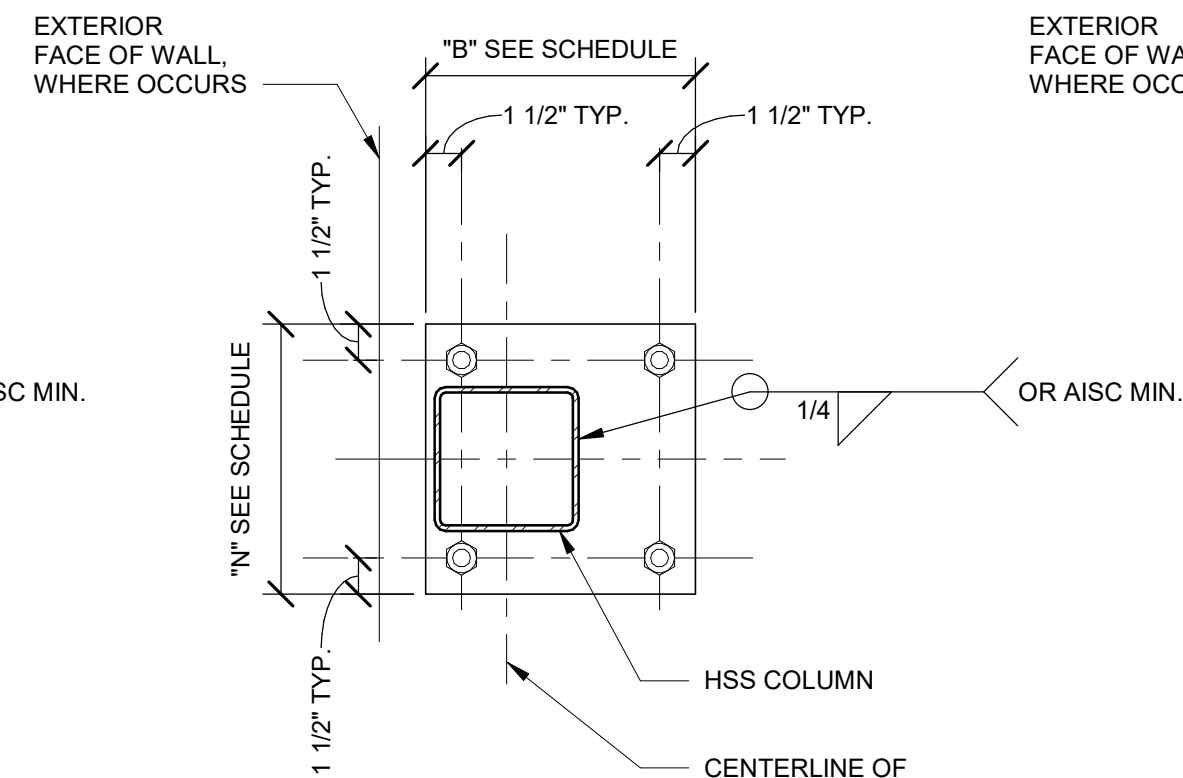
S2.01
LOADING AND DECK LAYOUT

BASE PLATE SCHEDULE						
BPL#	THICKNESS	DIM 'B'	DIM 'N'	ANCHOR BOLT	TYPE	REMARKS
1	3/4"	12"	12"	(4) 3/4" DIA. x 9" EMBED.	-	-
2	3/4"	12"	12"	(4) 3/4" DIA. x 9" EMBED.	-	-
3	3/4"	12"	12"	(4) 3/4" DIA. x 9" EMBED.	-	-
4	3/4"	12"	12"	(4) 3/4" DIA. x 9" EMBED.	-	-

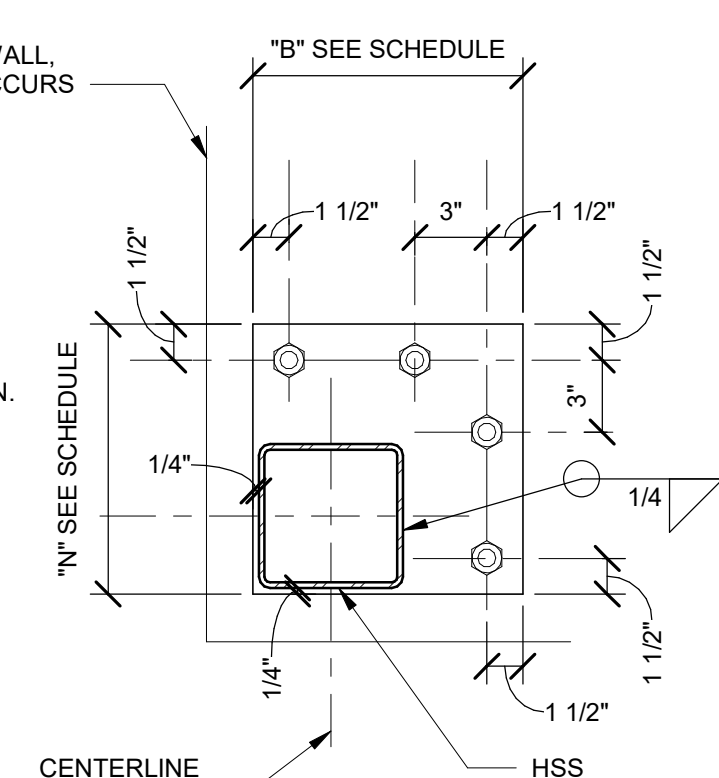
NOTES:
 1. For grout thickness see schedule on 2 / S4.01.
 2. Anchor bolt detail, see 3 / S4.01 typ. For bolt grade, see steel notes on sheet S0.03.
 3. For anchor bolt hole size, see steel notes on S0.03. For anchor bolt sizes with plate washers, see 4 / S4.01.



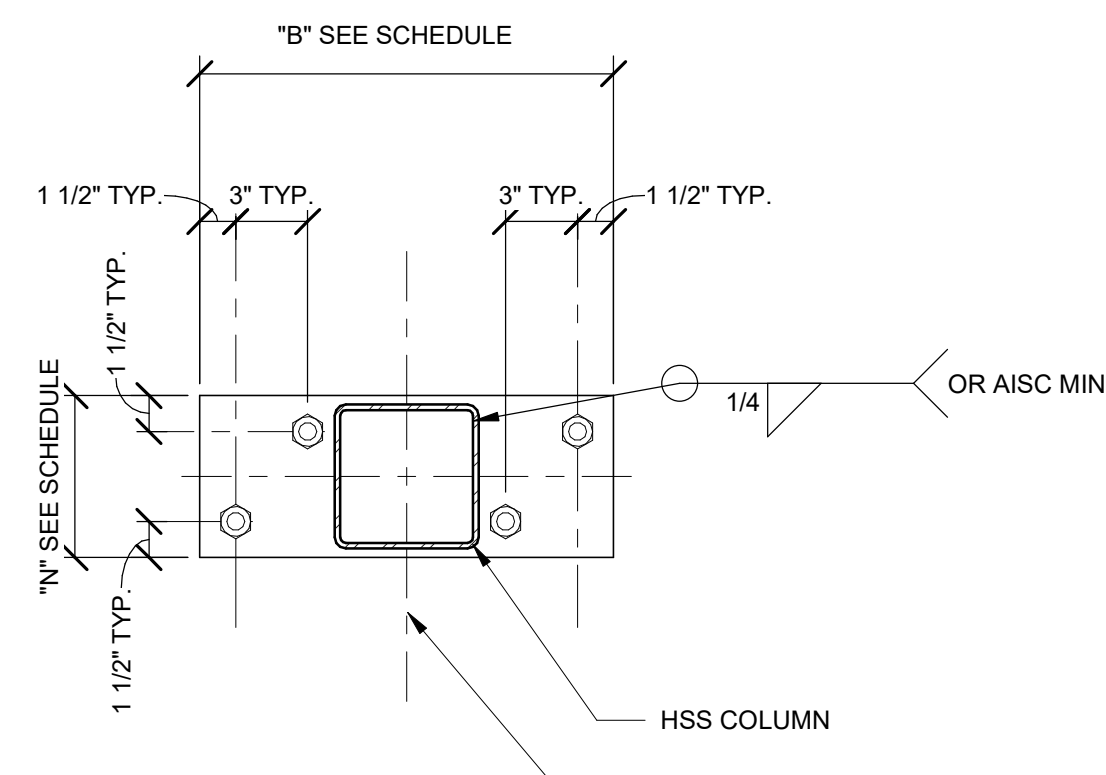
TYPE A



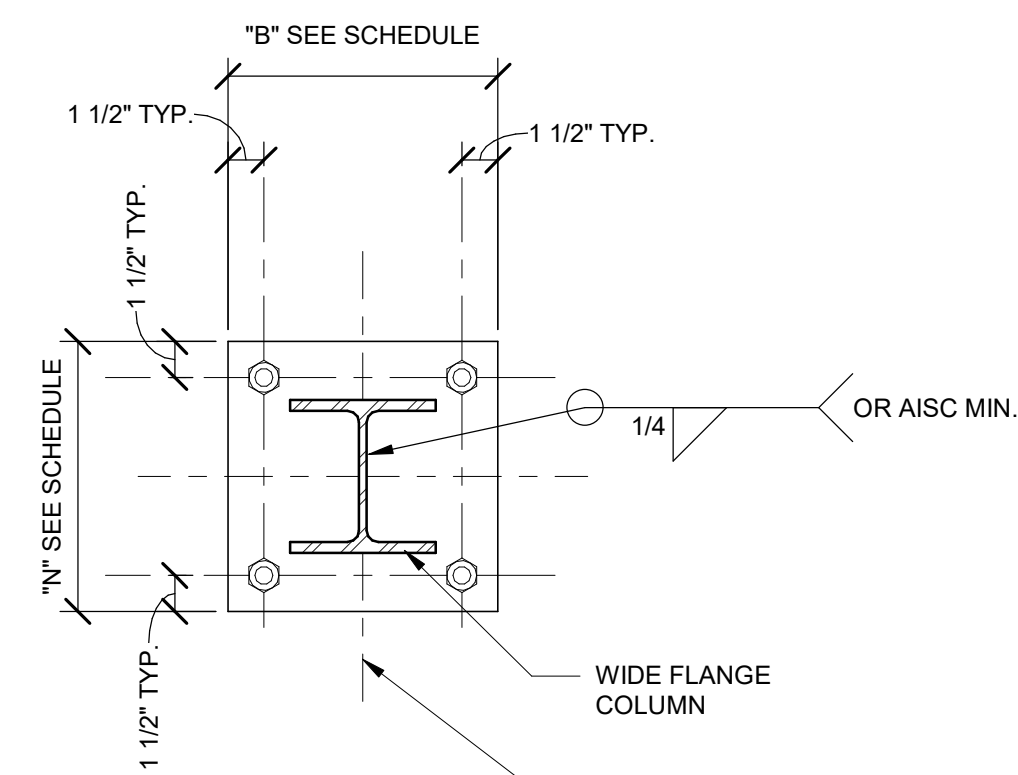
TYPE B



TYPE C



TYPE D



TYPE E

BASE PLATE DETAIL

NO SCALE

1

ANCHOR ROD HOLE DIAMETER WITH PLATE WASHER

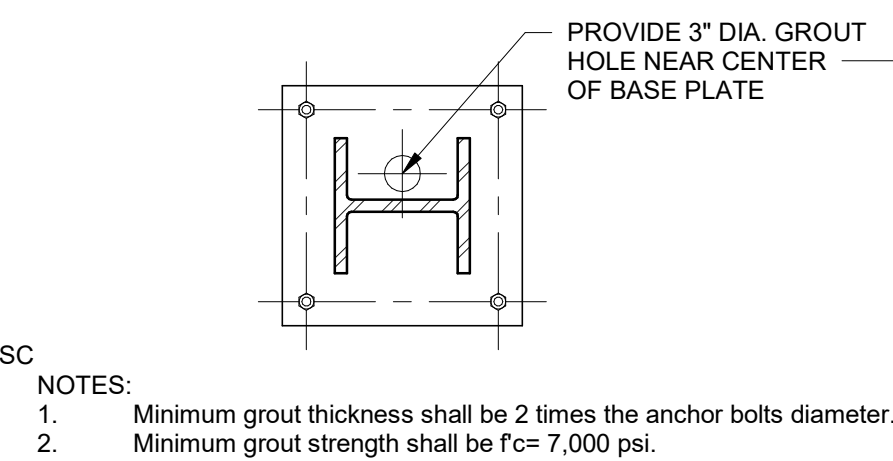
NO SCALE

4

ANCHOR ROD HOLE DIAMETER WITH PLATE WASHER			
ANCHOR ROD DIAMETER, IN.	HOLE DIAMETER, IN.	PLATE WASHER DIAMETER, IN.	MIN. PLATE WASHER THICKNESS, IN.
3/4	1 5/16	2	1/4

NOTES:
 1. Plate washers are required at contractor's option. For hole diameter with standard washers, see the steel notes on S0.03.
 2. Verify adequate clearance for the required plate washer.
 3. Circular or square washers meeting the size shown are acceptable.

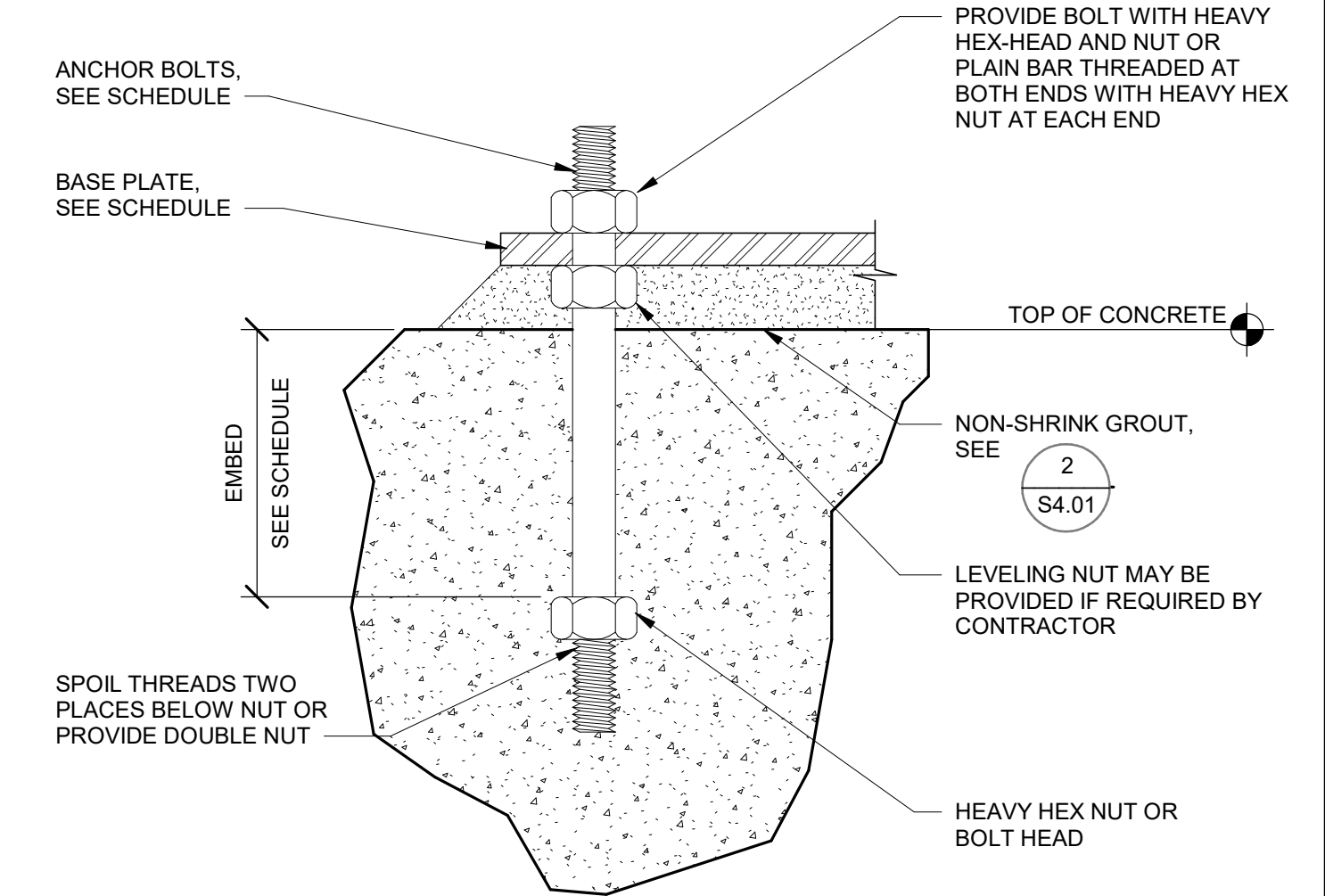
NON-SHRINK GROUT SCHEDULE	
BASE PLATE MINIMUM WIDTH	MINIMUM NON-SHRINK GROUT THICKNESS *
UP TO 16"	1 1/2"
17" TO 23"	2"
24" TO 35"	2 1/2"
36" AND OVER	3"



TYPICAL NON-SHRINK GROUT AT BASE PLATE

NO SCALE

2



TYPICAL HEADED ANCHOR BOLT

NO SCALE

3

HEADER/BEAM SCHEDULE			
SYMBOL	HEADER	TRIMMER STUD(S)	KING STUD(S)
H1	(2) 2x8 DF#1	2x6 DF-L 1	2x6 DF-L 1
H2	(2) 2x12 DFL #1	2x6 DF-L 1	2x6 DF-L 1
H3	(3) 2x14 DF-L SELECT STRUCTURAL	(2) 2x6 DF-L 1	2x6 DF-L 1
H4	(2) 1.75x14 MICROLLAM LVL 1.9E	(2) 2x6 DF-L 1	(2) 2x6 DF-L 1

NOTES:
 1. All bearing wall headers are H1 uno.
 2. Simpson HU-MAX or HUC-MAX hanger where applicable uno, use trimmer studs at hanger backing.
 3. Trimmer studs/posts in schedule typ. uno on plans.
 4. Parallams at exterior framing are required to be wolmanized unless they are wrapped with a water proof membrane on (4) sides.
 5. See for additional information.

HEADER/BEAM SCHEDULE

NO SCALE

5

FOOTING SCHEDULE						
MARK	WIDTH	LENGTH	THICKNESS	REINFORCING		REMARKS
				TOP	BOTTOM	
CF3	3' - 0"	CONT.	1' - 0"	-	(4) #5 CONT.	
CF5	5' - 0"	CONT.	1' - 0"	-	(5) #5 CONT.	
F6A	6' - 0"	6' - 0"	1' - 0"	-	(7) #5 EACH WAY	

NOTES:
 1. All rebar to be evenly distributed in footing with minimum required clearances from edges.
 2. Footing intersections and corners, see 4 / S4.01 .

FOOTING SCHEDULE

NO SCALE

6

WOOD SHEAR WALL SCHEDULE				
MARK	SHEATHING MATERIAL	EDGE NAILING	FIELD NAILING	SILL PLATE ANCHOR AT FOUNDATION
1	7/16" APA RATED PLYWOOD ONE SIDE OF WALL	8d COMMON AT 6" OC.	8d COMMON AT 12" OC.	SILL PLATE ANCHOR AT FLOOR 1/2" DIA. AB. AT 48" OC. OR 16d COMMON AT 9" OC.

NOTES:
 1. Studs to be spaced at 16" oc. max. Studs and Blocking at edges shall be 2x nominal. At wall with Blocking at panel edges, stagger nails.
 2. Provide full height double studs at ends of shear wall unless noted as post on plan or detail hold-downs as specified on plans shall be attached to double stud or post per details and Mfr. recommendations. Face nail double stud with 16d common at 9" oc, staggered.
 3. Install panels either horizontal or vertical.
 4. Provide continuous 2x top plate at all shear walls, exterior walls and bearing walls. Lap splice top plate per general detail.
 5. Where noted on plan, shear walls shall extend beyond openings or corner of wall unless length is noted. Sheathing shall not be interrupted by intersection walls.
 6. 3/8" minimum nail spacing from panel, stud or block edge. All nails to be common nails. Minimum nail dimensions are as follows:
 A. 8d common = 0.131" dia. x 2 1/2" long
 B. 10d common = 0.148" dia. x 3" long
 7. Oriented Strand Board (OSB) may be substitute for rated plywood. Provide same thickness, rating, nail size and spacing, and blocking.
 8. A minimum of (2) anchor bolts shall be used on each plate piece. Provide anchor bolt within 9" of end of each piece.
 9. When sheathing is applied on each face of wall, stagger plywood joints and use (2) 2x studs. When edge nailing is at 2" oc, stagger nails and use (2) 2x studs.
 10. Min. embed anchor bolt depth: 1/2" dia. bolts x 9", 5/8" dia. bolts x 10", 3/4" dia. bolts x 12".
 11. Fasteners (nails, screws, anchor bolts) in preservative treated wood are to be approved silicon bronze or copper, stainless steel or hot dipped zinc coated steel, per IBC 2304.9.5.
 The following notes only apply to projects located in seismic design categories D, E, and F:
 12. Washer plate holes are permitted to be diagonally slotted with a width 3/16" larger than the bolt dia. and a slot length 1 3/4" or less, provided a standard cut washer is placed between the plate washer and the nut.
 13. At shear walls where edge nailing is 4" oc. or less stagger nailing, also provide 3x nominal sill plate and 3x (or (2) 2x) nominal studs at panel joints.

SHEAR WALL SCHEDULE

NO SCALE

7



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#	Revisions	Description	Date

JEFFERSON ELEMENTARY SCHOOL ADDITION AND REMODEL

600 N. FILLMORE STREET JEROME, ID

DATE: 12/09/22
LKV PROJECT # Client Number

DRAWN BY: GT
CHECKED BY: KF

Project Status

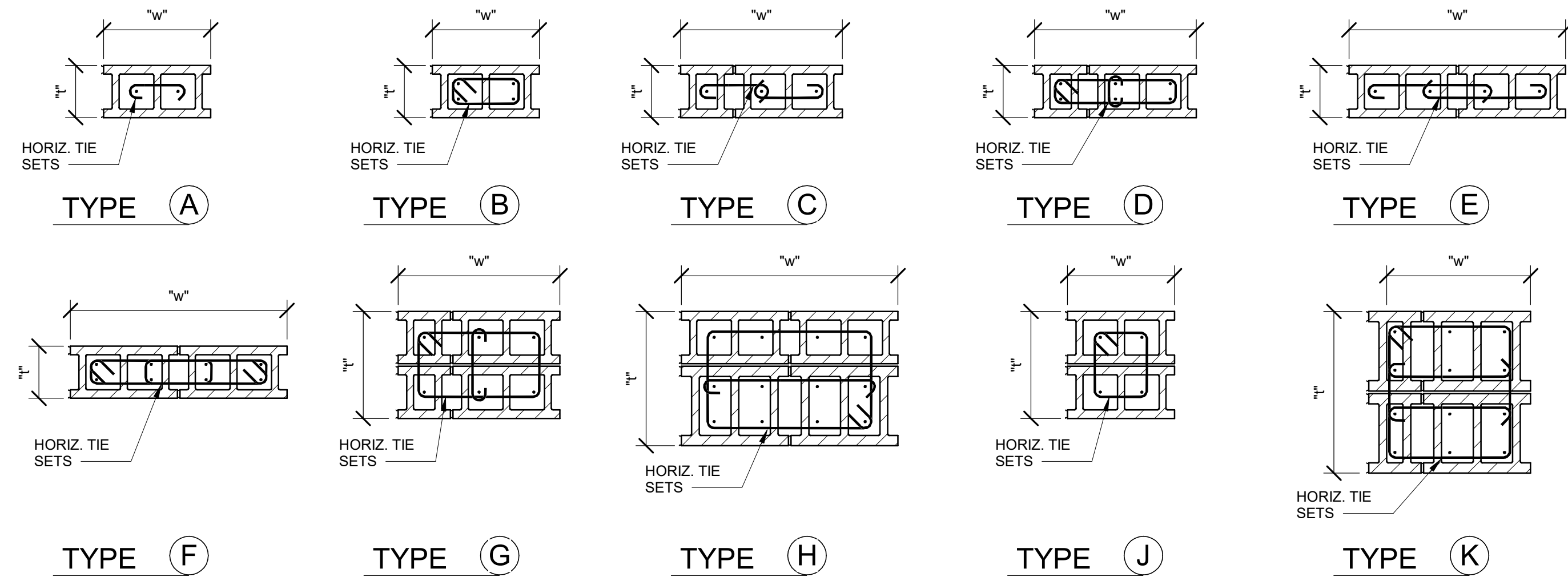
DRAWING NO.:

S4.01
SCHEDULES

ENGINEER TO EDIT

MARK	"t"	"w"	REINFORCING		STRENGTH F _m /F _c (psi)	TYPE	STRENGTH F _m /F _c (psi)
			VERTICAL	HORIZONTAL			
P1	8"	1' - 4"	#5 EACH CELL	#3 AT 8" OC.	1500	A	-
P2	8"	1' - 4"	(2) #5 EACH CELL ONE EACH FACE	#3 AT 8" OC.	1500	B	-
P3	8"	2' - 0"	#5 EACH CELL	#3 AT 8" OC.	1500	C	-
P4	8"	2' - 0"	(2) #5 EACH CELL ONE EACH FACE	#3 AT 8" OC.	1500	D	-
P5	8"	2' - 8"	#5 EACH CELL	#3 AT 8" OC.	1500	E	-
P6	8"	2' - 8"	(2) #5 EACH CELL ONE EACH FACE	#3 AT 8" OC.	1500	F	-
P7	1' - 4"	2' - 0"	#5 EACH CELL	#3 AT 8" OC.	1500	G	-
P8	1' - 8"	2' - 8"	#5 EACH CELL	#3 AT 8" OC.	3000	H	-
P9	1' - 4"	1' - 4"	#6 EACH CELL	#3 AT 8" OC.	1500	I	-
P10	2' - 0"	2' - 0"	#6 EACH CELL	#3 AT 8" OC.	1500	J	-

NOTES:
 1. See details on S5.01 for reinforcing placement.
 2. All rebar centered in each cell, uno.
 3. Pilasters shown on 2nd floor are to be cont. to foundation uno.
 4. Pilasters are to be continuous to top of masonry, uno.



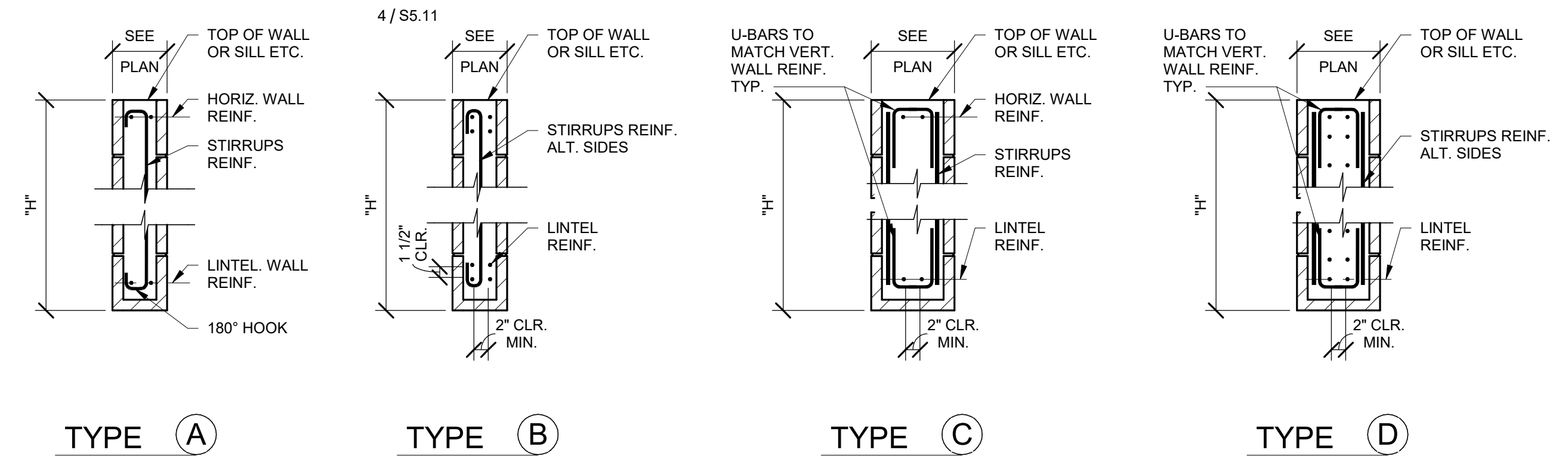
MASONRY PILASTER SCHEDULE AND SECTIONS
NO SCALE

1

ENGINEER TO EDIT

MARK	OPENING WIDTH	HEIGHT "h"	REINFORCING		STIRRUPS	F _m =	TYPE	NOTES
			BOTTOM BARS	TOP BARS				
L1	SEE PLAN	16" MIN.	(2) #5	(2) #5	-	1500	A	-
L2	SEE PLAN	40" MIN.	(4) #5	(4) #5	#3 AT 8" OC.	1500	B	-
L3	SEE PLAN	56" MIN.	(2) #5	(2) #5	(2) #3 AT 8" OC.	1500	C	(2) 12" SIDE BY SIDE
L4	SEE PLAN	64" MIN.	(2) #5	(2) #5	(2) #3 AT 8" OC.	1500	D	-

NOTES:
 1. Typical lintel jamb construction, see
 2. #5 each face horizontal bars at 16" oc.



LINTEL SCHEDULE AND SECTIONS
NO SCALE

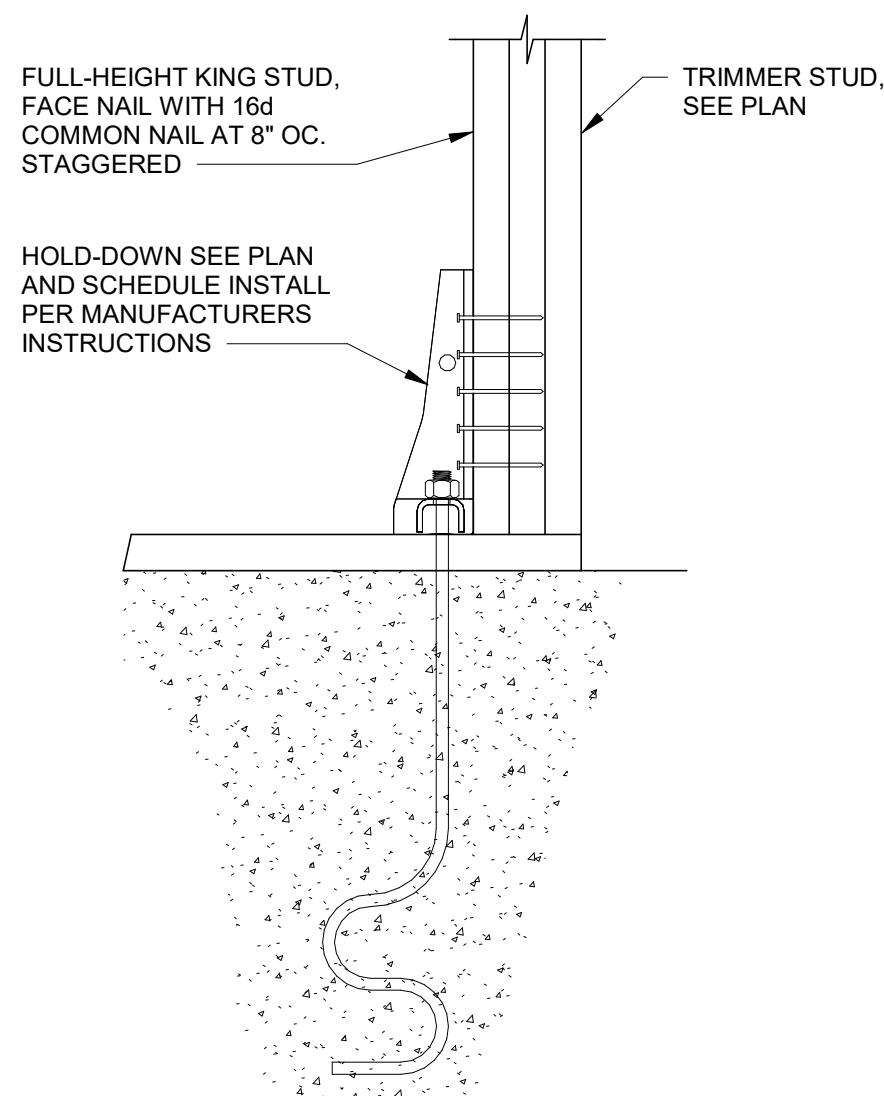
2

ENGINEER TO EDIT

MARK	REINFORCING		STRENGTH F _m (psi)	REMARKS	NOTES:
	VERTICAL	HORIZONTAL			
W1	#5 AT 48" OC.	#5 AT 48" OC. EACH FACE	1500	-	1. Typical reinforcing for all 8" masonry walls uno.
W2	#5 AT 48" OC. EACH FACE	#5 AT 48" OC. EACH FACE	1500	-	2. Typical reinforcing for all 12" masonry walls uno.
W3	#5 AT 32" OC. EACH FACE	#5 AT 48" OC. EACH FACE	1500	-	3. All wall reinforcing callout on foundation plan is continuous to top of wall uno.
W4	#5 AT 24" OC.	#5 AT 48" OC. EACH FACE	2500	-	4. All rebar centered in each cell, unless noted otherwise.
W5	#5 AT 24" OC.	#5 AT 48" OC. EACH FACE	1500	-	5. EF Denotes each face.
W6	#5 AT 24" OC. EACH FACE	#5 AT 48" OC. EACH FACE	1500	-	6. All walls to have (2) #5 in bond beams at 48" oc uno. Also provide double bond beams at floors, roofs, and #5 at top of walls.
W7	#5 AT 16" OC.	#5 AT 48" OC. EACH FACE	1500	-	
W8	#5 AT 16" OC. EACH FACE	#5 AT 48" OC. EACH FACE	1500	-	7. For general notes and details see S5.11.

MASONRY WALL SCHEDULE
NO SCALE

4



NOTES:
 1. Enlarge footing to provide 3" clear at bolt as required.
 2. Embed length is below curb or slab step where occurs.

TYPICAL WOOD HOLD-DOWN DETAILS
NO SCALE

3

HOLD-DOWN	EMBED. AT FOUNDATION AND / OR ANCHOR BOLT	CONNECTION TO KING STUD	MIN. KING STUD WIDTH
HDU2	SSTB16 WITH 13" EMBED	(6) 1/4" x 2 1/2" SDS SCREWS	3"
HDU5	SSTB24 WITH 21" EMBED	(14) 1/4" x 2 1/2" SDS SCREWS	3"
HDU8	SSTB28 WITH 25" EMBED	(20) 1/4" x 2 1/2" SDS SCREWS	4 1/2"
HDU11	SB1x30 WITH 24" EMBED	(30) 1/4" x 2 1/2" SDS SCREWS	5 1/2"

NOTES:
 1. Hold-down shall be Simpson or equal with ICC approval. All substitutes shall be reviewed by the engineer of record before installation.
 2. Fixed-length straps shall be installed with and equal number of fasteners in each member.

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600 N. FILLMORE STREET JEROME, ID

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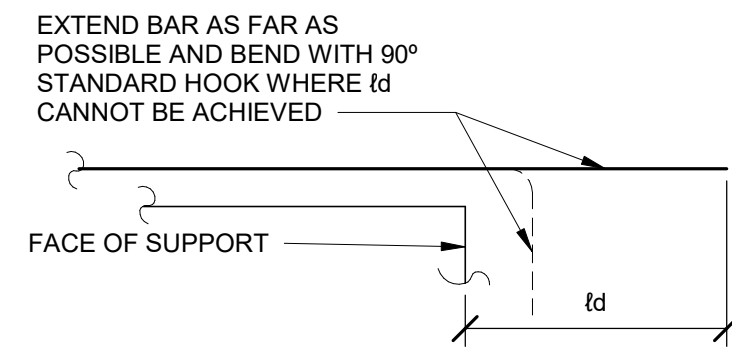
Project Status

DRAWING NO.:

S4.02
SCHEDULES - MASONRY
PILASTER/LINTEL

BAR SIZE	f _c = 3000 psi				f _c = 4000 psi				f _c = 4500 psi			
	TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS	
	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2
#3	22	33	17	25	19	28	15	22	18	27	14	21
#4	29	43	22	33	25	37	19	29	24	35	18	27
#5	36	54	28	41	31	47	24	36	30	44	22	34
#6	43	64	33	50	37	56	29	43	35	53	27	41
#7	63	94	48	72	54	81	42	63	51	77	39	59
#8	72	107	55	82	62	93	48	71	59	88	45	68
#9	81	121	62	93	70	105	54	81	66	99	50	76
#10	91	136	70	105	79	118	61	91	74	111	57	86
#11	101	151	78	116	87	131	67	101	82	123	63	95
#14	121	181	93	139	105	157	81	121	99	148	76	114
#18	161	241	124	186	139	209	107	161	132	197	101	152

- NOTES:
- Table for use with normal weight hardrock concrete and grade 60 uncoated reinforcing bars. For lightweight aggregate use 1.3f.
 - Top bars are horizontal bars with 12" or more of concrete cast in the member below the bar.
 - For bars enclosed in standard column spirals, use 0.75f or 12" min. Development length of individual bars within a bundle shall be 1.2f for that bar in a (3) bar bundle and 1.33f for a (4) bar bundle.
 - Compression development length (only where indicated on drawings) For grade 60 bars use 2d bar diameters.
 - Case Selection
 - For foundation reinforcement use Case 1 uno.
 - For foundation that have two layers of reinforcement in one direction top or bottom use Type 2.
 - For column reinforcement and dowels use Case 1 uno.
 - For beam reinforcement use Case 1 uno.
 - For structural slab reinforcement use Case 2 uno.
 - For slab on grade reinforcement use Case 1 uno.
 - For wall reinforcement and dowels use Case 2 (Except as noted below) uno.
 - For walls with a single mat of steel centered in the wall, use Case 1 for wall reinforcement and dowels uno.
 - For chord steel reinforcement use Case 2 uno.



TENSION DEVELOPMENT LENGTH (CONCRETE ONLY)

3/4" = 1'-0"

1

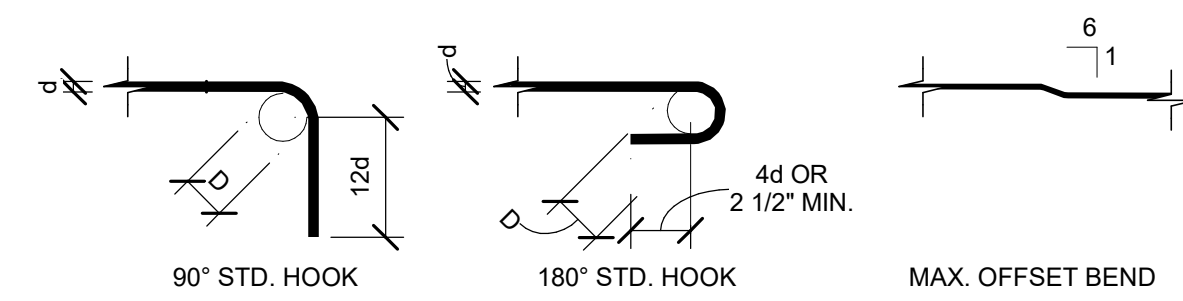
BAR SIZE	LAP CLASS	f _c = 3000 psi				f _c = 4500 psi				f _c = 5000 psi			
		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS	
		CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2
#3	A	22	32	17	25	18	27	14	21	17	25	13	19
	B	28	42	22	32	23	35	18	27	22	33	17	25
#4	A	29	43	22	33	24	35	18	27	22	33	17	26
	B	37	56	29	43	31	46	23	35	29	43	22	33
#5	A	36	54	28	41	30	44	22	34	28	42	22	32
	B	47	70	36	54	39	57	29	44	36	54	28	42
#6	A	43	64	33	50	35	53	27	41	33	50	26	38
	B	56	84	43	64	46	69	35	53	43	65	33	50
#7	A	63	94	48	72	51	77	39	59	49	73	37	56
	B	81	122	63	94	66	100	51	77	63	94	49	73
#8	A	72	107	55	82	59	88	45	68	55	83	43	64
	B	93	139	72	107	77	114	58	88	72	108	55	83
#9	A	81	121	62	93	66	99	50	76	63	94	48	72
	B	105	157	81	121	86	129	66	99	81	122	63	94
#10	A	91	136	70	105	74	111	57	86	70	105	54	81
	B	118	177	91	136	96	144	74	112	91	137	70	105
#11	A	101	151	78	116	82	123	63	95	78	117	60	90
	B	131	196	101	151	107	160	82	124	101	152	78	117

- NOTES:
- Table for use with normal weight hardrock concrete and grade 60 uncoated reinforcing bars. For lightweight aggregate use 1.3f.
 - Class A - Half or less of the bars are spliced within a required lap length.
 - Class B - More than half of the bars are spliced within a required lap length.
 - Top bars are horizontal bars with 12" or more of concrete cast in the member below the bar.
 - For bars enclosed in standard column spirals, use 0.75f or 12" min. Lap splices of individual bars with a bundle shall be 1.2f for that bar in a (3) bar bundle and 1.33f for a (4) bar bundle. Entire bundles shall not be staggered such that they do not overlap.
 - l - Basic lap length, shown at left.
 - Case Selection
 - For foundation reinforcement use Case 1 uno.
 - For column reinforcement and dowels use Case 1 uno.
 - For beam reinforcement use Case 1 uno.
 - For structural slab reinforcement use Case 2 uno.
 - For slab on grade reinforcement use Case 1 uno.
 - For wall reinforcement and dowels use Case 1 (Except as noted below) uno.
 - For walls with a single mat of steel centered in the wall, use Case 1 for wall reinforcement and dowels uno.
 - For chord steel reinforcement use Case 2 uno.
 - Different size bars are to be lapped by the larger bar.
 - Different diameter bars are to be lapped per the larger bar.

TENSION LAP SPLICE (CONCRETE ONLY) TENSION LAP SPLICE LENGTHS, (IN INCHES) FOR GRADE 60 UNCOATED BARS

3/4" = 1'-0"

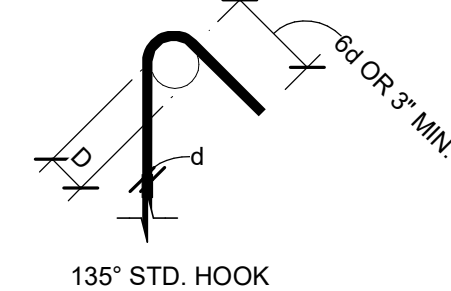
2



D=6d FOR #3 TO #8
D=8d FOR #9 TO #11
D=10d FOR #14 TO #18

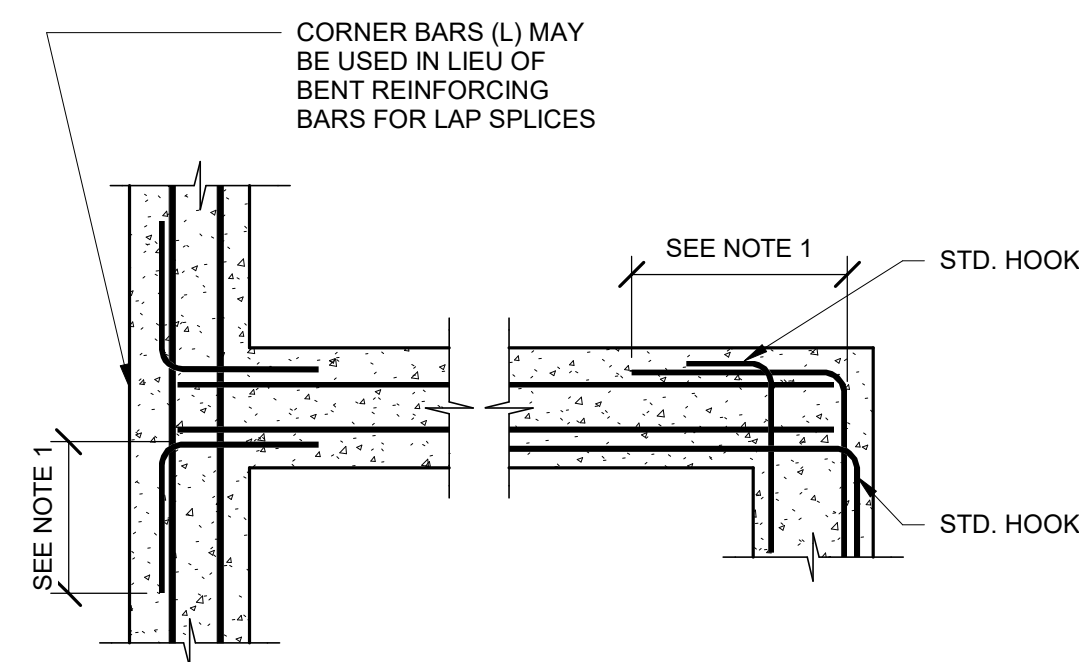
PRINCIPAL REINFORCING

MIN. D=1 1/2" FOR #3
MIN. D=2" FOR #4
MIN. D=2 1/2" FOR #5



STIRRUPS AND TIES

- NOTES:
- All bends shall be made cold.
 - #14 and #18 bars shall be bend tested and lab approved prior to bending.



INTERSECTION

CORNER

- NOTE:
- Use tension lap splices, see 2 / S5.01.

REINFORCING AT FOOTING INTERSECTIONS

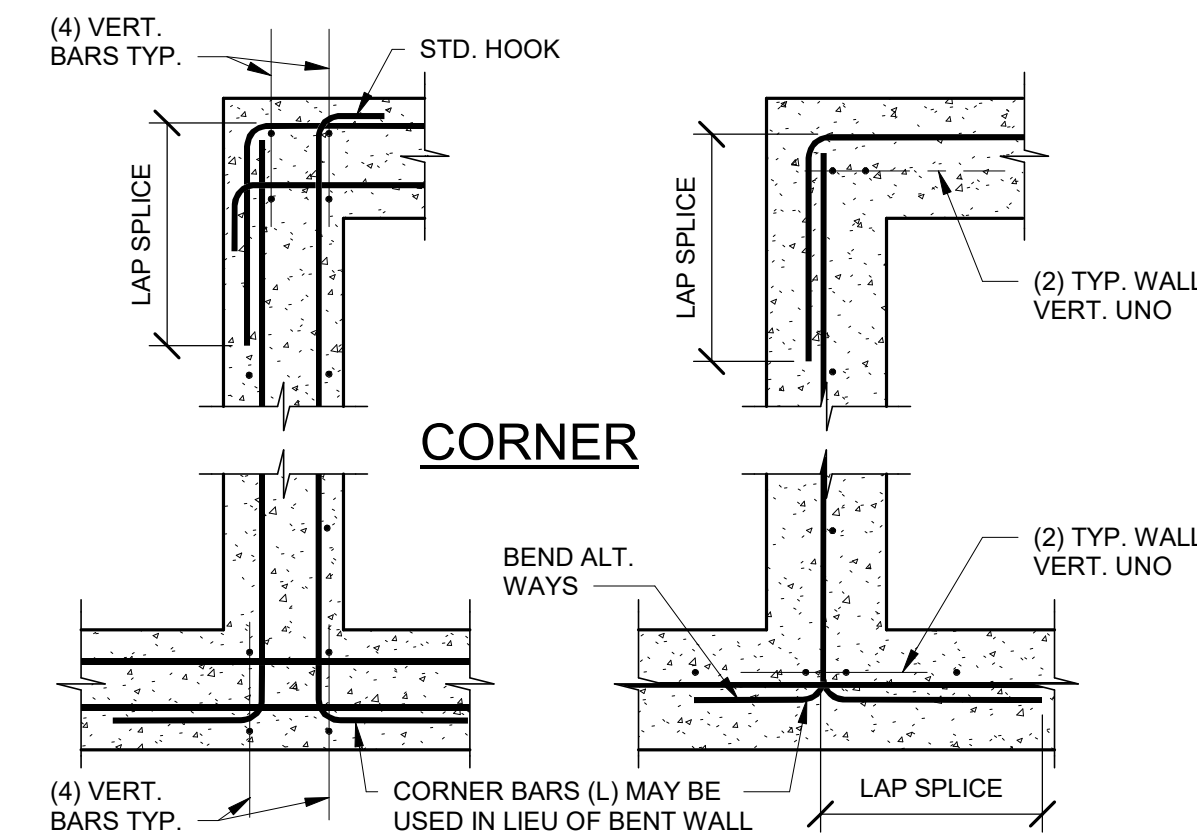
NO SCALE

5

HOOKED BAR SCHEDULE

3/4" = 1'-0"

3



INTERSECTION

DOUBLE MAT

SINGLE MAT

- NOTE:
- Use tension lap splices, see 2 / S5.01.

REINFORCING AT WALL INTERSECTIONS

NO SCALE

6

GENERAL DETAIL NOTES

- For structural design notes, see sheets starting at S0.01.
- Architectural backgrounds are shown for reference only. The dimensions shown apply to structural elements only. For dimensions not shown, see architect of record submittal.
- Contractor shall field verify existing structural conditions. If any discrepancies are found, contractor shall contact the Architect and Structural Engineer before performing alteration work.
- For all top of footing, top of slab, and slab on grade construction, see foundation plan.
- Columns and base plates are called out on plans and coordinated in the schedule shown on S4.01.
- Sub-grade material below slabs and footings shall be constructed as indicated by geo-tech report.
- For structural framing sizes, bottom of deck and top of steel elevations, see plans.
- For floor deck size, attachment, span direction, and finish floor elevations, see plans.
- For typical bearing wall construction, see plans. Coordinate location with plans and architectural.
- For interior and exterior wall finishes, see architectural.
- For all typical construction details not shown on this sheet, see all "S5" series drawings.



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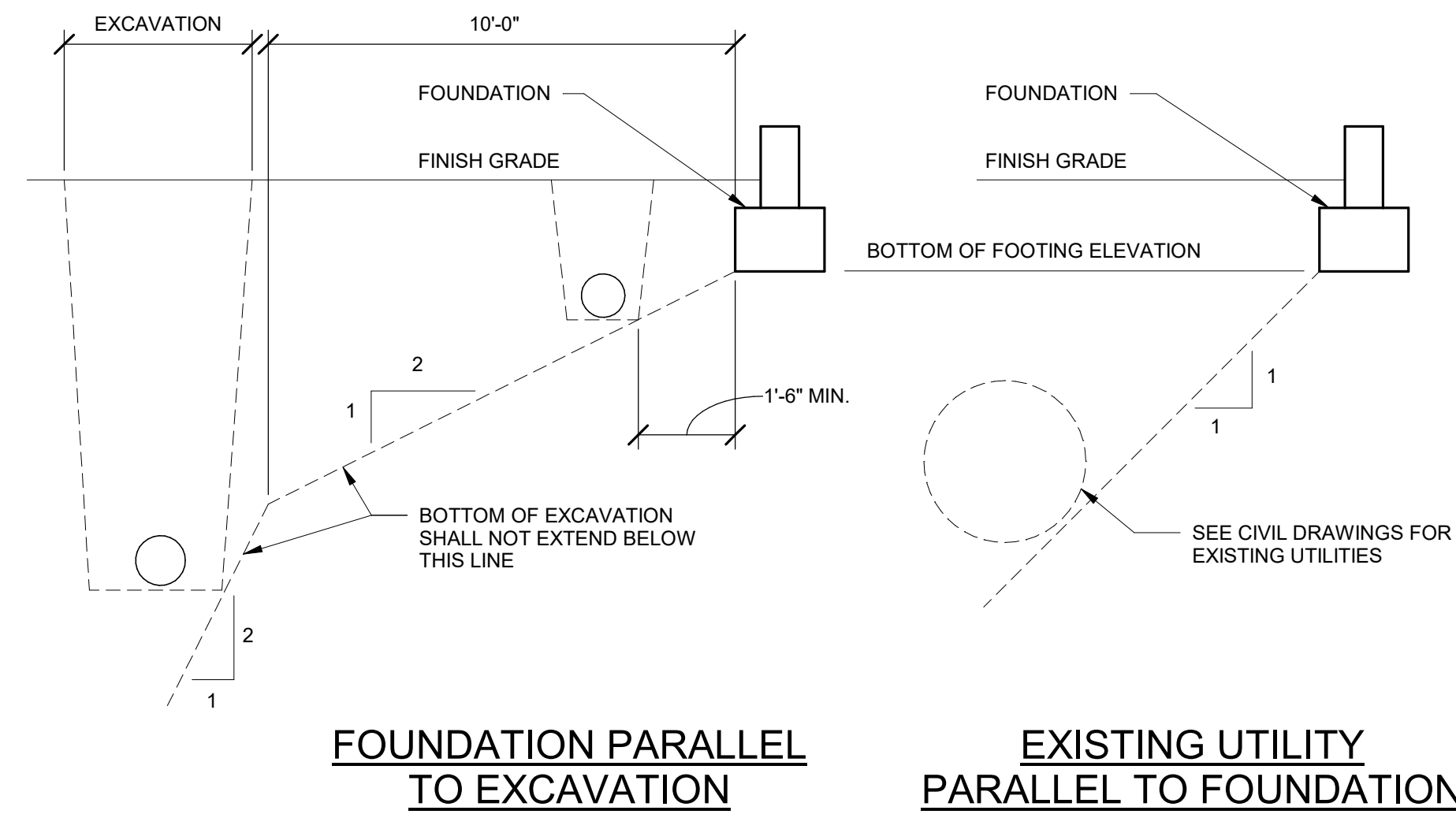
DATE: 12/09/22
LKV PROJECT #: Client Number

DRAWN BY: GT
CHECKED BY: KF

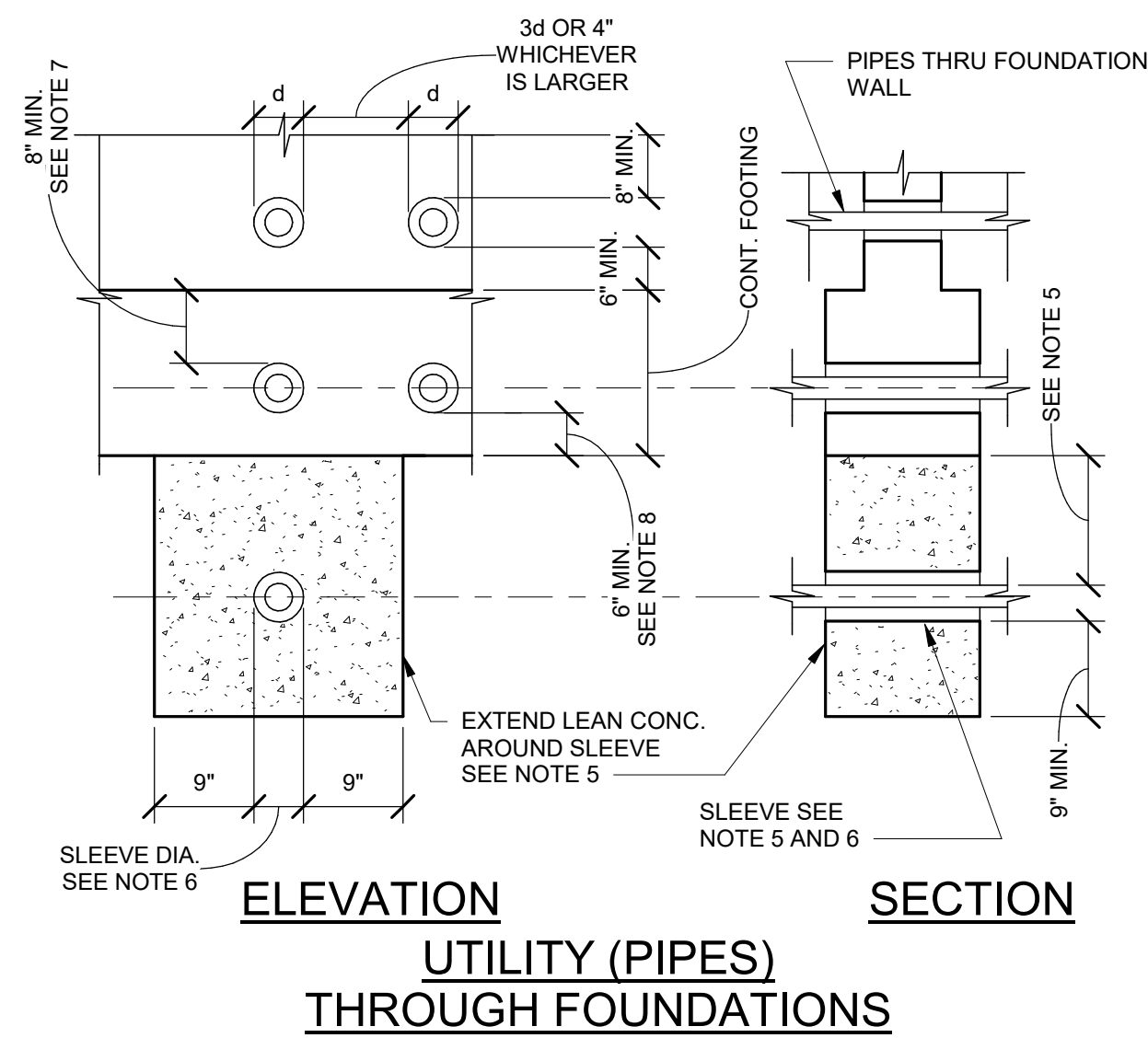
Project Status

DRAWING NO.:

S5.01
GENERAL CONCRETE DETAILS



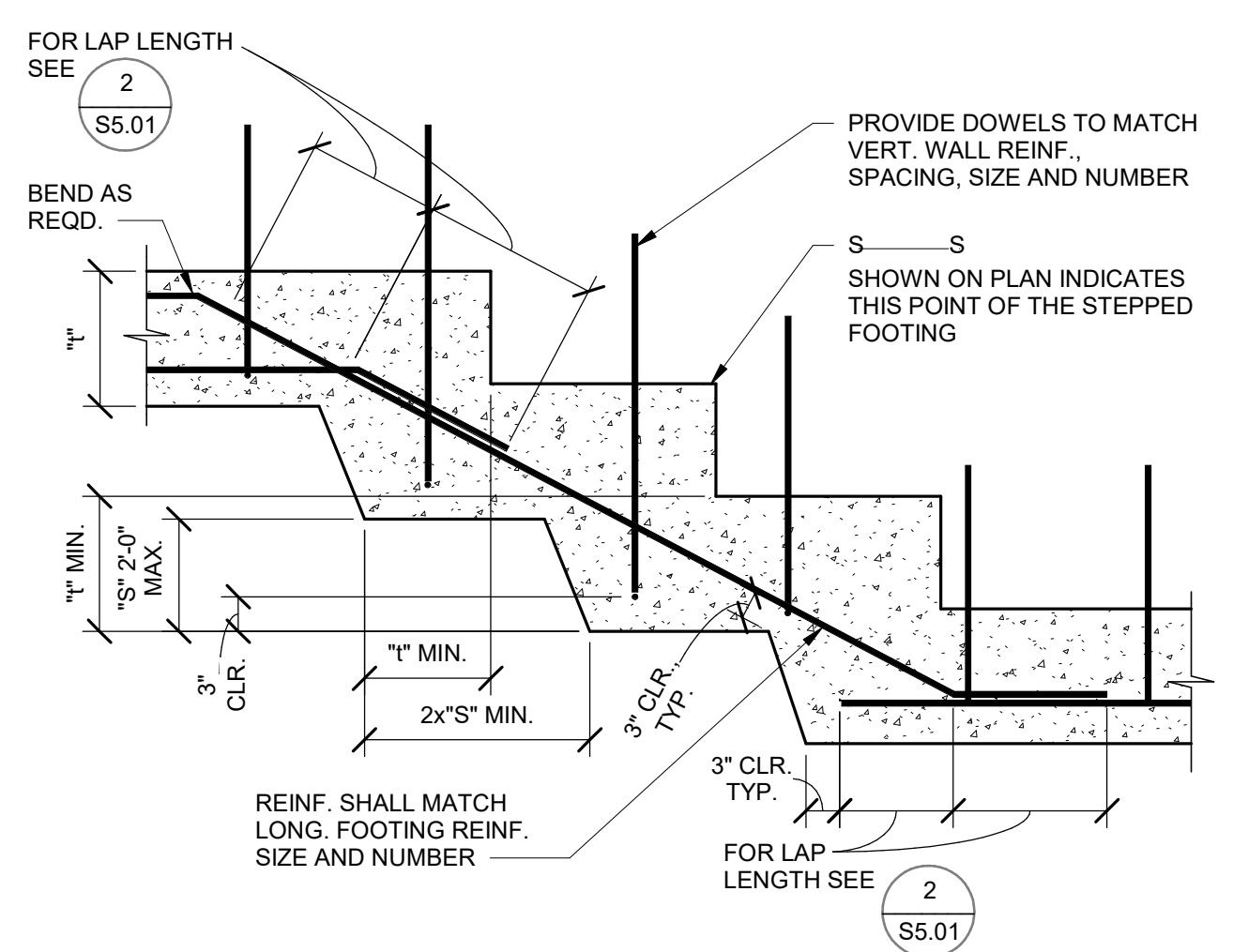
- NOTES:**
- Contractor shall locate bottom of excavation to avoid surcharge on utilities and other foundations.
 - Contractor shall coordinate all excavations with foundation with foundation requirements.
 - Step foundation as required see 2 / S5.02.
 - Contractor shall adhere to the recommendations in the Geotechnical Notes, for all excavations, backfill requirements etc.
 - Pipes that are less than 4'-0" below foundation, provide sleeve and encase in lean concrete. For pipes more than 4'-0" below foundation, compact soil in pipe trench per soils report.
 - Sleeves shall be minimum 1" clear all around pipes, conduit etc.
 - For pipes within the footing thickness and are less than 8" from top of footing, step footing as required to pass pipes through stem wall.
 - For pipes passing through footing and are less than 6" clear from bottom of footing see 3 / S5.02.



- GENERAL DETAIL NOTES**
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 - For interior and exterior wall finishes, see architectural.
 - For all typical construction details not shown on this sheet, see all "SS" series drawings.

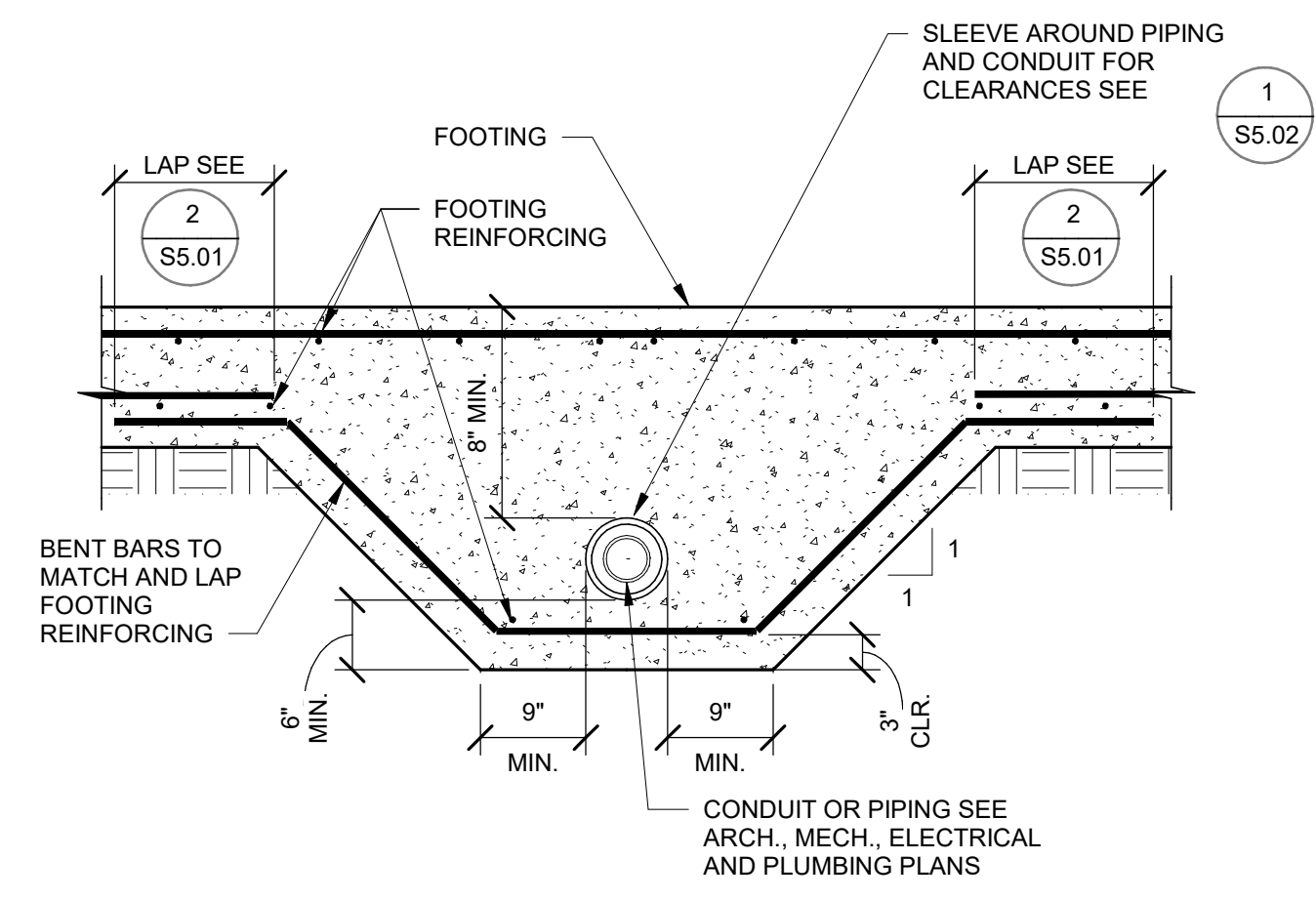
FOUNDATION AT OR ADJACENT TO EXCAVATIONS AND UTILITIES
3/4" = 1'-0"

1



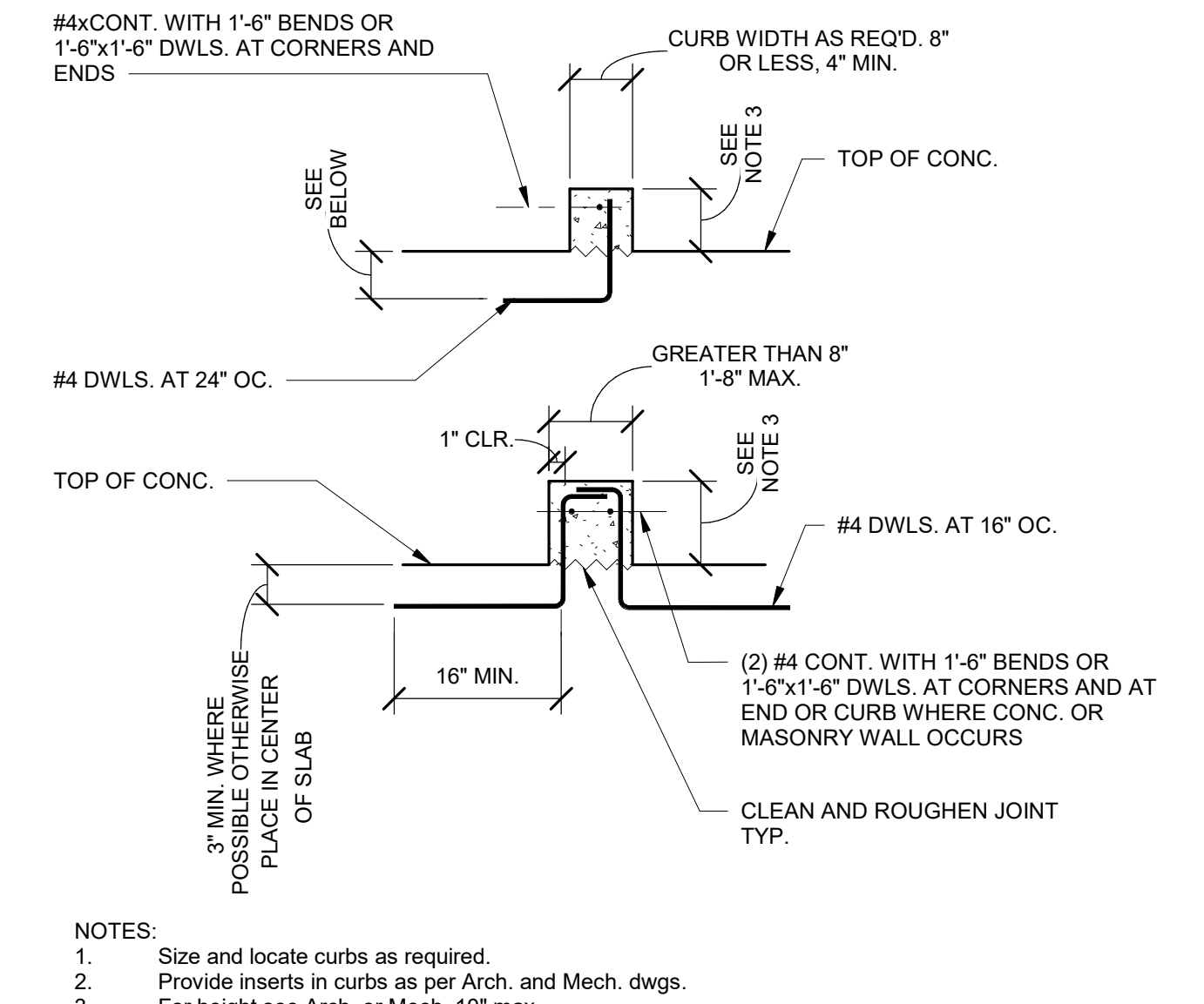
STEPPED FOOTING
NO SCALE

2



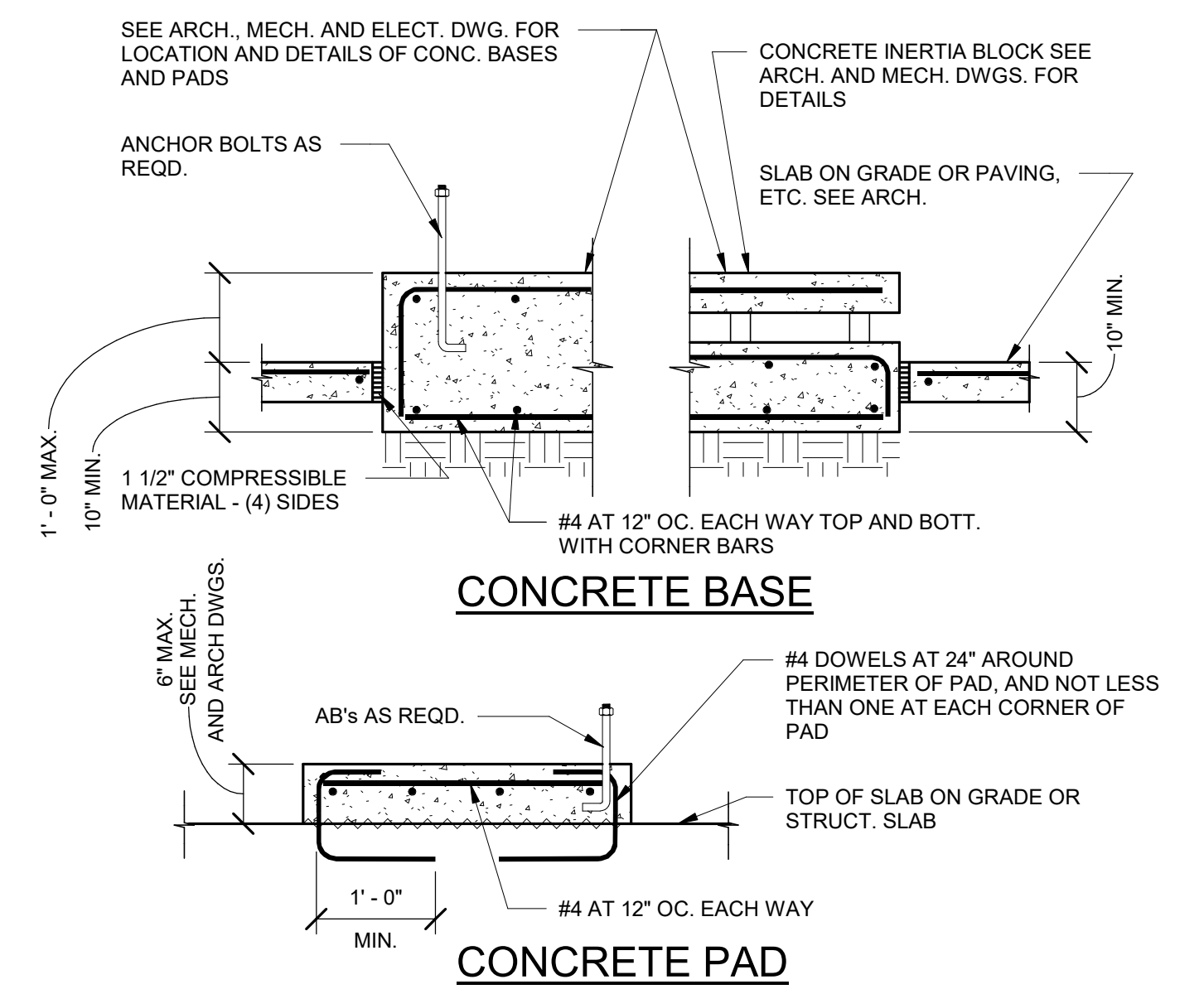
THICKENED FOOTING AT CONDUIT AND PIPING
NO SCALE

3



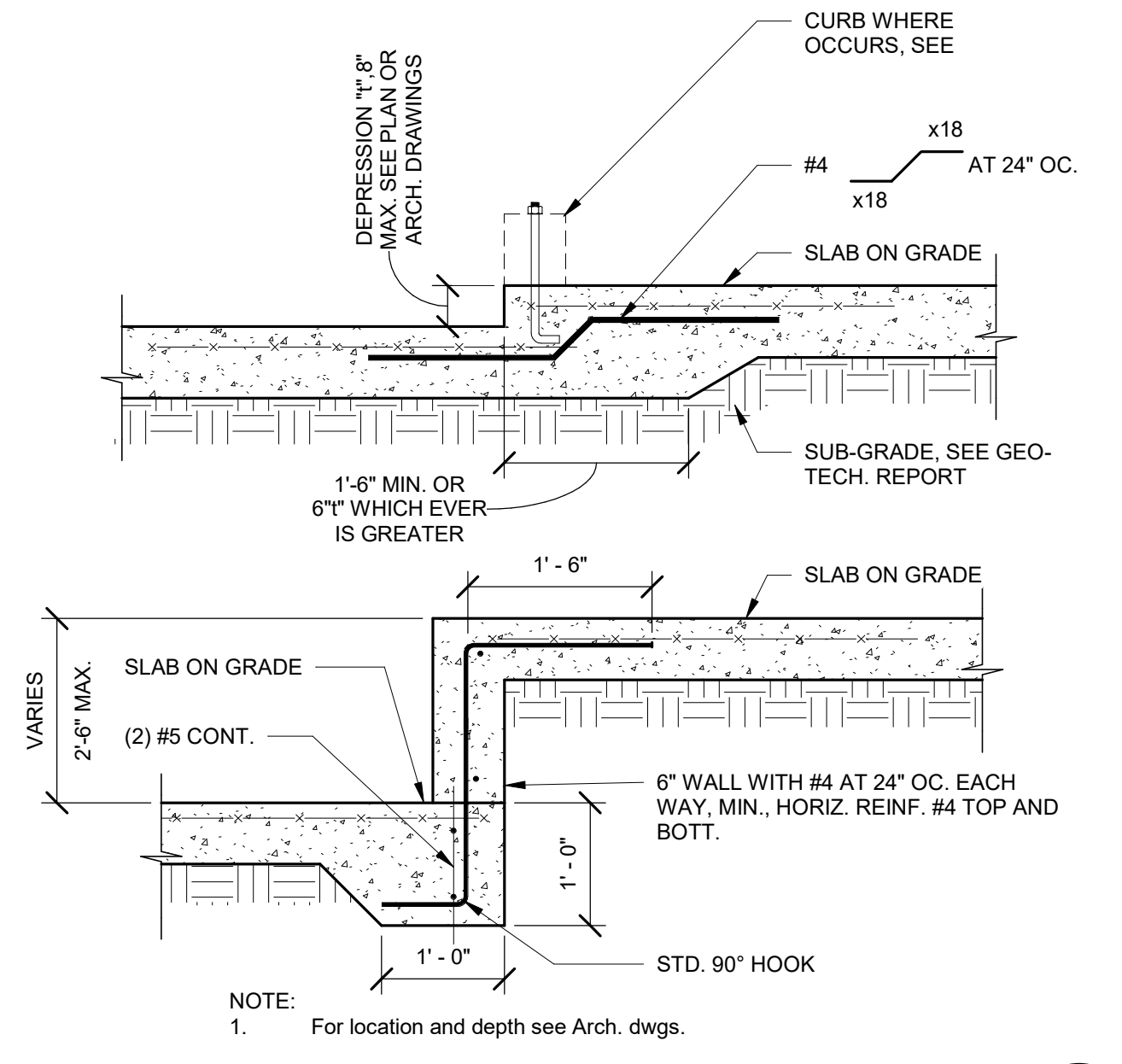
CONCRETE CURB
NO SCALE

4



EQUIPMENT BASE AND PAD
NO SCALE

5



STEP IN SLAB ON GRADE
NO SCALE

6



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Date	Revisions	Description
	#	

JEFFERSON ELEMENTARY SCHOOL ADDITION AND REMODEL
600 N. FILLMORE STREET JEROME, ID

DATE: 12/09/22
LKV PROJECT #: Client Number

DRAWN BY: GT
CHECKED BY: KF

Project Status

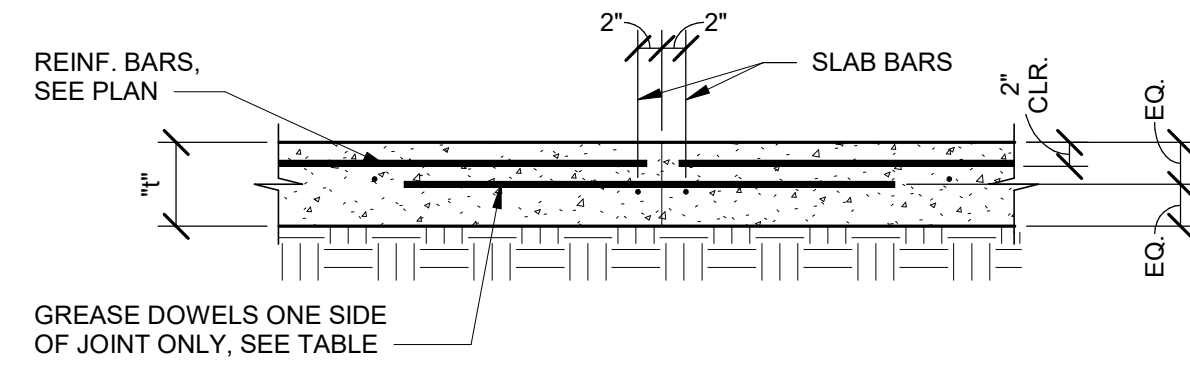
DRAWING NO.:

S5.02
GENERAL CONCRETE DETAILS

Date	
Revisions	Description
#	

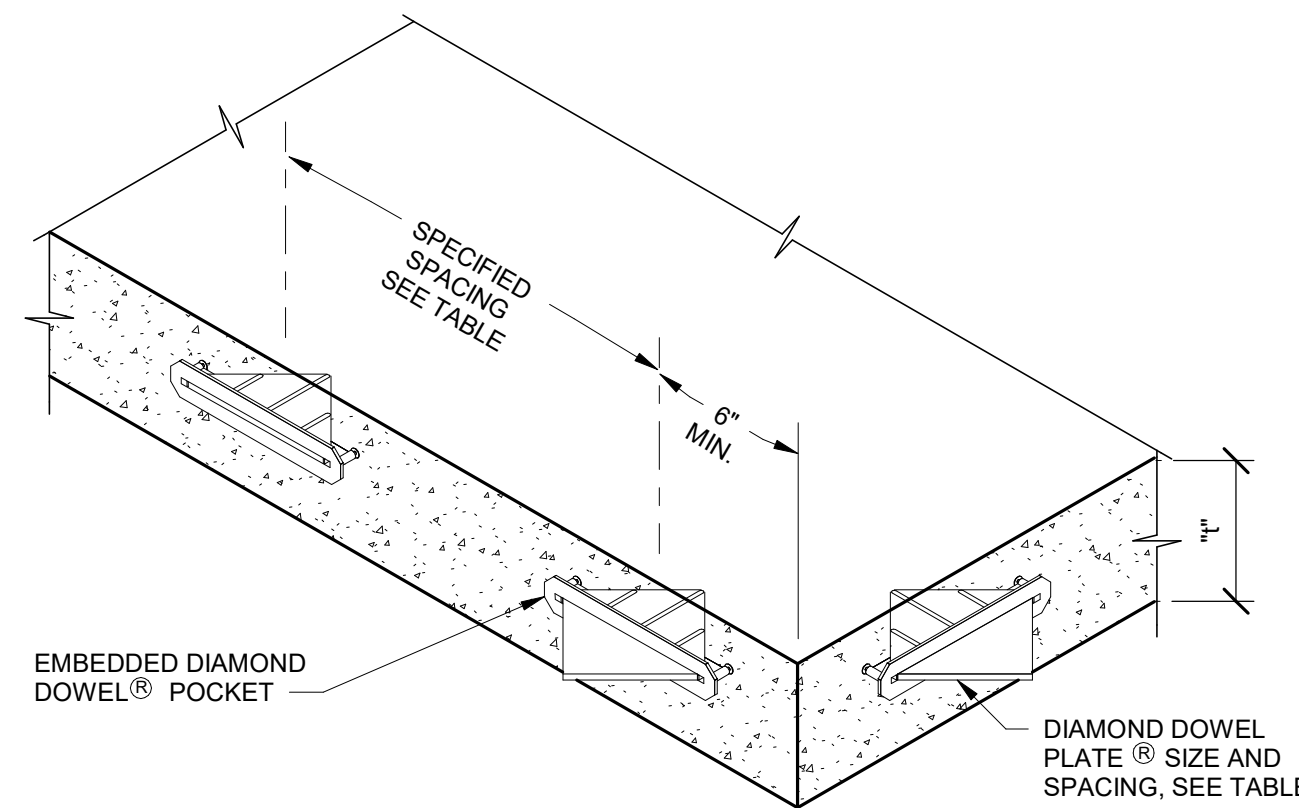
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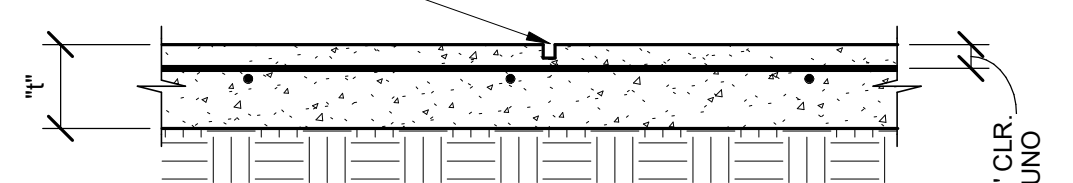
NOTE:
1. Contractors shall obtain architect's approval for all joint locations.

CONSTRUCTION JOINT (A)



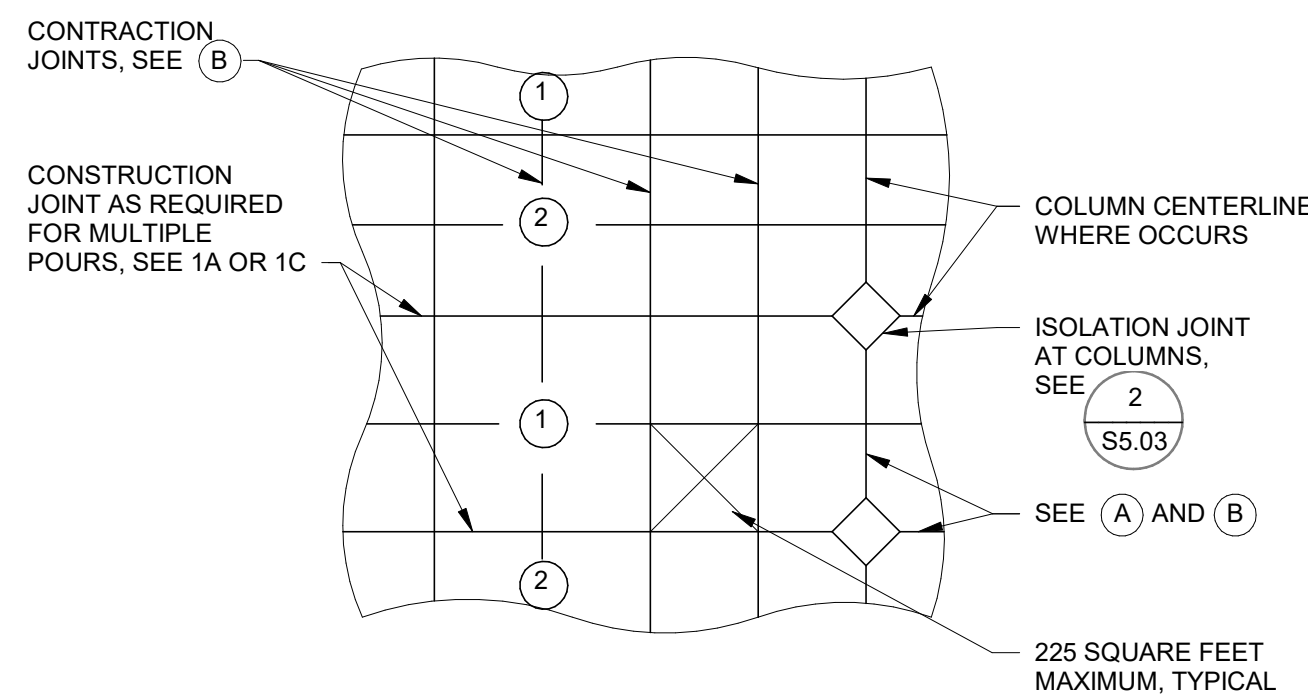
ALT. CONSTRUCTION JOINT REINF. (C)

CONSTRUCTION JOINT, SAW CUT 1/8" WIDE x 1" DEEP MIN., SEE NOTE 2. SAWING MUST OCCUR AS SOON AS CONCRETE SURFACE IS FIRM ENOUGH SO CONCRETE WILL NOT BE DAMAGED, BUT NO LATER THAN 12 HOURS AFTER CONCRETE HAS BEEN PLACED



- NOTES:
- Contraction joint spacing to be max. 12'-0" for 4" slabs, 14'-0" for 6" slabs, or as directed per ACI 308.
 - Contraction joint to be 0'-1" for 4" slabs, 0'-1 1/4" for 5" slabs, and 0'-1 1/2" for 6" and thicker slabs.

CONTRACTION JOINT (B)



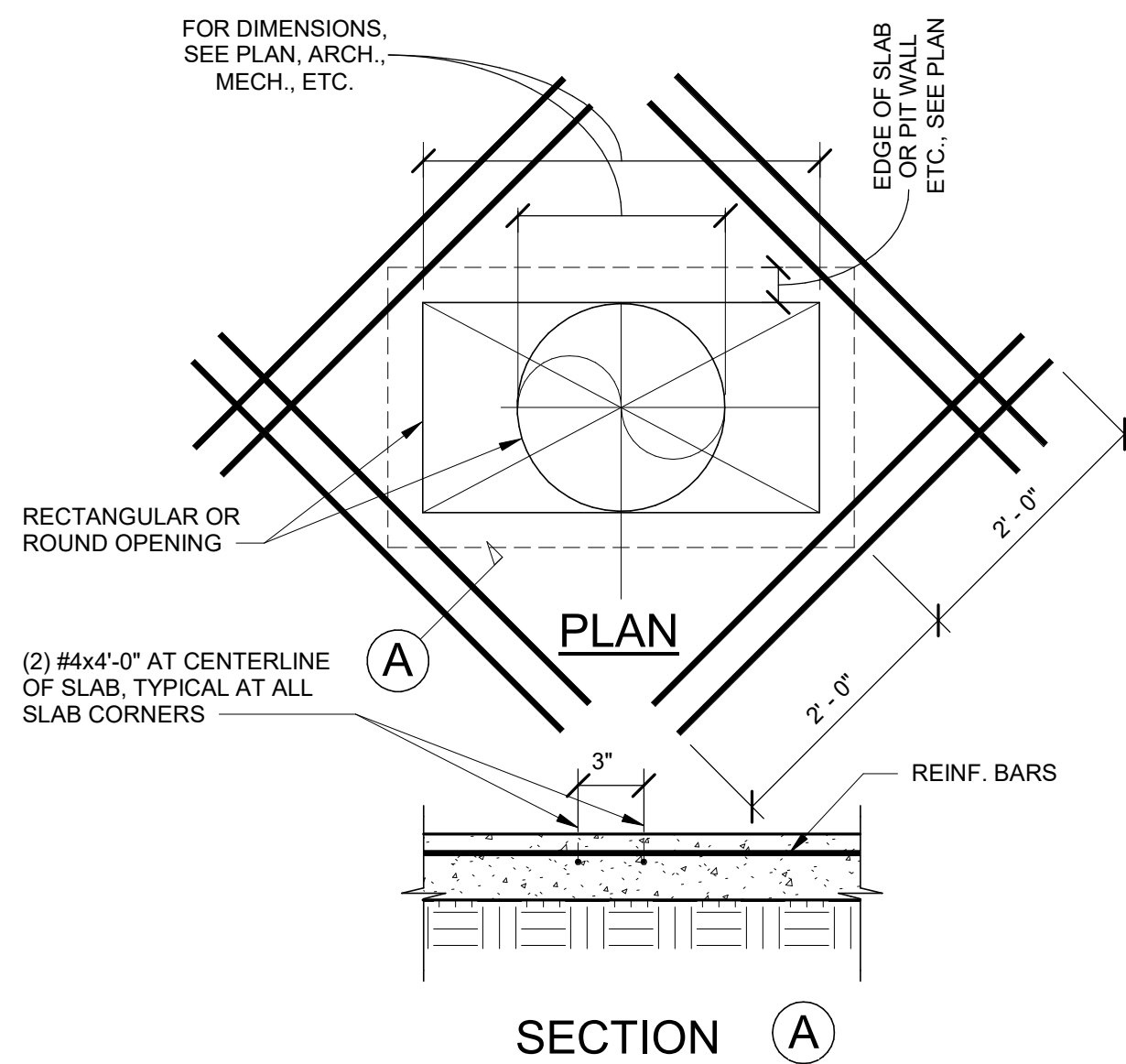
SLAB DEPTH " INCHES	OPTION A - DOWELS		OPTION C - DIAMOND LOAD PLATE	
	DOWEL DIMENSIONS	DOWEL SPACING CENTER TO CENTER	DIAMOND LOAD PLATE DIMENSIONS	DIAMOND LOAD PLATE SPACING CENTER TO CENTER
4"	3/4" x 1'-4"	24"	1/4" x 4 1/2" x 4 1/2"	18"

- NOTES:
- Slab shall be placed in strip pattern.
① = First ② = Second
 - Strips to be divided by construction joints at the centerline of columns where they occur and subdivided as required into areas not exceeding 225 sq.ft. by construction joints.
 - In areas where columns do not occur provide construction and contraction joints as above.
 - Contractors shall obtain architect's approval for all joint locations.
 - Diamond Dowel System® is manufactured by PNA Construction Technologies, Inc. or Engineered approved equivalent.
 - Comply with ACI302.1R04, ACI308R-06 and ACI detailing material (SP66).
 - Use internal vibration to consolidate concrete around diamond shear plate, per industry guidelines.

SLAB JOINT INFORMATION

NO SCALE

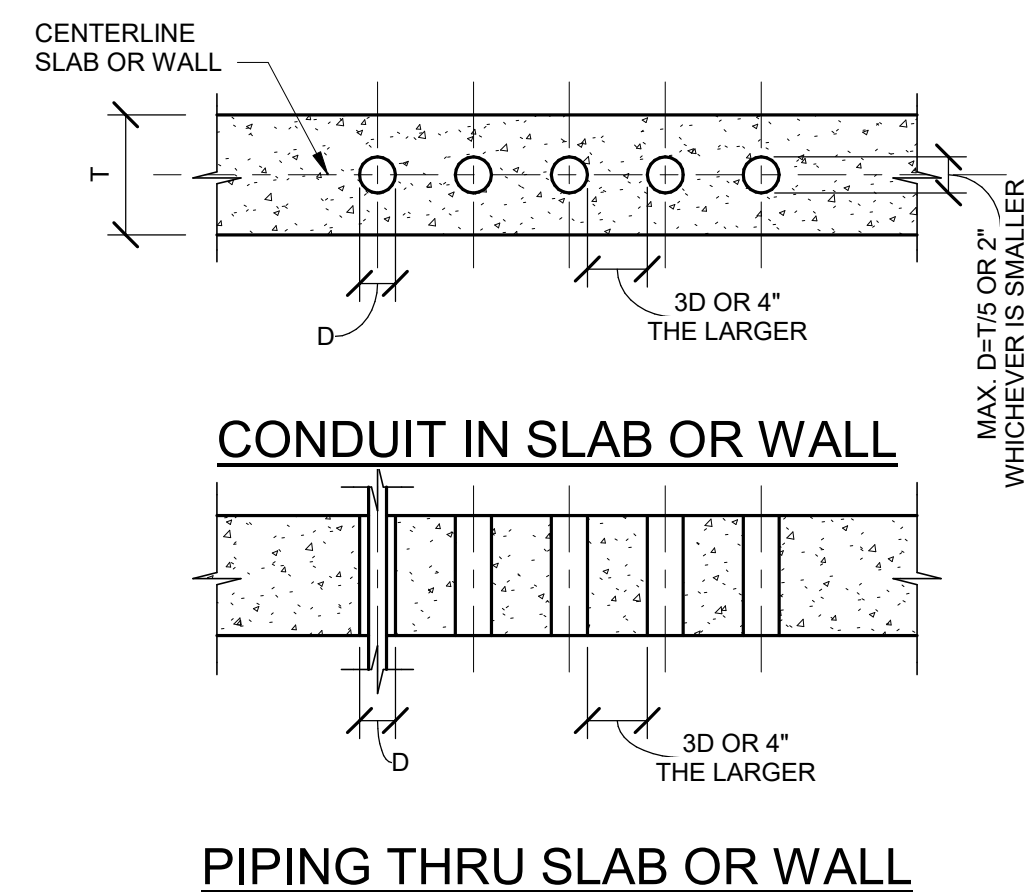
1



OPENING IN SLAB ON GRADE

NO SCALE

3



PIPING CONDUIT IN OR THRU SLAB OR WALL

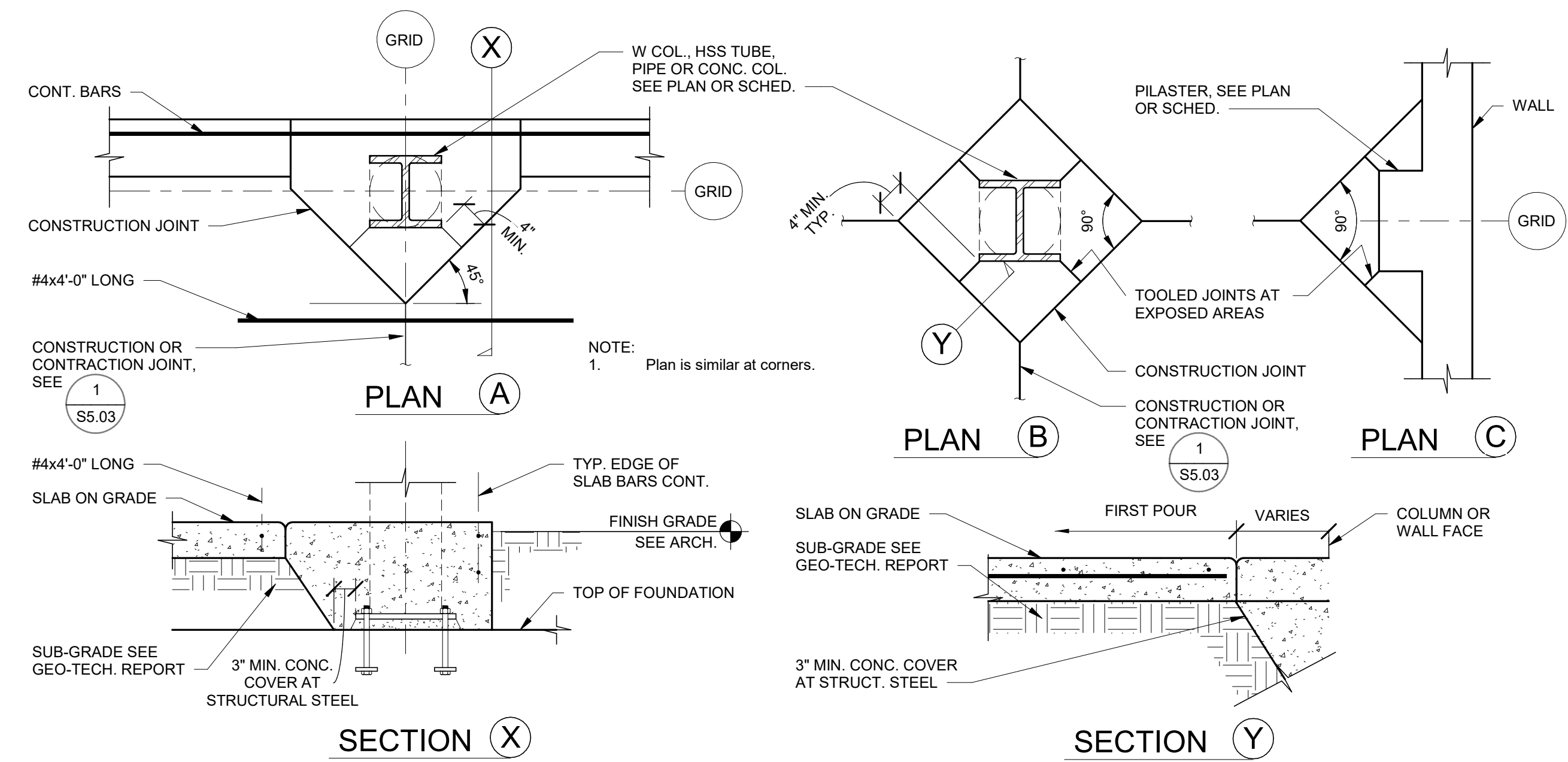
NO SCALE

4

COLUMN ISOLATION JOINTS

NO SCALE

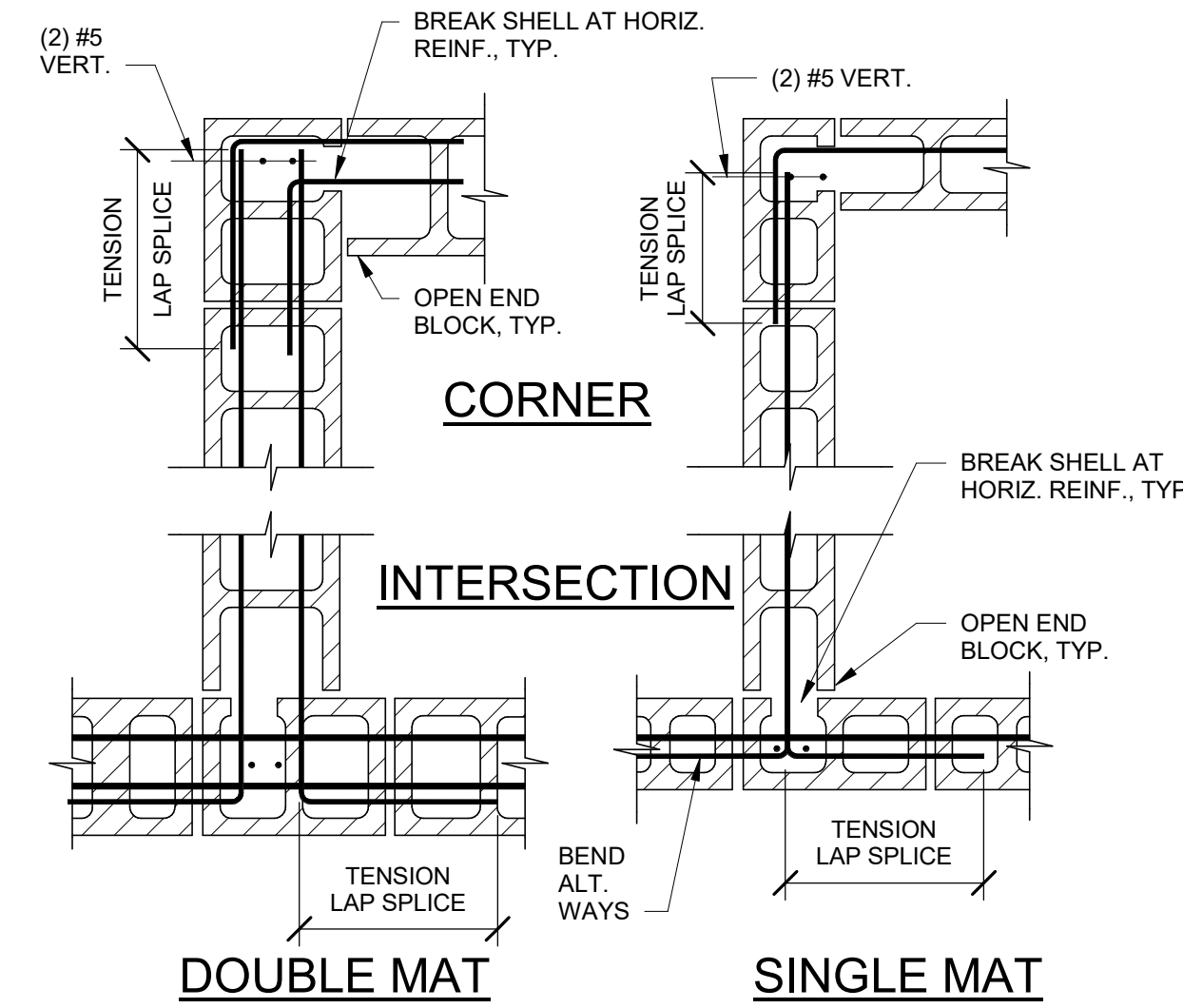
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Date	Revisions	Description
	#	

GENERAL DETAIL NOTES

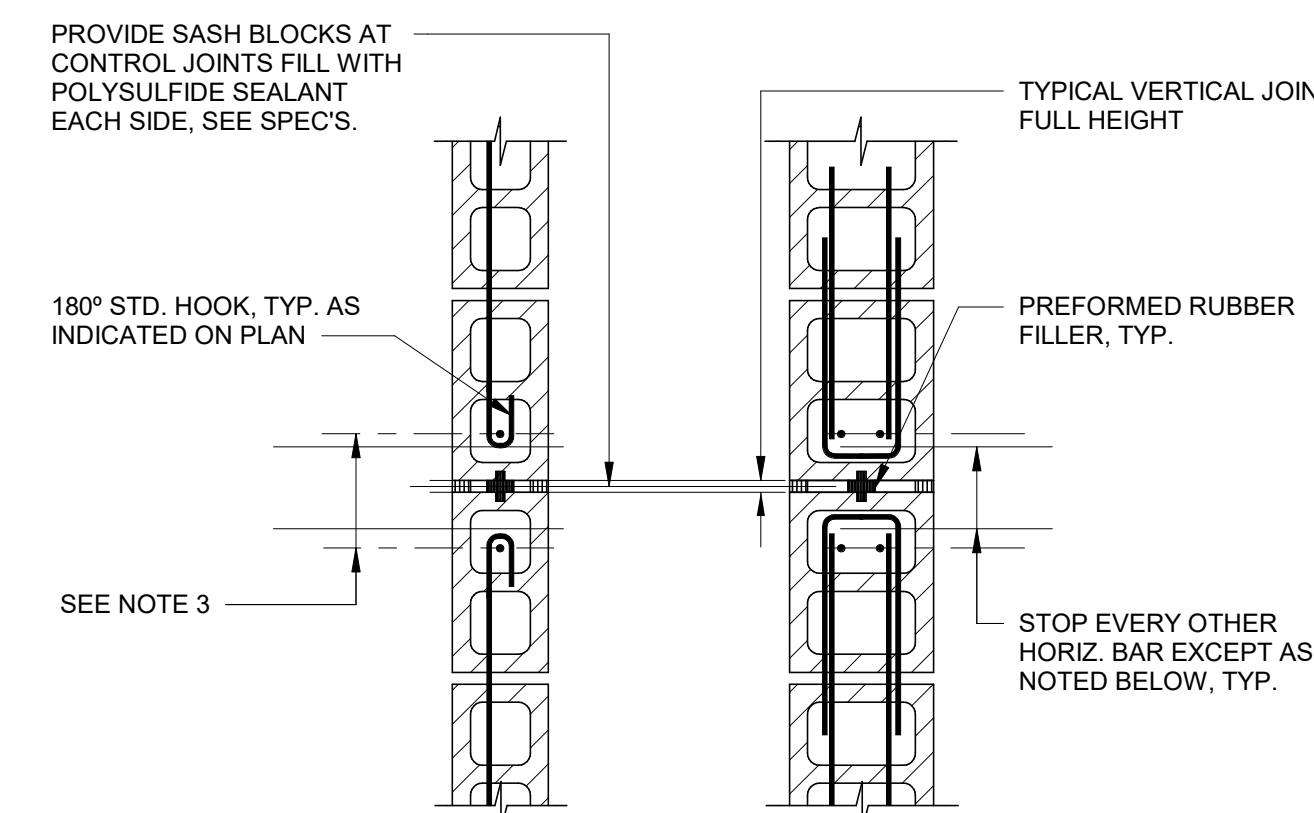
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NOTE:
1. Tension lap splice see schedule 1 / S5.11.

MASONRY WALL INTERSECTIONS

NO SCALE

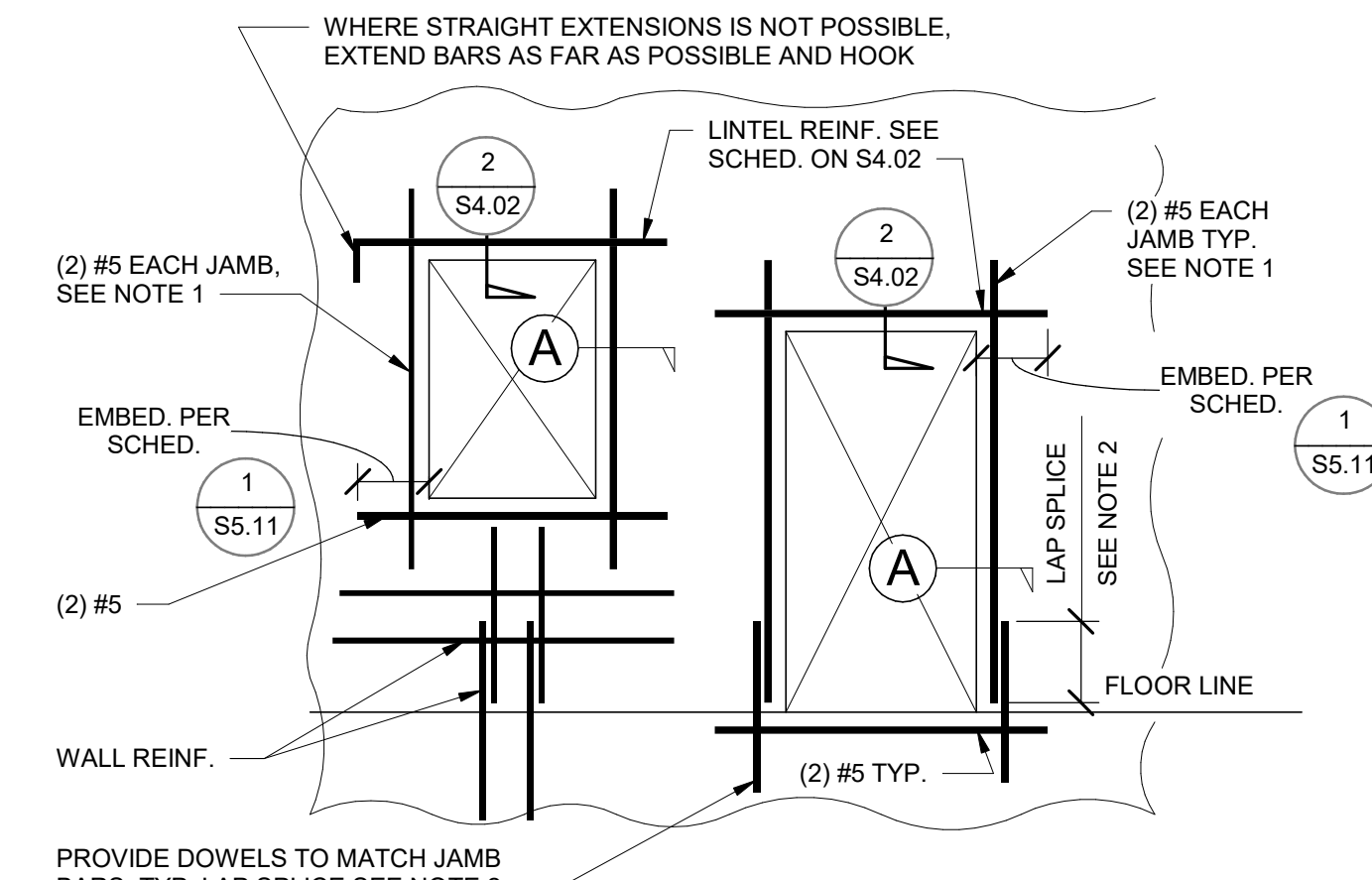


PLAN SINGLE MAT PLAN DOUBLE MAT

- NOTES:
- Contractor shall obtain architect's approval of joint locations, which shall not exceed 24"-0" oc., upon on plans.
 - Horizontal reinf. at floor lines, roof lines, lintel reinf. and every other horiz. bar (or bar set) shall be continuous through joint.
 - At locations where reinforcing is continuous across control joint, wrap horizontal reinforcing with mastic for 1'-4" each side of joint. Do not lap bars within 4'-0" each side of joint.
 - Provide vertical wall reinf. each side of joint, #5 bars min.

PLAN DETAIL - MASONRY WALL CONTROL JOINT

NO SCALE



SINGLE MAT DOUBLE MAT

JAMB AND END OF WALL

- NOTES:
- Extend jamb bars full height of wall when width of opening is more than 4'-0".
 - Typical tension lap splice per schedule 1 / S5.11.

MASONRY WALL OPENINGS AND DETAILS

NO SCALE

TENSION DEVELOPMENT AND LAP SPLICE LENGTH (FOR MASONRY ONLY)

CMU Thickness	Masonry Design Strength	Placement of Bar	f _m = 1500 psi		f _m = 2000 psi		f _m = 2500 psi		f _m = 3000 psi	
			Center	Edge	Center	Edge	Center	Edge	Center	Edge
6"	#3	Center	15.1	15.1	13.1	13.1	12.0	12.0	12.0	12.0
	#4	Center	20.1	23.7	17.4	20.5	15.6	18.4	14.2	16.8
	#5	Center	25.2	38.1	21.8	33.0	19.5	29.5	17.8	27.0
	#6	Center	42.8	NP	37.1	NP	33.2	NP	30.3	NP
	#7	Center	59.4	NP	51.4	NP	46.0	NP	42.0	NP
10"	#3	Center	15.1	15.1	13.1	13.1	12.0	12.0	12.0	12.0
	#4	Center	20.1	23.7	17.4	20.5	15.6	18.4	14.2	16.8
	#5	Center	25.2	38.1	21.8	33.0	19.5	29.5	17.8	27.0
	#6	Center	39.3	54.0	34.0	54.0	30.4	54.0	27.8	52.1
	#7	Center	45.8	63.0	39.7	63.0	35.5	63.0	32.4	63.0
16"	#3	Center	15.1	15.1	13.1	13.1	12.0	12.0	12.0	12.0
	#4	Center	20.1	23.7	17.4	20.5	15.6	18.4	14.2	16.8
	#5	Center	25.2	38.1	21.8	33.0	19.5	29.5	17.8	27.0
	#6	Center	39.3	54.0	34.0	54.0	30.4	54.0	27.8	52.1
	#7	Center	45.8	63.0	39.7	63.0	35.5	63.0	32.4	63.0

TENSION DEVELOPMENT AND LAP SPLICE LENGTH (FOR MASONRY ONLY)

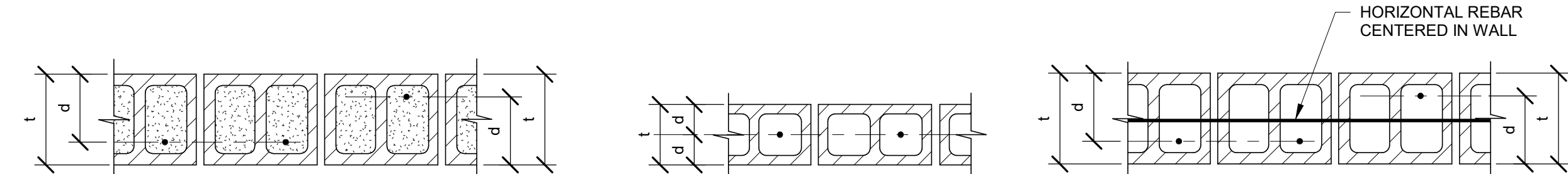
CMU Thickness	Masonry Design Strength	Placement of Bar	f _m = 1500 psi		f _m = 2000 psi		f _m = 2500 psi		f _m = 3000 psi	
			Center	Edge	Center	Edge	Center	Edge	Center	Edge
6"	#3	Center	15.1	15.1	13.1	13.1	12.0	12.0	12.0	12.0
	#4	Center	20.1	23.7	17.4	20.5	15.6	18.4	14.2	16.8
	#5	Center	25.2	38.1	21.8	33.0	19.5	29.5	17.8	27.0
	#6	Center	42.8	NP	37.1	NP	33.2	NP	30.3	NP
	#7	Center	59.4	NP	51.4	NP	46.0	NP	42.0	NP
8"	#3	Center	15.1	15.1	13.1	13.1	12.0	12.0	12.0	12.0
	#4	Center	20.1	23.7	17.4	20.5	15.6	18.4	14.2	16.8
	#5	Center	25.2	38.1	21.8	33.0	19.5	29.5	17.8	27.0
	#6	Center	42.8	NP	37.1	NP	33.2	NP	30.3	NP
	#7	Center	59.4	NP	51.4	NP	46.0	NP	42.0	NP
10"	#3	Center	15.1	15.1	13.1	13.1	12.0	12.0	12.0	12.0
	#4	Center	20.1	23.7	17.4	20.5	15.6	18.4	14.2	16.8
	#5	Center	25.2	38.1	21.8	33.0	19.5	29.5	17.8	27.0
	#6	Center	39.3	54.0	34.0	54.0	30.4	54.0	27.8	52.1
	#7	Center	45.8	63.0	39.7	63.0	35.5	63.0	32.4	63.0
12"	#3	Center	15.1	15.1	13.1	13.1	12.0	12.0	12.0	12.0
	#4	Center	20.1	23.7	17.4	20.5	15.6	18.4	14.2	16.8
	#5	Center	25.2	38.1	21.8	33.0	19.5	29.5	17.8	27.0
	#6	Center	39.3	54.0	34.0	54.0	30.4	54.0	27.8	52.1
	#7	Center	45.8	63.0	39.7	63.0	35.5	63.0	32.4	63.0

- NOTES:
- All lengths are in inches.
 - For bar placement, edge distance (d Dim.) see 5 / S5.11.
 - Where (2) bars per cell occur they shall be placed per edge condition see note 2.
A. For 6" masonry wall, (2) bars per cell is not permitted.
B. For 8" masonry wall, (2) bars per cell up to #5 are permitted.
C. For 10" masonry wall, (2) bars per cell up to #7 are permitted.
NP indicates Not Permitted.
#10 and #11 bars where shown on plans or details require a mechanical splice.

TENSION DEVELOPMENT AND LAP SPLICE LENGTH (FOR MASONRY ONLY)

NO SCALE

1



VERTICAL REBAR PLACED FOR MAXIMUM d

VERTICAL REBAR IN CENTER OF CELL

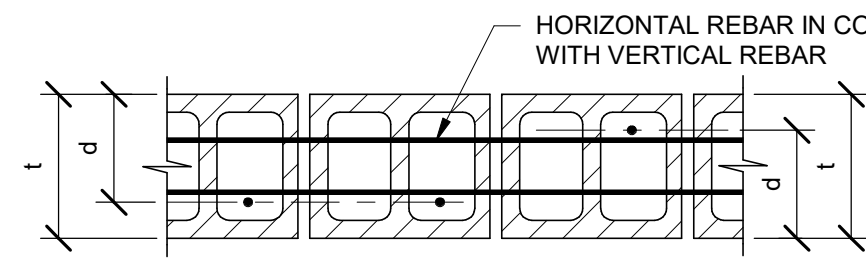
SINGLE CURTAIN HORIZONTAL BAR

CMU (CONCRETE MASONRY UNITS)

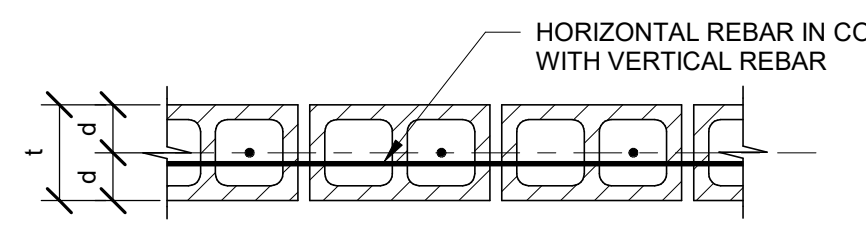
NOMINAL THICKNESS	ACTUAL THICKNESS (t)	d (inches)				
		#3 - #6	#7	#8	#9	
6" CMU	5 5/8"	3.25	NP	NP	NP	
8" CMU	7 5/8"	5.25	5	4.625	NP	
10" CMU	9 5/8"	7.25	7	6.625	6.25	
12" CMU	11 5/8"	9.25	9	8.625	8.25	
16" CMU	15 5/8"	13.25	13	12.625	12.25	

CMU

NOMINAL THICKNESS	ACTUAL THICKNESS (t)	d (inches)
		d
6" CMU	5 5/8"	2.8
8" CMU	7 5/8"	3.8
10" CMU	9 5/8"	4.8
12" CMU	11 5/8"	5.8
16" CMU	15 5/8"	7.8



DOUBLE CURTAIN HORIZONTAL BAR



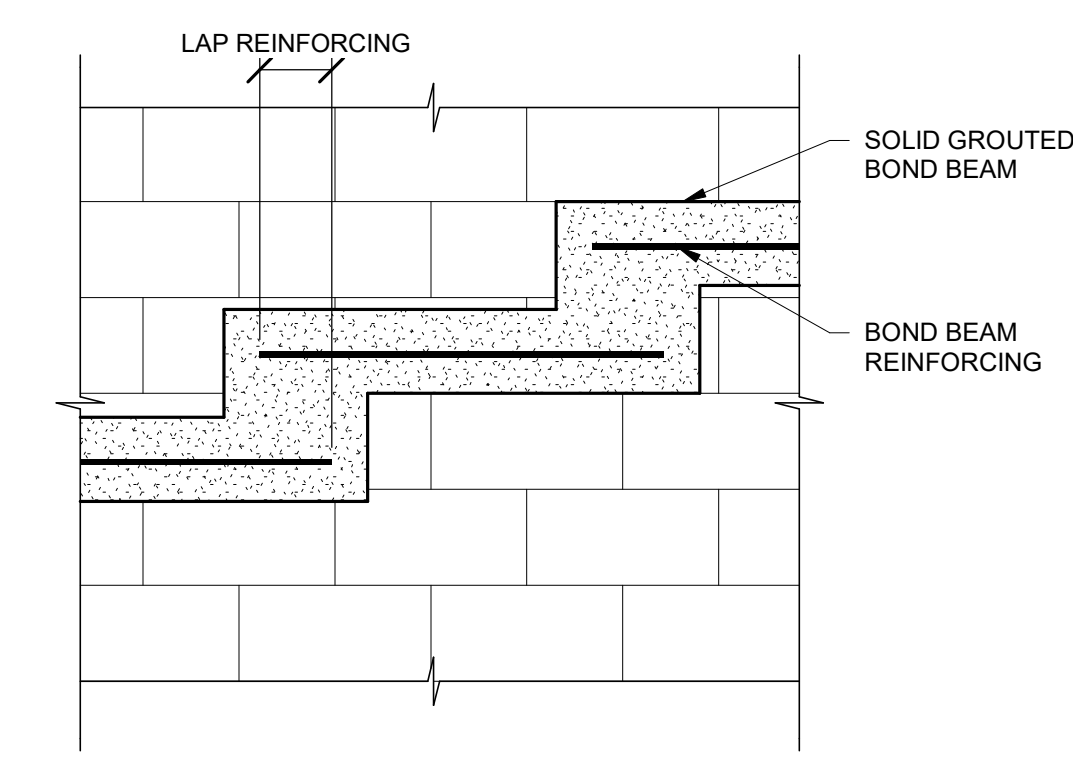
SINGLE CURTAIN HORIZONTAL BAR

- NOTE:
- Where two vertical reinforcing bars occur in a cell, bars shall be secured in place by a bar positioned at the top and bottom, and at intervals not exceeding 200 bar diameters.

PLAN DETAIL FOR REBAR PLACEMENT IN MASONRY

NO SCALE

5



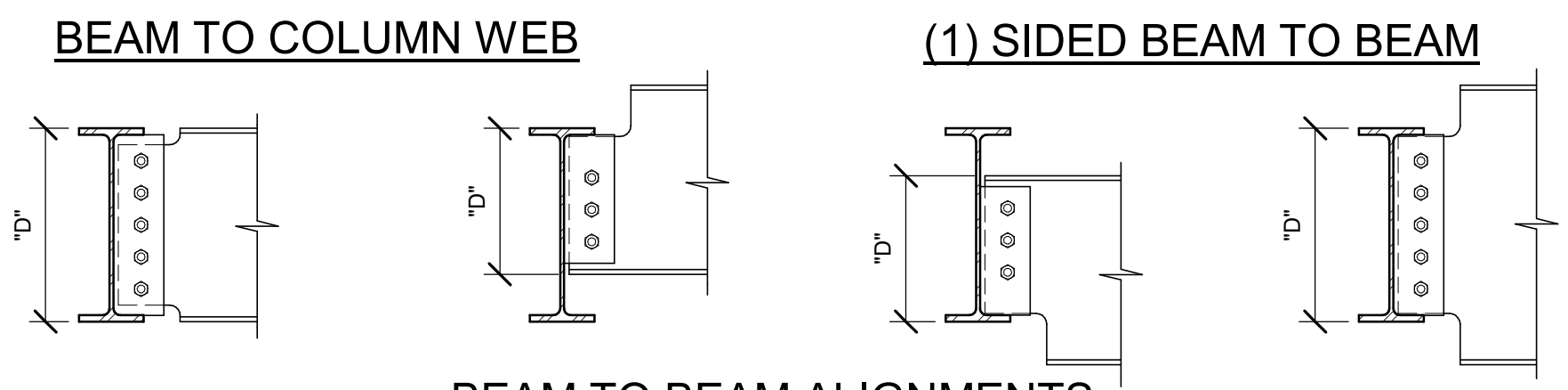
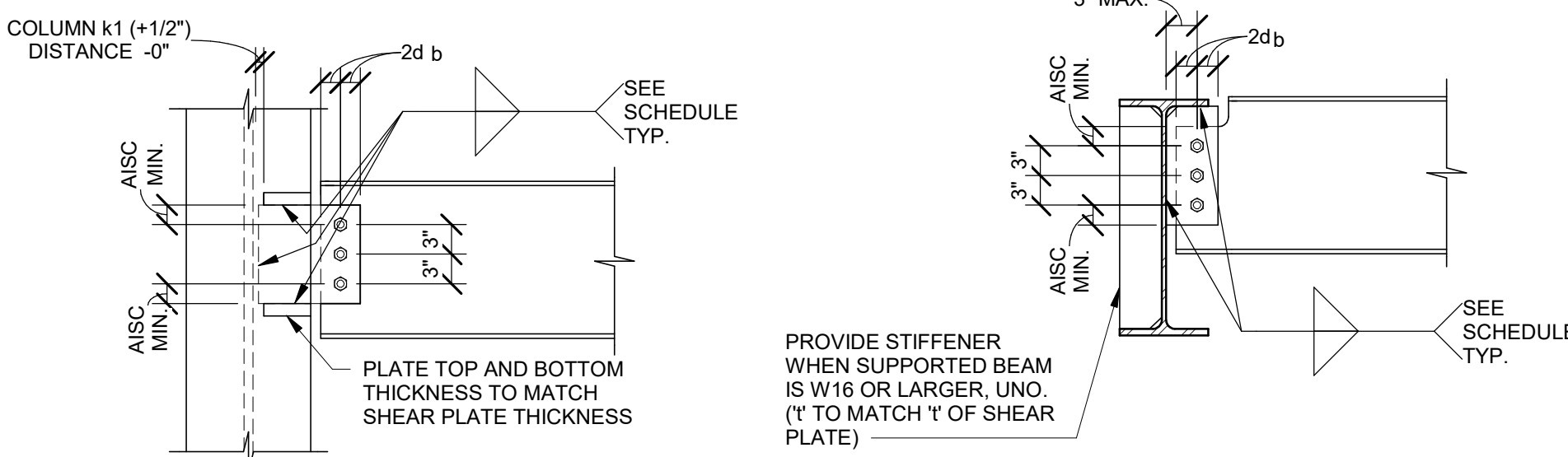
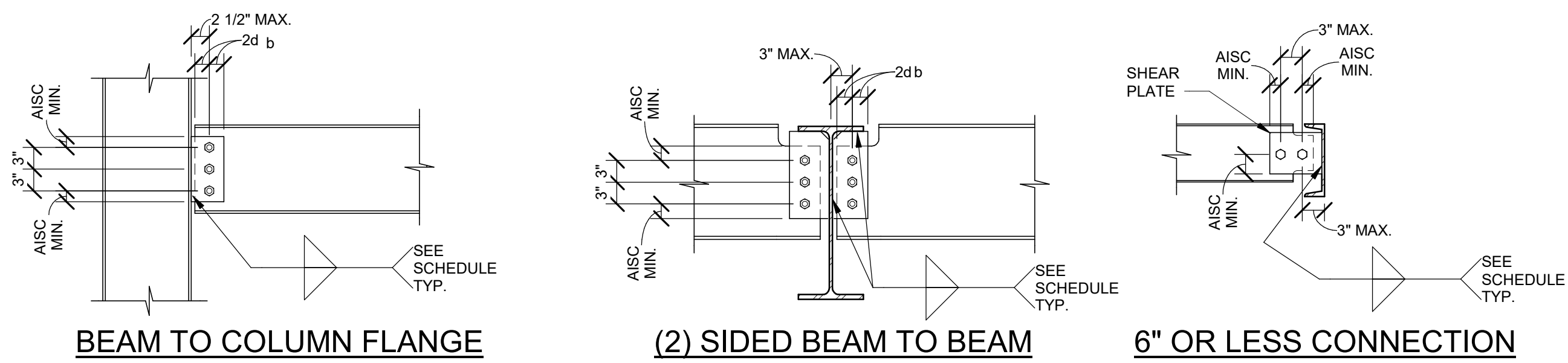
STEPPED MASONRY WALL BOND BEAM

NO SCALE

6

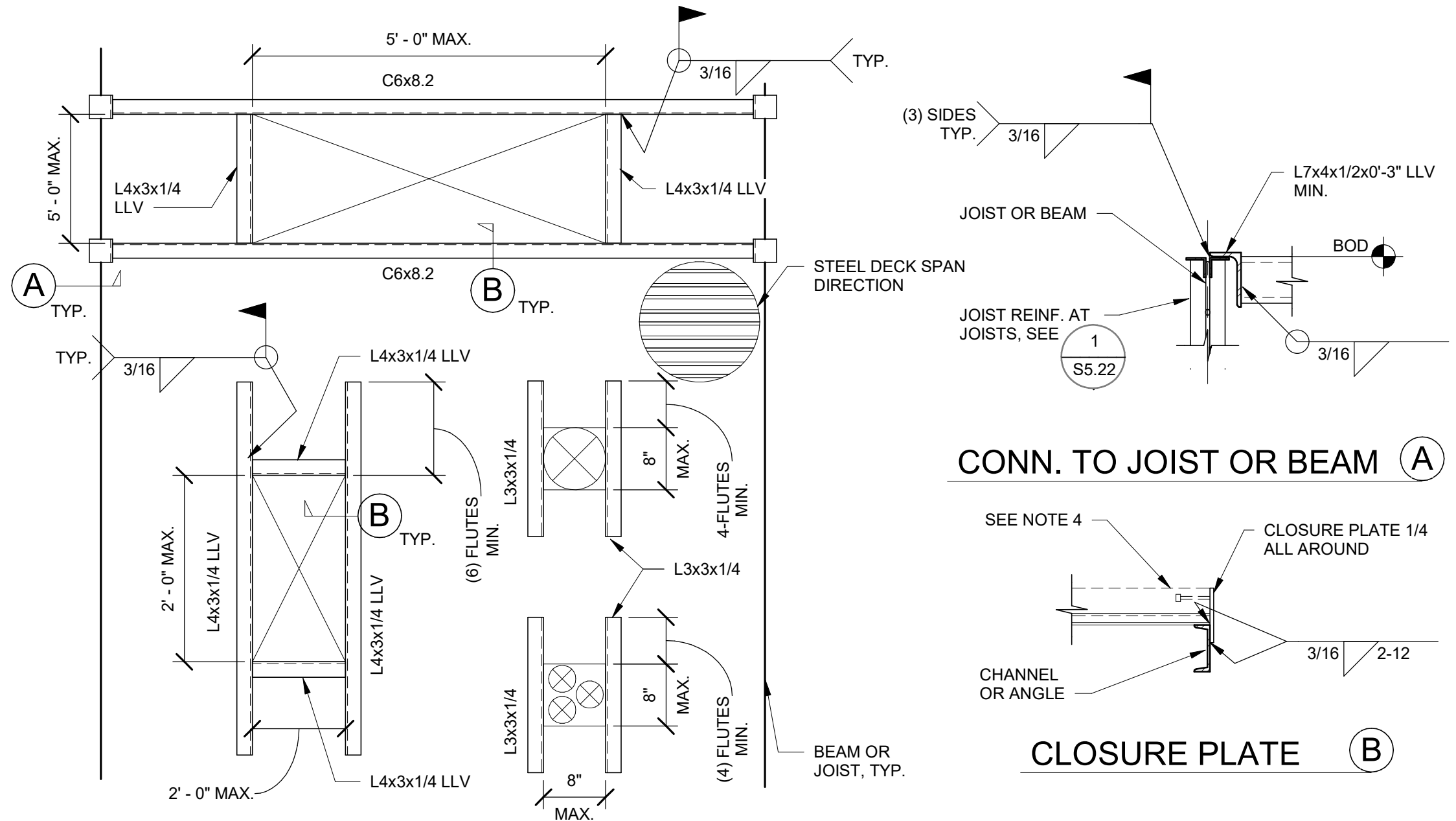
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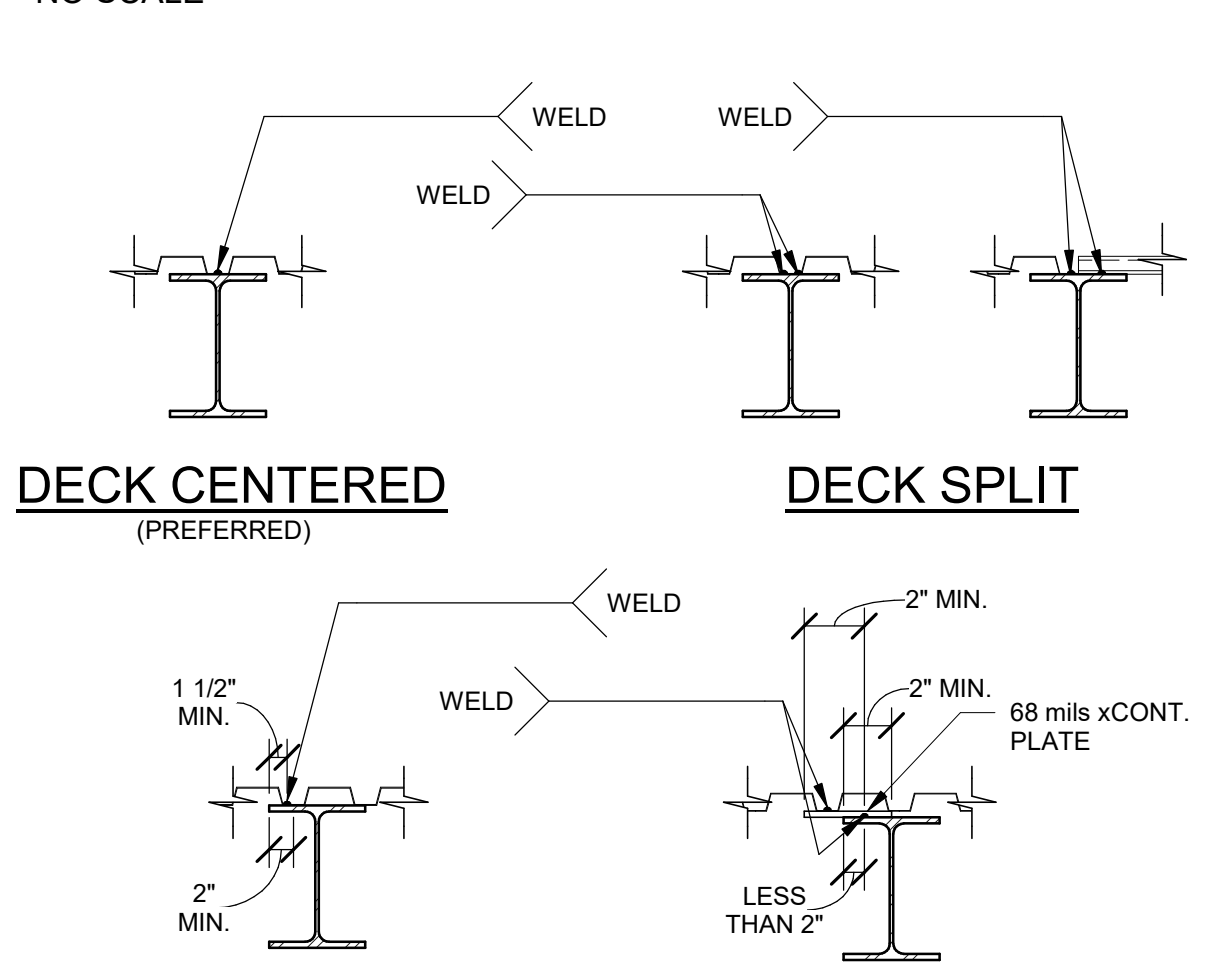


BEAM CONNECTION SCHEDULE			
NOMINAL MEMBER DEPTH "D"	BOLT NO. AND SIZE	SHEAR PLATE THICKNESS	SIZE OF FILLET WELD
8" - 10"	(2) 3/4" DIA.	5/16	1/4
12" - 14"	(3) 3/4" DIA.	5/16	1/4
16"	(4) 3/4" DIA.	3/8	1/4
18"	(5) 3/4" DIA.	3/8	1/4
21"	(6) 1" DIA.	1/2	5/16
24"	(7) 1" DIA.	1/2	5/16
27"	(8) 1" DIA.	1/2	5/16
30"-33"	(9) 1" DIA.	1/2	5/16
36" - 40"	(10) 1" DIA.	1/2	5/16

- NOTES:**
- All 3/4" dia. bolts shall be A325-N. All 1" dia. bolts shall be A490-N. Provide larger welds where may be required by AISC.
 - Use larger plates and welds where required by brace frame connections or other specific details.
 - d_s = bolt diameter.
 - Use short slotted holes in one end of beam for field tolerances.
 - "D" = Nominal member depth.
 - Provide horizontal short slotted holes where beam web thickness "t" exceeds d/2-1/16" and number of bolts "n" exceeds 5 per AISC table 10-9.
 -



TYPICAL BEAM CONNECTION SCHEDULE AND DETAILS



NOTE:

- See steel deck welding schedule, notes and other details.

DECK WELDING

3

OPENINGS IN STEEL DECK

2



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Description	
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JEFFERSON ELEMENTARY SCHOOL ADDITION AND REMODEL
 600 N. FILLMORE STREET JEROME, ID

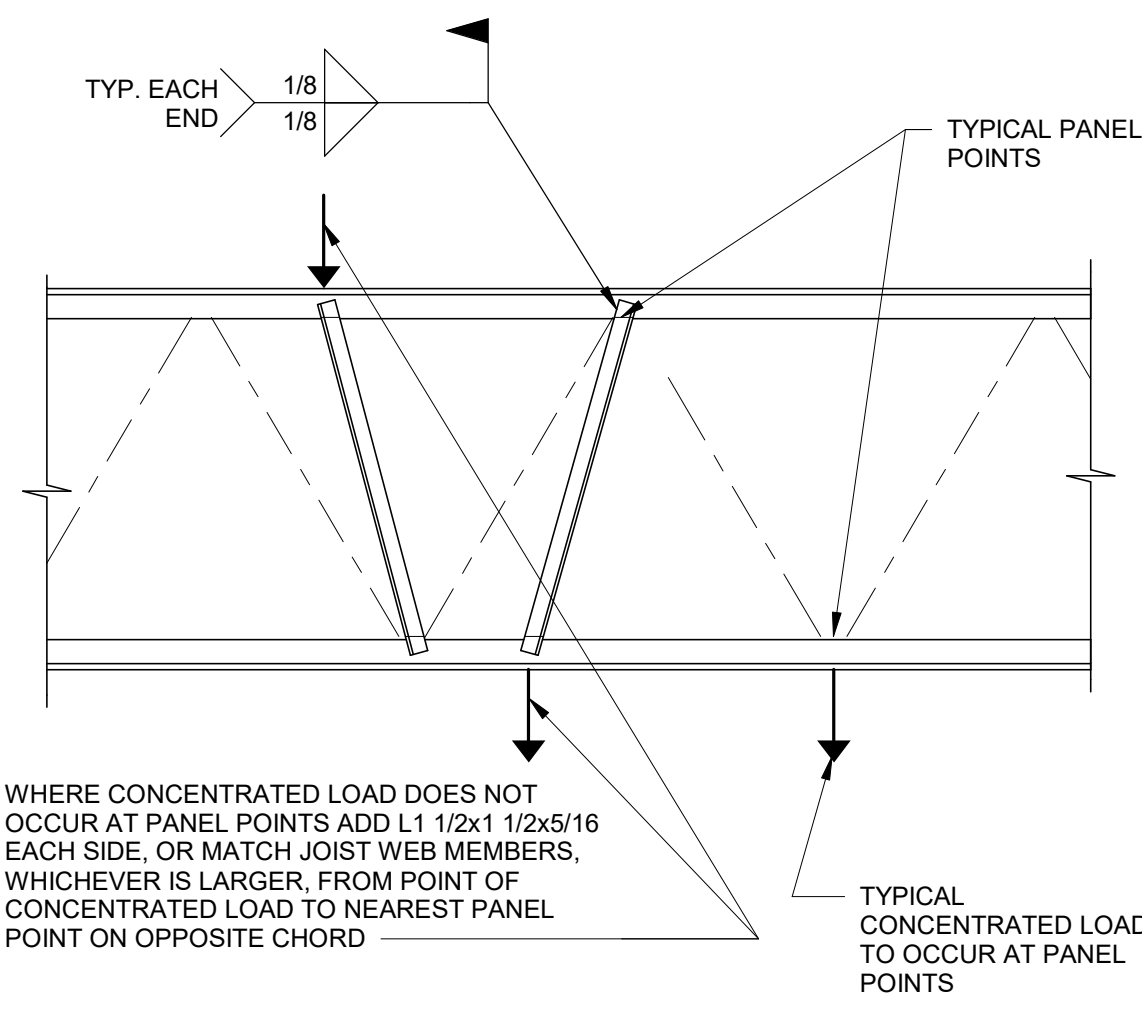
DATE: 12/09/22
 LKV PROJECT #: Client Number

DRAWN BY: GT
 CHECKED BY: KF

Project Status

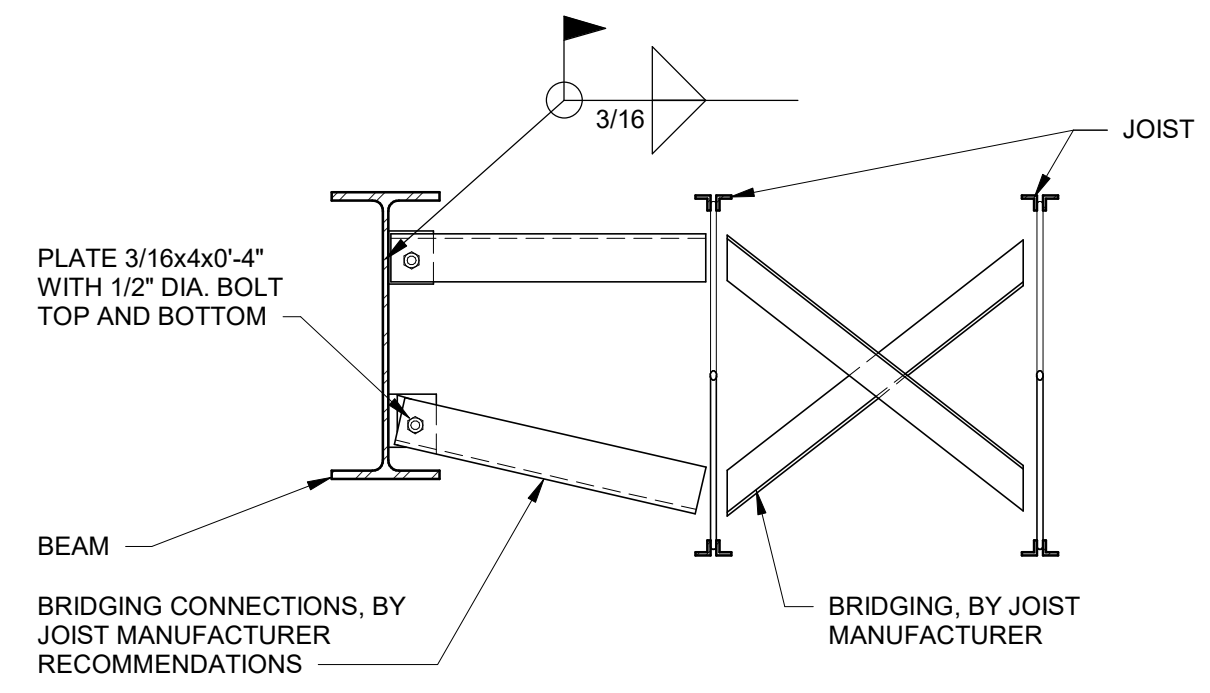
DRAWING NO.:

S5.21
 GENERAL STRUCTURAL STEEL DETAILS



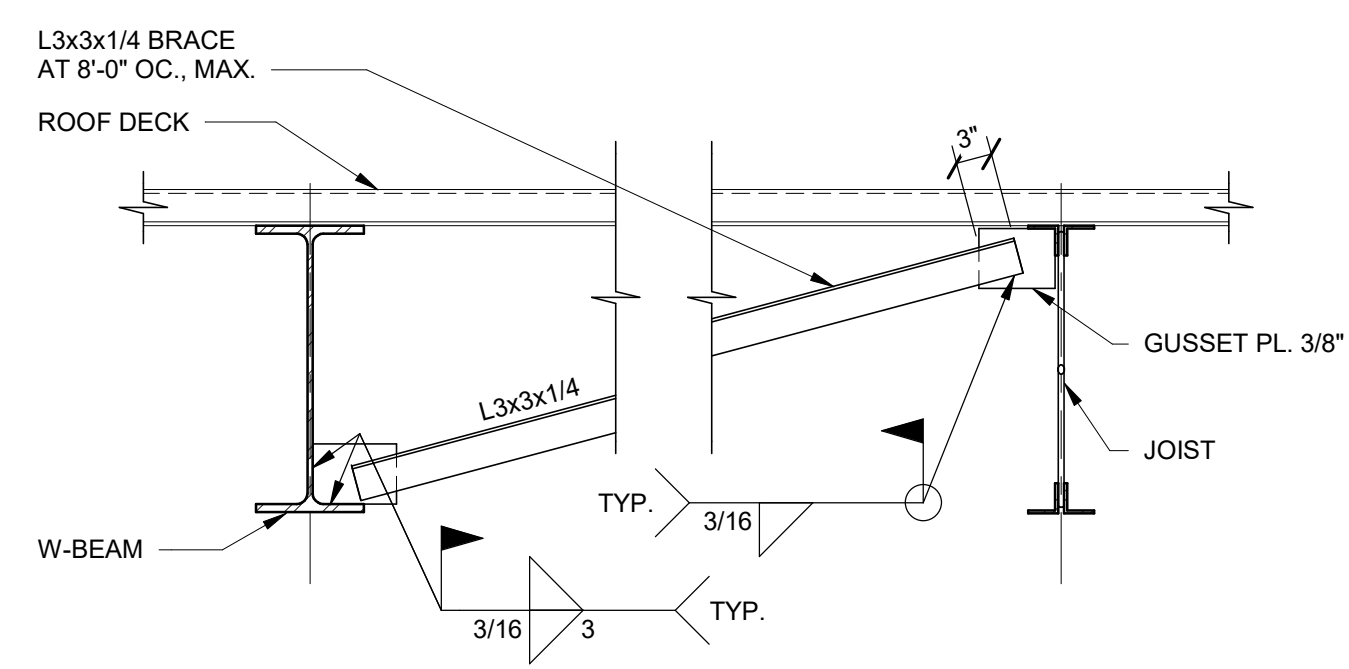
JOIST REINFORCEMENT DETAIL
NO SCALE

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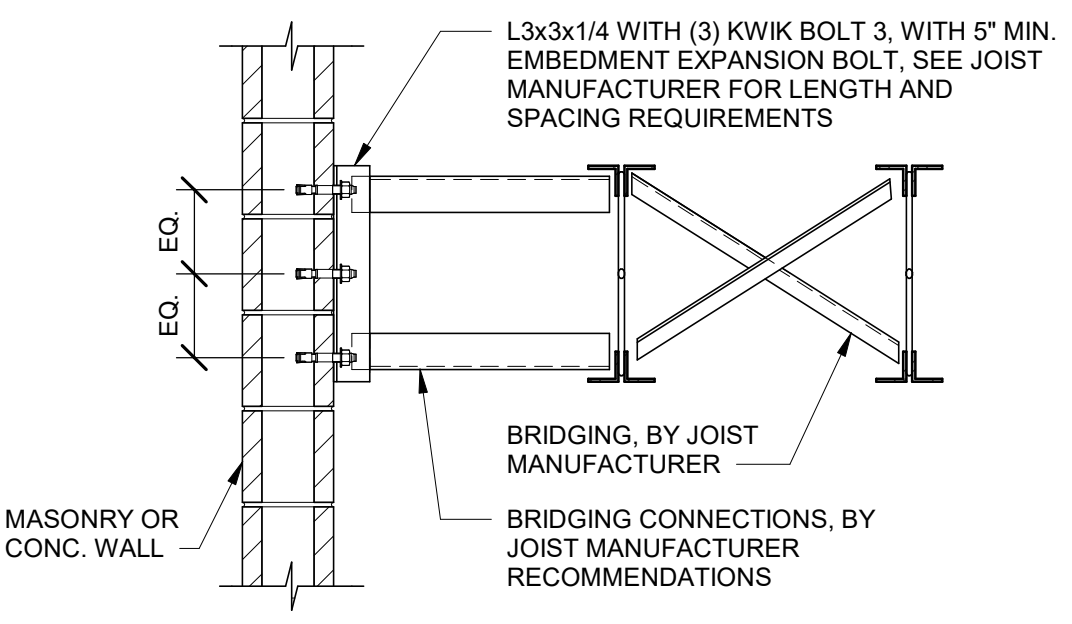
JOIST BRIDGING AT STEEL BEAM
NO SCALE

2



DIAGONAL BRACE CONNECTION AT JOIST
NO SCALE

3



NOTE:
1. See plan, joist notes and manufacturer for bridging notes.

JOIST BRIDGING AT MASONRY WALL
NO SCALE

4

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DRAWN BY: GT
CHECKED BY: KF

Project Status

DRAWING NO.:

S5.22
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- Sub-grade material below slabs and footings shall be constructed as indicated by geo-tech report.
- For structural framing sizes, bottom of deck and top of steel elevations, see plans.
- For floor deck size, attachment, span direction, and finish floor elevations, see plans.
- For typical bearing wall construction, see plans. Coordinate location with plans and architectural.
- For interior and exterior wall finishes, see architectural.
- For all typical construction details not shown on this sheet, see all "S5" series drawings.



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Revisions	Date
Description	
#	

JEFFERSON ELEMENTARY SCHOOL ADDITION AND REMODEL
600 N. FILLMORE STREET JEROME, ID

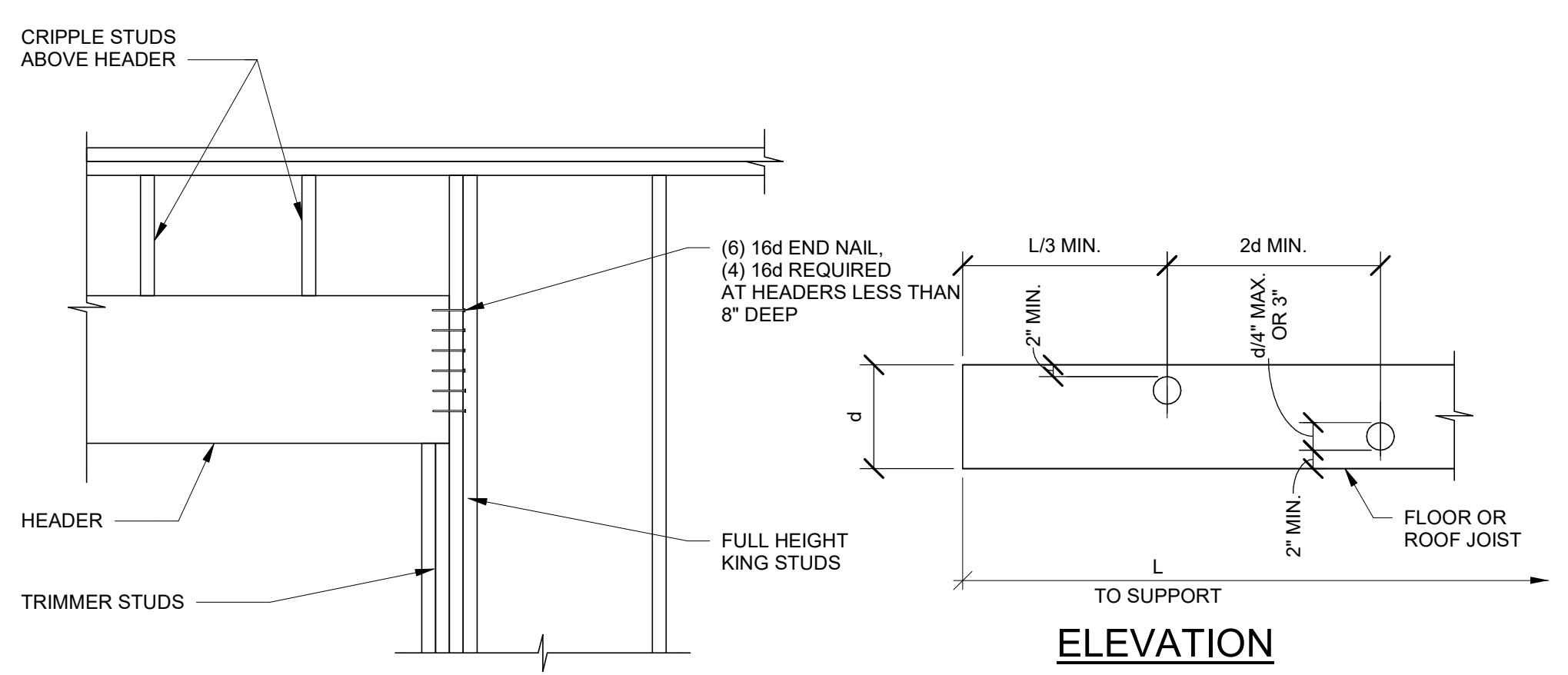
DATE: 12/09/22
LKV PROJECT #: Client Number

DRAWN BY: GT
CHECKED BY: KF

Project Status

DRAWING NO.:

S5.41
GENERAL WOOD FRAMING DETAILS



NOTE: 1. Face nail all built-up studs with 16d at 8\"/>

NOTE: 1. Drilled holes as shown above may be used only with the approval of the structural engineer.

TYPICAL HEADER AT STUD WALL
NO SCALE

1

HOLES IN SAWN LUMBER
NO SCALE

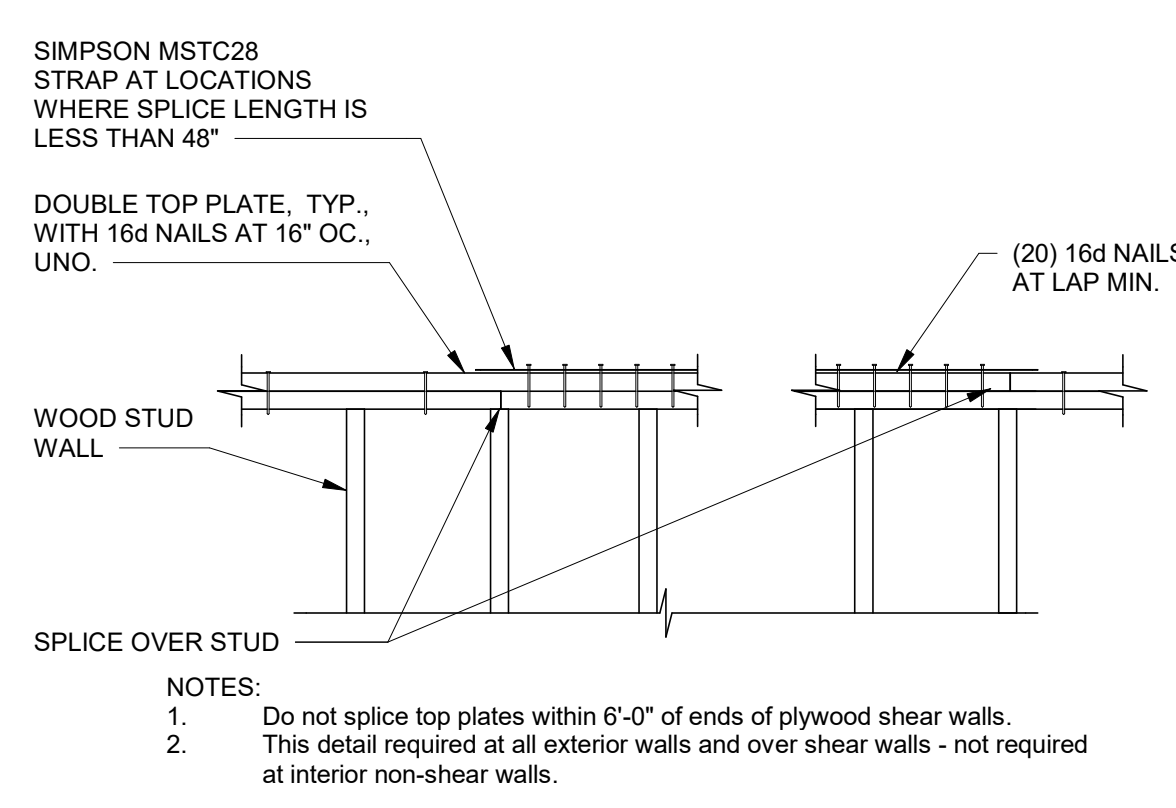
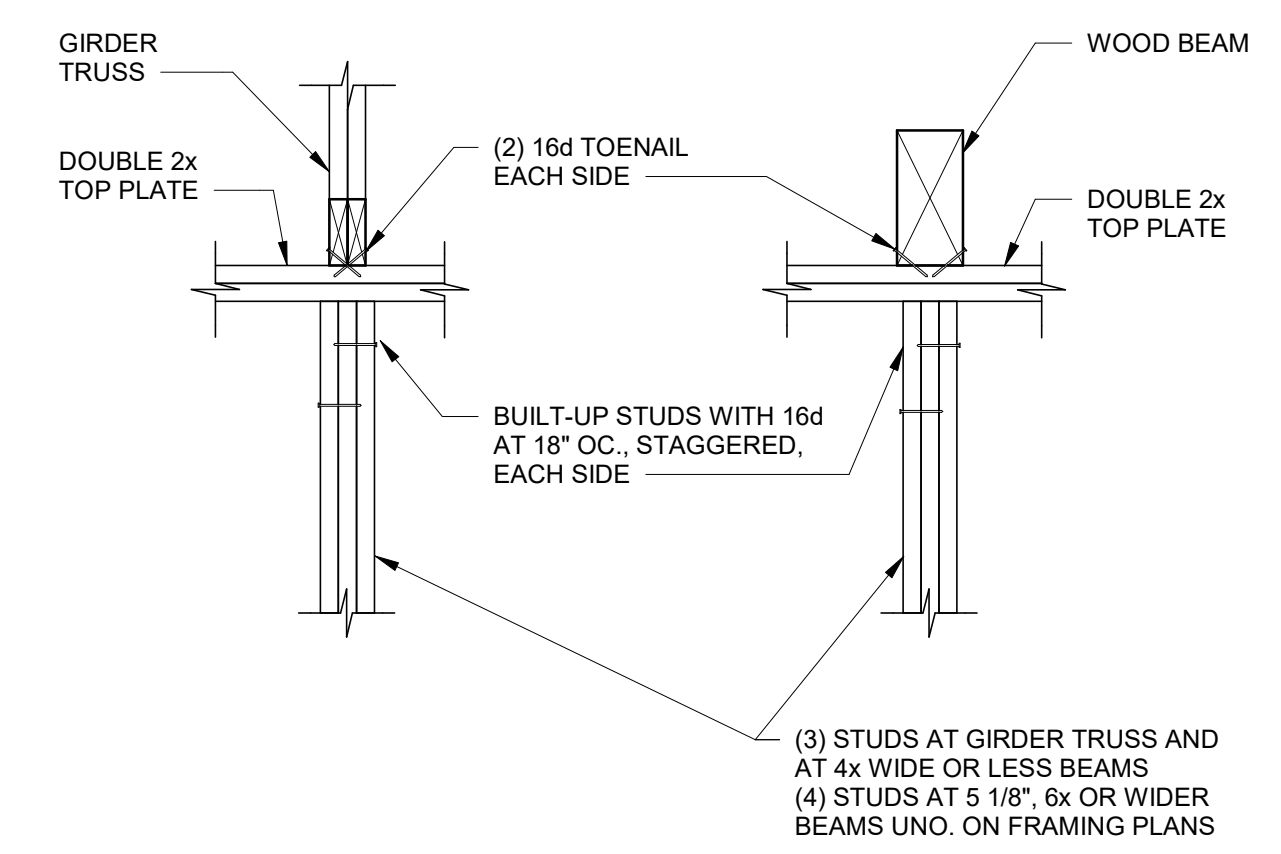
2

GIRDER TRUSS OR BEAM SUPPORT
NO SCALE

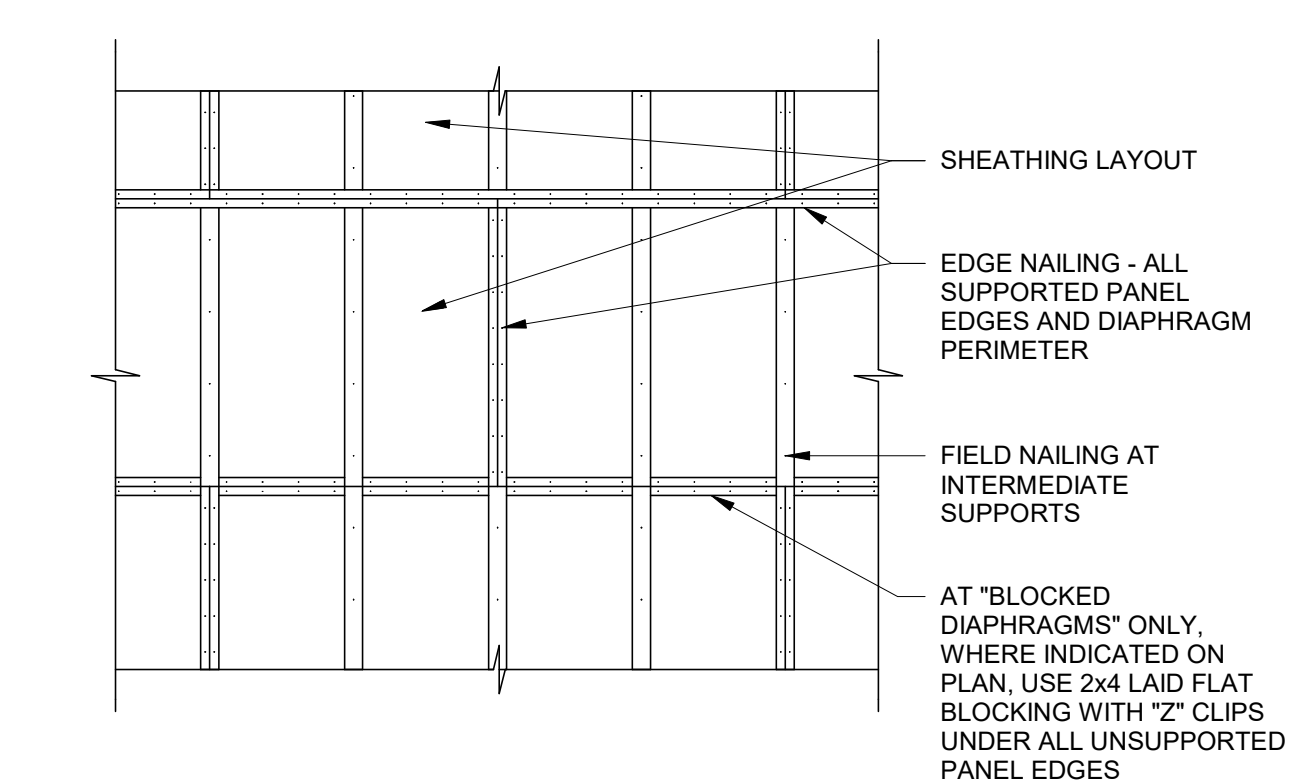
3

STANDARD DOUBLE PLATE LAP WHERE STRAPPING NOT REQUIRED (U.N.O)
NO SCALE

4



NOTES:
1. Do not splice top plates within 6'-0" of ends of plywood shear walls.
2. This detail required at all exterior walls and over shear walls - not required at interior non-shear walls.



NOTES:
1. Minimum edge distance for nails shall be 3/8"
2. Minimum sheathing sheet size shall be 2'-0"x4'-0"
3. Nail head shall not break outer ply of sheathing.
4. Nails shall be common wire type. Pneumatic driven fasteners may be used with engineer approval.

DIAPHRAGM LAYOUT SCHEMATIC
NO SCALE

5

BUILT-UP HEADER
NO SCALE

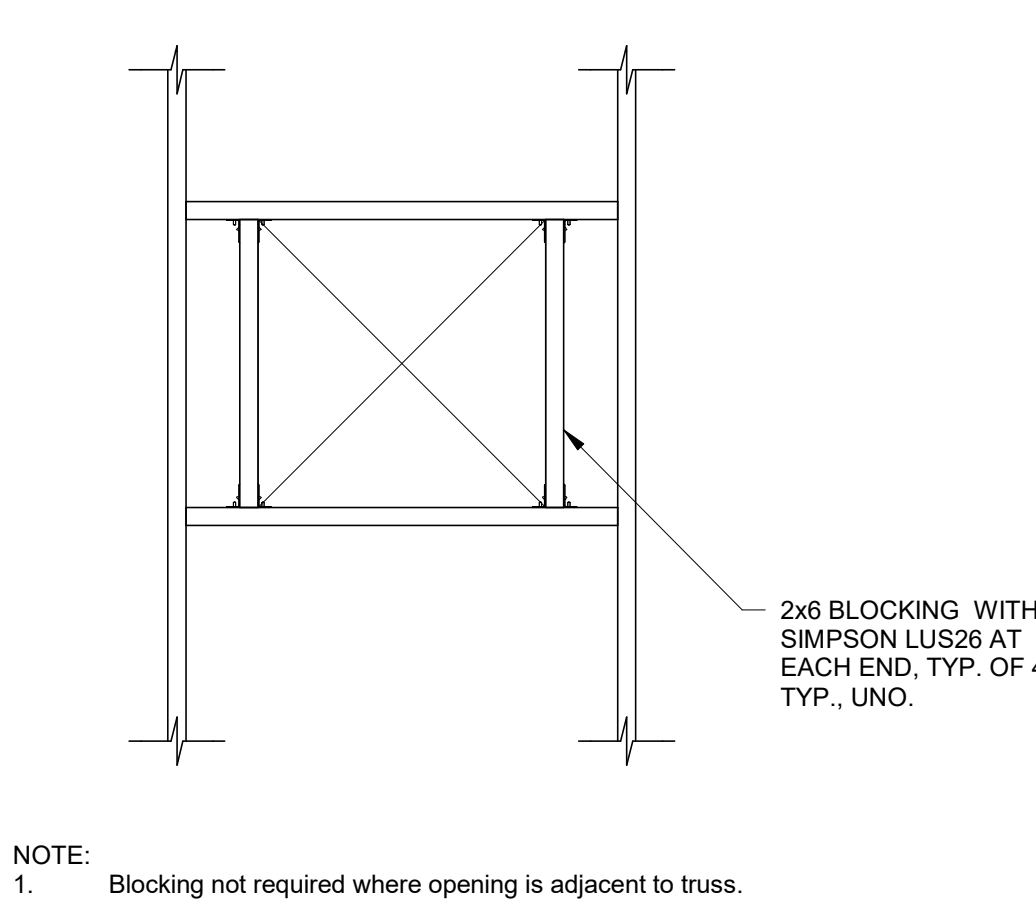
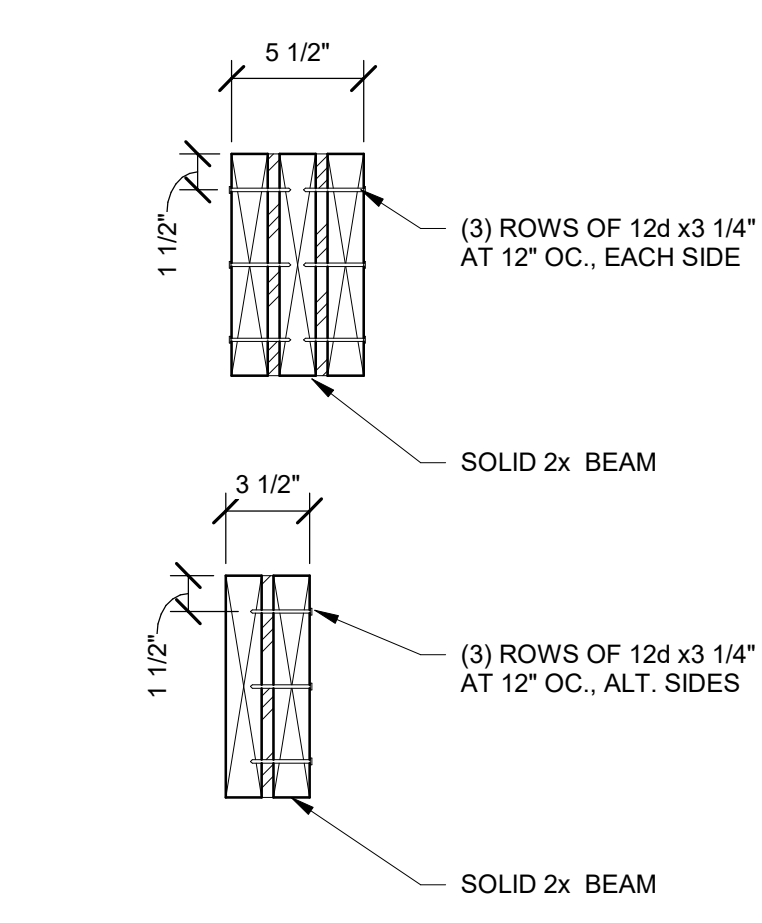
6

TYPICAL OPENING IN ROOF FRAMING
NO SCALE

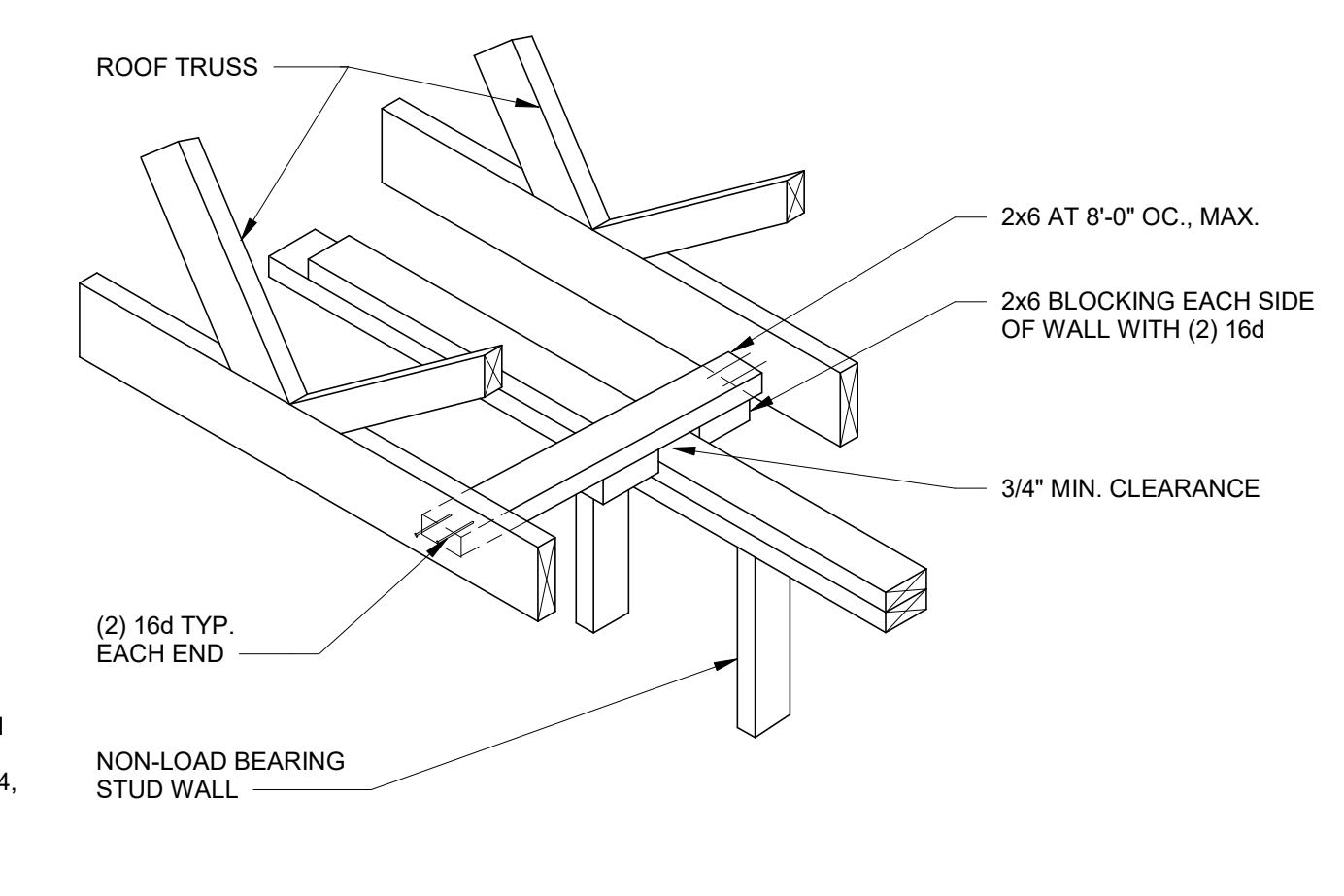
7

NON-LOAD BEARING WALL BRACING SCHEMATIC - WOOD ROOF TRUSSES
NO SCALE

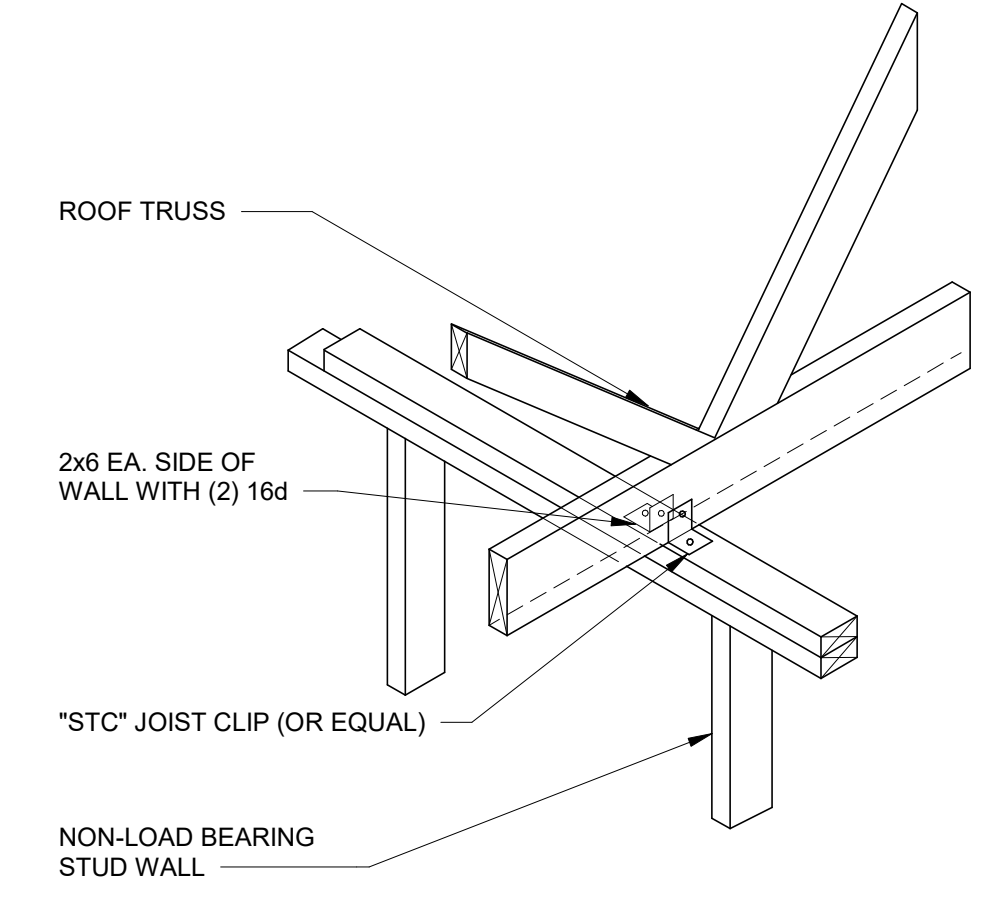
8



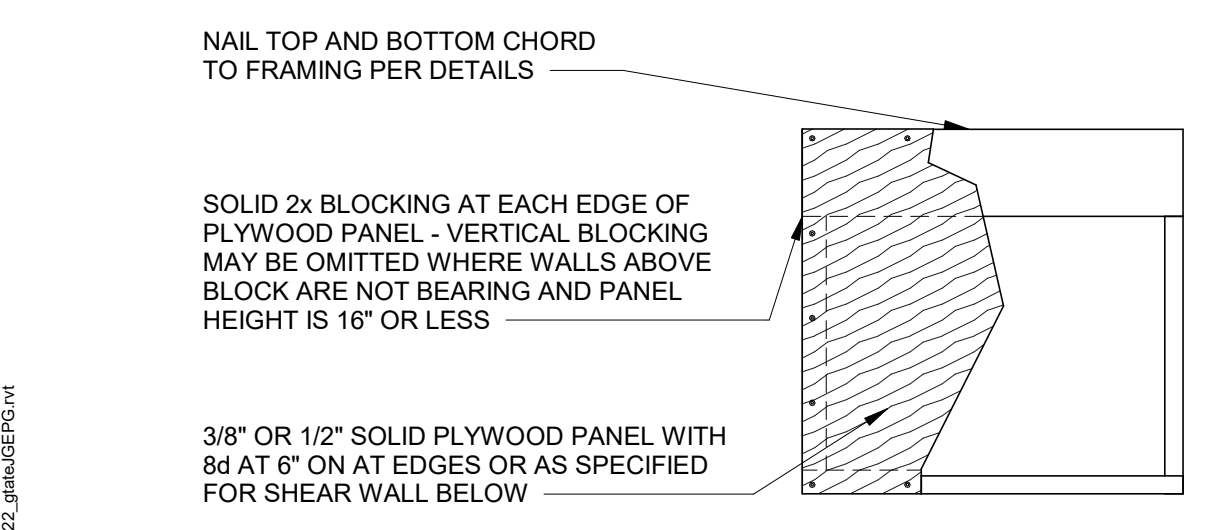
NOTE:
1. Blocking not required where opening is adjacent to truss.



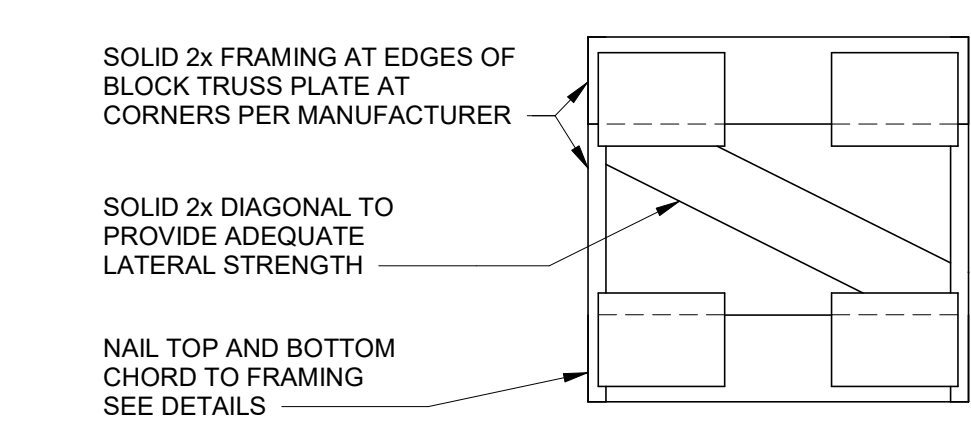
PARALLEL CONDITION



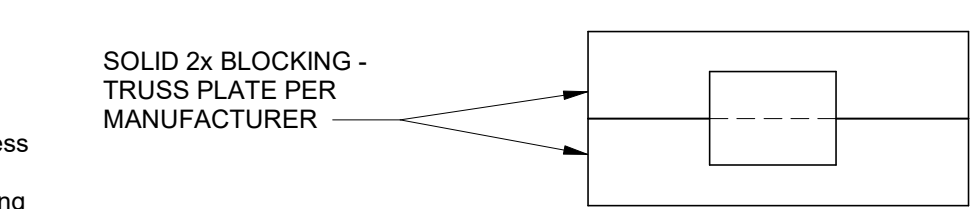
PERPENDICULAR CONDITION



PREFAB TRUSS BLOCKING



PREFAB TRUSS BLOCKING



PREFAB SOLID BLOCKING

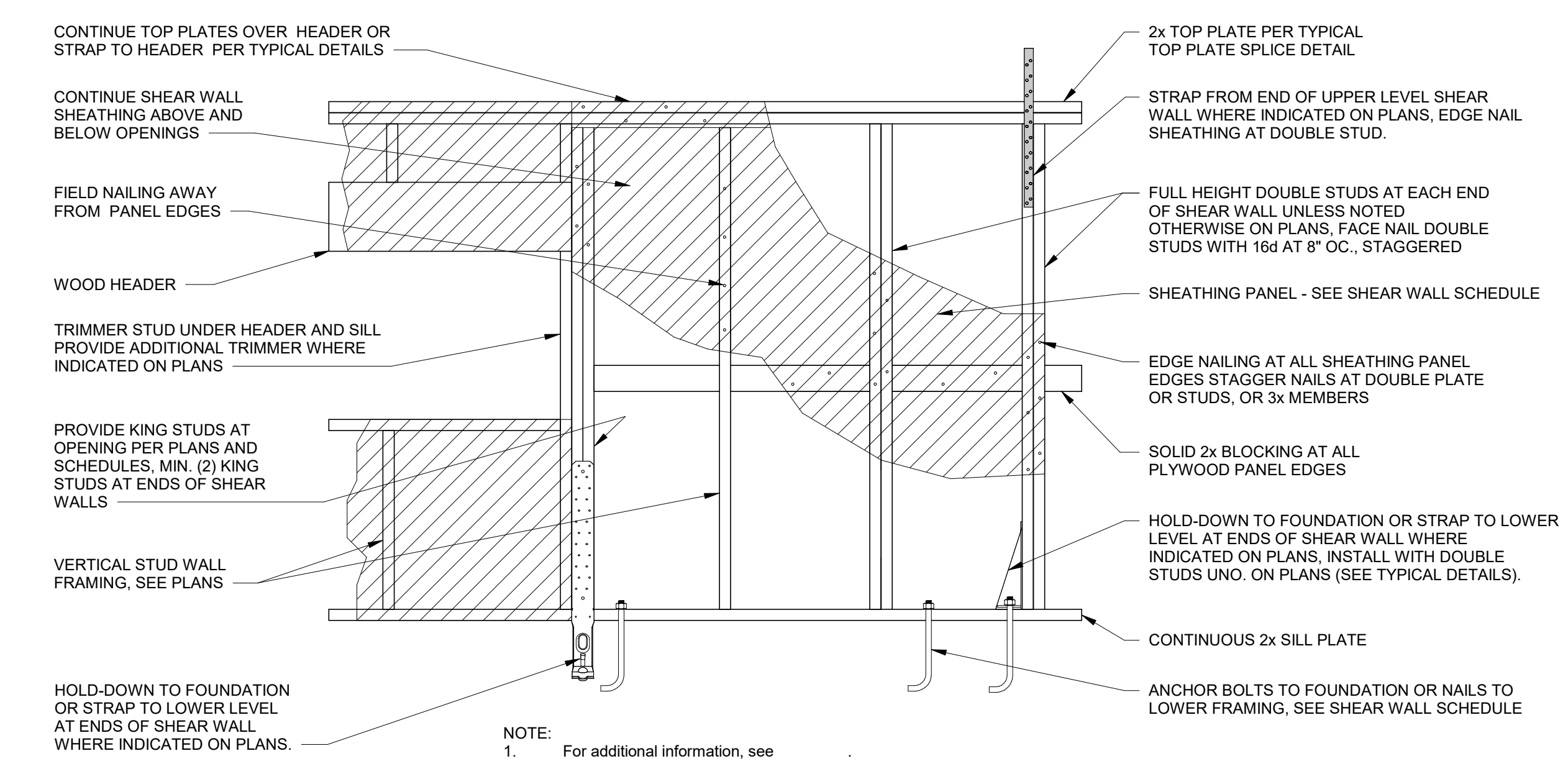
NOTES:
1. Shear panel using either plywood panel or prefab truss blocking to be installed per details unless notes otherwise.
2. Blocking at top edge to be vertical X where installed under load bearing walls otherwise blocking may lay vertical X or horizontal X.
3. Truss manufacturer to design prefab blocking for lateral force.

TYPICAL SHEAR PANEL BLOCKING
NO SCALE

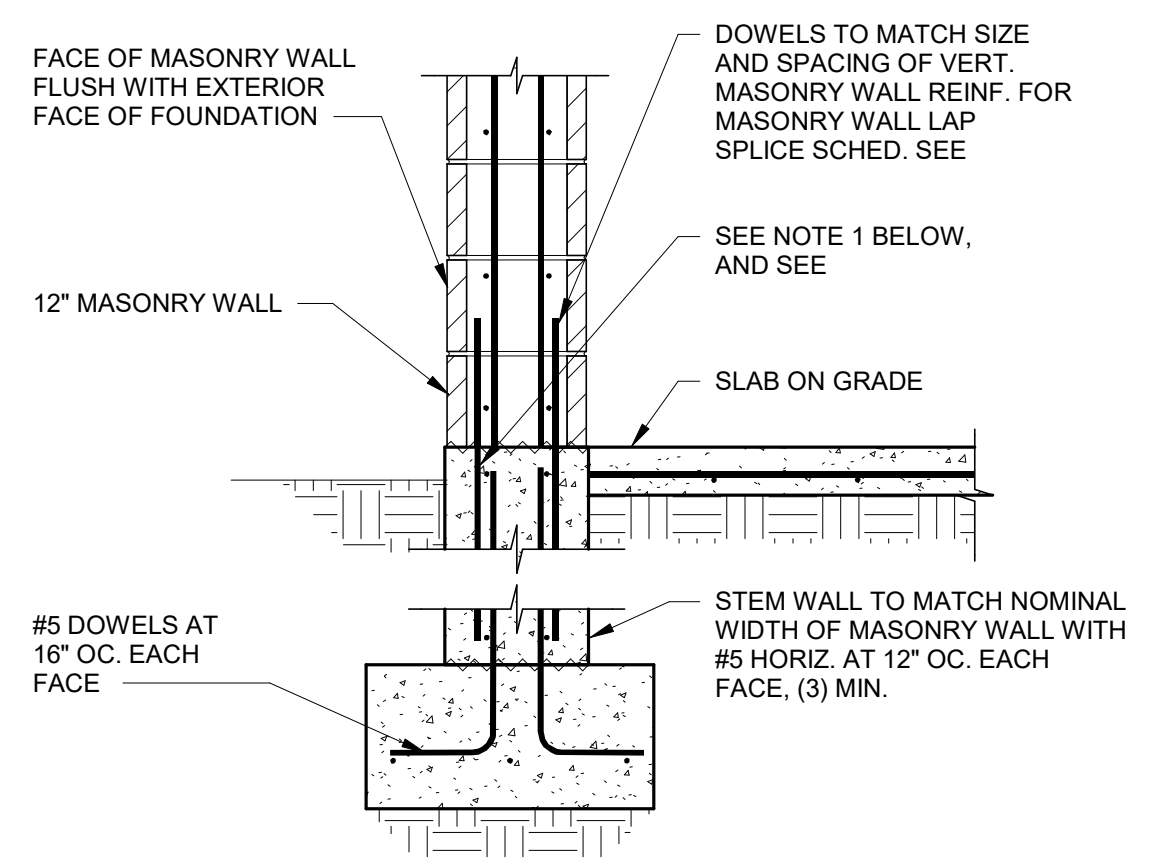
9

TYPICAL SHEAR PANEL CONSTRUCTION
NO SCALE

10



NOTE:
1. For additional information, see

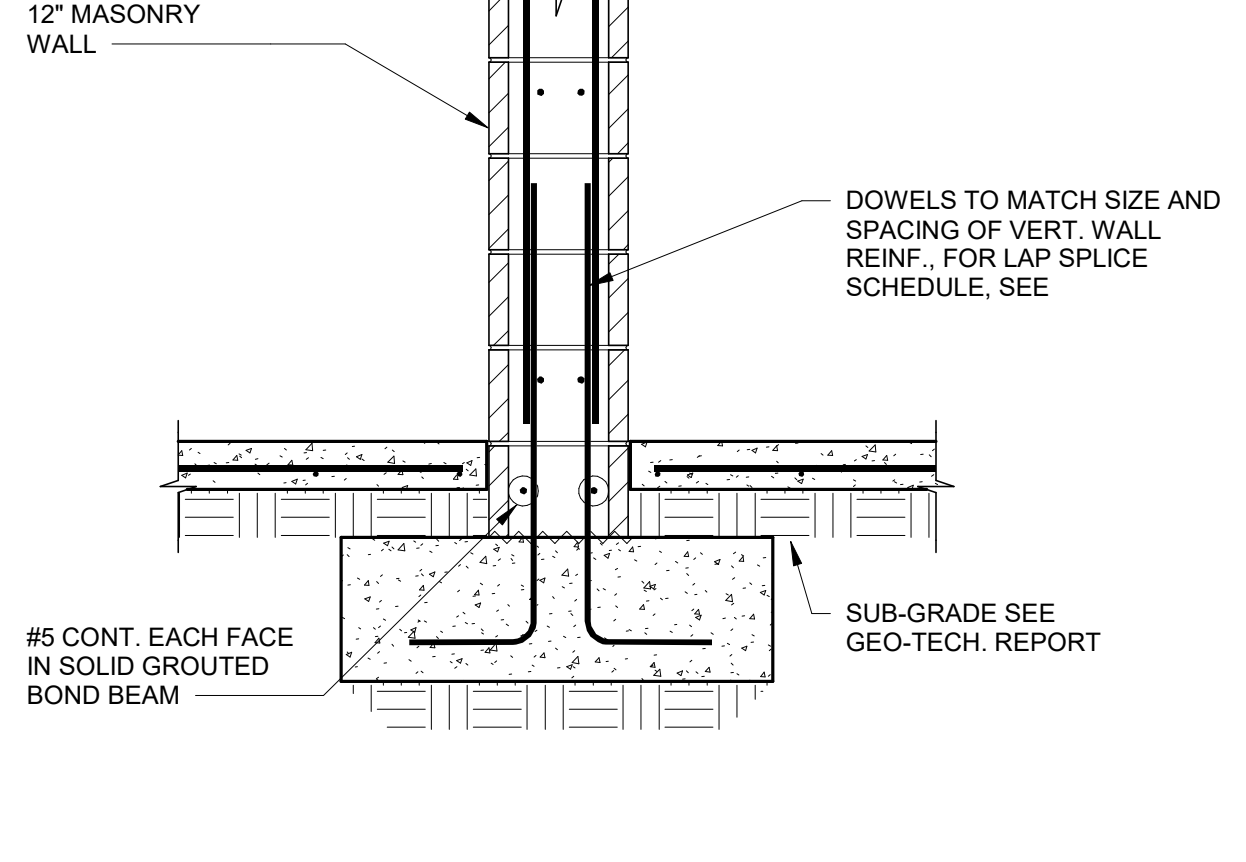


- NOTES:
- If it is not possible to achieve lap length indicated provide 90° standard hook with hook parallel to direction of stem wall.
 - At wall openings see
 - At sim. slab on grade both side of wall.
 - At acoustical wall conditions, see

EXTERIOR 12" MASONRY WALL AT FOOTING

3/4" = 1'-0"

1

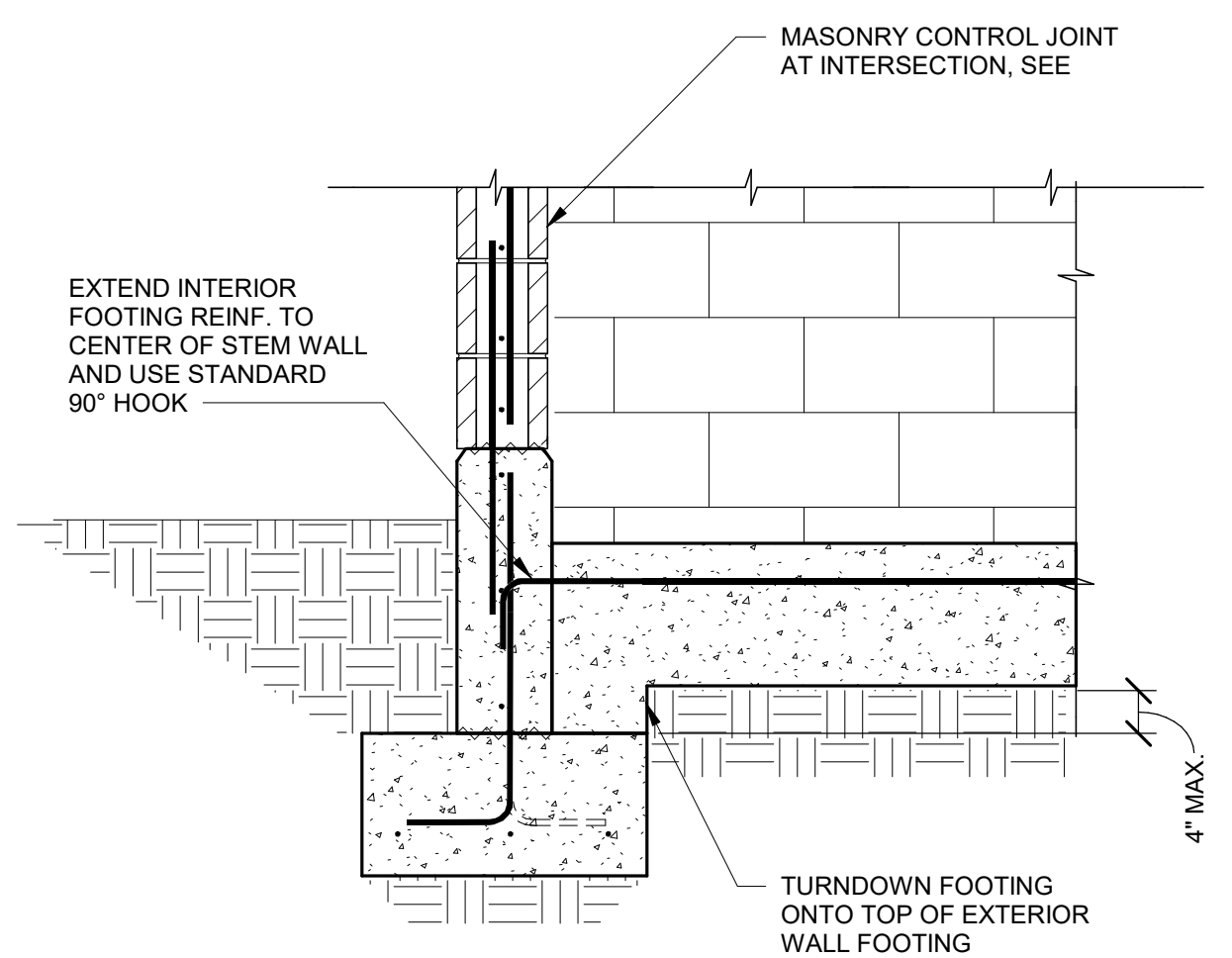


- NOTE:
- At slab openings, see

TYPICAL 12" INTERIOR MASONRY FOOTING

3/4" = 1'-0"

2

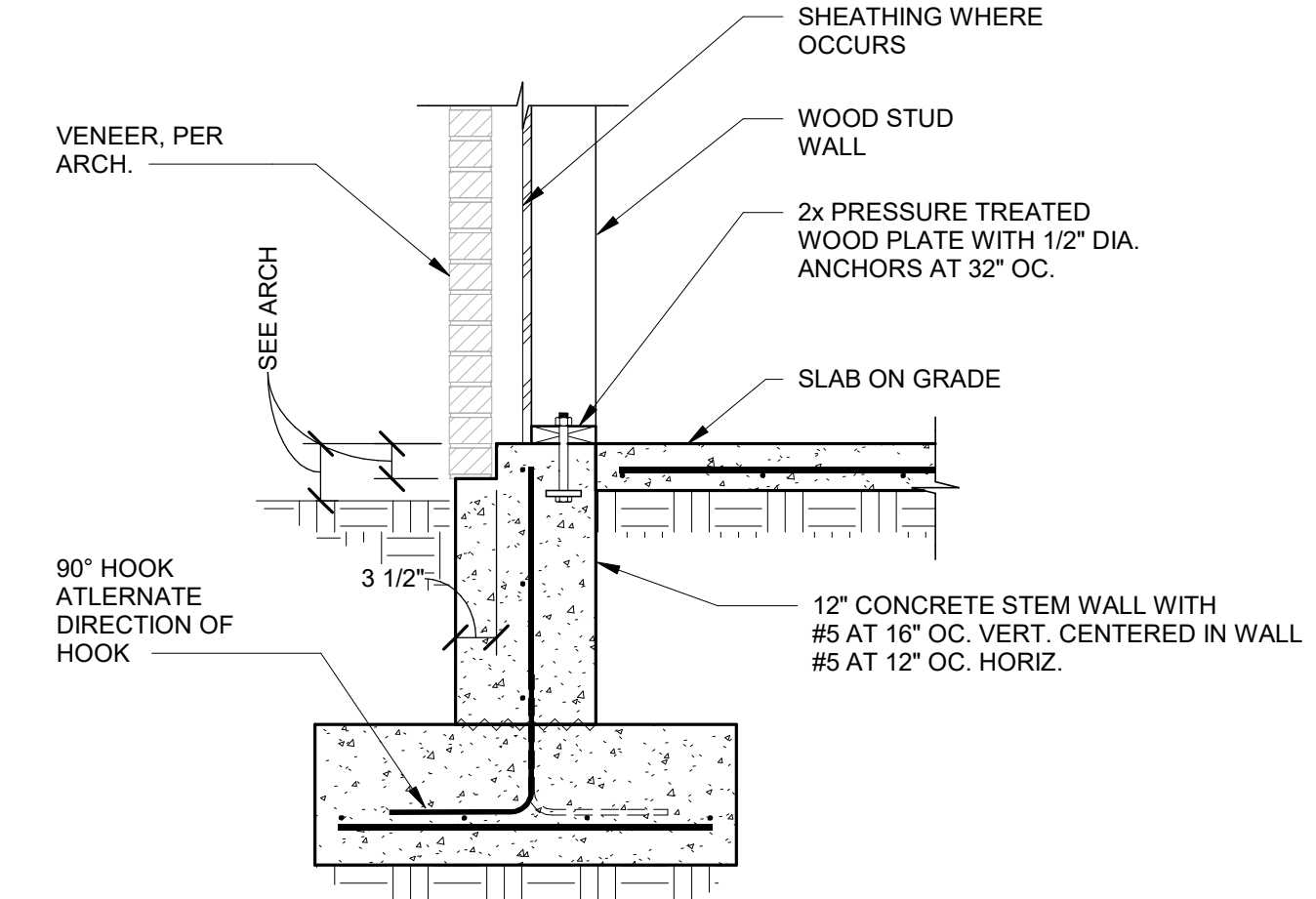


- NOTE:
- For information not shown see

INTERIOR TO EXTERIOR MASONRY WALL

3/4" = 1'-0"

3

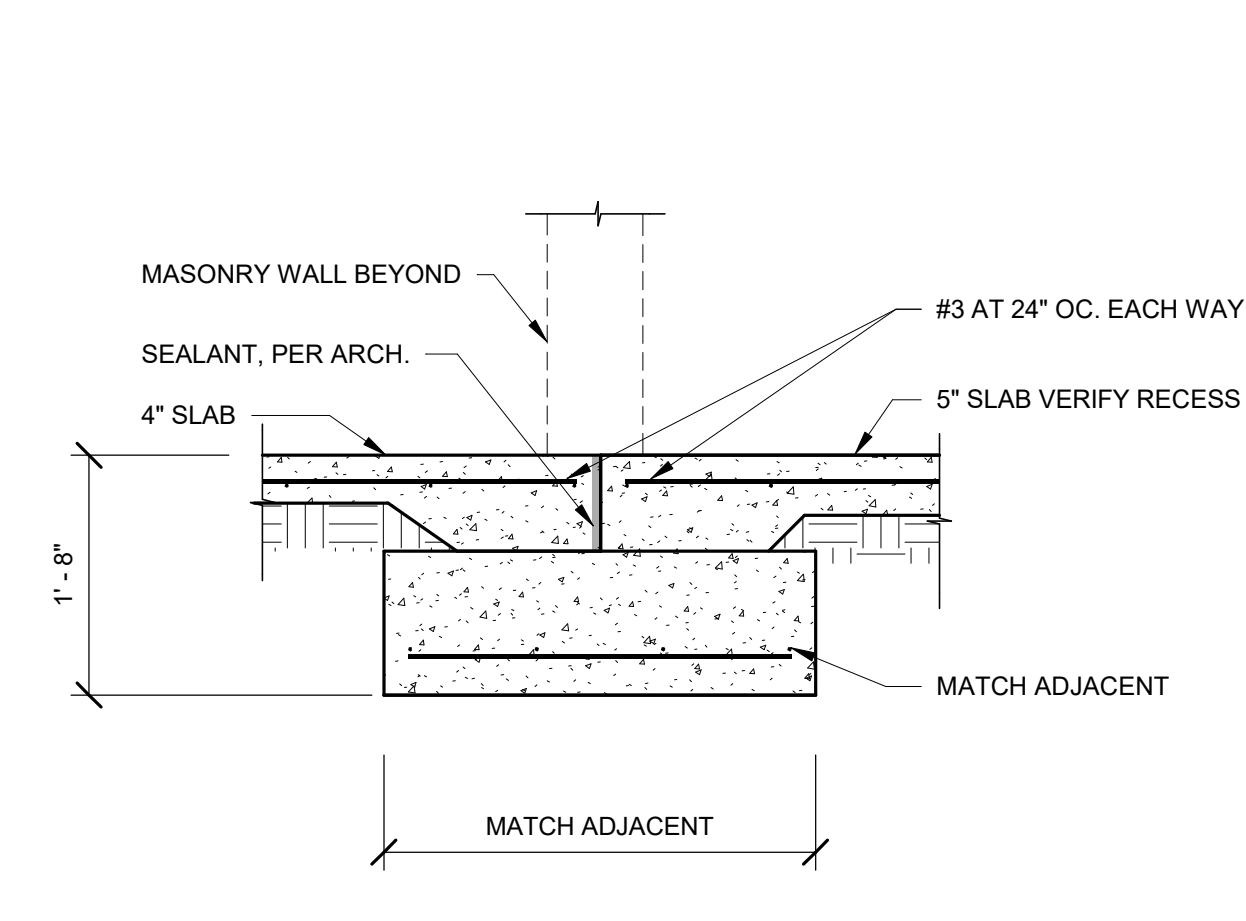


- NOTE:
- For typical framing at door openings see

WOOD STUD WALL AT FOOTING

3/4" = 1'-0"

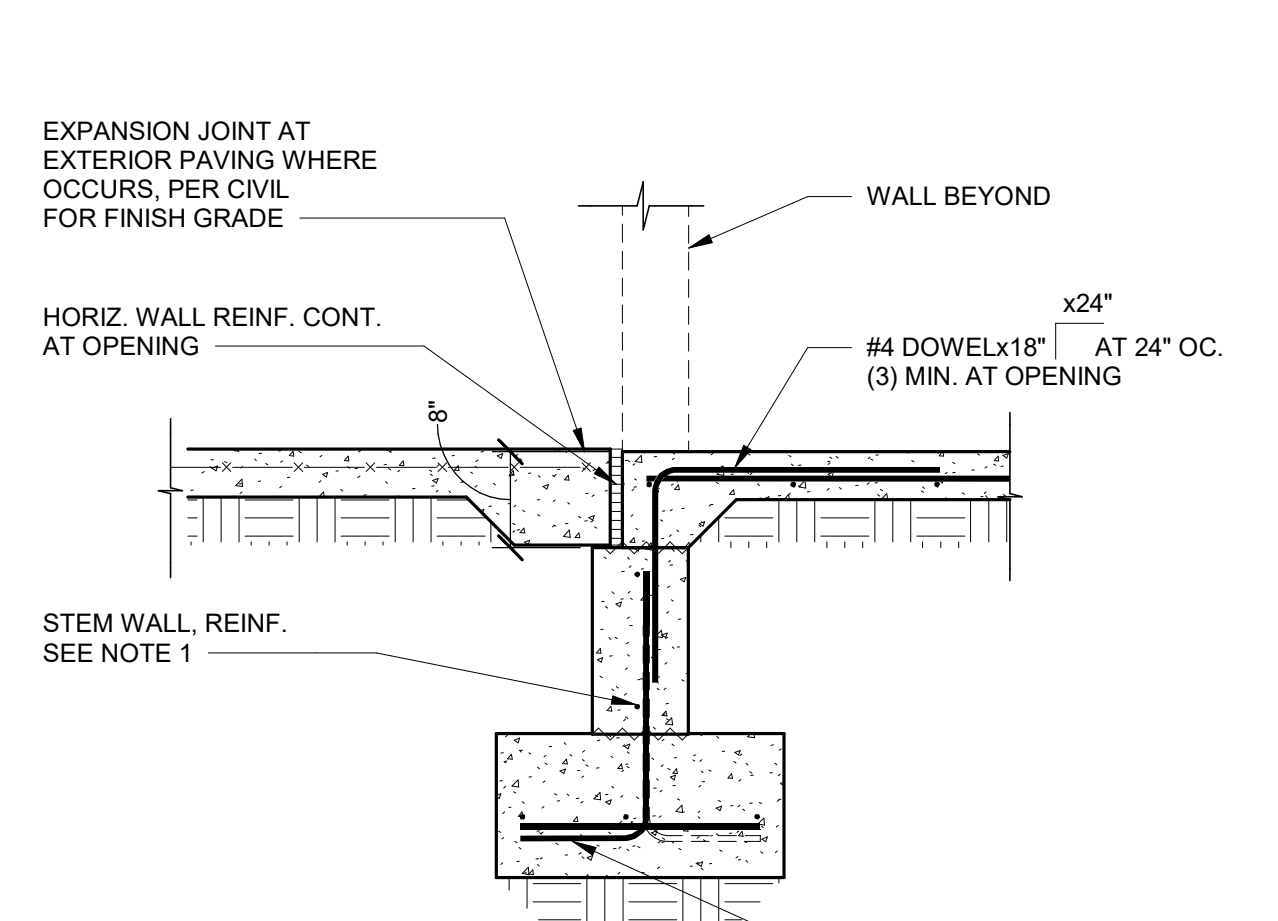
4



SLAB TRANSITION AT INTERIOR OPENING

3/4" = 1'-0"

5

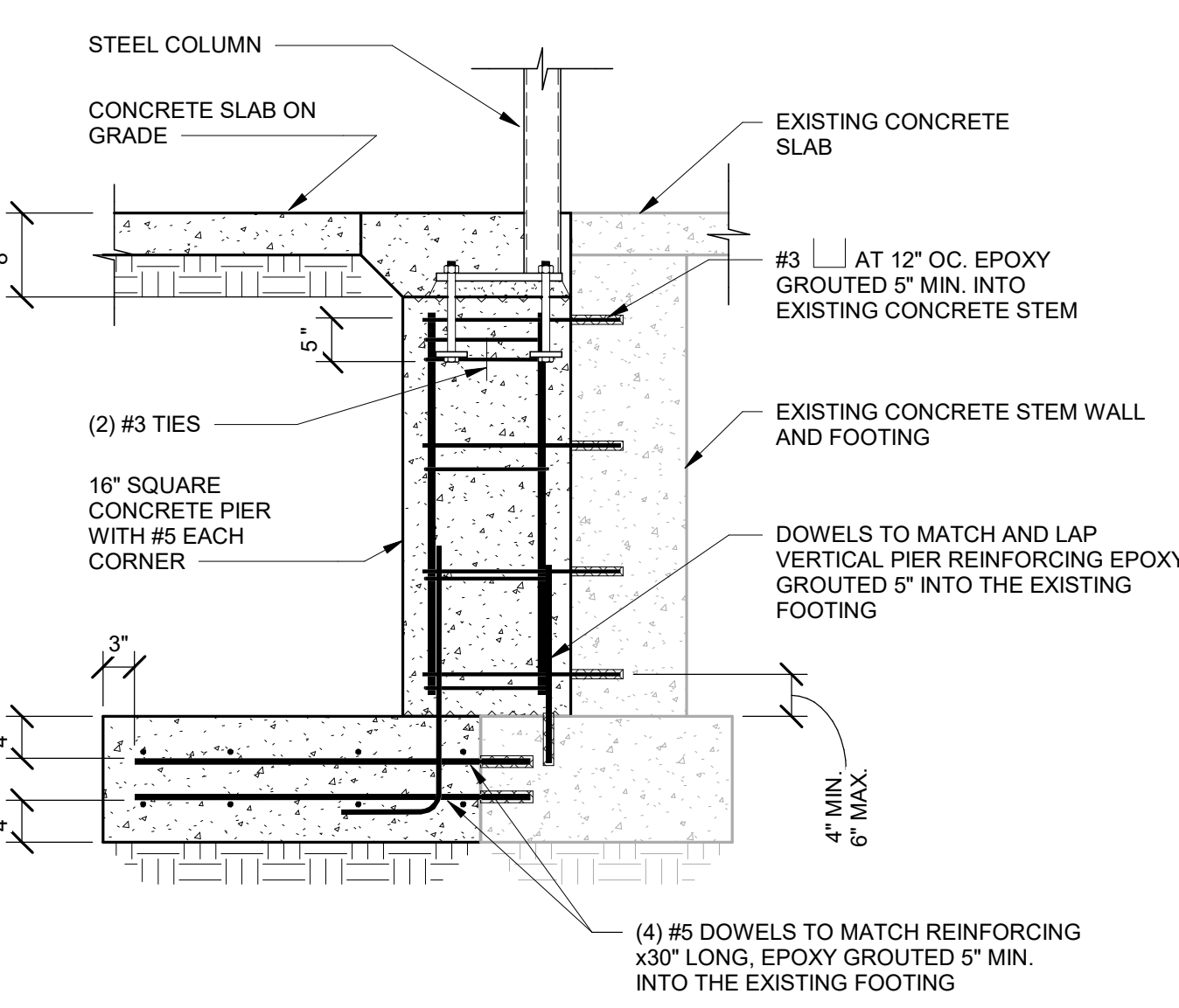


- NOTES:
- A) 8" Masonry walls
B) 12" Masonry walls
C) Steel stud walls
D) Acoustical 12" CMU

SLAB AT EXTERIOR WALL OPENING

3/4" = 1'-0"

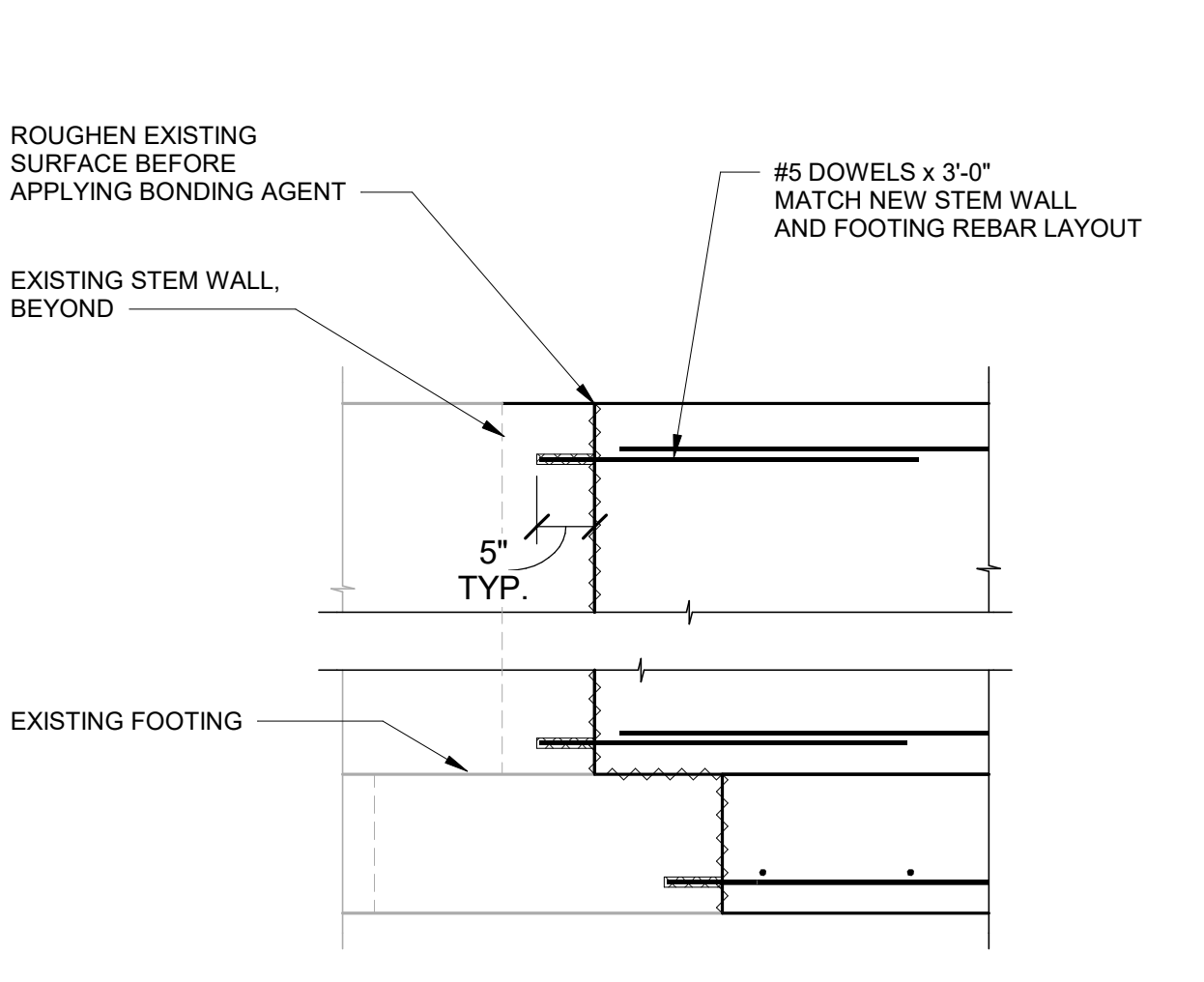
6



STEEL COLUMN AT FOOTING

3/4" = 1'-0"

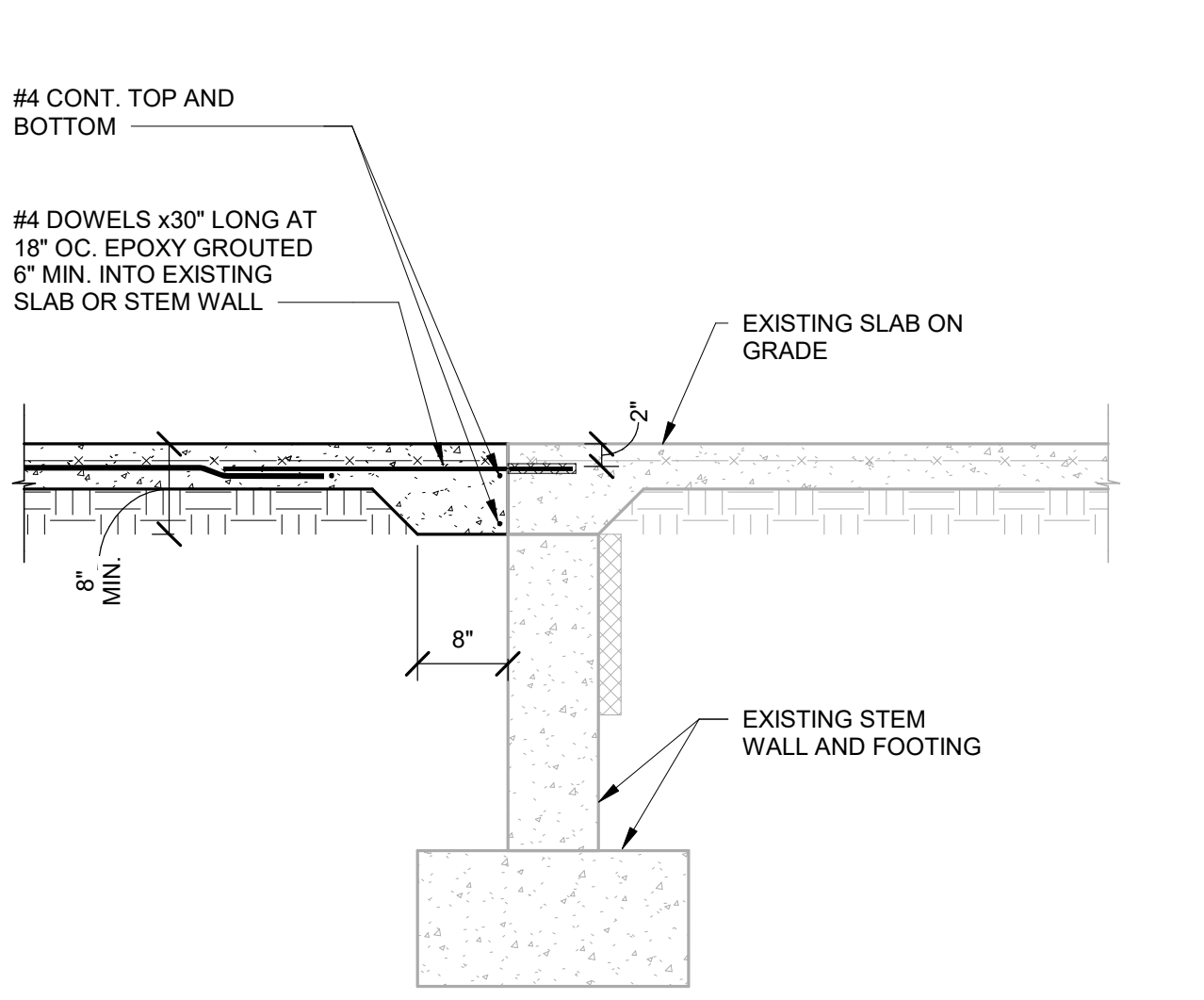
7



NEW STEM WALL AT EXISTING STEM WALL

3/4" = 1'-0"

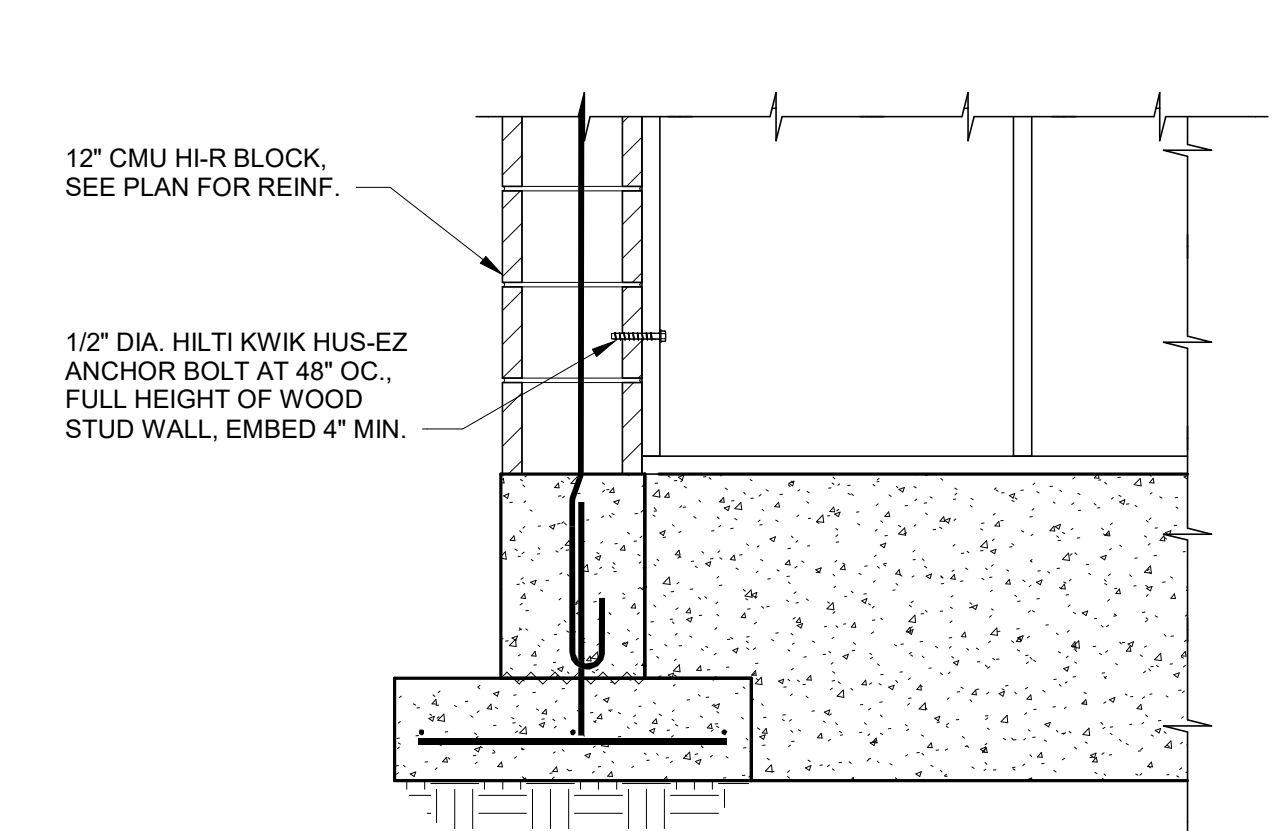
8



NEW SLAB ON GRADE AT EXISTING SLAB ON GRADE

3/4" = 1'-0"

9



- NOTE:
- For more information see

LOAD BEARING WOOD WALL JOINT AT MASONRY WALL

3/4" = 1'-0"

10

- FOUNDATION DETAIL NOTES**
- For structural design notes, see sheets starting at S0.01.
 - Architectural backgrounds are shown for reference only. The dimensions shown apply to structural elements only. For dimensions not shown, see architect of record submittal.
 - Contractor shall field verify existing structural conditions. If any discrepancies are found, contractor shall contact the architect and structural engineer before performing alteration work.
 - For concrete and foundation general details, see sheets S5.01 and S5.02.
 - Footing designations are called out on the foundation plans and coordinated on the schedule sheet S4.01.
 - Slab on grade construction is called out on plans. Coordinate slab on grade construction with sheet S5.01.
 - Coordinate top of footing and top of slab elevations with foundation plans.
 - Columns and base plates are called out on plans and coordinated in the schedule shown on S4.01.
 - Sub-grade material below slabs and footings shall be constructed as indicated by geo-tech report. Coordinate vapor barrier placement below slab with arch and geo-tech report.
 - Contractor to coordinate exterior finish grade with architect and civil.
 - Coordinate non-shrink grout under steel columns with base plate schedule on sheet S4.01.
 - All rebar to maintain clear distances per concrete notes on sheet S0.02.
 - All concrete cold joints are to be roughened and cleaned to 1/4" amplitude, uno.
 - All hooked dowels are shown with 90° std. hook, see 4 / S5.01, uno.
 - All rebar shall maintain tension lap splice, see 5 / S5.01.
 - All dowels shall maintain development lengths, see 1 / S5.01. Concrete wall dowels are to extend to bottom of the footings and face of the footings. For dowels that are centered in wall alternate the hook direction.
 - Concrete strengths are provided in notes on sheet S0.02.
 - All exposed concrete edges shall have a 3/4" chamfer, typ., uno.
 - All cast in place anchor bolts are to be coordinated with the base plate schedule on sheet S4.01.
 - Provide 3" minimum concrete cover between surrounding soil and all embedded steel including, base plates, anchor bolts, headed anchors, columns, etc., uno.
 - All stem wall and footing reinforcing is to be continued thru column piers and footings, uno.
 - For structural bearing wall construction, see plans. Coordinate location with plans and architectural.
 - For structural wood foundation general details, see sheet S5.41.
 - For all interior and exterior wall finishes, see architectural.
 - Rigid foundation insulation shown for reference only. Coordinate thickness and placement with arch.
 - Masonry veneer shown for reference only. Coordinate thickness and layout with arch. For typical anchorage, see veneer tie notes on sheet S0.03.



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JEFFERSON ELEMENTARY SCHOOL ADDITION AND REMODEL
600 N. FILLMORE STREET JEROME, ID

DATE: 12/09/22
LKV PROJECT #: Client Number

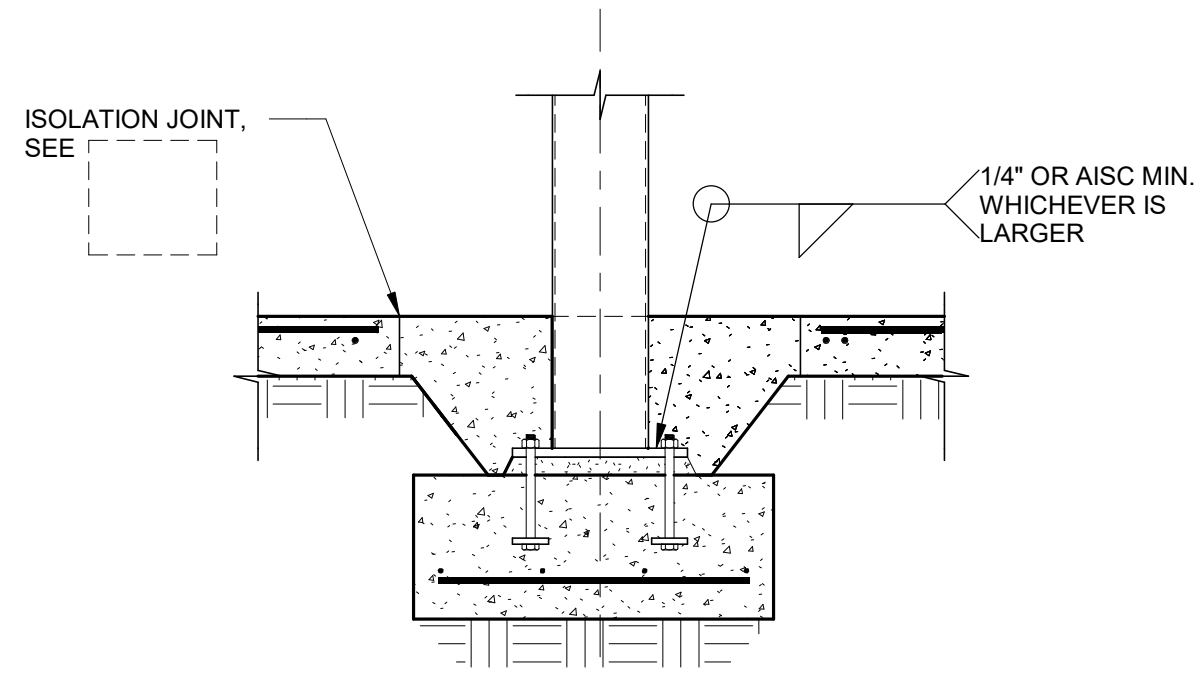
DRAWN BY: GT
CHECKED BY: KF

Project Status

DRAWING NO.:

S6.01
FOUNDATION DETAILS

C:\Users\jgallagher\Documents\224217_Jefferson Elementary School Addition and Remodel_R22_gra_m.dwg Revit 22 09/09/2022 12:13:11 PM



- NOTES:
1. See plan or schedule for footing size and reinforcing.
 2. Anchor bolts shall be secured in place prior to concrete placement.
 3. Contractor is responsible for leveling of base plate.
 4. Grout to be placed prior to applying loads to column.

TYPICAL INTERIOR COLUMN BASE

3/4" = 1'-0"

1

FOUNDATION DETAIL NOTES

1. For structural design notes, see sheets starting at S0.01.
2. Architectural backgrounds are shown for reference only. The dimensions shown apply to structural elements only. For dimensions not shown, see architect of record submittal.
3. Contractor shall field verify existing structural conditions. If any discrepancies are found, contractor shall contact the architect and structural engineer before performing alteration work.
4. For concrete and foundation general details, see sheets S5.01 and S5.02.
5. Footing designations are called out on the foundation plans and coordinated on the schedule sheet S4.01.
6. Slab on grade construction is called out on plans. Coordinate slab on grade construction with sheet S5.01.
7. Coordinate top of footing and top of slab elevations with foundation plans.
8. Columns and base plates are called out on plans and coordinated in the schedule shown on S4.01.
9. Sub-grade material below slabs and footings shall be constructed as indicated by geo-tech report. Coordinate vapor barrier placement below slab with arch and geo-tech report.
10. Contractor to coordinate exterior finish grade with architect and civil.
11. Coordinate non-shrink grout under steel columns with base plate schedule on sheet S4.01.
12. All rebar to maintain clear distances per concrete notes on sheet S0.02.
13. All concrete cold joints are to be roughened and cleaned to 1/4" amplitude, uno.
14. All hooked dowels are shown with 90° std. hook, see 4 / S5.01, uno.
15. All rebar shall maintain tension lap splice, see 5 / S5.01.
16. All dowels shall maintain development lengths, see 1 / S5.01. Concrete wall dowels are to extend to bottom of the footings and face of the footings. For dowels that are centered in wall alternate the hook direction.
17. Concrete strengths are provided in notes on sheet S0.02.
18. All exposed concrete edges shall have a 3/4" chamfer, typ., uno.
19. All cast in place anchor bolts are to be coordinated with the base plate schedule on sheet S4.01.
20. Provide 3" minimum concrete cover between surrounding soil and all embedded steel including, base plates, anchor bolts, headed anchors, columns, etc., uno.
21. All stem wall and footing reinforcing is to be continued thru column piers and footings, uno.
22. For structural bearing wall construction, see plans. Coordinate location with plans and architectural.
23. For structural wood foundation general details, see sheet S5.41.
24. For all interior and exterior wall finishes, see architectural.
25. Rigid foundation insulation shown for reference only. Coordinate thickness and placement with arch.
26. Masonry veneer shown for reference only. Coordinate thickness and layout with arch. For typical anchorage, see veneer tie notes on sheet S0.03.



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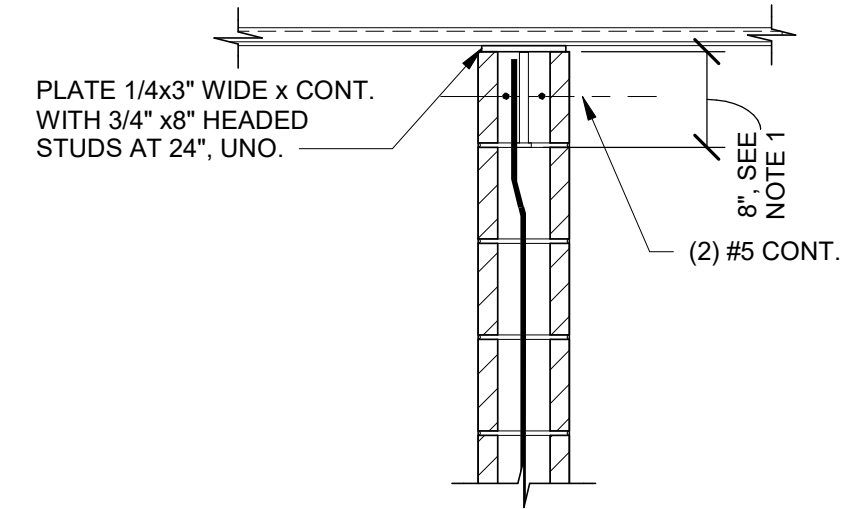
DATE: 12/09/22
LKV PROJECT #: Client
Number

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Project Status

DRAWING NO.:

S6.02
STEEL FOUNDATION
DETAILS

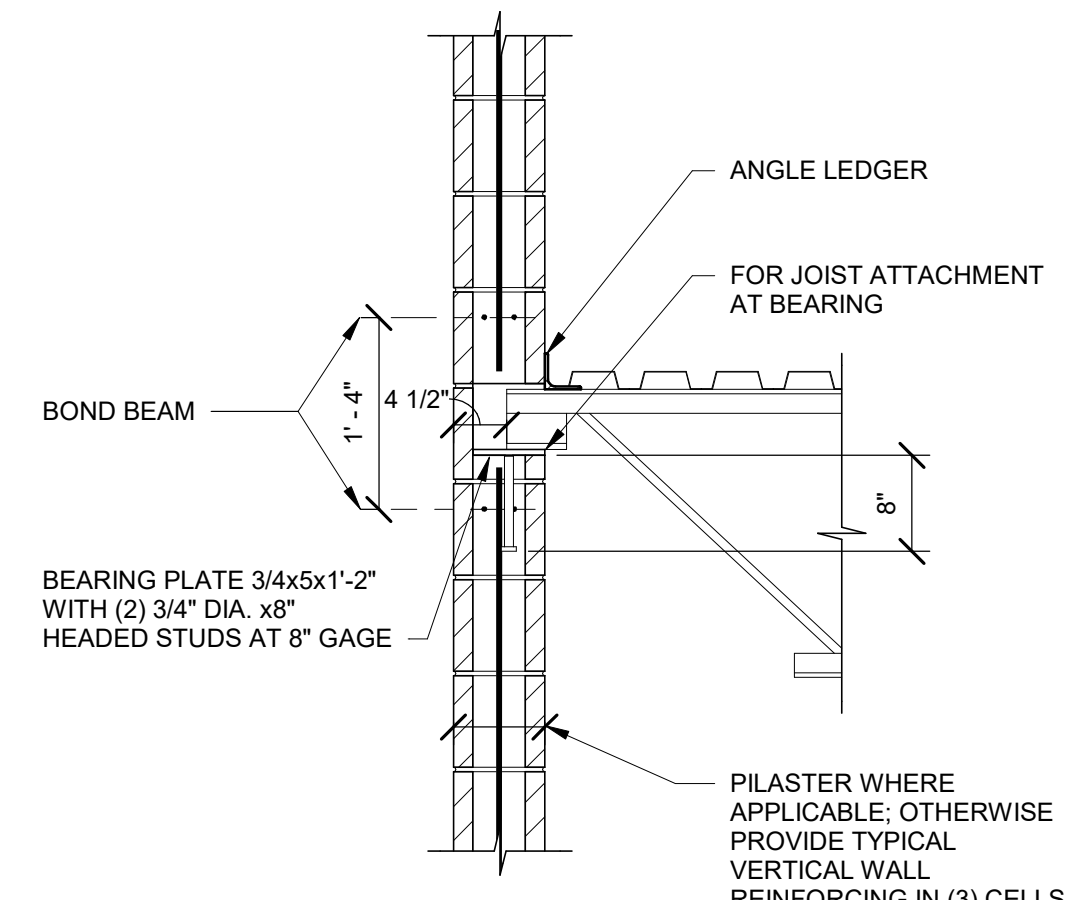


- NOTES:
1. Grout around headed studs shall be placed no more than (2) hours after the grout pour immediately below.
 2. Center anchor bolts in wall.

BEARING PLATE AT TOP OF MASONRY WALL

3/4" = 1'-0"

1

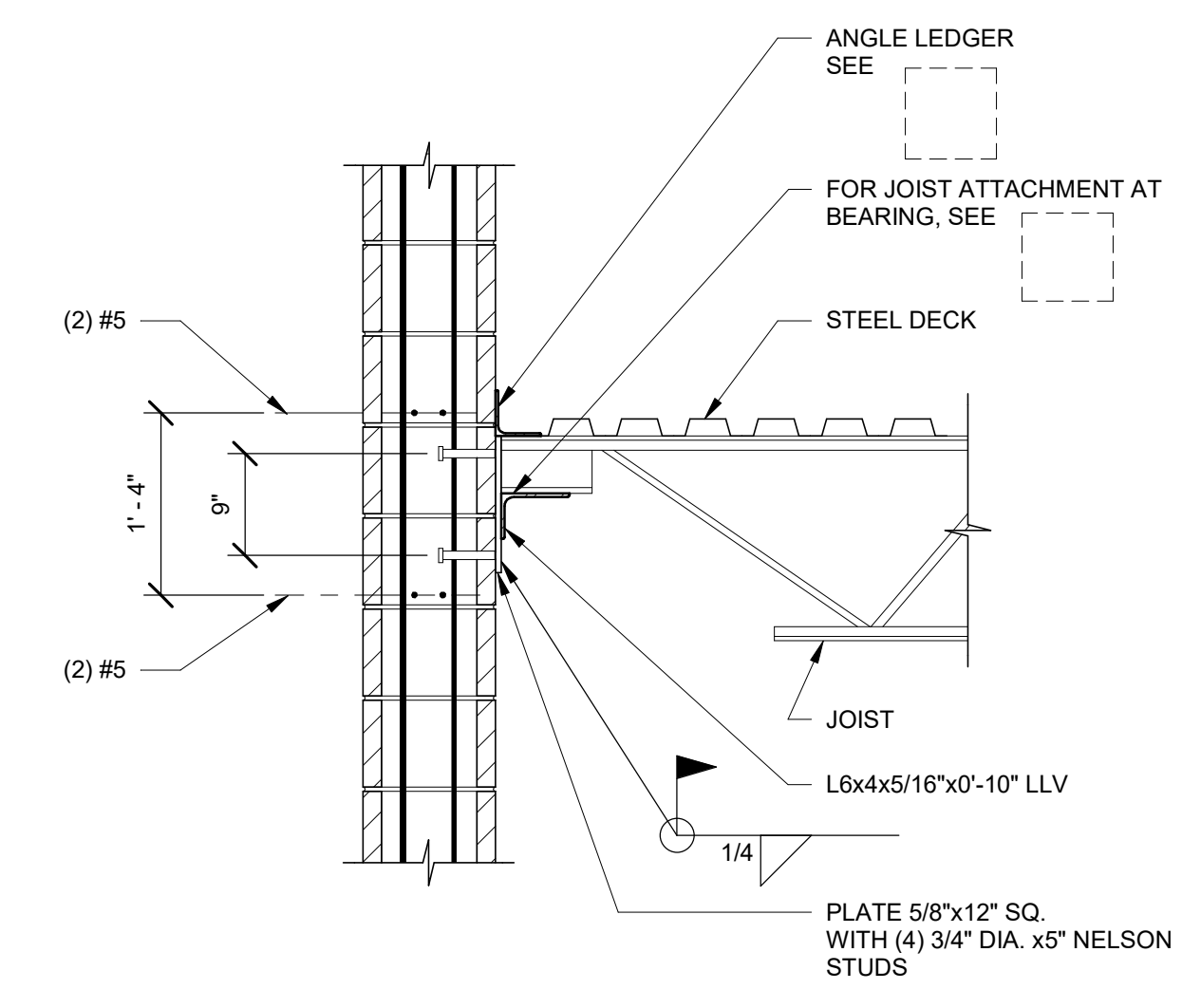


- NOTES:
1. Coordinate roof slope with plan.
 2. Solid grout joist pocket before any upper beams or joists are stacked above.
 3. Center anchor bolts in wall.

STEEL JOIST POCKET AT 8" MASONRY WALL

3/4" = 1'-0"

2

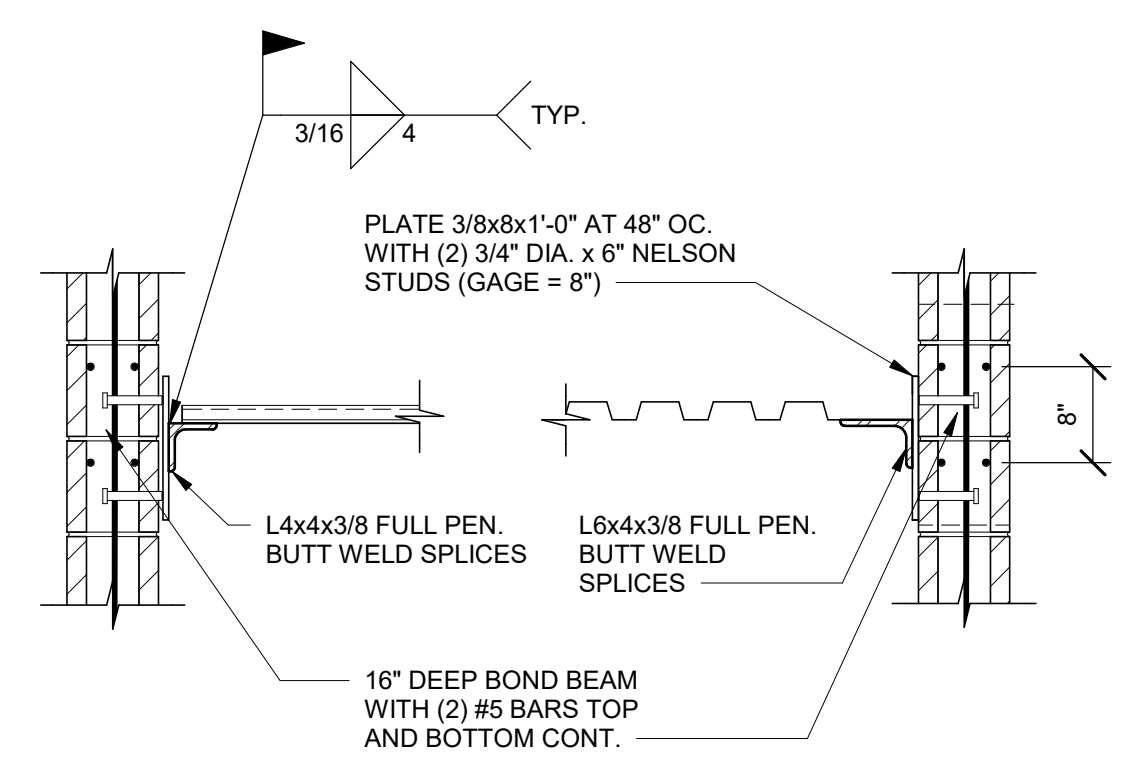


- NOTE:
1. Coordinate roof slope with plan.

STEEL JOIST SEAT TO 12" MASONRY WALL

3/4" = 1'-0"

3



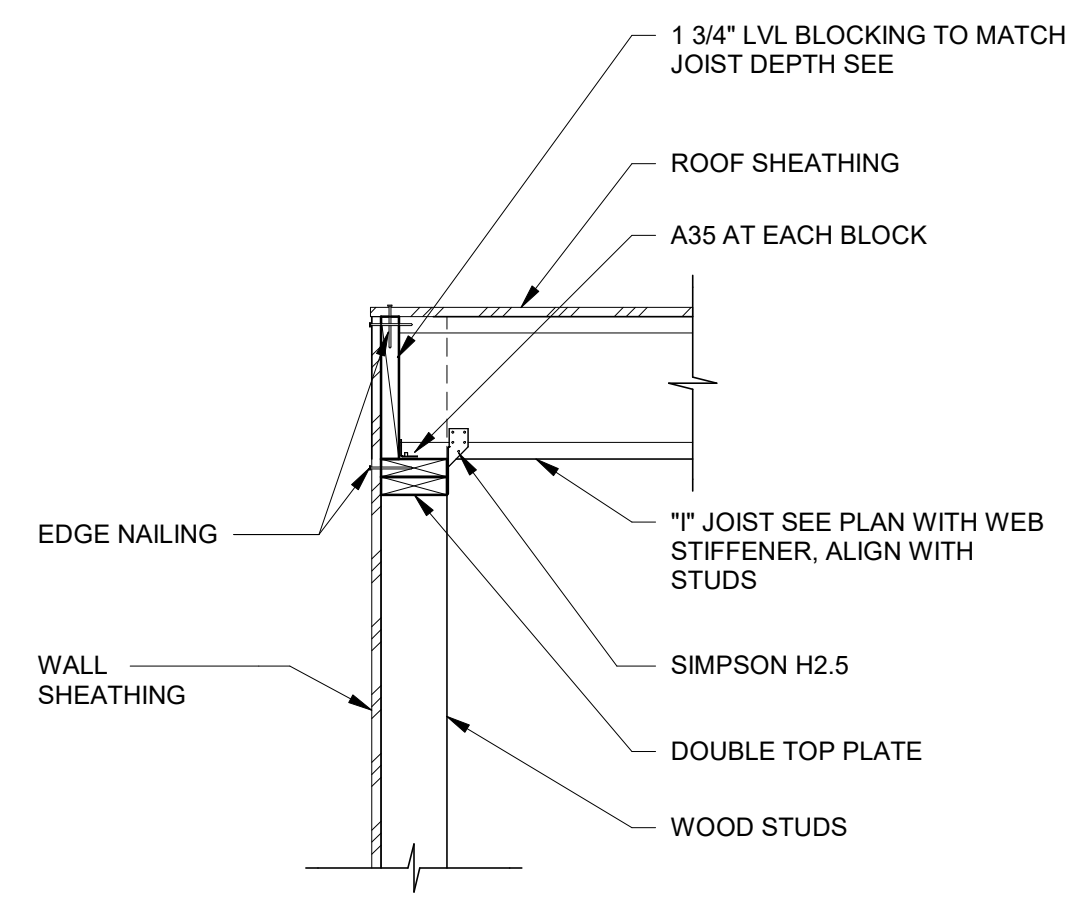
DECK SPAN PERPENDICULAR **DECK SPAN PARALLEL**

- NOTES:
1. See plan for ledger sizes and anchors, unless noted otherwise use this detail.
 2. All deck edge shall be supported.

LEDGER ANGLES

3/4" = 1'-0"

4

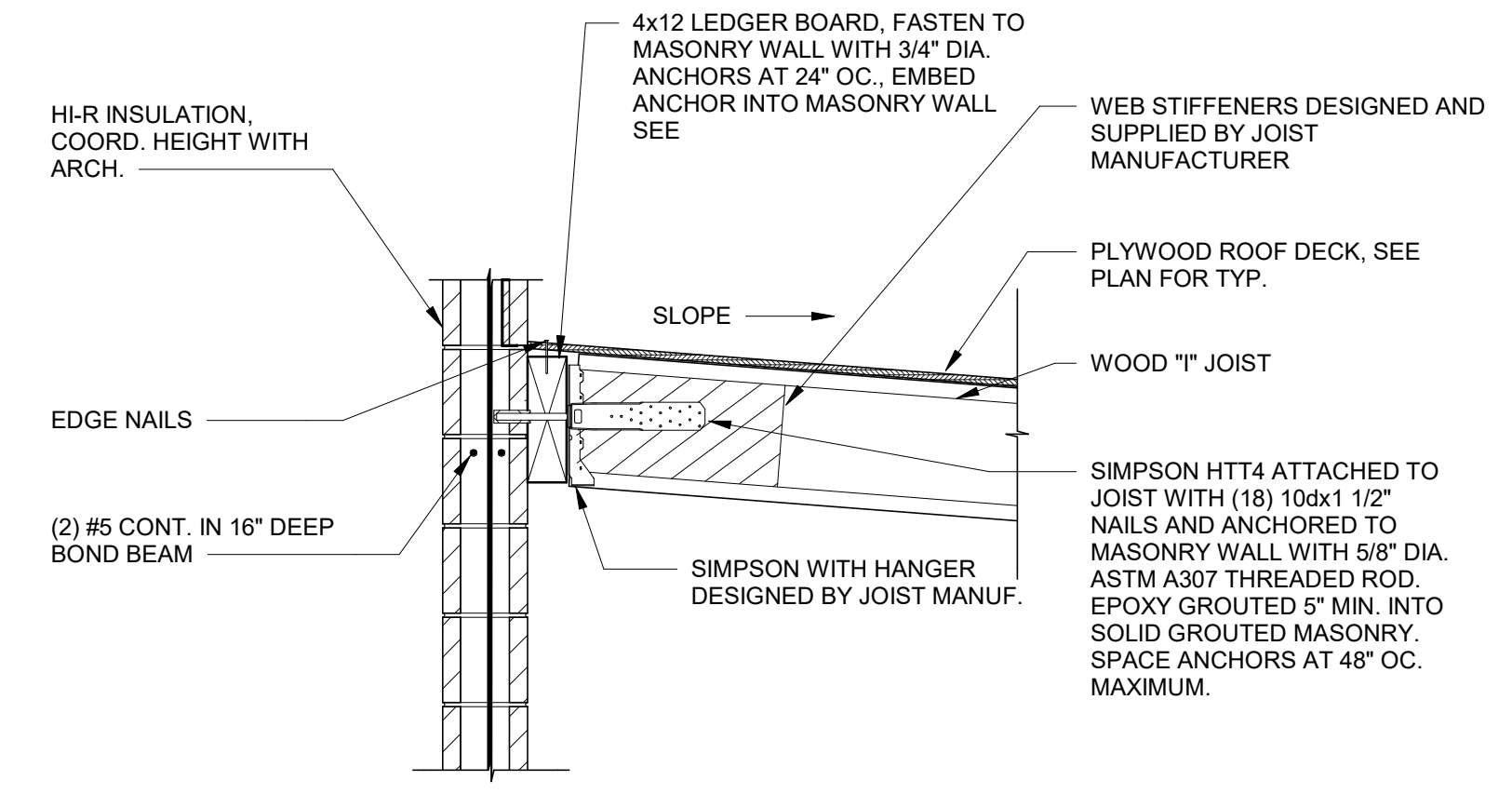


- NOTE:
1. For information not shown see

JOIST PERPENDICULAR TO WALL

NO SCALE

5



- NOTE:
1. Joist manufacturer shall design joists for an 800 pound (ASD) axial load, due to wind or seismic loading at each HTT4 anchor

WOOD "1" JOIST AT MASONRY WALL

NO SCALE

6

ROOF FRAMING DETAIL NOTES

1. For structural design notes, see sheets starting at S0.01.
2. Architectural backgrounds are shown for reference only. The dimensions shown apply to structural elements only. For dimensions not shown, see architect of record submittal.
3. Contractor shall field verify existing structural conditions. If any discrepancies are found, contractor shall contact the architect and structural engineer before performing alteration work.
4. For structural steel general details, see sheets S5.21 and S5.22.
5. For structural wood framing general details, see sheet S5.41.
6. Columns are called out on foundation or level of origin plans
7. For all top of structural steel, bottom of deck or finish elevations, see framing plans.
8. For roof deck size, attachment and span direction, see plans.
9. For structural bearing wall construction, see plans. Coordinate location with plans and architectural.
10. For interior and exterior wall finishes, see architectural.
11. Masonry veneer shown for reference only. Coordinate thickness and layout with arch. For typical anchorage, see veneer anchorage notes on sheet S0.03.



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DRAWING NO.:

S8.01
MASONRY ROOF FRAMING DETAILS