A. GENERAL NOTES

- 1. All construction shall conform to the Design Codes in Section "C. Design Criteria," including all applicable standards and documents
- referenced within those codes 2. Plan and detail notes provided on specific sheets within these drawings supplement information in these General Notes. Always coordinate
- the requirements of these notes with what is shown within the drawings 3. Unless noted specifically on a plan, all floor plans show framing for the floor indicated and vertical framing (walls, openings, posts, columns) above that floor. The roof plan shows roof framing only.
- 4. Contract Document Coordination: a. The drawings contained herein are intended to be utilized in conjunction with other design consultant's drawings (architectural, civil,
- mechanical, etc.). It is the responsibility of the Contractor to coordinate the requirements of the drawings into their shop drawings and
- b. Refer to the architectural, mechanical, electrical, and civil drawings for location and size of block outs, inserts, openings, curbs, bases & pads, and dimensions not shown on these drawings. Refer to the architectural drawings for size and location of doors and window openings, exterior wall assemblies, and floor, wall, and roof finishes. Refer to the mechanical and electrical drawings for additional information including locations of mechanical units,
- d. Omissions or conflicts between various elements of the drawings, notes and details shall be brought to the attention of the structural engineer and resolved before proceeding with the work.
- Use of Drawings in Construction a. The Contractor shall verify all dimensions and conditions at the job site before commencing work and shall report any discrepancies to the engineer responsible for the design of that work.
- b. Do not use scaled dimensions; use written dimensions or, where no dimension is provided, consult the structural engineer for
- clarification before proceeding with the work. i. Where member locations are not specifically dimensioned, members are either located on columns lines or are equally spaced
- between located members Details and keynotes shown shall be incorporated into the project at all appropriate locations, whether or not they are specifically
- d. McClure may provide the contractor with electronic files for their convenience and use in the preparation of shop drawings. These electronic files are not construction documents; the contractor is not relieved of his/her duty to fully comply with the contract documents, including the need to confirm and coordinate all dimensions and details, take field measurements, verify field conditions, and coordinate
- the contractor's work with that of other contractors for the project. 6. Changes During Construction:
- a. Openings shall not be cut or otherwise made in any structural member unless that opening is specifically shown on these drawings. The Contractor shall seek approval in writing from the structural engineer for any design incorporating additional openings.
- b. Support details shown for Architectural, Mechanical, Electrical, and Plumbing equipment as well as elevators is based upon available information from the manufacturer (if any). The Contractor shall coordinate requirements of actual equipment supplied with details and shall provide any additional framing required.
- c. The Contractor has the responsibility to notify the structural engineer of any architectural, mechanical, electrical, or plumbing load imposed on the structure that is not documented on the Contract Documents or differs from what is originally shown. Provide documentation of location, load, size, and anchorage of all undocumented loads in excess of 250 lbs.
- a. These drawings and the related Specifications represent the finished structure and, except where specifically shown, do not indicate the method or means of construction. Loads on the structure during construction shall not exceed the design loads indicated in Section "C. Design Criteria" as a maximum. The Contractor shall supervise and direct the work and shall be solely responsible for all construction means, methods, procedures, techniques, and sequence.
- a. The Contractor is responsible for compliance with all applicable job-related safety standards proceeding from governing organizations
- b. It is the responsibility of the Contractor to ensure the stability of the structural elements during construction as a result of means and sequence by providing shoring, bracing, etc. as required.
- i. Stability considerations should include all applicable temporary construction and environmental loads per ASCE 37 which may include wind and seismic forces.
- Temporary bracing shall remain in place until positive connection is made between the braced element and the floor/roof diaphragm or foundation above and below, and those diaphragms in turn are structurally complete and connected to the vertical elements of the lateral force resisting system. This is a means and methods item.
- The Contractor may at their discretion employ a Specialty Structural Engineer, licensed in the state where the project is located, for the design of any temporary bracing, lifting, rigging, and shoring. Any sealed drawings, calculations, reports, etc. prepared for construction stability shall be submitted to the structural engineer for review.
- c. The Contractor shall consider the effects of thermal movements due to hot or cold weather construction and the potential for extreme temperature variations before the structure is complete.
- d. The Contractor is responsible for the protection and repair of any adjacent existing structures, surfaces, and areas which may be damaged as a result of the work.

B. STRUCTURAL ENGINEERING DESIGN NARRATIVE

- 1. McClure Engineering Company (McClure, MEC) is the Structural Engineer of Record (EOR) responsible for the documentation of structural design criteria, strength and stability of the primary vertical and lateral load-carrying systems in their completed form, and conformance of the structural design to the applicable building codes. These drawings produced by McClure convey the structural engineering design for the project, which includes the following components and systems:
- a. Foundations consisting of trench footings and isolated column footings.
- b. Slabs on grade.
- c. Residential tower framing above the slab on grade consisting of: Load-bearing wood wall and opening framing.
- Gypcrete over wood T&G Sheathing over wood joists, floor and roof trusses.
- d. Structural steel framing identified on the drawings. Masonry Elevator tower.
- f. The lateral force resisting system of the structure consisting of sheathed gypsum and wood shear walls and wood sheathed
- 2. The following items are Deferred Submittals. Framing intent and additional requirements for these structural components are provided within these drawings*:
- a. Structural steel connections see general notes section "Structural Steel" | see S001 for applicable design criteria
- b. Structural steel stair framing and connections see general notes section "Structural Steel" | see S001 for applicable design criteria. Wood Floor & Roof Trusses* – see general notes section "Wood Framing and Fastening" | see S002 for applicable design criteria.
- Connections of Wood Trusses to the supporting structure*. e. All premanufactured canopy and awning framing including connections to the structure.
- * Reference section "D. Submittal Requirements." Coordinate requirements of these drawings with those of other design consultant drawings and the Project Specifications.
- 3. The following items are specifically excluded from McClure's design scope as represented on these drawings:
- a. Requirements for fire rating of assemblies or fire protection of structural members
- b. Global stability of soil mass.
- Any exterior slabs, bollards, curbs, and any enclosures not shown on these drawings.
- d. Interior non-load-bearing wood wall or ceiling framing.
- e. Means and Methods items (including but not limited to shoring design, formwork design, and temporary bracing)

C. DESIGN CRITERIA

- Design Codes:
- a. International Building Code: IBC 2018
- b. Minimum Design Loads for Buildings and Other Structures: ASCE 7-16

Design Loads:

- Floors (Units) = 25 psf Floors (Corridor) = 30 psf = 15 psf Interior Partitions Exterior Walls (Stone Siding) = 50 psf
- b. Live Loads (reducible per code UNO) Residential = 40 psf
- Corridors/Public Areas = 100 psf Mechanical/Storage = 125 psf (non-reducible)
- c. Roof Snow Load Ground Snow Load (pg) Flat Roof Snow Load (p_f)
- = 1.0 Thermal Factor (C_t) = 1.0 Slope Factor (C_s)
- Basic Design Wind Speed, V = 110 mph (3 sec. Gust) ASD Wind Speed, Vasd = 86 mph Risk Category = ||
- Wind Exposure Internal pressure Coefficient (GC_{Di}) = ±0.18 Components and Cladding (psf):
 - Zone A=10ft² A=50 ft² A=100 ft² +16/-35 +16/-30 +16/-28 +20/-46 +18/-39 +17/-36 +20/-46 +18/-39 +17/-36 +20/-22 +18/-20 +17/-19 +20/-27 +18/-23 +17/-21
- 3. Elements with Tributary Area (A_1) > 700 ft² shall be permitted to be designed using provisions for MWFRS.
- $S_S = 0.067g$ $S_1 = 0.057g$ Soil Site Class: D (Per Geotechnical Report) $S_{DS} = 0.091$ $S_{D1} = 0.091$
- Basic Seismic Force Resisting System(s) Light-Frame Walls With Shear Panels – All other materials (ASCE 7 Table 12.2-1 Line A.17) R = 2.0 $\Omega_0 = 2.0$ $C_d = 2.0$ Cs = 0.046Design Base Shear, $V = C_s \times W = 110 \text{ kips}$

	Total Load	Live/Snow/Wind Load	Absolute Maximur
Floor Joists/Trusses	L/360	L/480	1"
Roof Joists/Trusses	L/240	L/360	1.5"
Wall Framing (flexible finis	sh)	L/240	0.75"

4. Soil Properties:

- a. Soil properties are based on the project geotechnical report entitled Residence at Veteran's Park Geotechnical Engineering Report,
- c. Frost Depth = 42" (per City of Knoxville, IA Building Permit Requirements)

D. SUBMITTAL REQUIREMENTS

1. Submittal Procedures:

- a. The Contractor shall provide all submittals in PDF format unless otherwise requested or indicated in the Project Specifications. b. All submittals must be reviewed by the Contractor prior to McClure's review. The Contractor is responsible for reviewing each submittal for basic coordination with these drawings and to verify that all the required components of the submittal are incorporated. The
- Incomplete submittals or submittals not meeting the requirements of this section will not be reviewed. McClure will notify the contractor
- i. Submittals requiring engineering calculations for all or a portion of the work are considered incomplete without the sealed
- Deferred Submittals not meeting the seal requirements of section D.2.b are considered incomplete and will not be reviewed. Resubmittals with comments from a previous review left unaddressed or without any response will not be reviewed. Allow two weeks for review of all submittals unless an agreement for expedited review is made in writing by McClure.
- be billed hourly. McClure reserves the right to withhold review of a submittal surpassing this allowance until proper billing to the responsible party can be established.
- Comments/Exceptions" prior to proceeding with the work. Submittals marked "Reject/Resubmit" must be revised according to the comments provided prior to commencing with the respective scope of work. Deferred Submittals:
- a. See Section "B. Engineering Design Narrative" for the list of items considered Deferred Submittals.
- Deferred Submittals shall bear the seal of a professional engineer licensed in the state where the project is located. If the project requires a licensed Structural Engineer (S.E.) as the Engineer of Record according to state laws, the same qualification level applies to the engineer sealing the Deferred Submittals.
- Deferred Submittal items shall not be installed until the Deferred Submittal documents have been approved by the Building Official.
- Submittal List: Submittals (product data, test records, shop drawings, and/or calculations) are required for the following

Submittal Name		Items Required:							
	Product Data	Shop Drawings	Test Records	Engineering Drawings	Engineering Calculations				
Concrete Mix Designs	X	_	X						
2. Concrete Break Reports			X						
3. Concrete Reinforcing Layout		X							
Concrete Anchor Bolts & Embedded Plates	X	X							
5. Concrete & CMU Anchors (Post-Installed)	X								
6. Post-Installed Anchor Substitutions	X				Х				
7. Post-Installed Connection Geometry Alteration (if used)	X			Х	Х				
8. Masonry Wall Materials	X		Х						
9. Masonry Reinforcing		X							
10. Structural Steel Framing	X	X							
11. Structural Steel Framing Connections		X			Х				
12. Metal Canopies & Awnings	X	X			X				
13. Wood Framing Materials	X								
 Wood Floor & Roof Trusses in Reactions 	ncl.			Х					
15. Wood Truss Connections to Supporting Structure				X	Х				
16. Specialty Wood Fasteners	X								
17. All Cladding Systems & Attachments as Identified in the Architectural Drawings (if use				Х	X				

- b. "Product Data" may indicate mill certifications, material data sheets, Evaluation Service Reports (ESRs), etc. See requirements of each material section of the general notes for further information.
- item "2. Deferred Submittals" above. 4. Submittals For Record:
- Mechanical Equipment Shop Drawings with Weight Brick & Stone Veneer with Weight

- a. Dead Loads
 - Exterior Walls (Other Siding) = 15 psf
- = 22 psf plus mechanical equipment shown on roof plan
- Typical Roof = 20 psf = 30 psf (per City of Knoxville, IA Building Permit Requirements)
 - = 24 psf (per City of Knoxville, IA Building Permit Requirements) Snow Exposure Factor (C_e) Snow Load Importance (I_s) = 1.0
- d. Wind Load

- 1. A is the Effective Wind Area as defined in ASCE 7 Ch. 26. Linear interpolation between tabulated values is permitted
- e. Earthquake Load Risk Category Seismic Importance Factor (I_e) = 1.0
 - Seismic Design Category
 - = Equivalent Lateral Force Procedure (ASCE 7-10 Chapter 12.8) Analysis Procedure
- f. Rain Load = 3.57 in/hrRain Intensity (i)

Allowable Deflections:			
	Total Load	Live/Snow/Wind Load	Absolute Maximum
Floor Joists/Trusses	L/360	L/480	1"
Roof Joists/Trusses	1/240	L/360	1.5"

Cantilever deflection limits are the more restrictive of 2 x the appropriate L/--- limit (e.g. 2L/360 = L/180) or absolute maximum value listed above, measured at the tip of the cantilever U.N.O.

- prepared by Terracon on September 4, 2024 (herein known as "Geotechnical Report").
- Allowable Soil Bearing Pressure

Wall Framing (brittle/brick finish)

- submittal must bear the electronic review stamp of the Contractor before McClure will proceed with the review. that the submittal is incomplete or unacceptable and that resubmission is required.
- calculations and will not be reviewed. Shop Drawings shall be original drawings. Submissions incorporating any portion or reproduction of the contract documents will not
- McClure's submittal review scope of work includes a single submittal review and one review of the revised submittal if required (two reviews total of the same submittal). Time required for more than two reviews of a submittal is considered an additional service and will
- Submittals must be returned to the Contractor by McCure bearing a stamp marked "Reviewed No Exception Taken" or "Reviewed With

Submittal Name	Items Required:								
	Product Data	Shop Drawings	Test Records	Engineering Drawings	Engineering Calculations				
Concrete Mix Designs	X		X						
2. Concrete Break Reports			X						
3. Concrete Reinforcing Layout		X							
Concrete Anchor Bolts & Embedded Plates	X	Х							
5. Concrete & CMU Anchors (Post-Installed)	Х								
Post-Installed Anchor Substitutions	Х				Х				
7. Post-Installed Connection Geometry Alteration (if used)	Х			Х	Х				
8. Masonry Wall Materials	X		Х						
9. Masonry Reinforcing		X							
10. Structural Steel Framing	X	X							
11. Structural Steel Framing Connections		X			Х				
12. Metal Canopies & Awnings	X	X			X				
13. Wood Framing Materials	X								
 Wood Floor & Roof Trusses incl. Reactions 				X					
15. Wood Truss Connections to Supporting Structure				X	Х				
16. Specialty Wood Fasteners	X								
17. All Cladding Systems & Attachments as Identified in the Architectural Drawings (if used)	X			X	X				

- Where "Engineering Drawings" and/or "Engineering Calculations" are indicated, the submittal must comply with the requirements of
- a. The following items impact the structural design and therefore must be submitted to the engineer; however, they do not require review. They will be returned stamped as "Received For Record". Elevator Shop Drawings with Loads to Structure

E. CONCRETE

- 1. Reinforced concrete shall have the following minimum 28 day compressive strengths:
- a. Slab on grade, unless noted otherwise 4000 psi normal weight b. Foundations 5000 psi normal weight
- 2. All concrete exposed to weather shall have 6% (+- 1%) air entrainment. 3. Submit mix designs for all concrete mixes prior to placement. All submittals shall include the following:
- a Batch quantities including admixture dosage rates. b. Strength test results for trial mixes.
- Aggregate source(s) and gradation(s). Product data for cement, fly ash and other cementitious materials. e. Product data for all admixtures.
- 4. Provide protection for reinforcing bars as follows: a. Concrete cast against and permanently exposed to earth b. Concrete exposed to earth and weather (formed) #5 and smaller
- #6 and larger c. Concrete not exposed to weather and not in contact with ground: Slabs and walls Beams and columns
- Interface of all slab and beam construction joints shall be roughened with 1/4" amplitude. Surface of construction joints shall be clean and free of laitance. Immediately before new concrete is placed, construction joints shall be wetted and standing water removed.
- 6. Construction joints in walls shall be keyed and placed at locations approved by the Architect and Structural Engineer.
- Provide control joints in all retaining walls at 15 ft to 20 ft intervals. Provide PVC waterstops in all below grade construction joints and at other locations as shown. 9. Provide compressible filler and sealant in all slab-on-grade and wall and column interfaces that are not doweled together.
- 10. All column pockets shall be filled with concrete after column is erected. 11. Sleeves and openings in slabs not shown on structural drawings or outside the parameters of typical sleeve details are not permitted, unless
- approved by the Structural Engineer. 12. Conduit and pipes embedded in slabs, walls, or grade beams shall be no larger in outside dimension than 1/3 the overall member thickness and shall be placed no closer than 3 diameters or widths on center.
- 13. Provide concrete housekeeping pads under all mechanical, plumbing, fire protection, and electrical equipment per plans. Pads shall extend beyond equipment a nominal 6" on all sides. Apply a bonding agent to existing concrete slab prior to pouring of housekeeping pad. Provide
- 14. At floor drains, locally slope floor towards drain. See architectural and plumbing drawings for drain locations. 15. Foundation walls shall be temporarily braced until positive attachment is made to floor framing per details. This is a means and methods

Slab on Grade

- 1. Slab shall be constructed as shown on plans.
- 2. Slab-on-grade shall be founded on 6" deep 3/4" clean aggregate base.
- 3. The upper 24" of subgrade extending 5' beyond the footprint of the building shall consist of low volume change material such as rollstone or wastelime. Granular fill shall be compacted to a minimum of 95% of the ASTM D698 maximum dry Standard Proctor density. The 6"
- aggregate base shall be included in the 24" depth required for the low volume change layer. 4. Provide joints at 30 x slab thickness (+-) in both directions and located to conform to bay spacing wherever possible (at column centerlines,
- half bays, third bays, etc.). Submit control joint layout to Architect for any exposed concrete surface. 5. Saw cut control joints shall be done late enough to prevent raveling of the cut edges and early enough to prevent cracking of the slab ahead
- 6. Concrete slab to be cured according to ACI Standards. Concrete slab cure to be compatible with any sealer, grout, or adhesive that may be
- used on the floor later 7. At floor drains, locally slope floor towards drain. See architectural and plumbing drawings for drain locations.

Subsurface Requirements

- 1. Foundation design is based on geotechnical report by Terracon, dated September 4 2024. 2. A geotechnical representative shall be retained on site for all construction activity to verify that all proper requirements have been met to meet the design requirements outlined in the geotechnical report. Representative shall be Terracon or someone familiar with all documents of the geotechnical investigation provided for the project.
- 3. The Contractor shall provide dewatering of excavations from surface water and ground water. Do not place concrete if water is present at base of excavation.
- 4. Geotechnical Testing Agency Requirements a) If the geotechnical representative on site takes exception to anything in the Geotechnical Report and requires additional field investigation to clarify those expectations, the cost of such investigation shall be included in the additional fee for field quality control and testing and identified as such. All other exceptions, the cost of such investigation shall be included in the additional fee for field quality control and testing and identified as such. All other exceptions shall be documented and approved by the geotechnical engineer.
- accepted the criteria contained in the report. 5. The geotechnical representative must understand and be able to make decisions affecting the work for field observations and conditions described in the report during construction. The representative must be capable of advising the owner or contractor for procedures regarding, but not limited to: sub-grade preparation, dewatering activities, and other construction considerations.

b) The geotechnical representative must have read all documents pertaining to the geotechnical report for the project and understood and

F. REINFORCING FOR CONCRETE

the Structural Enginee

- a. All reinforcing steel to be ASTM A615, Grade 60, deformed bars, unless noted otherwise
- Any reinforcing to be welded shall be ASTM A706 and welded with E80 electrodes. Alternatively, ASTM A615 reinforcing may be welded with E90 electrodes and proper preheat according to AWS D1.4. iii. E70 electrodes are not permitted for welding rebar.
- Welded wire fabric shall be plain wire conforming to ASTM A1064. Welded wire fabric shall be in flat sheets. c. All reinforcing bars to be detailed and placed in accordance with the ACI "Manual of Standard Practice for Detailing Reinforced Concrete
- Structures" specifications. d. All reinforcing, including dowels, shall be securely tied and cast with the lower member. Placing reinforcing after concrete has been
- e. Field bending of reinforcing partially embedded in concrete will not be allowed unless specifically noted on the drawings or approved by
 - Tension Development and Splice Lengths for f'_c = 5,000psi Class "B" Splice Standard 90 deg. Hook Top Other Embed Other Leg

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f. All reinforcing bars shall be contact lap spliced or doweled as follows, unless noted otherwise:

- 55 12 81 63 14 19 9-1/2
- 1. Straight development and Class "B" splice lengths shown in above tables are based on uncoated bars assuming center-to-center bar spacing ≥ 3*d_b without ties or stirrups or
- ≥ 2*d_b with ties or stirrups, and bar clear cover ≥ 1.0*d_b Normal weight concrete as well as no transverse reinforcing are both assumed. 2. Standard 90 deg. hook embedment lengths are based on bar side cover ≥ 2.5" and bar end cover ≥ 2" without ties around hook.

For special seismic considerations, refer to ACI 318 Code Chapter 21.

3. All tension splices shall be Class "B" splices unless noted otherwise on plans.

	Tension Development and Splice Lengths for f'c = 4,000psi								
	Devel	Development		B" Splice	Stand	ard 90 deg	. Hook		
Bar	Тор	Other	Тор	Other	Embed	Leg	Bend		
Size	Bar	Bar	Bar	Bar		Length	Dia.		
#3	19	15	24	19	6	6	2-1/4		
#4	25	19	32	25	7	8	3		
#5	31	24	40	31	9	10	3-3/4		
#6	37	29	48	37	10	12	4-1/2		
#7	54	42	70	54	12	14	5-1/4		

#9 | 70 | 54 | 91 | 70 | 15 | 19 | 9-1/2 2. Straight development and Class "B" splice lengths shown in above tables are based on uncoated bars assuming center-to-center bar spacing ≥ 3*d_b without ties or stirrups or ≥ 2*d_b with ties or stirrups, and bar clear cover ≥ 1.0*d_b Normal weight concrete as well

#8 62 48 80 62 14 16 6

- as no transverse reinforcing are both assumed. 3. Standard 90 deg. hook embedment lengths are based on bar side cover ≥ 2.5" and bar end cover ≥ 2" without ties around hook.
- 5. All tension splices shall be Class "B" splices unless noted otherwise on plans. All welded wire fabric shall be lapped 12" or 48 wire diameters, whichever is greater. Provide (2) #5 x 6'-0" diagonals at all corners of openings and re-entrant corners, unless noted otherwise.
- i. Dowels between foundation and walls shall be installed and shall be the same grade, size, and spacing as the vertical wall reinforcing, unless noted otherwise. Provide corner bars to match longitudinal reinforcing in all footings. Provide (2) corner bars at tee intersections. Provide 250 pounds of miscellaneous straight bar reinforcing (#4 & #5) to be used in field for special conditions. Labor for placing same
- 2. Slabs and Slabs-on-Grade a. All slabs on grade to be reinforced with 6x6 – W2.9xW2.9 welded wire fabric, unless noted otherwise.

4. For special seismic considerations, refer to ACI 318 Code Chapter 21.

- a. Provide corner bars in the outside face and at wall intersections to match horizontal wall bars. Use (3) #5 vertical construction rods at b. Minimum reinforcing shall be as follows for each wall thickness, unless noted otherwise:
 - 8" wall #4@12 one layer 10" wall - #4@18 Ea. Face 12" wall – #5@18 Ea. Face

6" wall - #4@16 one layer

c. Provide #5 at 12" o.c. each way unless noted otherwise.

to be included

2001 W Broadway Columbia, MO 65203 P 573-814-1568

NOTICE: McClure Engineering Co. is not responsible or liable for any issues, claims, damages, or losses (collectively 'Losses") which arise from failure to follow these Plans, Specifications, and the engineering intent they convey, or for Losses which arise from failure to obtain and/or follow the engineers' or surveyors guidance with respect to any alleged errors, omissions, inconsistencies, ambiguities, or conflicts contained within

IOWA CERTIFICATE OF AUTHORITY NO. 26887

the Plans or Specifications.



12/31/2025 I HEREBY CERTIFY THAT THIS **ENGINEERING DOCUMENT WAS** PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER

UNDER THE LAWS OF THE STATE OF

IOWA

No.	Description	1	Date

DRAWN BY

CEL

01/17/2025

CHECKED BY

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G. STRUCTURAL STEEL

 Materials a. Materials shall conform to the following, unless noted otherwise. ASTM A992 Rolled WF shapes ASTM A572 Grade 50 Plates and Angles ASTM A36 Channels HSS: Rectangular ASTM A500, Grade C ASTM A500, Grade C HSS: Round **ASTM F3125** Bolts . All bolts shall be Grade A325 or F1852, UNO . Bolts designed as "A490" shall be Grade A490 or F2280 Nuts ASTM A563 DH or A194 ASTM F436 viii. Washers ASTM F1554 Grade 36, UNO Anchor Bolts Threaded Rod ASTM A36 ASTM A108, Type B Nelson headed shear stud connectors or equal. Studs Matching weld metal, 70 ksi minimum strength. xii. Electrodes b. Finishes Prepare all surfaces that will be exposed in accordance with SSPC SP3 "Power Tool Cleaning". Do not prime surfaces to be fireproofed, field welded, in contact with concrete, or high-strength bolted. All exterior steel components exposed to view or weather shall be galvanized in accordance with ASTM A123 for framing members and ASTM A153 for bolts and threaded fasteners. All exterior welded connections shall be cold galvanized in accordance with ASTM A780. Fabricator: a. Steel Fabricator shall be AISC Certified.

b. Structural members shall be detailed, fabricated, and erected in accordance with the latest edition AISC 303 "Code of Standard Practice for Steel Buildings and Bridges."

c. Structural steel fabrication drawings must be submitted to the engineer for review prior to fabrication. d. The Fabricator shall engage a professional engineer registered in the state where the project is located for the design and detailing of:

Steel connections Temporary bracing.

Connections: a. The contractor has the option to use bolted or welded connections. Any connections not specifically detailed on the drawings shall be designed by a professional structural engineer licensed in the project state and retained by the fabricator. In general, any connections shown on the drawings are schematic and are intended to show only the relative relationship of the connected members.

b. Structural design calculations for all beam and bracing connections shall be submitted to the engineer prior to fabrication and should

include the following (as a minimum): All plate dimensions and grades (minimum plate thickness shall be 3/8").

All weld sizes, lengths, pitches and returns. iii. Number and type of bolts.

c. Connection design forces:

Beam shear connections shall be designed for the actual reactions indicated on the drawings or 20 kips minimum. Connection forces shown on drawings are envelope reactions based on ASD load combinations.

ii. Connections indicated on the drawings as moment-resisting shall be designed for the moment shown. If moment is not indicated on the drawings, connection shall be designed to develop the full capacity of the member. Columns have not been checked for local effects at connections. Fabricator shall verify if stiffener or web doubler plates are

required and provide as necessary. Column size may also be increased with approval of the engineer of record. Connection loads indicated on the drawings include compensation for Code permitted stress increases and load reductions for connection design.

d. Bolted Connections:

Minimum bolt diameter shall be 3/4". Slip critical connections shall be used for bracing members, moment-resisting connections, cantilevers, and as indicated on the drawings. Standard oversized and long-slotted holes are permitted for friction-type connections.

iii. All non-slip-critical connections shall be typical bearing type. Oversized or slotted holes are not permitted unless indicated on the

iv. The fabricator is responsible for verifying the tensile capacity of axially loaded members with the presence of bolt holes. Increase member size; add plates (etc) as required. e. Welded Connections:

All fillet welds shall be sized according to AISC minimums, but never less than 3/16" (UNO). All welds shall be performed in accordance with the latest edition of the AWS Structural Welding Code.

a. All structural steel to be fabricated and erected in accordance with latest AISC specifications.

It is the responsibility of the contractor to ensure that structure is maintained in a safe, stable configuration at all times. Any shoring required shall be submitted with engineering calculations for approval.

b. Splicing of steel members not specifically shown on the drawings is prohibited without prior approval from the engineer. c. All beams shall be installed with the mill camber up.

a. Loose lintels for masonry at all openings shall be the following, one angle per 4" wythe of masonry:

i. L 3-1/2 x 3-1/2 x 5/16 for spans less than 5'-9" ii. L 5 x 3-1/2 x 5/16 for spans between 5'-9" and 7'-11" iii. L 6 x 3-1/2 x 5/16 for spans between 8'-0" and 9'-7"

iv. L 7 x 4 x 3/8 for spans between 9'-8" and 11'-10" b. Lintel sizes are based on 36 psf brick weight with 8'-0" max height of brick above the lintel.

c. Lintels shall bear 8" minimum each end.

d. Lintels carrying brick shall be galvanized. e. All double angle lintels back-to-back shall be bolted at 32" o.c. maximum spacing, with 5/8" diameter A307 bolts, a minimum of two

See architectural and mechanical drawings for opening sizes and locations.

Steel Stairs a. Design of steel stairs shown on drawings is the responsibility of the fabricator.

b. Unless noted otherwise, treads and landings shall be filled with 2 in. of concrete (4,000 psi).

c. Submit complete, sealed, shop drawings including engineering calculations for each stair. Drawings shall include all members and connections, including connections to supporting structure.

d. Unless noted, all connections to steel structure shall be welded and all connections to concrete or masonry shall be post-installed anchors (screw, expansion or epoxy type).

Connections shall only be to grouted masonry. Indicate clearly if additional grouting is required. e. Supporting members have been designed for all loads imposed by stair system.

Check supporting members for local effects at connections and provide stiffeners, doublers, etc. as necessary. f. Design stairs for the following loads:

Live Load = 100 psf or 300 lb. point load on 4" square area. Dead Load = Self weight plus 10 psf superimposed dead load.

g. Design stairs for the following deflection criteria: Live Load = L/480 ii. Total Load = L/360

WOOD FRAMING AND CONNECTIONS

Schedi	ule of m	inimum	nailing	for star	ndard c	onnecti	ons ¹				
				fastener				n			
				m, nomi							
Connection ^{2, 3}				e minim				in inche	S.		
	3 ½ x	3 x	3 1/4 X	3 x	2 ½ x	3 1/4 x	3 x	2 % x	2 x	2 1/4 x	2 ½ x
	0.162	0.148	0.131	0.131	0.131	0.120	0.120	0.113	0.113	0.105	0.099
Equiv. Common Nail	16d	10d			8d				6d		
			loor Fra	aming							
Joist to band joist	3	5	5	5	N/A	6	6	N/A	N/A	N/A	N/A
Ledger strip	3	4	4	4	6	4	4	N/A	N/A	N/A	N/A
Joist to sill or girder	3	3	3	3	3	4	4	N/A	N/A	N/A	N/A
Blocking between joist or rafter to top plate	3	3	3	4	3	4	4	N/A	N/A	N/A	N/A
Bridging to joist	N/A	N/A	N/A	N/A	2	3	3	3	4	3	4
Rim joist to top plate	8" o.c.	6" o.c.	6" o.c.	6" o.c.	6" o.c.	6" o.c.	4" o.c.	6" o.c.	3" o.c.	3" o.c.	3" o.c.
Built-up Girders & Beams - Spacing along edges,				24" o.c.				N/A	N/A	N/A	N/A
- spacing along edges, - # at ends & splices	3	3	3	3	4	3	3	IN/A	IN/A	IN/A	IN/A
- # at ends & splices				oof Fran							
Ceiling joists to plate	3	4	5	5	5	5	5	6	N/A	N/A	N/A
Ceiling joists, laps over partitions	3	4	4	4	6	4	4	N/A	N/A	N/A	N/A
Ceiling joist, laps over partitions Ceiling joist to parallel rafter	3	4	4	4	6	4	4	N/A	N/A	N/A	N/A
Collar tie to rafter	3	3	4	4	5	4	4	N/A	N/A	N/A	N/A
Jack rafter to hip, toe-nailed	3	3	4	4	5	4	4	N/A	N/A	N/A	N/A
Jack rafter to hip, face nailed	2	3	3	3	3	4	4	N/A	N/A	N/A	N/A
Roof rafter to plate	3	3	3	3	3	4	4	5	5	5	6
•						•					
Roof rafter to 2-by ridge beam (driven through beam into end of ridge)	2	3	3	3		4	4	N/A	N/A	N/A	N/A
Roof rafter to 2-by ridge beam		_	_		_	_	_	N1/A	N1/A	N1/A	N1/A
(toe-nail rafter to beam)	2	3	3	3	3	4	4	N/A	N/A	N/A	N/A
	•	1	Nall Fra	ming	•	•		•	•		
Top or sole plate to stud (End nailed)	2	3	3	3	5	4	4	N/A	N/A	N/A	N/A
Stud to top or sole plate (toe-nailed)	2	3	3	3	5	4	4	5	5	5	5
Cap/top plate laps and intersections (each side of lap)		3	3	3	4	3	3	N/A	N/A	N/A	N/A
Diagonal bracing	2	2	2	2	2	3	3	3	4	4	4
				_					· ·	·	•
Sole plate to joist or blocking @ braced panels (number per 16" joist space)	2	3	3	4		4	4	N/A	N/A	N/A	N/A
Sole plate to joist or blocking	16" o.c.	8" o.c.	8" o.c.	8" o.c.	6" o.c.	8" o.c.	8" o.c.	N/A	N/A	N/A	N/A
Double top plate	16" o.c.	16" o.c.	12" o.c.	12" o.c.	8" o.c.	12" o.c.	12" o.c.	N/A	N/A	N/A	N/A
Double studs		12" o.c.				8" o.c.		N/A	N/A	N/A	N/A
				16" o.c.	8" o.c.	12" o.c.	12" o.c.	N/A	N/A	N/A	N/A
N/A – Fastener not applicable to connection	•	•	•	•	•	•	•	•	•		

¹This fastening schedule applies to framing members having an actual thickness of 1 ½"(Nominal "2-by" lumber) ²Fastenings listed above may also be used for other connections that are not listed but that have the same configuration and the same code requirement for fastener

quantity/spacing and fastener size (pennyweight and style, e.g., 8d common, "8-penny common nail"). Fastening schedule only applies to buildings of conventional wood frame construction. Connections of shear walls and floor and roof diaphragms shall be as shown

STATEMENT OF SPECIAL INSPECTIONS

Install rough carpentry according to the American Institute of Timber Construction Manual.

. Material: a. Sawn lumber Sawn lumber shall be grade stamped and visually graded with maximum 19% moisture content

All members shall meet strength requirements in NDS "National Design Specification for Wood Construction" Joists, rafters, and nailers with nominal depth 8" or less shall be Southern Pine (SP) or Douglas Fir-Larch (DFL), No. 2 or better. Joists, rafters, and nailers with nominal depth greater than 8" shall be Southern Pine (SP) or Douglas Fir-Larch (DFL), No. 1 or

All exterior posts shall be Western Red Cedar No. 2 or better.

Bearing and shear wall studs, and wall plates, shall be Douglas Fir-Larch (DFL), No. 2 or better. b. Structural Composite Lumber

SCL shall meet material specifications in ASTM D5456 SCL shall include laminated veneer lumber (LVL), laminated strand lumber (LSL), oriented strand lumber (OSL) and parallel strand lumber (PSL)

All LVL shall be stress class 2.0E-2600F.

H. WOOD FRAMING AND CONNECTIONS

Other SCL materials shall be graded as indicated on the plans. c. Glued-laminated timber (GluLam) shall be manufactured and identified as required in ANSI/AITC A-190.1 and ASTM D3737.

GluLam shall be graded as indicated on the plans. d. Structural Panels

All plywood or oriented strand board (OSB) panels shall meet the strength requirements in Department of Commerce (DOC) PS 1 and PS 2 or ANSI/APA PRP 210.

All structural panels (walls, floor and roof) shall meet the Structural 1 grading standard e. Connectors and Fasteners

Metal connectors and associated fasteners used for the applications indicated shall meet the following minimum standards: Untreated Lumber .ASTM A653 G90 a. Connectors . Bolts and Anchor RodsASTM F1554 Gr36ASTM F1667 Nails and Staples

2. Sodium Borate (SBX) Pressure Treated Lumber Connectors ..ASTM A653 G90 ..ASTM A307 b. Bolts ..ASTM F1554 Gr 55 . Anchor Rods

.....ASTM F1667 with A153 Hot Dipped Galvanized d. Nails and Staples 3. All Other Pressure Treated Lumber (e.g. ACQ-C, ACQ-D, CA-B, CBA-A, ACZA) a. Connectors ..AISI SS Type 304 or 316 ..ASTM A193. GrB7 b. Bolts

. Anchor Rods ..ASTM A193, GrB7ASTM F1667 using AISI Type 304 or 316 Stainless Steel d. Nails and Staples

Fasteners utilizing dissimilar materials are prohibited. Power driven fasteners shall comply with NES NER-272.

Fastener installation whether power driven or otherwise shall be in accordance with the Building Code and the manufacturer's recommendations. In general fastener heads shall be installed nominally flush with the outer ply of the connection. Sheathing and support framing damaged by overdriven fasteners shall be removed and replaced. Aluminum fasteners and flashing shall not be in contact with pressure treated lumber.

General: a. All light framed wood construction shall be fastened as indicated on the plans. Connections not detailed shall be fastened in accordance with the table below

b. All framing in direct contact with water, soil, concrete, masonry, or permanently exposed to weather shall be preservative treated lumber in accordance with the AWPA Standard U1 and M4 c. All framing indicated to be fire-retardant treated or fire resistive on the drawings (Architectural or Structural) shall comply with AWPA U1

UCFA, Type A or ICC-ES ESR 2645 and shall have UL FR-S surface burning characteristics. d. All wood shall be stored on site and protected from the elements to prevent warping, cupping, bowing, crooking and twisting. Use only material that is straight. All stored wood shall be held off the ground with sacrificial dunnage blocks.

Wood connectors shall be installed to prevent wood from splitting or otherwise damaging either member. Use 4x4, 4x6 and 6x6 columns as shown on plans. Built-up sections of 2x studs shall not be substituted for timber posts.

g. All multi-ply beams, joists and headers shall be fastened together. Fasten sawn lumber members per schedule below.

Fasten structural composite lumber per manufacturer's literature. h. Standard cut washers shall be used under bolt heads and nuts bearing against wood, unless noted otherwise per shear wall anchorage

Wall studs are designed based on being fully braced by sheathing. Design of temporary or permanent blocking or bridging for support of construction loads by unsheathed walls is the responsibility of the contractor.

Wood joists shall bear on the full width of supporting members (stud walls, beams, nailers, etc.) unless noted otherwise. Subject to compliance with the project requirements, wood connectors, joist hangers, post caps and bases, holdowns, and related

hardware shall be manufactured by Simpson Strong-Tie Company, Inc. San Leandro, CA. Contractor shall follow the manufacturer's latest recommendations for installation of connectors. Other manufacturers may be acceptable. Submit substitution request demonstrating that the proposed hardware has the same or

greater capacity for each connection. Allow two weeks for review. All beams and joists not bearing on supporting members shall be framed with Simpson joist hangers. Use LU (or equal) for single joists and type LUS for double joists, unless noted otherwise. The joist hangers shall be installed using nails or screws supplied by the hanger

manufacturer as required for the hanger type. m. Bottom plates of all bearing walls on concrete shall be anchored with 5/8" diameter x 6" screw anchors spaced not more than 4'-0" o.c., unless noted otherwise. Sill plate anchors shall be located a maximum of 1'-0" from corners, ends of walls and sill plate splices. Provide (2) anchors minimum in each sill plate segment Refer to plans and details for shear wall anchorage requirements. n. Nailers shall be anchored to steel beams and columns with 1/2" diameter A307 bolts with required washers at a maximum spacing of

24" on center (alternate sides), unless noted otherwise. Wall studs, jamb studs, and beam support studs shall have adequate vertical blocking installed to transfer all vertical loads to the

foundation. Wood Floor and Roof Trusses:

a. Provide wood trusses capable of withstanding the design loads within the limits and under the conditions indicated. Truss design shall be in accordance with the Building Code and TPI-1 Nation Design Standard for Metal Plate Connected Wood Truss Construction.

b. Wood trusses shall be of sawn lumber with 2x nominal thickness. c. In addition to the loads indicated, wood trusses shall be designed for all applicable wind, seismic, and snow (including drift) loads required by Building Code and noted in plan. Truss design and shop drawing preparation shall be supervised by a registered professional engineer licensed in the state where the project is located

d. Submittals shall be signed and sealed and include comprehensive truss layout plans, design calculations that indicate species and grades of lumber, design stresses, size and type of connector plates used.

e. Fabricator shall determine truss diagonal locations. Truss configurations shown on drawings are diagrammatic only. Bearing points shall coincide with intersections of diagonals and chords.

Truss member design shall consider unbalanced snow load with full dead load, as well as full dead and snow load g. Roof trusses shall be designed for the following:

Dead load = 12 psf Live load = 20 psf, on the top chord horizontal projection = 24 psf, or 21psf + drift surcharge per "Design Criteria" Snow load Dead load = 10 psf on the bottom chord.

Wind uplift = 26 psf End / Parapet Wind Load = ±55 psf h. Floor trusses shall be designed for the following loads:

Dead Load = 25 psf + 15 psf partition dead load = 40 psf: Private Rooms, offices and corridors serving them Live Load Common and public areas, including stairs and landings 150 psf: Mechanical and communication rooms

 The maximum allowable deflection shall be: Roof Trusses: Total Load: L/240, Roof Live or Snow Load: L/360

Floor Trusses: Total Load: L/360, Live Load: L/480 j. The manufacturer shall provide all open web trusses and accessories as shown on the structural and architectural drawings and as

required for a complete project. k. All truss to truss connections and truss to supporting member connections shall be designed and detailed by the truss supplier and the size and type of connectors included in the shop drawing submittal. Coordinate size, species and grade of supporting chord and web members with the truss hanger selected.

All temporary and permanent bracing shall be in accordance with the TPI standards for bracing. The bracing shall be furnished and installed by the Contractor. Do not use ceilings as uplift bracing at truss bottom chord. m. Girder trusses shown on drawings shall be designed to carry concentrated reactions from supported members.

n. Wood trusses shall be handled and erected in accordance with TPI HIB-91. Trusses shall be unloaded and stored in bundles in an upright position out of contact with the ground until ready for installation

o. Any damage to the trusses shall be brought to the immediate attention of the Structural Engineer and truss supplier. Field repair and modification of trusses shall not be made with prior written approval from the supplier, except for nominal trimming to correct length where such trimming will not impair the load carrying capacity of the truss.

Project Name: The Residence at Veteran's Park Address: New Senior Living Facility, Knoxville, IA 50138

1. This Statement of Special Inspections is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. It includes a schedule of Special Inspection services applicable to this project as well as the name of the Special Inspector to be retained for conducting these inspections and tests. This Statement of Special Inspections encompasses the following disciplines:

o Architectural x Structural

o Other: o Mechanical/Electrical/Plumbing

2. The Special Inspector shall keep records of all inspections and shall furnish inspection reports to the Building Official and the Registered Design Professional in Responsible Charge. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

3. Interim reports shall be submitted to the Building Official and the Registered Design Professional in Responsible Charge 4. A Final Report of Special Inspections documenting completion of all required Special Inspections, testing and correction

of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy.

5. Job site safety and means and methods of construction are solely the responsibility of the Contractor. This Statement of Special Inspections includes the following building systems:

x Fabricators

x Cast-In-Place Foundations Elements o Driven Deep Foundation Elements o Helical Pile Foundations o Cast-In-Place Deep Foundation Elements

x Concrete Construction x Masonry Construction - Level 2 o Masonry Construction - Level 3 x Structural Steel Construction o Cold-Formed Steel Construction o Metal Building Systems o Spray Fire-Resistant Materials x Wood Construction

o Mastic and Intumescent Fire-Resistant Coatings o Exterior Insulation and Finish System (EIFS) o Fire-Resistant Penetrations and Joints o Smoke Control

x Seismic Resistance x Wind Resistance 6. The following components are wind-resisting components or part of the main wind-force resisting system and are subject to special inspections in accordance with the Special Inspection Schedule - Wind Resistance:

Wood framed shear walls with wood sheathing and sheathing of other materials, wood sheathed floor and roof diaphragms. 7. The following components are designated seismic systems or part of the seismic-force resisting system that are subject to special inspections in accordance with the Special Inspection Schedule - Seismic Resistance:

Wood framed shear walls with wood sheathing and sheathing of other materials, wood sheathed floor and roof diaphragms

I. WOOD SHRINKAGE

1. IBC 2304.3.3 requires that architectural, mechanical, electrical, and plumbing systems be designed to accommodate movement due to

shrinkage. McClure Engineering Co. takes no responsibility for the naturally occurring shrinking that will occur.

2. Estimated values are based upon the following moisture content:

a. At installation (MC) = 19% b. At equilibrium (EMC) = 8%

3. The following recommendations are intended to minimize the potential issues associated to wood shrinkage. Implementation and liability are ultimately up to the contractor or design professional responsible for the impacted trade.

a. Mechanical, Electrical, Plumbing

i. Allow construction gaps in the wood framing to close by delaying installation of MEP as long as possible to allow for additional dead load to be installed

Provide oversized or long slotted holes at pipe penetrations. Holes must be within conformance of typical penetration details. Rigid connections shall be adjusted before completion of construction of closing of wall and ceiling assemblies.

iv. All vertical sheet metal down spouts shall have intermediate slip joints.

v. Roof Drains shall utilize adjustable fittings. Fittings must be adjusted at the completion of construction and then as required to maintain proper drainage. b. Architectural Considerations

Stucco, EIFS and brittle finishes shall have horizontal expansion joints, slip joints with appropriate waterproofing.

ii. Brick and stone finishes shall have ties that accommodate differential movement.

iii. Provide adjustable thresholds or transitions at rigid transitions such as CMU elevator shafts. c. Construction tolerance

Limit shortening due to nesting by cutting all studs level square and tight against plates.

Structural wood panels shall have ½" relief gaps at each floor to limit bulging.

iii. Floor sheathing shall have 1/8" gaps on all sides during installation to accommodate movement. v. Shear wall hold downs shall be check and retightened immediately prior to sheathing wall v. Delay gyp topping around concrete and CMU elevator shafts until completion of construction

d. Material storage Stored materials shall be covered and elevation from the elements.

ii. Do not allow water to pond on floor sheathing. Provide drain holes if required to allow water to quickly drain if water does

i. McClure recommends a review of roof drains every 3 months for the first 24 months of occupancy and then annually. Adjust drains as required to maintain watertight integrity.

McClure recommends review of joints at exterior doors, windows and finish transitions. Waterproof as needed where original joints fail per the architect's recommendations.

Remedial self-leveling work may be required around concrete or CMU elevator towers to accommodate shrinkage

J. CONCRETE MASONRY

1. All construction shall comply with applicable provisions of the following latest ACI standards:

a. ACI 530/ASCE 52/TMS 402 – Building Code Requirements for Masonry Structures.

ACI 530.1/ASCE 6/TMS 602– Specifications for Masonry Structures. IBC Chapter 21 Masonry

2. Concrete block units shall conform to the requirements for Grade N Type 1, load-bearing normal-weight units per ASTM C-90. Use Grade S blocks below grade. All below grade block shall be solid grouted.

Net area compressive strength of masonry, $f'_m = 1,500$ psi. 4. Standard units shall have nominal face dimensions of 16 x 8 inches high. The minimum compressive strength of the masonry units shall be as follows:

Net Area Compressive Compressive Strength Of Concrete Masonry Strength Of Masonry (f'_m psi)

5. Mortar for unit masonry shall be proportioned per ASTM C270. The minimum mortar compressive strength is as follows: a. Type S: 1,800 psi

b. Type M: 2,500 psi 6. Grout for unit masonry shall be proportioned per ASTM C476. The minimum grout compressive strength is the larger of 2,000 psi or f'm. Maximum coarse aggregate size is 3/8".

8. Reinforce all CMU walls with vertical rebar full height, centered in cell as shown on the drawings. Grout reinforced cells solid. a. When reinforcing is not specified, provide #5 @ 48" o.c., minimum.

9. All vertical cells to be filled shall have vertical alignment to maintain an unobstructed cell area not less than 2 in. x 3 in. 10. All bond beams shall be grouted solid and reinforced.

 a. Provide bent dowels at all wall intersections – one per bond beam at corners, and two at tee intersections. 11. Provide bond beams at all walls supporting roof and floor slabs.

12. Grout solid under all beams and lintels for full height of wall. 13. All masonry walls shall have ladder type horizontal joint reinforcement with two 9 gage wires spaced at 16" o.c. vertically, unless noted

a. All wall intersections shall be reinforced with prefabricated tee or corner units. 14. Use low lift method of grouting. Maximum grout lift = 5'-0". Alternative methods of grouting may be acceptable. Submit method for approval two weeks in advance.

15. Masonry reinforcing lap lengths shall be as follows: Masonry Strength, f'_m (psi)

1. Development length is based on $2\frac{1}{2}$ " masonry cover for all bars. Use bar spacers to maintain cover.

16. Brace all masonry walls until floor and roof framing and metal deck are installed. a. Design and installation of bracing is the responsibility of the masonry contractor.

Submit bracing plan for review. 17. When grouting is stopped for more than one hour, horizontal construction joints shall be formed by stopping the pour of grout 1-1/2"

below the top of the uppermost course

18. Provide control joints in wall every 40 ft. Provide vertical reinforcing in first cell each side of control joint. Do not locate control joint within 2'-0" of end or opening.

19. Conduit pipes and sleeves in masonry shall not displace more than 2 percent of the net cross-sectional area and shall be placed no closer than 3 diameters or widths on center.



NOTICE: McClure Engineering Co. is not responsible or liable for any issues, claims, damages, or losses (collectively 'Losses") which arise from failure to follow these Plans, Specifications, and the engineering intent they convey, or for Losses which arise from failure to obtain and/or follow the engineers' or surveyors guidance with respect to any alleged errors, omissions, inconsistencies, ambiguities, or conflicts contained within the Plans or Specifications.

IOWA CERTIFICATE OF AUTHORITY NO. 26887



I HEREBY CERTIFY THAT THIS **ENGINEERING DOCUMENT WAS** PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY

LICENSED PROFESSIONAL ENGINEER

UNDER THE LAWS OF THE STATE OF

IOWA.

PR	ROJECT NUMBER	SET IS	SUE DATE

DRAWN BY

CEL

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K. POST-INSTALLED ANCHORS TO CONCRETE AND MASONRY

- 1. Post installed anchors shall be expansion, adhesive, or screw anchors as indicated in the details, unless noted otherwise. Only use the anchor type indicated. All anchors on the project of each type must be by the same manufacturer, see below for substitution requirements.
- a. Expansion anchors:
- i. Concrete:

 Hilti Kwik Bolt TZ (ICC-ES ESR1917).
 Simpson Strong-Bolt 2 (ICC-ES ESR3037).
 DeWalt Power-Stud+ SD2 (ICC-ES ESR2502).
- . Grout-filled Concrete Masonry:
 Hilti Kwik Bolt 3 (ICC-ES ESR1385).
 Simpson Strong-Bolt 2 (UES ER0240)
 DeWalt Power-Stud+ SD1 (ICC-ES ESR2966).
- b. Adhesive anchors (threaded rods shall be ASTM A193 B7 for all anchors):i. Concrete:
 - Hilti HIT RE 500-SD (ICC-ES ESR2322) or Hilti HIT-HY 200 (ICC-ES ESR3187).
 Simpson AT-XP (UES ER263), SET-XP (ICC-ES ESR2508) or ET-HP (ICC-ES ESR3372)
 DeWalt Pure 110+ (ICC-ES ESR3298), PE1000+ (ICC-ES ESR2583), Pure 50+ (ICC-ES ESR3576), AC 200+ (ICC-ES ESR2583))
- ESR4027), or AC100+ Gold (ICC-ES ESR2582)
 ii. Solid grouted concrete masonry:
 - Hilti HIT-HY 70 anchor adhesive (ICC-ES ESR3342). Simpson AT-XP (UES ER0281), SET-XP (UES ER0265) or ET-HP (UES ER0241) AC100+ Gold (ICC-ES ESR3200)
- iii. Hollow concrete or multi-wythe clay masonry:
 Hilti HIT-HY 70 with screen tubes (ICC-ES ESR3342).
 - Simpson SET-XP (UES ER0265)
 AC100+ Gold with screen tubes (ICC-ES ESR3200)
- c. Screw anchors:
- i. Concrete:
 Hilti Kwik HUS EZ (ICC-ES ESR3027)
- DeWalt Wedge-Bolt+ (ICC-ES ESR2526)
- Grout-filled concrete masonry:
 Hilti Kwik HUS EZ (ICC-ES ESR3056)
 DeWalt Wedge Bolt+ (ICC-ES ESR1678)
- 2. Post-installed anchors shall only be used where specified in the drawings. The Contractor shall obtain approval from the engineer prior to using post-installed anchors for missing or misplaced cast-in-place anchors.
- 3. All personnel installing anchors shall be trained and certified by the anchoring system manufacturer or by ACI. Contractor shall submit current certifications for all personnel. ACI certification required for all personnel installing adhesive anchors in a horizontal or overhead conditions. If a failure occurs at any time during testing or construction, personnel shall be retrained and recertified.
- Installation:
 a. Do not cut existing reinforcing.
- a. Do not cut existing reinforcing.b. The hole through the supported steel member shall be 1/16" larger in diameter (1/8" for screw anchors) than the anchor unless noted
- otherwise. Use plate washers with a standard size hole welded to steel members where oversized holes must be used.
- c. Holes shall be drilled per the manufacturer's written instructions as outlined in the ESR.
 d. Where applicable, installation shall follow cleaning procedure indicated in the ESR. Holes shall be made with a hammer drill. Use of a
- core drill is not allowed.

 5. Special inspection shall be provided for all post installed anchors as required by the building code and/or ICC-ES report. Written special inspection reports shall be submitted to the registered design professional in responsible charge by the special inspector. The reports shall
- inspection reports shall be submitted to the registered design professional in responsible charge by the special inspector. The reports shall record and report the following as a minimum:
- a. One of every ten anchors installed by each technician in locations listed below shall be randomly tested in direct tension. At least one anchor shall be tested on each day that anchors are installed.
- i. Test anchors in the following locations:
 - Shear wall hold down anchors. Shear wall sill plate anchors.
 - Anchors supporting dead or live loads in tension.
- ii. Test anchor to twice the allowable tension load as provided in the ESR. Test load shall not exceed 80 percent of the yield strength
- of the anchor $(0.8 \times A_{se} \times f_{ya})$.
 iii. Post-installed anchors shall not be tested using a torque wrench.
- iv. If any anchor fails quality control testing, all anchors of the same type shall be randomly tested until (10) consecutive anchors pass. Resume normal frequency after this with approval of the engineer. The failed anchor(s) shall be removed and the affected area patched per engineer's direction. Consult the engineer for anchor replacement instructions. The cost for additional work and testing required due to anchor failure is the responsibility of the installing contractor.
- b. Prior to and during installation of anchors, inspection and report shall include:i. Installer shall have reviewed manufacturer's ESR report and written installation procedures and has been certified by the
- manufacturer or ACI.
 ii. General concrete or CMU block conditions (cracked or un-cracked, wet or dry, grouted or hollow, etc).
- ii. General concrete or CMU block conditions (cracked or un-cracked, wet or dry, grouted or hollow, etc).iii. Whether manufacture's written procedures for preparation of hole were followed. Indicate if hole is wet or dry.
- iv. Whether hole was made with a hammer drill
- v. Whether mole was made with a nammer drill
 v. Whether manufacture's written procedures for anchor installation were followed.
- vi. Embedment depth and concrete or block thickness.
- vii. Anchor diameter, length and type.
 c. After installing anchors, inspection and report shall include:
- i. All test locations.
 ii. Anchor size and/or type.
- iii. Applied load, loading procedure, load increments and rate of loading.
- iv. Mode of failure.v. Photographs of test equipment and typical failures.

ES code reports shall be included with the submittal package.

v. Photographs of test equipment and typical failures.
 Substitution requests for products other than those listed above shall be submitted to the engineer with calculations that are prepared and sealed by a registered structural engineer at least two weeks prior to scheduled installations. Calculations shall demonstrate that the substituted product will achieve an equivalent capacity using the appropriate design procedure required by the building code. Product ICC-

Special Inspection Schedule: Cast-In-Place Foundation Elements							
Verification And	Applicable To Frequen						
Inspection Task	This Project?	Continuous	Periodic				
1. Special Inspections and verifications for concrete foundation construction in accordance with the Special Inspection Schedule: Cast-In-Place Concrete for the following foundation elements:							
a. Isolated spread concrete footings.	Х	-	Х				
b. Continuous concrete footings supporting walls.	Х	-	Х				
c. Concrete foundation walls.	Χ	Х	-				

Special Inspection Schedule: Concrete C	onstruction		
Verification And	Applicable To	Freque	ncy
Inspection Task	This Project?	Continuous	Periodic
Inspect reinforcing steel, including prestressing tendons and placement.	X	-	Х
2. Inspection of welding, reinforcing steel:			
a. Verification of weldability of reinforcing steel other than ASTM A706.	-	-	X
b. Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames and boundary elements of special structural walls of concrete and shear reinforcement.	-	X	-
c. Shear reinforcement.	-	X	-
d. Other reinforcing steel.	-	-	Х
3. Inspect anchors cast in concrete where allowable loads have been increased or where strength design is used.	Х	-	Х
4. Inspect anchors post-installed in hardened concrete members.	X	-	Х
5. Verify use of required design mix.	X	-	Х
6. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests and record the temperature of the concrete.	Х	Х	-
7. Inspect concrete and shotcrete placement for proper application techniques.	Х	Х	-
8. Inspect for maintenance of specified curing temperature and techniques.	Χ	-	Х
9. Inspection of Prestressed Concrete:			
a. Observe application of prestressing forces.	-	X	-
b. Observe grouting of bonded prestressing tendons in the seismic force resisting system.	-	Х	-
10. Inspect erection of precast concrete members.	-	-	Х
11. Verify in-situ concrete strength prior to stressing of tendons in post- tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	-	-	Х
12. Inspect formwork for shape, location, and dimensions of the concrete member being formed.	Х	-	Х

Special Inspection Schedule: Fabricators						
Verification And	Applicable To	Applicable To Frequer				
Inspection Task	This Project?	Continuous	Periodic			
Verify fabrication and implementation procedures:		•				
a. Steel Construction	X	-	X			
b. Concrete Construction (including rebar fabrication)	X	-	X			
c. Masonry Construction	X	-	X			
d. Wood Construction	X	-	X			
e. Cold Formed Metal Construction	-	-	X			
f. Other Construction	-	-	X			

Special Inspection Schedule: Soils						
Verification And	Applicable To	Frequency				
Inspection Task	This Project?	Continuous	Periodic			
Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	Х	-	Х			
2. Verify excavations are extended to proper depth and have reached proper material.	Х	-	Х			
3. Perform classification and testing of compacted fill materials.	X	-	X			
4. Verify use of proper materials, densities and lift thickness during placement and compaction of compacted fill.	Х	Х	-			
5. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	Х	-	Х			

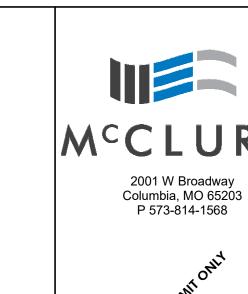
Special Inspection Schedule: Masonry Const			
Verification And	Applicable To	Freque	
Inspection Task	This Project?	Continuous	Periodic
Compliance with required inspection provisions of the Construction Documents and the approved submittals shall be verified.	X	-	X
Verify f'm and f'aac prior to construction except where specifically exempted by the building code.	X	-	Х
3. Verify slump flow and VSI as delivered to the site for self-consolidating grout.	Х	Х	-
4. As masonry construction begins, the following shall be verified to ensure compliance:			1
a. Proportions of site-prepared mortar.	X	-	Х
b. Construction of mortar joints.	X	-	Х
c. Location of reinforcement, connectors, prestressing tendons, and anchorages.	Х	-	Х
d. Prestressing technique.	-	-	Х
e. Grade and size of prestressing tendons and anchorages.	-	-	Х
5. During construction, the inspection program shall verify:			•
a. Size and location of structural elements.	X	-	Х
b. Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction.	Х	-	Х
c. Specified size, grade, and type of reinforcement, anchor bolts, prestressing tendons, and anchorages.	Х	-	Х
d. Welding of reinforcing bars.	-	X	-
e. Preparation, construction, and protection of masonry during cold weather (temperature < 40°f) or hot weather (temperature > 90°f).	Х	-	Х
f. Application and measurement of prestressing force.	-	X	-
6. Prior to grouting, the following shall be verified to ensure compliance:			
a. Grout space is clean.	X	-	Х
b. Placement of reinforcement, connectors, prestressing tendons, and anchorages.	Х	-	Х
c. Proportions of site-prepared grout and prestressing grout for bonded tendons.	-	-	х
d. Construction of mortar joints.	X	-	X
7. Grout placement shall be verified to ensure compliance with Building Code and Construction Document provisions.			1
a. Grouting of prestressing bonded tendons.	-	Х	-
8. Preparation of any required grout specimens, mortar specimens, and/or prisms shall be observed.	-	-	Х

Verification And	Applicable To	Frequency	
Inspection Task	This Project?	Continuous	Periodio
Material verification of high-strength bolts, nuts and washers:			1
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	Х	-	Х
b. Manufacturer's certificate of compliance required.	Х	-	Х
2. Inspection of high-strength bolting:			
a. Snug-tight joints.	Χ	-	Х
b. Pretensioned and slip-critical joints using turn-of-nut with match marking, twist-off bolt, or direct tension indicator methods of installation.	-	-	Х
c. Pretensioned and slip-critical joints using turn-of-nut without match marking or calibrated wrench methods of installation.	-	Х	-
3. Material verification of structural steel:		1	
a. Identification markings to conform to ASTM standards specified in the	Χ	-	Х
approved Construction Documents and AISC 360. b. Manufacturer's certified test reports.	Χ	-	Х
4. Material verification of weld filler materials:		1	I
a. Identification markings to conform to AWS specification in the approved Construction Documents.	Х	-	Х
b. Manufacturer's certificate of compliance required.	Χ	-	Х
5. Inspection of welding, structural steel:			1
a. Complete and partial penetration groove welds.	Χ	X	-
b. Multi-pass fillet welds.	Χ	X	-
c. Single-pass fillet welds > 5/16".	X	X	-
d. Single-pass fillet welds < 5/16".	X	-	X
6. Inspection of steel frame joint details for compliance with approved Construction Documents:			
a. Details such as bracing and stiffening.	Χ	-	Х
b. Member locations.	X	-	Х
c. Application of joint details at each connection.	Χ	-	X

Special Inspection Schedule: Wood Co	nstruction		
Verification And	Applicable To	Freque	ency
Inspection Task	This Project?	Continuous	Periodi
Inspection of high-load diaphragms:			•
a. Verify wood structural panel sheathing is of the grade and thickness	X	-	Х
shown on the Construction Documents. b. Verlfy nominal size of framing members at adjoining panel edges agrees with the Construction Documents.	Х	-	Х
c. Verify fastener diameter and length, number of fastener lines, the spacing of the fasteners, and the edge margins agree with the Construction Documents.	Х	-	Х
Inspection of metal-plate-connected wood trusses spanning 60 feet or greater:			
a. Verify temporary installation restraint/bracing are installed in accordance with approved truss submittal package.	-	-	Х
b. Verify permanent individual truss member restraint/bracing are installed in accordance with approved truss submittal package.	-	-	Х

Special Inspection Schedule: Wind Resistance								
Verification And	Applicable To	Freque	ncy					
Inspection Task	This Project?	Continuous	Periodi					
Roof cladding and roof framing connections.	Χ	-	-					
Wall connections to roof and floor diaphragms and framing.	Χ	-	X					
3. Roof and floor diaphragm systems including collectors, drag struts, and boundary elements.	X	-	Х					
4. Vertical wind force resisting systems including braced frames, moment frames, and shear walls.	X	-	Х					
5. Wind force resisting system connections to the foundation.	X	-	X					
6. Fabrication and installation of systems or components required to meet impact-resistant requirements.	-	-	Х					
7. Inspection of structural wood:		•	1					
a. Inspect field gluing operations of elements of the main wind force resisting system.	-	Х	-					
b. Inspect nailing, bolting, anchoring, and other fastening of components within the main wind force resisting system including wood shear walls, wood diaphragms, drag struts, braces, and hold downs.	Х	-	х					
8. Inspection of cold-formed steel light frame construction:			1					
a. Inspection of welding operations of elements of the main wind force resisting system.	-	-	-					
b. Inspection of screw attachment, bolting, anchoring, and other fastening of other components within the main wind force resisting system including shear walls, braces, diaphragms, collectors (drag struts), and hold downs.	-	-	-					
9. Wind resistant systems and components:		•	•					
a. Roof cladding	X	-	-					
b. Wall cladding	Х	-	_					

Special Inspection Schedule: Seismic R Verification And	Applicable To	Freque	encv
Inspection Task	This Project?	Continuous	Periodic
1. Inspection of pier foundations:		Communication	1 0110410
a. Inspect placement of reinforcement.		_	Х
b. Inspect placement of concrete.		_	X
Inspection of concrete reinforcement:			Λ
a. Verify certified mill test reports comply with ACI 318 Chapter 21 requirements.	-	-	Х
b. Where reinforcing complying with ASTM A615 is to be welded, chemical tests shall be performed to determine weldability.	-	-	Х
3. Inspection of structural steel.			
a. Inspections shall be in accordance with the quality assurance plan requirements of AISC 341.	-	-	Х
4. Inspection of cold-formed steel framing:			
a. Inspect welding operations of elements of the seismic force resisting system.	-	-	Х
b. Inspect screw attachment, bolting, anchoring, and other fastening of components within the seismic force resisting system including shear walls, braces, diaphragms, collectors (drag struts), and hold downs.	-	-	Х
5. Inspection of structural wood:			
a. Inspect field gluing operations of elements of the seismic force resisting system.	-	Х	
b. Inspect nailing, bolting, anchoring, and other fastening of components within the seismic force resisting system including wood shear walls, wood diaphragms, drag struts, braces, shear panels, and hold downs.	Х	-	Х
6. Inspection of storage racks:			
a. Inspect anchorage of storage racks 8 feet or greater in height.	-	-	Х
7. Inspection of architectural components:			
a. Inspect erection and fastening of exterior cladding.	Х	_	Х
b. Inspect erection and fastening of interior and exterior nonbearing walls.	Χ	-	Х
c. Inspect erection and fastening of interior and exterior veneer.	Х	-	X
d. Inspect anchorage of access floors.	-	-	Х
9. Inspection of designated seismic systems:		1	1
a. Verify label, anchorage, or mounting conforms to the certificate of compliance.	-	-	Х
10. Inspection of seismic isolation systems:		1	1
a. Inspect the fabrication and installation of isolator units and energy dissipation devices that are part of the seismic isolation system.	-	-	Х





NOTICE:

McClure Engineering Co. is not responsible or liable for any issues, claims, damages, or losses (collectively, "Losses") which arise from failure to follow these Plans, Specifications, and the engineering intent they convey, or for Losses which arise from failure to obtain and/or follow the engineers' or surveyors' guidance with respect to any alleged errors, omissions, inconsistencies, ambiguities, or conflicts contained within the Plans or Specifications.

IOWA CERTIFICATE OF AUTHORITY NO. 26887



MARCUS HIMMELBERG P24622 12/31/2025

I HEREBY CERTIFY THAT THIS
ENGINEERING DOCUMENT WAS
PREPARED BY ME OR UNDER MY
DIRECT PERSONAL SUPERVISION AND
THAT I AM A DULY
LICENSED PROFESSIONAL ENGINEER

UNDER THE LAWS OF THE STATE OF

	IOWA.		
No.	Description	Date	

PROJECT NUMBER 2024001922 SET ISSUE DATE 01/17/2025

ENGINEER DRAWN BY CHECKED BY IWC CEL MDH

JONES GILLAM RENZ
The Residence at Vetera



				TYPICAL WALL	. HEADER SCHEDUL	E (STACKED OF	PENINGS)					
On a min m	May Casa		Heade	r		Kings & Jacks					Sills*	
Mark	Max. Span (ft-in)	Level 1	Level 2	Level 3	Header Plates*	Lev	/el 1	Level 2		Level 3		All Levels
IVIAIK	(11-111)	Level i	Level 2	Level 3	(All Levels)	Kings	Jacks	Kings	Jacks	Kings	Jacks	(if applicable)
H1	7'-0"	(3) LVL 1-3/4 x 11-7/8	(3) LVL 1-3/4 x 11-7/8	(3) 2x10	(1) 2x6 T&B	(2) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6
H2	7'-0"	(3) 2x8	(3) 2x8	(3) 2x8	(1) 2x6 T&B	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6
H3	9'-8"	(3) LVL 1-3/4 x 11-7/8	(3) LVL 1-3/4 x 11-7/8	(3) LVL 1-3/4 x 11-7/8	(1) 2x6 T&B	(2) 2x6	(1) 2x6	(2) 2x6	(1) 2x6	(2) 2x6	(1) 2x6	(1) 2x6
H4	5'-2"	(3) 2x10**	(3) 2x10**	(3) 2x8**	(1) 2x6 T&B	(2) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6
H5	6'-0"	(3) 2x12**	(3) 2x12**	(3) 2x8**	(1) 2x6 T&B	(2) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6
H6	16'-4"			(1) 5-1/2 x 11-7/8 Glulam**						(2) 2x6	(1) 2x6	(6) 2x6
H7	19'-8"			(1) 5-1/2 x 20 Glulam**						(2) 2x6	(1) 2x6	(11) 2x6
HH1	6'-0"	3LVL 1-3/4 x 14**			(1) 2x6 T&B	(2) 2x6	(3) 2x6					(1) 2x6
HH2	3'-6"	(3) 2x8	(3) 2x12		(1) 2x6 T&B	(2) 2x6	(1) 2x6	(2) 2x6	(1) 2x6			(1) 2x6

H = An opening which requires a header

HH = An opening which requires a header & which does not stack with openings above

1. See S500 for typical opening framing.

2. All openings should stack according to the plans.

3. Coordinate all dimensions and elevations with architectural drawings.

4. Cripple studs should match the adjacent wall framing.

5. * Header top and bottom plates and sills should match the wall stud depths.

6. All LVL shall be stress class 2.0E-2500F

7. ** Indicates headers that do not require top and bottom plates.

8. All Glulam lumber shall be stress class 20F-1.5E or better.

FOUNDATION SCHEDULE						
Mark Size Reinforcing						
F1 6'-0"x6'-0"x1'-0" (8) #4 BARS Top & Bottom (Each Wa						
5'-0"x5'-0"x1'-0"	(7) #4 BARS Top & Bottom (Each Way)					
3'-0"x3'-0"x1'-0"	(4) #4 BARS Top & Bottom (Each Way)					
2'-0"x2'-0"x1'-0"	(3) #4 BARS Top & Bottom (Each Way)					
	Size 6'-0"x6'-0"x1'-0" 5'-0"x5'-0"x1'-0" 3'-0"x3'-0"x1'-0"					

1. All footings must be centered on walls and columns U.N.O.

WOOD COLUMN SCHEDULE							
Mark Level 1 Level 2 Level 3							
C1 (3) 2X6 (3) 2X6 (3) 2X6							
Notoo:							

1. All exterior columns are to be pressure treated

	WOOD SHEAR WALL SCHEDULE									
Mark	Level	Sheathing/ Fastener Layout	Post	Hold-Down	Min. Sill/Top Plate	Base Connection				
SW1	Level 3	(1) Sided, ZIP Wood Structural Panel - Sheathing - 7/16" Thick, 8d Nail, 6" Edge Fastening	(2) 2x6	LSTA9 w/ (8) 0.148"x2-1/2" nails	2X6	(2) 16d nails @ 24" o.c.				
	Level 2	(1) Sided, ZIP Wood Structural Panel - Sheathing - 7/16" Thick, 8d Nail, 6" Edge Fastening	(2) 2x6	LSTA12 w/ (10) 0.148"x2-1/2" nails	2X6	(2) 16d nails @ 16" o.c.				
	Level 1	(1) Sided, ZIP Wood Structural Panel - Sheathing - 7/16" Thick, 8d Nail, 6" Edge Fastening	(2) 2x6	DTT1Z w/ (6) SD #9x1-1/2" & 3/8"Ø Anchor Rod	2X6	(1) Hilti KH-EZ 3/8"Øx 6" @ 32" o.c.				
	Level 3	(1) Sided, Gypsum Wallboard - 1/2" Thick, 5d Nail, 7" Edge Fastening, 16" O.C. Unblocked	(2) 2x6	LSTA9 w/ (8) 0.148"x2-1/2" nails	2X6	(2) 16d nails @ 24" o.c.				
SW2	Level 2	(1) Sided, ZIP Wood Structural Panel - Sheathing - 7/16" Thick, 8d Nail, 6" Edge Fastening	(2) 2x6	LSTA9 w/ (8) 0.148"x2-1/2" nails	2X6	(2) 16d nails @ 24" o.c.				
	Level 1	(1) Sided, ZIP Wood Structural Panel - Sheathing - 7/16" Thick, 8d Nail, 6" Edge Fastening	(2) 2x6	DTT1Z w/ (6) SD #9x1-1/2" & 3/8"Ø Anchor Rod	2X6	(1) Hilti KH-EZ 3/8"Øx 6" @ 48" o.c.				
	Level 3	(1) Sided, ZIP Wood Structural Panel - Sheathing - 7/16" Thick, 8d Nail, 6" Edge Fastening	(2) 2x6	LSTA15 w/ (12) 0.148"x2-1/2" nails	2X6	(2) 16d nails @ 24" o.c.				
SW3	Level 2	(1) Sided, ZIP Wood Structural Panel - Sheathing - 7/16" Thick, 8d Nail, 6" Edge Fastening	(2) 2x6	LSTA30 w/ (22) 0.148"x2-1/2" nails	2X6	(2) 16d nails @ 16" o.c.				
	Level 1	(1) Sided, ZIP Wood Structural Panel - Sheathing - 7/16" Thick, 8d Nail, 6" Edge Fastening	(2) 2x6	HTT4 w/ (18) 0.148Øx1-1/2" & 5/8"Ø Anchor Rod	2X6	(1) Hilti KH-EZ 3/8"Øx 6" @ 32" o.c.				
	Level 3	(1) Sided, ZIP Wood Structural Panel - Sheathing - 7/16" Thick, 8d Nail, 6" Edge Fastening	(2) 2x4	MSTA 49 w/ (26) 0.148X2-1/2" nails	2X4	(2) 16d nails @ 16" o.c.				
SW4	Level 2	(1) Sided, ZIP Wood Structural Panel - Sheathing - 7/16" Thick, 8d Nail, 4" Edge Fastening	(3) 2x4	MST37 w/ (22) 0.162x2-1/2" nails	2X4	(2) 16d nails @ 8" o.c.				
	Level 1	(1) Sided, ZIP Wood Structural Panel - Sheathing - 7/16" Thick, 8d Nail, 3" Edge Fastening	(3) 2x4	HTT4 w/ (18) 0.148Øx1-1/2" & 5/8"Ø Anchor Rod	2X4	(1) Hilti KH-EZ 3/8"Øx 6" @ 16" o.c.				
	Level 3	(1) Sided, ZIP Wood Structural Panel - Sheathing - 7/16" Thick, 8d Nail, 6" Edge Fastening	(2) 2x6	MSTA 49 w/ (26) 0.148X2-1/2" nails	2X6	(2) 16d nails @ 16" o.c.				
SW5	Level 2	(1) Sided, ZIP Wood Structural Panel - Sheathing - 7/16" Thick, 8d Nail, 4" Edge Fastening	(2) 2x6	MST37 w/ (22) 0.162x2-1/2" nails	2X6	(2) 16d nails @ 8" o.c.				
	Level 1	(1) Sided, ZIP Wood Structural Panel - Sheathing - 7/16" Thick, 8d Nail, 3" Edge Fastening	(2) 2x6	HTT4 w/ (18) 0.148Øx1-1/2" & 5/8"Ø Anchor Rod	2X6	(1) Hilti KH-EZ 3/8"Øx 6" @ 16" o.c.				
Notes:			(-) -//	& 5/8"Ø Anchor Rod		@ 16" o.c.				

- 1. See S530 for typical shear wall framing
- 2. All threaded rods shall be F1554 GR105; See 3/S530 for anchor options.
- 3. Floor to floor strap ties at top of wall shall match that of the floor above.
- 4. All hold downs and strap ties are Simpson Strong-Tie brand, U.N.O.
- 5. Bottom sill plate connections shall have a 3"x3"x1/4" steel plate washer at each anchor bolt on shear walls only.
- 6. All drag trusses shall be connected to shear walls per detail 4/S530 and 5/S530. 7. Provide floor to floor strapping on the same side as the OSB sheathing.
- 8. Field fastening for all sheathing to be 12" O.C. U.N.O
- 9. All shear walls to be blocked at all panel joints unless noted "Unblocked."

WOOD WALL SCHEDULE							
Wood Wall Location	Wall Stu	ıd Size, number of plys, and	Shoothing & Footoning LLN (Coo Note 5)				
Wood Wall Location	Level 1	Level 2	Level 3	Sheathing & Fastening U.N.O. (See Note 5)			
Exterior Walls	(1) 2x6 @ 24" o.c.	(1) 2x6 @ 24" o.c.	(1) 2x6 @ 24" o.c.	15/32" Structural wood sheathing fastened w/ 10d nails. 6" o.c. edge fastening, 12" o.c. field fastening			
Corridor Walls & Interior Typ. Walls	(1) 2x6 @ 16" o.c.	(1) 2x6 @ 16" o.c.	(1) 2x6 @ 16" o.c.	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws. 7" o.c. edge fastening, 12" o.c. field fastening - Both Sides			
Unit Separation Walls	(1) 2x4 @ 16" o.c.	(1) 2x4 @ 16" o.c.	(1) 2x4 @ 16" o.c.	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws. 7" o.c. edge fastening, 12" o.c. field fastening - Both Sides			
Notes:							

- 1. Wall stud spacing is to be per schedule unless noted otherwise.
- 2. Bottom sill plates at foundation to be fastened w/ 3/8"Ø x 6" Hilti Kwik HUS-EZ Bolts @ 48" o.c. U.N.O.
- 3. Sill and top plates at all other levels to be fastened w/ (2) 16d nails @ 24" o.c. U.N.O.
- 5. Shear walls shall be sheathed & fastened per shear wall schedule
- 6. Non-load bearing walls not shown, refer to architectural drawings.
- 7. All top plates are to be continuous. Splice per 3/S500
- 8. U.N.O. bottom sill plates shall be (1) 2x member matching wall thickness, and top plates shall be (2) 2x members.

FLOOR AND ROOF SCHEDULE								
Type Membrane/Sheathing Fastening Concrete/Topping Reinforcing								
Slab on Grade	12mil Vapor Retarder	Taped Edges	4" NW Concrete U.N.O.	See General Notes				
Interior Floors	3/4" Plywood	10d @ 6/12	3/4" Gypcrete Topping					
Roof	15/32" Plywood	10d @ 6/12 UNO						

- 1. Vapor barrier to be placed over compacted fill per general notes.
- 2. Plywood sheathing to be fastened per detail 2/S500
- 3. Floor/Roof diaphragm are unblocked unless noted otherwise on plan. 4. Plywood to be Structural Grade 1 Material

WOOD BEAM SCHEDULE				
Mark	Max. Span (ft-in)	Beam Size	Hanger	
B1	8'-0"	(3) LVL 1-3/4 x 9-1/2	Simpson HUCQ610-SDS	
B2	12'-0" *	(3) LVL 1-3/4 x 14	Simpson HUCQ610-SDS	

5. See architectural drawings for full floor and roof assemblies including nonstructural elements.

- 1. All exterior beams are to be pressure treated.
- 2. All LVL shall be stress class 2.0E-2500F
- 3. Hangers to be installed with typical fasteners per manufacturer product data
- 4. * Indicates beam is cantilevered and is to be beam-pocketed at the wall/post support

JOIST & HANGER SCHEDULE				
Joist Size	Hanger			
2x6	Simpson LUS26			
2x10	Simpson LUS28			
2x12	Simpson LUS210			

- 1. Hangers to be installed with typical fasteners per manufacturer product data
- 2. All exterior members are to be pressure treated



McClure Engineering Co. is not responsible or liable for any issues, claims, damages, or losses (collectively, 'Losses") which arise from failure to follow these Plans, Specifications, and the engineering intent they convey, or for Losses which arise from failure to obtain and/or follow the engineers' or surveyors' guidance with respect to any alleged errors, omissions, inconsistencies, ambiguities, or conflicts contained within

IOWA CERTIFICATE OF AUTHORITY NO. 26887

the Plans or Specifications.



MARCUS HIMMELBERG P24622 12/31/2025

I HEREBY CERTIFY THAT THIS

ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

No.	Description	Date	
110.	Beschiphon	Duic	

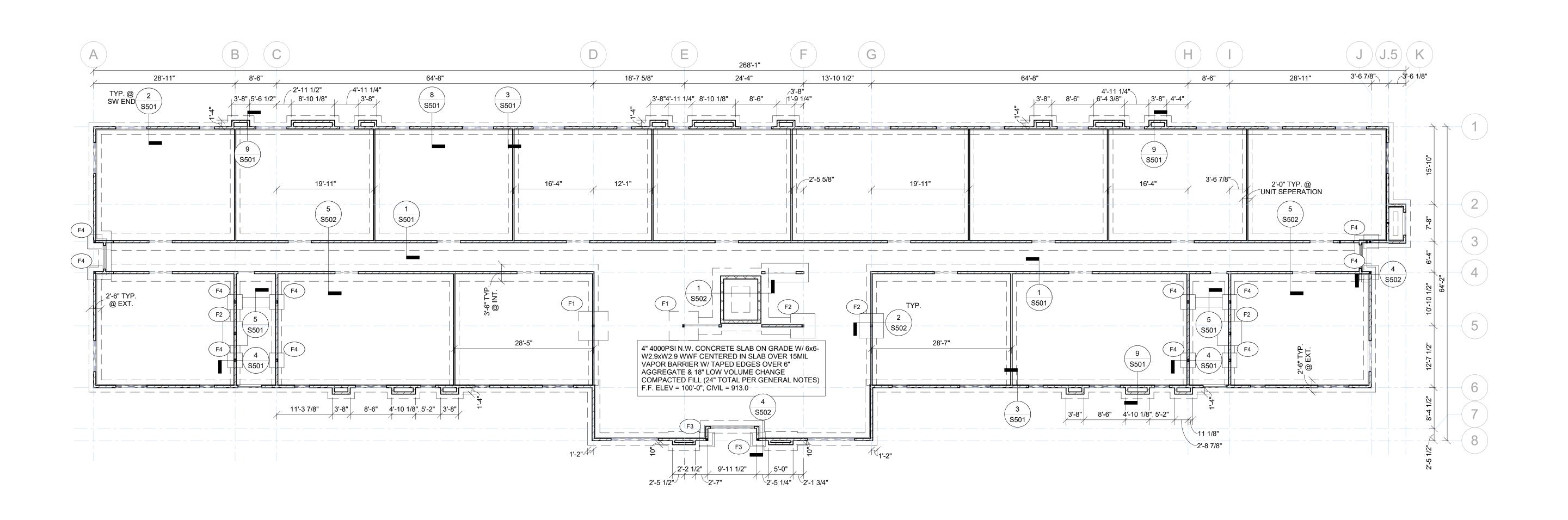
PROJECT NUMBER SET ISSUE DATE 2024001922 01/17/2025 CHECKED BY CEL

siden SCHEDULE

RENZ

GILLAM

JONES



1 FOUNDATION PLAN \$100 3/32" = 1'-0"

FRAMING PLAN NOTES:

- 1. SEE ARCHITECURAL DRAWINGS FOR SITE PLAN BENCHMARK ELEVATIONS, SEE BELOW (VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS)
- T.O. SLABE-ON-GRADE: 100'-0"
- PROVIDE CONTROL JOINTS IN SLAB ON GRADE PER 6/S501 AND PER GENERAL NOTES.
 COORDINATE PLUMBING FIXTURES, SHAFTS, AND FLOOR DRAINS WITH ARCH. & MEP DRAWINGS. 4. ALL EXTERIOR & INTERIOR LOAD BEARING WALLS ARE PER WALL SCHEDULE ON SHEET S004. SEE
- ARCHITECTURAL FLOOR PLAN FOR NON-BEARING WALL, DOOR, AND WINDOW LOCATIONS. 5. REFER TO MANUFACTURER'S GUIDELINES FOR INSTALLATION OF STRAP TIES, HOLD DOWNS & OTHER CONNECTIONS.
- 6. SEE SHEET S501 & S502 FOR DETAILS

FRAMING PLAN LEGEND

(SW?) SHEAR WALL TYPE INDICATED BY

H?# HEADING/OPENING PER OPENING SCHEDULE

(F?) INDICATES FOOTING TYPE

P* JAMB FROM ABOVE PER OPENING SCHEDULE

P# INDICATES POST TYPE

C# INDICATES COLUMN TYPE

E.O.S. INDICATES EDGE OF CONCRETE SLAB

2001 W Broadway Columbia, MO 65203 P 573-814-1568

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the Plans or Specifications. IOWA CERTIFICATE OF AUTHORITY NO. 26887

and/or follow the engineers' or surveyors' guidance with respect to any alleged errors, omissions, inconsistencies, ambiguities, or conflicts contained within



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LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

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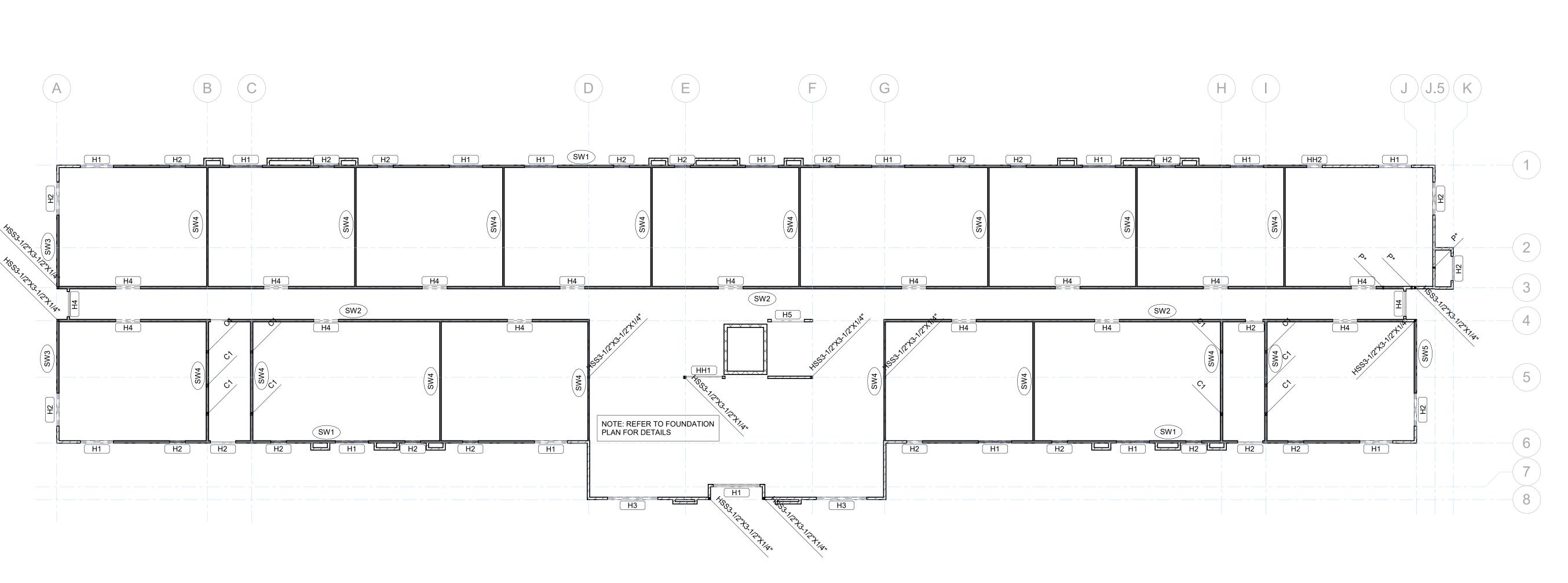
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GILLAM

JONES



1 LEVEL 1 PLAN 3/32" = 1'-0"

FRAMING PLAN NOTES:

- 1. SEE ARCHITECURAL DRAWINGS FOR SITE PLAN BENCHMARK ELEVATIONS, SEE BELOW (VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS) T.O. SLABE-ON-GRADE: 100'-0"
 - 110'-5 7/8" 121'-7 3/4"
- LEVEL 2 F.F. : LEVEL 3 F.F. :
- TRUSS BRG: 130'-8 7/8" 2. FLOOR SHEATHING: 3/4" STRUCTURAL GRADE PLYWOOD. FASTEN TO FRAMING W/ 10d COMMON NAILS
- SPACED 6" O.C. AT EDGES, 12" O.C. WITHIN FIELD. 3. ROOF SHEATHING: 15/32" STRUCTURAL GRADE PLYWOOD. FASTEN TO FRAMING W/ 10d COMMON NAILS
- SPACED 6" O.C. AT EDGES, 12" O.C. WITHIN FIELD. 4. COORDINATE PLUMBING FIXTURES, SHAFTS, AND FLOOR DRAINS WITH ARCH. & MEP DRAWINGS.
- 5. ALL EXTERIOR & INTERIOR LOAD BEARING WALLS ARE PER WALL SCHEDULE ON SHEET S004. SEE ARCHITECTURAL FLOOR PLAN FOR NON-BEARING WALL, DOOR, AND WINDOW LOCATIONS. 6. FLOOR PLAN SHOWS FRAMING FOR THE FLOOR INDICATED & VERTICAL FRAMING (WALLS, HEADERS,
- POSTS, COLUMNS) SUPPORTING THAT FLOOR.
- 7. SEE ARCHITECTURAL DRAWINGS FOR ALL RAILING DETAILS. REFER GENERAL NOTES FOR DESIGN
- 8. REFER TO MANUFACTURER'S GUIDELINES FOR INSTALLATION OF STRAP TIES, HOLD DOWNS & OTHER CONNECTIONS.
- 9. ALL EXTERIOR LUMBER (POSTS, BEAMS, DECKING, ETC.) TO BE TREATED.
 10. WOOD FLOOR TRUSSES TO BE DESIGNED BY MANUFACTURER AND ARE SHOWN FOR THE INTENT OF SPAN DIRECTION AND LOAD PATH ONLY. REFER TO GENERAL NOTES FOR DESIGN CRITERIA.
- 11. TRUSS MANFACTURER TO DESIGN & PROVIDE GIRDER TRUSSES AT ALL FLOOR OPENINGS & SPECIFY HANGERS FOR GIRDERS & SUPPORTED FRAMING.
- 12. REFER TO ARCHITECTURAL PLANS FOR STAIR DIMENSIONS AND REQUIREMENTS. REFER TO STRUCTURAL GENERAL NOTES FOR STAIR DESIGN CRITERIA. 13. COLUMN FRAMING MAY BE USED IN LIEU OF SHEAR WALL END POST FRAMING END OF SHEAR WALLS.
- 14. SEE S500 FOR TYPICAL FRAMING DETAILS, S510 FOR STAIR FRAMING, & S515 FOR CMU DETAILS. 15. FIRE PROOF AROUND BEAMS AT SHAFT PENETRATIONS.

FRAMING PLAN LEGEND

(SW?) SHEAR WALL TYPE INDICATED BY

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P* JAMB FROM ABOVE PER OPENING SCHEDULE

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guidance with respect to any alleged errors, omissions, inconsistencies,



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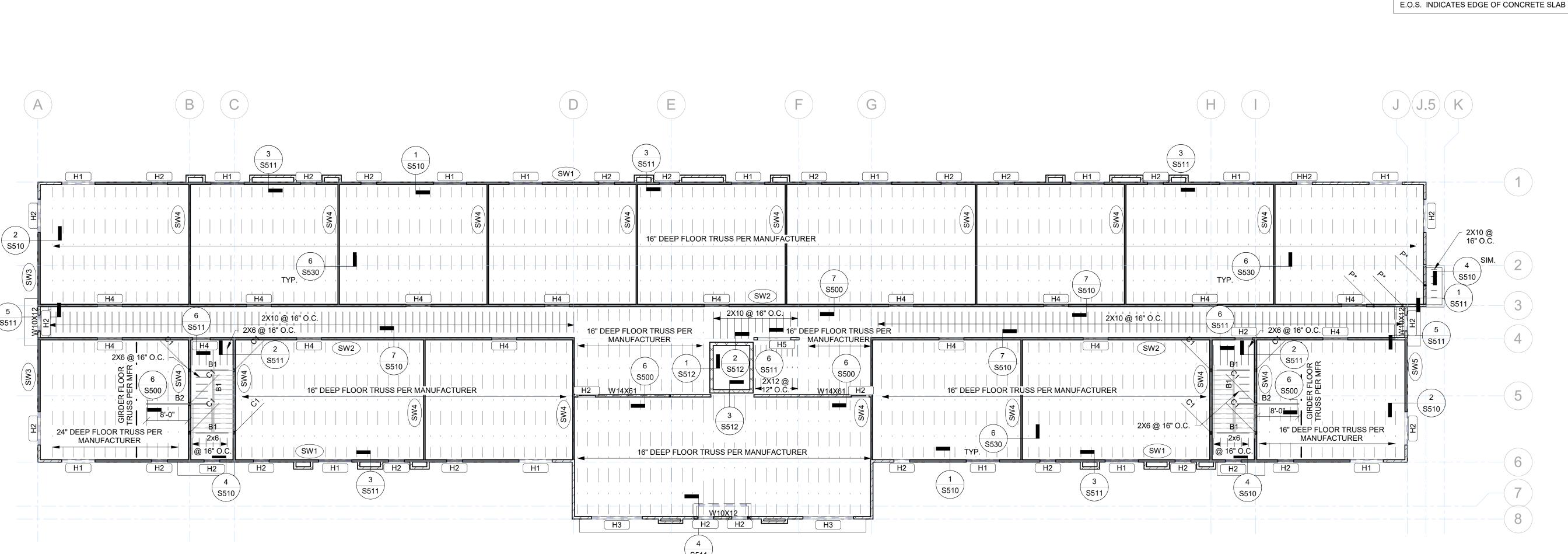
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PROJECT NUMBER SET ISSUE DATE					
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RENZ

JONES



1 LEVEL 2 PLAN 3/32" = 1'-0"

FRAMING PLAN NOTES:

- 1. SEE ARCHITECURAL DRAWINGS FOR SITE PLAN BENCHMARK ELEVATIONS, SEE BELOW (VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS) T.O. SLABE-ON-GRADE: 100'-0"
- LEVEL 2 F.F. : 110'-5 7/8"
- LEVEL 3 F.F. : 121'-7 3/4"
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- SPACED 6" O.C. AT EDGES, 12" O.C. WITHIN FIELD. 3. ROOF SHEATHING: 15/32" STRUCTURAL GRADE PLYWOOD. FASTEN TO FRAMING W/ 10d COMMON NAILS
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- 5. ALL EXTERIOR & INTERIOR LOAD BEARING WALLS ARE PER WALL SCHEDULE ON SHEET S004. SEE ARCHITECTURAL FLOOR PLAN FOR NON-BEARING WALL, DOOR, AND WINDOW LOCATIONS.
- 6. FLOOR PLAN SHOWS FRAMING FOR THE FLOOR INDICATED & VERTICAL FRAMING (WALLS, HEADERS, POSTS, COLUMNS) SUPPORTING THAT FLOOR.
- 7. SEE ARCHITECTURAL DRAWINGS FOR ALL RAILING DETAILS. REFER GENERAL NOTES FOR DESIGN CRITERIA.
- 8. REFER TO MANUFACTURER'S GUIDELINES FOR INSTALLATION OF STRAP TIES, HOLD DOWNS & OTHER CONNECTIONS. 9. ALL EXTERIOR LUMBER (POSTS, BEAMS, DECKING, ETC.) TO BE TREATED.
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- 14. SEE S500 FOR TYPICAL FRAMING DETAILS, S510 FOR STAIR FRAMING, & S515 FOR CMU DETAILS. 15. FIRE PROOF AROUND BEAMS AT SHAFT PENETRATIONS.

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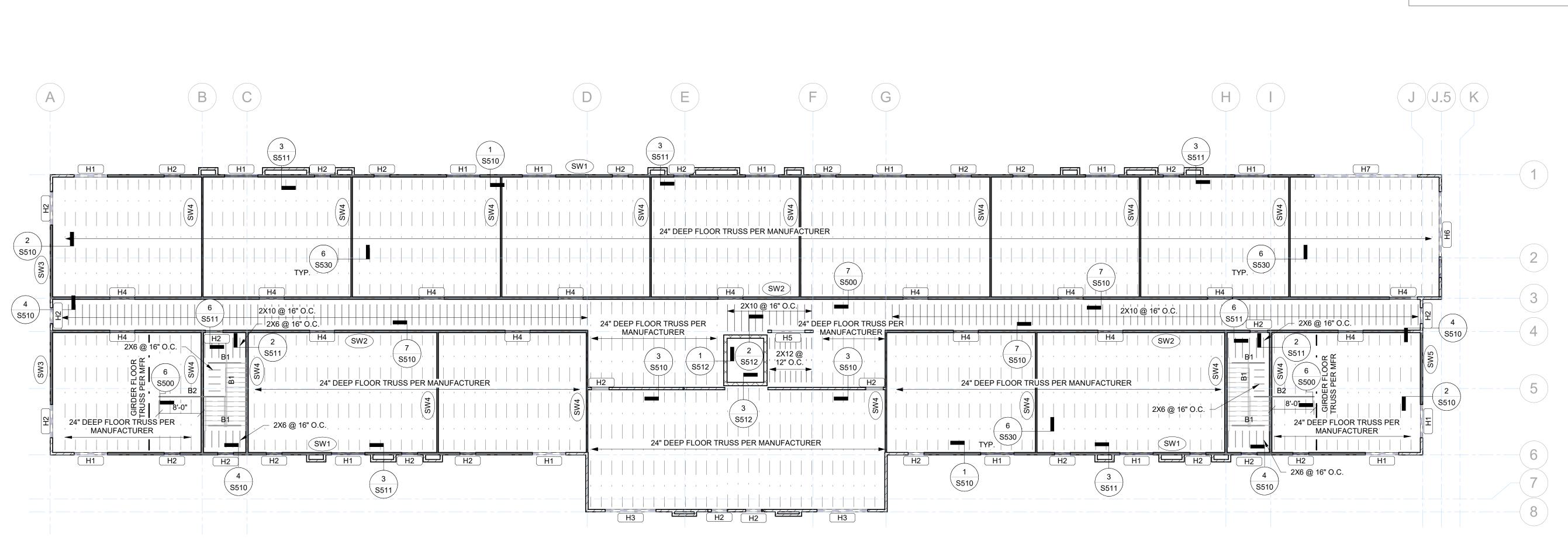
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			SSUE DATE
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RENZ

JONES



1 LEVEL 3 PLAN 3/32" = 1'-0"

FRAMING PLAN NOTES:

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- 9. ALL EXTERIOR LUMBER (POSTS, BEAMS, DECKING, ETC.) TO BE TREATED. 10. WOOD FLOOR TRUSSES TO BE DESIGNED BY MANUFACTURER AND ARE SHOWN FOR THE INTENT OF
- SPAN DIRECTION AND LOAD PATH ONLY. REFER TO GENERAL NOTES FOR DESIGN CRITERIA. 11. TRUSS MANFACTURER TO DESIGN & PROVIDE GIRDER TRUSSES AT ALL FLOOR OPENINGS & SPECIFY
- HANGERS FOR GIRDERS & SUPPORTED FRAMING. 12. REFER TO ARCHITECTURAL PLANS FOR STAIR DIMENSIONS AND REQUIREMENTS. REFER TO STRUCTURAL
- GENERAL NOTES FOR STAIR DESIGN CRITERIA. 13. COLUMN FRAMING MAY BE USED IN LIEU OF SHEAR WALL END POST FRAMING END OF SHEAR WALLS.
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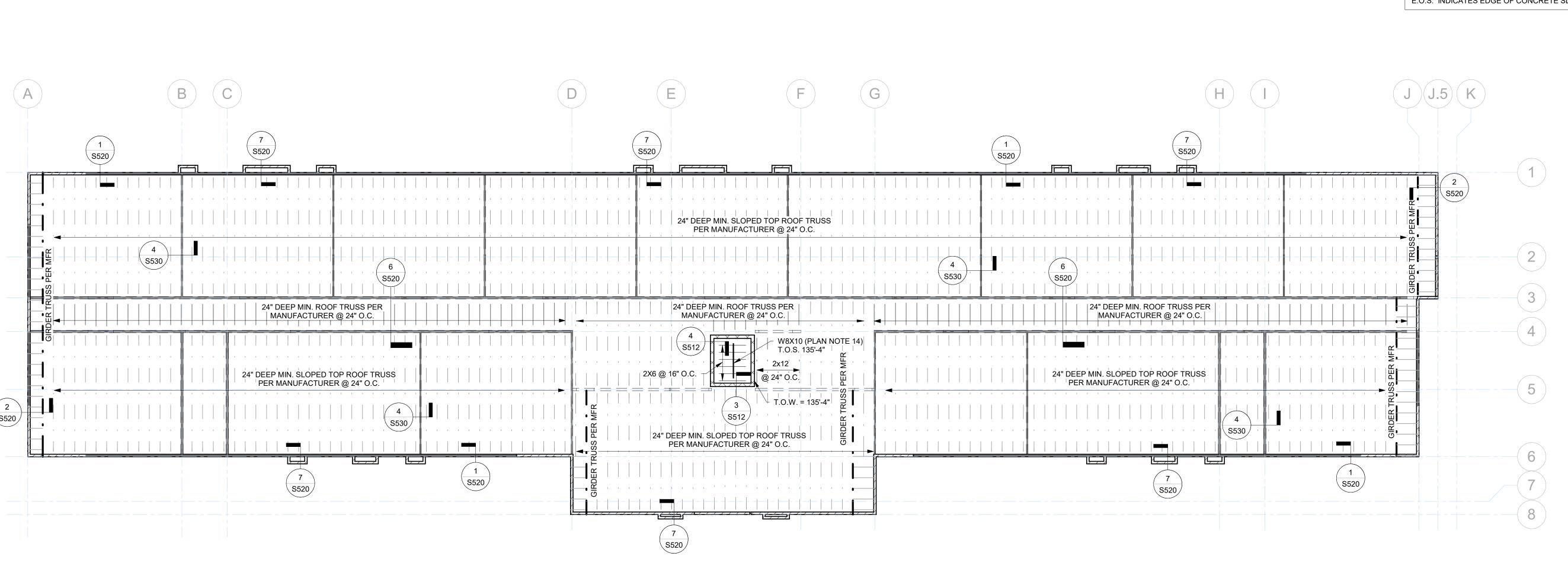
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1 ROOF PLAN \$104 3/32" = 1'-0"



- 1. SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN BENCHMARK ELEVATIONS. FOR REFERENCE ELEVATION, SEE BELOW (VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS):
 - * T.O. SLAB ON GRADE 100'-0" * LEVEL 2 F.F. 110'-5 7/8"
 - * LEVEL 3 F.F. 121'-7 3/4" * ROOF TRUSS BEARING 130'-8 7/8"
- 2. ROOF SHEATHING: 15/32" STRUCTURAL GRADE PLYWOOD FASTENED TO ROOF TRUSSES W/ 10d COMMON NAILS SPACED 6" O.C. AT EDGES, 12" O.C. WITHIN THE FIELD.
- RTU PENETRATIONS TO BE COORDINATED W/ ARCH. & MEP DRAWINGS. 4. REFER TO MANUFACTURER'S GUIDELINES FOR INSTALLATION OF STRAP TIES, HOLD DOWNS AND OTHER
- CONNECTIONS. 5. ALL EXTERIOR LUMBER (POSTS, BEAMS, DECKING, ETC.) TO BE TREATED.
- 6. WOOD ROOF TRUSSES (DESIGN PER MANUFACTURER) ARE SHOWN FOR THE INTENT OF SPAN DIRECTION AND LOAD PATH ONLY. REFER TO GENERAL NOTES FOR DESIGN CRITERIA.
- TRUSS MANUFACTURER TO DESIGN & PROVIDE GIRDER TRUSSES AT ALL OPENINGS AND LOCATIONS SHOWN ON PLAN & SPECIFY HANGERS FOR GIRDERS & SUPPORTED FRAMING WHERE REQUIRED. 8. TRUSS MANUFACTURER TO DESIGN & PROVIDE DRAG BLOCKING AND TRUSSES AS INDICATED ON PLAN
- FOR THE FOLLOWING LOADS: A. DRAG BLOCKING REQUIRED AT SHADED AREAS @ UNIT SEPARATION WALLS TO TRANSFER THE FOLLOWING ASD: WIND: 220PLF
- SEISMIC: 105PLF B. TYP. DRAG BLOCKING REQUIRED AT SHADED AREAS @ EXTERIOR WALLS & CORRIDOR WALLS TO
- TRANSFER THE FOLLOWING ASD LOADS: WIND: 40PLF SEISMIC: 80PLF
- C. DRAG BLOCKING @ SHADED END WALLS TO TRANSFER THE FOLLOWING ASD LOADS: SEISMIC: 90PLF
- 9. ELEVATOR HOIST BEAM IS APPROVED FOR ELEVATORS WITH A MAXIMUM HOIST LOAD REQUIREMENT OF 6.75KIP. FOR ELEVATORS REQUIRING A HOIST BEAM TO SUPPORT LOADS GREATER THAN 6.75KIP CONTACT MCCLURE FOR HOIST BEAM SIZE.

FRAMING PLAN LEGEND

SW?) SHEAR WALL TYPE INDICATED BY

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(F?) INDICATES FOOTING TYPE

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2001 W Broadway Columbia, MO 65203



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No.	Description		Date
		SUE DATE 17/2025	

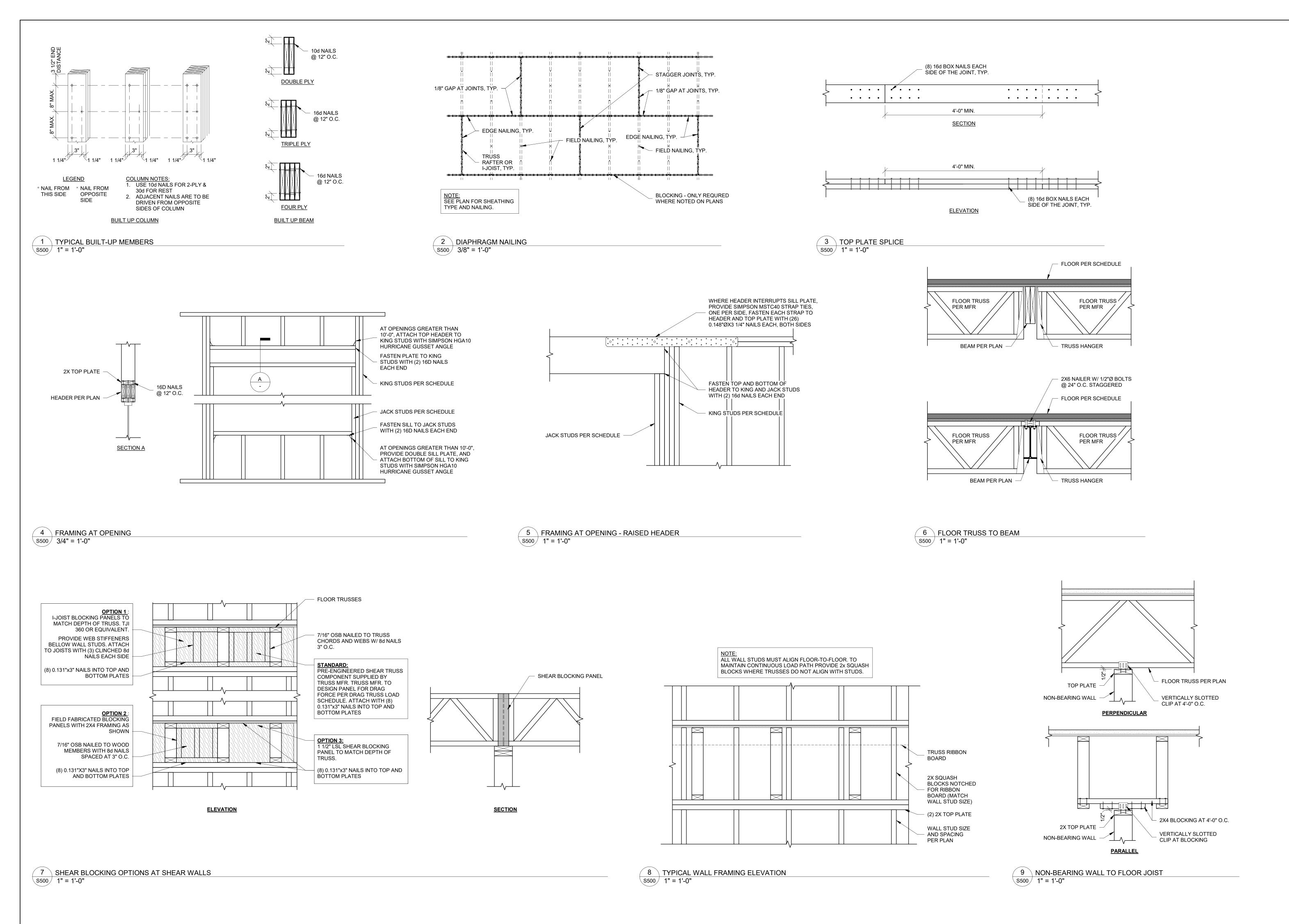
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JONES

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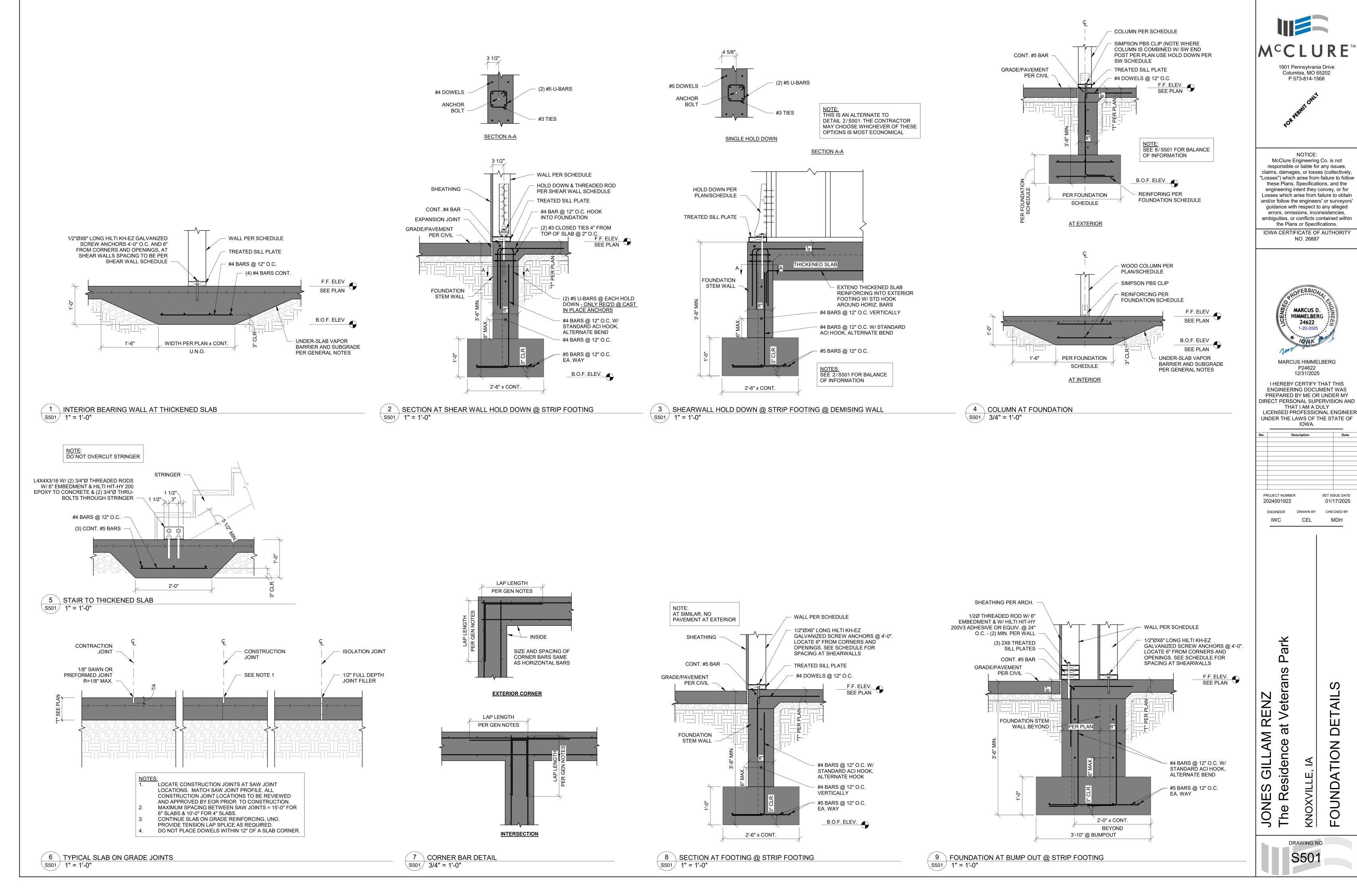
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INTERIOR FOOTING SUPPORTING A STEEL COLUMN W/O PEDESTAL

2 INTERIOR FOOTING SUPPORTING A STEEL COLUMN 1" = 1'-0"

9 1/4" T.O. WALL & PEDESTAL = 99'-4" (4) #5 BARS VERTICAL — #4 CLOSED TIES @ 10" O.C., DOUBLE AT TOP COLUMN PER SCHEDULE -BASE PLATE & ANCHOR BOLTS ISOLATION JOINT PER DETAILS ON SHEET S510 1 1/2" MIN. NON-SHRINK GROUT PAVEMENT PER CIVIL F.F. ELEV.

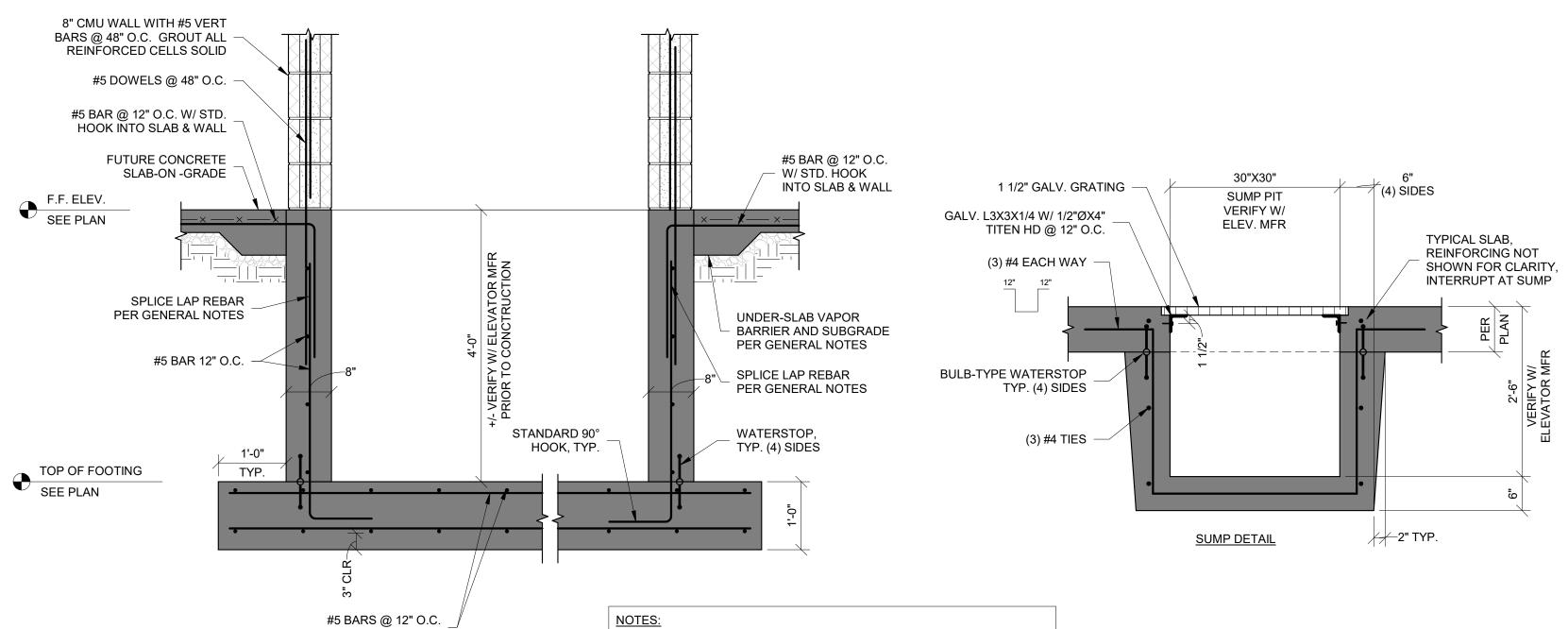
SEE PLAN SEE PEDESTAL DETAILS FOR SIZE & REINFORCING REINFORCING PER FOOTING SCHEDULE -B.O.F. ELEV.

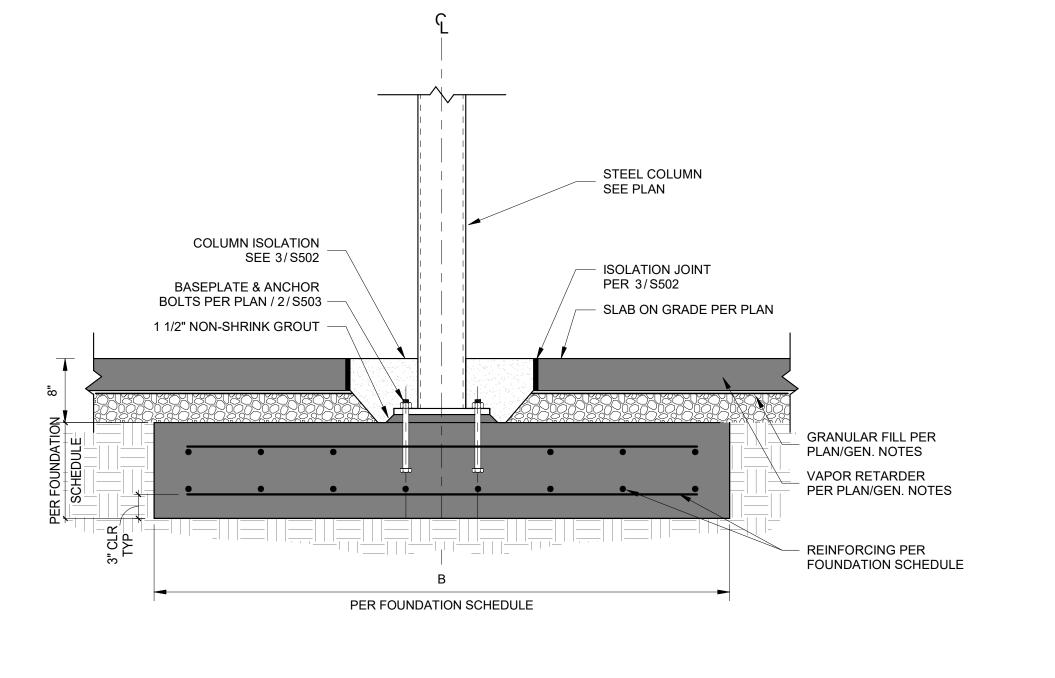
SEE PLAN

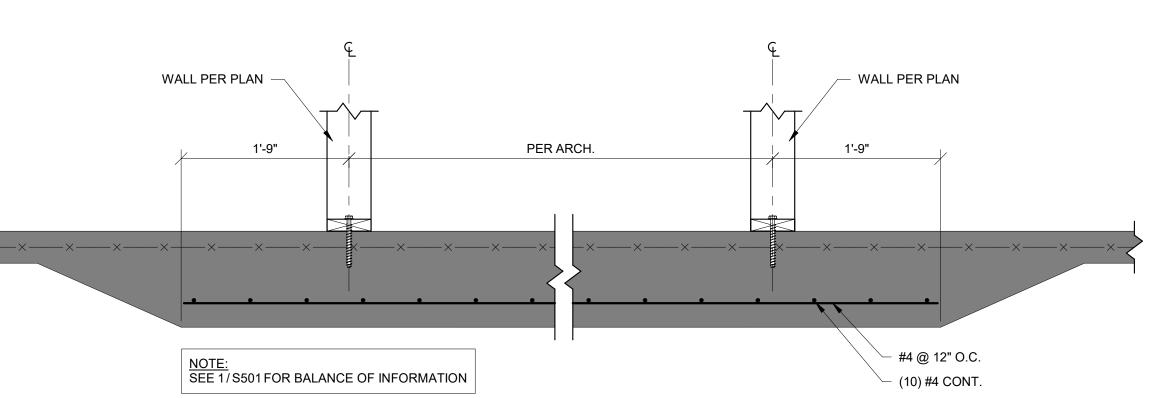
PER FOOTING SCHEDULE

4 STEEL COLUMN AT PEDESTAL S502 1" = 1'-0"

PER ARCH. 1'-9" #4 @ 12" O.C.







5 THICKENED SLAB @ CORRIDOR SECTION S502 1" = 1'-0"

CONCRETE INFILL - (1) #4 MID DEPTH OF SLAB, TYP. CONSTRUC TION OR SAW JOINT ISOLATION JOINT CONSTRUCTIO N OR SAW JOINT CONCRETE INFILL (1) #4 MID DEPTH OF

EXTERIOR

- ISOLATION JÖINT

3 SLAB ON GRADE ISOLATION JOINT AT COLUMNS 3/4" = 1'-0"

1 ELEVATOR PIT DETAIL 3/4" = 1'-0"

DRAWING NO. S502

DE

1901 Pennsylvania Drive Columbia, MO 65202 P 573-814-1568

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HIMMELBERG 24622

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SET ISSUE DATE

01/17/2025

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CEL

PROJECT NUMBER

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RENZ

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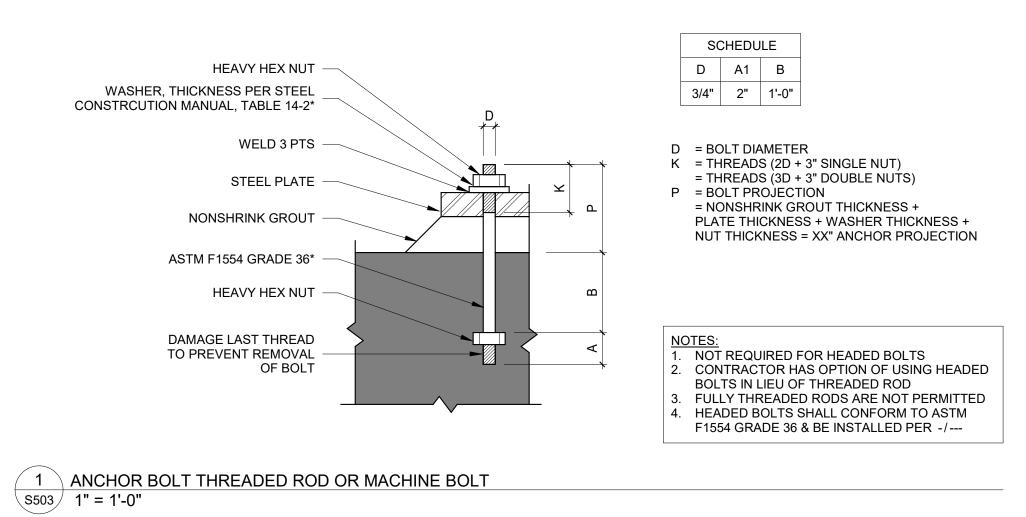
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		SUE DATE 17/2025				

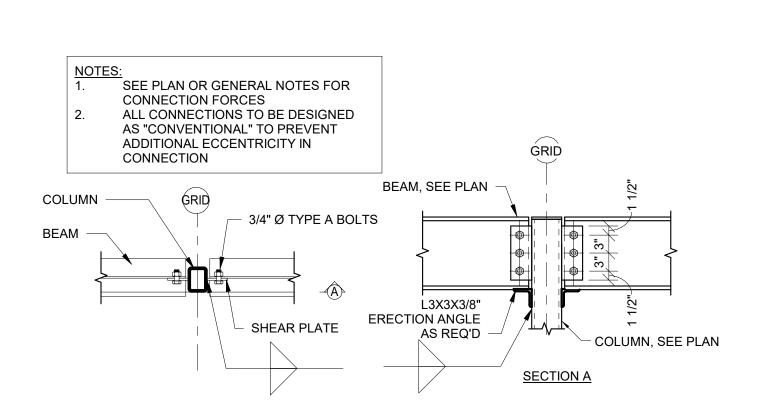
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DETAIL

JONES GILLAM

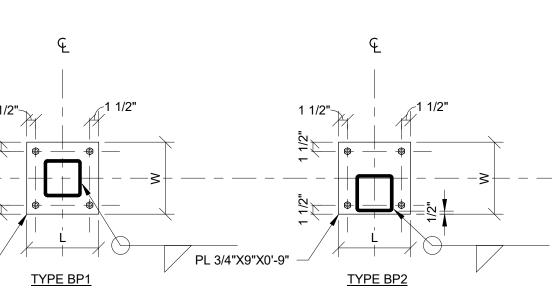
GENERAL DRAWING NO. S503

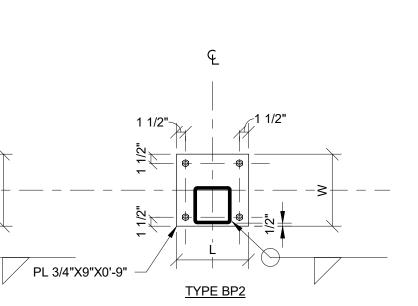


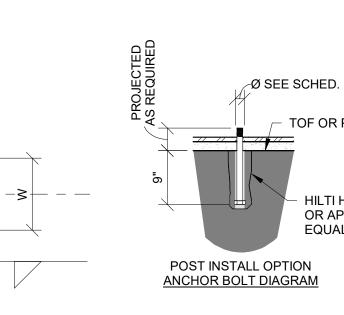


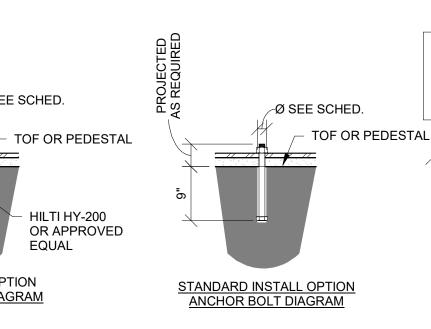


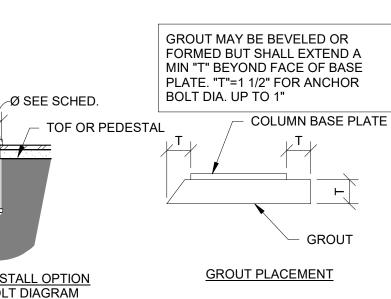
1 1/2" 1 1/2" PL 3/4"X9"X0'-9" -











1. SIZE WELDS PER AISC MIN FILLET REQUIRMENTS

ASTM A307 MAY BE SUBMITED FOR 3/4"Ø ANCHOR BOLTS

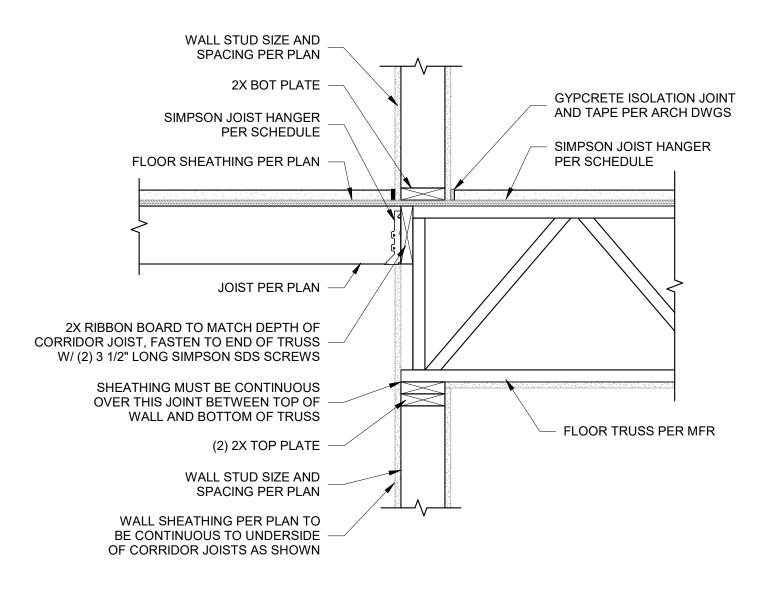
2. ANCHOR BOLTS WITH FORGED HEADS MEETING THE REQUIREMENTS OF

HILTI HY-200

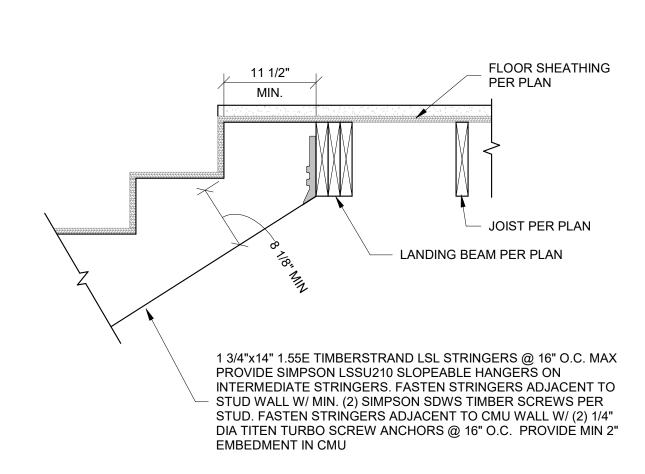
EQUAL

OR APPROVED

2 COLUMN BASE PLATE \$503 3/4" = 1'-0"



3 FRAMING AT INTERIOR BEARING WALL (NON-SHEAR)



2" MAX.

WALL STUD SIZE AND

SPACING PER PLAN

FINISH PER ARCH

MATCH JOIST SIZE

WALL SHEATHING

(2) 2X TOP PLATE

WALL STUD SIZE AND

\S510 / 1" = 1'-0"

SPACING PER PLAN

RIM JOIST TO

PER PLAN

/ $\,$ 4 $\,$ $\,$ JOIST BEARING AT EXTERIOR WALL

2X BOTTOM PLATE

NOTES/SCHEDULE

JOIST PER PLAN

JOIST SIZE

BLOCKING TO MATCH

GYPCRETE ISOLATION JOINT

AND TAPE PER ARCH DWGS

FLOOR SHEATHING PER PLAN



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MARCUS HIMMELBERG P24622 12/31/2025

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LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

NO.		Description		Date
	-			
Ρ	ROJECT NUMB	ER	SET IS	SUE DATE
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CEL MDH

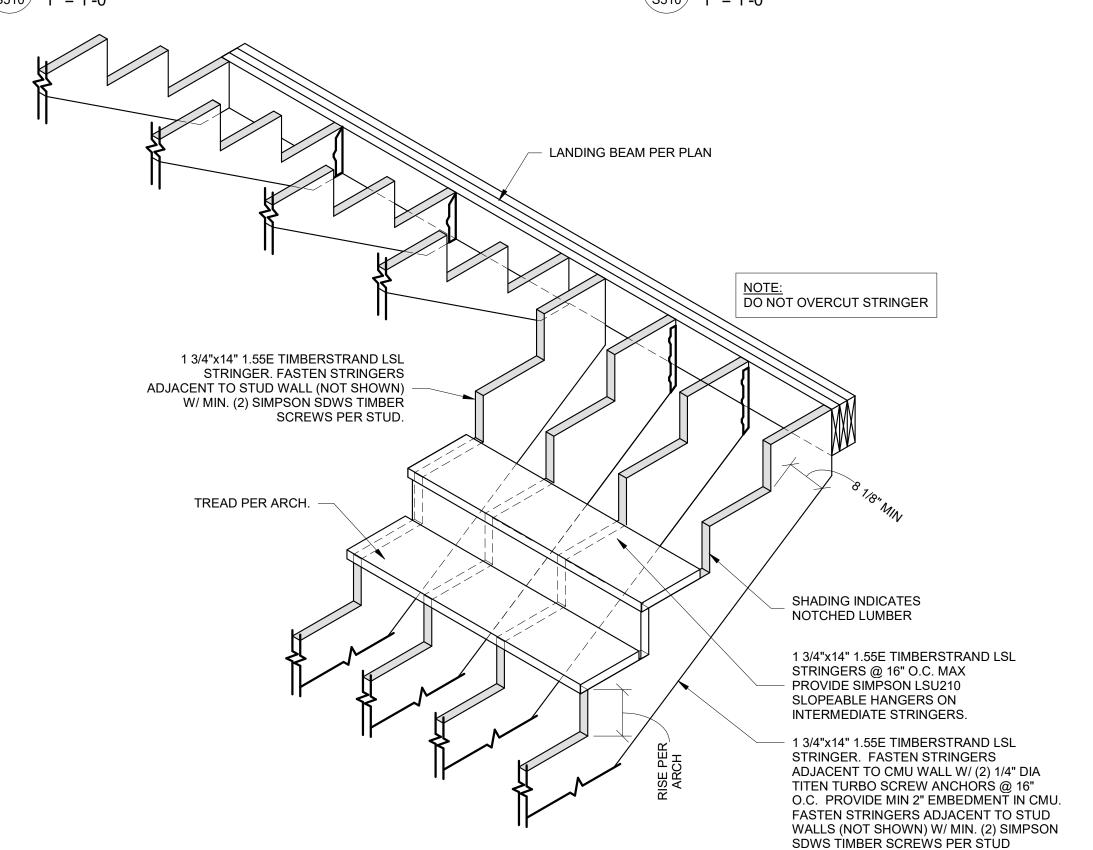
RENZ

AM

JONE

sid

DRAWING NO. S510



9 WOOD STAIR ISOMETRIC

S510 3/4" = 1'-0"



WALL STUD SIZE AND

SPACING PER PLAN

2X BOTTOM PLATE

NOTES/SCHEDULE -

(2) 2X TOP PLATE

WALL STUD SIZE AND

S510 1" = 1'-0"

SPACING PER PLAN

FLOOR SHEATHING PER PLAN

GYPCRETE ISOLATION JOINT

AND TAPE PER ARCH DWGS

CONT MIN 2x6 RIBBON

FLOOR TRUSS PER MFR

MATCH WALL STUD SIZE

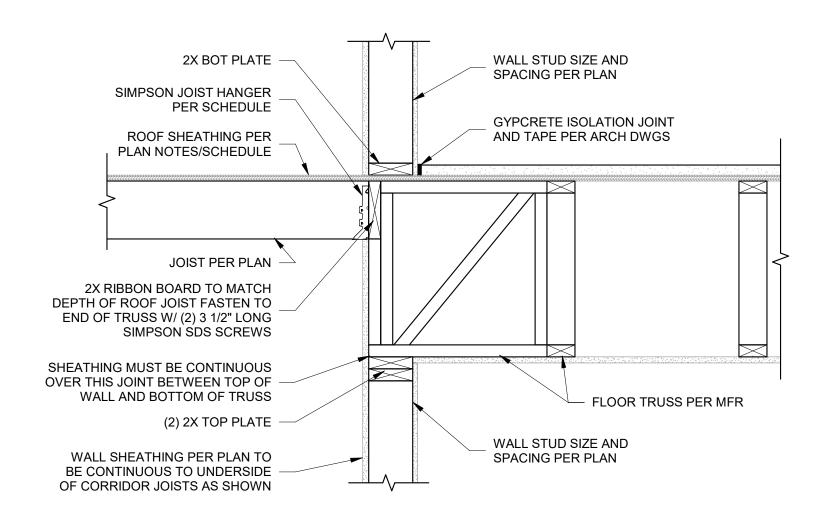
2X SQUASH BLOCKING WHERE

FLOOR TRUSSES DO NOT ALIGN

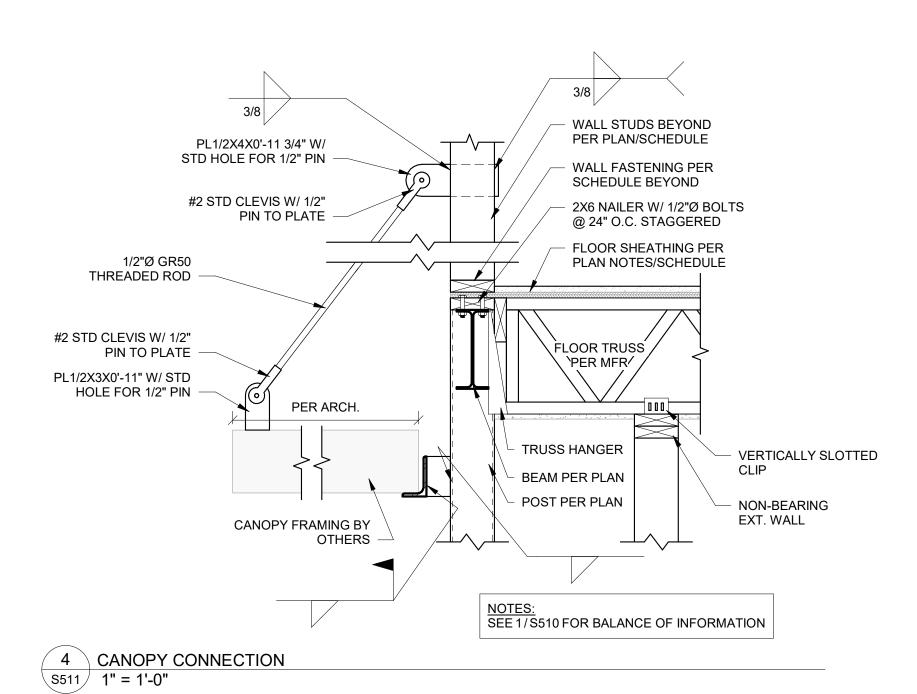
WITH STUDS ABOVE AND BELOW.

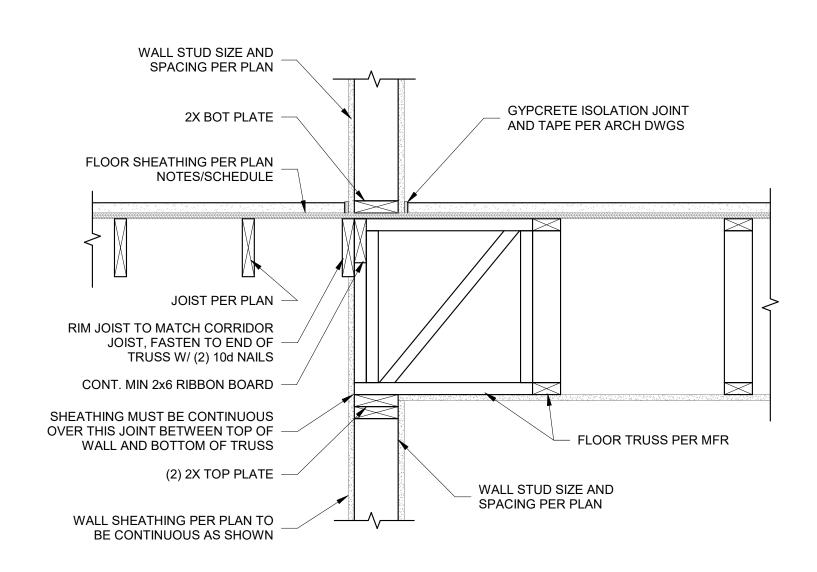
BOARD

8 STRINGER TO LANDING BEAM SECTION

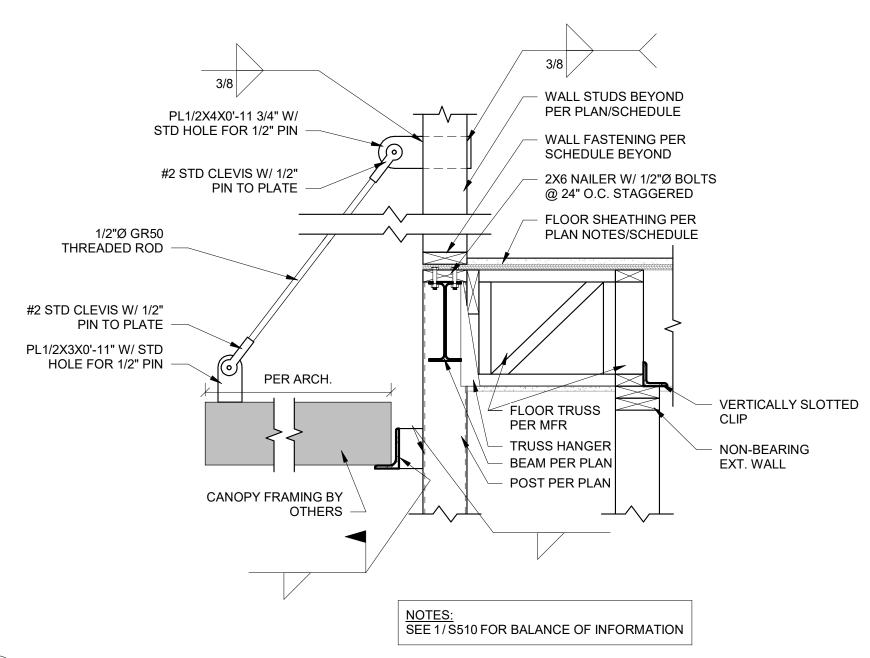


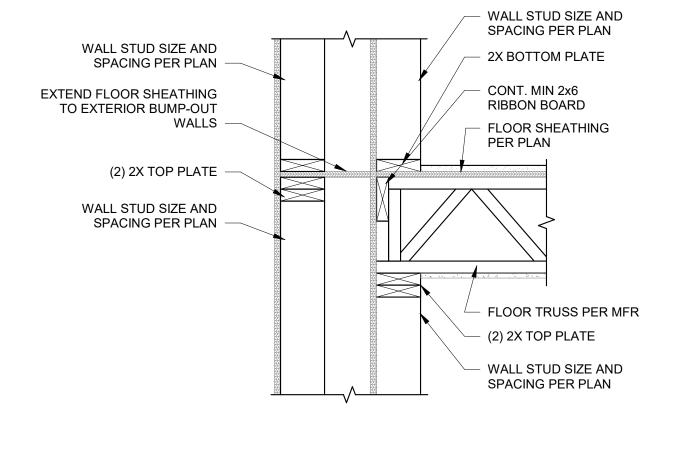
1 FRAMING AT LOW ROOF S511 1" = 1'-0"



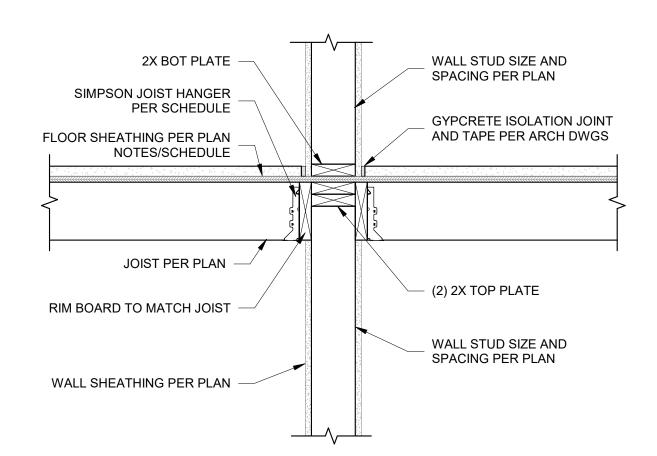


2 FRAMING AT INTERIOR WALL S511 1" = 1'-0"

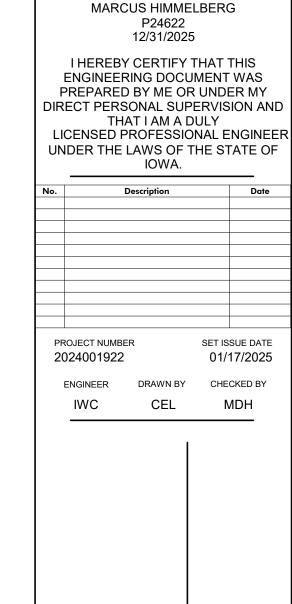




(3) FLOOR FRAMING AT BUMP OUT S511 1" = 1'-0"



6 2X JOISTS BEARING AT INTERIOR 1" = 1'-0"



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the Plans or Specifications.

ambiguities, or conflicts contained within

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NO. 26887

HIMMELBERG 24622

RENZ GILLAM siden JONES

FRAMING DRAWING NO. S511

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MARCUS D. HIMMELBERG 24622 MARCUS HIMMELBERG

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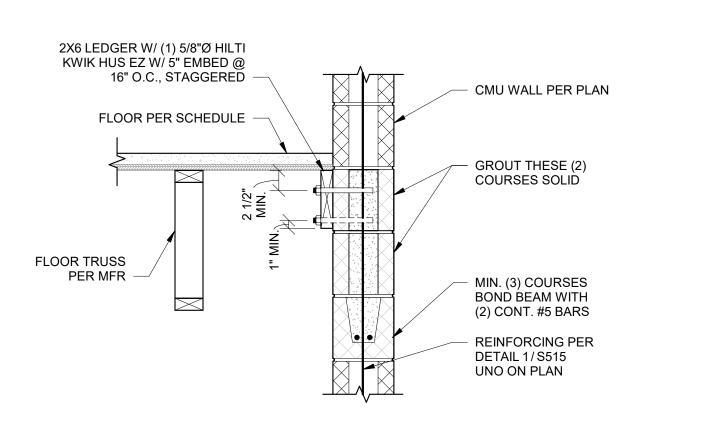
LICENSED PROFESSIONAL ENGINEER

UNDER THE LAWS OF THE STATE OF IOWA. Description

No.		Description		Date
PF	ROJECT NUMB	BER	SET IS	SUE DATE
20	024001922	2	01/	17/2025
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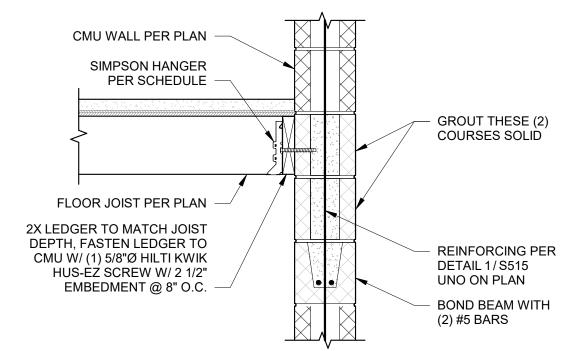
JONES GILLAM RENZ The Residence at Veter

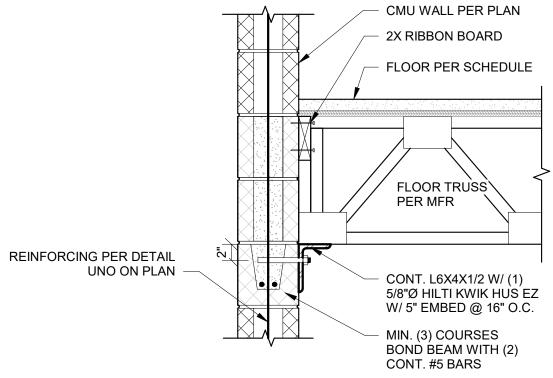
FRAMING DETAILS DRAWING NO. S512

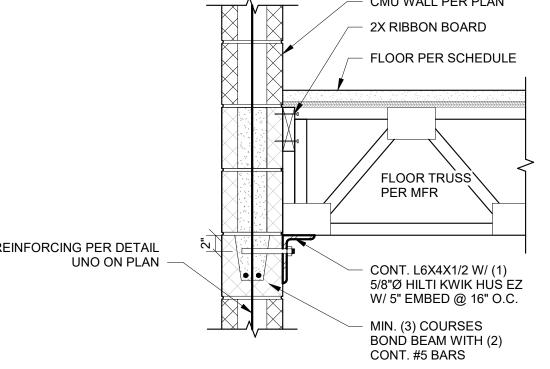


1 FLOOR TRUSS PARALLEL TO CMU

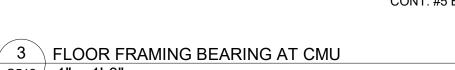
S512 1" = 1'-0"

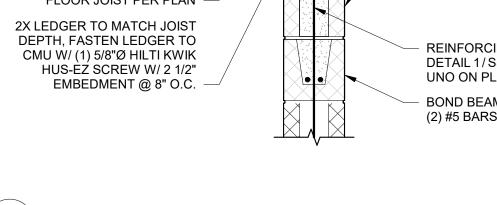






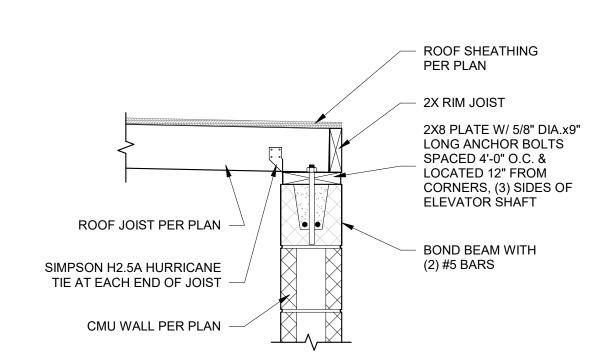




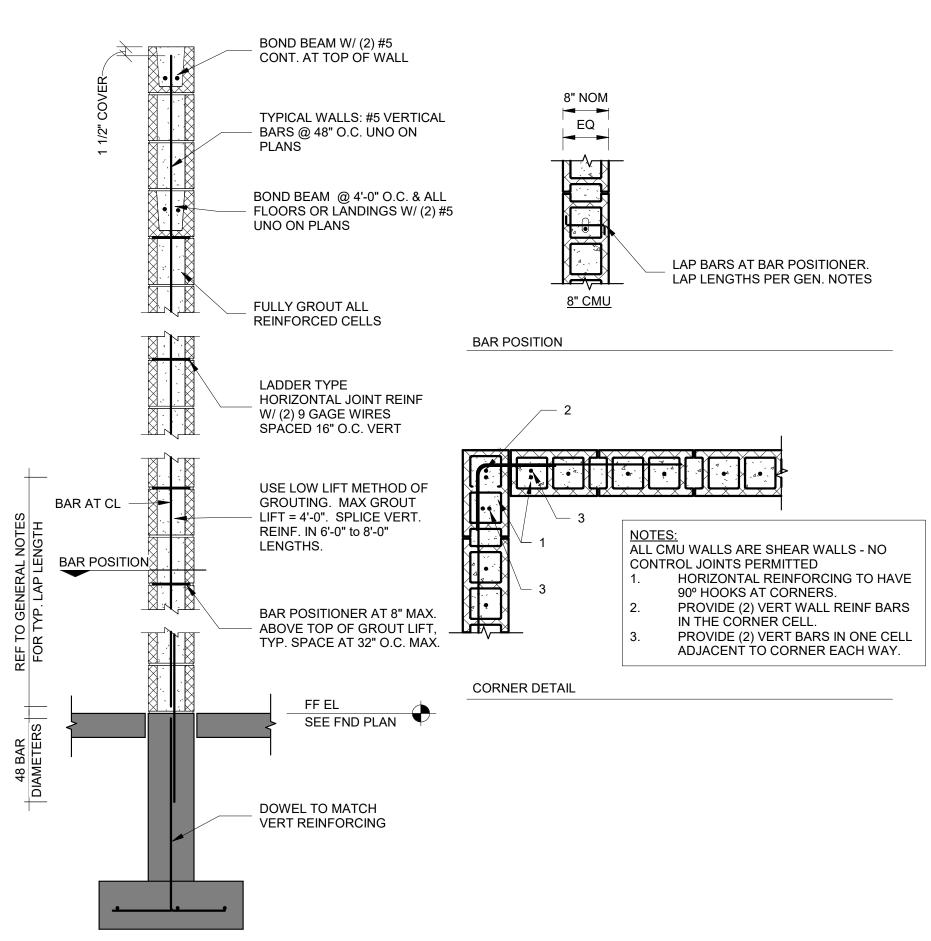




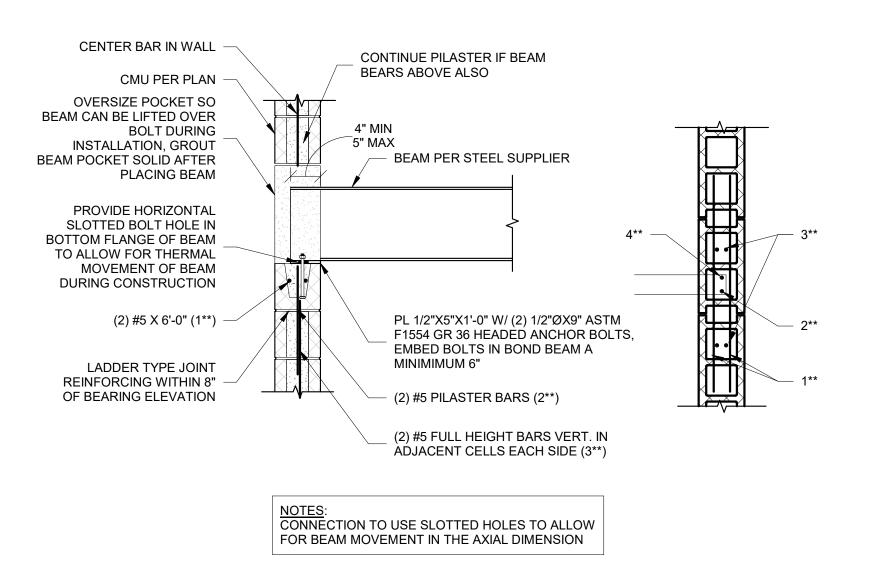
3 FLOOR FRAMING BEARING AT CMU S512 1" = 1'-0"



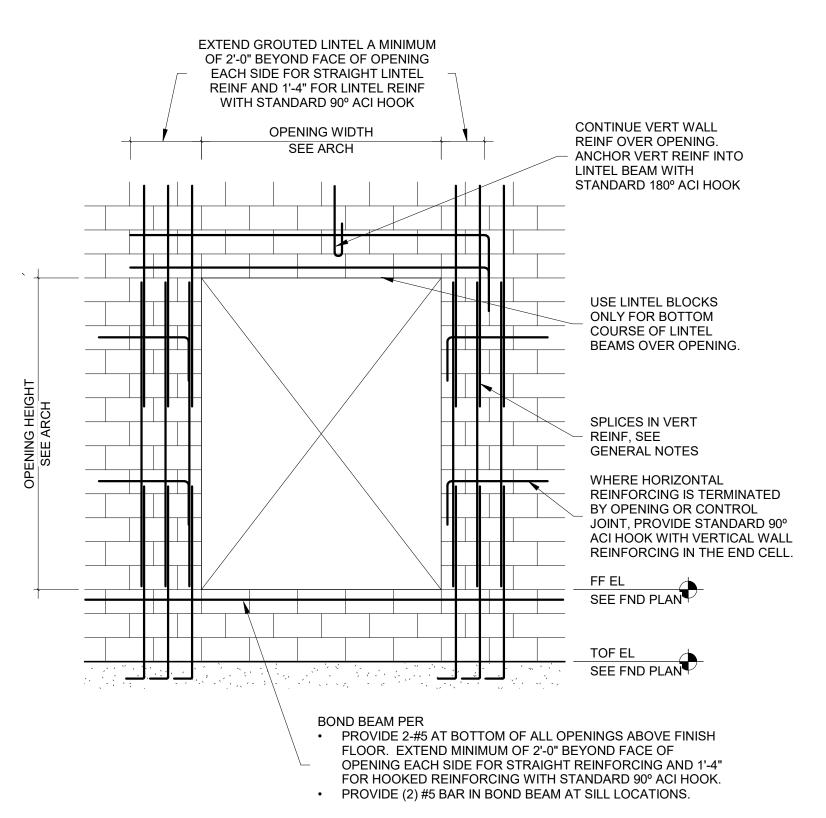
4 ROOF JOIST BEARING ON CMU S512 1" = 1'-0"



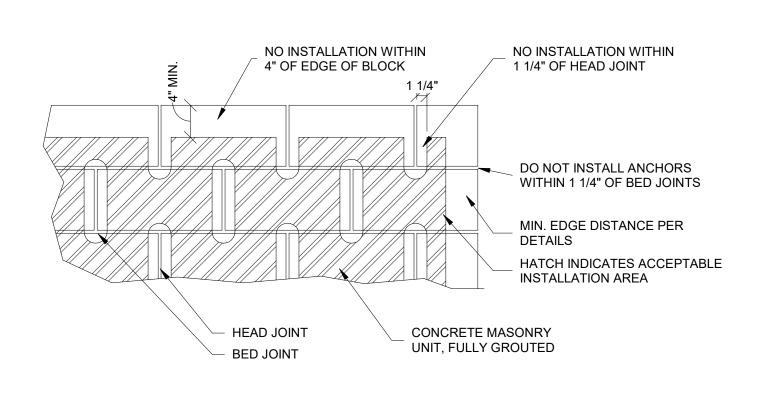




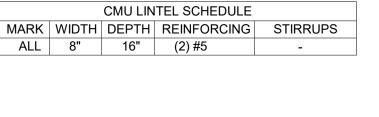
4 BEAM CONNECTION TO MASONRY - MID WALL \S515 | 3/4" = 1'-0"

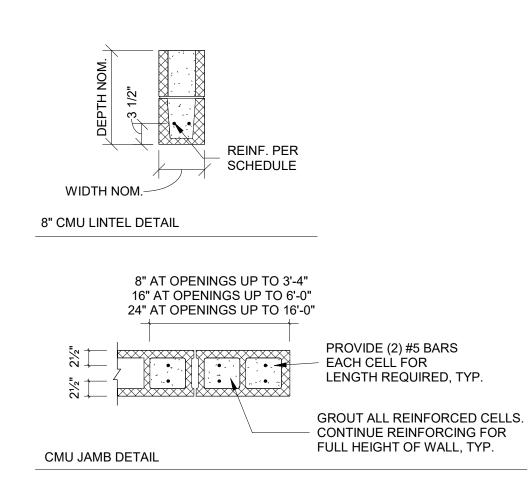


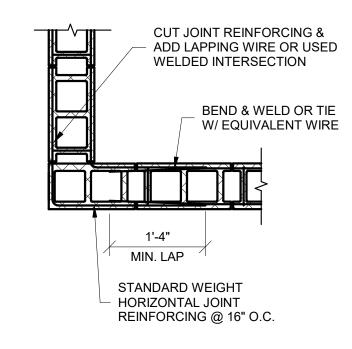
	_	
	2	TYPICAL MASONRY OPENING DIAGRAM & SCHEDULE
S	515 /	3/4" = 1'-0"

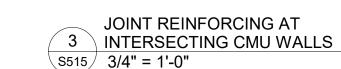


5 ACCEPTABLE INSTALLATION LOCATIONS FOR ANCHORS IN CMU \S515 \ 1" = 1'-0"











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lo.		Date		
PROJECT NUMBER 2024001922			SET ISSUE DATE 01/17/2025	
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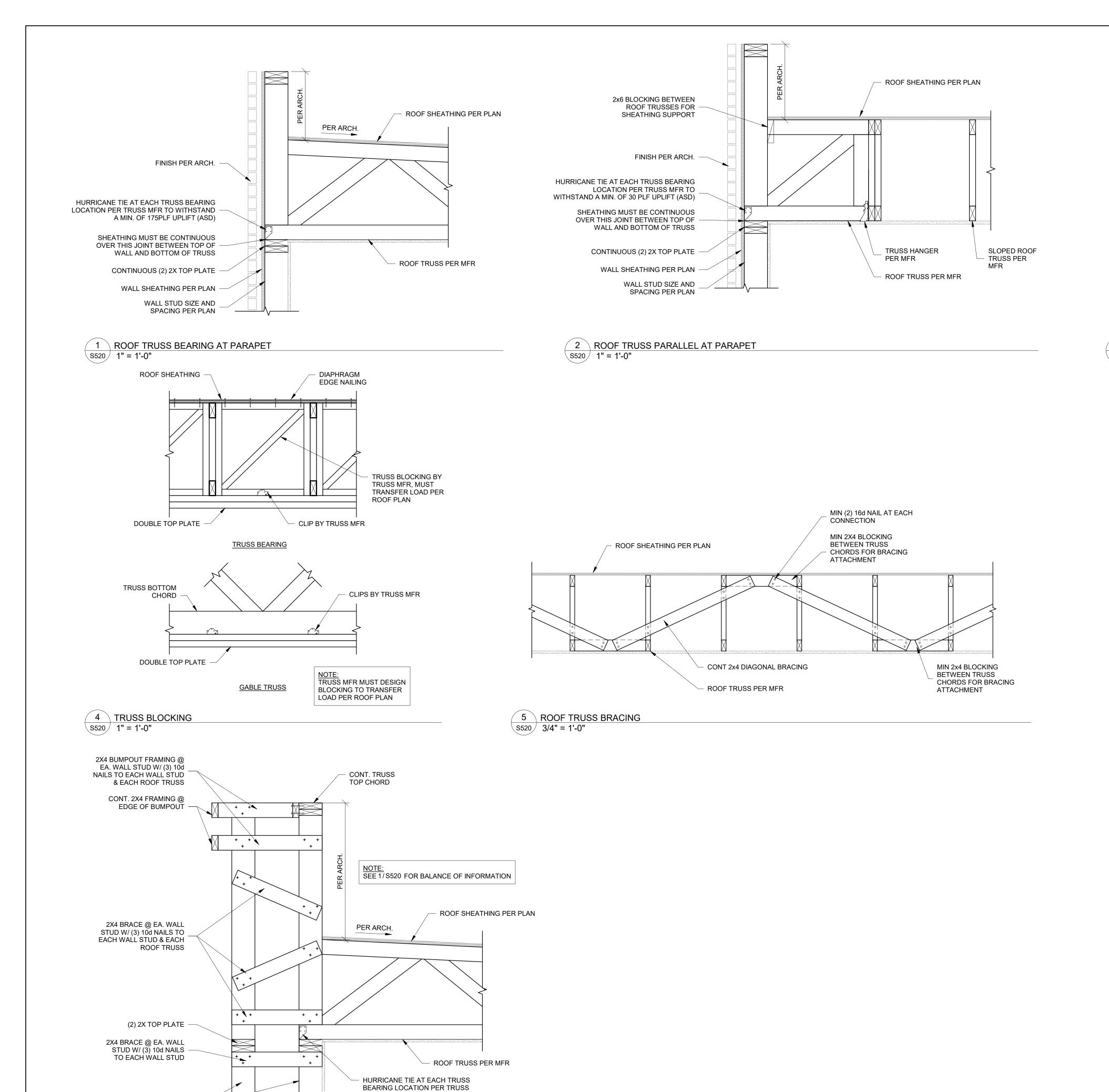
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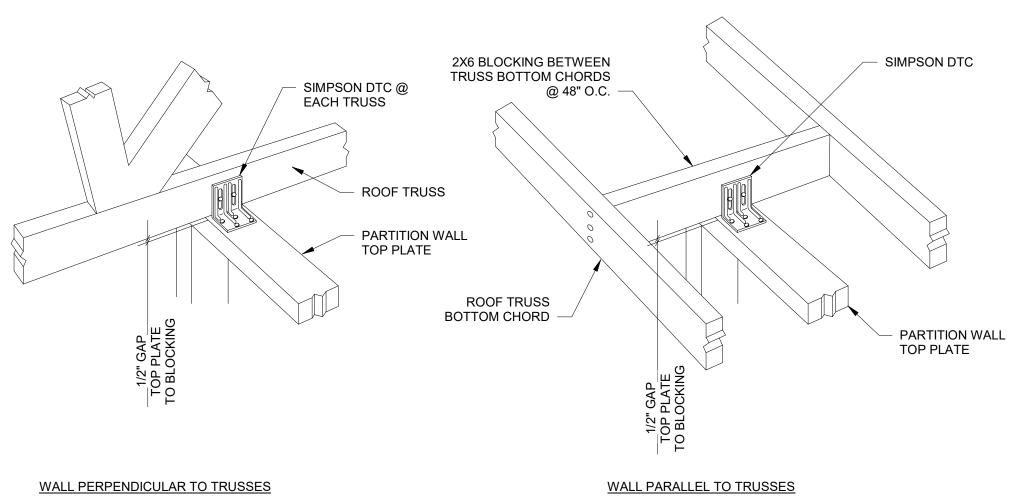
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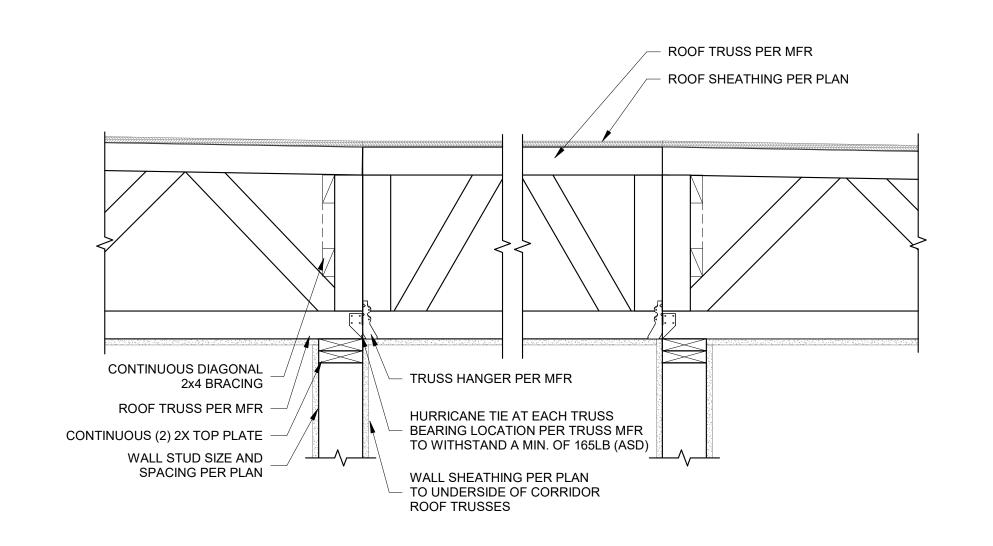


MFR TO WITHSTAND A MIN. OF

175PLF UPLIFT (ASD)



PARTITION WALL AT ROOF TRUSS S520 1" = 1'-0"



6 ROOF FRAMING SECTION AT CORRIDOR ROOF S520 1" = 1'-0"





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PROJECT NUMBER SET ISSUE DATE								
20	17/2025							
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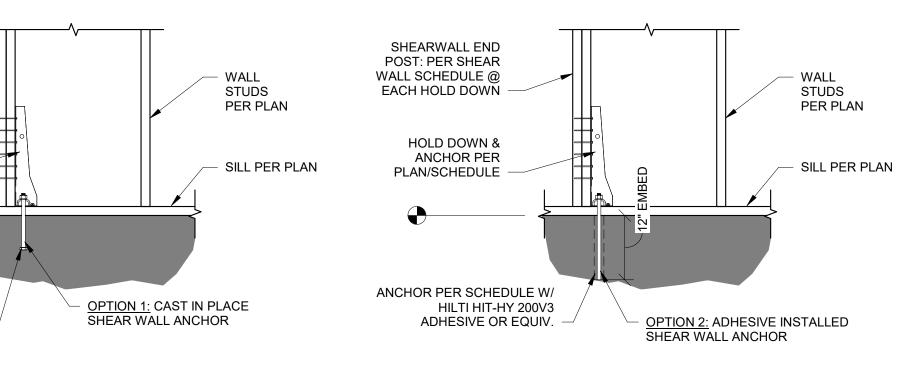
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DRAWING NO. S520

WALL STUD SIZE AND SPACING PER PLAN



RIGID INSULATION PER ARCH.

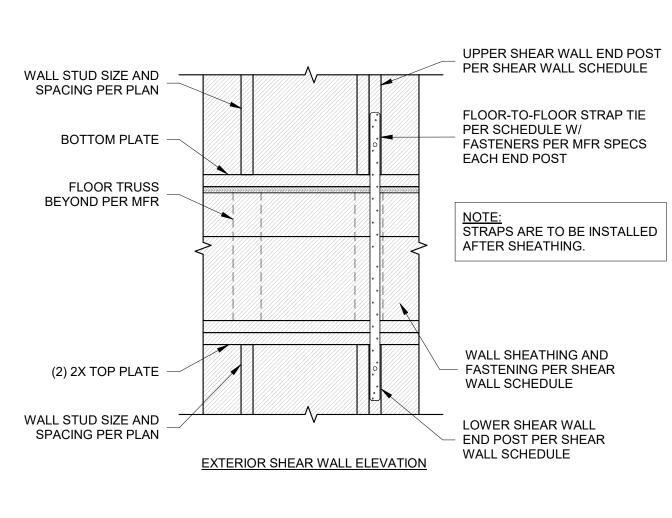
ROOF SHEATHING PER PLAN

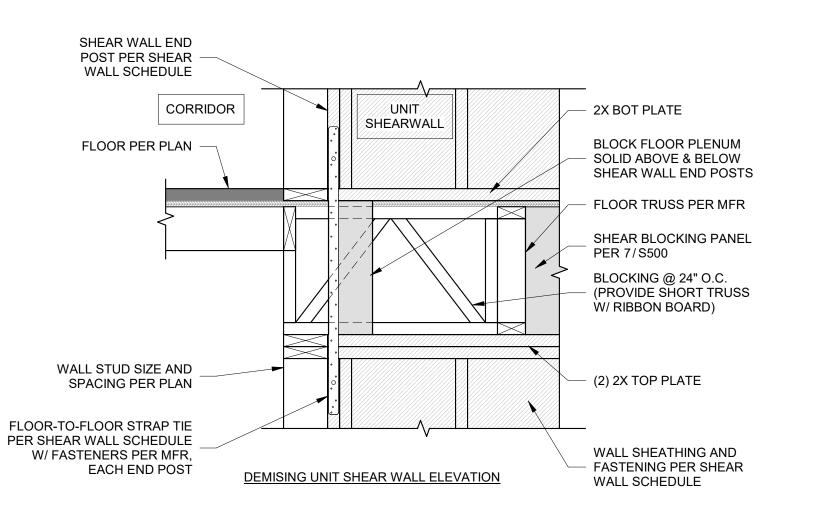
SIMPSON A33 ANGLE @ 24" O.C.

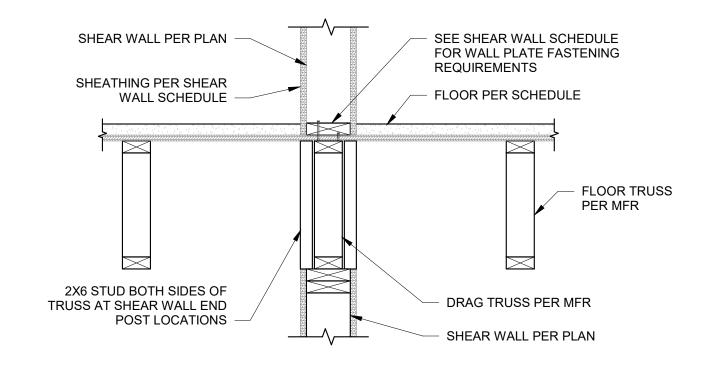
FASTEN TO TRUSS AND TOP PLATE

W/ (4) 0.148" x 3" NAILS EACH LEG

ROOF TRUSS PER MFR





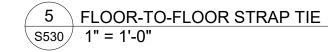


4 ROOF DRAG TRUSS SECTION AT SHEAR WALL S530 1" = 1'-0"

ROOF TRUSS PER MFR

(2) 2X TOP PLATE

WALL STUD SIZE AND SPACING PER PLAN







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