

GENERAL NOTES - STRUCTURAL

1. General Information

- A. The contractor shall verify dimensions and conditions before construction and notify the engineer of any discrepancies, inconsistencies, or difficulties affecting the work before proceeding.
- B. The contractor shall coordinate all disciplines, verifying size and location of all openings, whether shown on structural drawings or not, as called for on architectural, mechanical, or electrical drawings. In the case of work in an existing building the contractor shall scan existing structure to locate all rebar in the area of the new construction using ground penetrating radar and notify the engineer of record for review prior to cutting/cutting. Conflicts, inconsistencies, or other difficulties affecting structural work shall be called to the architect or engineer's attention for direction before proceeding.
- C. All design and construction work for this project shall conform to the requirements of the following governing design codes:
- 1) International Building Code (IBC 2018) as amended by the city of Lee's Summit, Missouri
 - 2) Minimum Design Loads for Buildings and Other Structures (ASCE7-16)
 - 3) Building Code Requirements for Structural Concrete (ACI 318-14)
 - 4) North American Specification for the Design of Cold-Formed Steel Structural Members (AISII 500-07/51-1)
 - 5) National Design Specification (NDS) for Wood Construction with 2015 Supplements (ANSI/AWC NDS-2015)
 - 6) Special Design Provisions for Wind and Seismic (AWC SDPWS-2015)
- D. These drawings are for this specific project and no other use is authorized.

2. Structural Load Design Criteria

- A. Dead Load:
- | | |
|------------------|----------|
| Deck Floors | = 35 psf |
| Apartment Floors | = 35 psf |
| Roofs | = 20 psf |
| Stairs | = 40 psf |
- B. Live Load:
- | | |
|----------------------------------|-----------|
| Public Rooms | = 100 psf |
| Stairs | = 100 psf |
| Apartment Floors (Private Rooms) | = 40 psf |
| Corridors | = 100 psf |
| Storage Areas | = 125 psf |
| Decks/Balconies (Private) | = 60 psf |
| Decks/Balconies (Public) | = 100 psf |
| Roofs | = 20 psf |
- C. Snow:
- $P_g = 20 \text{ psf}$, $C_e = 1.0$
 $P_f = 14 \text{ psf}$, $P_m = 20 \text{ psf}$
 $I_s = 1.0$, $C_d = 1.0$, $C_t = 1.0$
Drift & unbalanced snow loads per ASCE/SEI-10
- D. Lateral Loads:
- 1) Wind (V_{ult}) = 109 mph, Exposure B, $C_{Gf} = +/- 0.18$
Design wind pressures to be used for the design of exterior components and cladding material on the designated zones of walls and roof surfaces shall be per section 30.7 and table 30.7.2 of ASCE/SEI-16. Tabulated pressures shall be multiplied by effective area reduction factors, exposure adjustment factors, and topographic factors where applicable.
- 2) Seismic: $S_s = 0.099$, $S_1 = 0.008$, $I_e = 1.0$
 $S_{DCE} = 0.066$, $S_{DCE1} = 0.008$, $S_{DCE2} = 0.008$
Basic Seismic Force-Resisting System: A, T7-Light-Framed Walls with Shear Panels of All Other Materials
 $R = 2$, $\Omega = 2.12$, $C_d = 1.0$, $C_t = 1.0$
- E. This project is designed in accordance with the most critical effects resulting from the load combinations of section 1605.3 of the 2018 International Building Code.

3. Concrete

- A. All concrete for foundations (walls, grade beams, footings and piers) shall develop minimum ultimate compressive design strength of 3500 psi in 28 days, but not less than 500 pounds of cement shall be used per cubic yard of concrete regardless of strengths obtained, not over 6 gallons of water per 100 pounds of cement and not over 4 inches of slump.
- B. All concrete for garage slab on grade shall develop minimum ultimate compressive design strength of 4000 psi in 28 days, but not less than 525 pounds of cement shall be used per cubic yard of concrete regardless of strengths obtained, not over 5.75 gallons of water per 100 pounds of cement and not over 4 inches of slump. Concrete mix shop drawing shall contain testing data proving concrete design mix shrinkage is less than 0.034% at 28 days when tested according to ASTM C157 (air drying method only).
- C. All concrete for interior floor slabs (except garage slab on grade) shall develop minimum ultimate compressive design strength of 4000 psi in 28 days, but not less than 540 pounds of cement shall be used per cubic yard of concrete regardless of strengths obtained, not over 5.40 gallons of water per 100 pounds of cement and not over 4 inches of slump. Concrete mix shop drawing shall contain testing data proving concrete design mix shrinkage is less than 0.034% at 28 days when tested according to ASTM C157 (air drying method only).
- D. All concrete for exterior footwall shall have a minimum design compressive strength of 4500 psi in 28 days, with not less than 560 pounds of cement per cubic yard of concrete, not over 5 gallons of water per 100 pounds of cement, with 6% +/- 1% air entrainment, and a maximum of 4 inches of slump.
- E. The preceding minimum mix requirements may have water-reducing admixtures conforming to ASTM C494 added to the mix at manufacturer's dosage rates for improved workability.
- F. The preceding minimum mix requirements may have up to 15% maximum of the cement content replaced with an approved ASTM C618 Class C fly ash provided the total minimum cementitious content is not reduced.
- G. All interior concrete slabs on grade shall be placed over 15 mil, Class A Vapor Barrier per ASTM E1745 with less than 0.01 perms, tested after mandatory conditioning. All joints shall be lapped and sealed per manufacturer's recommendations. All penetrations, as well as damaged vapor barrier material shall also be sealed per manufacturer's recommendation prior to concrete placement. Install barrier per manufacturer recommended details at all discontinuous edges (at interior columns, exterior edge of slab, etc.) to ensure terms of warranty are followed. The vapor barrier shall be placed over free-draining granular material as prescribed by the project soils report.
- H. Basement foundation walls shall be braced at the base and top of wall by the contractor until the slab on grade at the base and the floor framing/slab at the top of wall is complete and the concrete has achieved 75% of the design strength. The contractor is responsible for engineering and design of the wall bracing, if required.
- I. All concrete is reinforced concrete unless specifically called out as unreinforced. Reinforce all concrete not otherwise shown with same steel as in similar sections or areas. Any details not shown shall be detailed per ACI 318 and meet requirements of ACI 318, current editions.
- J. Control joints in dirt formed slabs shall be shown on plans. Where not shown, limit controlled areas to not more than 144 square feet, or 12 feet on any side. Slab panel size ratio shall not exceed 1 1/2 to 1.
- K. Contractor shall verify that all concrete inserts, reinforcing and embedded items are correctly located and rigidly secured prior to concrete placement.
- L. Construction joints in beams, slabs, and grade beams shall occur at midspan (middle third) unless noted otherwise. Provide 2 x 4 horizontal keys at construction joints for shear transfer.
- M. No aluminum items shall be embedded in any concrete.

4. Reinforcing Steel

- A. All reinforcing steel shall conform to the requirements of ASTM A615 or A706 grade 60 steel. Welded plain wire fabric shall be supplied in sheets and conform to the requirements of ASTM A188.
- B. Clear minimum coverage of concrete over reinforcing steel shall be as follows:
- 1) Concrete placed against earth: 3"
 - 2) Formed concrete against earth: 2"
 - 3) Slabs: 1"
 - 4) Beams or Columns: 1-1/2"
 - 5) Other: 2"
- C. All coverage shall be nominal bar diameter minimum.
- D. All dowels shall be the same size and spacing as adjoining main bars (splice lap 48 bar diameters or 24" minimum unless noted otherwise).
- E. At corners of all walls, beams, and grade beams supply corner bars (minimum 2-0" in each direction or 48 bar diameters) in outside face of wall, matching size and spacing of horizontal bars. Where there are no vertical bars in outside face of wall, supply 3 #4 vertical support bars for corner bars.
- F. Bars marked continuous and all vertical steel shall be lapped 48 bar diameters (2-0" minimum) at splices and embedments, unless shown otherwise. Splice lap bars near midspan and splice bottom bars over supports, unless noted otherwise.
- G. At all holes in concrete walls and slabs, add 2 #5 bars (opening dimension plus 86 diameters long) at each of four sides and add 2 #5 x 5-0" diagonally at each of four corners of hole. Openings in 8" thick walls are reinforced similar, but with #5 instead of 2 #5, respectively.
- H. Unless otherwise covered on architectural plans or specifications, vertical control joints in concrete wall shall be spaced at a maximum of 20'-0" on center and coordinated with the architect. Every other horizontal wall reinforcing bar shall be discontinuous at control joints except heavy top and bottom bars unless noted otherwise. Provide base seal waterproof sheet number 772 (by Greenstreak Inc. or approved equal) on dirt face side of wall at all walls below grade.
- I. Accessories shall be as specified in latest edition of the ACI Detailing Handbook and the concrete Reinforcing Steel Institute Design Handbook. Maximum accessory spacing shall be 4'-0" on center, and all accessories on exposed surfaces are to have plastic coated feet.
- J. All slabs and stairs not shown otherwise shall be 6" thick with #4 bars at 12" on center each way. All exterior porches and stoops not otherwise detailed may be constructed in any standard manner, solid or hollow, but must be reinforced with #4 bars at 12" on center each way minimum. Porches shall be dowelled to adjacent walls or grade beams with #4 bars at 12" on center, hooked or embedded 48 diameters into both members. Slope porches 10° per foot for drainage unless noted otherwise.
- K. Allow 1 bn of reinforcing bars #4 or larger to be used as directed in the field for special conditions by the engineer of record (labor for placing same to be included).

5. Structural Steel

- A. All structural steel beams and columns shall be ASTM A992, grade 50 steel and all miscellaneous steel shall be ASTM A572, grade 50. Hollow Structural Sections (HSS) shall be ASTM A500, grade B. Fabrication and erection shall be in accordance with AISC 303-15 "Code of Standard Practice for Steel Buildings and Bridges" in the 13th Edition of the AISC Steel Construction Manual.
- B. All welding shall conform to the recommendations of the AWS.
- C. All exterior steel and steel connections and steel members shall be hot-dip galvanized.
- D. All bolts not otherwise specified shall be 3/4" diameter high strength (ASTM A325-N). All bolts shall be fully pretensioned. All beam connections shall be designed per the AISC Manual of Steel Construction "Framed Beam Connections" for the indicated reactions or at least 0.3 x beam total shear capacity, Vn/Omega, shown in the maximum total uniform load tables, whichever is greater; and, shall account for the reaction of the bolt line is more than 2" from the center of the support. All connections must be two bolt minimum.
- E. All anchor bolts shall be 3/4" diameter, ASTM F1554, Grade 36 unless noted otherwise. Washers of minimum size and thickness for the given anchor diameter in Table 14-2 of the AISC Steel Construction Manual shall be provided at every column anchor bolt. Washers shall have a standard size hole for the anchor bolt.

6. Post Installed Anchors

- A. Post-installed anchors shall be used only where specified on the drawings unless approved in writing by the engineer of record. See drawings for anchor diameter, spacing and embedment. Performance values of the anchors shall be obtained for specified products using appropriate design procedures and anchor standards as required by the governing building code. Anchors installed in concrete shall have an ICC-ES Evaluation Service Report. Special inspection is required for all post installed anchors. The contractor shall coordinate an on-site meeting with the post installed anchor manufacturer and the engineer of record at the construction team on the anchor installation guidelines and requirements.
- B. Mechanical anchors used in cracked and uncracked concrete shall have been tested and qualified for use in accordance with ACI 308.2 and ICC-ES ECR-10313. All anchors shall be installed per the anchor manufacturer's written instructions.
- C. Adhesive anchors used in cracked and uncracked concrete shall have been tested and qualified for use in accordance with ACI 308.2 and ICC-ES ECR-10313. All anchors shall be installed per the anchor manufacturer's written instructions.
- D. Mechanical anchors used in solid grouted masonry shall have been tested and qualified for use in accordance with ACI 308.2 and ICC-ES ECR-10313. All anchors shall be installed per the anchor manufacturer's written instructions.
- E. Adhesive anchors used in solid grouted masonry shall have been tested and qualified for use in accordance with ACI 308.2 and ICC-ES ECR-10313. All anchors shall be installed per the anchor manufacturer's written instructions.
- F. Anchors used in hollow concrete masonry shall have been tested and qualified in accordance with ICC-ES AC308.2 and ICC-ES ECR-10313. All anchors shall be installed per the anchor manufacturer's written instructions with appropriate screen tubes used for adhesives.

7. Foundations

- A. The soil investigation was prepared by CFS Engineers, the report number is 20-5555 and their telephone number is 913-627-9040.
- B. Spread footings, grade beams, and retaining walls are designed to bear on in-situ clay or engineering soil having a minimum ultimate bearing capacity of 2,000 psf. Retaining walls are designed for an active lateral load of 55 psf equivalent fluid pressure.
- C. Basement walls are designed for an at rest lateral load of 80 psf equivalent fluid pressure. See General Note 3H for wall bracing requirements.
- D. Contractor shall prepare for dewatering at excavations from either surface water or seepage.
- E. All foundation excavations shall be inspected by a qualified soil engineer, approved by the architect and/or structural engineer, prior to placement of steel or concrete. This inspection shall be at the owner's expense.
- F. All concrete in the structural portion retaining the backfill shall have attained its design strength prior to being backfilled.
- G. Moisture content in soils beneath building locations should not be allowed to change after footing excavations and after grading for slabs on grade are completed. If subgrade materials become desiccated or softened by water or other conditions, recompact materials to the density and moisture content specified for engineered fill. Do not place concrete on frozen ground.

8. Timber and Wood Framing

- A. Quality and construction of wood framing members and their fasteners for load supporting ultimate stress not indicated on the drawings shall be in accordance with the International Building Code.
- B. All studs and top and bottom plates shall be Douglas Fir No. 2 grade visually graded lumber with a minimum bending strength of 900 psi minimum and a modulus of elasticity of 1,600,000 psi unless noted otherwise. All joist, truss members, and headers to be No. 2 grade Douglas Fir No. 2 grade visually graded lumber.
- C. Blocking of stud bearing walls and shear walls shall be solid, matching sheathing joints.
- D. Joist blocking and bridging shall be solid wood or cross bridging of either wood or metal.
- E. Wood members and sheathing shall be fastened with number and size of fasteners not less than that set forth in Table 2304.9.1 of the International Building Code. Floor sheathing shall be APA Select-Pine or Select-Fir, 1/2" thick, 48" wide, and nailed with 8d ring shank nails at 8" or 10" centers at 12" on center to all supports. Sheathing of shear walls or roof diaphragms shall be edge nailed with 8d common nails at 12" on center and nailed to intermediate framing members with 8d common nails at 12" on center, unless otherwise noted on the drawings. All floor sheathing shall be installed with 1/8 inch gaps between panel edges and end joints.
- F. All plates shall be 1/2" thick steel or steel beams with 1/2" diameter bolts at 32" on center. All plates in direct contact with concrete or masonry shall be treated lumber.
- G. Joist hangers shall have Uniform Building Code approval and shall be equal to Simpson Strong Tie "LUS" for wood application and "LB" steel weld-on application.
- H. Service condition - dry with moisture content at or below 19% in service.
- I. Laminated veneer lumber (LVL) shall have an allowable flexural stress (Fb) of 2,600 psi (reduced by size factor) and an elastic modulus (E) of 2,000,000 psi.
- J. Parallel Strand Lumber (PSL) shall have an allowable flexural stress (Fb) of 2,900 psi (reduced by size factor) and an elastic modulus (E) of 2,000,000 psi.
- K. Engineered wood trusses shall be designed in accordance with the Truss Plate Institute's national design standard for metal-plate connected wood truss construction (ANSI/TP1 - latest edition). Trusses shall be designed and manufactured by an authorized member of the Wood Truss Council of America (WTCA). Truss design shall conform to specified codes, allowable stress increases, deflection limitations and other applicable criteria of the governing code.
- L. Shop drawings complete erection and fabrication details and calculations (including connections) shall be submitted to the project architect/engineer for review prior to fabrication and/or erection. Such drawings shall bear the seal of a professional engineer, registered in the state of the project location. Shop drawings shall also be submitted to the local government controlling agency when requested by that agency.
- M. All trusses shall be securely braced both during erection and permanently, as indicated on the approved truss design drawings, with TP1's commentary and recommendations for handling, installing and bracing metal-plate connected wood trusses (HIB-31, booklet) and the latest edition of ANSI/TP1-1.
- N. The truss manufacturer shall supply all hardware and fasteners for joining truss members together and fastening truss members to their supports. Metal connector plates shall be manufactured by a member of the Wood Truss Council of America (WTCA) and shall be 20 gauge minimum. Connector plates shall meet or exceed ASTM A653, grade 33, with ASTM A924 galvanized coating designation G60.
- O. Shipment, handling, and erection of trusses shall be by experienced, qualified persons and shall be performed in a manner so as not to endanger life or property. Apparent truss damage shall be reported to the truss manufacturer for evaluation prior to erection. Cutting or alteration of trusses is not permitted.
- P. Contractor shall coordinate truss layout for openings and penetrations required by other trades including for plumbing, HVAC, electrical, roof access hatches, chases, etc.
- Q. Pre-engineered roof truss and Joist design load and deflection criteria are as follows:
- | | |
|---------------------------------|-----------------------|
| Top Chord Dead Load | = 20psf |
| Top Chord Live Load | = Per General Note 2A |
| Bottom Chord Dead Load | = 5psf |
| Allowable Total Load Deflection | = L/360 |
| Allowable Live Load Deflection | = L/480; 1/2" maximum |
- R. Pre-engineered roof truss design load and deflection criteria are as follows:
- | | |
|---------------------------------|---------|
| Top Chord Dead Load | = 15psf |
| Top Chord Live Load | = 20psf |
| Bottom Chord Dead Load | = 10psf |
| Allowable Total Load Deflection | = L/300 |
| Allowable Live Load Deflection | = L/360 |
- Roof trusses shall be designed for wind uplift loads indicated in Building Components & Cladding Wind Load Diagram.

9. Shop Drawing Review

- A. Bob D. Campbell and Company, Inc. will review the General Contractor's (GC) shop drawings and related submittals (as indicated below with respect to the ability of the detailed work, when complete, to be a properly functioning integral element of the overall structural system designed by Bob D. Campbell and Company, Inc.)
- B. Prior to submittal of a shop drawing or any related material to Bob D. Campbell and Company, Inc., the GC shall:
- 1) Review each submission for conformance with the means, methods, techniques, sequences and operations of construction and safety precautions and programs incidental thereto, all of which are the sole responsibility of the GC.
 - 2) Review and approve each submission.
 - 3) Stamp each submission as approved.
- C. Bob D. Campbell and Company, Inc. shall assume that no submission comprises a variation unless the GC advises Bob D. Campbell and Company, Inc. with written documentation.
- D. Bob D. Campbell and Company, Inc. shall review shop drawings and related submittals with comments provided that each submission has met the above requirements. Bob D. Campbell and Company, Inc. shall return without comment unneeded material or submissions without GC approval stamp.
- E. Shop drawings and related material (if any) required are indicated below. Should Bob D. Campbell and Company, Inc. require more than ten (10) working days to perform the review, Bob D. Campbell and Company, Inc. shall so notify the GC.
- 1) Concrete mix designs and material certificates including admixtures and compounds applied to the concrete after placement.
 - 2) Reinforcing steel shop drawings including erection drawings and bending details. Bar list will not be reviewed for correct quantities.
 - 3) Construction and control plans and/or elevations.
 - 4) Miscellaneous anchors shown on the structural drawings.
 - 5) Wood truss design calculations and detailed erection and fabrication drawings. Standard shop drawing details need not be submittal.

10. Statement of Structural Special Inspections

- A. The structural design for this project is based on completion of special inspections during construction in accordance with section 1704 of the International Building Code. The owner shall employ one or more qualified special inspectors to provide special inspections.
- B. The special inspector shall furnish inspection reports to the building official, owner, architect and structural engineer, and any other designated person.
- C. All discrepancies shall be brought to the immediate attention of the contractor for correction, then, if uncorrected, to the proper design authority, building official and structural engineer.
- D. The special inspector shall submit a final signed report stating that the work conforms with the approved plans and specifications and the applicable workmanship provisions of the building code.
- E. The following inspections and tests are required with the frequency (continuous or periodic) as defined within the referenced section or standard listed below. The General Contractor shall provide notification to the inspector when items requiring inspection are ready to be inspected and provide access for those inspections.
- 1) Shop Fabrication - pre-engineered wood trusses per Section 1704.2.5 unless TPI certified shop
 - 2) Concrete Construction per Section 1705.3 and Table 1705.3
 - 3) Verification of Soils per Table 1705.6
 - 4) Wood Lateral System (periodic)
 - 5) Wood Gravity Framing and Placement (adjust frequency of random sampling where indicated as required)
 - 6) Heavy timber/SC/Lg/Lg/Lg beams and supports (periodic)
 - 7) Headers and jacks (random sampling)
 - 8) Bearing walls (random sampling)
 - 9) Connector/hardware installation (random sampling)
 - 10) Floor and roof trusses (random sampling)

11. Copyright and Disclaimer

- A. All drawings in the structural set (S-series drawings) are the copyrighted work of Bob D. Campbell and Company, Inc. These drawings may not be photocopied, reproduced, or copies in any manner without the written permission of Bob D. Campbell and Company, Inc. Exception: Original drawings may be printed for distribution to the owner, architect, and general contractor for coordination, bidding, and construction. Subcontractors may not reproduce these drawings for any purpose or in any manner.
- B. I, Clark A. Basinger, P.E., registered engineer and a representative of Bob D. Campbell and Company, Inc., do hereby accept professional responsibility as required by the professional registration laws of this state for the structural design drawings consisting of S-series drawings. I hereby disclaim responsibility for all other drawings in the construction document package, they being the responsibility of other design professionals whose seals and signed statements may appear elsewhere in the construction document package.

ESTIMATED BUILDING MOVEMENT TABLE			
FLOOR	ACCORDU WOOD SHRINKAGE	HEIGHT OF BRICK	ACCUMULATIVE BRICK EXPANSION
ROOF	0.7"	20'	0.22"
2nd FLOOR	0.35"	10'	0.11"

Wood Shrinkage Notes:

- Bob D. Campbell & Company takes no responsibility for the naturally-occurring shrinkage that will occur in a wood structure or the impact the movement will have on the architectural, mechanical, electrical and plumbing systems that are designed by others. The analysis provided below are estimated values in accordance with IBC Section 2304.3.4 and indicate the systems and/or routing of the systems shall be designed to accommodate the movement. Failure to follow the considerations below can result in a failure of the impacted components within the system.

Estimated values are based on the following moisture content in the framing

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

Reference wall sections on this sheet for estimated cumulative values per floor.

The following is a list of recommendations to minimize potential issues related to wood shrinkage and veneer expansion. Veneer expansion is a seasonal and variable depending on sun exposure. The majority of wood shrinkage will occur in the first 24 months of occupancy with minor seasonal variations.

1. HEP System Consideration:
 - a. Postpone MEP installation as long as possible to allow as much dead load to be applied-allowing construction gaps to close.
 - b. All discrepancies shall be brought to the immediate attention of the contractor for correction, then, if uncorrected, to the proper design authority, building official and structural engineer.
2. Architectural System Considerations:
 - a. At structo, EFS and this set veneer systems provide horizontal expansion joints, slip joints with appropriate flashing, this includes transitions between changes in veneer material. At brick and stone veneers provide veneers ties designed to accommodate differential movement.
 - b. Refer to architectural window and door head and sill, parapet, and horizontal material changes for specific horizontal gap requirements between materials.
3. Construction Tolerance Considerations:
 - a. All studs shall be cut level, square and tight to top and bottom plates to reduce any additional shortening of the building due to nesting.
 - b. All wood structural panels on the walls shall have a 1/2" relief gap at each floor level to reduce the potential for bulging.
 - c. All floor sheathing shall have 1/8" gaps around all four sides at time of install to allow for shrinkage.
 - d. All sheathwall holddown shall be checked and re-tightened immediately prior to sheathing of the walls. If a continuous rod system is utilized for holdowns or uniform uplift anchor system, the take-up device pins shall be verified to have been pulled prior to sheathing the walls.
4. Material Storage and Protection:
 - a. All stored material shall be covered and elevated from the elements to reduce the potential for an increase in moisture content.
 - b. Do not allow water to pond on the floor sheathing. Provide drain holes in the floor sheathing as required to relieve any water that might temporary pond.
5. Post Occupancy Consideration:
 - a. Recommend a review of roof drains every 3 months for the first 24 months of occupancy and then annually and adjusted as needed.
 - b. Recommend a review of vertical joints at exterior doors, windows and at changes in materials. Caulked as needed as shrinkage occurs and original joint fails.

NAILING SCHEDULE (REFER TO NOTES #1 and #2)			
No.	CONNECTION	ATTACHMENTS	(REF NOTE #3 and #4)
1	JOIST TO SILL OR GIRDER	3- 3" x 0.131" NAILS-TOENAIL	3-8d NAILS-TOENAIL
2	BRIDGING TO JOIST	2- 3" x 0.131" NAILS-TOENAIL EACH END	2-8d NAILS-TOENAIL EACH END
3	SOLE PLATE TO JOIST OR BLOCKING	3- 3" x 0.131" NAILS AT 8" o.c. TYPICAL FACE NAILING 4- 3" x 0.131" NAILS AT 6" o.c. BRACED WALL PANELS	16d BOX NAILS AT 16" o.c. MAX. FACE NAILING 16d BOX NAILS AT 16" o.c. BRACED WALL PANEL
4	TOP PLATE TO STUD	3- 3" x 0.131" NAILS-END NAIL	2-16d NAILS-END NAIL
5	STUD TO SOLE PLATE	0.131" x 0.131" NAILS-TOENAIL OR 3- 3" x 0.131" NAILS-END NAIL	4-8d NAILS-TOENAIL OR 2-16d NAILS-END NAIL
6	DOUBLE STUDS	3" x 0.131" NAILS AT 8" o.c.-FACE NAIL	16d BOX NAILS AT 24" o.c. MAX. FACE NAIL
7	DOUBLED TOP PLATES	3" x 0.131" NAILS AT 12" o.c.-FACE NAIL	16d BOX NAILS AT 16" o.c. MAX. FACE NAIL
8	DOUBLE TOP PLATE LAPS AND INTERSECTIONS	12-3" x 0.131" NAILS	8-16d NAILS
9	BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	3- 3" x 0.131" NAILS- TOENAIL	3-8d NAILS-TOENAIL
10	RIM JOIST TO TOP PLATE	3" x 0.131" NAILS AT 6" o.c.-TOENAIL	8d NAILS AT 6" o.c. MAX.-TOENAIL
11	TOP PLATE LAPS AND INTERSECTIONS	3- 3" x 0.131" NAILS-FACE NAIL	2-16d NAILS-FACE NAIL
12	CONTINUOUS HEADER, TWO PIECES	3" x 0.131" NAILS AT 10" o.c. ALONG EACH EDGE	16d NAILS AT 16" o.c. MAX. ALONG EACH EDGE-TOENAIL
13	CEILING JOISTS TO PLATE	3- 3" x 0.131" NAILS-TOENAIL	3-8d NAILS-TOENAIL
14	CONTINUOUS HEADER TO STUD	4- 3" x 0.131" NAILS-TOENAIL	4-8d NAILS-TOENAIL
15	CEILING JOISTS, LAPS OVER PARTITIONS	4- 3" x 0.131" NAILS-FACE NAIL	3-16d NAILS-FACE NAIL
16	CEILING JOISTS TO PARALLEL RAFTERS	4- 3" x 0.131" NAILS-FACE NAIL	3-16d NAILS-FACE NAIL
17	RAFTER TO PLATE	3- 3" x 0.131" NAILS-TOENAIL	3-8d NAILS-TOENAIL
18	1" BRACE TO EACH STUD AND PLATE	2- 3" x 0.131" NAILS-FACE NAIL	2-8d NAILS-FACE NAIL
19	BUILT-UP CORNER AND MULTIPLE STUDS	3" x 0.131" NAILS AT 16" o.c.	16d NAILS AT 24" o.c. MAX.
20	BUILT-UP GIRDER AND BEAMS	3" x 0.131" NAILS AT 24" o.c. FACE NAILED TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES 3- 3" x 0.131" NAILS AT ENDS AND EACH SPLICE	20d NAILS AT 32" o.c. MAX. TOP AND BOTTOM, STAGGERED ON OPPOSITE SIDES 2-20d NAILS AT ENDS AND EACH SPLICE
21	BUILT-UP LAMINATED VENEER LUMBER BEAMS	3" x 0.131" NAILS AT 12" o.c. TOP AND BOTTOM ALONG EDGE	16d NAILS AT 12" o.c. TOP AND BOTTOM ALONG EDGE
22	2" PLANKING	4- 3" x 0.131" NAILS AT EACH SUPPORT	16d NAILS AT EACH SUPPORT
23	RIM BOARD TO TRUSS	2- 3" x 0.131" FACE NAILS (17/8 @ EA. TRUSS)	2- 16d NAILS AT EACH NAILS (17/8 @ EA. TRUSS)
24	BUILT-UP STUD-PLATE COLUMNS	REFER TO DETAIL 3/S003	REFER TO DETAIL 3/S003

- NOTES:
- 1) ALL NAILS SHALL BE AS NOTED UNLESS OTHERWISE SPECIFIED ON STRUCTURAL DRAWINGS OR ALTERNATE PROVIDED BY ENGINEER IN WRITING.
 - 2) CONDITIONS NOT SPECIFIED SHALL BE IN ACCORDANCE WITH CURRENT INTERNATIONAL BUILDING CODE.
 - 3) NAILING DESIGNATION:

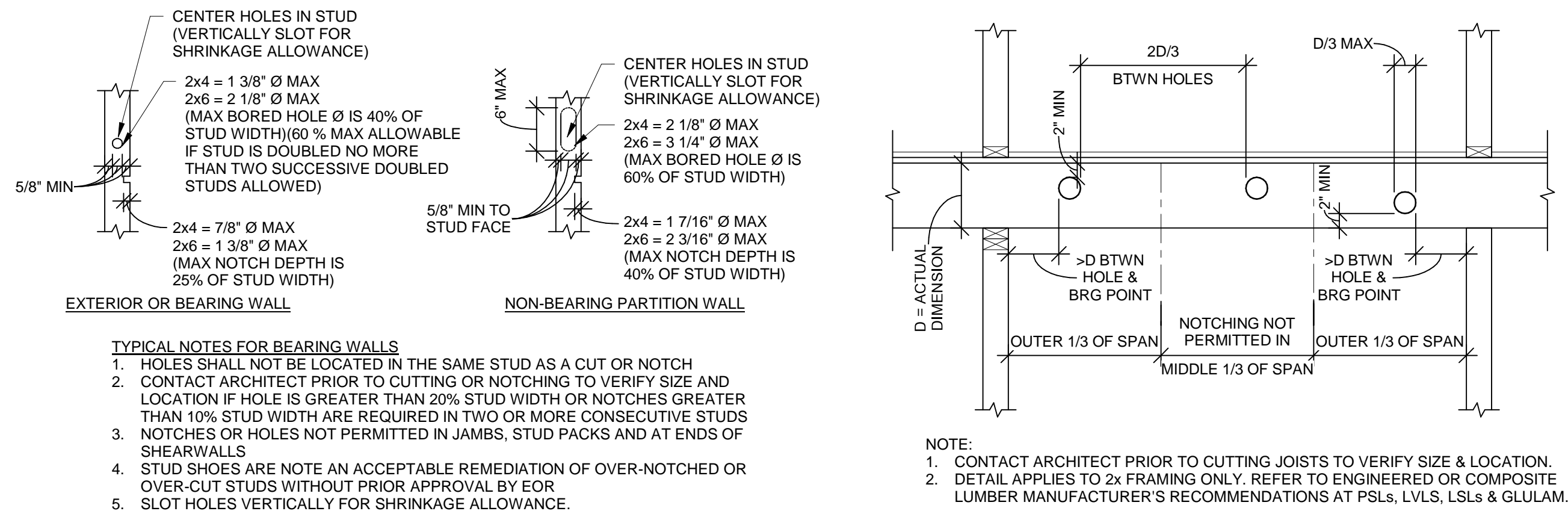
1/2" x 0.131" NAILS	DIAMETER IN INCHES
3" x 0.131" NAILS	NAIL LENGTH
 - 4) ALL NAILS NOTED AS 8d, 10d, 16d, ETC. SHALL BE COMMON NAILS UNLESS NOTED BOX.

STRUCTURAL DECK & SLAB SCHEDULE	
MARK	DESCRIPTION
T-1	COMPOSITE DECKING PER ARCHITECTURAL DRAWINGS/SPECIFICATIONS
FD-1	1/2" GYPCRETE ATOP 2332" T&G PLYWOOD SHEATHING. SHEATHING SHALL BE FULLY AND NAILED W/ 8d RING SHANK NAILS OR #10 SCREWS @ 6" o.c. @ EDGES & 12" o.c. AT FIELD
RD-1	1932" PLYWOOD SHEATHING ATTACHED WITH 8d NAILS @ 6" o.c. AT EDGES & 12" o.c. AT FIELD
SOG-1	4" CONCRETE SLAB REINFORCED W/ 6x6-W2 6W/2 9 WWF ATOP VAPOR BARRIER PER GENERAL NOTES ATOP 4" PEENED STEEL. PROVIDE 1" DEEP TOLERANCE JOINT (TRANSVERSE DIRECTLY @ MIDSPAN OF SINGLE BAY BALCONY OR @ THREE POINTS OF DOUBLE BAY BALCONY. FILL JOINT W/ SEALANT

- NOTES:
- 1) FD = COMPOSITE/CONCRETE DECK TYPE
 - 2) FD = FLOOR DECK TYPE
 - 3) NCD = NON-COMPOSITE DECK TYPE
 - 4) RD = ROOF DECK TYPE
 - 5) SOG = SLAB-ON-GRADE TYPE
 - 6) REFER TO NOTE 10.1 ON SHEET S0.01 FOR FIRE - RETARDANT TREAD SHEATHING REQUIREMENTS.
 - 7) PROVIDE 1" DEEP TOLERANCE JOINT (TRANSVERSE DIRECTLY @ MIDSPAN OF SINGLE BAY BALCONY OR @ THREE POINTS OF DOUBLE BAY BALCONY. FILL JOINT W/ SEALANT

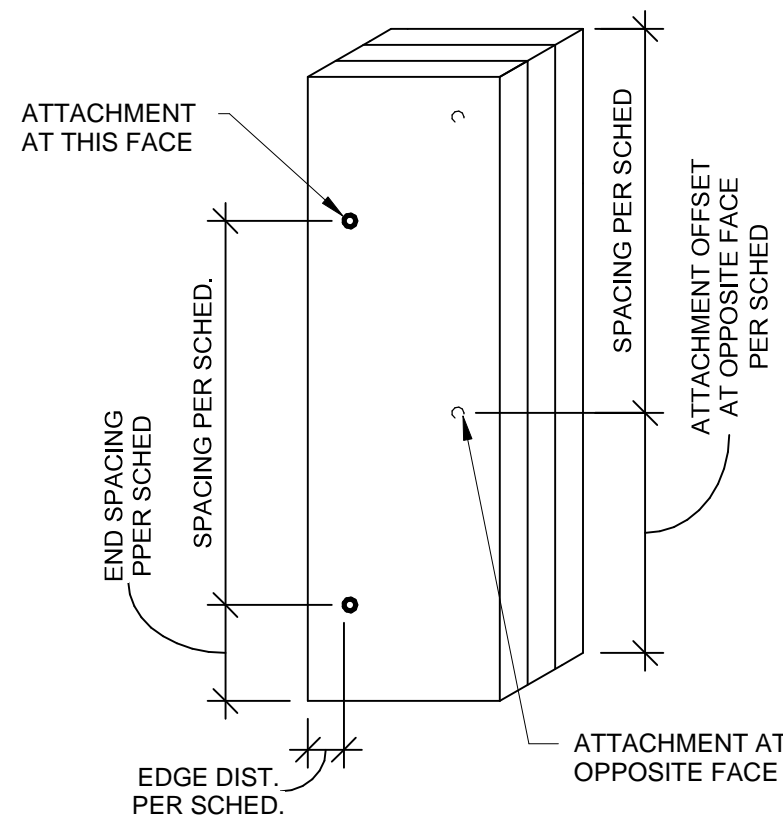
STRUCTURAL ABBREVIATIONS

AT	AND	GA	GAGE	RAD	RADIUS
@	AT	GALV	GALVANIZED(D)	RD#	ROOF DECK TYPE
ADTL	ROUND, DIAMETER	GEN	GENERAL	REF	REFERENCE
ADTL	ADDITIONAL	GR	GRADE	REIN	REINFORCEMENT
AF	ABOVE FINISHED FLOOR	HORIZ	HORIZONTAL	REQD	REQUIRED
ALT	ALTERNATE	HSS	HOLLOW STRUCTURAL SECTION	REV	REVISION
ARCH	ARCHITECTURAL	IF	INSIDE FACE	RLL	ROOF LIVE LOAD
BLDG	BUILDING	INFO	INFORMATION	RTU	ROOF TOP UNIT
BL	BOTTOM OF	INT	INTERIOR	SC	SLIP CRITICAL
BM	BEAM	JOIST	JOIST	SCHED	SCHEDULE(D)
BOTT	BOTTOM	JT	JOINT	SECT	SECTION
BRG	BEARING	K	KIPS (1000 LBS)	SHT	SHEET
C	CAMBER	KPS	KIPS PER SQUARE FOOT	SHM	SHIM
CD-#	CONCRETE DECK TYPE	KSI	KIPS PER SQUARE INCH	SJ	SEAM JOINT
CON	CONSTRUCTION/CONTROL JOIN	LBS, #	POUNDS	SL	SNOW LOAD
CP	COMPLETE JOINT PENETRATION	LD	DEVELOPMENT LENGTH	SOG	SLAB-ON-GRADE
CL	CENTERLINE	L	LIVE LOAD	SOG-#	SLAB-ON-GRADE TYPE
CMU	CONCRETE MASONRY UNIT	LLH	LONG LEG HORIZONTAL	SPCG	SPACING
COL	COLUMN	LONG	LONG IN ACROSS VERTICAL	SPECIF	SPECIFICATION
CONC	CONCRETE	LONG	LONGITUDINAL	SPRT	SUPPORT
CONN	CONNECTION	LSLT	LONG-SLOTTED HOLE TRANSVERSE	SQ	SQUARE
CONT	CONTINUOUS	LTWT	LIGHT WEIGHT	SS	STEEL
COORD	COORDINATE	M	MOMENT FORCE	SSLT	SHORT-SLOTTED HOLE TRANSVERSE
COV, CVR	COVER	MAX	MAXIMUM	STD	STANDARD
DET	DETAIL	MECH	MECHANICAL	STIFF	STIFFEN
DIA	DIAMETER	MFR	MANUFACTURER	STR	STIRRUP
DL	DEAD LOAD	MIN	MINIMUM	STRL	STEEL
DWG	DRAWING	MISC	MISCELLANEOUS	STRUC	



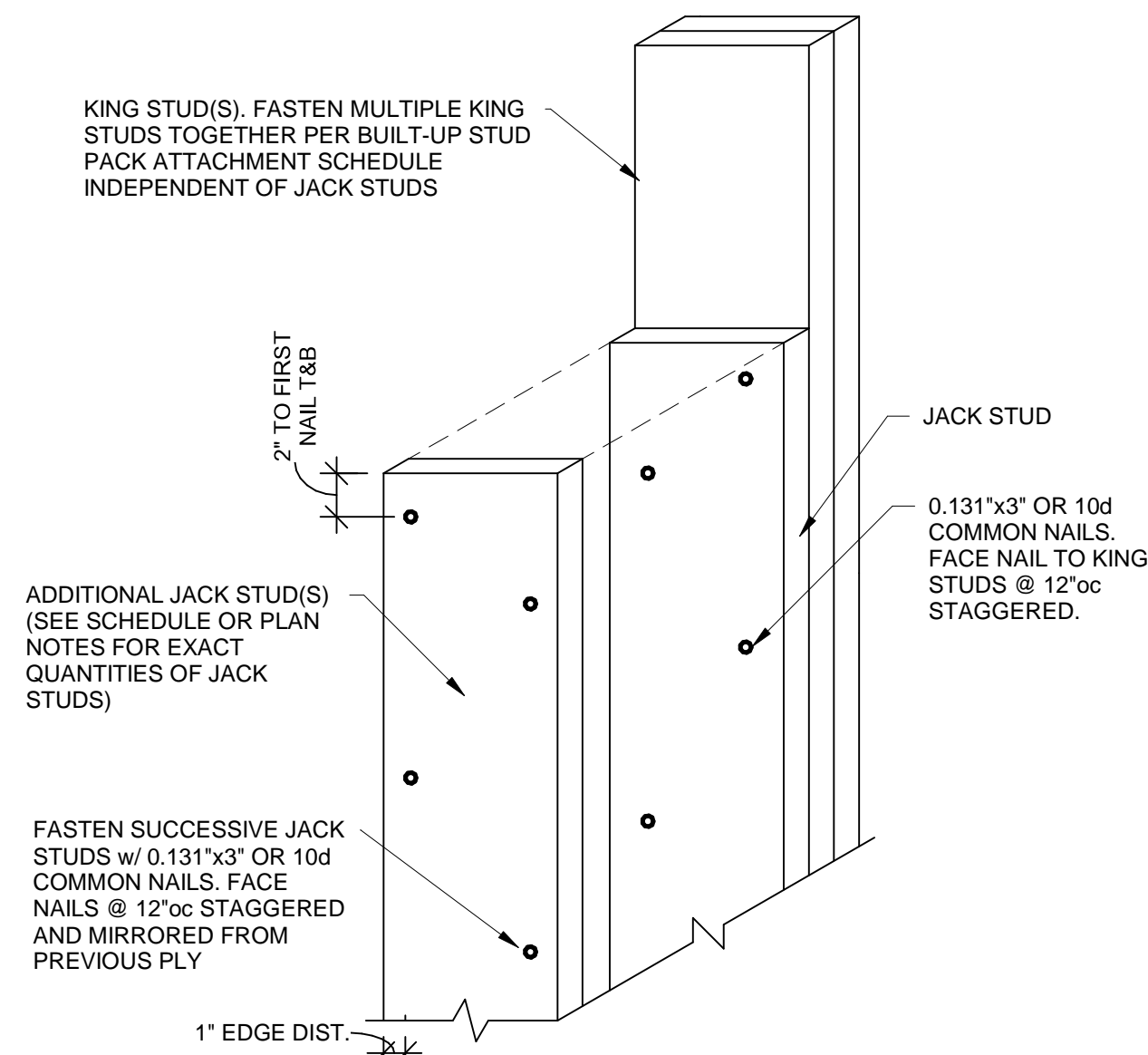
ALLOWABLE HOLES/NOTCHES IN WALL STUDS

1 DETAIL
3/4\" = 1'-0"



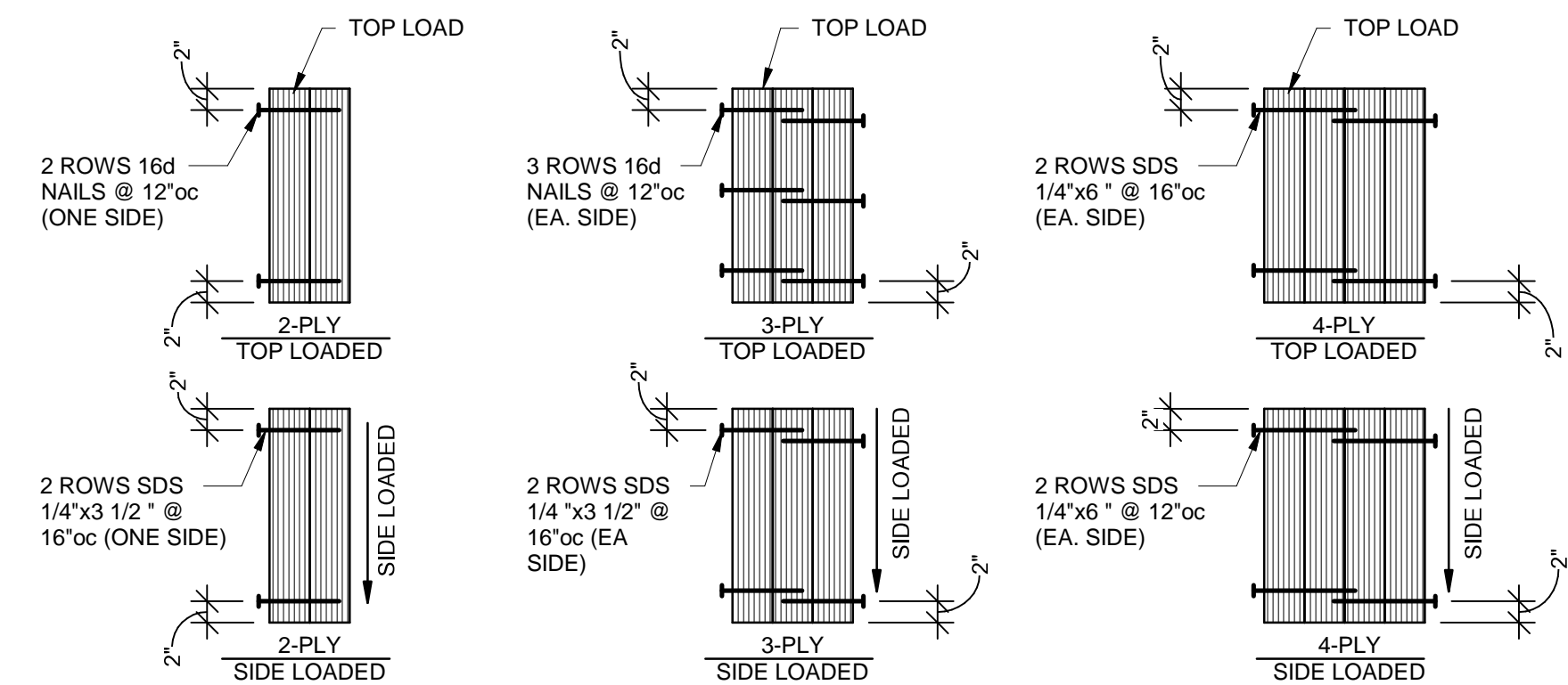
TYPICAL MULTI-PLY STUD CONNECTION

3 DETAIL
1 1/2\" = 1'-0"



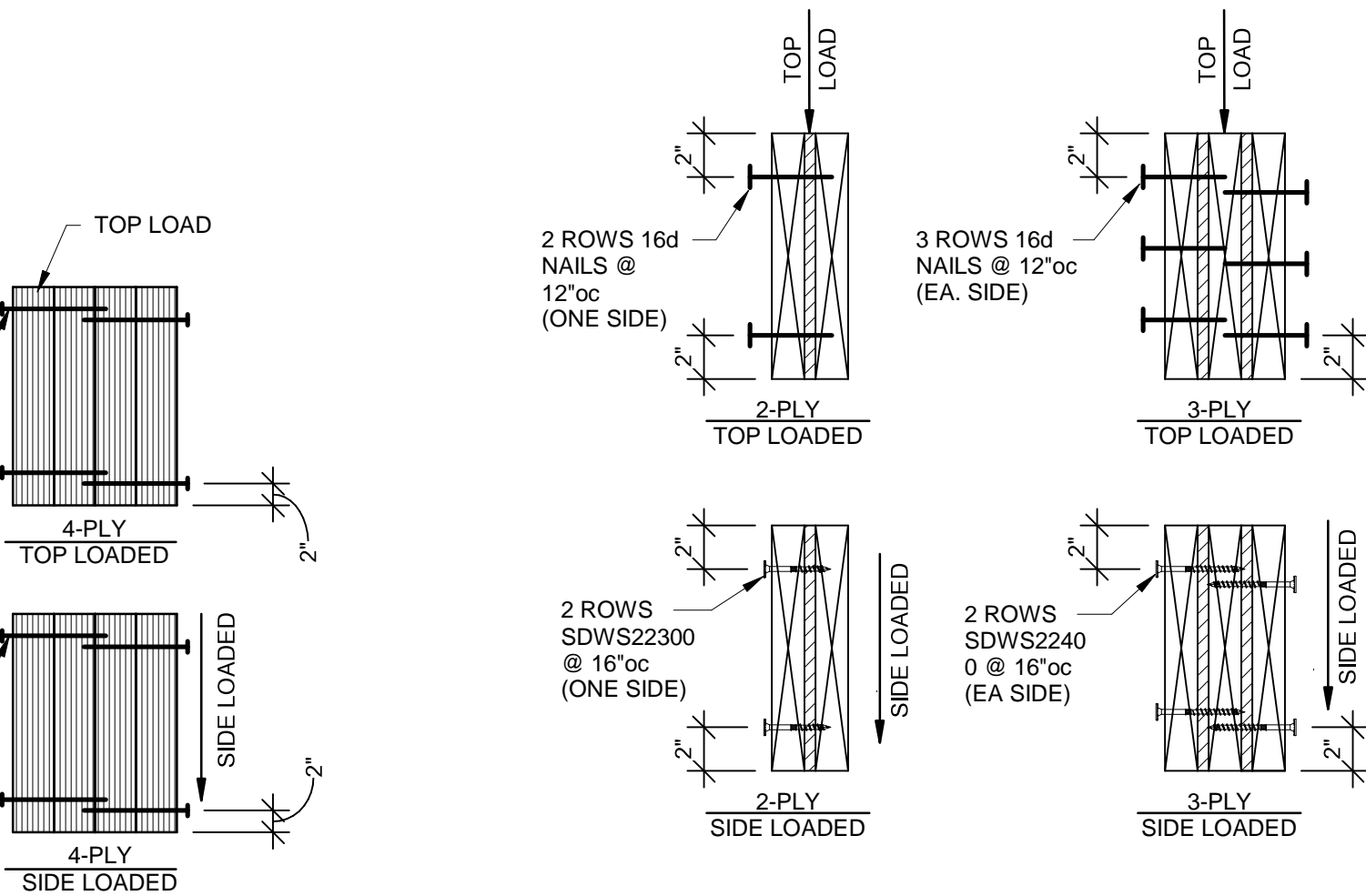
TYPICAL JACK STUD ATTACHMENT

4 DETAIL
1 1/2\" = 1'-0"



TYPICAL MULTI-PLY BEAM CONNECTION

5A DETAIL
3/4\" = 1'-0"

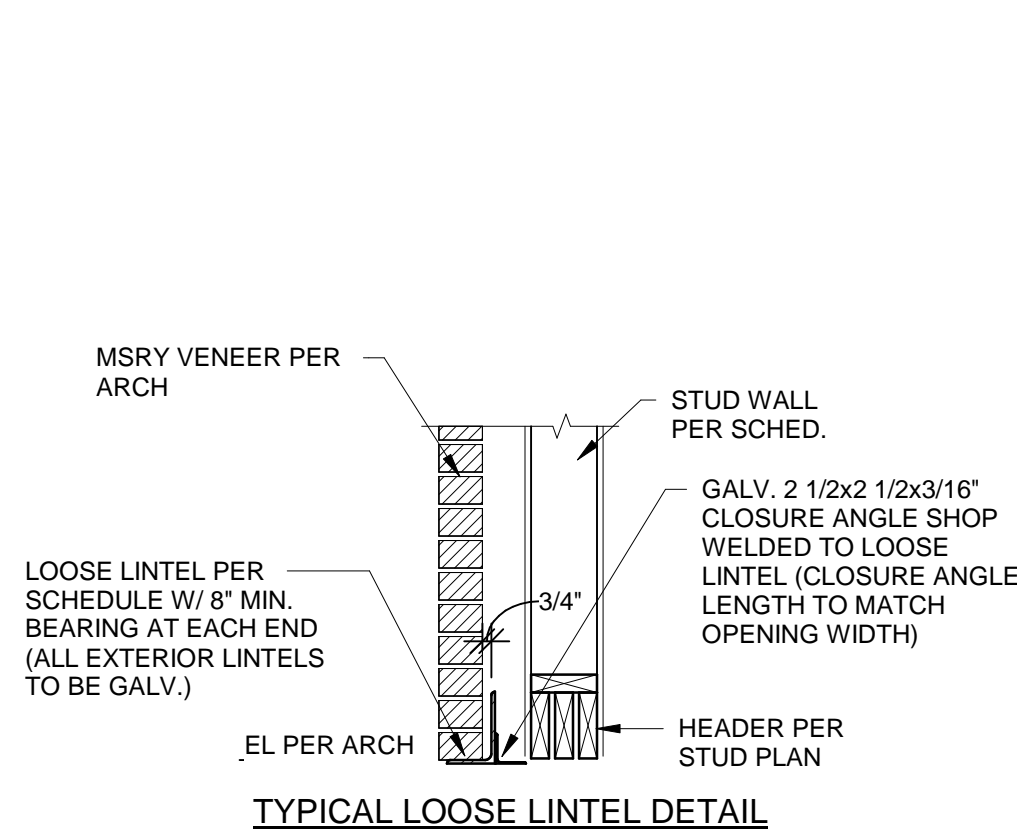


TYPICAL MULTI-PLY HEADER CONNECTION

5B DETAIL
1 1/2\" = 1'-0"

WOOD STUD BEARING WALL SCHEDULE				
TYPE	1st FLOOR WALLS (2nd FLOOR FRAMING)	2nd FLOOR WALLS (ROOF FRAMING)		NOTES
EXTERIOR	2x6 @ 16"oc	2x6 @ 16"oc		
DEMISING	(2) 2x4 @ 16"oc	2x4 @ 16"oc		PROVIDE 2x BLOCKING AT MID HEIGHT BTWN EA. STUD

- NOTES:
1. PROVIDE 2x BLOCKING AT MID HEIGHT (5'-0" MAX) AT ALL LOAD BEARING WALLS NOT SHEATHED ON BOTH SIDES.
 2. ALL STUDS TO BE No. 2 GRADE U.N.O.
 3. RE: 3S003 FOR NAILING OF MULTIPLE STUDS.
 4. REFER TO ARCH/MEP DRAWING FOR LOCATIONS OF FURRED OUT WALLS TO ACCOMODATE PLUMBING OR MEP ITEMS.
 5. REFER TO FRAMING PLANS AND ARCH PLANS FOR LEVEL(S) AT WHICH WALLS OCCUR.
 6. STACK/ALIGN WALL STUDS FROM FLOOR TO FLOOR AT ALL EXTERIOR WALLS.



6 TYPICAL LOOSE LINTEL DETAIL
3/4\" = 1'-0"

LOOSE LINTEL SCHEDULE	
FOR OPENINGS:	GALV. ANGLE
OPENING < 9'-0"	6"x4"x5/16" (LLV)

JOIST/BEAM/TRUSS HANGER SCHEDULE		
JOIST/BEAM/TRUSS SIZE	HANGER SIZE	NOTES
2x10	LUS28 HU210	AT CORRIDOR & BALCONY * AT SKEWED CONDITIONS
2x12	LUS210	AT CORRIDOR
(2) 2x12	LUS210-2	AT CORRIDOR
18" TRUSS FACE MOUNT TO UPSET BEAM	LUS410 *HHUS419	* AT SKEWED CONDITIONS

- NOTES:
1. HANGERS APPLY TO ALL LOCATIONS WHERE NOT OTHERWISE SPECIFIED IN DETAIL OR PLAN NOTE

ROOF TRUSS HOLDOWN SCHEDULE	
TRUSS TYPE	SIMPSON STRONG TIE CONNECTION
COMMON HIP/JACK AND 1-PLY TRUSSES	H2.5A
1-PLY TRUSS PER TRUSS SHOP DWGS GIRDER TRUSS AS NOTED PER PLAN	(2) H2.5A (ONE EACH SIDE)
2-PLY TRUSS PER TRUSS SHOP DWGS GIRDER TRUSS AS NOTED PER PLAN	LGT2
3-PLY TRUSS PER TRUSS SHOP DWGS OR GIRDER TRUSS AS NOTED PER PLAN	LGT3

- NOTES:
1. GC COORDINATE HOLDOWN CONNECTION TYPE, QUANTITY & LOCATION WITH FINAL ROOF TRUSS SHOP DRAWINGS.



ARCHITECT: TRi ARCHITECTS
STRUCTURAL ENGINEER: BOB D CAMPBELL & COMPANY
CIVIL ENGINEER: SM ENGINEERING
GENERAL CONTRACTOR: GENERAL CONTRACTOR
MECHANICAL ENGINEER: LATIMER SOMMERS & ASSOCIATES
PLUMBING ENGINEER: LATIMER SOMMERS & ASSOCIATES
ELECTRICAL ENGINEER: LATIMER SOMMERS & ASSOCIATES



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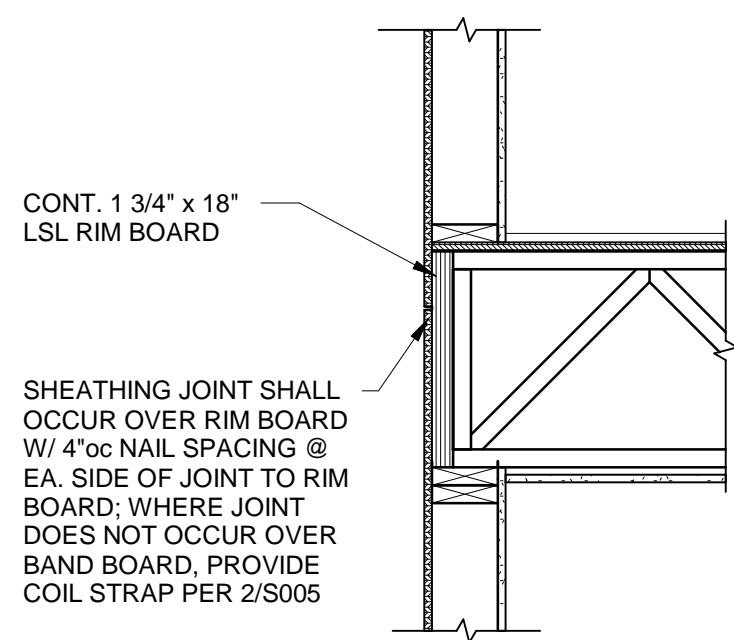
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SHEET NO.

S002

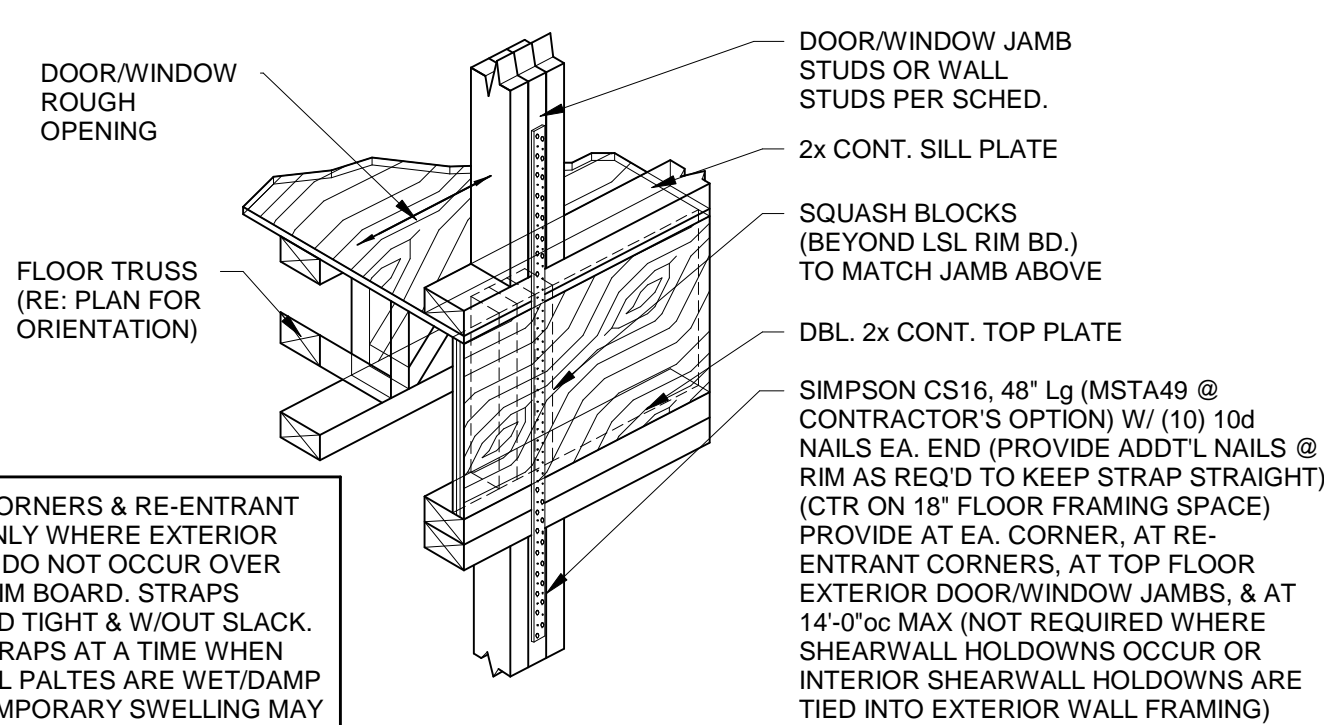
TYPICAL WOOD GRAVITY SCHEDULES & DETAILS



TYPICAL EXTERIOR SHEATHING JOINT

1 SECTION

3/4" = 1'-0"



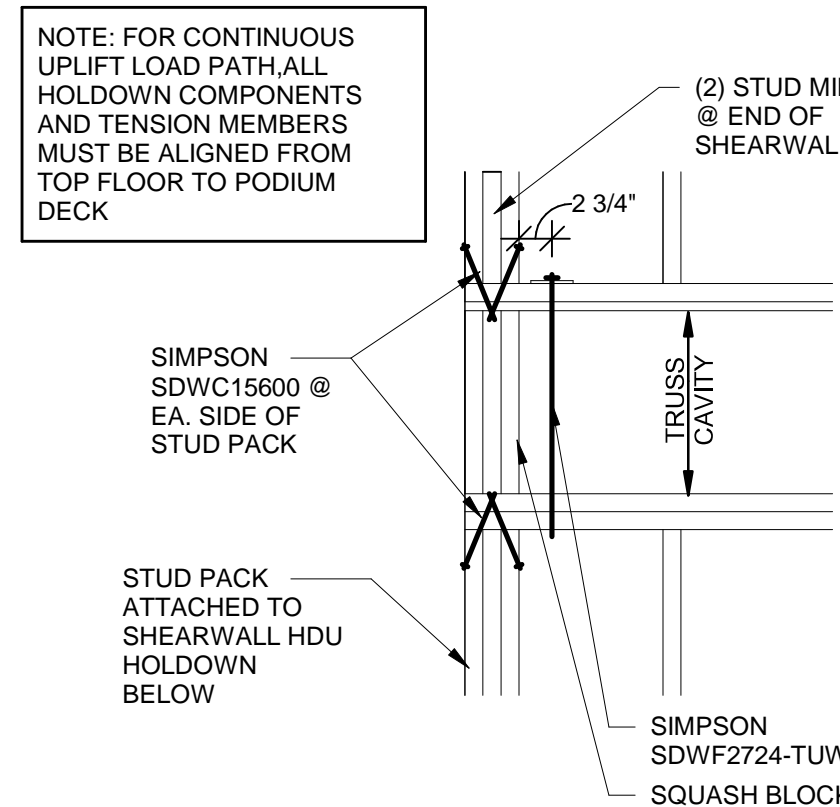
NOTE: STRAPS @ CORNERS & RE-ENTRANT CORNERS REQ'D ONLY WHERE EXTERIOR SHEATHING JOINTS DO NOT OCCUR OVER CONTINUOUS LSL RIM BOARD. STRAPS SHALL BE INSTALLED TIGHT & W/OUT SLACK. DO NOT INSTALL STRAPS AT A TIME WHEN SUBFLOOR OR WALL PATES ARE WET/DAMP DUE TO RAIN AS TEMPORARY SWELLING MAY CAUSE SLACK IN STRAPS AFTER DRYING. STRAPS MAY BE INSTALLED ON INTERIOR OF BLDG WHERE BULGING OF STRAP WOULD NEGATIVELY IMPACT EXTERIOR FINISH (STUCCO, SIDING, ETC.)

NOTE: USE DETAIL 2A/S005 IN LIEU OF STRAPS @ CONTRACTORS OPTION

TYPICAL COIL STRAP @ EXTERIOR JAMBS SUPPORTING ROOF FRAMING AT FLOOR DIRECTLY BELOW ROOF AND FLOOR TO FLOOR TIES WHERE DETAIL 1/S005 IS NOT FOLLOWED

2 SECTION

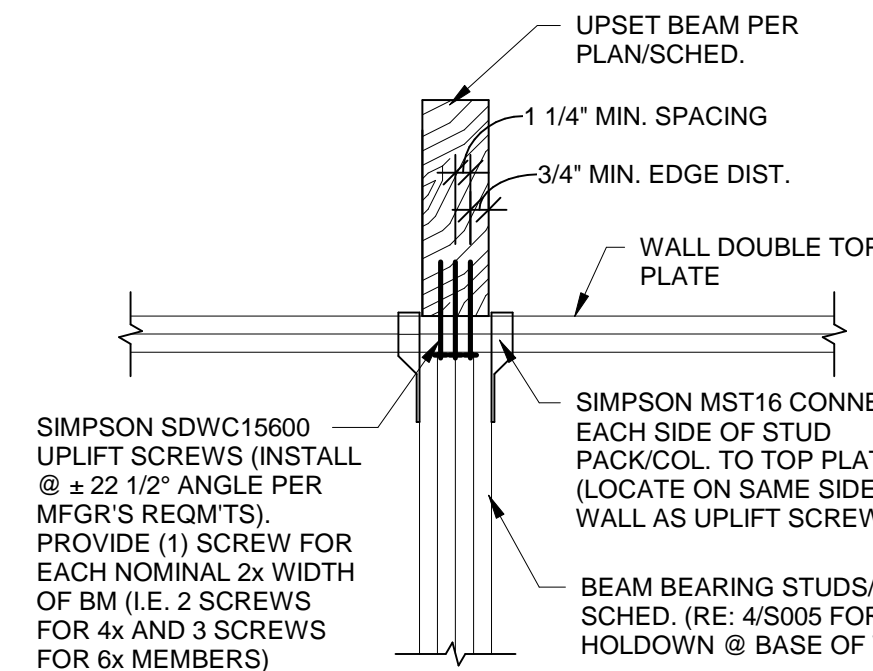
3/4" = 1'-0"



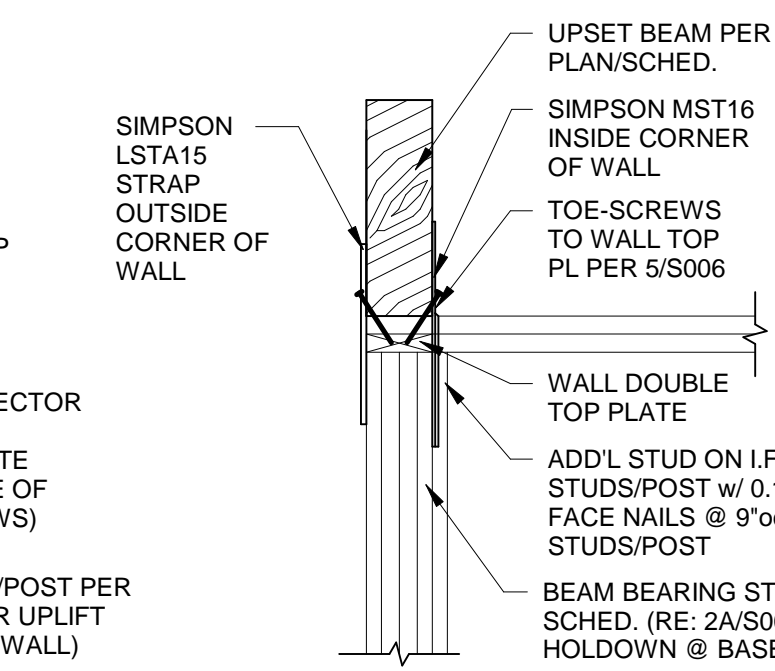
ALTERNATE FLOOR TO FLOOR TIE-DOWN AT END OF WALL

5 SECTION

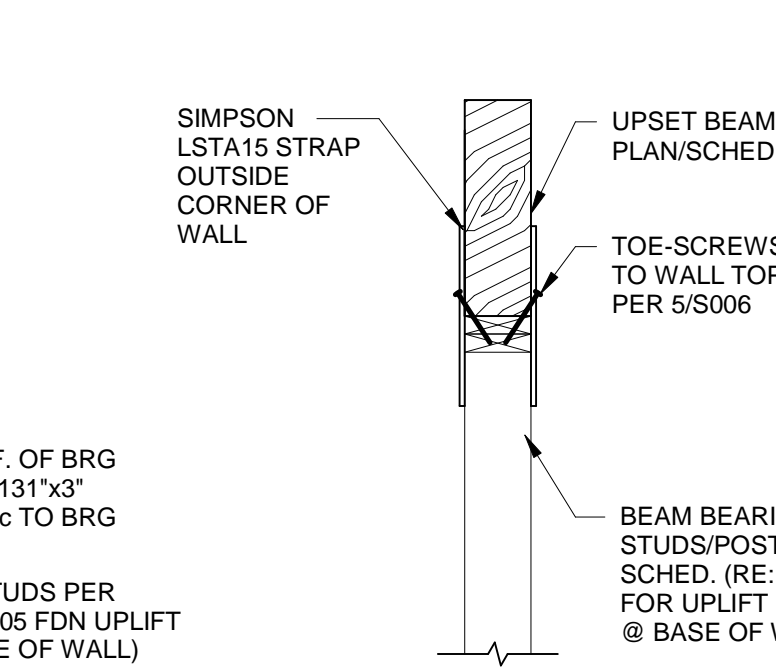
3/4" = 1'-0"



TYPICAL AT PERPENDICULAR WALL



TYPICAL AT WALL CORNERS

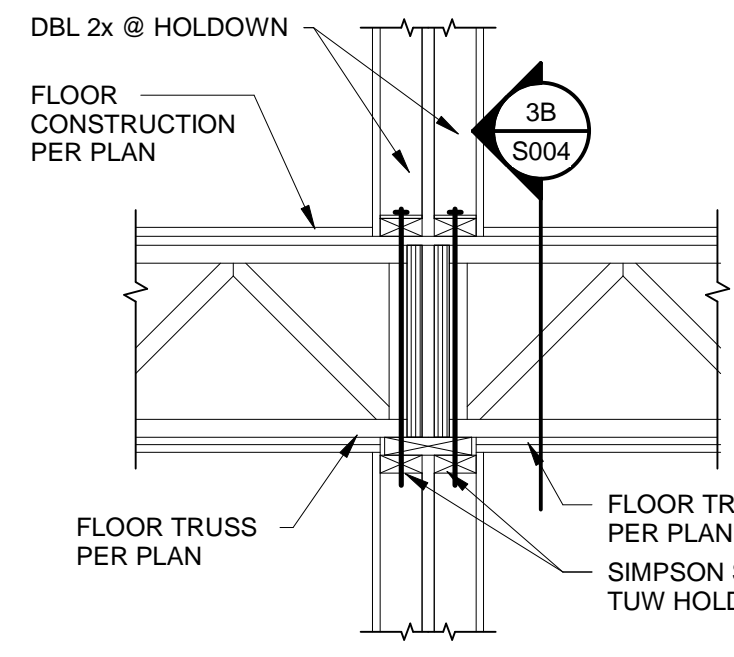


TYPICAL AT PARALLEL WALL

2A SECTION

3/4" = 1'-0"

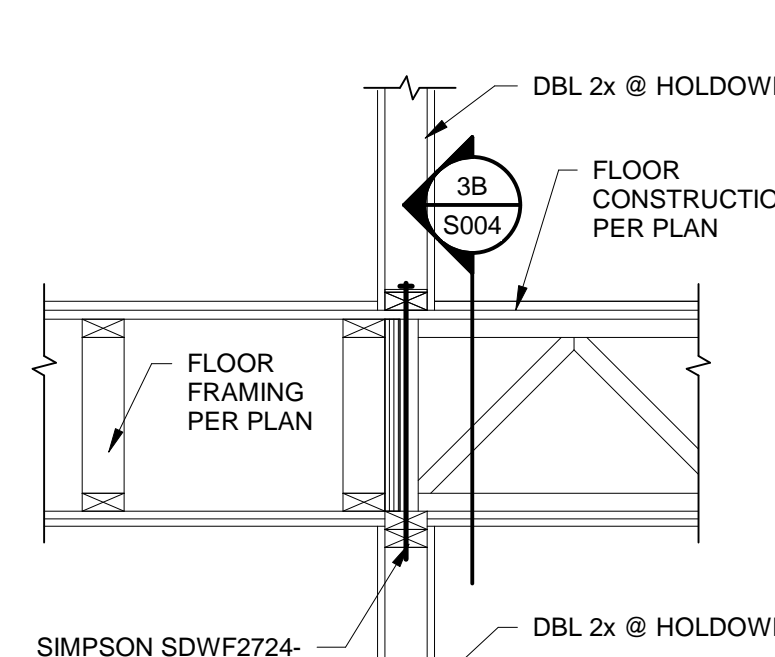
TYPICAL FLOOR-TO-FLOOR SCREW @ EXTERIOR JAMBS SUPPORTING ROOF FRAMING AT FLOOR DIRECTLY BELOW ROOF AND FLOOR TO FLOOR TIES WHERE DETAIL 1/S005 IS NOT FOLLOWED



TYPICAL UNIT UPLIFT HOLDOWN DETAIL @ TOP FLOOR ROOF TRUSS BEARING WALLS

3 SECTION

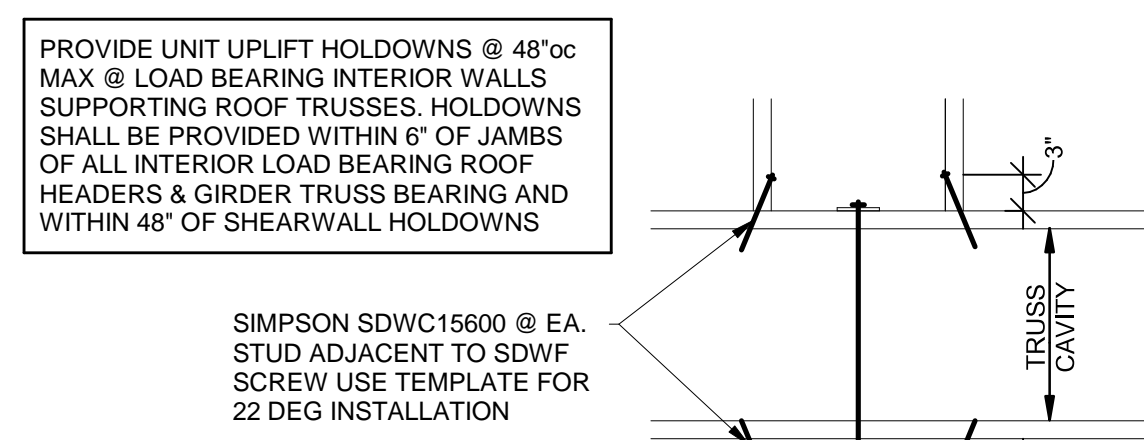
3/4" = 1'-0"



TYPICAL UNIT UPLIFT HOLDOWN DETAIL @ TOP FLOOR ROOF TRUSS BEARING WALLS

3A SECTION

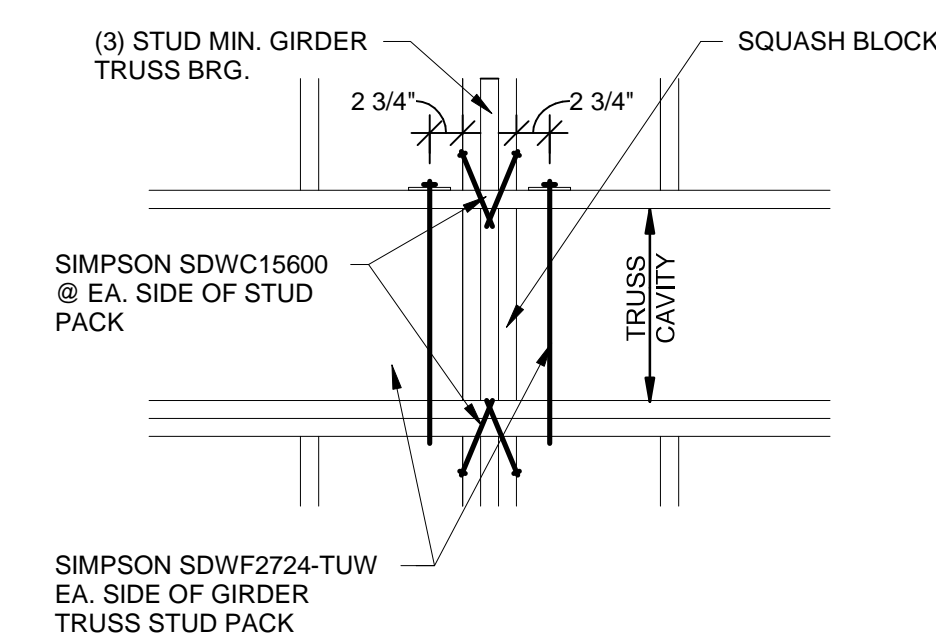
3/4" = 1'-0"



TYP SIDE VIEW AT DBL STUD SCREWS AT HOLDOWN

3B DETAIL

3/4" = 1'-0"



TYPICAL GIRDER TRUSS UPLIFT HOLDOWN DETAIL @ TOP FLOOR

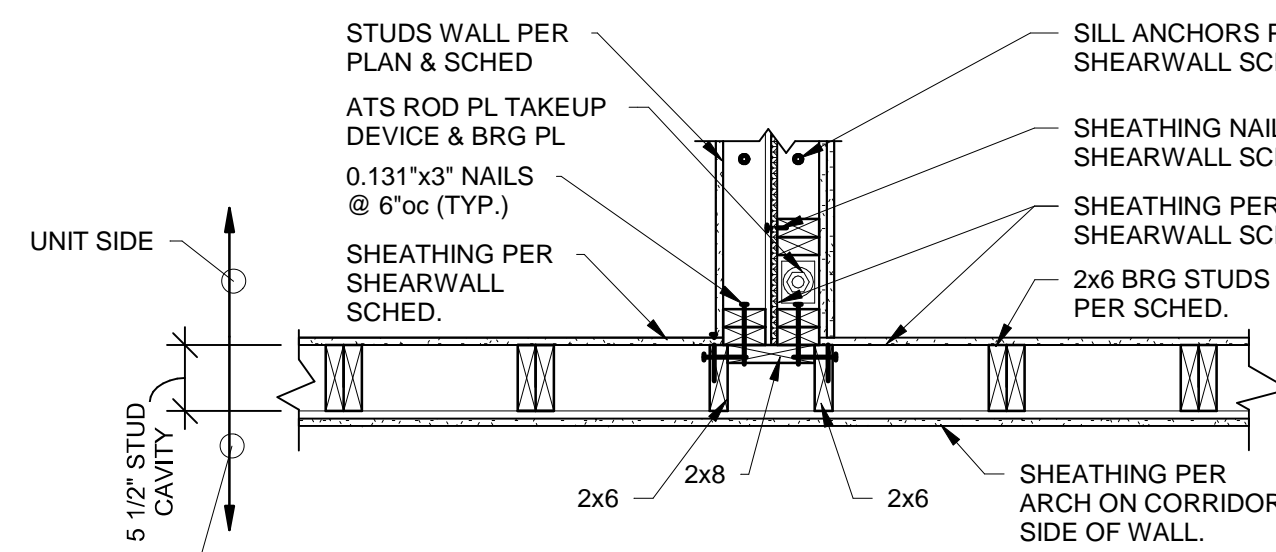
4 SECTION

3/4" = 1'-0"

TYPICAL SQUASH BLOCK DETAIL AT CONTINUOUS RIM BOARD

7 SECTION

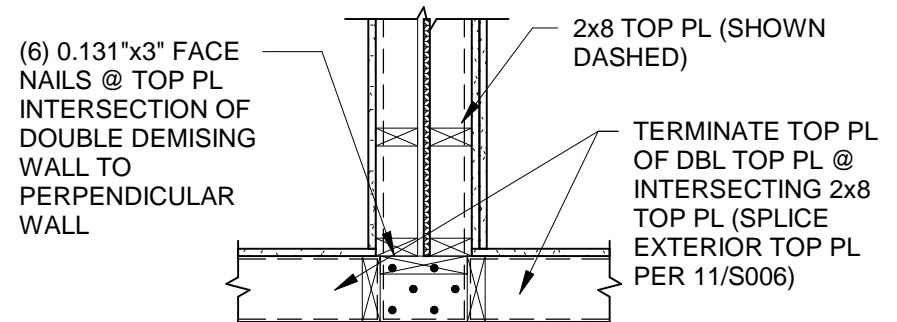
3/4" = 1'-0"



TYPICAL INTERSECTION OF UNIT DEMISING WALL & CORRIDOR WALL (SIM @ EXT. WALL)

9 SECTION

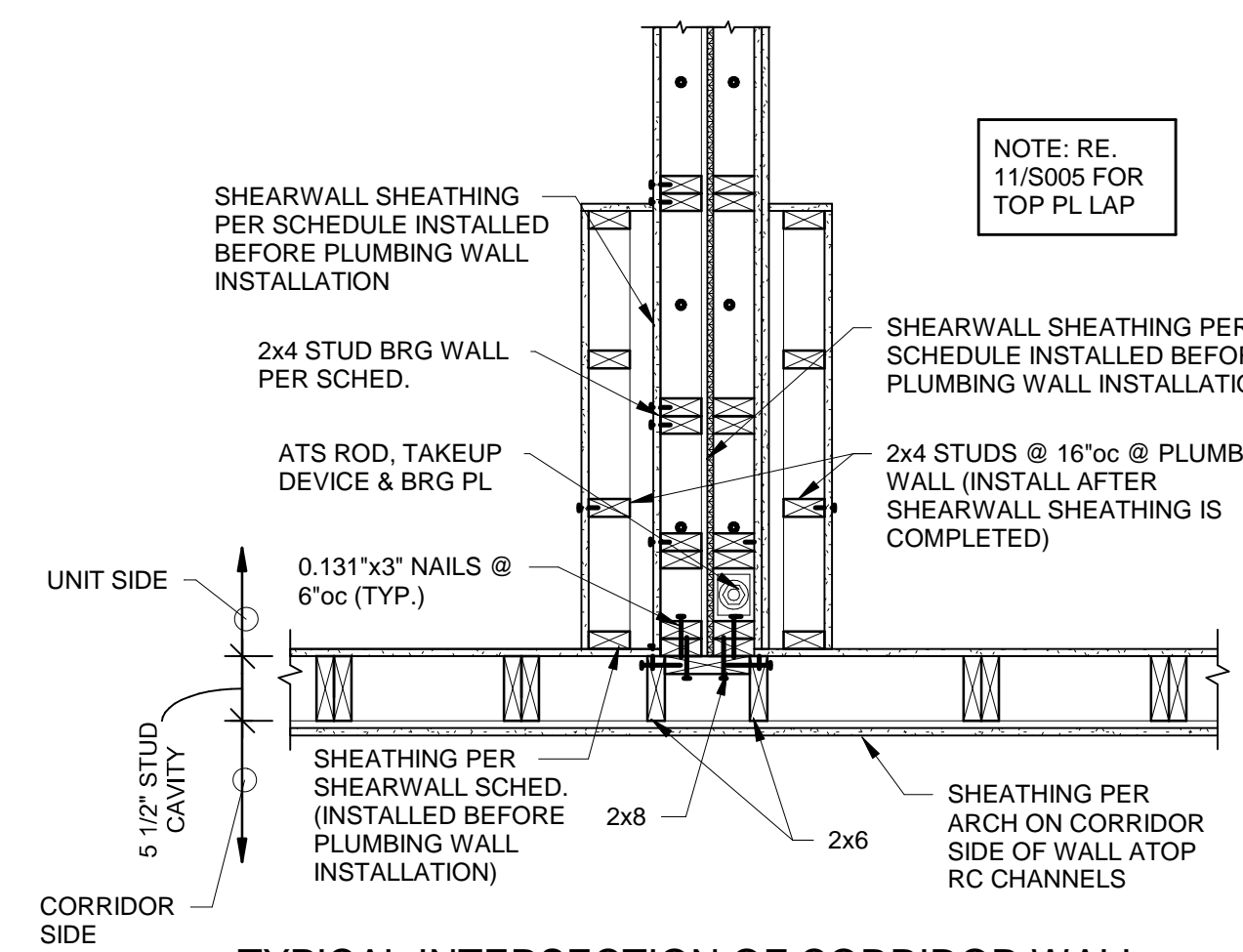
3/4" = 1'-0"



TYPICAL TOP PL LAP @ UNIT DEMISING WALL AT DISCONT. END

10 SECTION

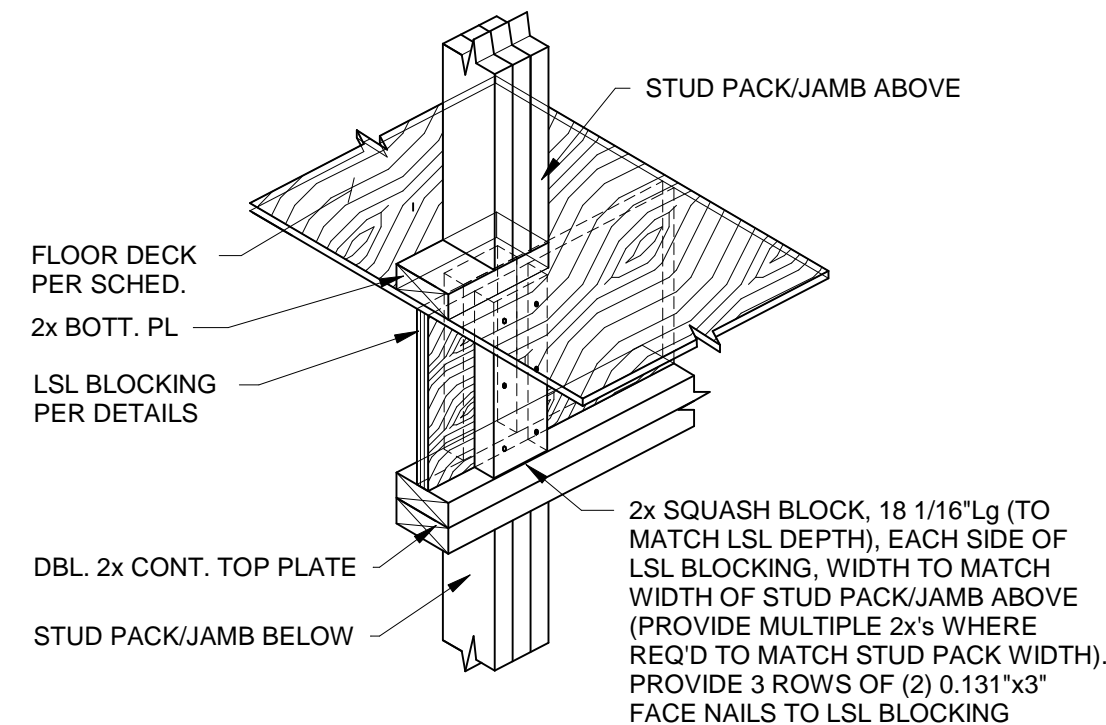
3/4" = 1'-0"



TYPICAL INTERSECTION OF CORRIDOR WALL AND UNIT DEMISING WALL w/ PLUMBING WALL

11 SECTION

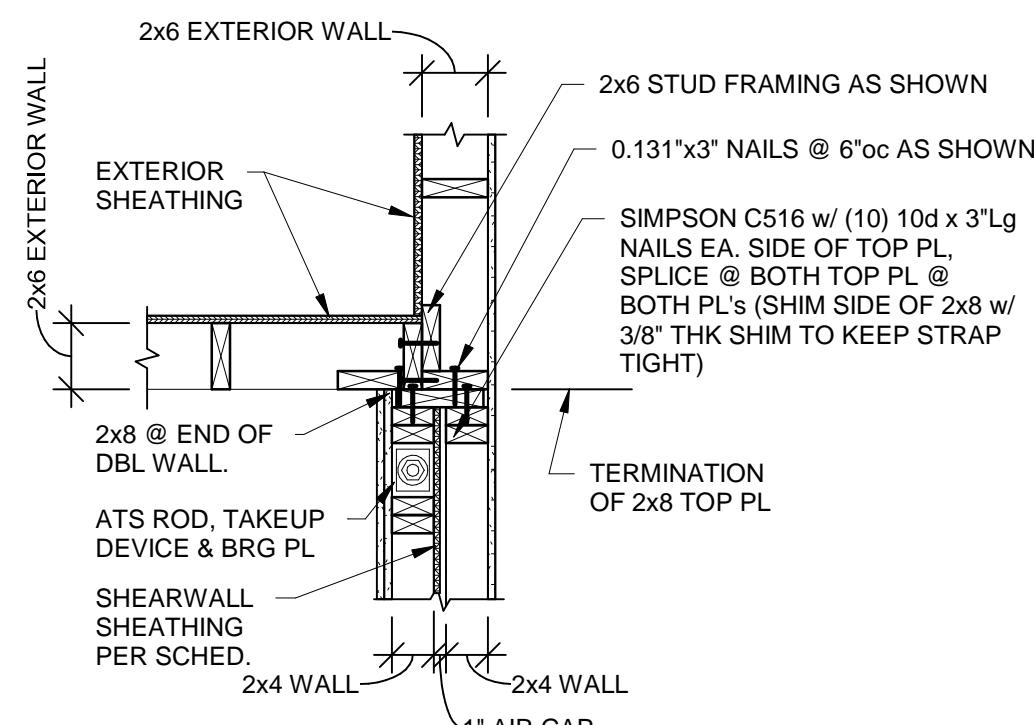
3/4" = 1'-0"



TYPICAL SQUASH BLOCK DETAIL AT LSL BLOCKING

7A SECTION

3/4" = 1'-0"



TYPICAL @ UNIT PARTY WALL TRANSITION TO 2x6 EXT. WALL

8 SECTION

3/4" = 1'-0"

TYPICAL LATERAL NAILING AT EXTERIOR WALL PARALLEL TO TRUSSES

9 SECTION

3/4" = 1'-0"

TYPICAL LATERAL NAILING AT ONE SIDED WALL WITH TRUSS BEARING

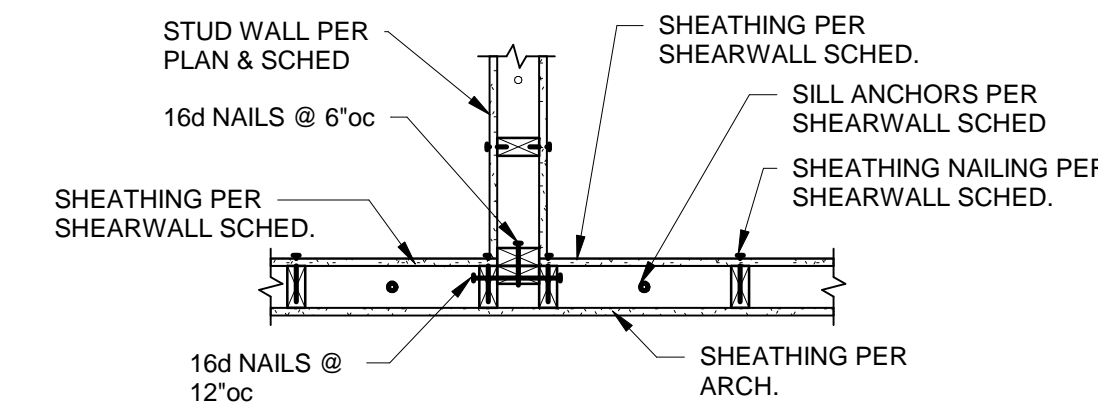
10 SECTION

3/4" = 1'-0"

TYPICAL LATERAL NAILING AT UNIT DEMISING WALL OR ONE SIDED WALL PARALLEL TO TRUSSES

11 SECTION

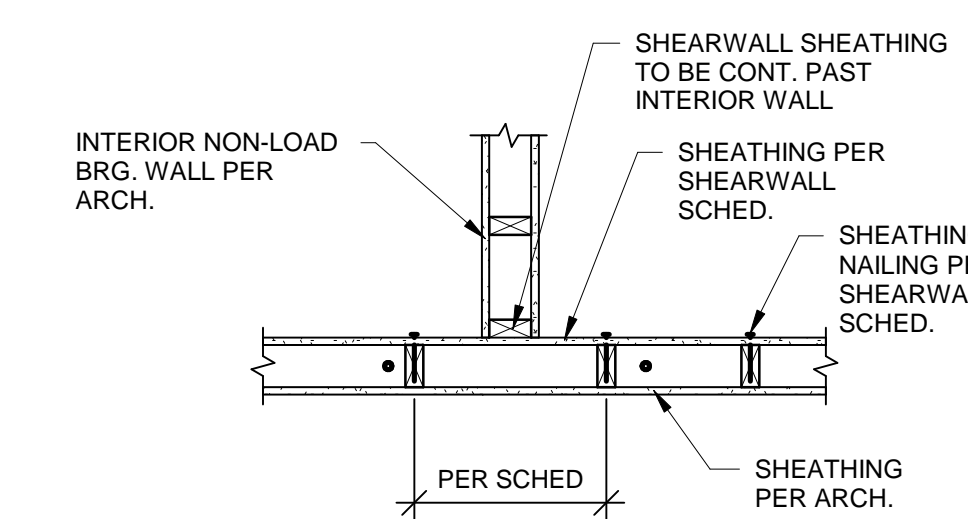
3/4" = 1'-0"



TYPICAL @ DISCONTINUOUS SHEARWALL SHEATHING

12 SECTION

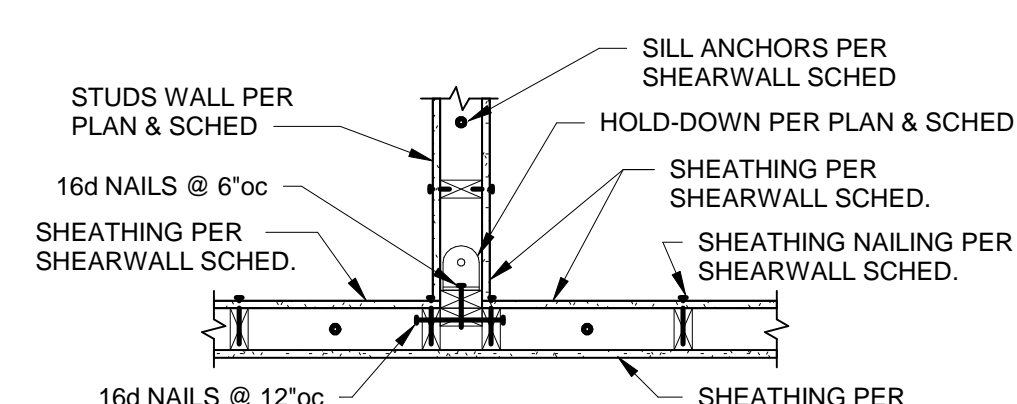
3/4" = 1'-0"



TYPICAL @ SHEARWALL SHEATHING CONTINUOUS PAST NON-LOAD BRG WALL

13 SECTION

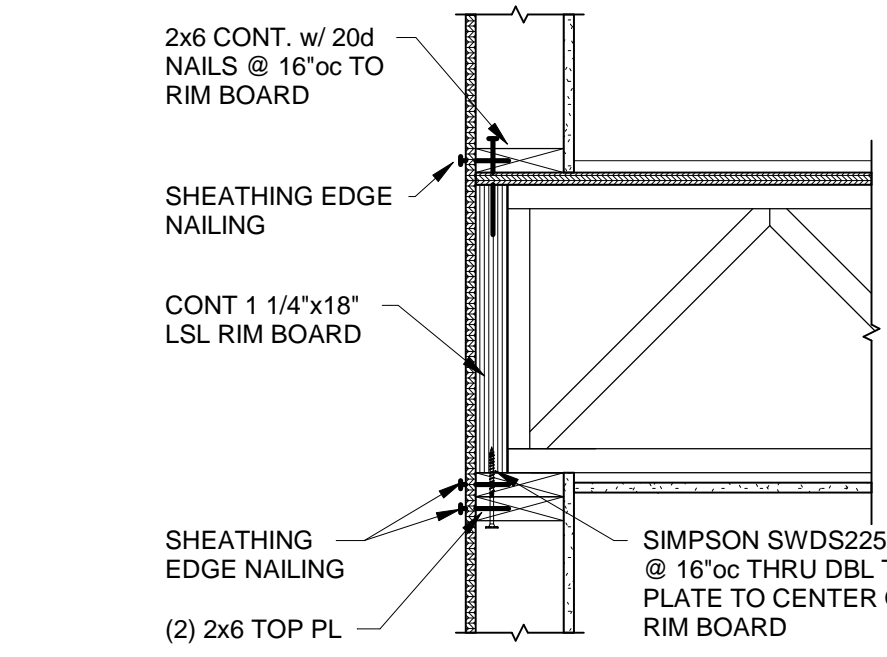
3/4" = 1'-0"



TYPICAL LATERAL NAILING AT EXTERIOR WALL WITH TRUSS BEARING

14 SECTION

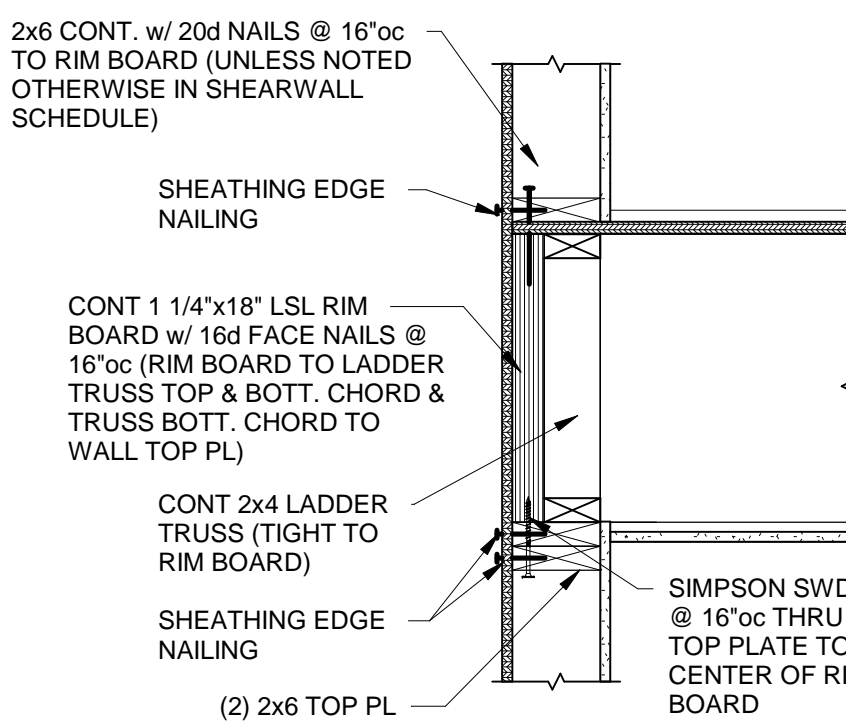
3/4" = 1'-0"



TYPICAL LATERAL NAILING AT EXTERIOR WALL WITH TRUSS BEARING

15 SECTION

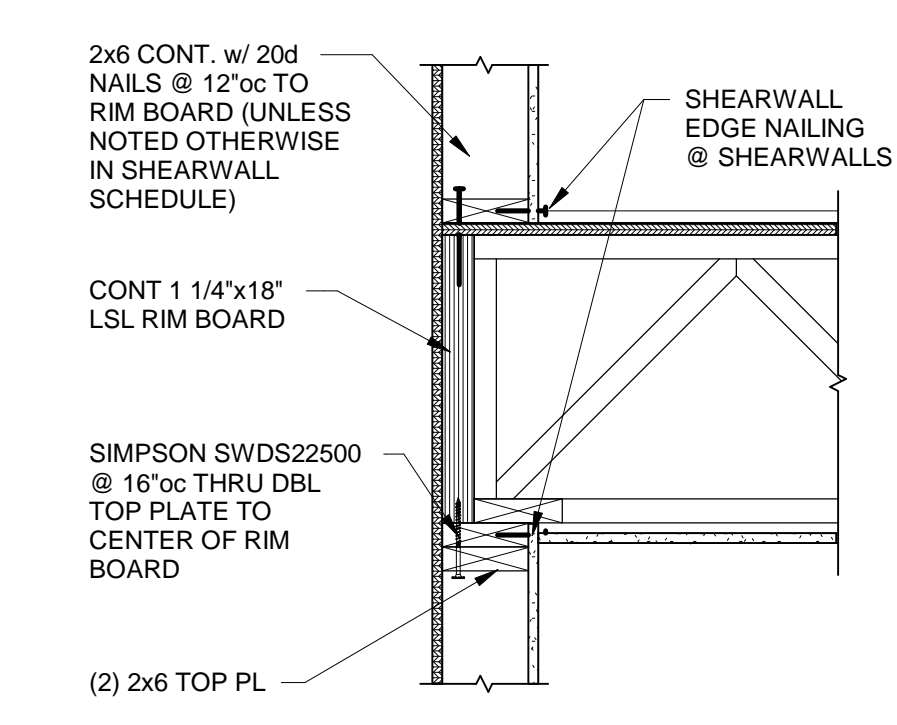
1" = 1'-0"



TYPICAL LATERAL NAILING AT EXTERIOR WALL PARALLEL TO TRUSSES

15A SECTION

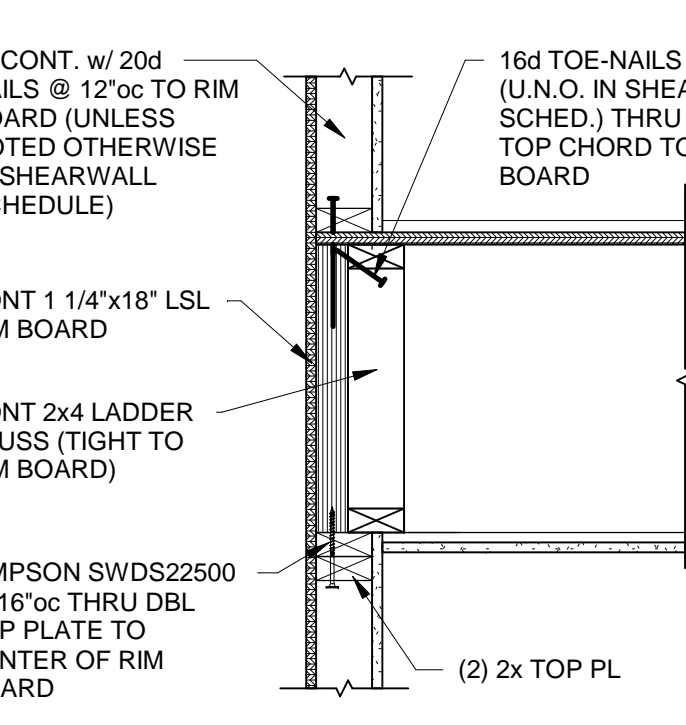
1" = 1'-0"



TYPICAL LATERAL NAILING AT ONE SIDED WALL WITH TRUSS BEARING

15B SECTION

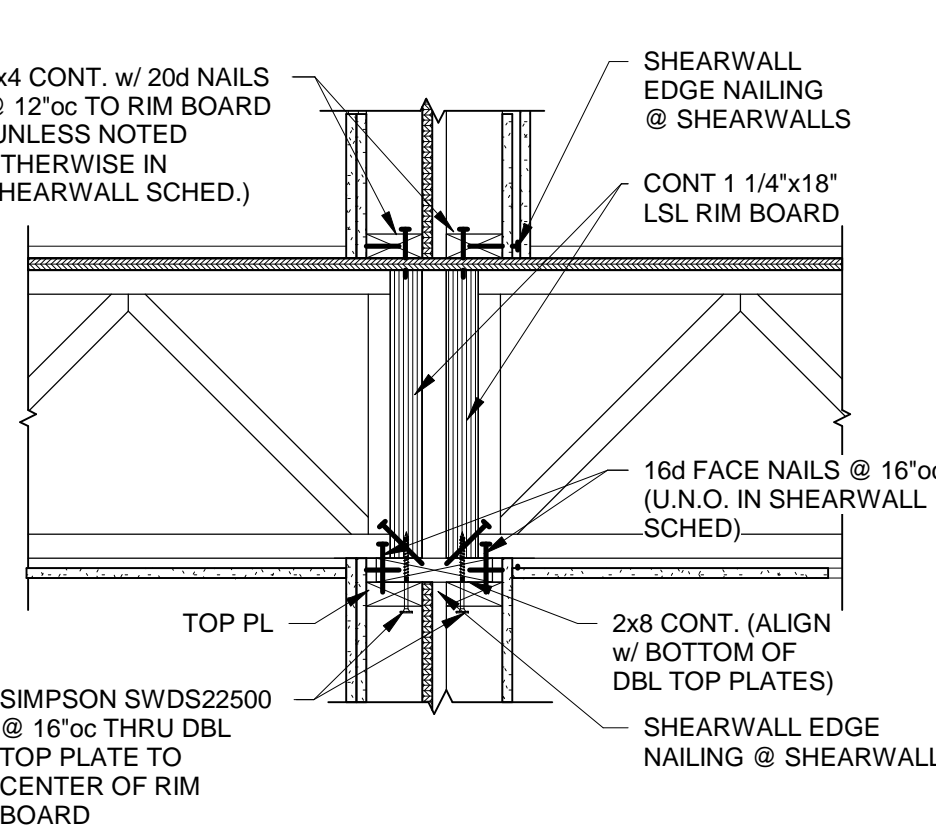
1" = 1'-0"



TYPICAL LATERAL NAILING AT UNIT DEMISING WALL OR ONE SIDED WALL PARALLEL TO TRUSSES

15C SECTION

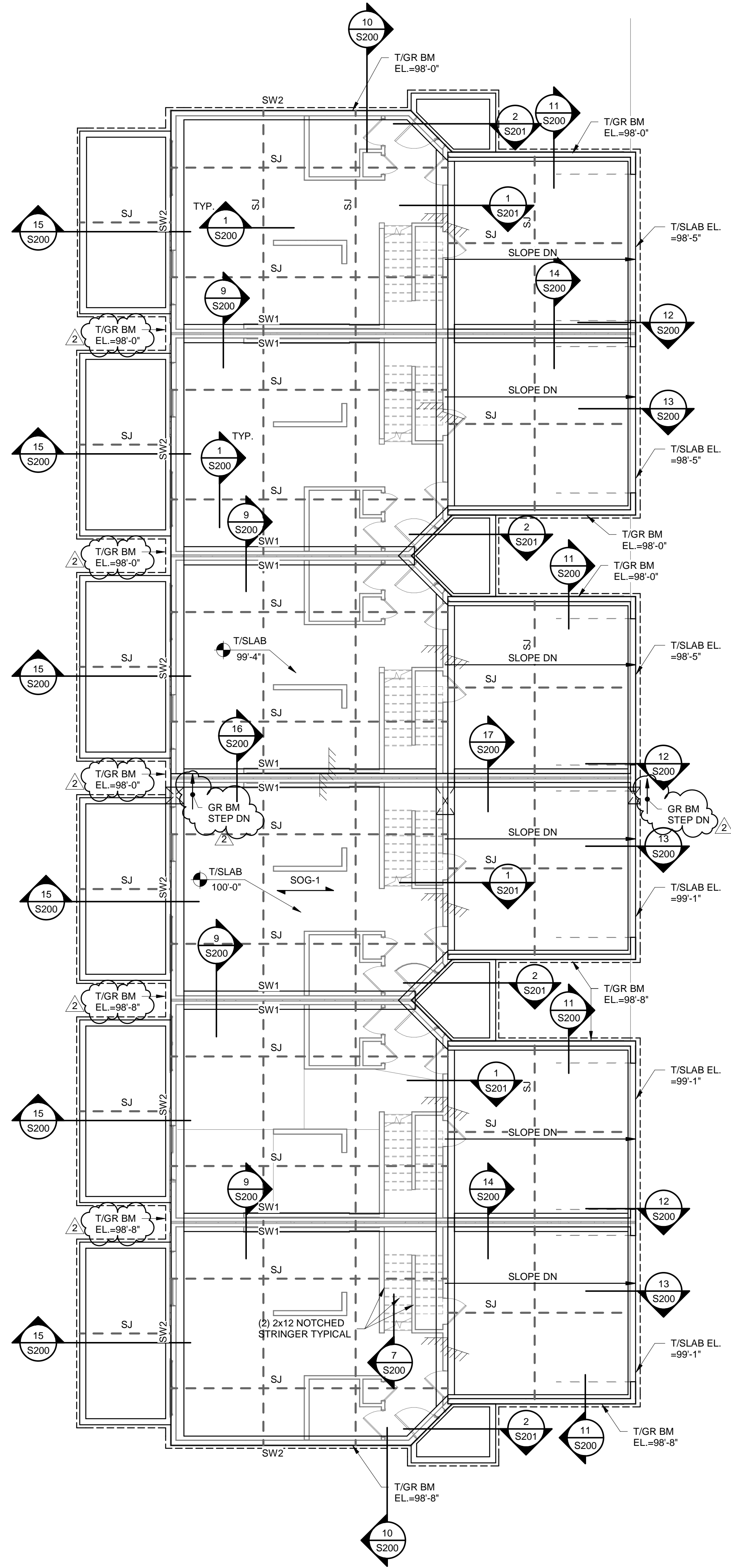
1" = 1'-0"



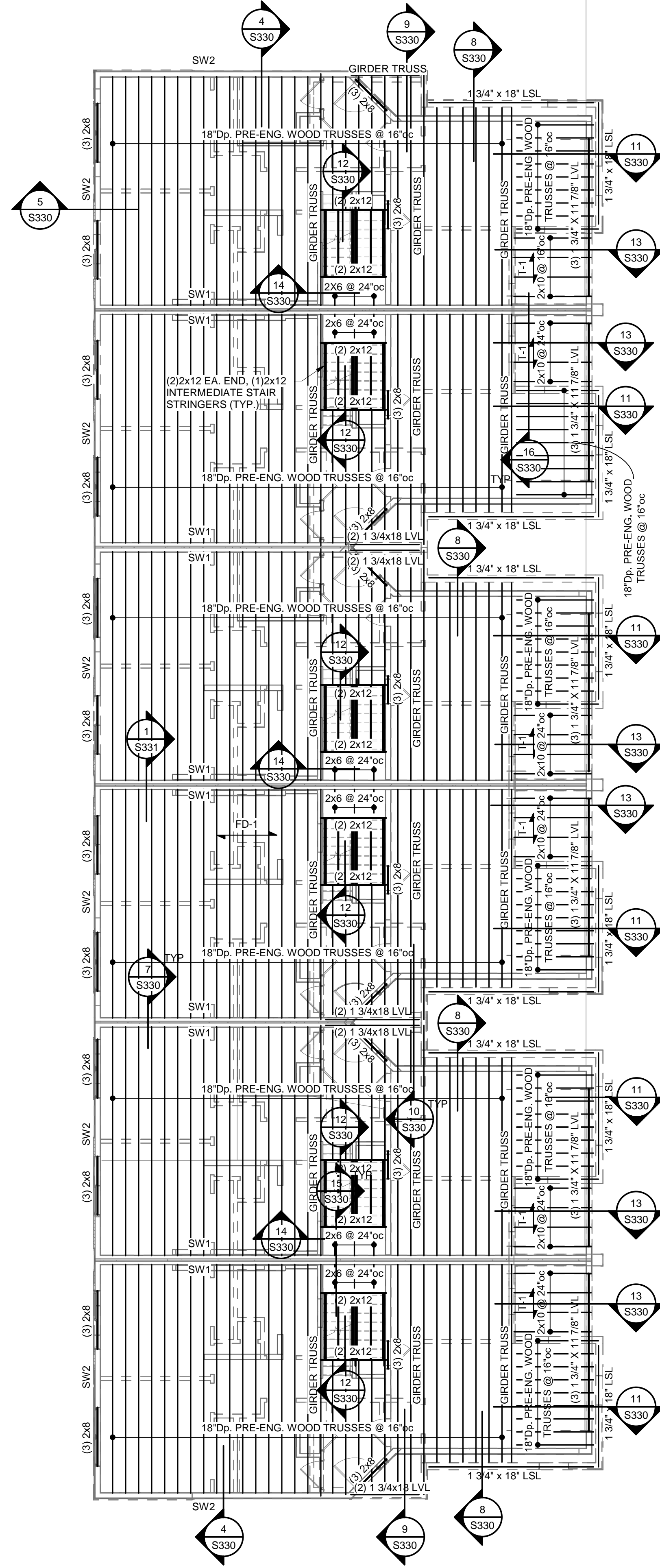
TYPICAL LATERAL NAILING AT DOUBLE UNIT DEMISING WALLS WITH TRUSS BEARING

15D SECTION

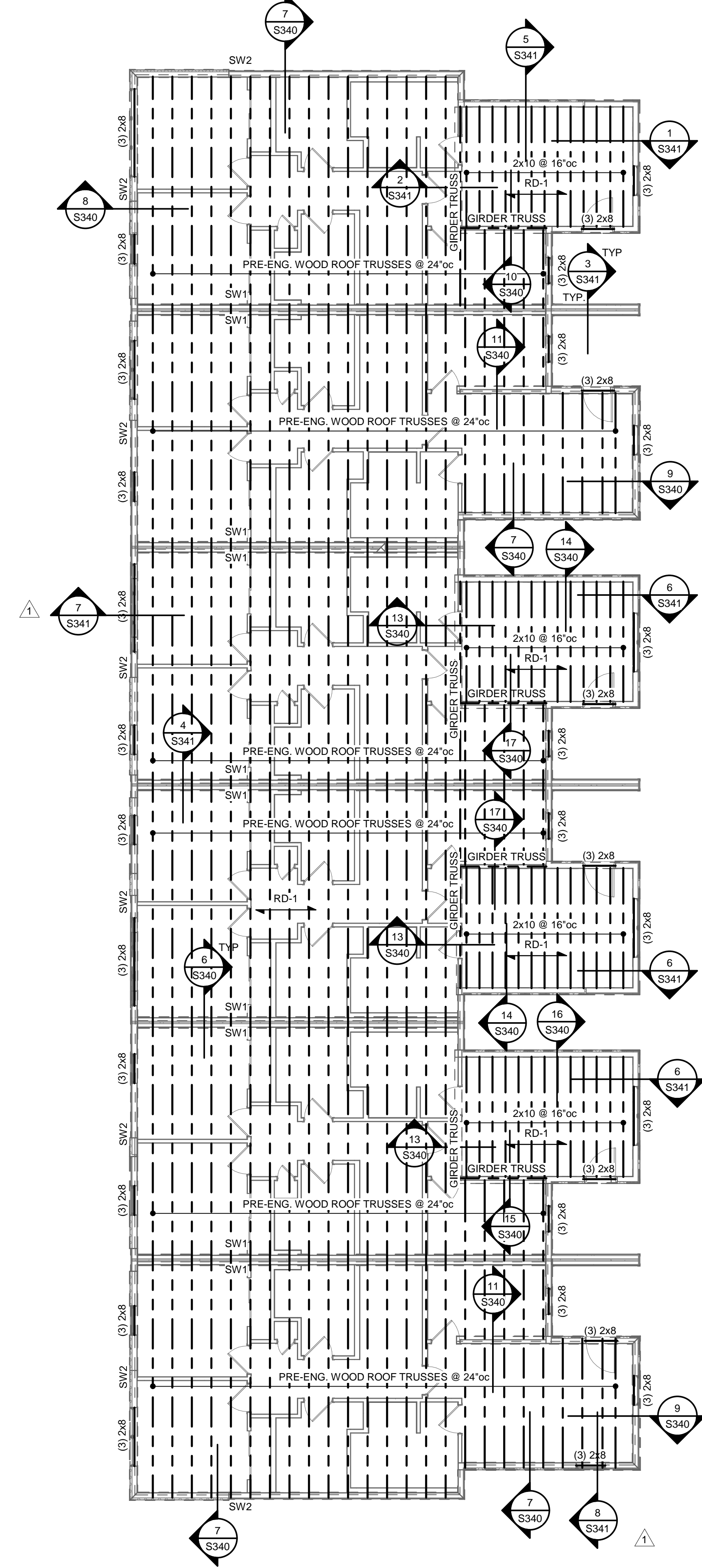
1" = 1'-0"



1 GROUP 1 - FOUNDATION PLAN
1/8" = 1'-0"



2 GROUP 1 - SECOND FLOOR FRAMING PLAN
1/8" = 1'-0"



3 GROUP 1 - ROOF FRAMING PLAN
1/8" = 1'-0"



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DATE: 9.2.21

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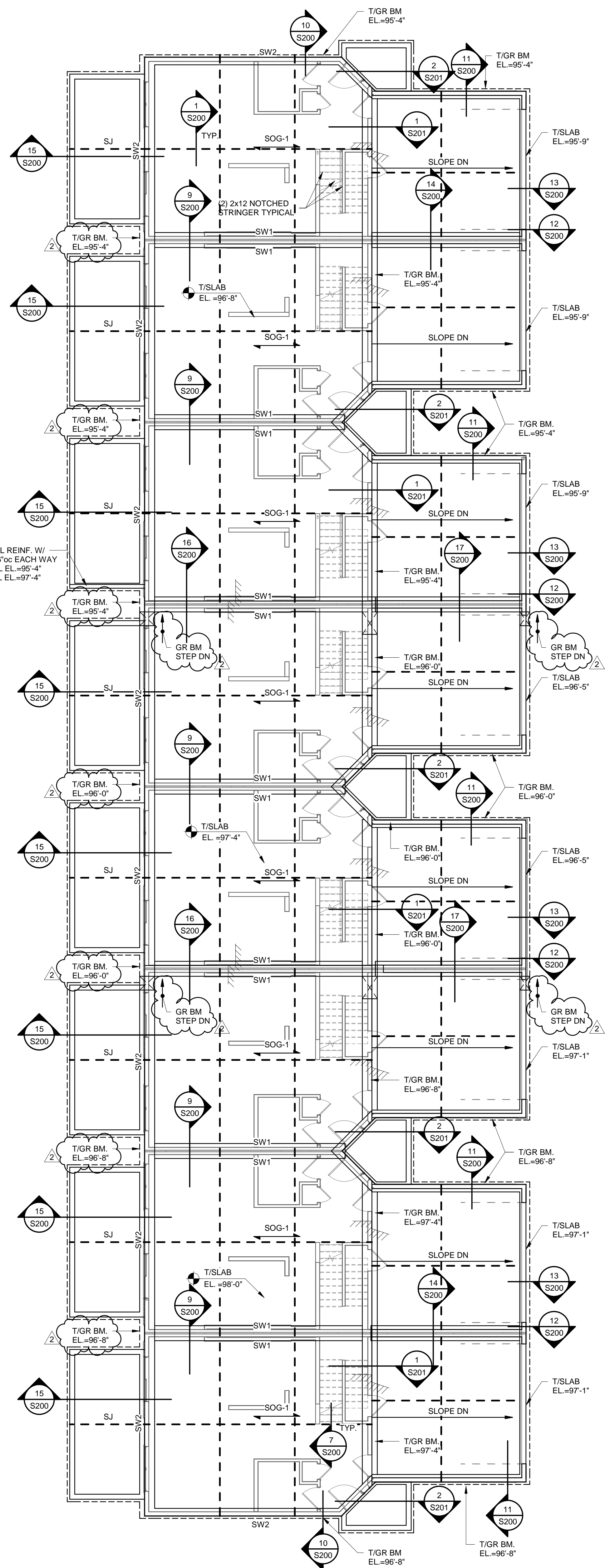
1 PERMIT COMMENTS 9.24.2021
2 ADDENDUM 1 11.12.2021

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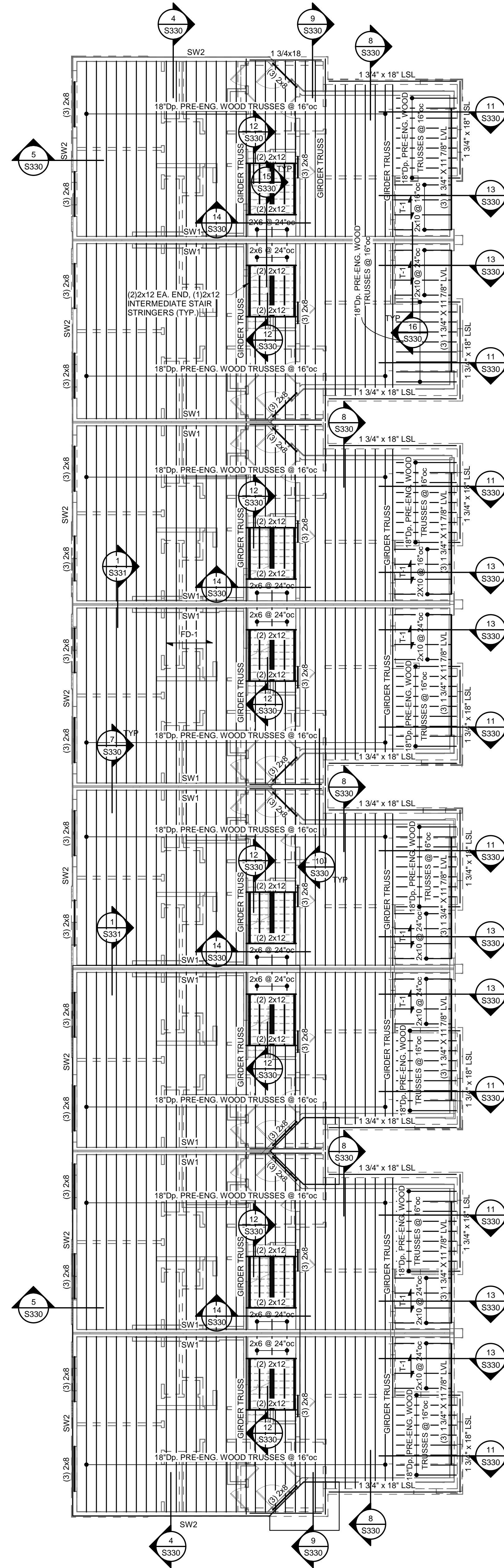
TRi PROJECT NO. 20-078

SHEET NO.

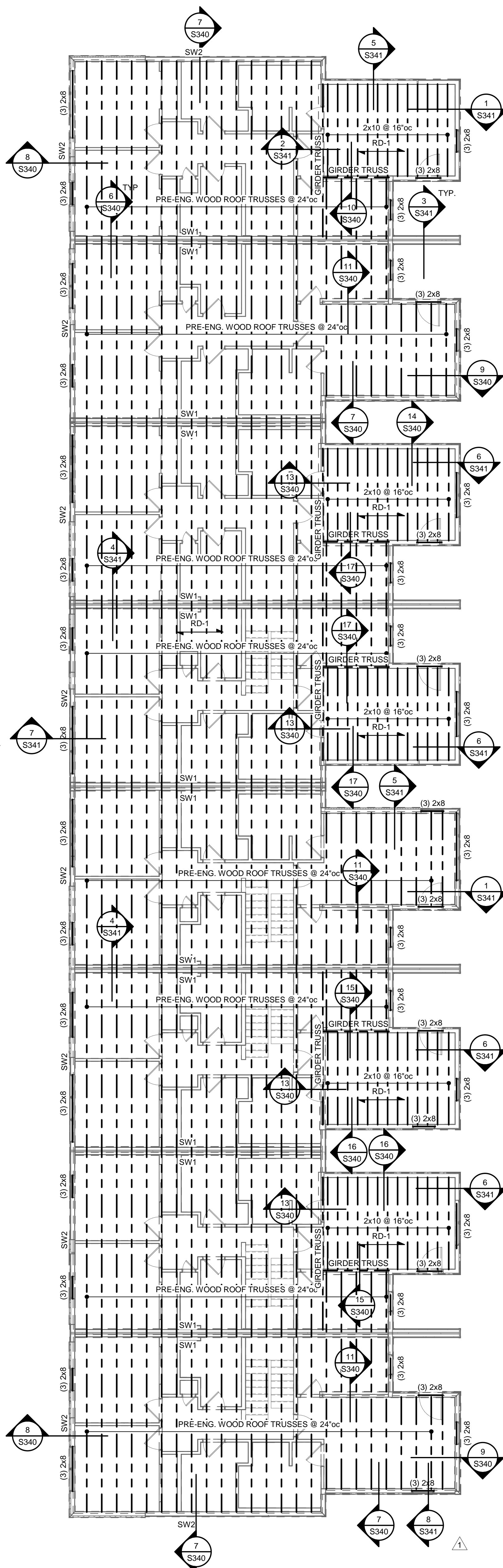
S101
GROUP 1 PLANS



1 GROUP 2 - FOUNDATION PLAN
1/8" = 1'-0"



2 GROUP 2 - SECOND FLOOR FRAMING PLAN
1/8" = 1'-0"



3 GROUP 2 - ROOF FRAMING PLAN
1/8" = 1'-0"

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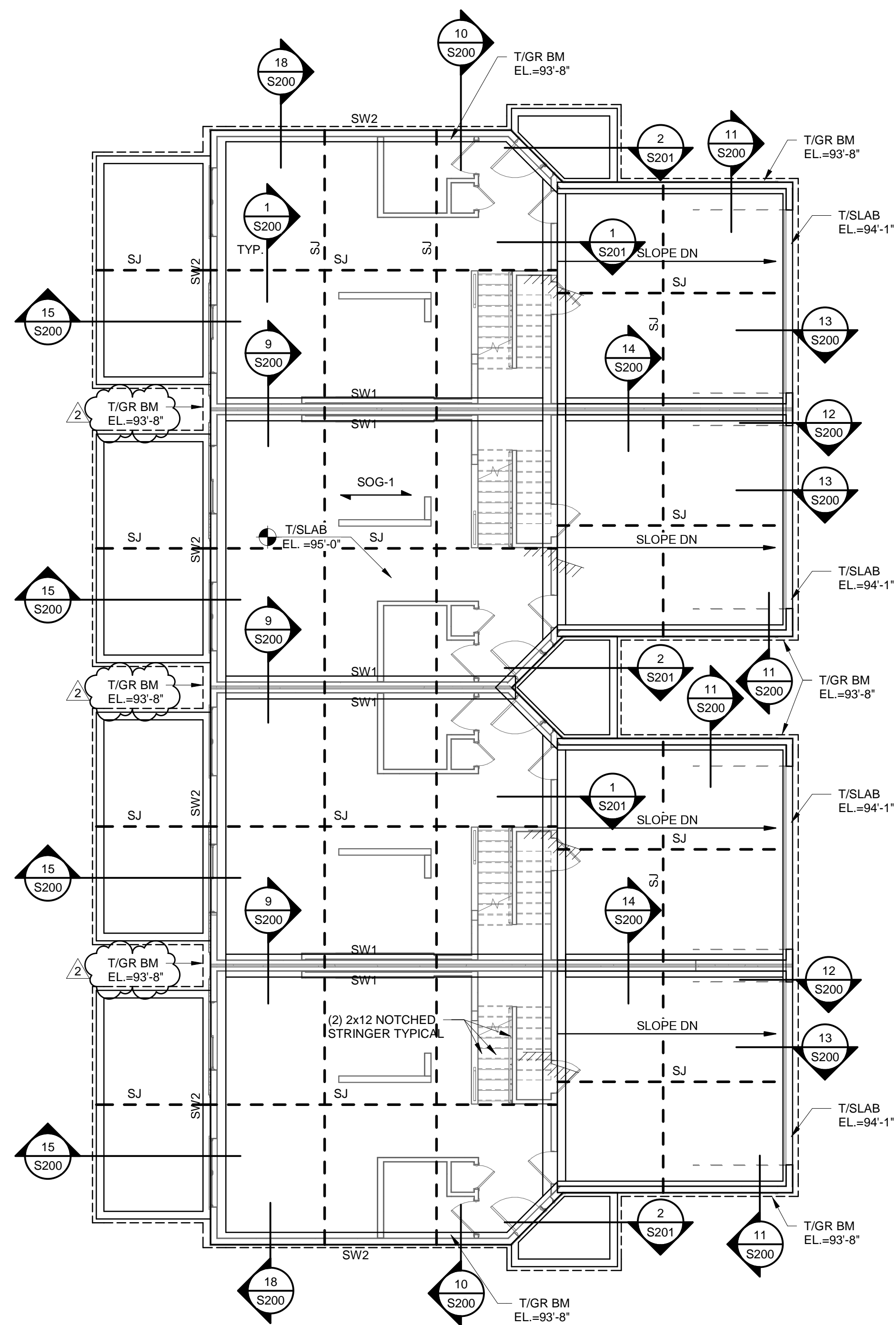
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1	PERMIT COMMENTS	9.24.2021
2	ADDENDUM 1	11.12.2021

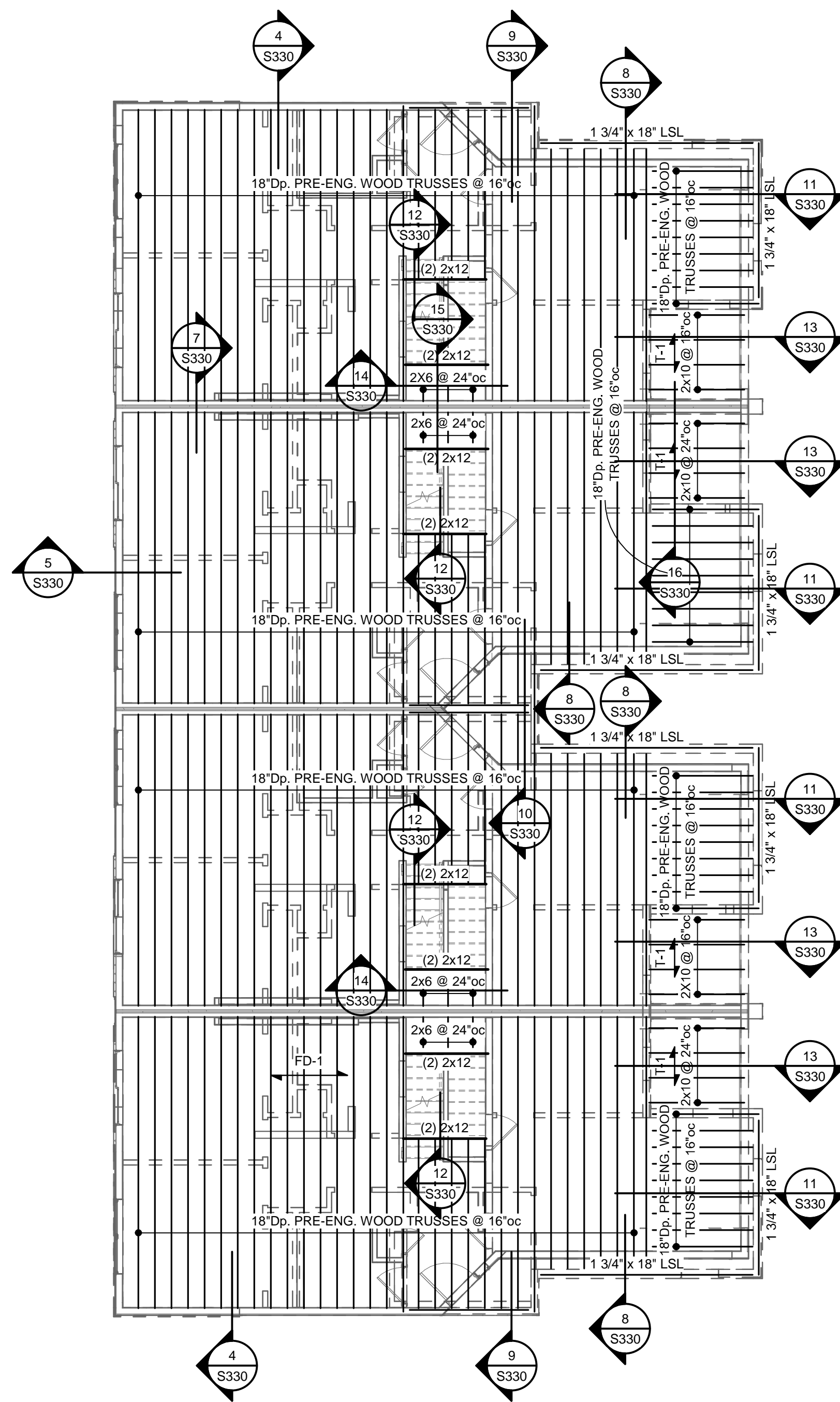
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TRJ PROJECT NO.: 20-078

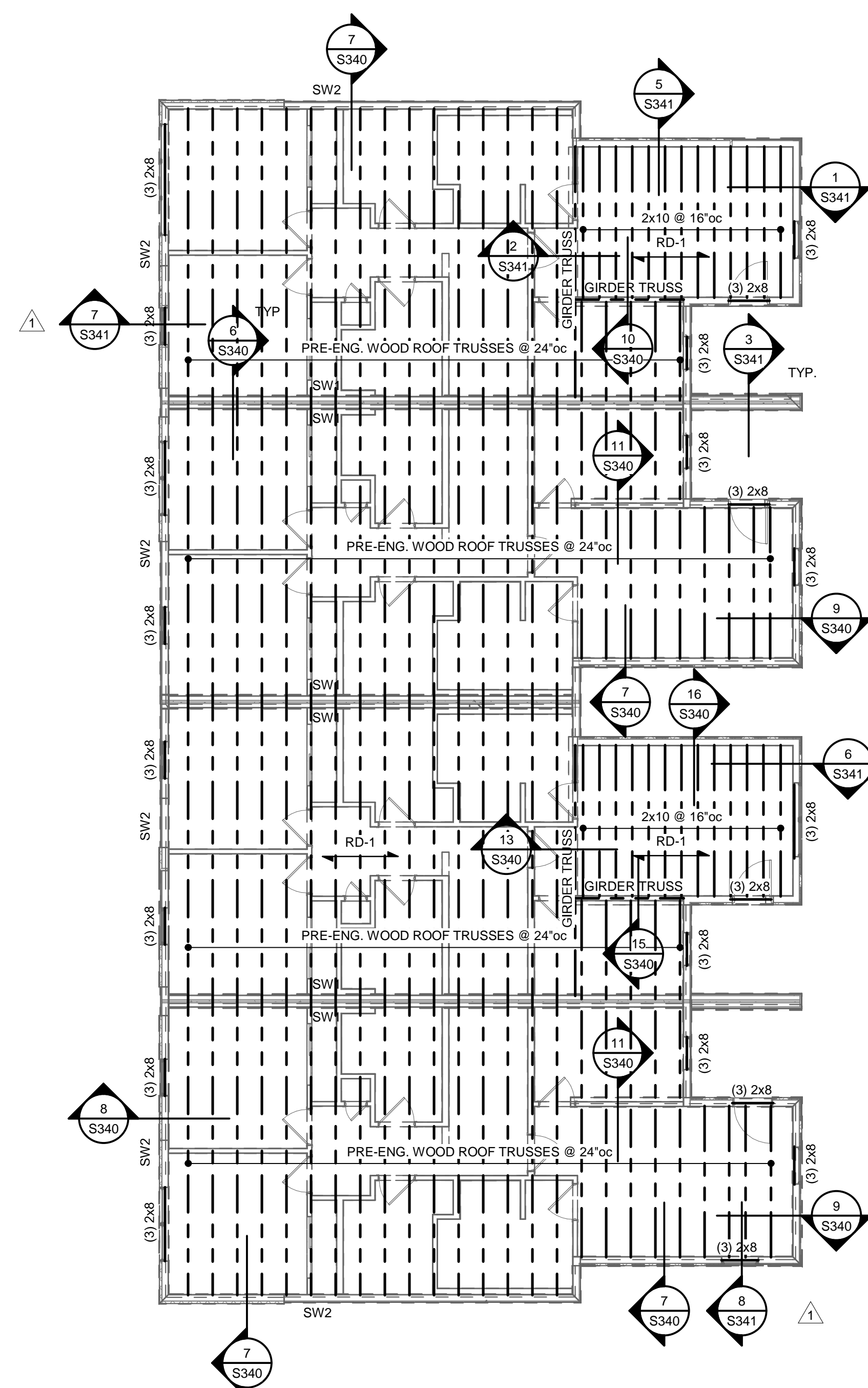
SHEET NO.



1 GROUP 3 - FOUNDATION PLAN
1/8" = 1'-0"



2 GROUP 3 - SECOND FLOOR FRAMING PLAN
1/8" = 1'-0"



3 GROUP 3 - ROOF FRAMING PLAN
1/8" = 1'-0"



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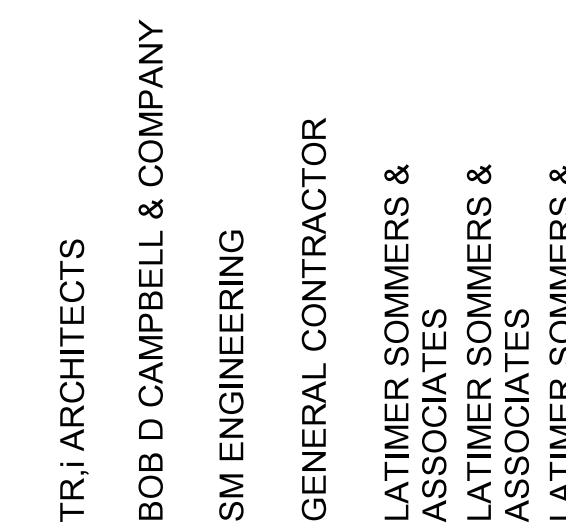
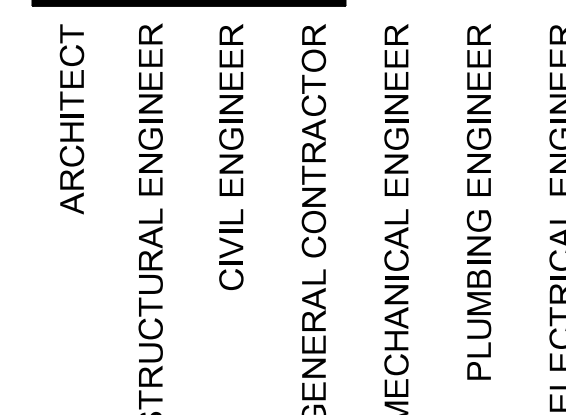
1 PERMIT COMMENTS 9.24.2021
2 ADDENDUM 1 11.12.2021

DWG BY CB

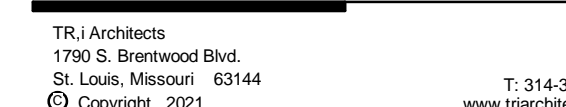
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SHEET NO.

S103
GROUP 3 PLANS



Lee's Summit, Missouri

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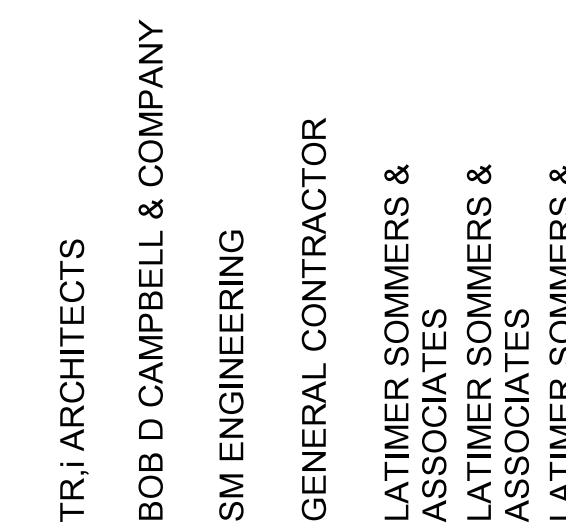
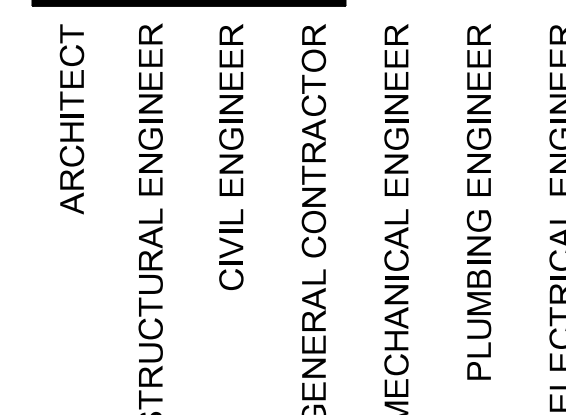
2 ADDENDUM 1 11 12

TR.i PROJECT NO. 20-

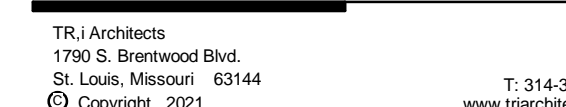
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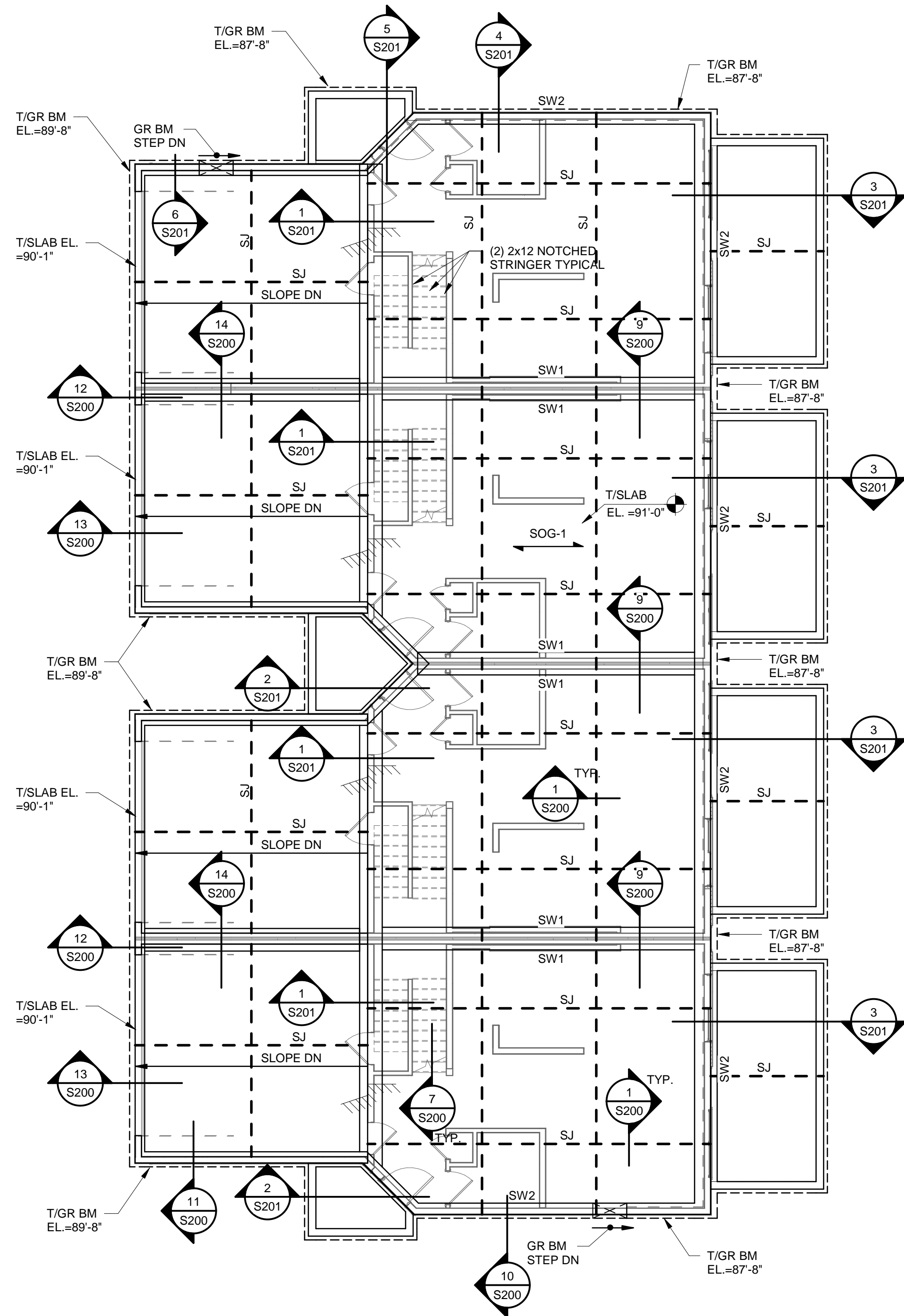


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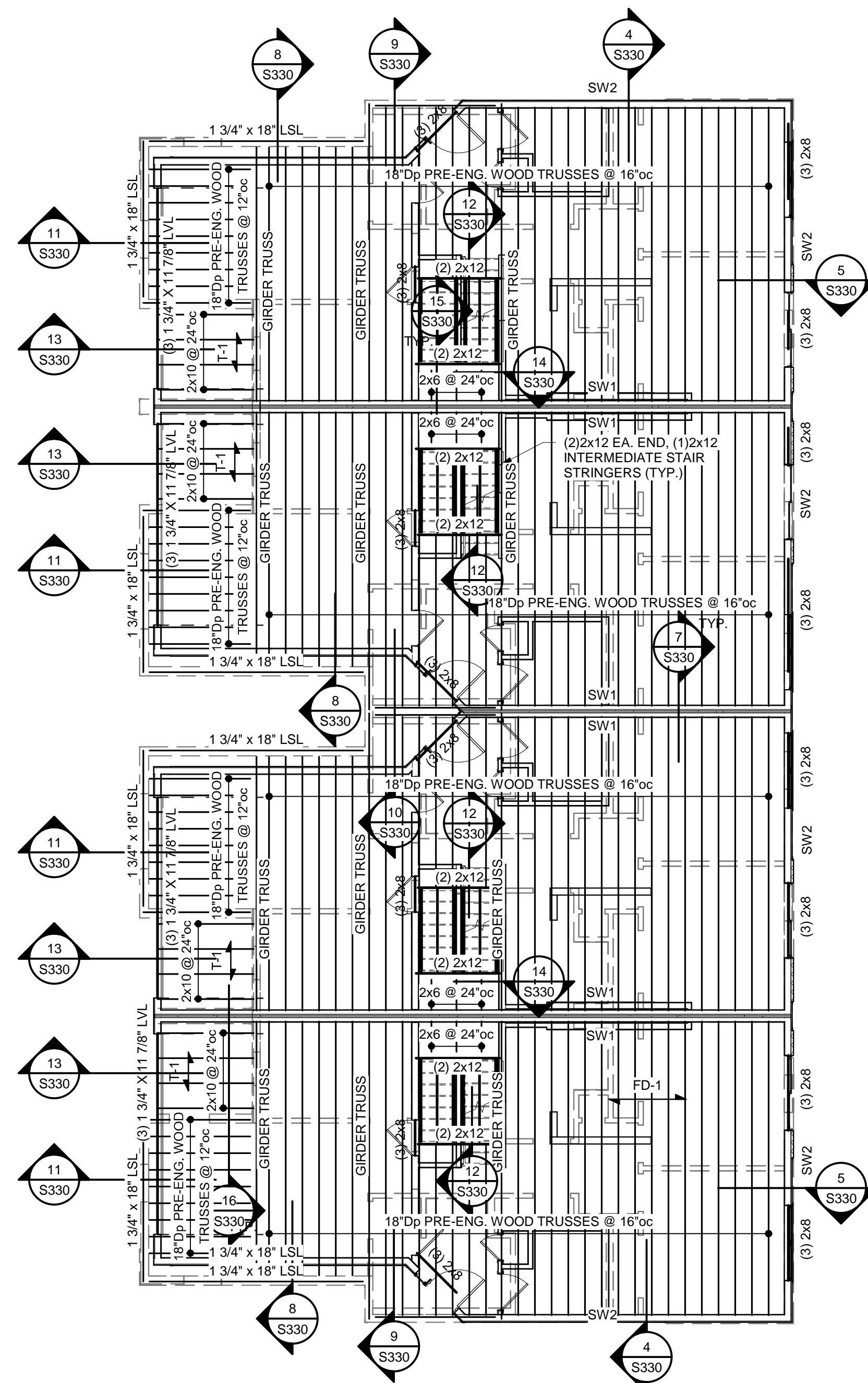
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GROUP 6 PLAN

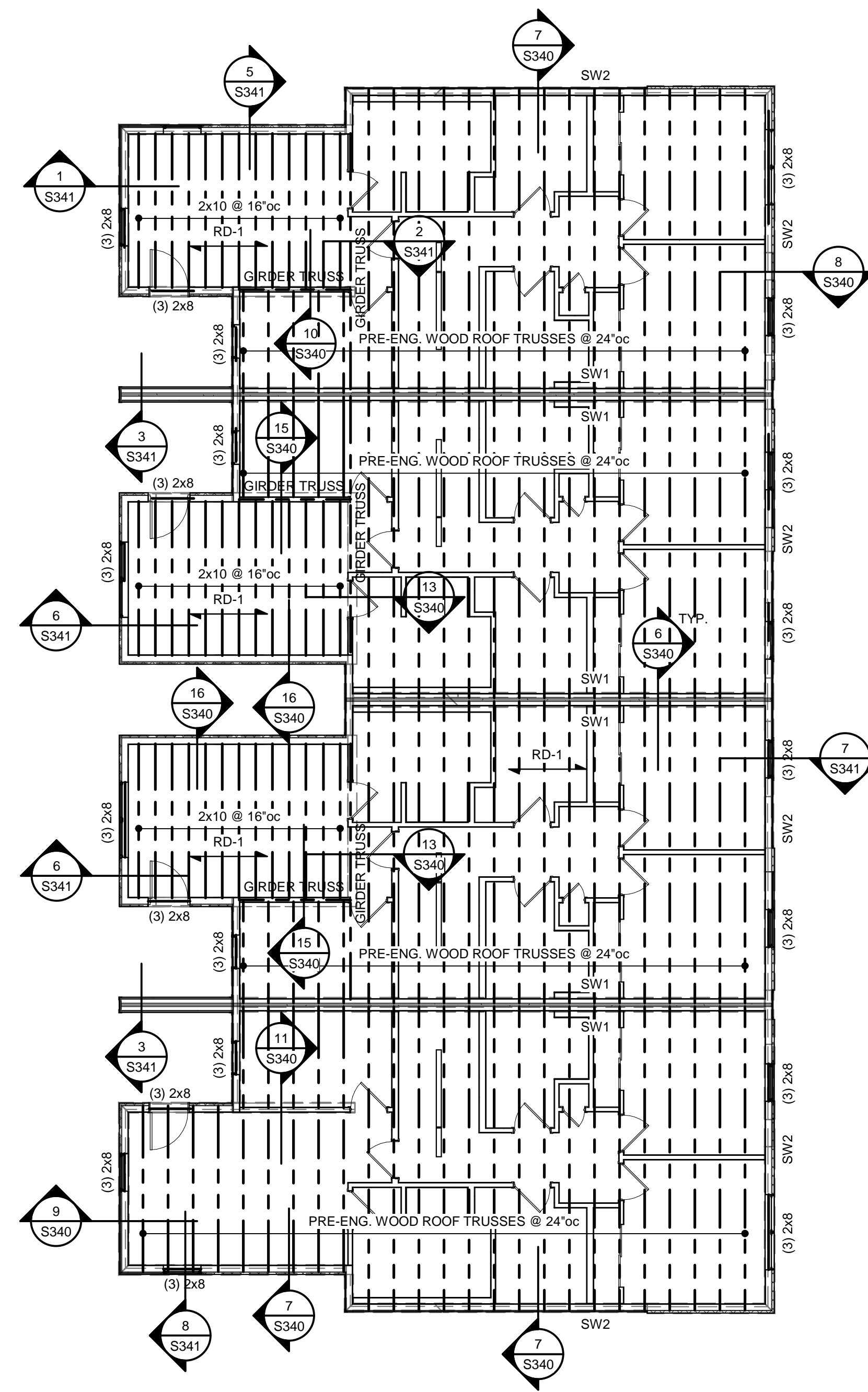




1 GROUP 7 - FOUNDATION PLAN
1/8" = 1'-0"



2 GROUP 7 - SECOND FLOOR FRAMING PLAN
1/8" = 1'-0"



3 GROUP 7 - ROOF FRAMING PLAN
1/8" = 1'-0"



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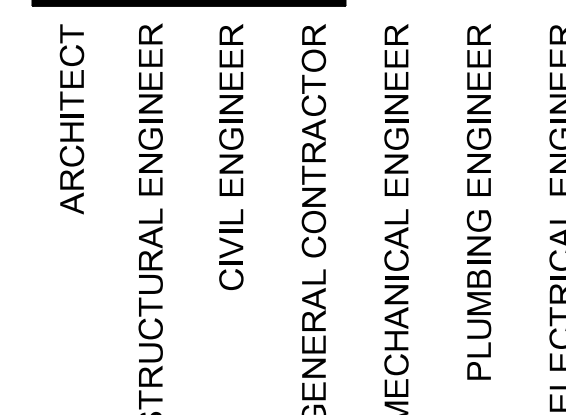
2 ADDENDUM 1 11.12.2021

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TRJ PROJECT NO. 20-078

SHEET NO.

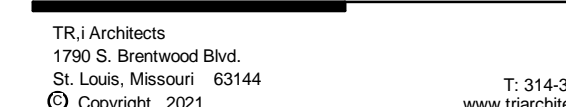
S107
GROUP 7 PLANS



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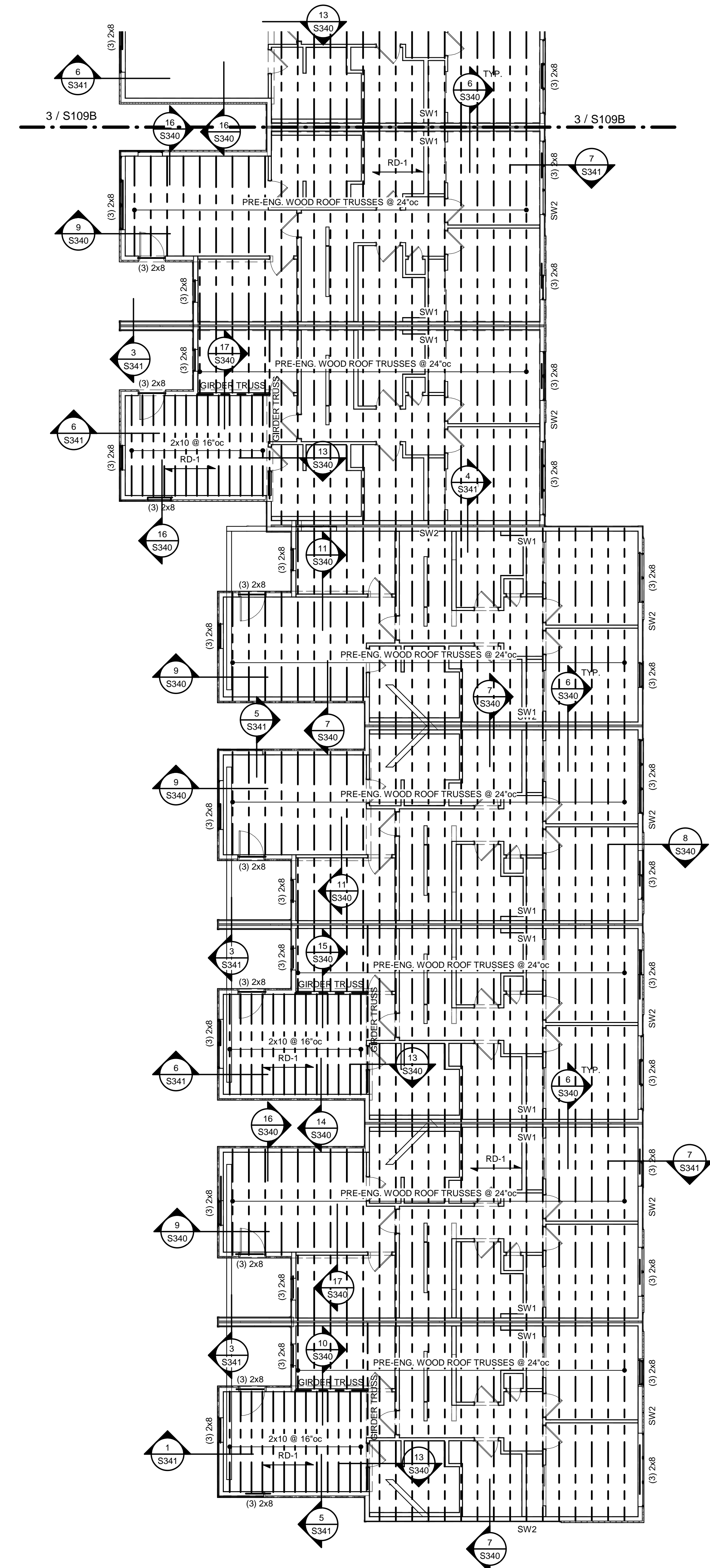
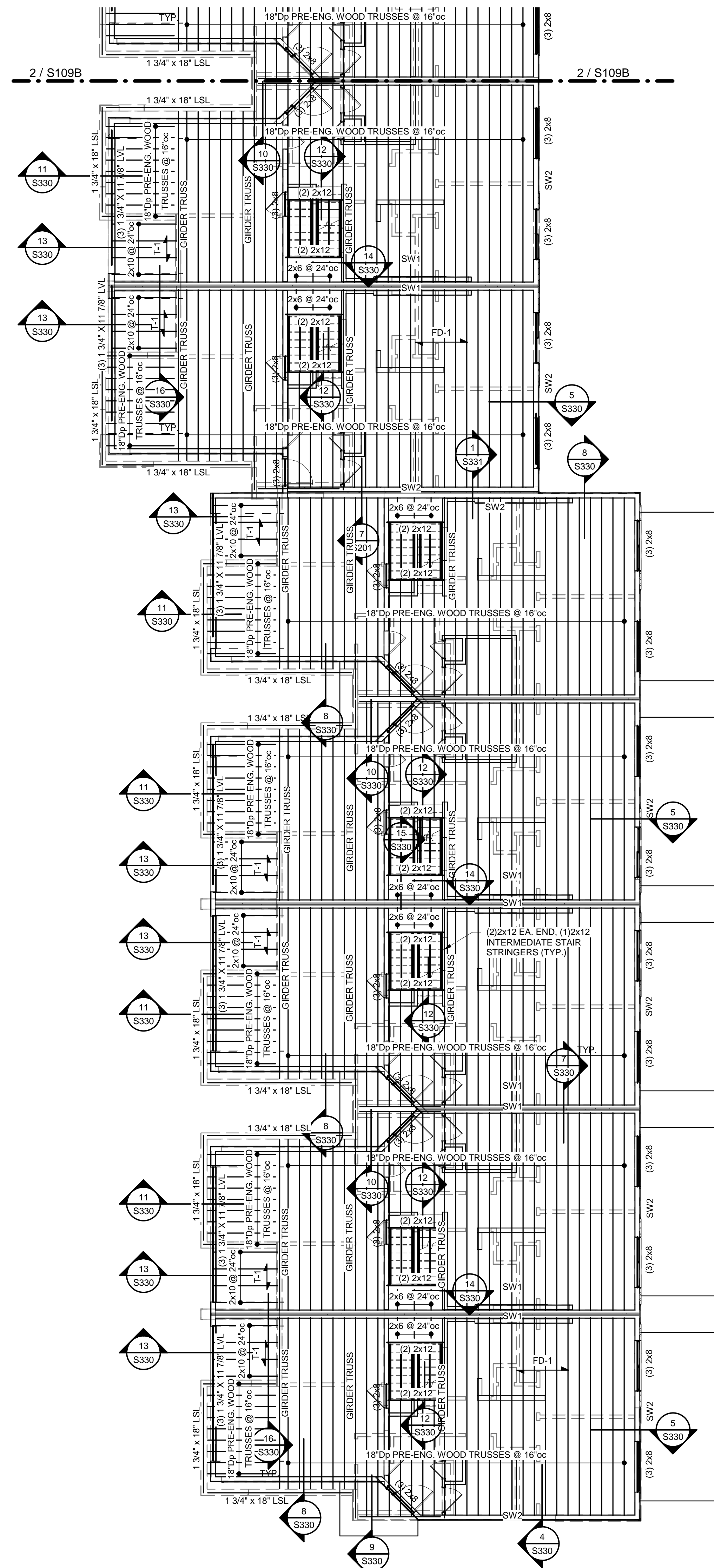
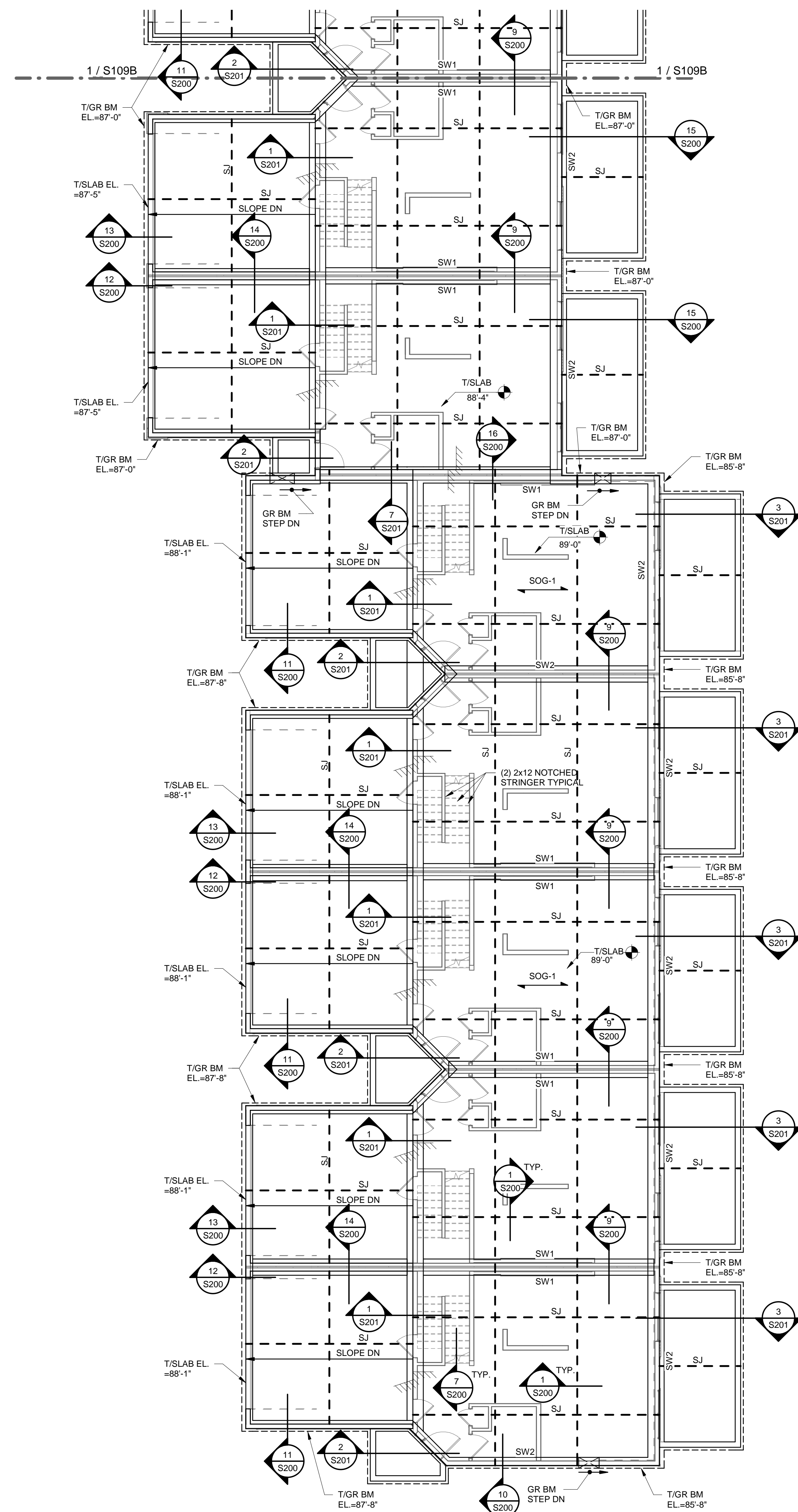
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GROUP 8 PLANS



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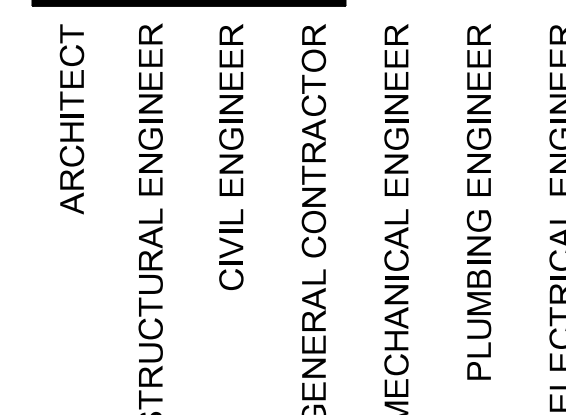
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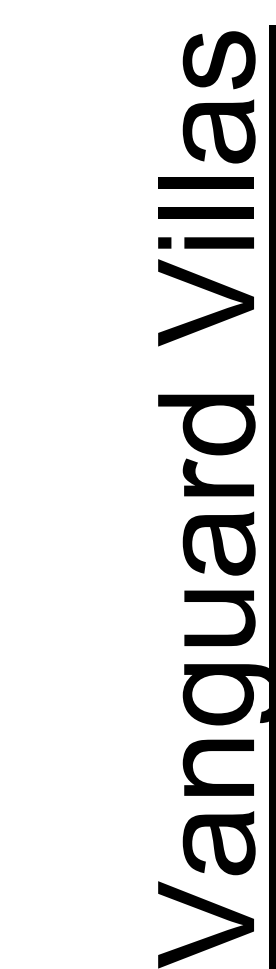
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GROUP 9 PLANS



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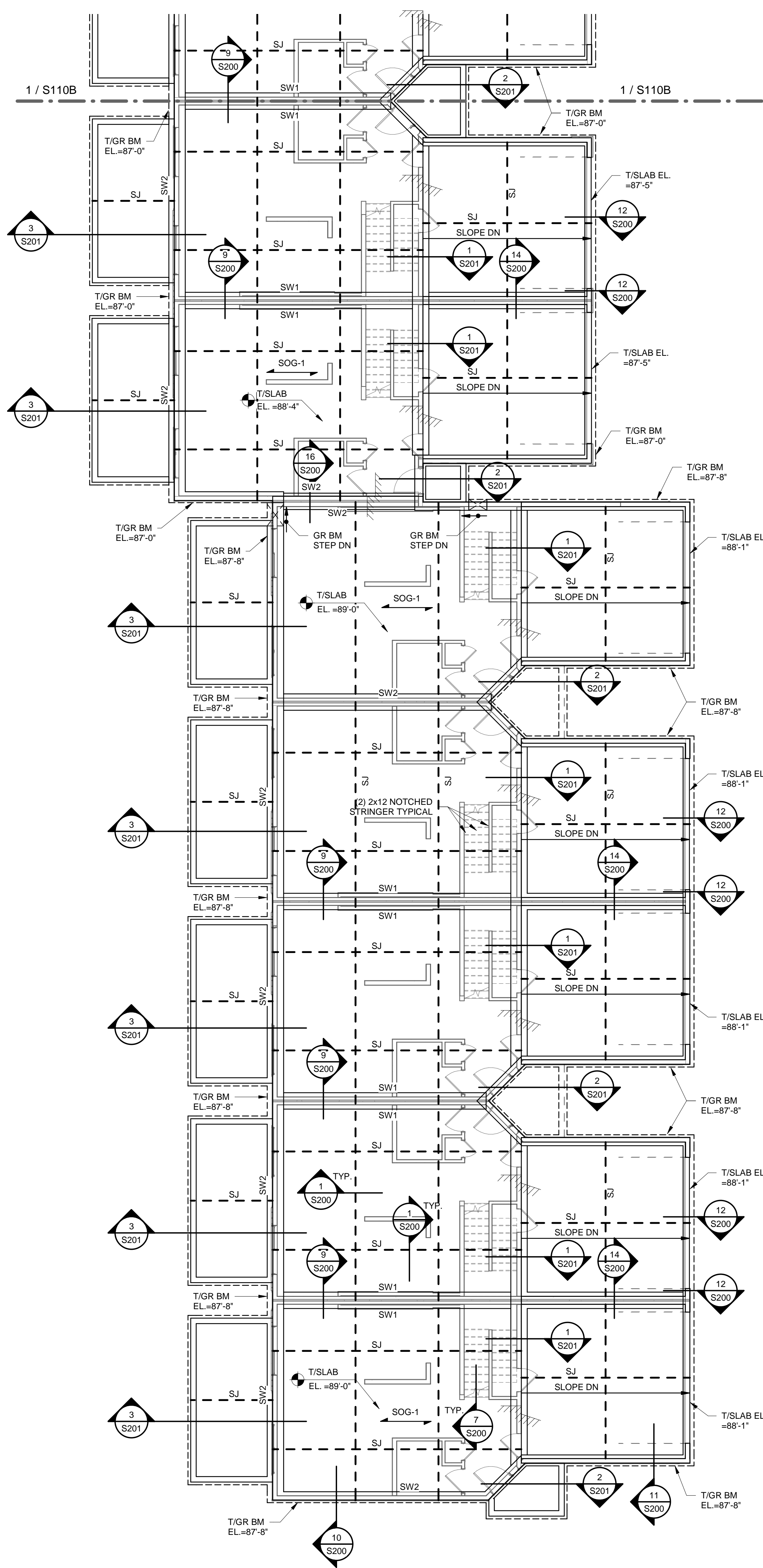
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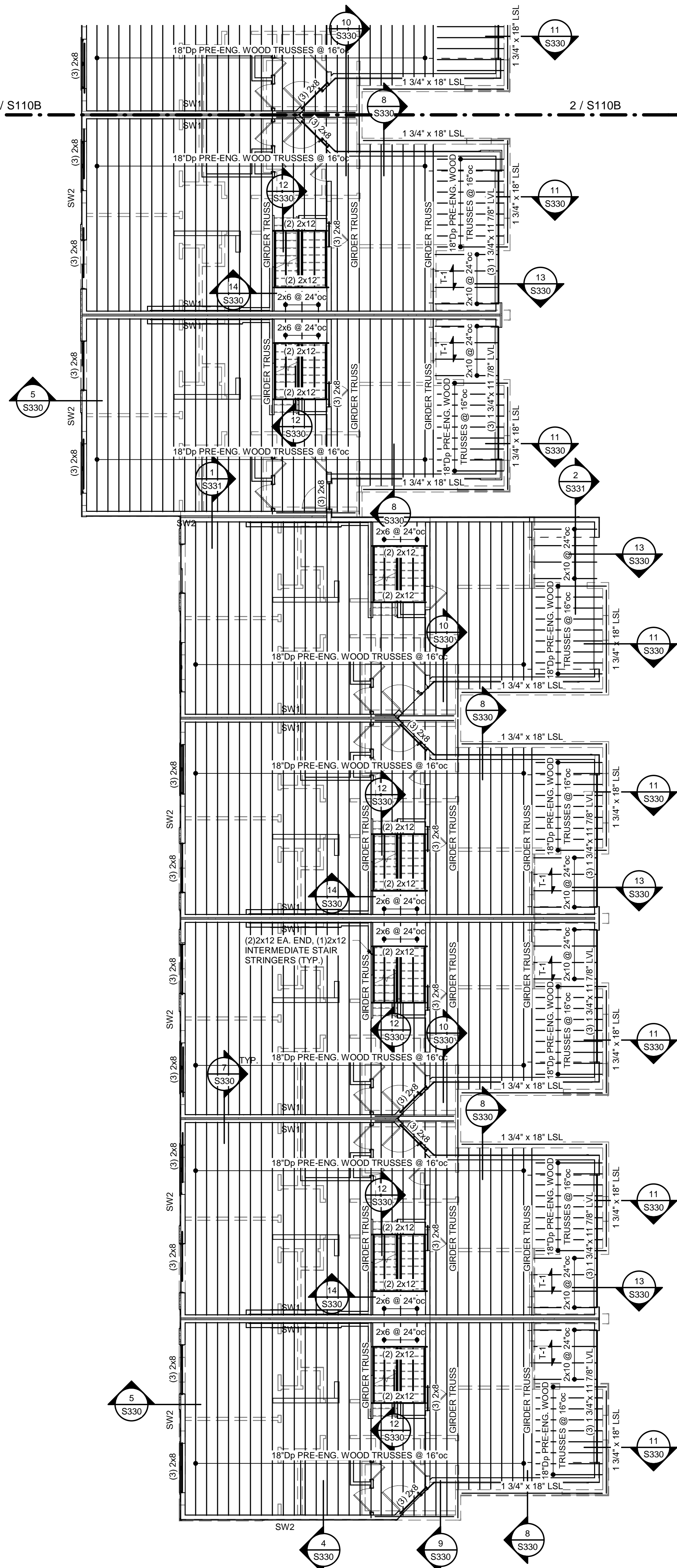
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S109B
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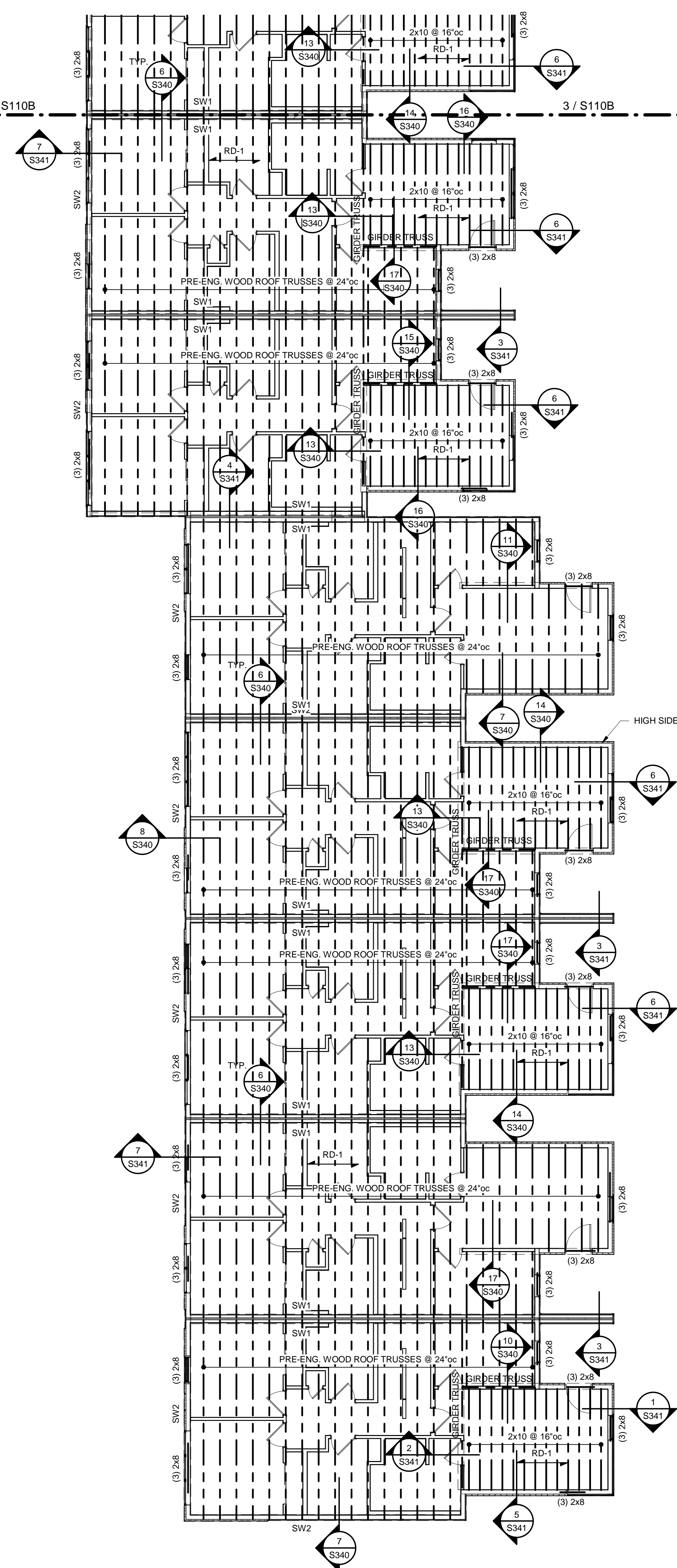




1 GROUP 10 - FOUNDATION PLAN
1/8" = 1'-0"



2 GROUP 10 - SECOND FLOOR FRAMING PLAN
1/8" = 1'-0"



3 GROUP 10 - ROOF FRAMING PLAN
1/8" = 1'-0"

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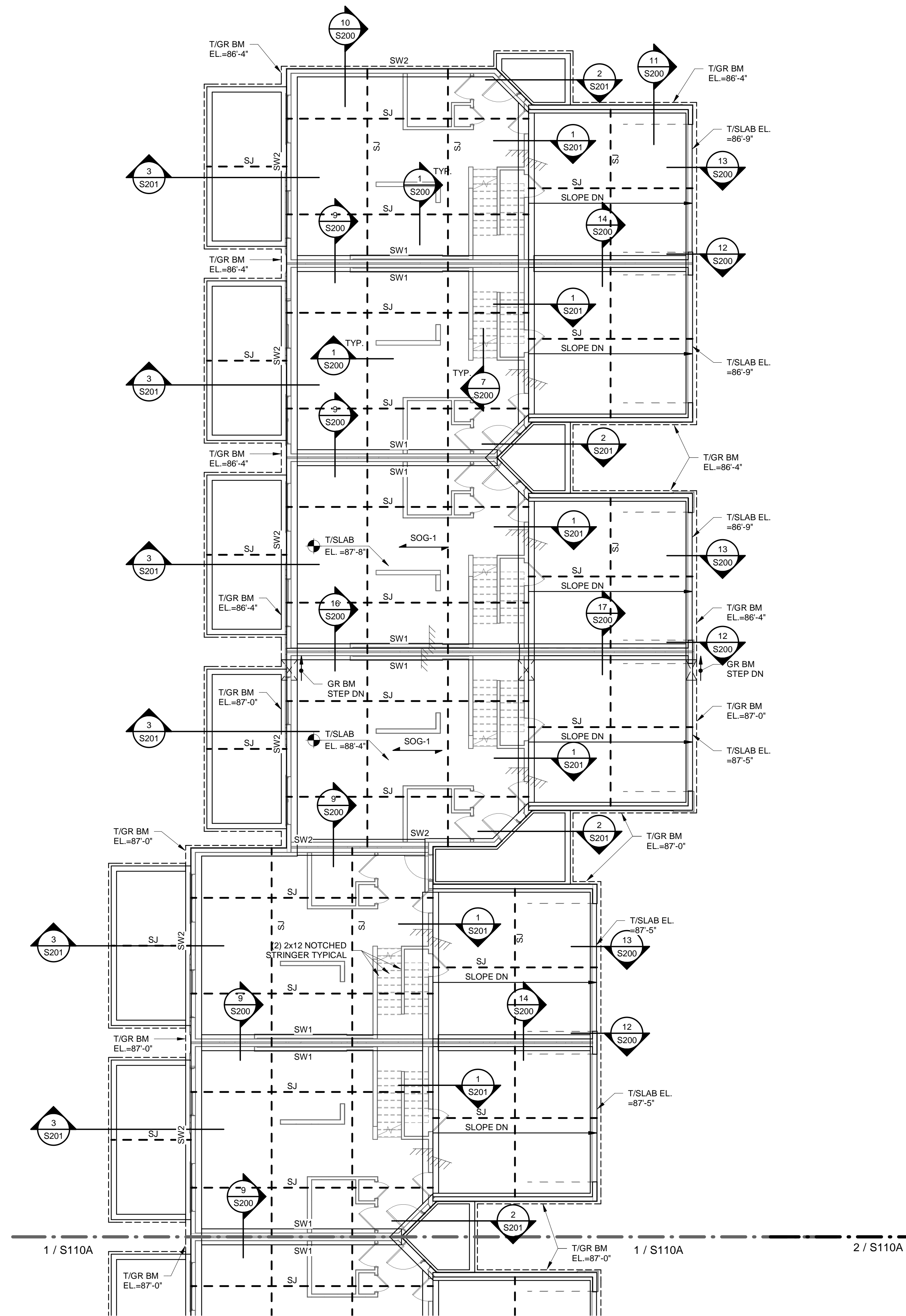
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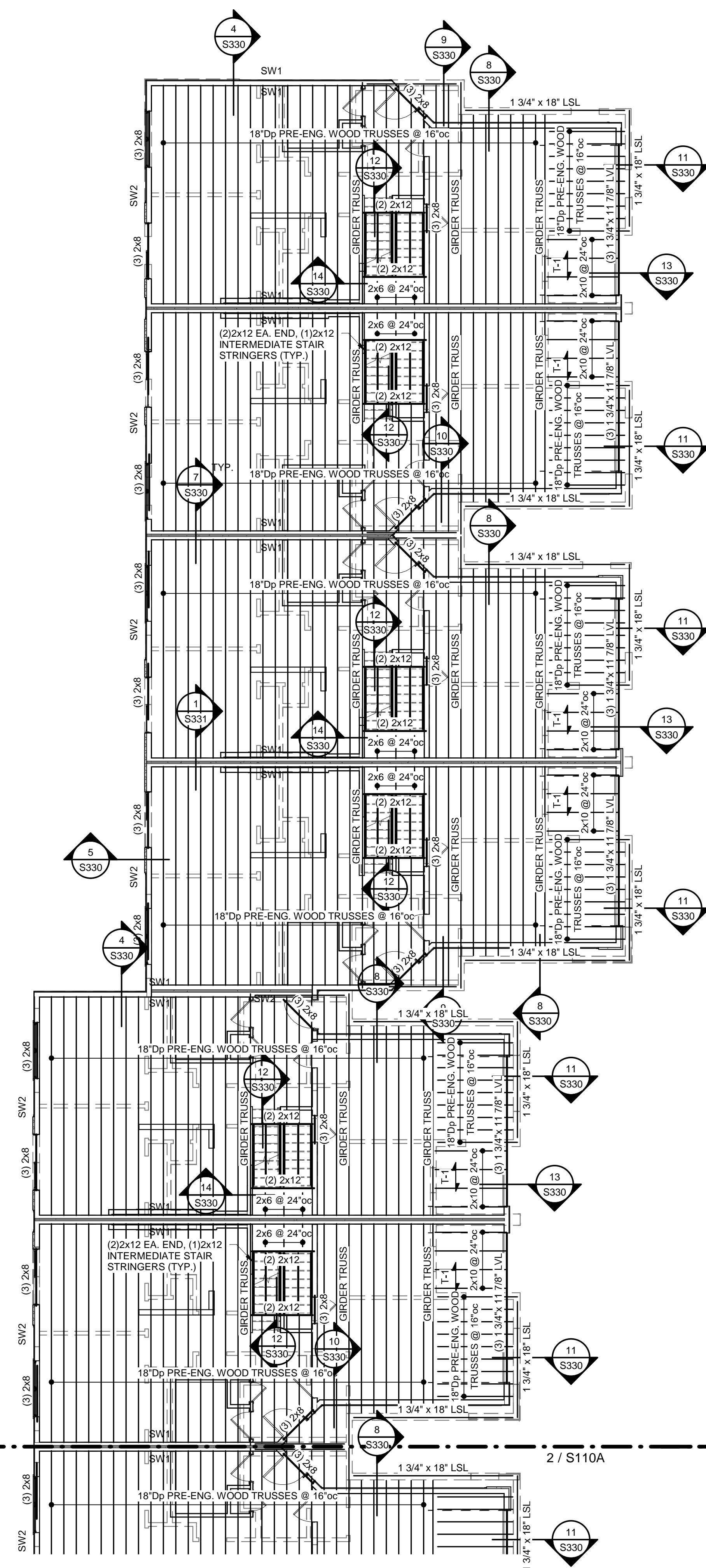
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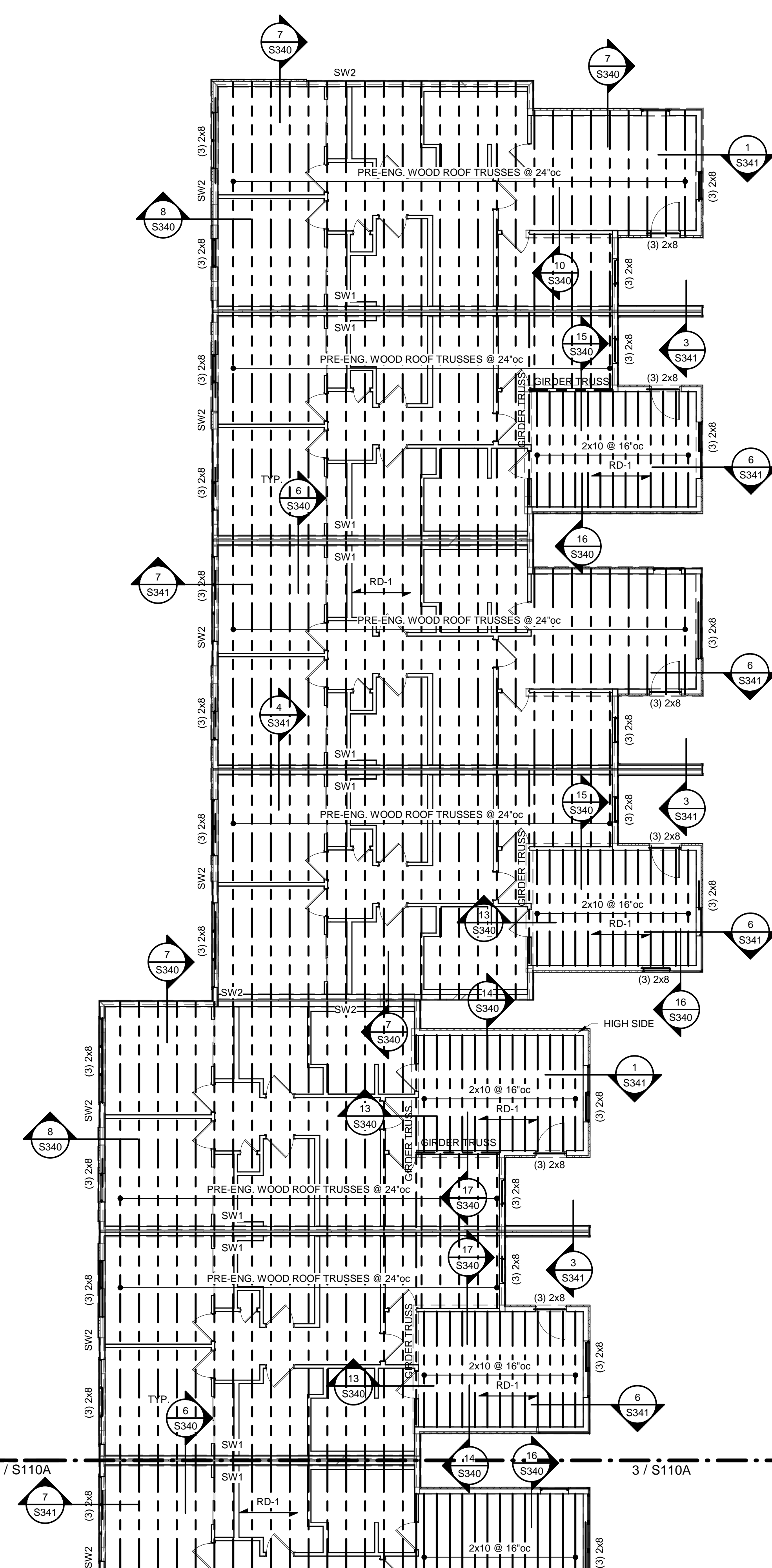
S110A
GROUP 10 PLANS



1 GROUP 10 - FOUNDATION PLAN
1/8" = 1'-0"



2 GROUP 10 - SECOND FLOOR FRAMING PLAN
1/8" = 1'-0"



3 GROUP 10 - ROOF FRAMING PLAN
1/8" = 1'-0"



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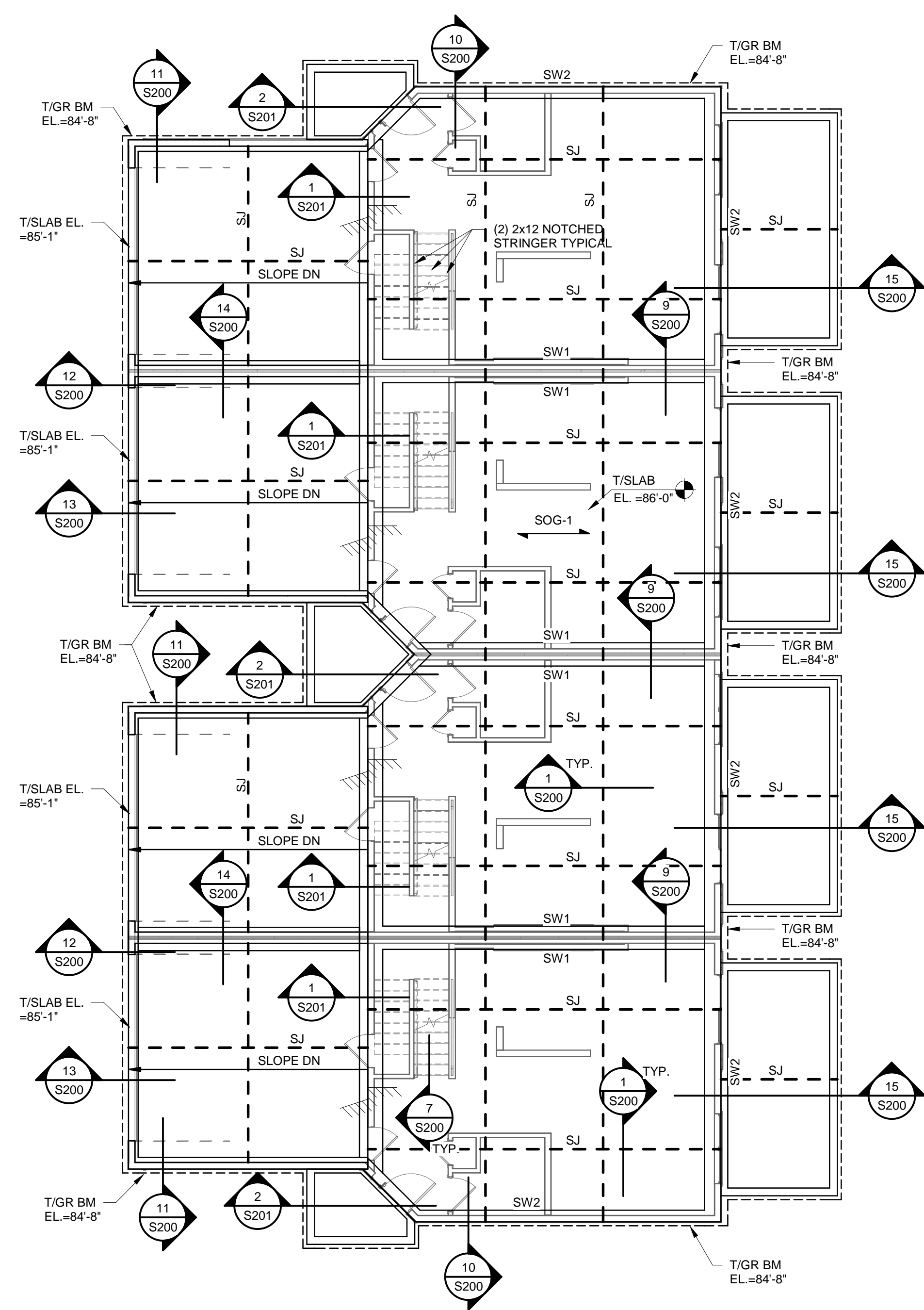
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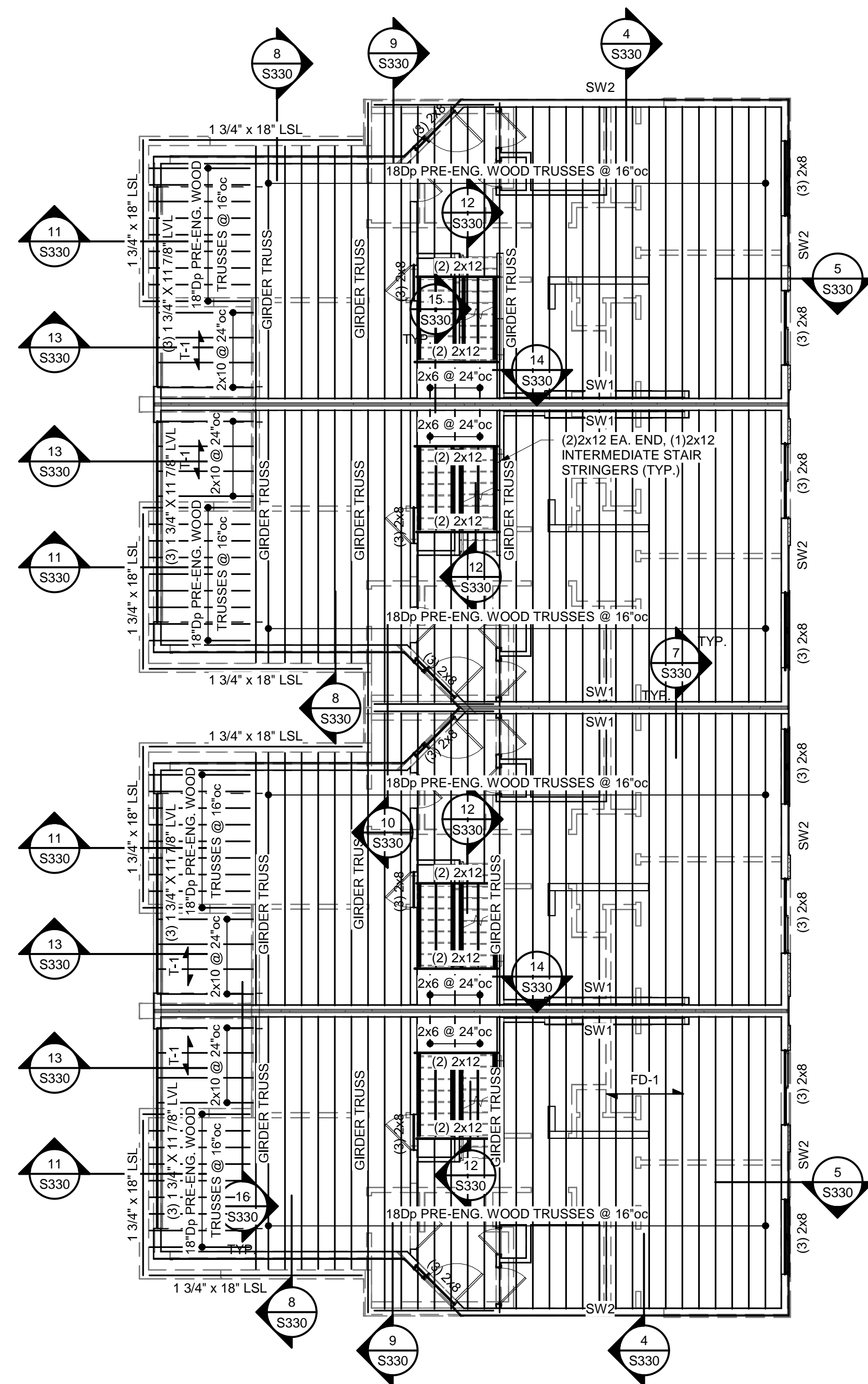
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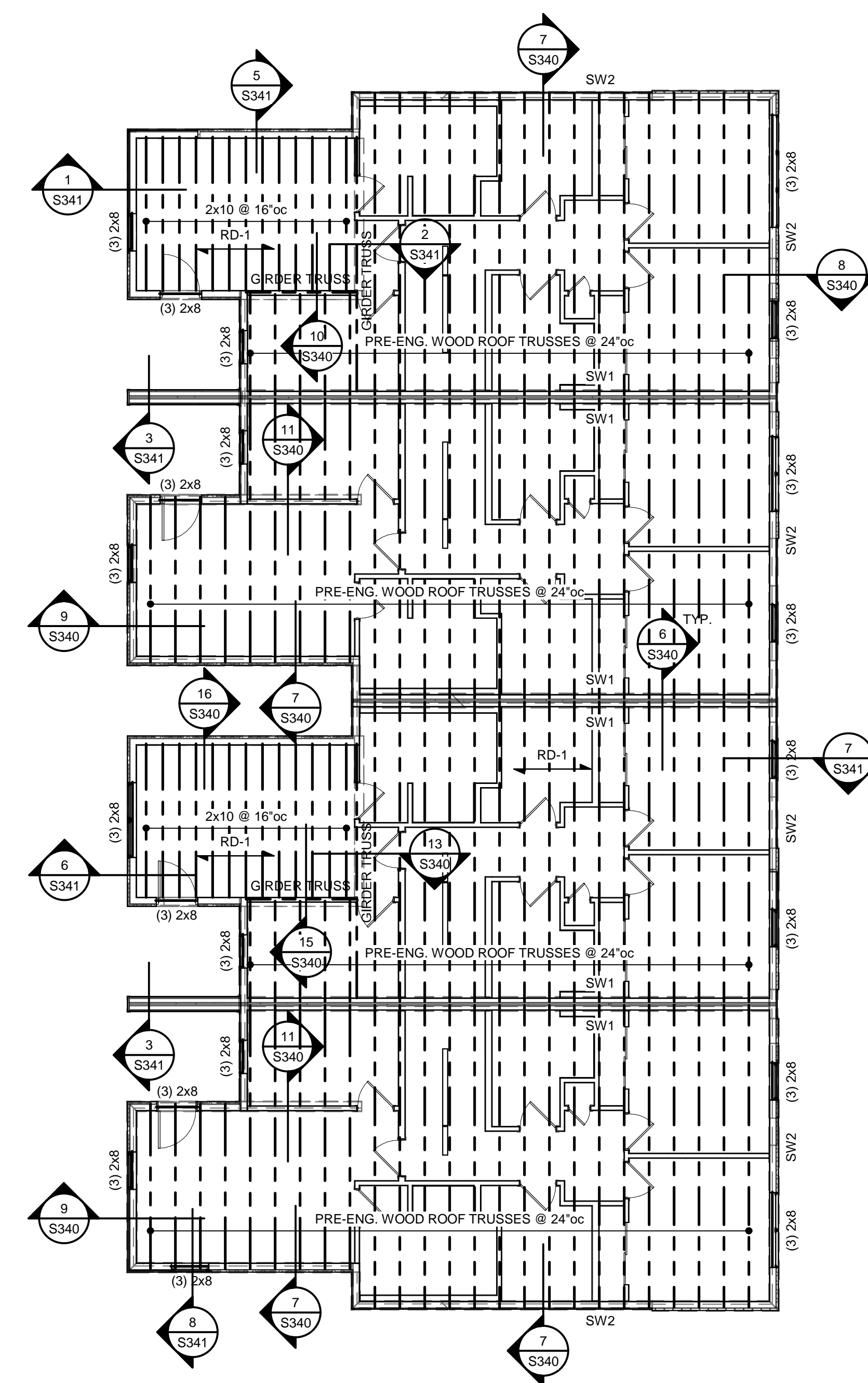
S110B
GROUP 10 PLANS



1 GROUP 11 - FOUNDATION PLAN
1/8" = 1'-0"



2 GROUP 11 - SECOND FLOOR FRAMING PLAN
1/8" = 1'-0"



3 GROUP 11 - ROOF FRAMING PLAN
1/8" = 1'-0"



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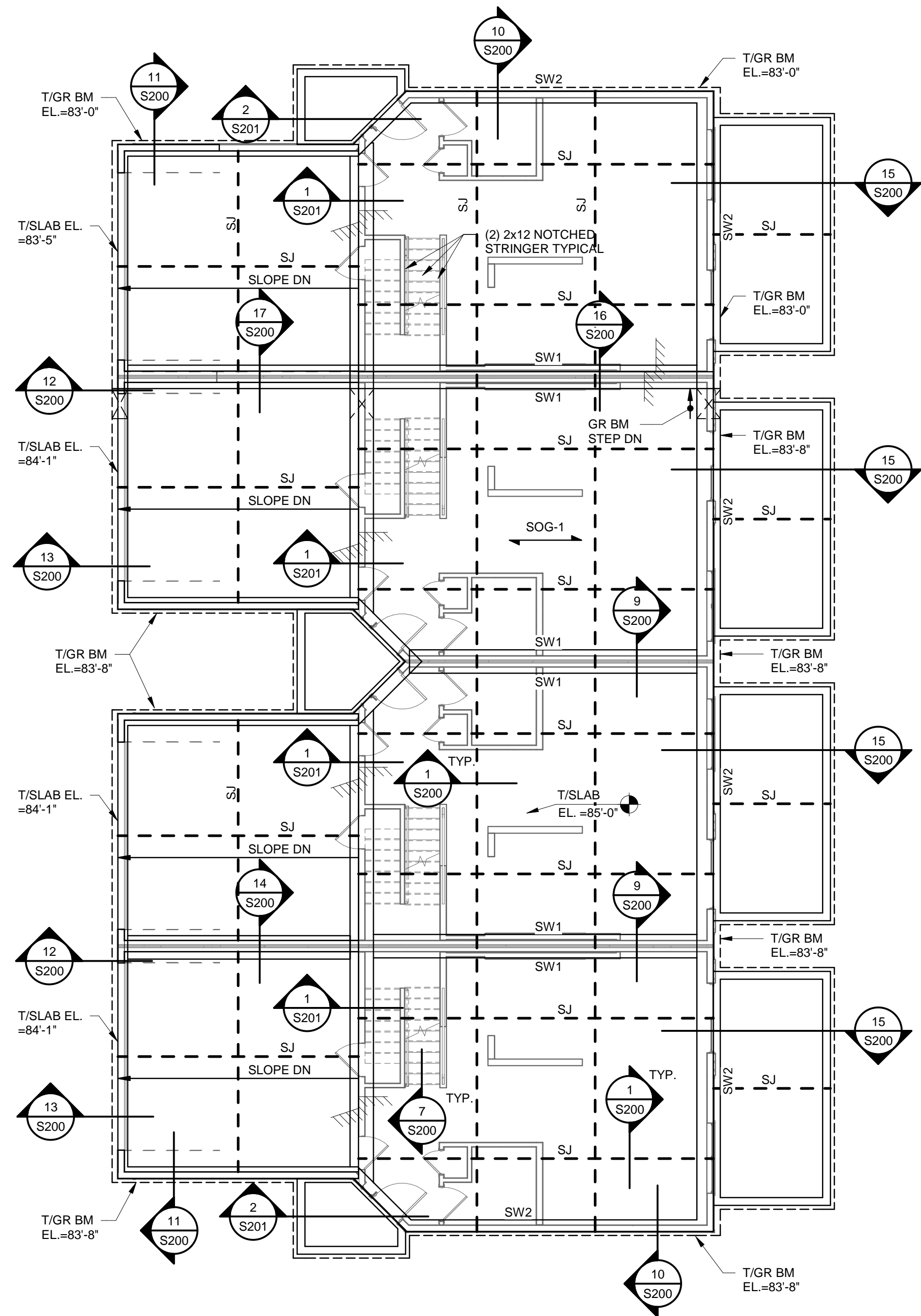
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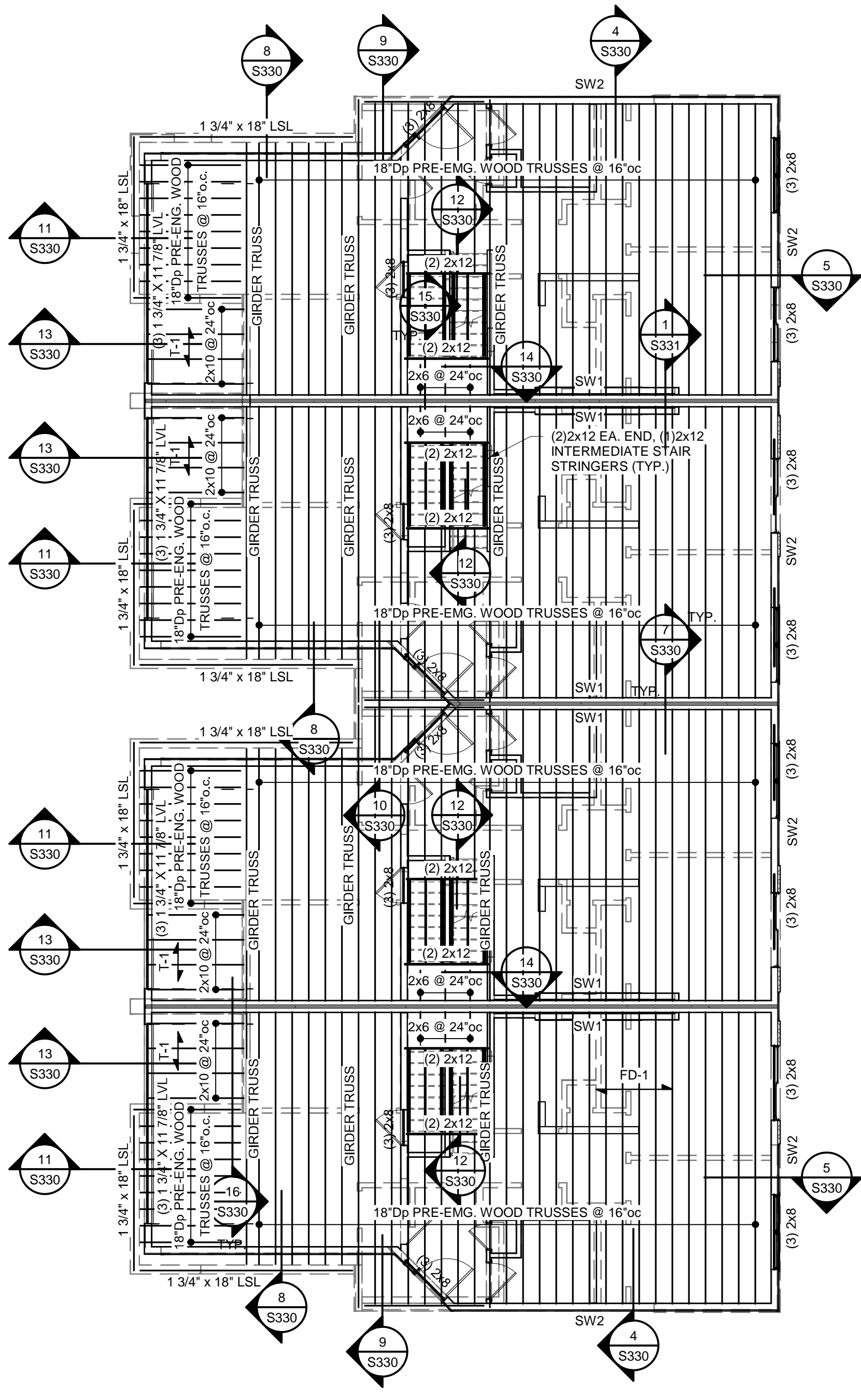
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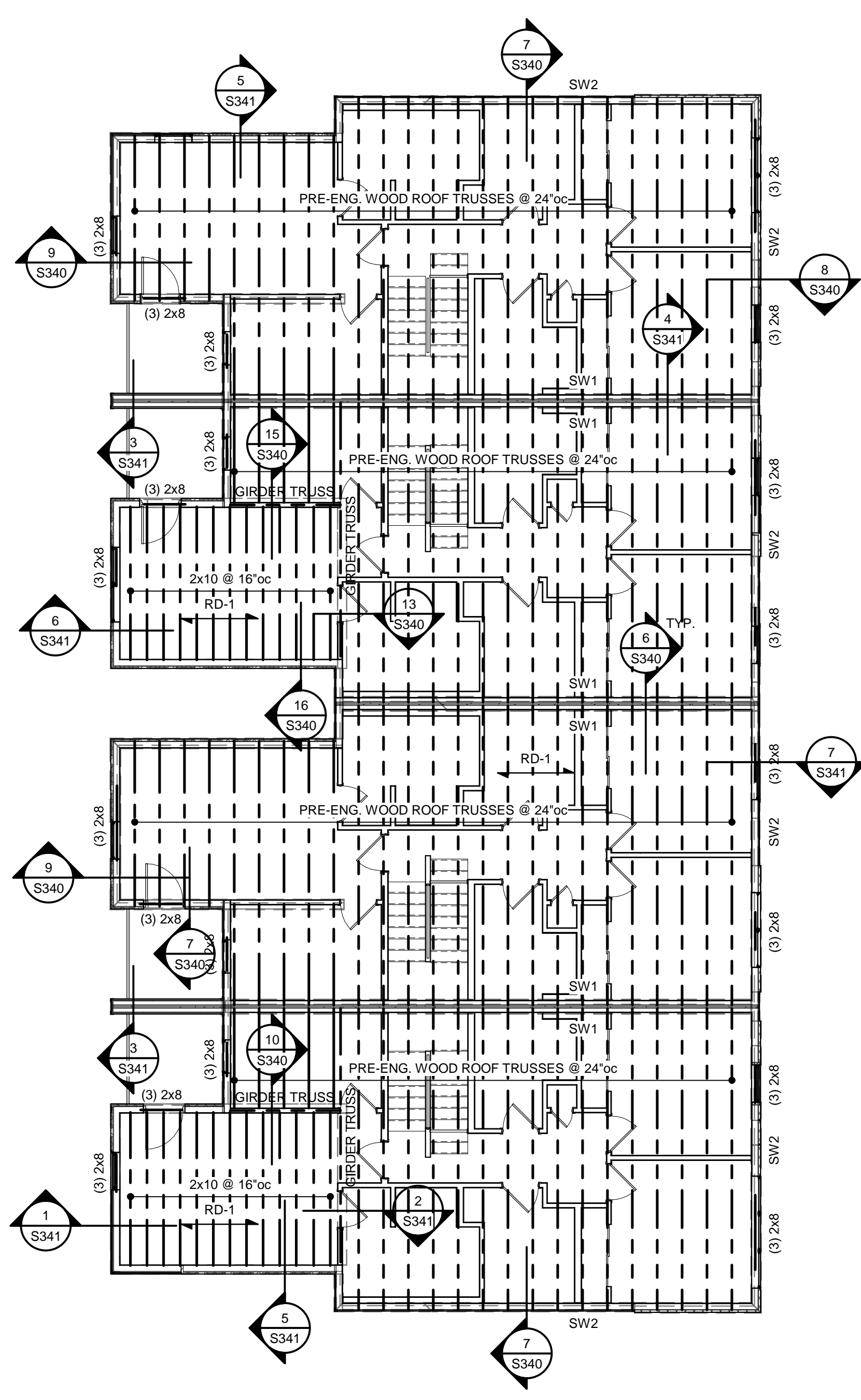
S111
GROUP 11 PLANS



1 GROUP 12 - FOUNDATION PLAN
1/8" = 1'-0"



2 GROUP 12 - SECOND FLOOR FRAMING PLAN
1/8" = 1'-0"



3 GROUP 12 - ROOF FRAMING PLAN
1/8" = 1'-0"

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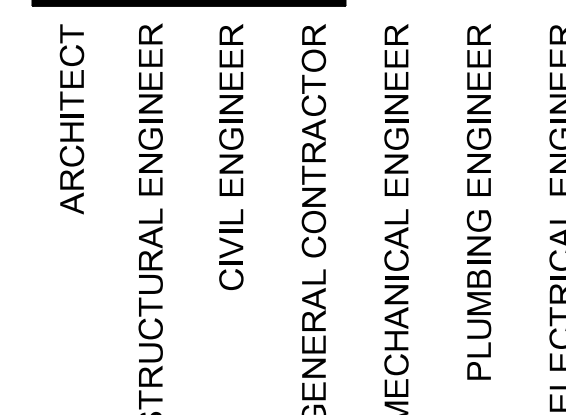
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S112
GROUP 12 PLANS



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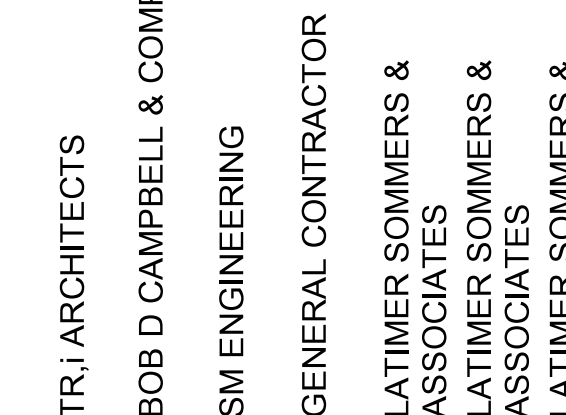
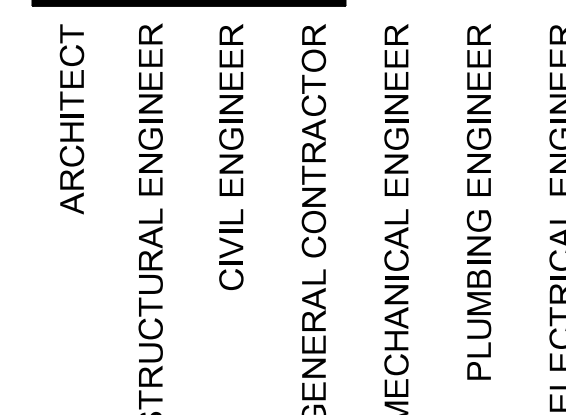
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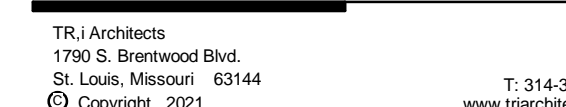
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GROUP 13 PLANS





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2	ADDENDUM 1	11.12
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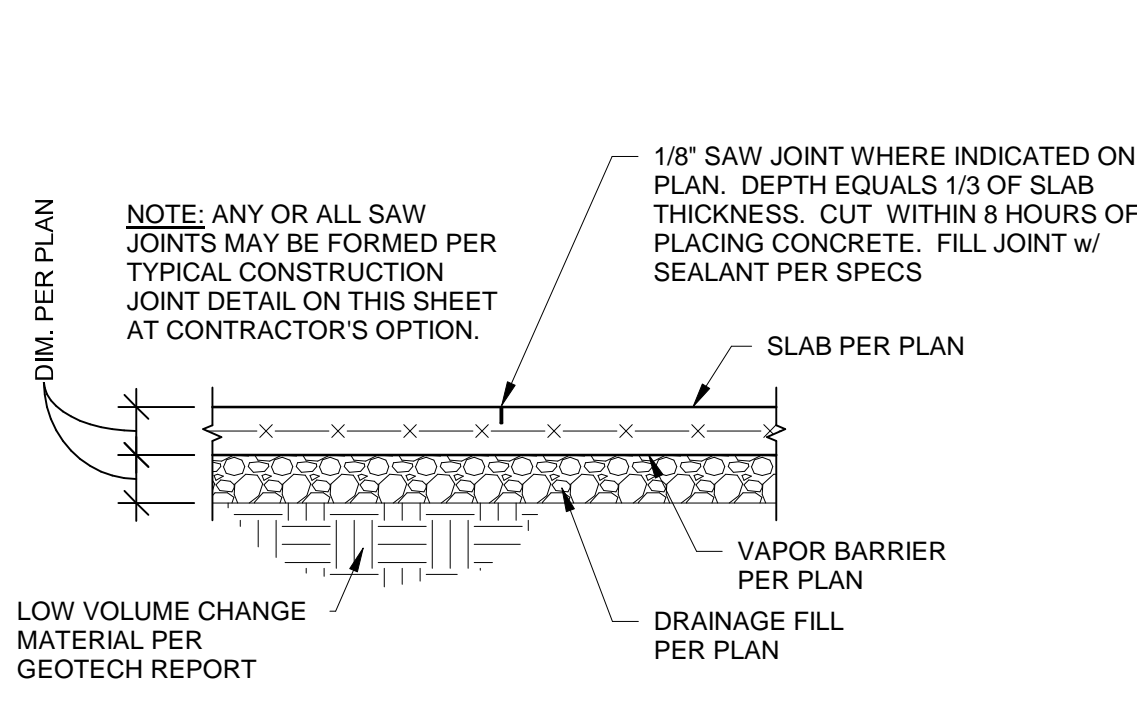
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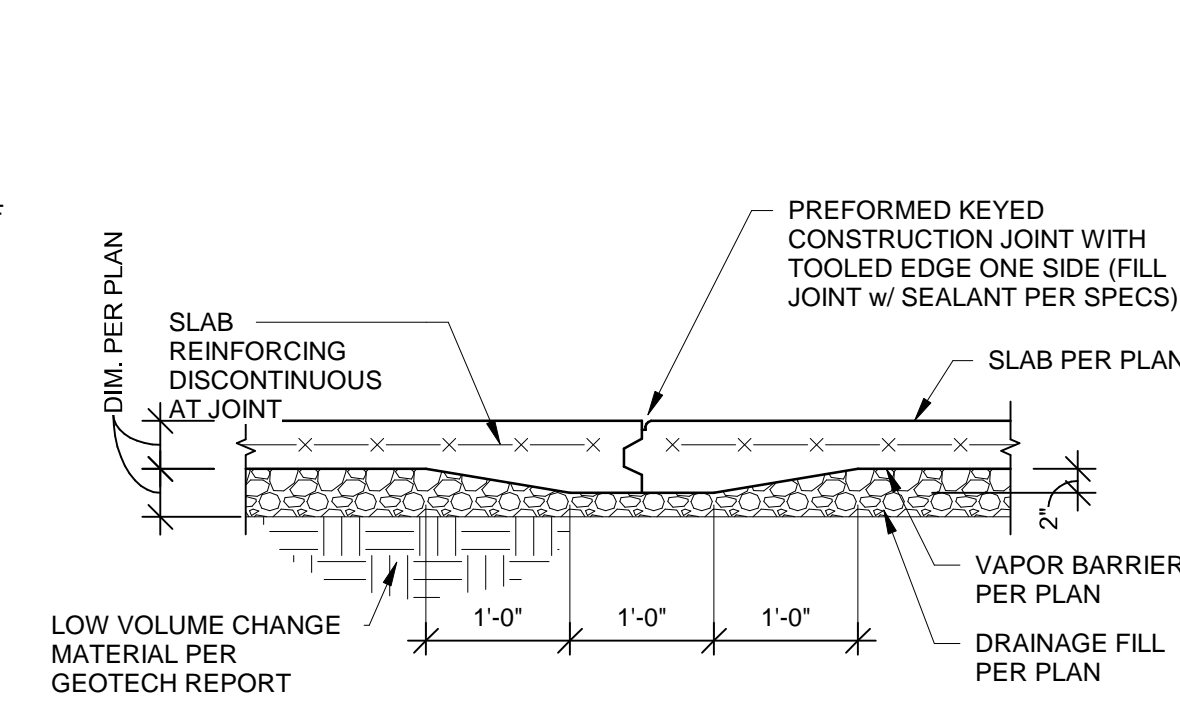
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GROUP 14 PLAN

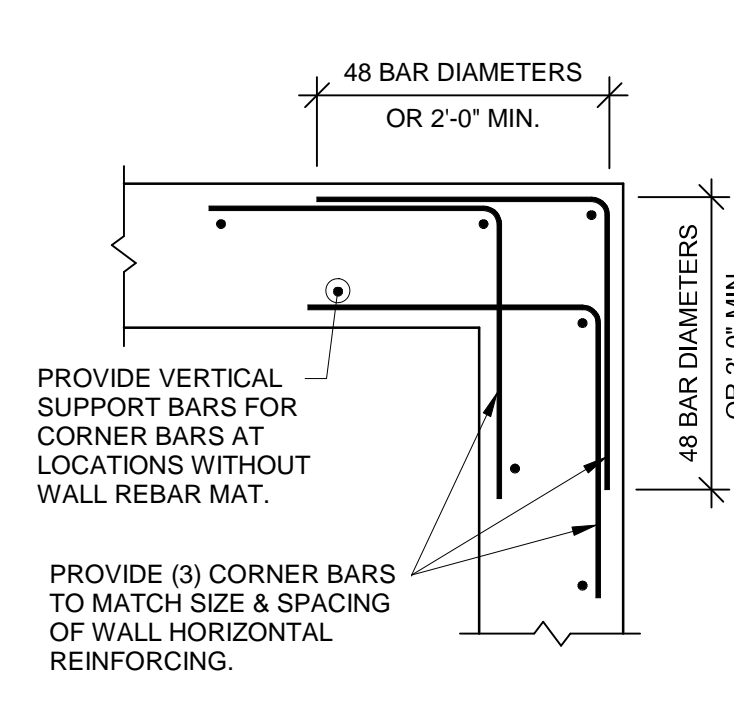




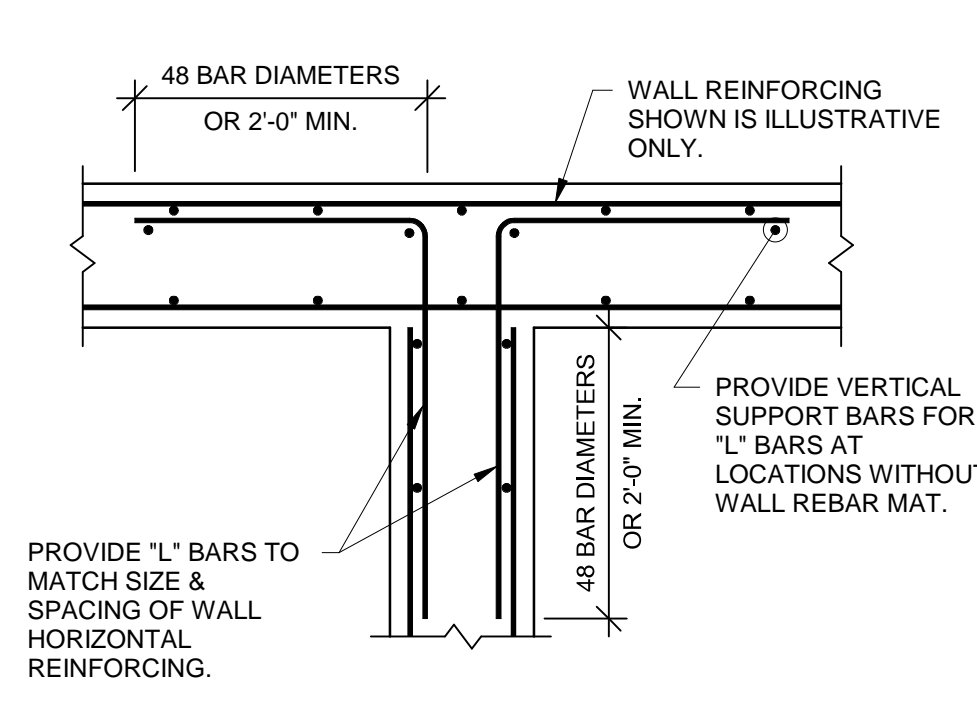
**TYPICAL SAW JOINT
NOTED "SJ" ON PLAN**
1 SECTION
3/4" = 1'-0"



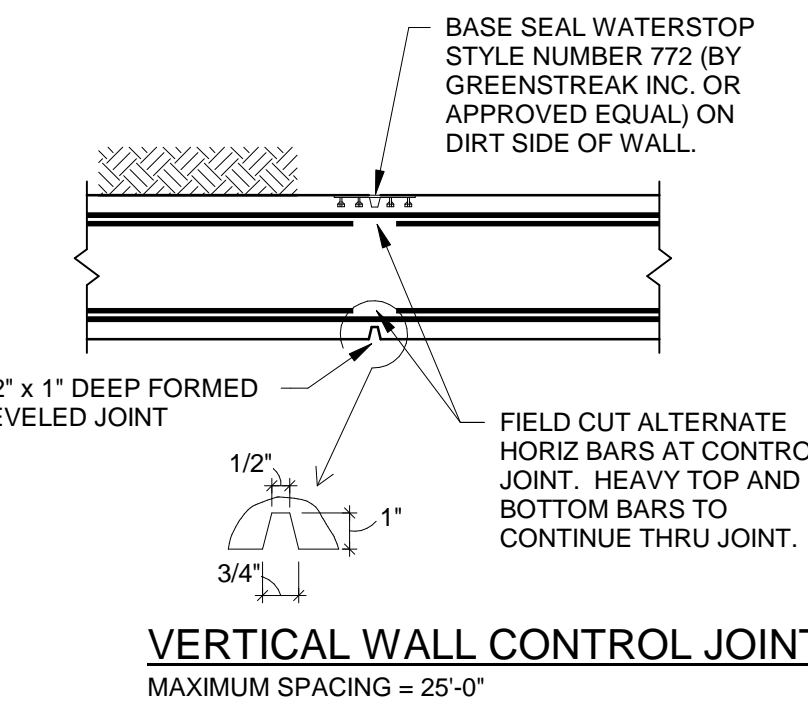
**TYPICAL CONSTRUCTION JOINT
NOTED "CJ" ON PLAN**
2 SECTION
3/4" = 1'-0"



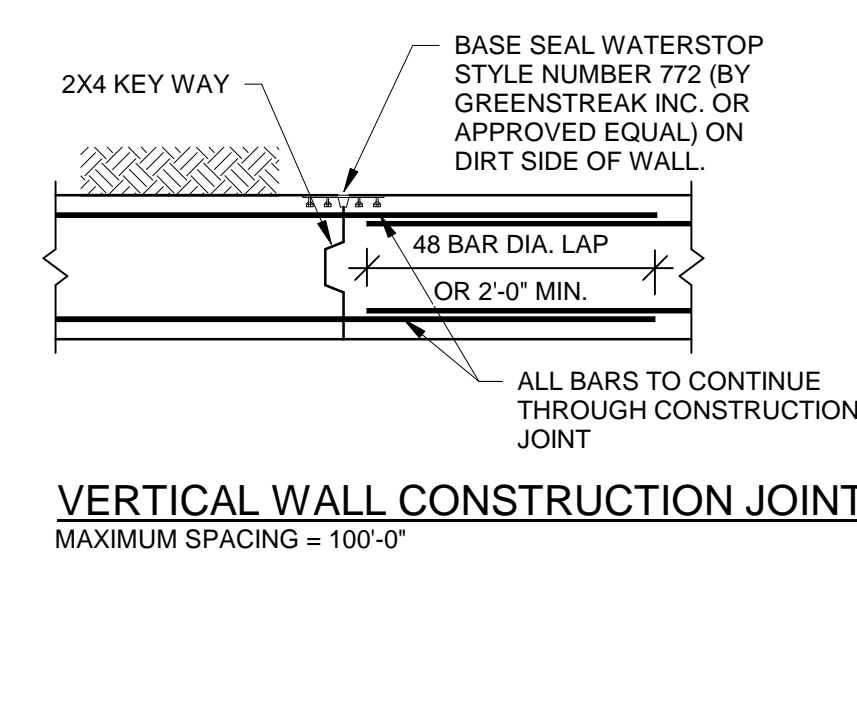
**TYPICAL CORNER BARS AT
CONCRETE WALLS & FOUNDATIONS**
3 TYPICAL INTERSECTING CONCRETE WALL REINFORCING
3/4" = 1'-0"



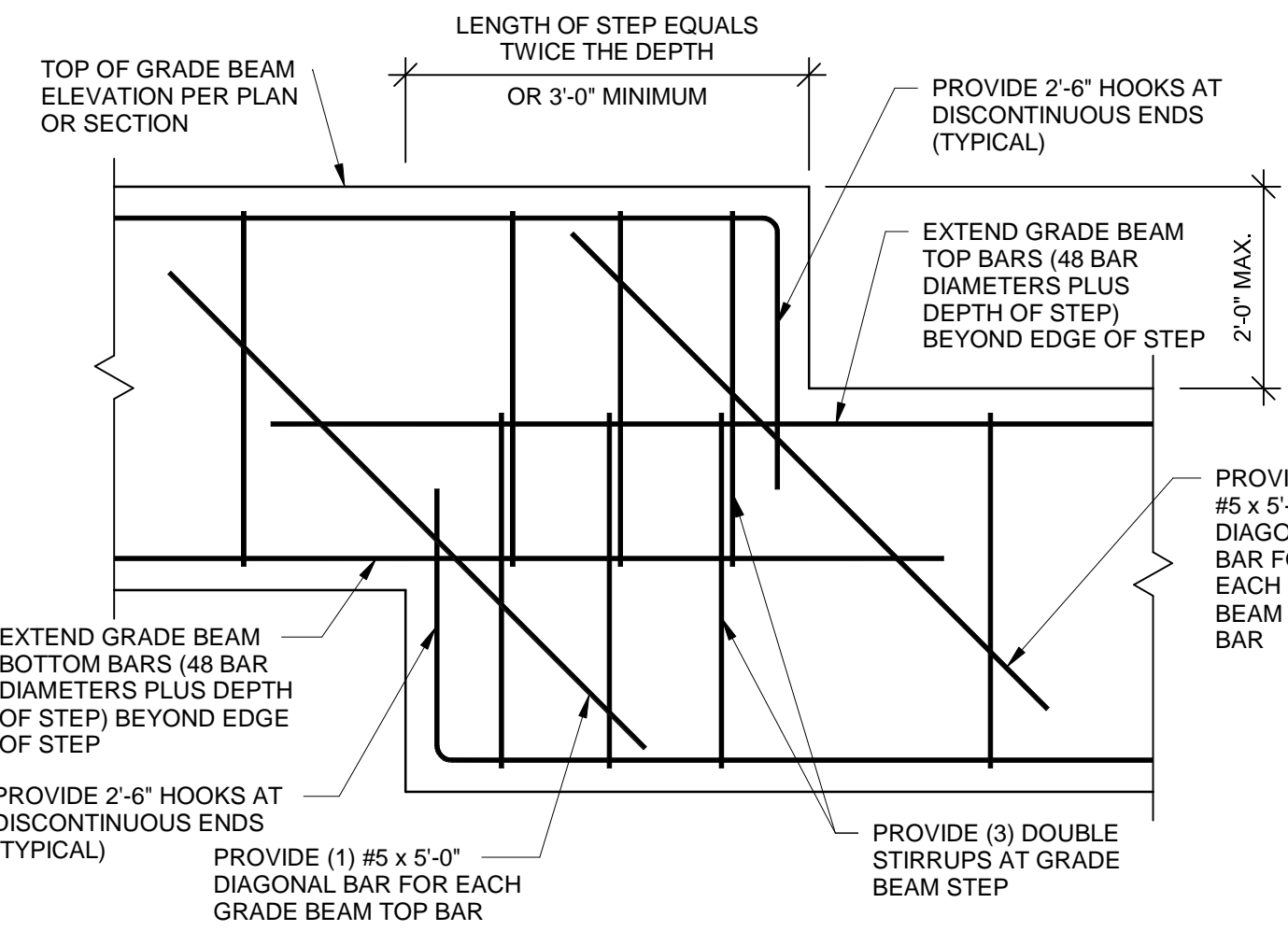
**TYPICAL T-INTERSECTION REINFORCING
AT CONCRETE WALLS & FOUNDATIONS**



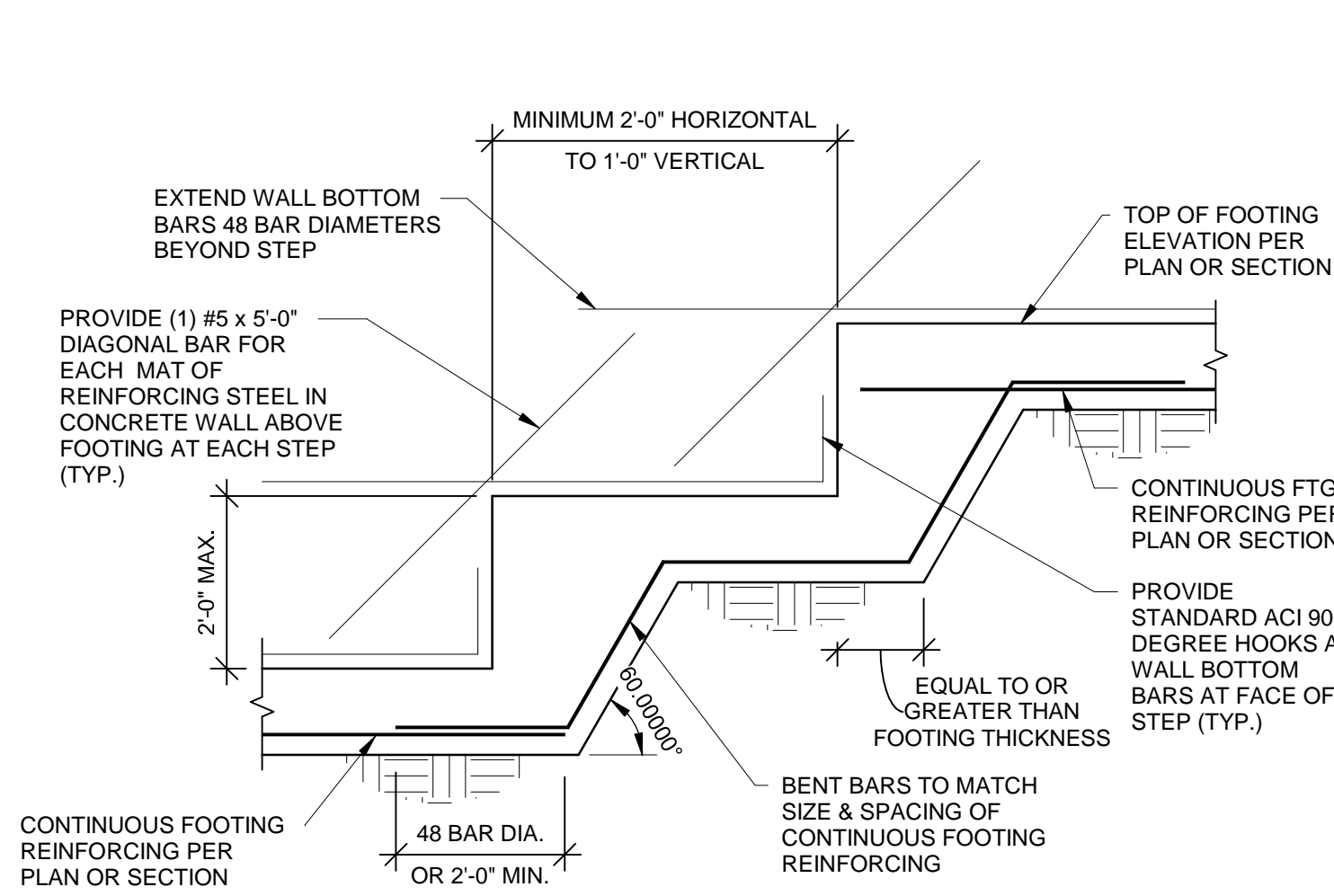
VERTICAL WALL CONTROL JOINT
MAXIMUM SPACING = 25'-0"
(COORDINATE LOCATIONS WITH ARCHITECT/ALIGN WITH MASONRY CONTROL/EXPANSION JOINTS ABOVE)



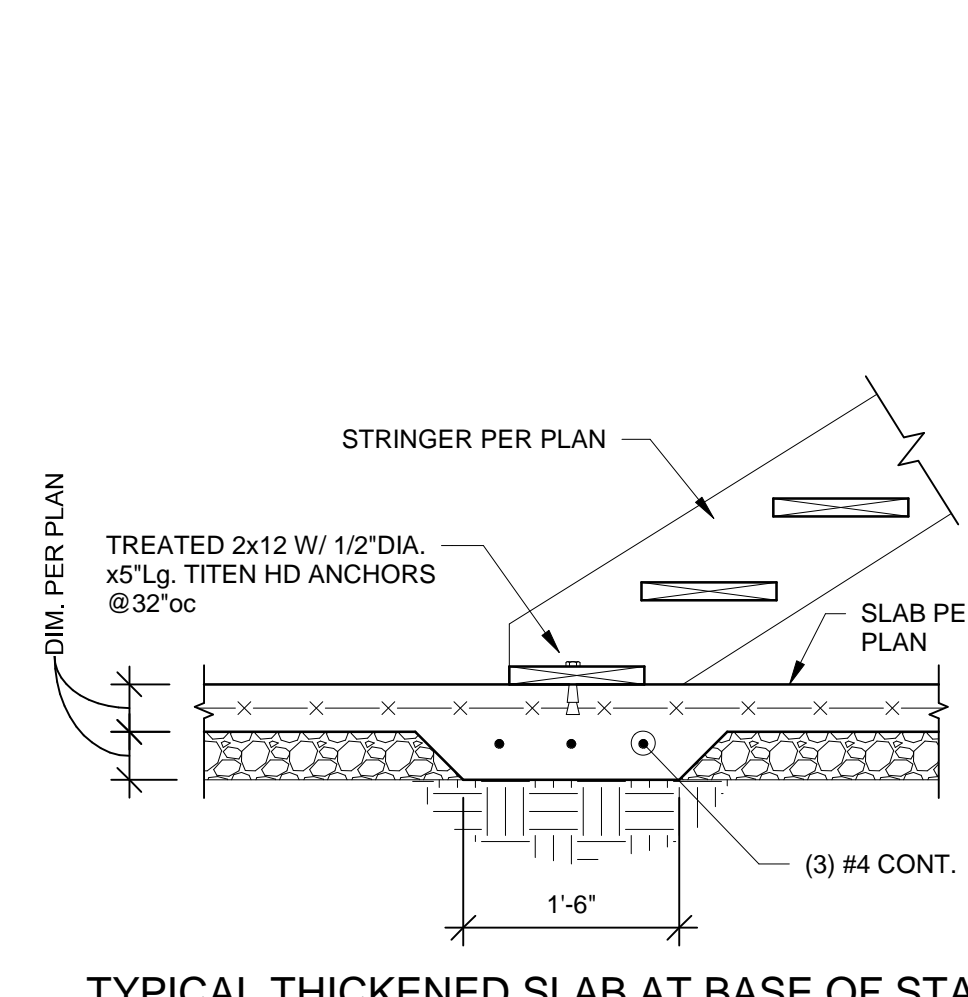
VERTICAL WALL CONSTRUCTION JOINT
MAXIMUM SPACING = 100'-0"



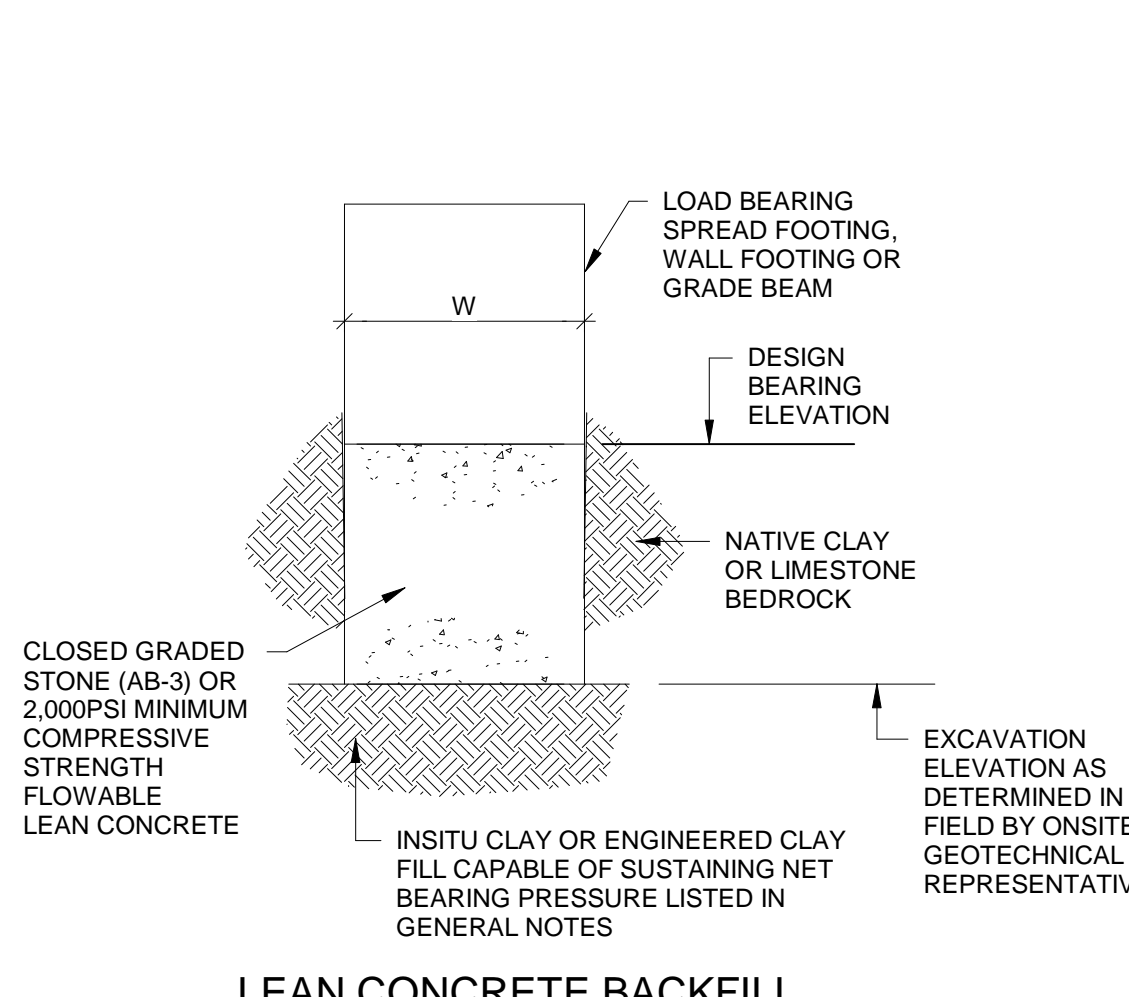
5 TYPICAL GRADE BEAM STEP
3/4" = 1'-0"



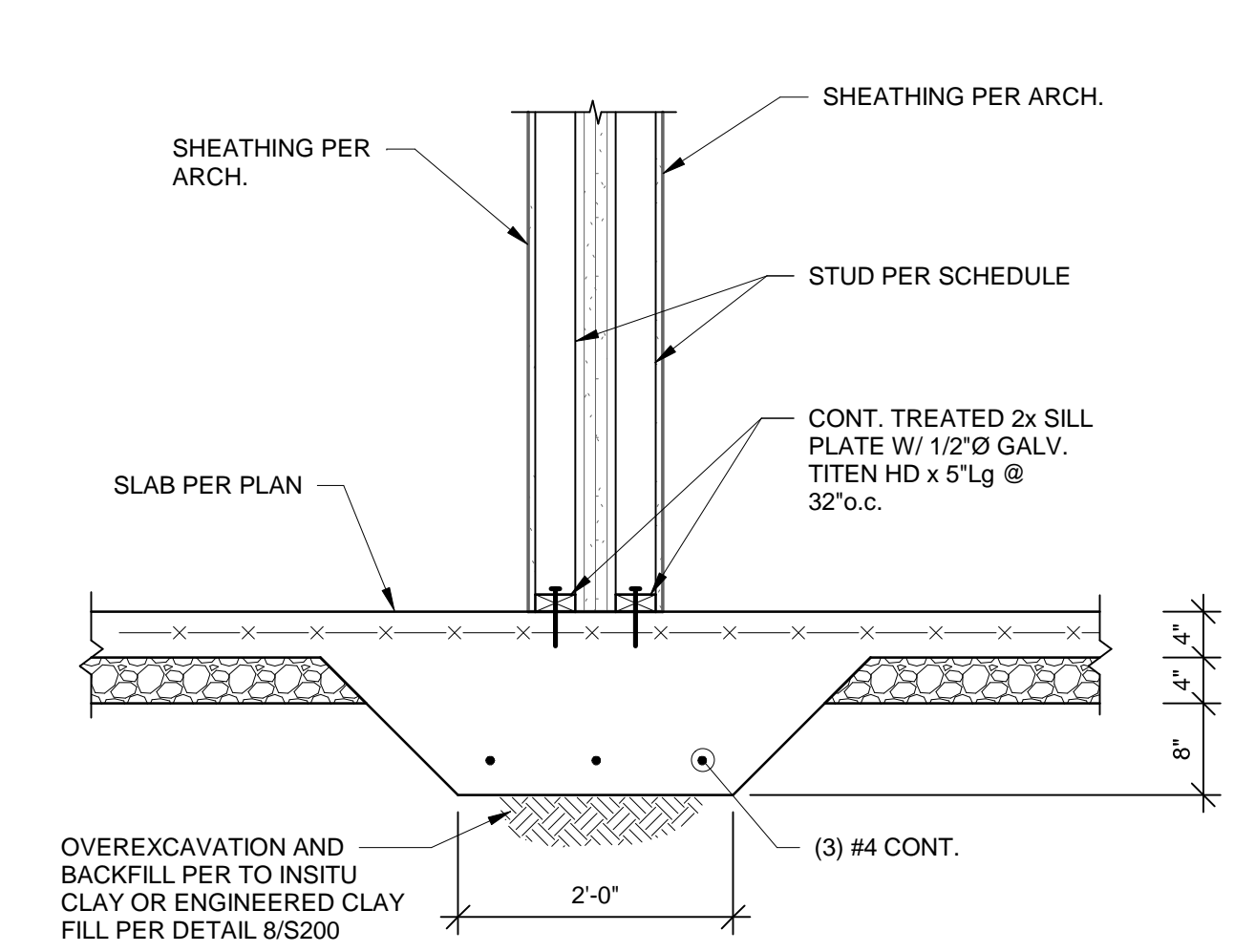
6 TYPICAL FOOTING STEP
1/2" = 1'-0"



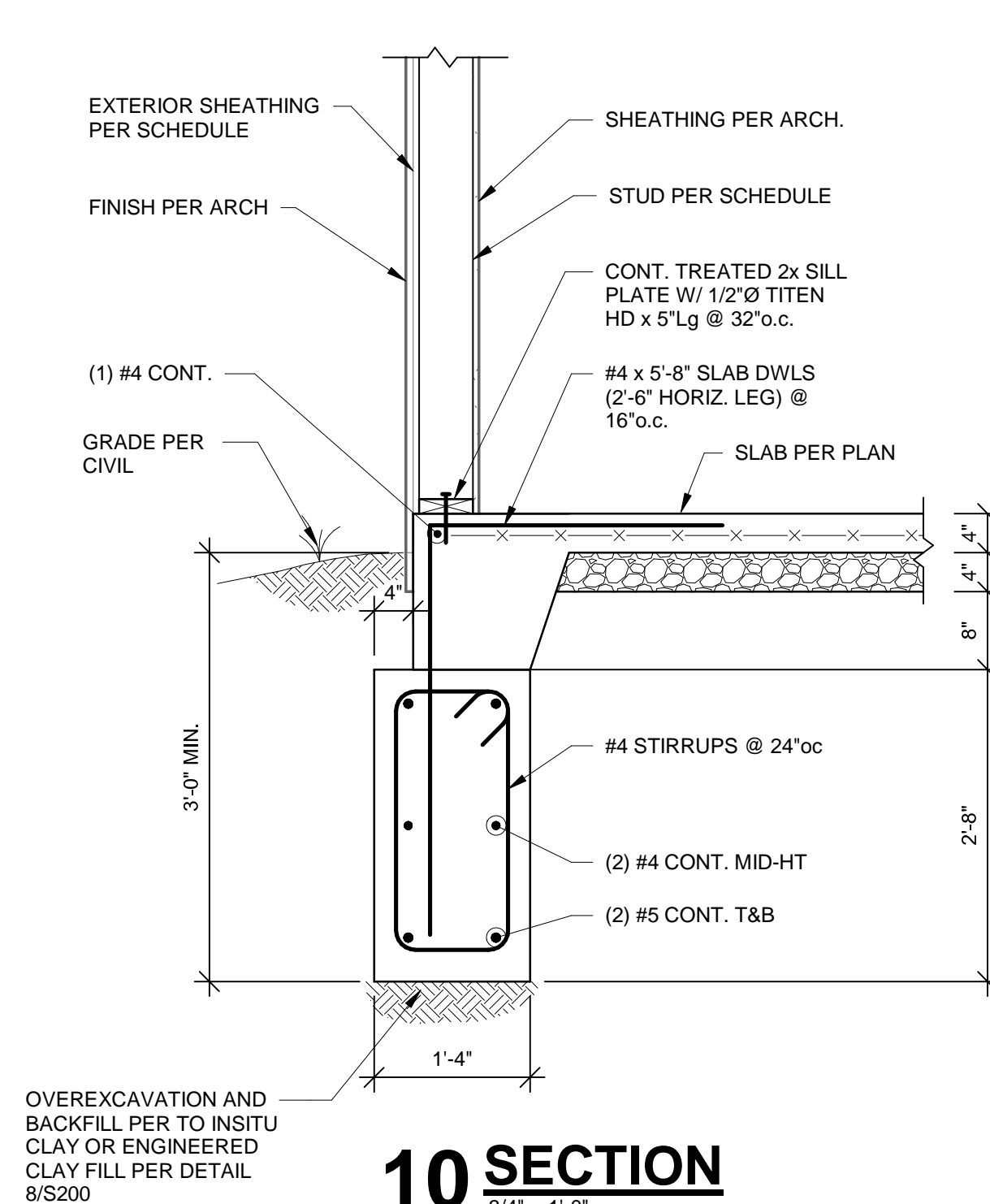
TYPICAL THICKENED SLAB AT BASE OF STAIR



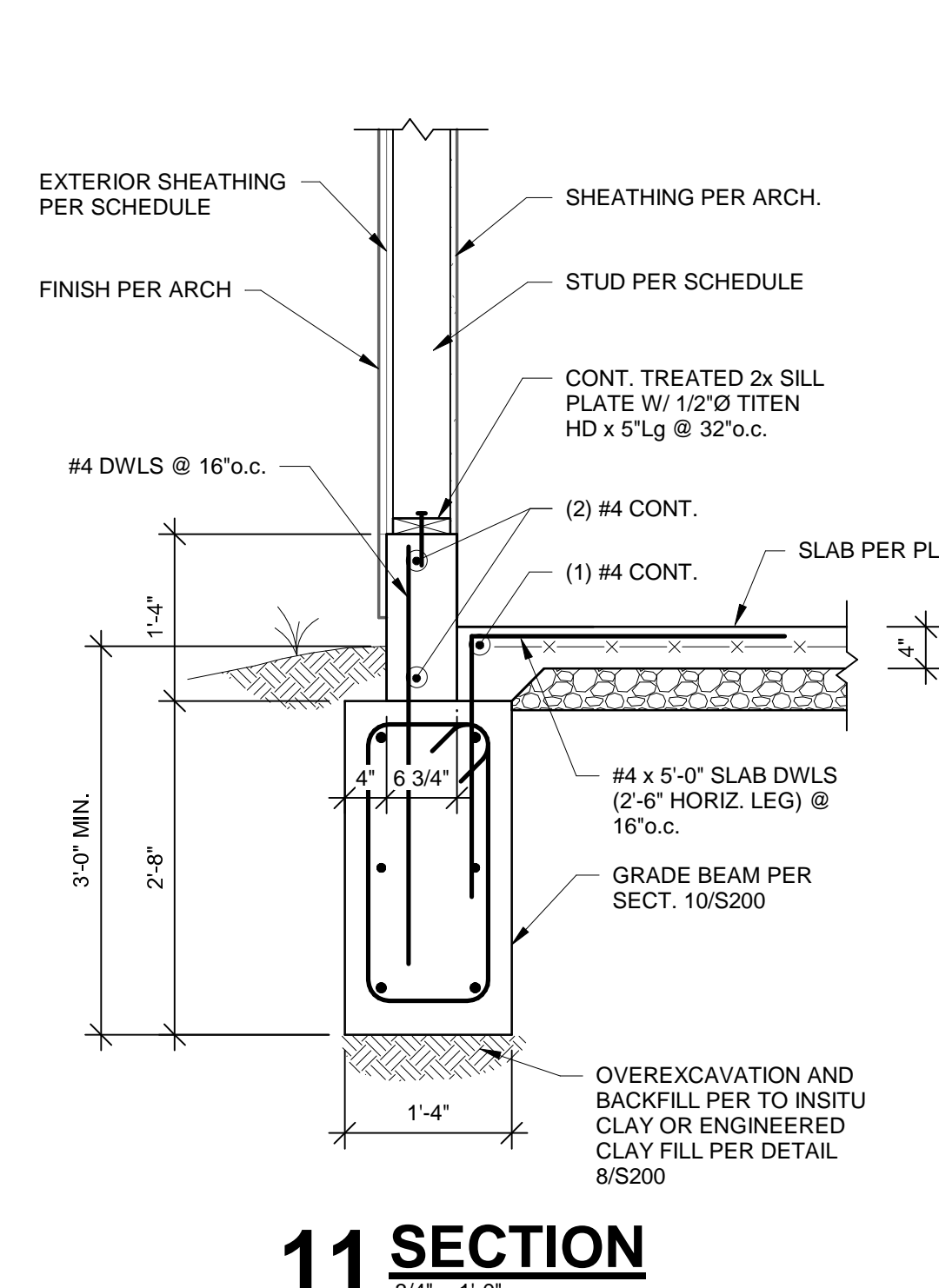
LEAN CONCRETE BACKFILL
8 OVEREXCAVATION DETAIL
3/4" = 1'-0"



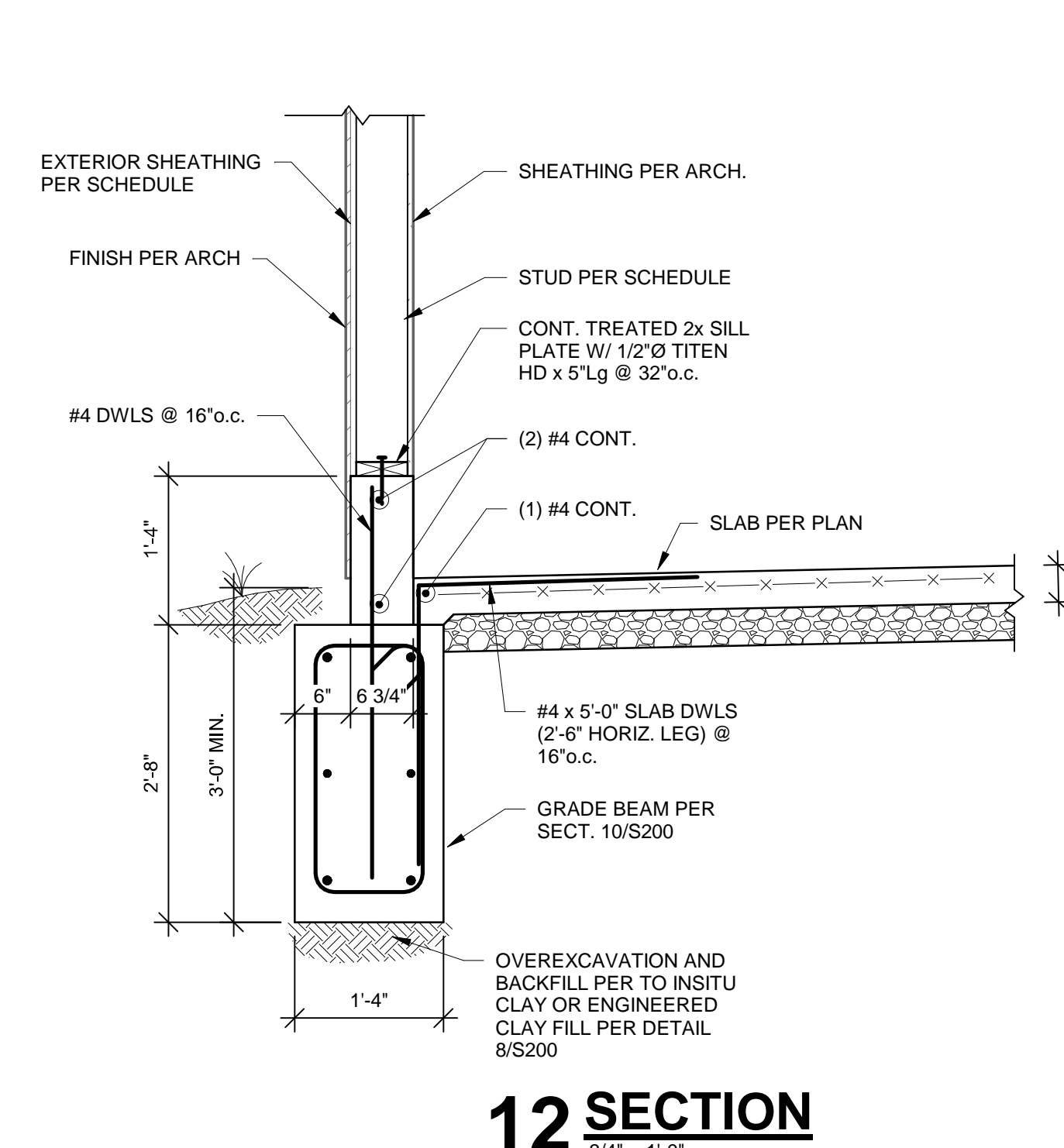
9 SECTION



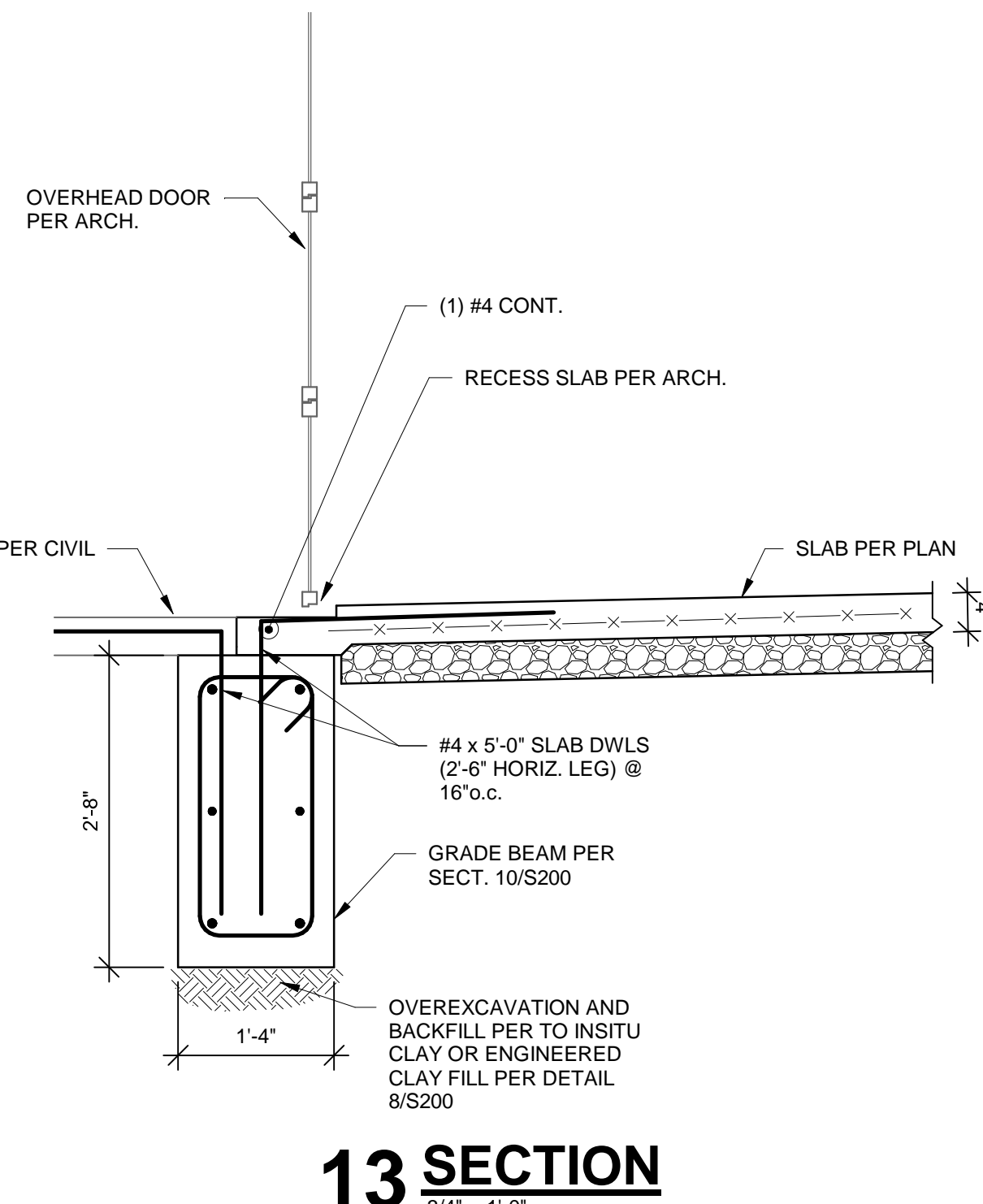
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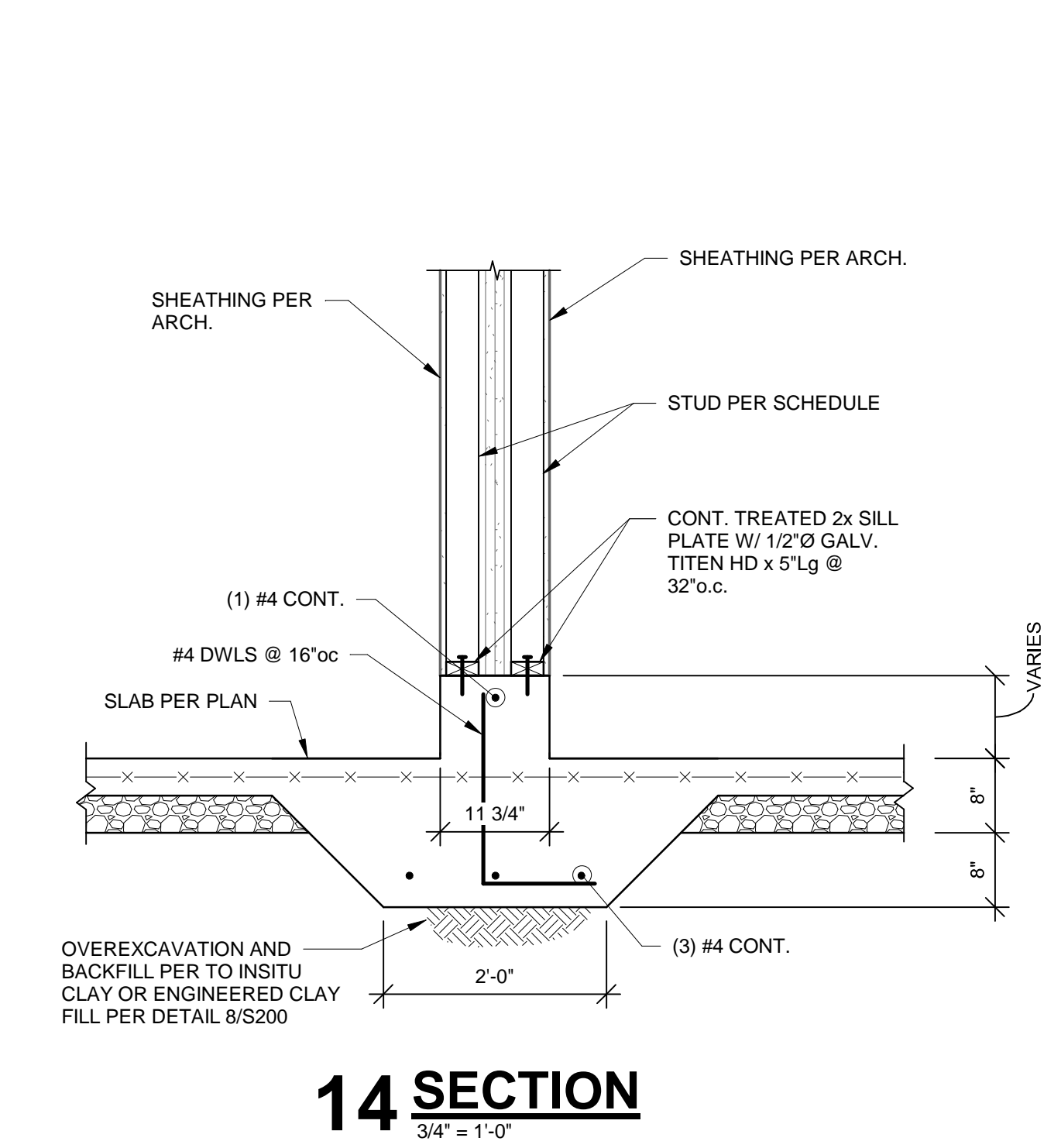
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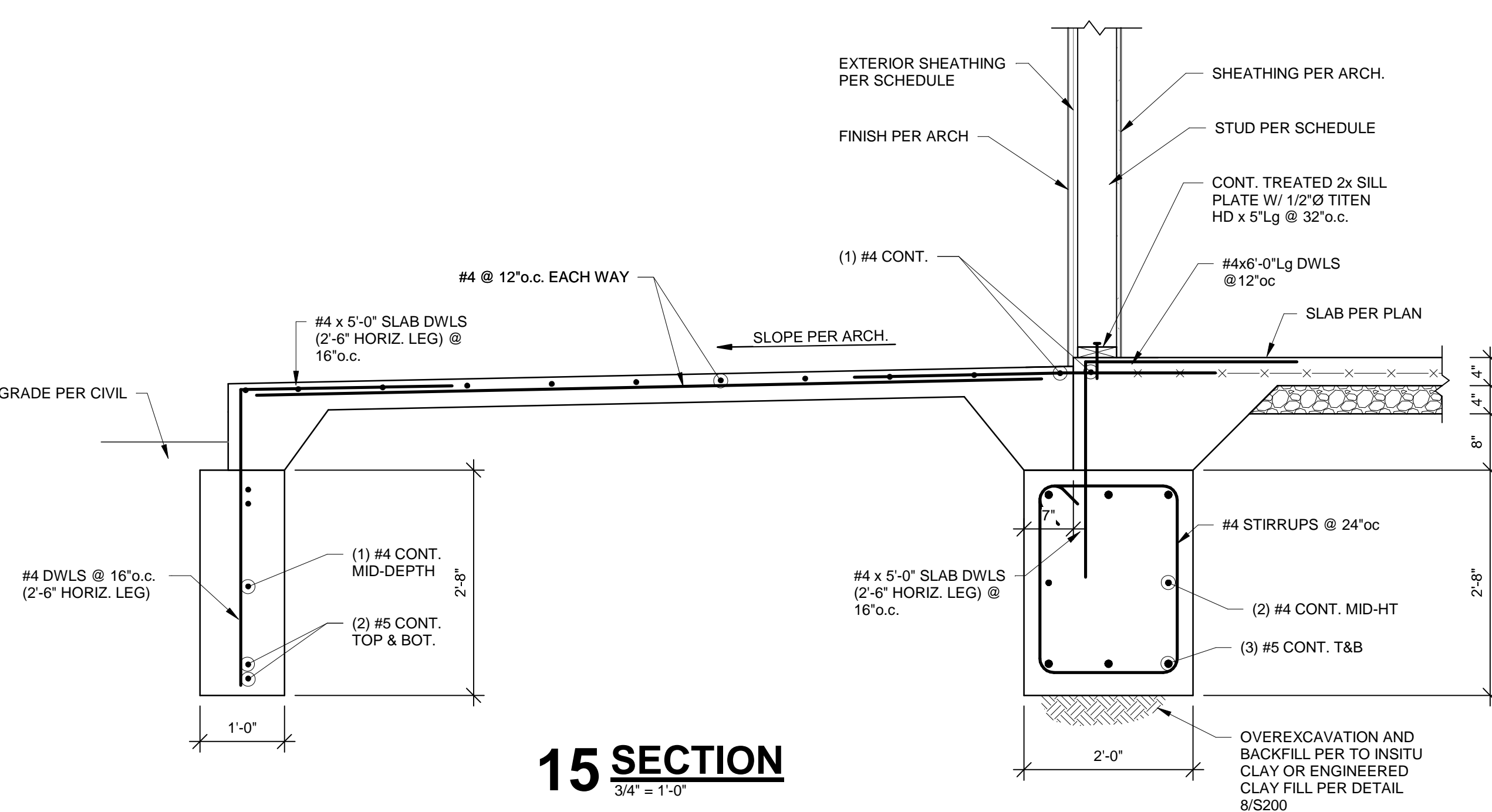
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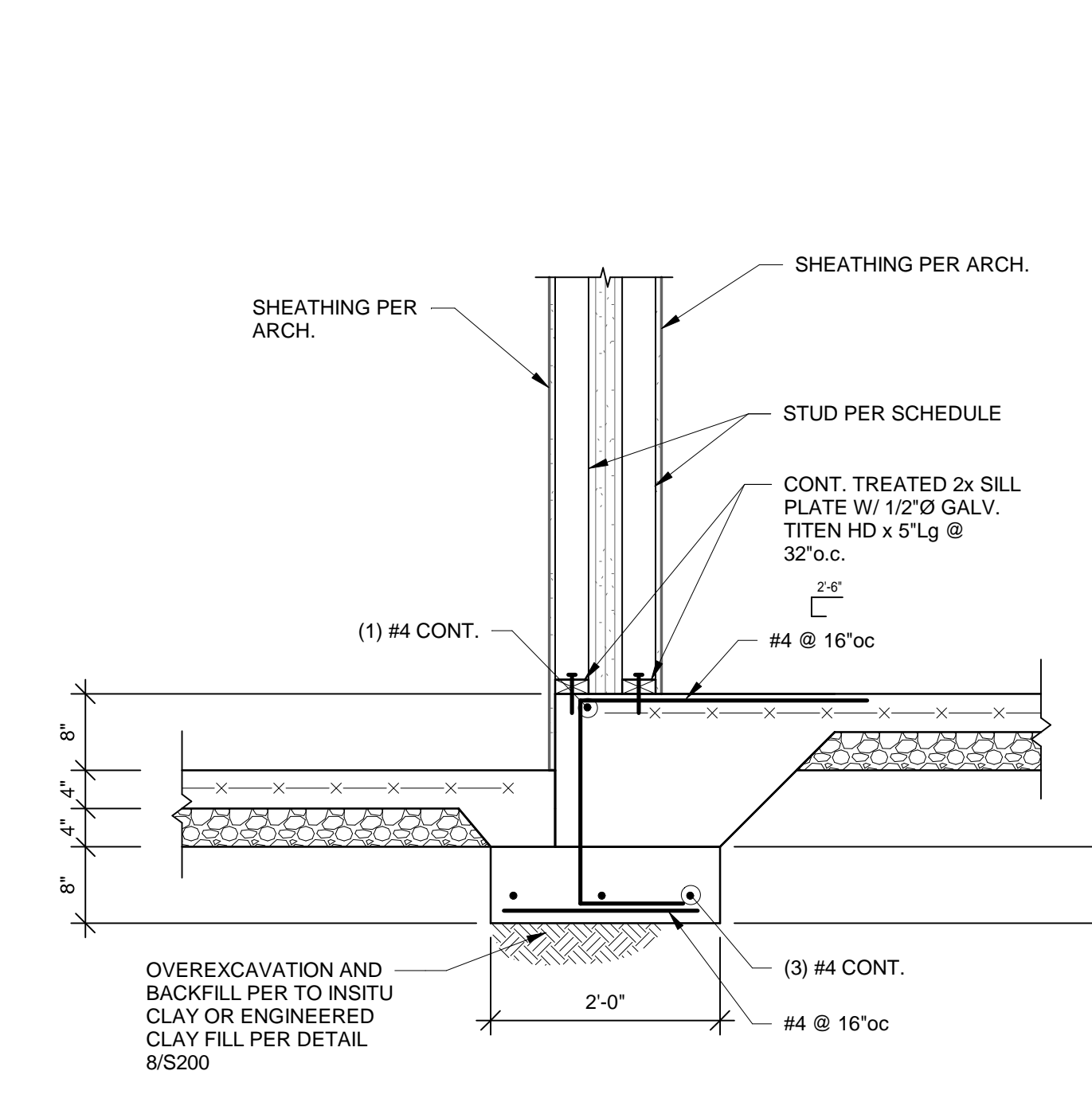
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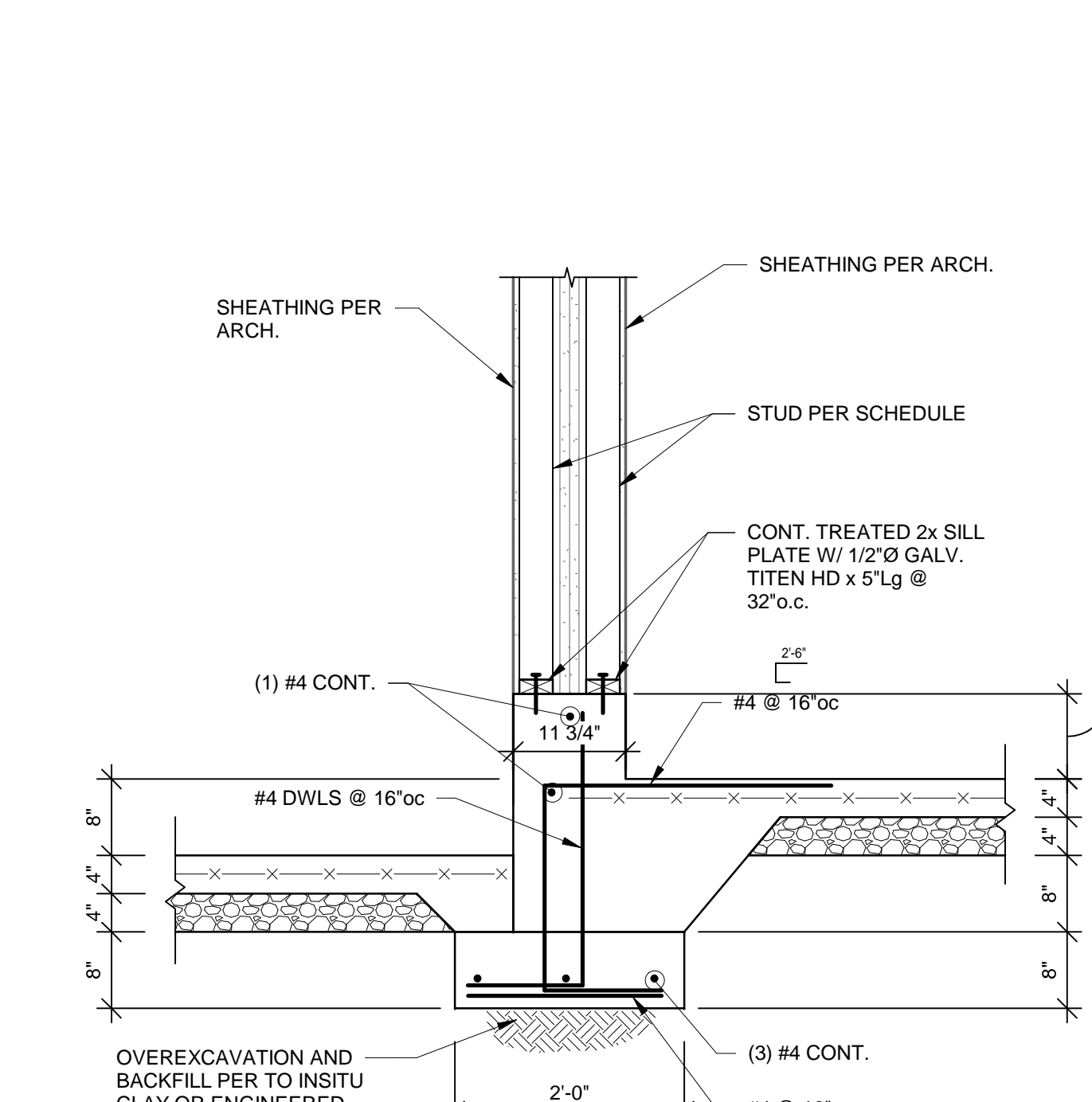
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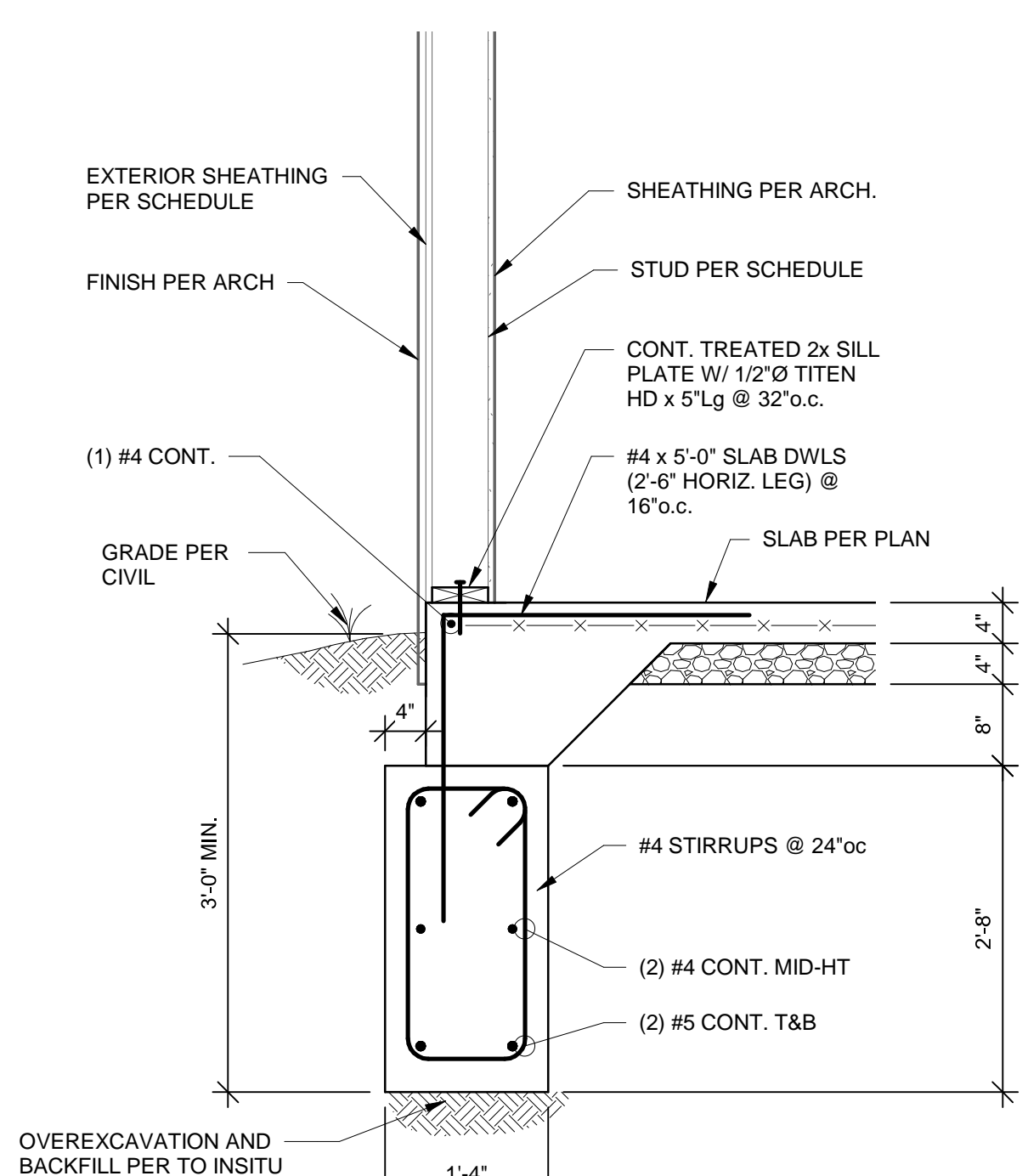
15 SECTION



16 SECTION



17 SECTION



18 SECTION

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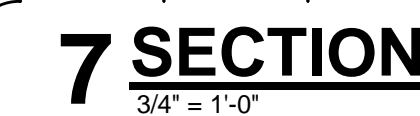
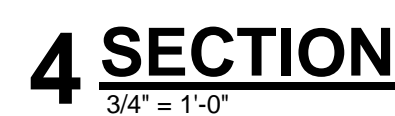
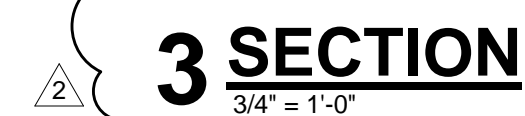
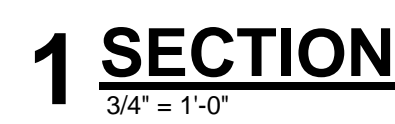
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SHEET NO.: S200
FOUNDATION SECTIONS

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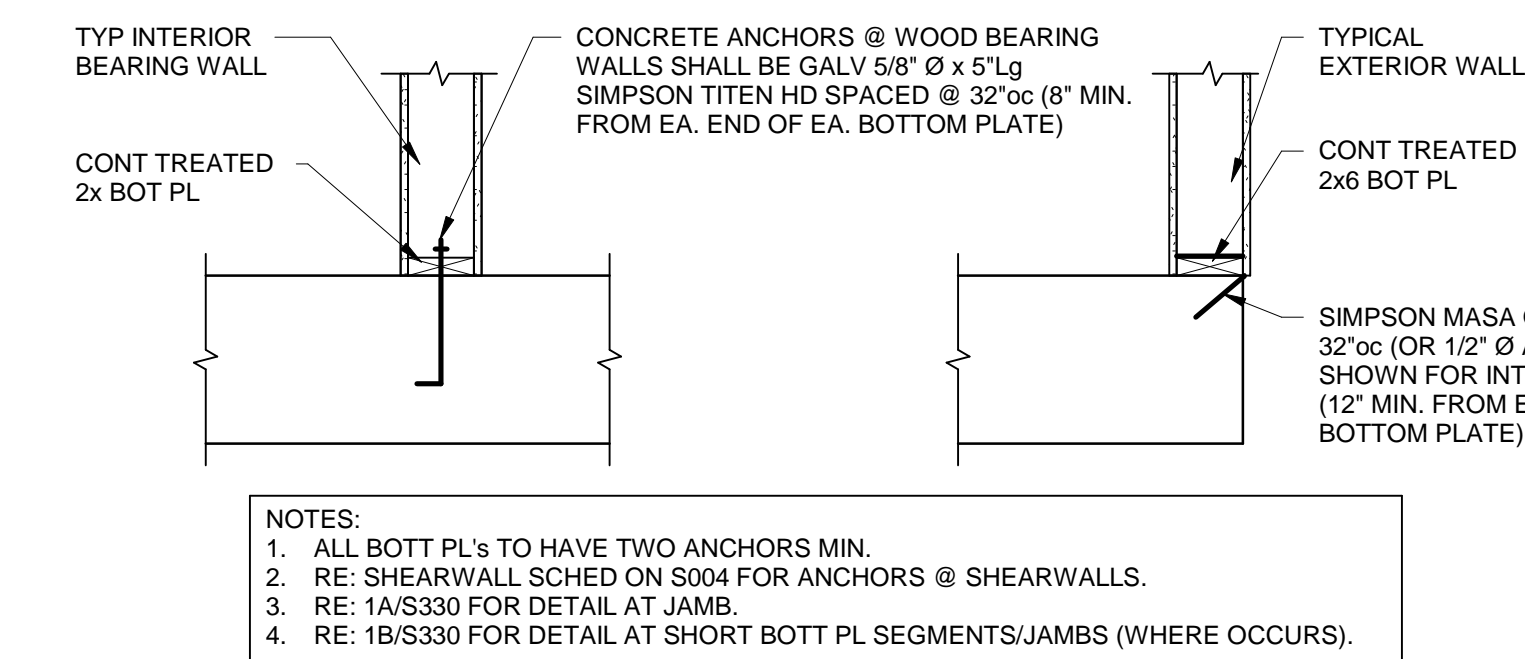
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C2001

S201

FOUNDATION SECTIONS

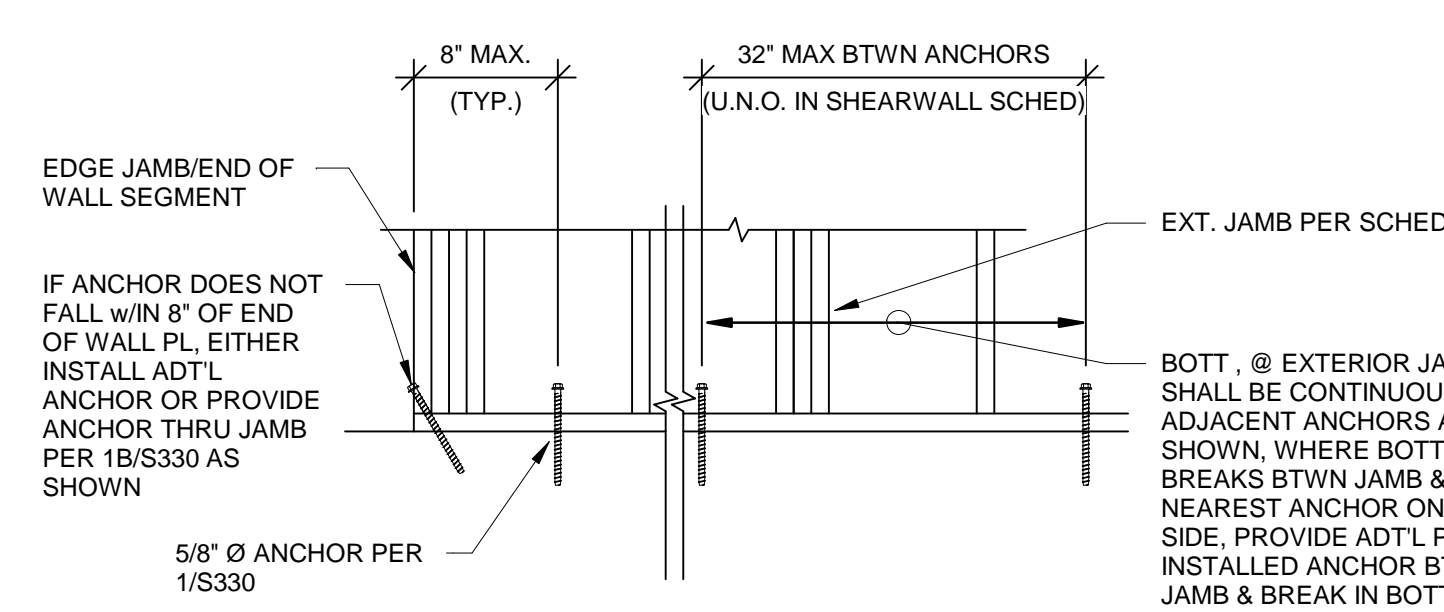
FOUNDATION SECTIONS



TYPICAL BOTTL. PL CONNECTION TO CONCRETE

1 SECTION

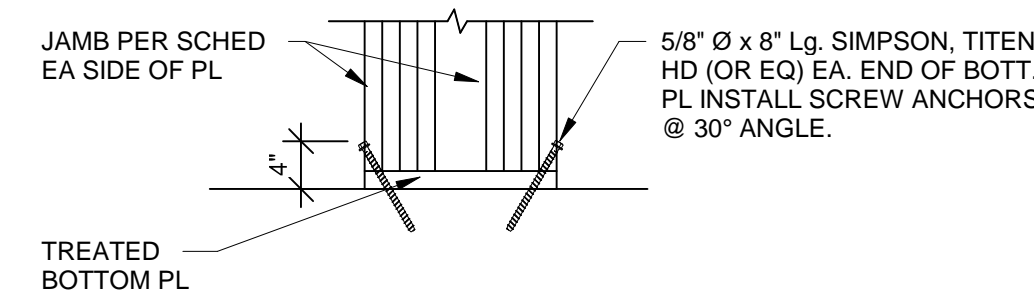
3/4" = 1'-0"



TYPICAL BOTTL. PL CONNECTION TO CONCRETE AT EXTERIOR JAMBS & ENDS OF WALL

1A SECTION

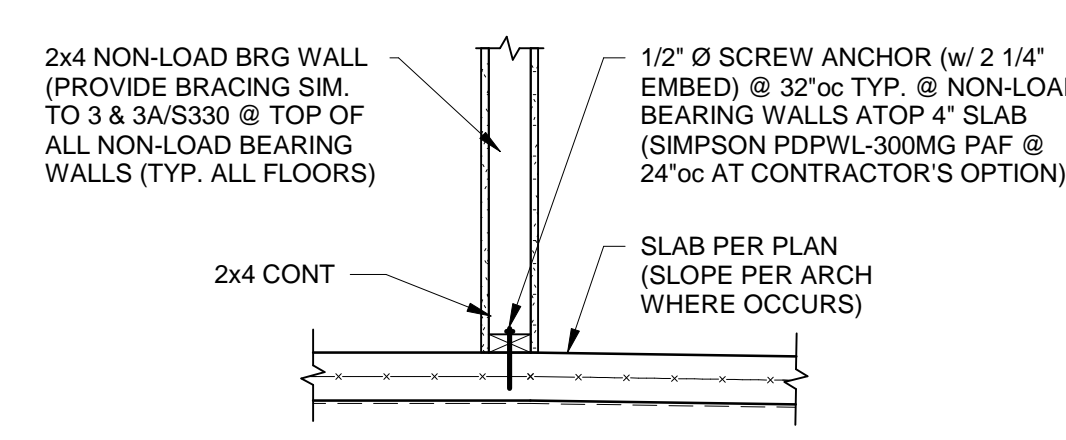
3/4" = 1'-0"



TYPICAL BOTTL. PL CONNECTION TO CONCRETE AT SHORT PL SEGMENTS & JAMBS

1B SECTION

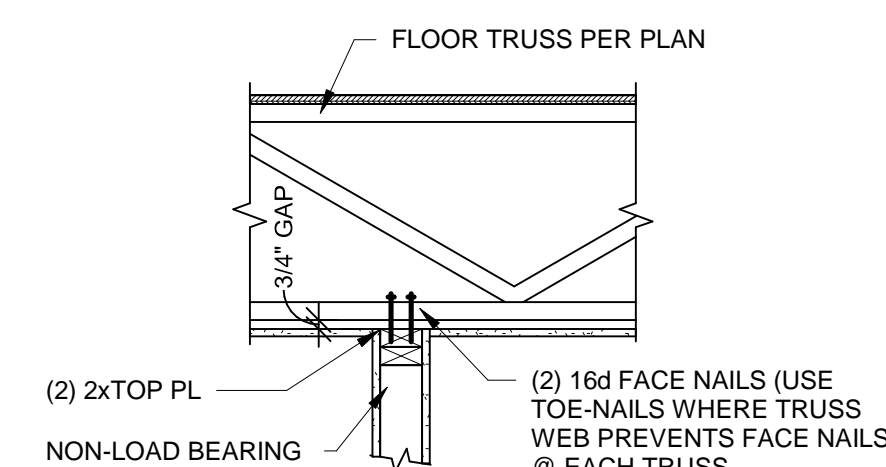
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TYPICAL BOTTL PL CONNECTION NON-LOAD BEARING WALLS

2 SECTION

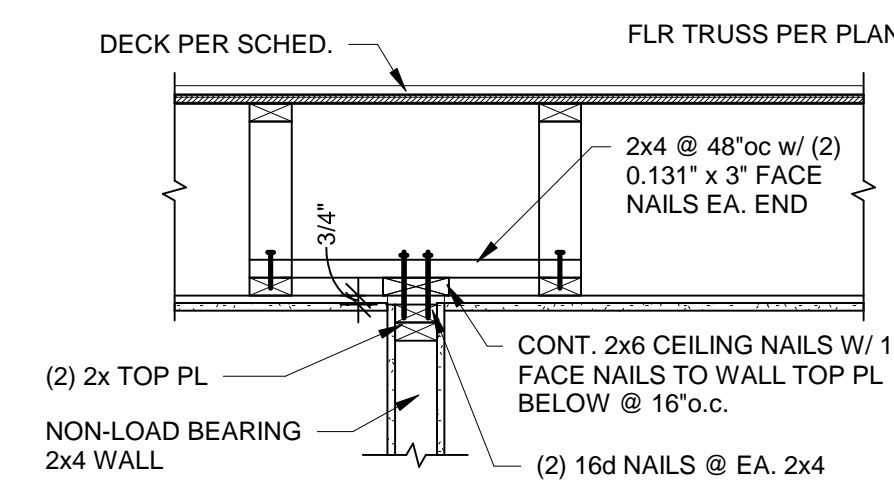
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TYPICAL NON-LOAD BEARING WALL @ FLOOR TRUSS

3 SECTION

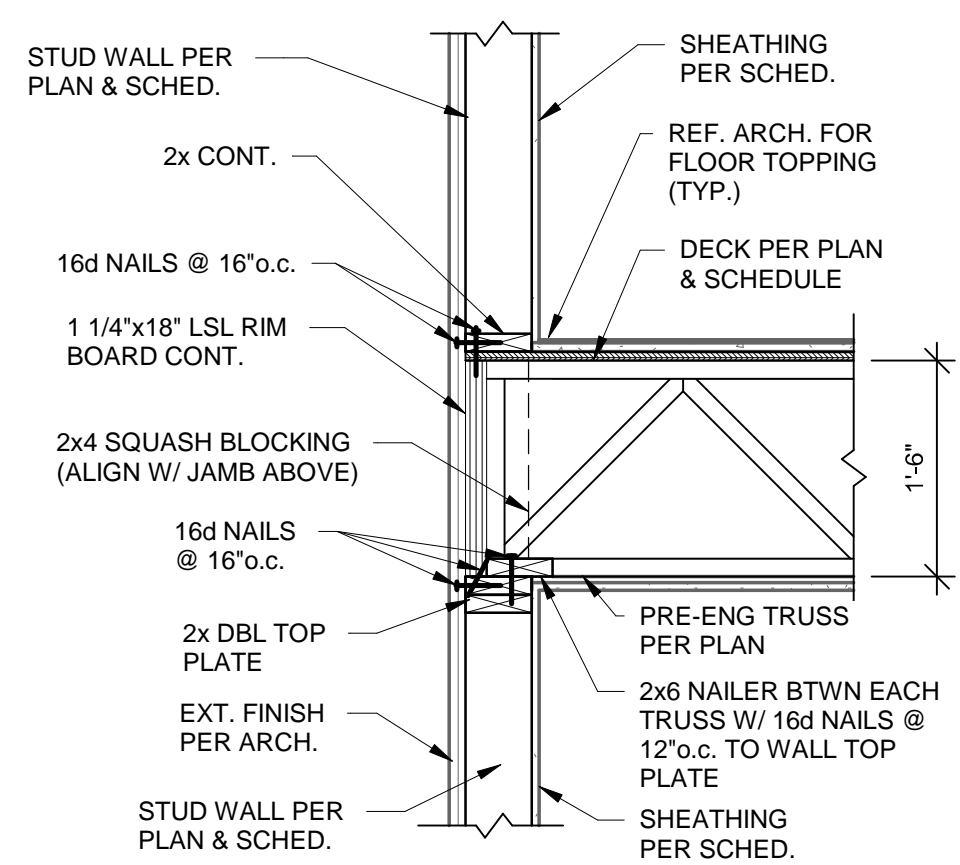
3/4" = 1'-0"



TYPICAL NON-LOAD BEARING WALL @ FLOOR TRUSS

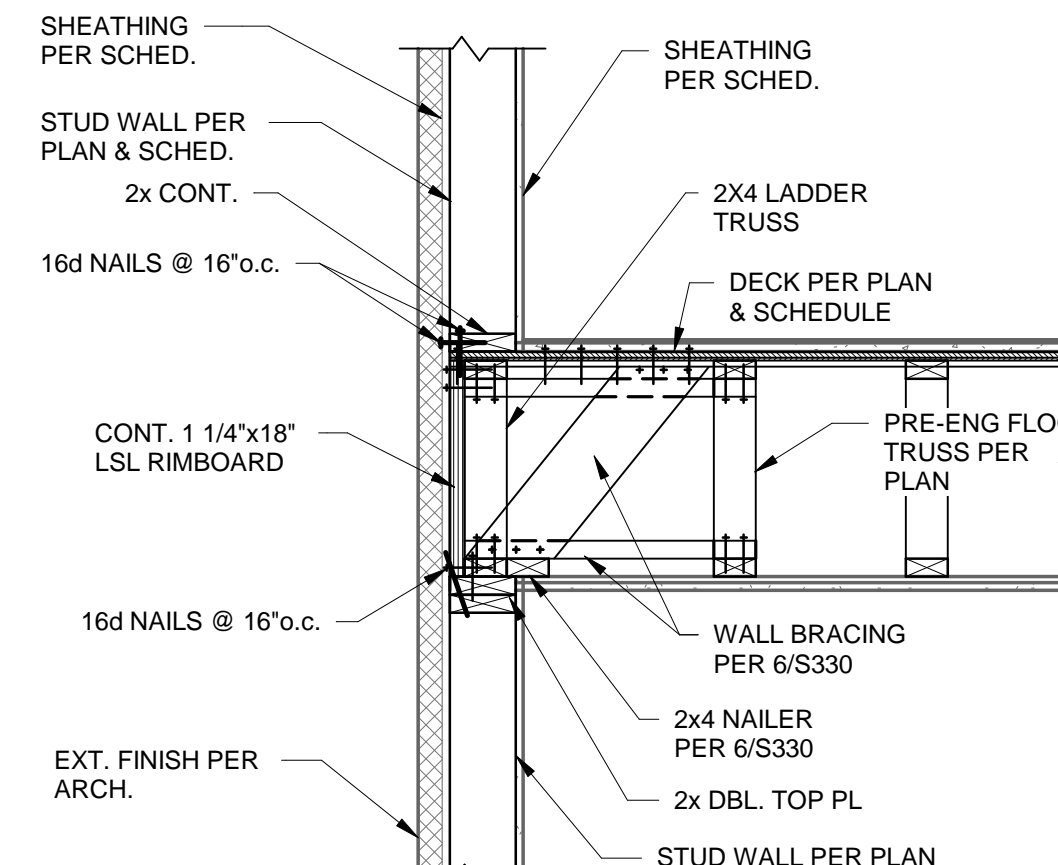
3A SECTION

3/4" = 1'-0"



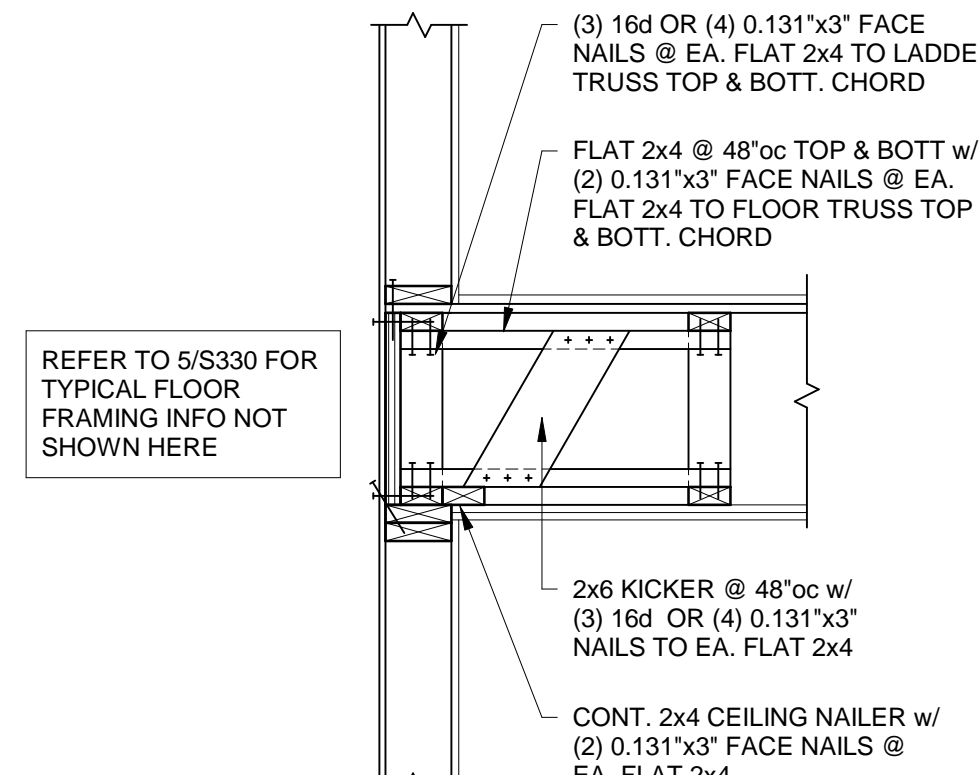
4 SECTION

3/4" = 1'-0"



5 SECTION

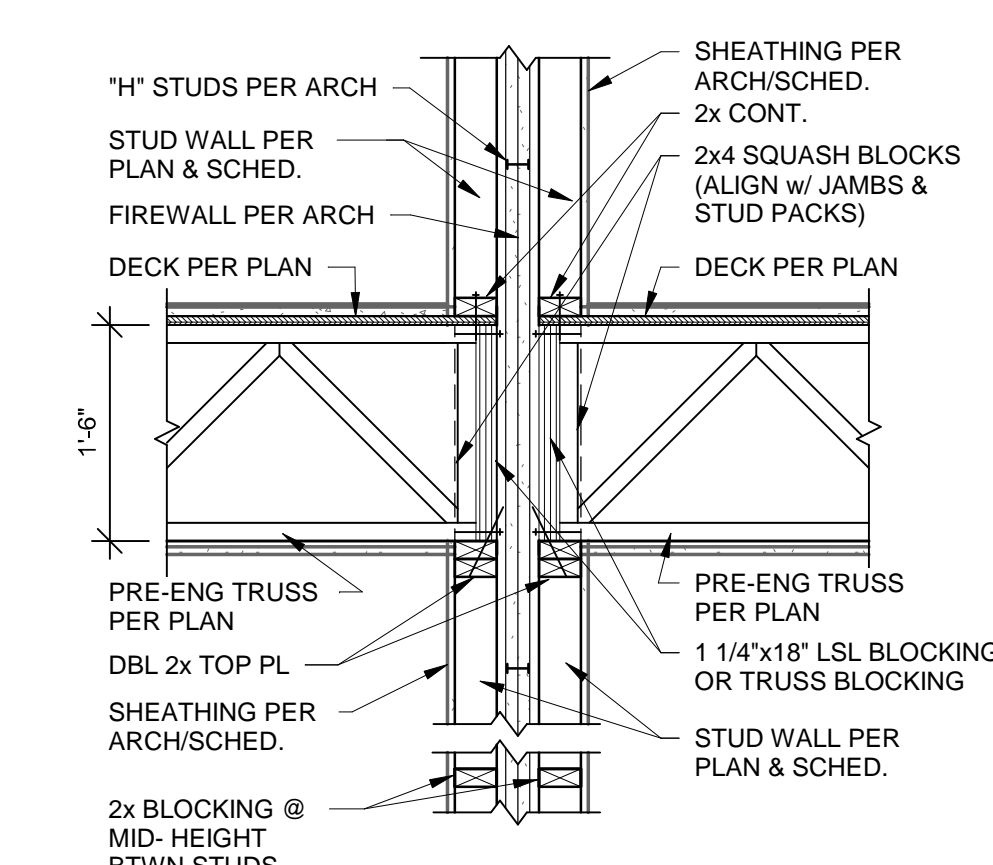
3/4" = 1'-0"



TYPICAL EXTERIOR WALL BRACING

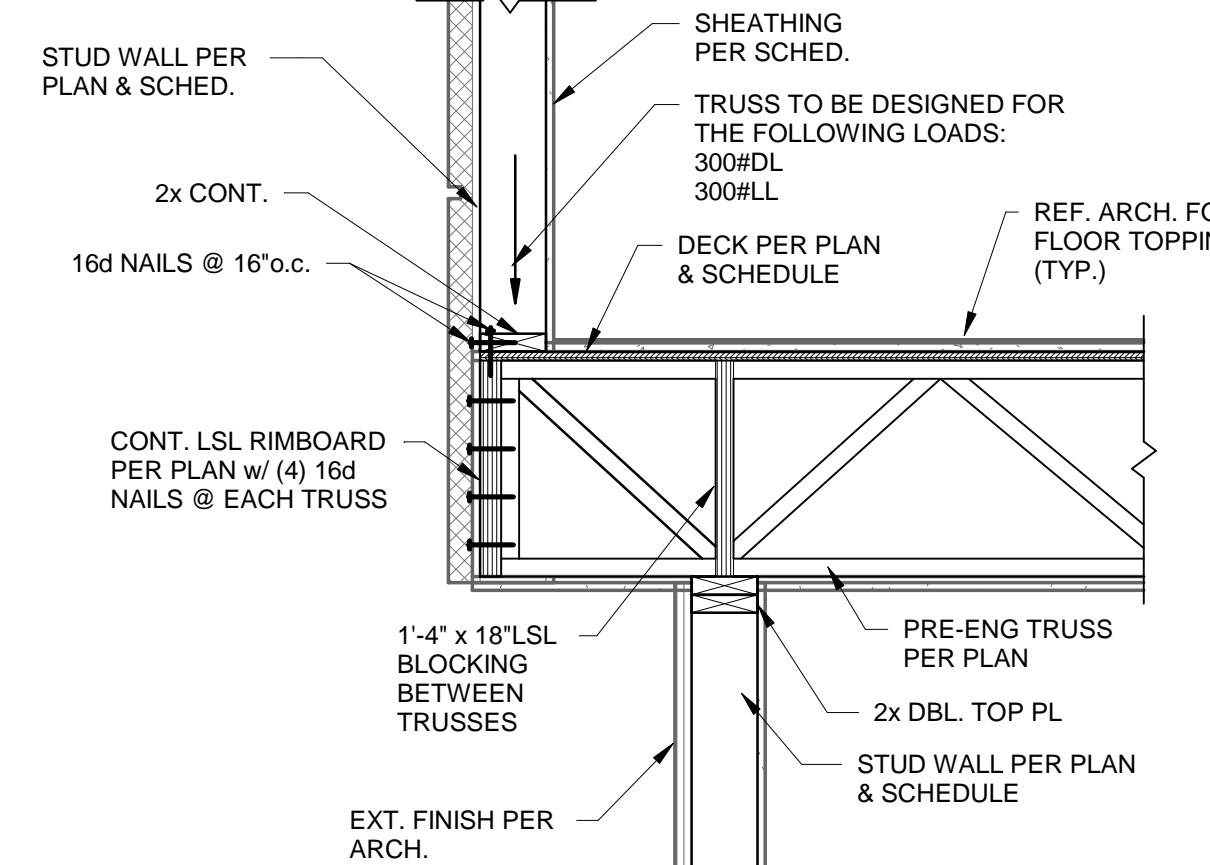
6 SECTION

3/4" = 1'-0"



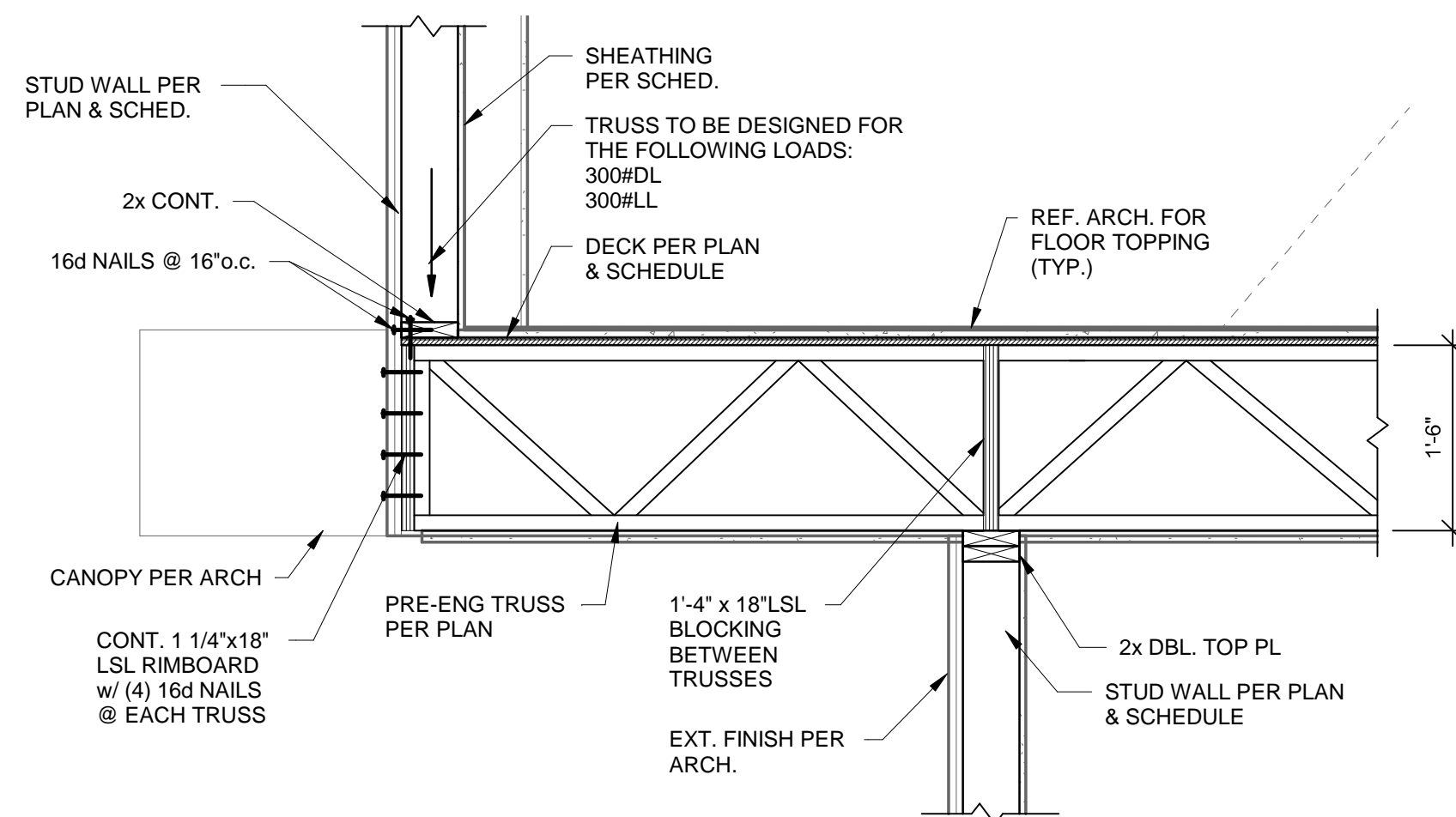
7 SECTION

3/4" = 1'-0"



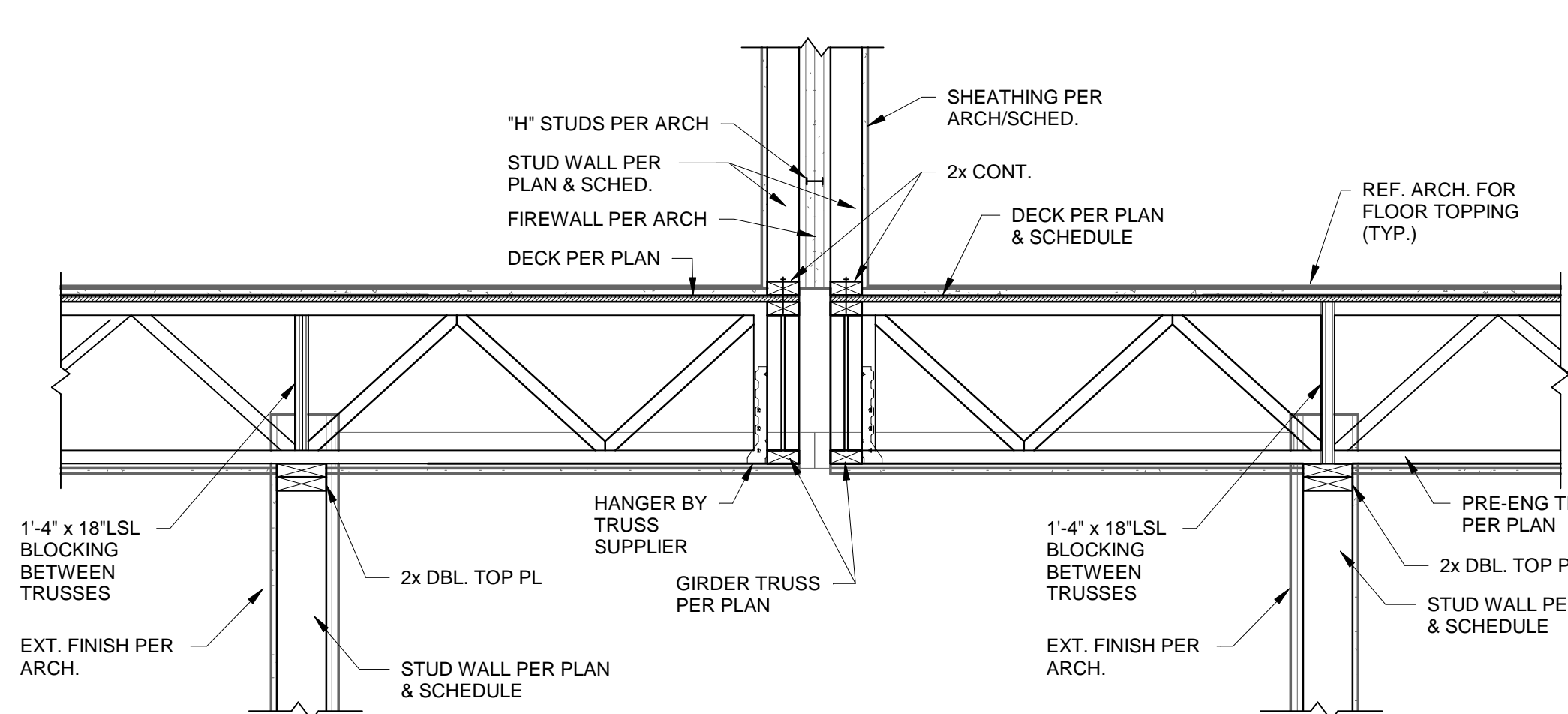
8 SECTION

3/4" = 1'-0"



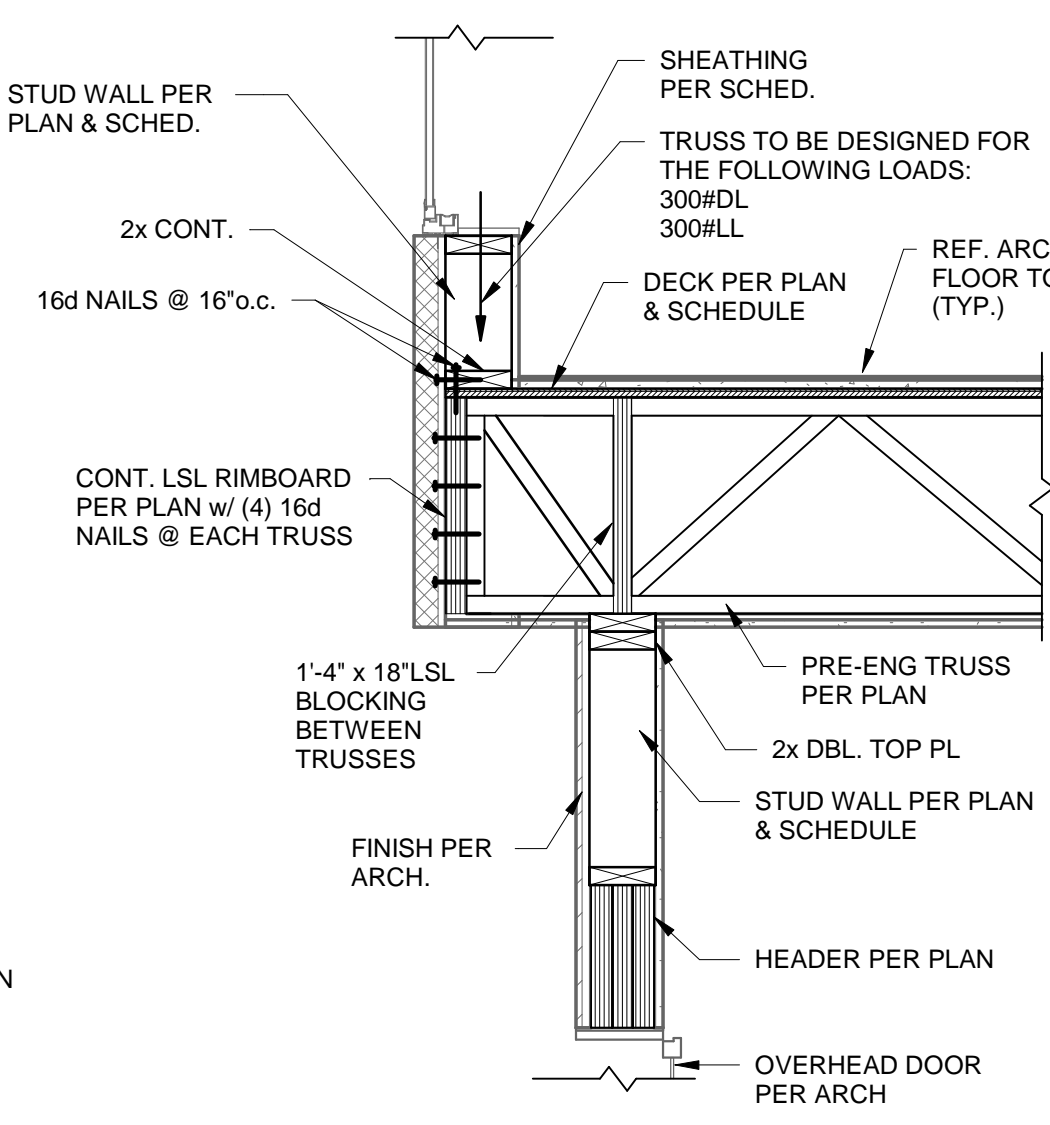
9 SECTION

3/4" = 1'-0"



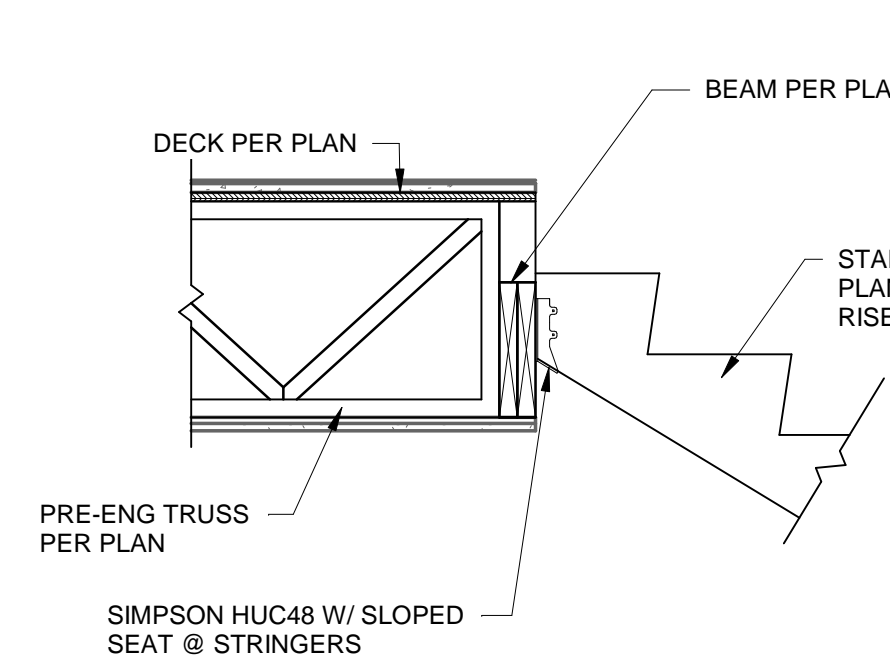
10 SECTION

3/4" = 1'-0"



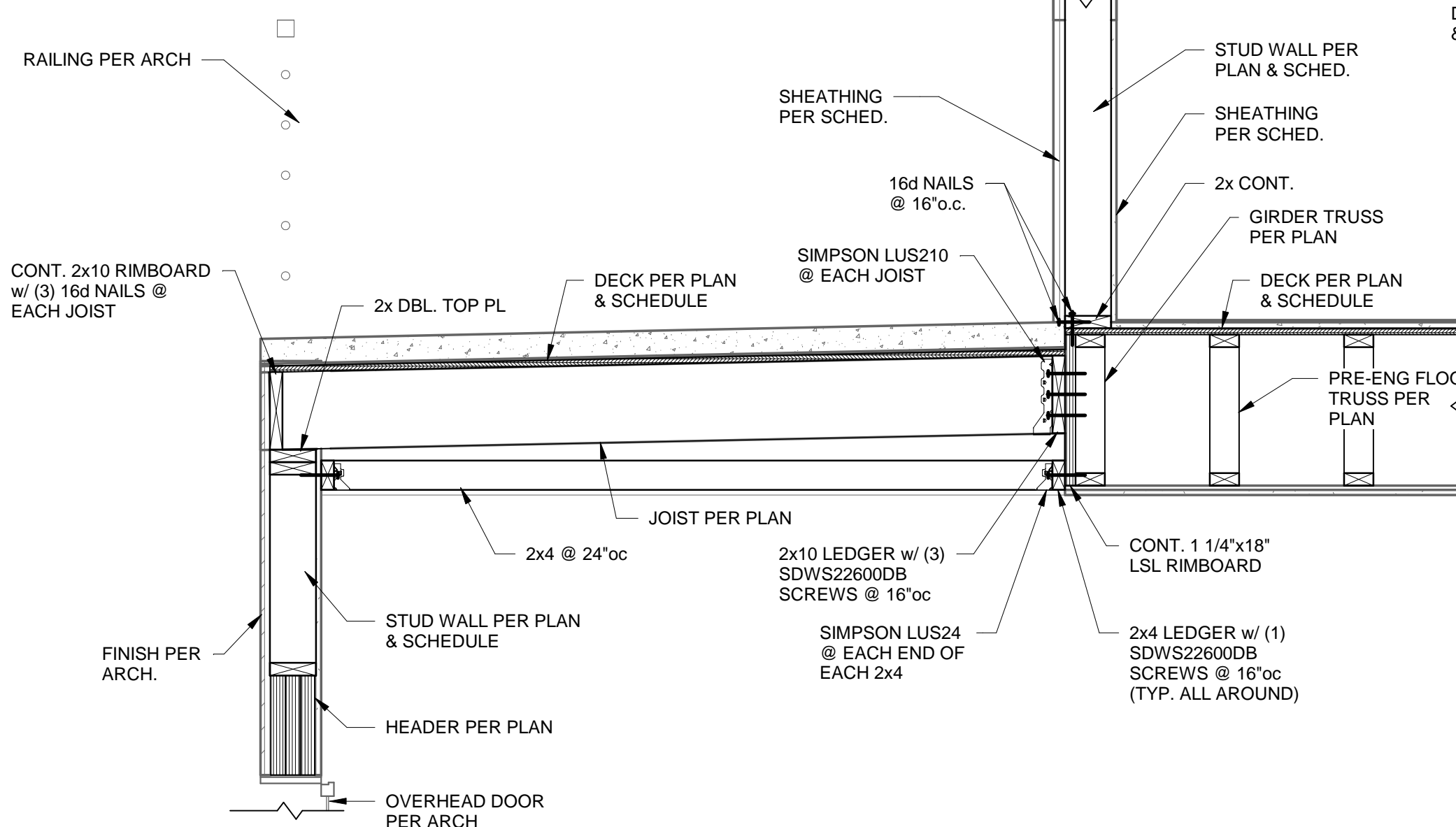
11 SECTION

3/4" = 1'-0"



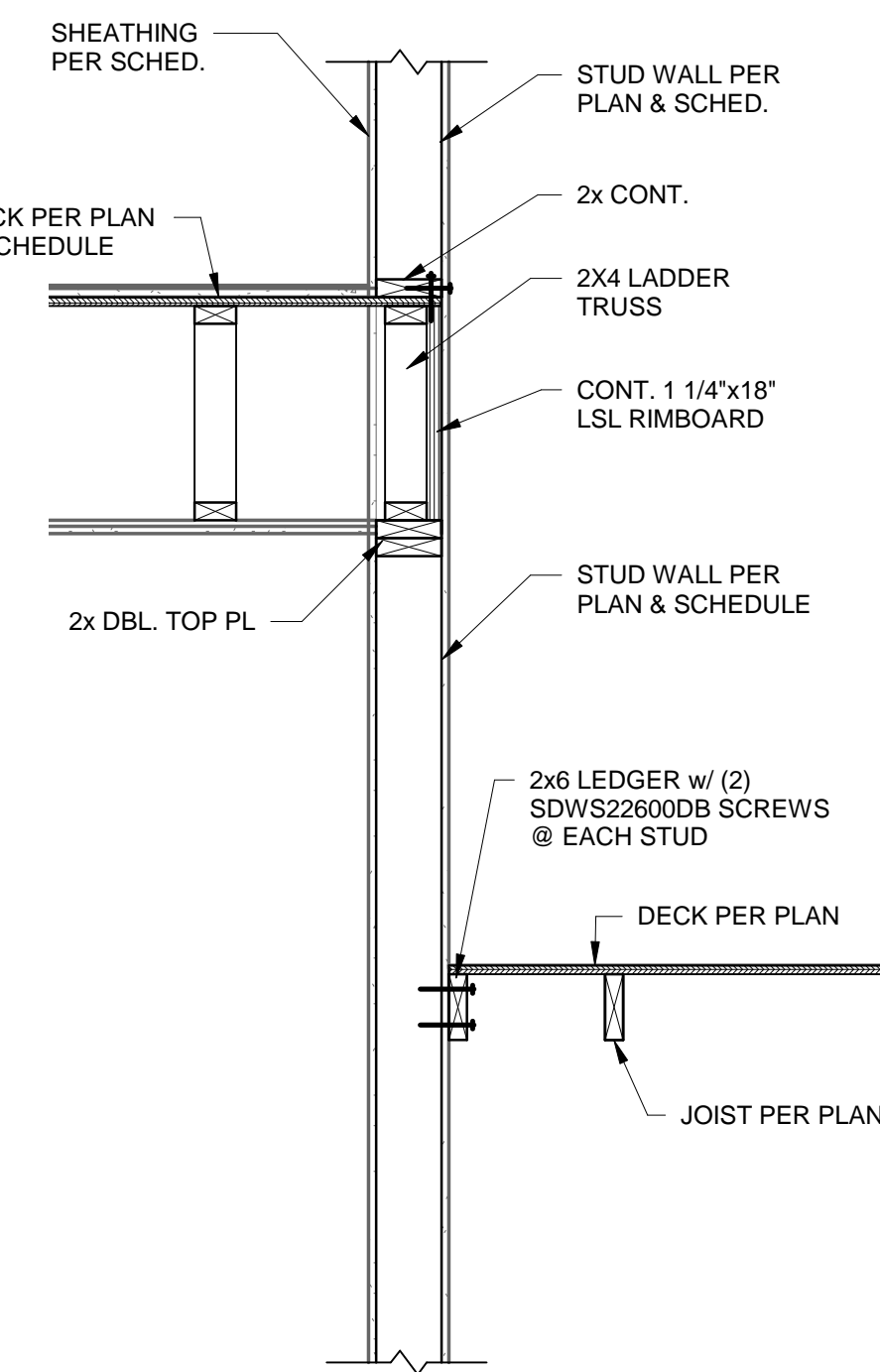
12 SECTION

3/4" = 1'-0"



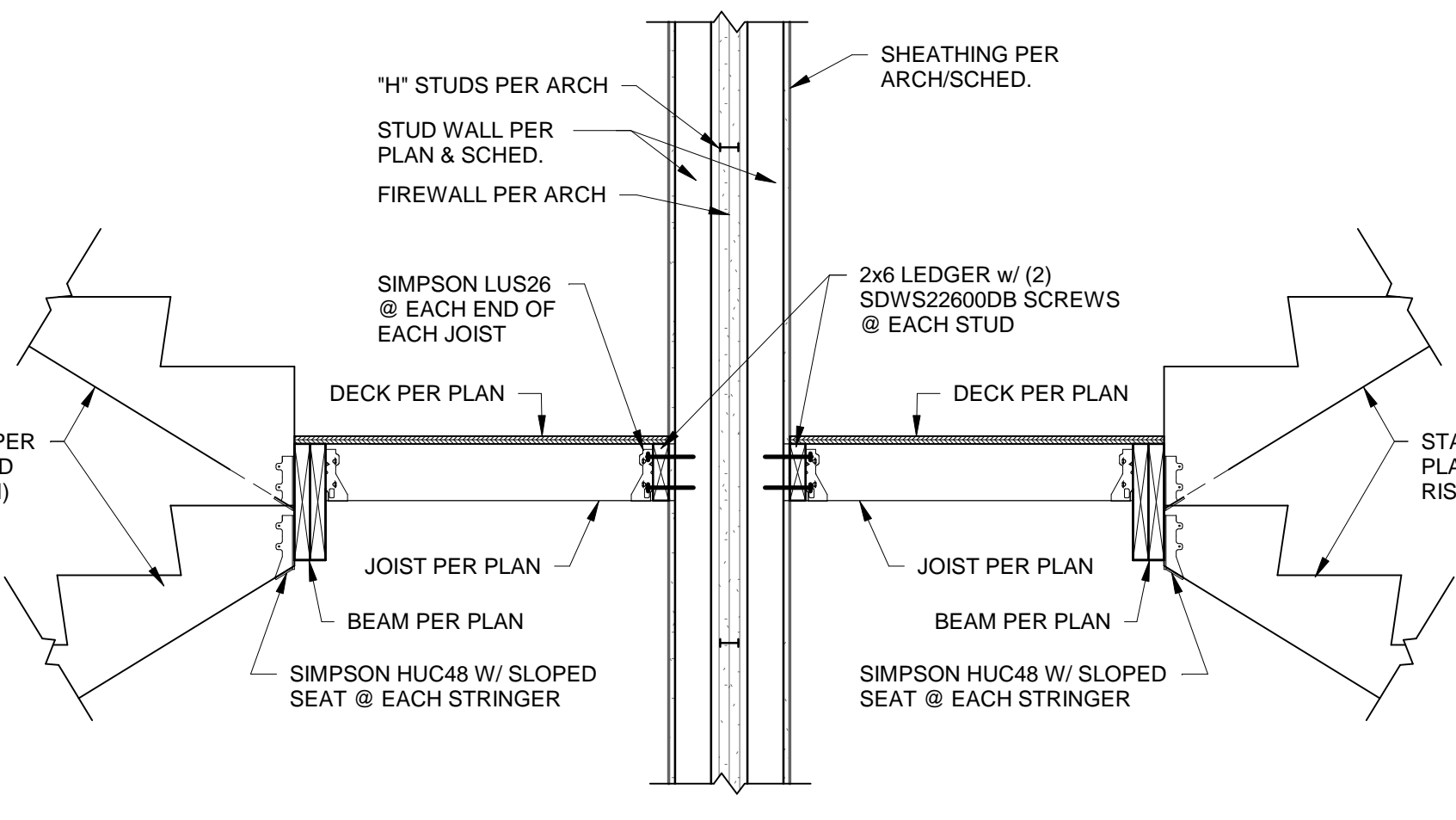
13 SECTION

3/4" = 1'-0"



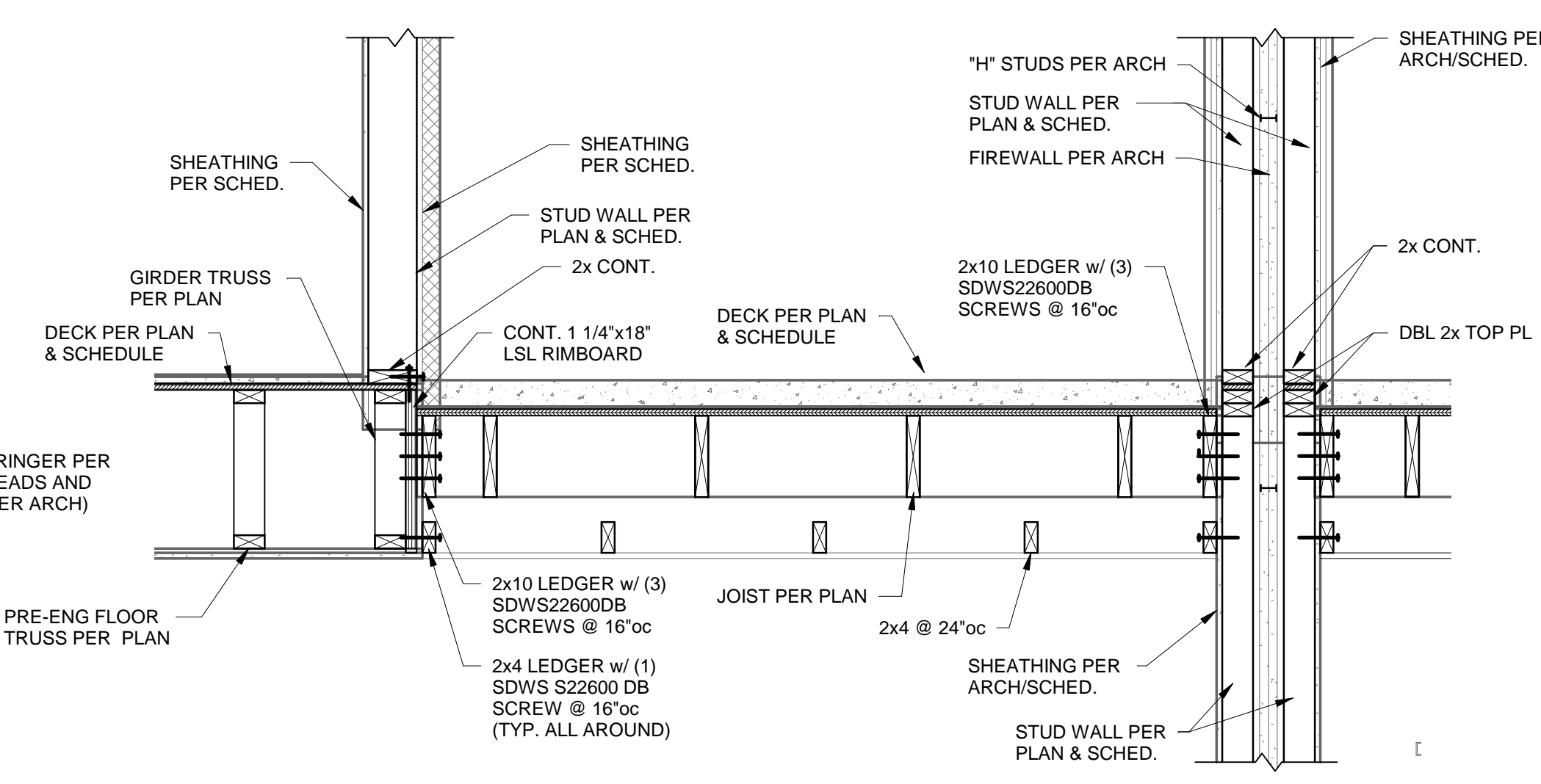
14 SECTION

3/4" = 1'-0"



15 SECTION

3/4" = 1'-0"



16 SECTION

3/4" = 1'-0"



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Lee's Summit, Missouri



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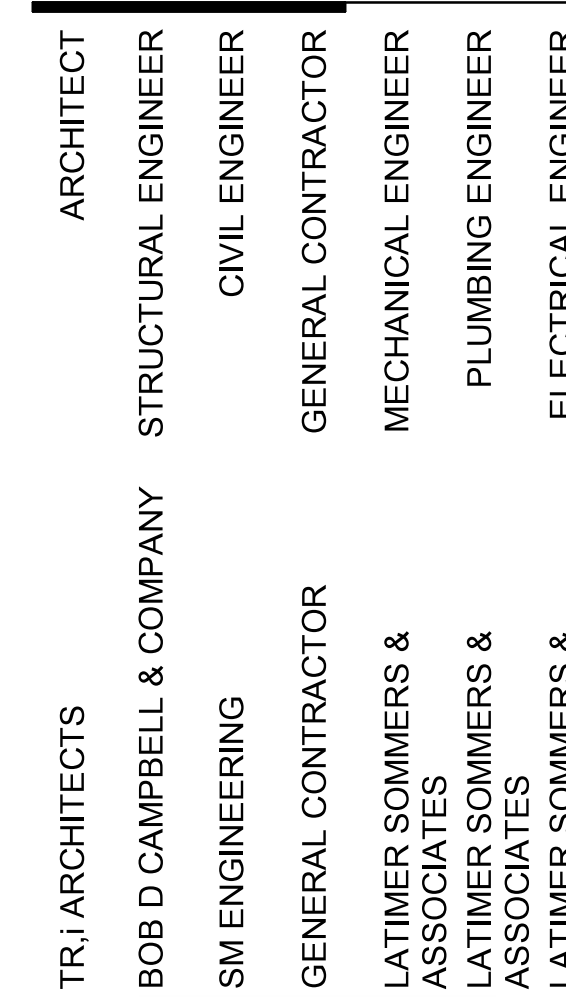
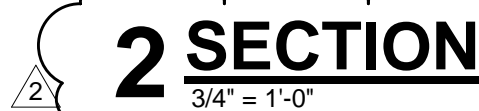
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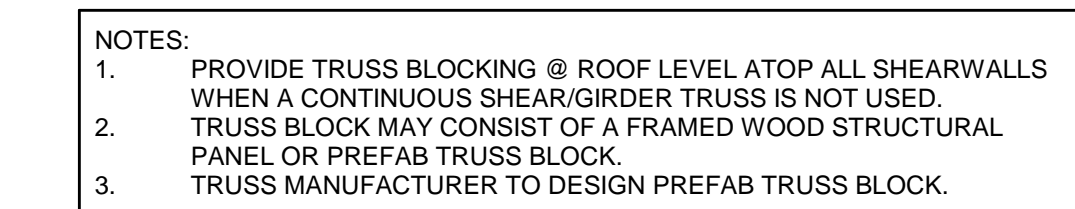
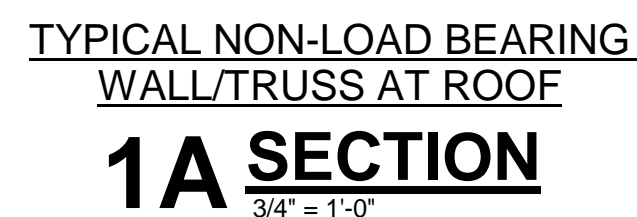
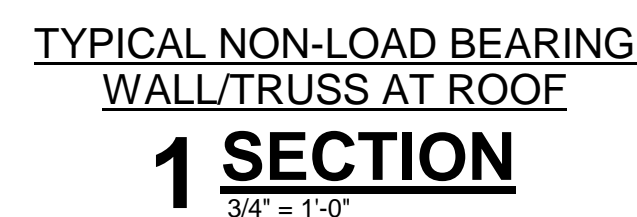
S330

WOOD FLOOR FRAMING SECTIONS

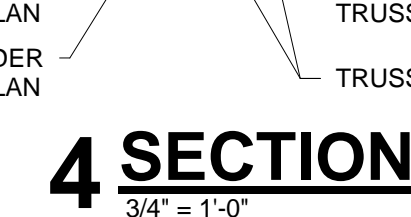
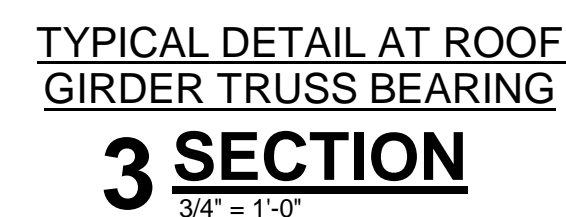


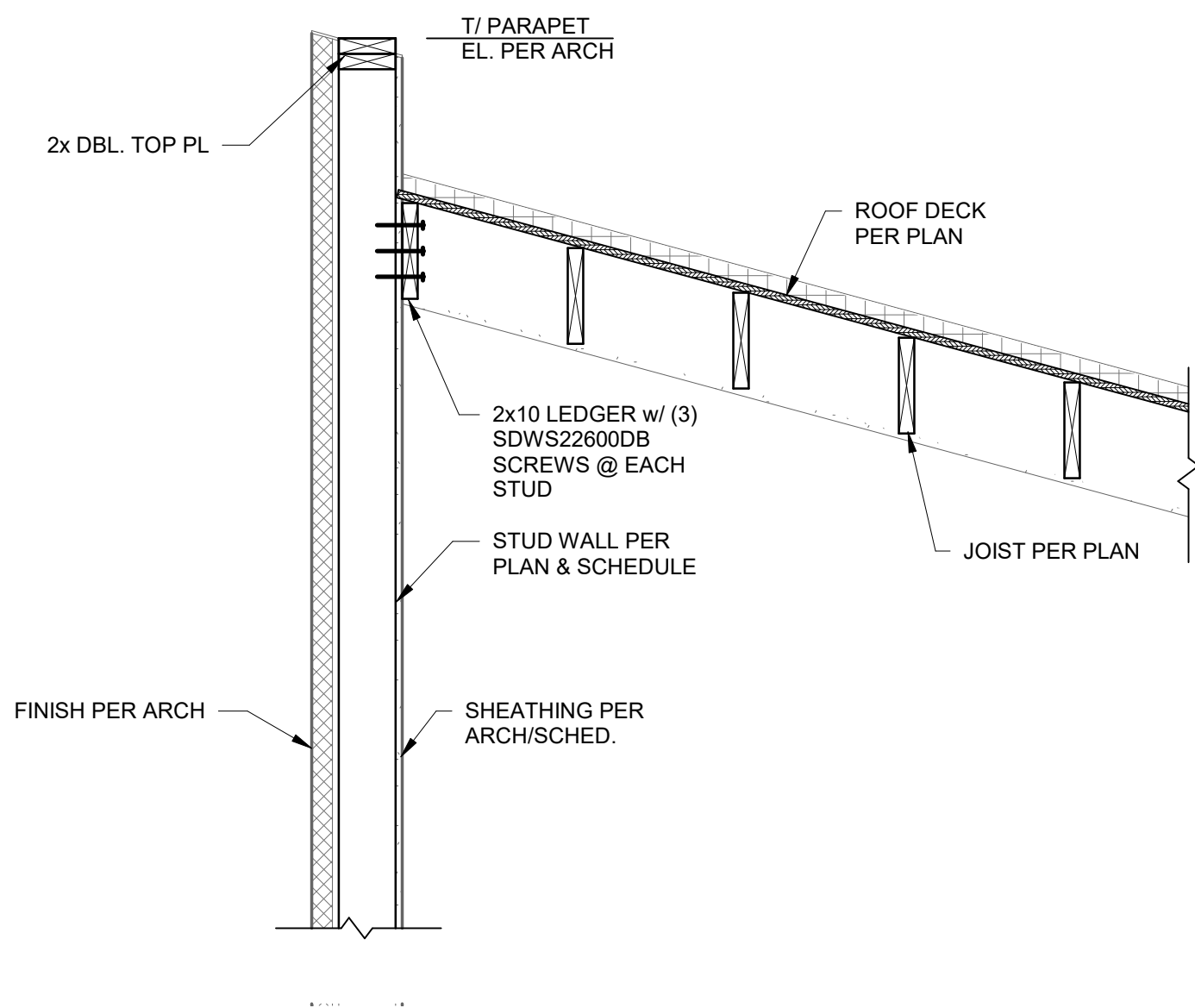
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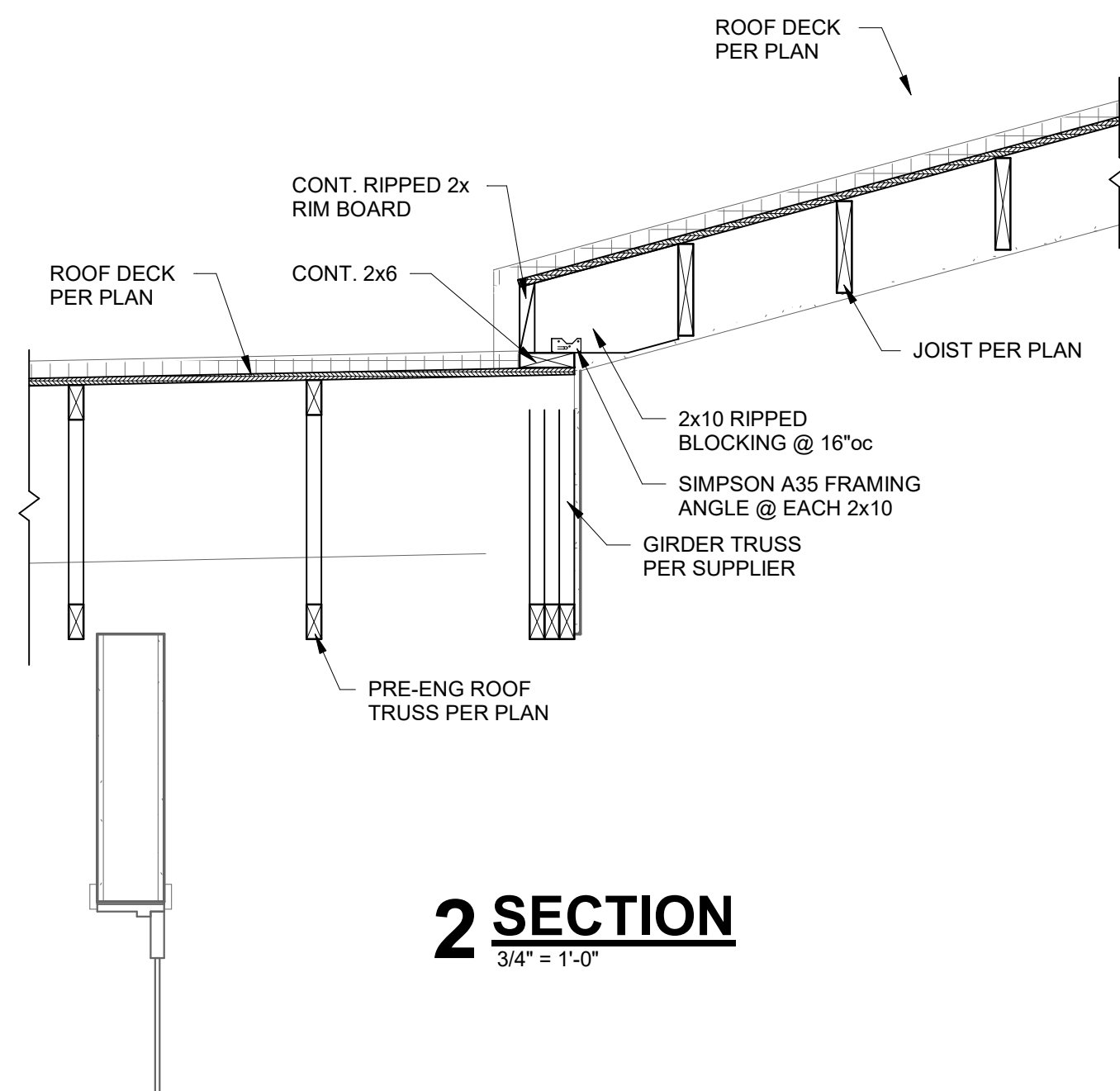


TYPICAL ROOF TRUSS BLOCKING AT SHEARWALLS

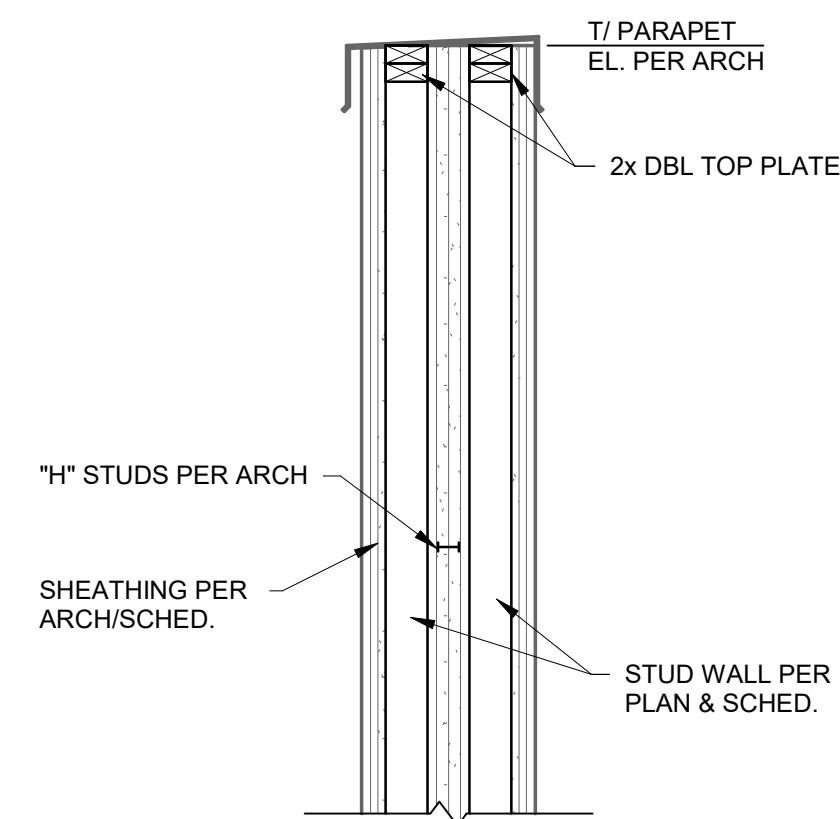




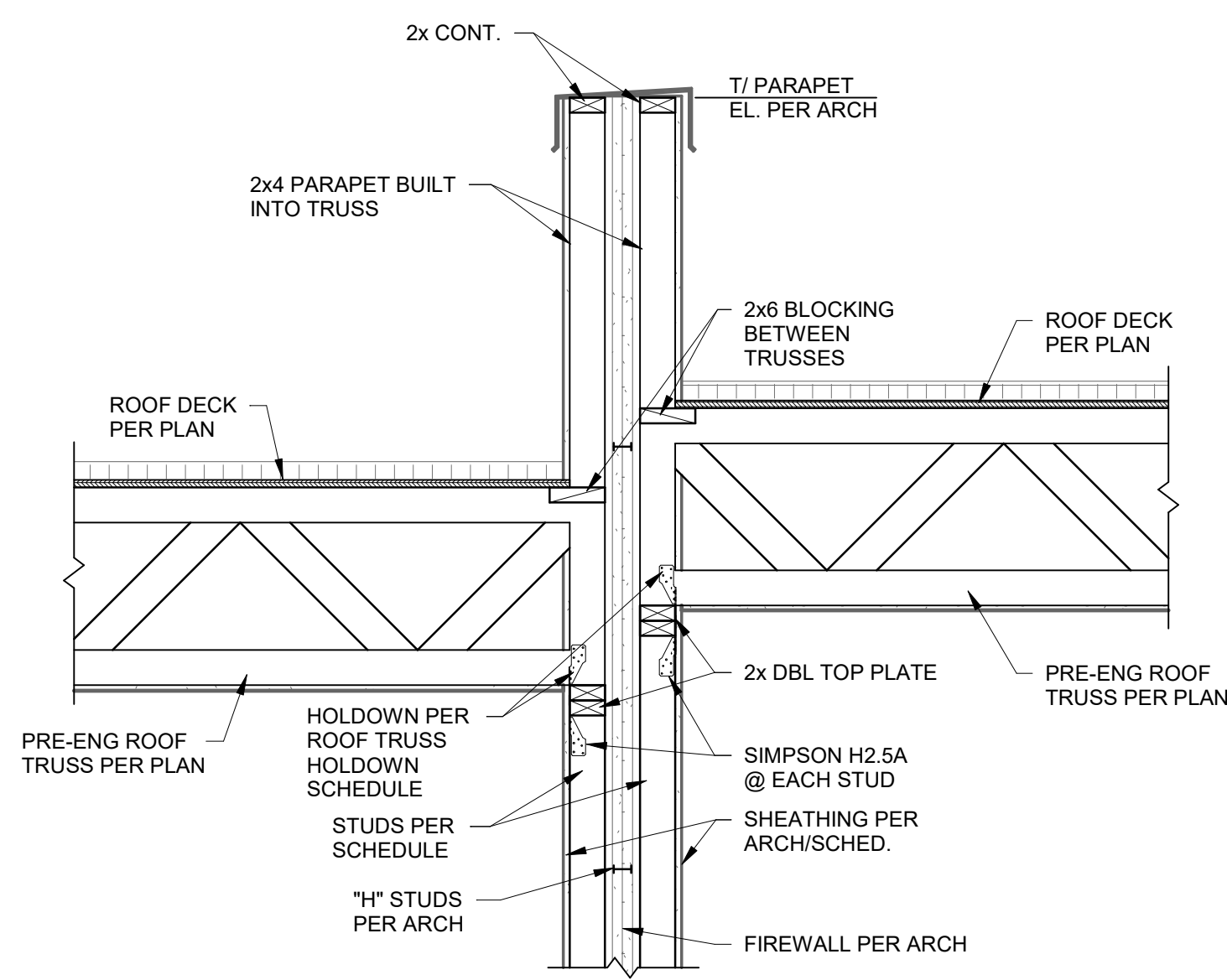
1 SECTION
3/4" = 1'-0"



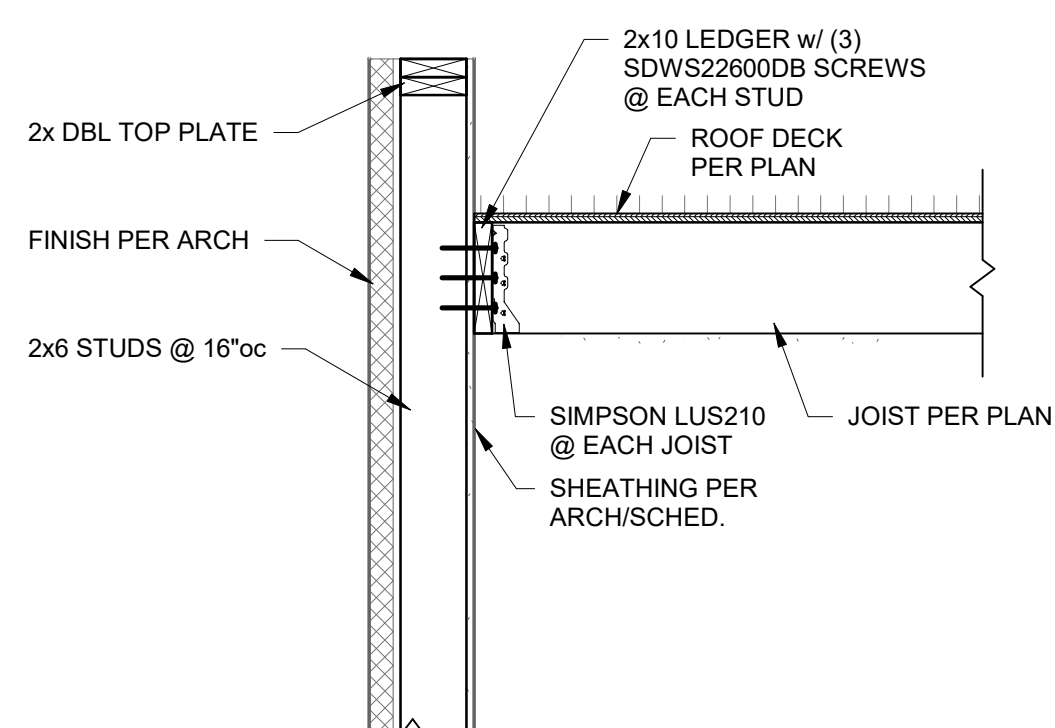
2 SECTION
3/4" = 1'-0"



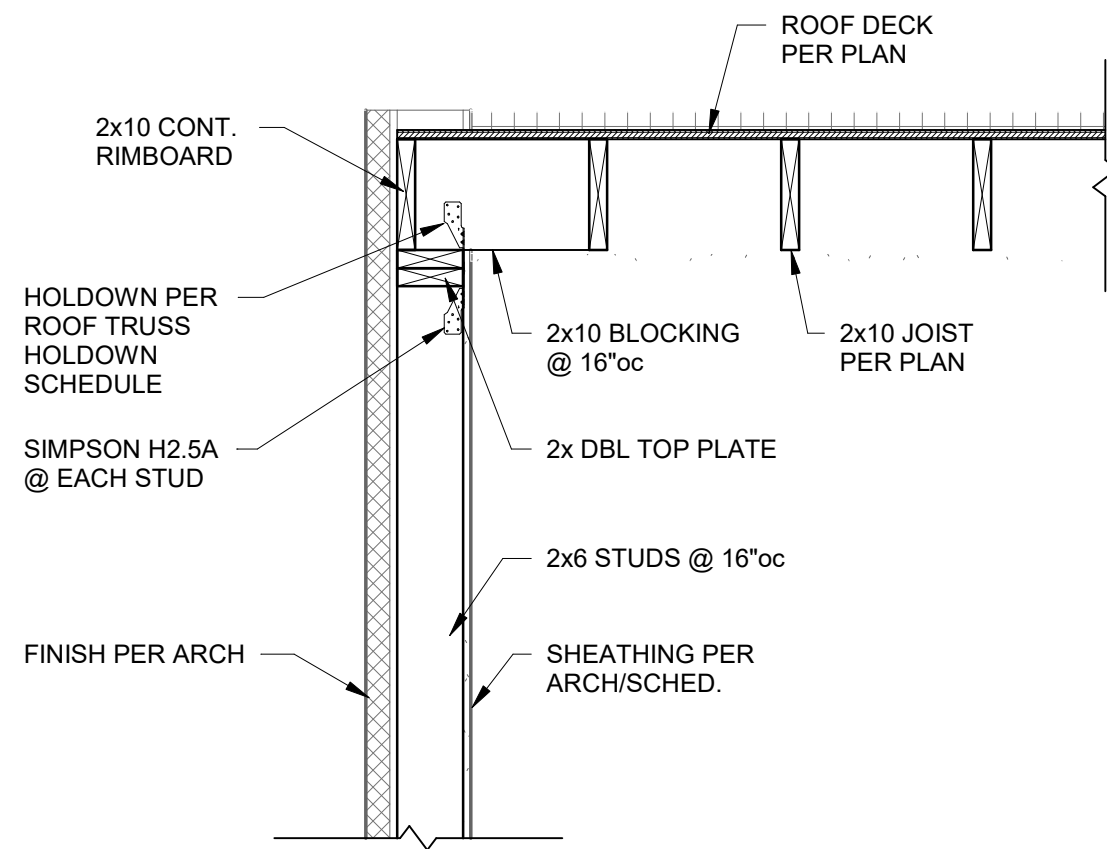
3 SECTION
3/4" = 1'-0"



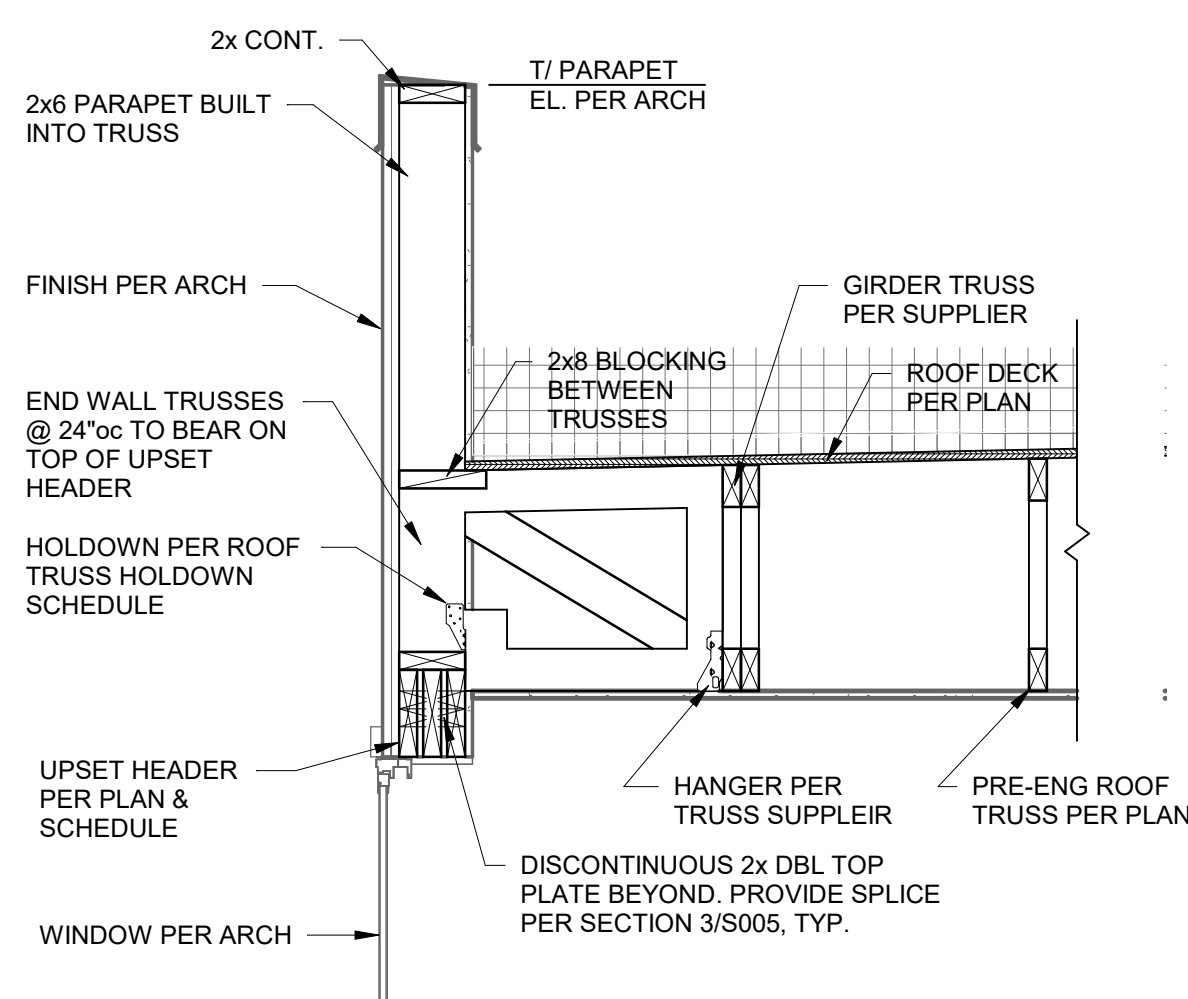
4 SECTION
3/4" = 1'-0"



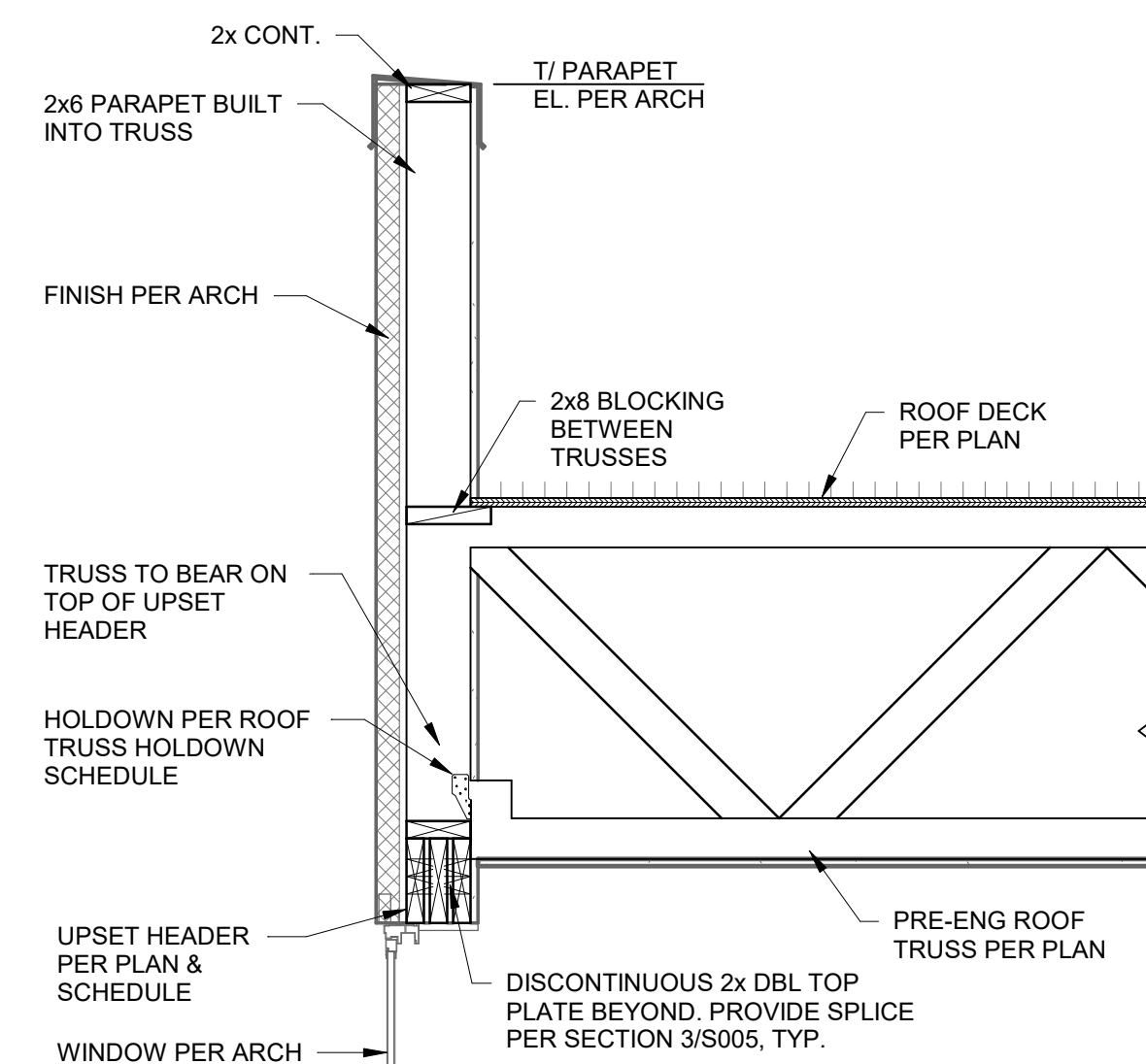
5 SECTION
3/4" = 1'-0"



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



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



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



ARCHITECT	STRUCTURAL ENGINEER	CIVIL ENGINEER	GENERAL CONTRACTOR	MECHANICAL ENGINEER	PLUMBING ENGINEER	ELECTRICAL ENGINEER
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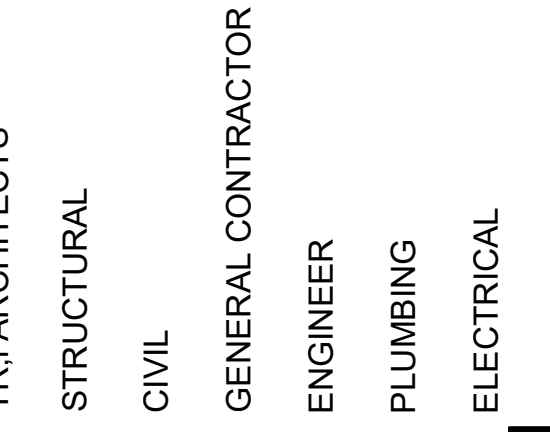
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S341

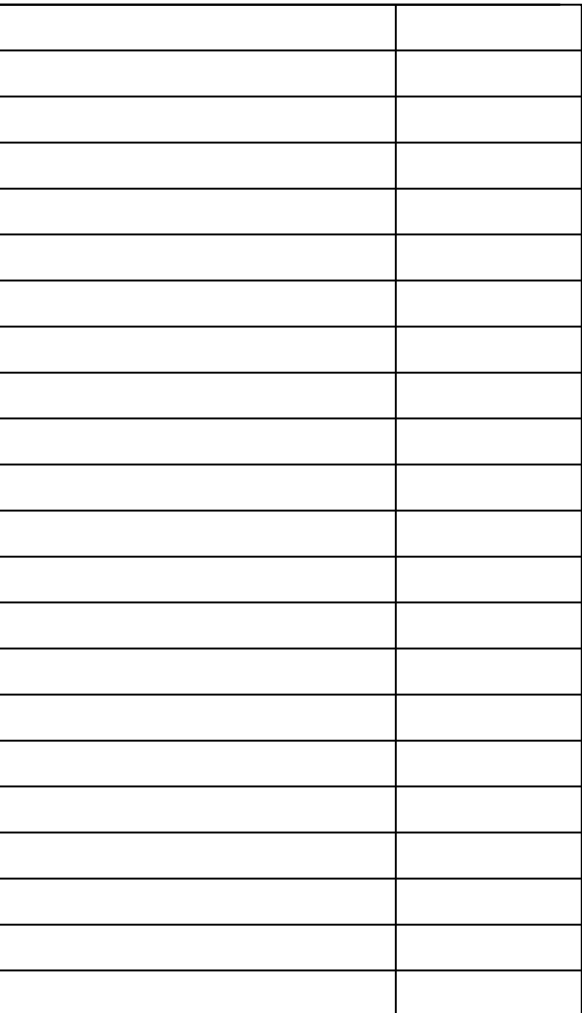
WOOD ROOF FRAMING SECTIONS



- LEGEND:
- ① 1" CW SERVICE FROM 5/8" METER
- ② 4" SANITARY EXIT.



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TE PLAN - MECHANICAL



Supplies	<ul style="list-style-type: none"> 1- Flexible braided stainless steel 2- Flexible braided compression hose.
Stops	<ul style="list-style-type: none"> 1- Angle handle compression
Carrier	<ul style="list-style-type: none"> 1- Steel tube foot-mounted in-wall carrier with arms
P-Trap	<ul style="list-style-type: none"> 1- PVC with deep escutcheon 2- PVC 3- deep seal PVC trap and 30" standpipe.
Drain	<ul style="list-style-type: none"> 1- Metal pop-up with tailpiece 2- Basket strainers in finish to match faucet, tailpiece
Other	<ul style="list-style-type: none"> 1- Provide trap and supply guard if exposed. 2- Provide mop bracket, hose bracket, SS wall guards

WATER HEATER SCHEDULE												
MARK	MFR	MODEL	FUEL	VOLTAGE/PH/AMPS	INPUT	EFFICIENCY/ PF	GALLONS STORAGE	GPH RECOVERY @ 80° RISE	FLUE TYPE	EXPANSION	CIRCULATOR GPM/HD	NOTES
TYP APT	A.O. SMITH	ENJ-40	ELEC	240/1/19	4.5 KW	0.95	38	23	N/A			1, 2, 3

NOTES

1- PROVIDE ASME P&T VALVE, DRAIN VALVE

2- PROVIDE COMBINATION STOP AND OPERATING PRESSURE RELIEF VALVE

3- LOW TYPE, SIDE CONNECT

DRAIN SCHEDULE								
MARK	APPLICATION	MFGR	MODEL	BODY MATL	DEPTH	GRATE MATL	GRATE SHAPE	ACCESSORIES
APT FD	FLOOR	SIUOXCHIEF	842	ABS/PVC	3"	NICKEL BRONZE	6" ROUND	1

ACCESSORIES:
1 - USE WIDE FLANGE MODEL WHERE IN WOOD CONSTRUCTION

NOTE: PROVIDE LONG LINE ACCESSORY KIT ON ALL SPLIT SYSTEMS THAT EXCEED MFGR'S LIMITS

FAN SCHEDULE											
MARK		MFG#	MODEL	CFM	ESP	ELECTRICAL					CONFIGURATION - NOTES
						FAN HP	VOLTS / PH	FLA	OCF	WIRING	
APT EF		BROAN	AES0	80	0.1	Fr.	120V1	1	15	(3) #12	ceiling_1
APT EF2		BROAN	AES0	50	0.1	Fr.	120V1	1	15	(3) #12	ceiling_2
NOTES	1-CEILING GRILLE, DS, WALL/ROOF CAP, HUMIDITY-SENSING WALL CONTROL 2-CEILING GRILLE, DS, WALL/ROOF CAP										

9-2-21

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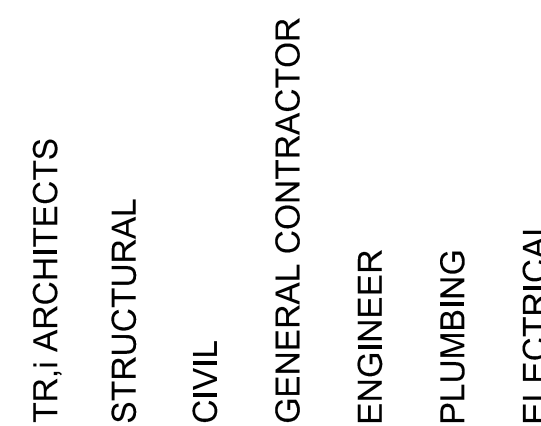
MP102

MECHANICAL SCHEDULES



LABEL	MANUFACTURER	DESCRIPTION/MODEL	FINISH
A	NORA LIGHTING	NELOCAC-8R30W ELO SURFACE MOUNT	WHITE TRIM
B	FAMINATION	FPD8534BL KITE 52" LK8534 KITE LIGHT KIT	BLACK
C	MATTEO	S03910MB	MATTE BLACK
D	ACCESS	Z0399LEDMG-BL	TEXTURED BLACK
E	ET-2	E20366-628MB HALF MOON	BLACK
F	NORA LIGHTING	NELOCAC-11R30W ELO SURFACE MOUNT	WHITE TRIM

- | LEGEND: | |
|---------|---|
| ① | SWITCHED GFI RECEPTACLE FOR GARBAGE DISPOSER
CONTINUE CIRCUIT TO DISHWASHER. |
| ② | PROVIDE ARC-FAULT CIRCUIT BREAKER IN PANEL. |
| ③ | TELE/TV DEMARK FLUSH BOX. PROVIDE WITH DUPLEX
OUTLET. PROVIDE 1" CONDUIT FROM BOX TO ABOVE
CEILING AND OUT TO CEILING IN THE HALLWAY. SEE
DETAILS. |



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Luminaire Schedule - Units and Buildings								
MARK	DESCRIPTION	MFR	MODEL	MOUNTING	FINISH	LAMPS	NOTES	
A	Disk Light	Halo	SLD612/8030VH	p/surface	white	1200 Lumen 3000K 15W LED	Wet Location	
B	Counter pendant	Hudson Valley	Lambert#612-OB	pendant	old bronze	1-15W LED		
C	Tub shower	Halo	SLD608/8030VH	p/surface	white	1200 Lumen 3000K 15W LED	Wet Location	
E	Vanity sconce	Halo	To match Stephan Outdoor Sconce	angled	1-12W LED	1-12W LED	Wet Location	
E	Entry/Patio Light	Avenue	54350A	wall	bronze	2-8W LED	Wet Location	
F	5-blade fan, 3-spd, rev. w/globe	Minka-Aire	Aviation #P852L-BVNL with light	surface	1-15W LED	1-15W LED	Energy Star - dimmable	
G	Glass globe - small	Nuvola/Nersene House	041203	surface	br. nickel	1-10W LED		
S	Spot Light	Cooper	GLCN-5A 1-D-740-U-L3-TBZ	track	brass	870, 812, Lumen 4000K	16 ft pole	

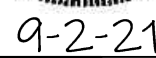
Unit Load Calculation			
Unit:	TH		VA
1835	square feet at 3 VA per sq. ft.		4905
2	small appliance circuits		3000
	Range		8000
	MW		1000
	Washer		1500
	Dryer		5000
	Water Heater		4500
	Dishwasher		800
	Disposer		850
Total general load			28555
NEC 220-84 Calculation			
	First 10 KVA at 100%		10000
	Remainder at 40%		7622
	Heating Load	10000 65%	6500
Total load			24322
Load for unit service Amp @ 240 volt/1			101
Connected Load			38555

Multi-Family Building Load Analysis			
Building:		8-UNIT	
Unit Quantity	Unit Type	Connected Load - VA	Total KVA
8	TH	39555	316.44
		Total Building KVA	316.44
		Total Units Per Entrance	8
		Diversity per NEC Table 220.84	0.43
		Diversified KVA	136.07
		Amps @ 240 V Single Phase	566.96
		House Load - Amps	10
		Total Transformer Demand - Amps	576.96

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LSA PROJECT NO. 2104028



- 1



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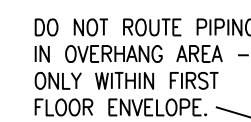
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TYPICAL UNIT PLAN - PLUMBING



1 TYPE
1/4"=1'-0"



2 TYPE
1/4"=1'-0"

