

GENERAL

- Structural work shall conform to the requirements of “The Commonwealth of Massachusetts State Building Code”, 9th Edition, “The International Building Code” (IBC 2015), and ASCE 7-10.
- Examine architectural, mechanical, plumbing and electrical drawings for verification of location and dimensions of chases, inserts, openings, sleeves, washes, drips, reveals, depressions and other project requirements not shown on structural drawings.
- Verify and coordinate dimensions related to this project.
- Openings in slabs and walls less than 12” maximum dimension are generally not shown on structural drawings shall not be revised without prior written approval of the architect.
- Typical details and notes shown on structural drawings shall be applicable to all parts of the structural work except where specifically required otherwise by contract documents.
- Details not specifically shown shall be similar to those shown for the most nearly similar condition as determined by the architect.
- The contractor shall submit complete shop drawings for all parts of the work, including description of demolition and construction methods and sequencing where applicable. No performance of the work including, but not limited to, demolition and construction methods and sequencing where applicable to, demolition of existing structure or fabrication or erection of new structural elements, shall commence without review of the shop drawings by the architect.

FOUNDATIONS

- Foundations for this project consist of spread footings, foundation walls, and slabs on grade. The allowable bearing pressure is 2 tons per square foot, based on the geotechnical reported dated June 7, 2021 and prepared by Kevin M. Martin, P.E. (KMM Geotechnical Consultants, LLC).
- No responsibility is assumed by the architect for the validity of the subsurface conditions described on the drawings.
- Foundation units shall be centered under supported structural members, unless noted otherwise on the drawings.
- Exterior construction shall be carried down below finished exterior grade to a minimum depth of 4’-0”, unless noted otherwise.
- Provide temporary or permanent supports, whether shoring, sheeting or bracing so that no horizontal movement or vertical settlement occurs to existing structures, streets or utilities adjacent to the project site.
- Carry out continuous control of surface and subsurface water during construction such that foundation work is done in dry and on undisturbed subgrade material, as applicable.
- Bottom 3 inches of exactions for footings shall be finished by hand shovel.
- Backfill under any portion of the structure shall be compacted in 6” lifts.
- No foundation concrete shall be placed in water or on frozen subgrade material.
- Protect in-place foundations and slabs from frost penetration until the project is completed.
- Do not backfill behind foundation walls until permanent lateral structural support system is in place and of full strength.
- Sheeting, shoring and bracing for the lateral support of excavation shall remain in place until all permanent structural systems below ground level are complete.

CONCRETE

- Concrete work shall conform to “Building Code Requirements for Reinforced Concrete” (ACI 318-14), and “Specifications for Structural Concrete for Buildings” (ACI 301-14).
- Concrete shall be controlled concrete, proportioned, mixed and placed in the presence of a representative of an approved testing agency.
- Unless noted otherwise, concrete shall have a minimum 28 day compressive strength and be of a type as follows: All concrete shall have a slump of 4” to 6”.

(A) Footings, slabs-on-grade, walls	4000 PSI	(Normal weight)
(B) Piers, beams, columns	4000 PSI	(Normal weight)
(C) Slabs on steel deck	3000 PSI	(Normal weight)
(D) Topping slabs & housekeeping pads	3000 PSI	(Normal weight)
- Concrete to be exposed to the weather in the finished project shall be air entrained. Interior slabs-on-grade shall not be air-entrained.
- Provide vapor barrier under interior slabs cast on grade.
- Construction joints shown on drawings are mandatory. Omissions, additions or changes shall not be made except with the submittal of a written request together with drawings of the proposed joint locations for approval of the architect.
- Where construction joints are not shown or when alternate joint locations are proposed, a concrete placing sequence shall be submitted to the architect for approval prior to preparation of the reinforcement shop drawings.
- Size of concrete placements, unless noted otherwise, shall be as follows:

	Max Length (Feet)	Max Area (Sq. Feet)
(A) Footings and walls	30*	-
(B) Slabs on grade	30*	900* place in alt panel

*Exceed only where intermediate contraction joints are provided.
- Minimum of 72 hours shall elapse between adjacent concrete placements.
- Concrete shall be placed without horizontal construction joints except where shown or noted. Vertical construction joints and stops in concrete work shall be made at midspan or at points of minimum shear.
- Concrete slabs shall be placed so that the slab thickness is at no point less than that indicated on the drawings.
- Structural steel below grade shall be encased in concrete with a minimum cover of 2”.

REINFORCEMENT

- Reinforcement work of detailing, fabrication and erection shall conform to “Building Code Requirements for Reinforced Concrete” (ACI 318-08), “ACI Detailing Manual – 1994” (SP-66), “CRSI Manual of Standard Practice” (MSP 1-97), and “Structural Welding Code – Reinforcing Steel” (AWS D1.4-92).
- Steel reinforcement, unless noted otherwise, shall conform to the following:

(A) Bars, ties and stirrups	ASTM A615 Grade 60	(FY=60 KSI)
(B) Welded wire fabric (WWF)	ASTM A185	
- Provide and schedule on shop drawings the necessary accessories to hold reinforcement securely in position. Minimum requirements shall be: high chairs, 4’-0” O.C. with continuous #5 support bar; slab bolsters, continuous and 3’-6” O.C.; beam bolsters, 5’-0” O.C.
- Minimum concrete protective covering for reinforcement, unless noted otherwise, shall be as follows:

(A) Unformed surfaces cast against and permanently in contact with earth: 3.0”					
(B) Formed surfaces in contact with earth or exposed to weather:					
	<table><tr><td>#6 through #18 bars</td><td>2.0”</td></tr><tr><td>#5 bars, 5/8” wire and smaller</td><td>1.5”</td></tr></table>	#6 through #18 bars	2.0”	#5 bars, 5/8” wire and smaller	1.5”
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#5 bars, 5/8” wire and smaller	1.5”				
- | | | | | | |
|--|---|------------------|------|----------------------|------|
| (C) Surfaces not in contact with earth or exposed to weather - walls, slabs, joists: | | | | | |
| | <table><tr><td>#14 and #18 bars</td><td>1.5”</td></tr><tr><td>#11 bars and smaller</td><td>1.0”</td></tr></table> | #14 and #18 bars | 1.5” | #11 bars and smaller | 1.0” |
| #14 and #18 bars | 1.5” | | | | |
| #11 bars and smaller | 1.0” | | | | |

- Beams, girders and columns – principal reinforcement, ties, stirrups or spirals: 1.5”
- Where continuous reinforcement is called for, it shall be extended continuously around corners and lapped at necessary splices or hooked at discontinuous ends. Laps shall be Class B tension lap splices, unless noted otherwise.
 - Where reinforcement is not shown on drawings, provide reinforcement in accordance with applicable details as determined by the architect. In no case shall reinforcement be less than the minimum reinforcement permitted by the applicable codes.
 - Where reinforcement is required in section, reinforcement is considered typical wherever the section applies.
 - Reinforcement shall be continuous through construction joints.
 - Dowels shall match bar size and number, unless noted otherwise.
 - Welded wire fabric shall lap 8” or 1-1/2” spaces, whichever is larger and shall be wired together.
 - Reinforcement shall not be tack-welded.

STRUCTURAL STEEL

- Structural steel work shall conform to “Specification for Structural Steel Buildings” (AISC 2011); “Code of Standard Practice for Steel Buildings & Bridges” (AISC 2011); “Seismic Provisions for Structural Steel Buildings” (AISC, 2011); “Specification for Structural Steel Joints Using ASTM A325 and A490 bolts” (AISC 2011), “Structural Welding Code – Steel” (AWS D1.1-96).
- Structural steel shall be detailed in accordance with “Detailing for Steel Construction (AISC)” and where required, designed in accordance with cited references.
- Structural steel details, not specifically shown, shall be taken as being similar to those shown for the most nearly similar condition as determined by the architect.
- Structural steel shall be new steel conforming to the following:

(A) Unless noted otherwise	ASTM A992	Grade 50 (Fy = 50 KSI)
(B) Angles, T’s, channels, and plates, etc	ASTM A36	(Fy = 36 KSI)
(C) Tubes	ASTM A500	Grade B (Fy = 46 KSI)
(D) Pipes	ASTM A501	Type E or S, Grade B
	or ASTM A53	
(E) Anchor bolts	ASTM A307 or ASTM F1554	gr. 105
(F) High strength bolts	ASTM A325	
- Anchor bolts, leveling plates or bearing plates shall be located and built into connecting work, preset by templates or similar methods. Plates shall be set in full beds of non-shrink grout.
- Bolted connections should be as follows:

(A) Minimum bolt diameter – ¾”, two bolts minimum.
(B) Standard, oversized or horizontal shorts slotted holes in webs of beams.
(C) Shear connections for moment connected members – friction type high strength bolts in single shear.
(D) Shear connections for other members – simple shear connections with either friction type high strength bolts in single shear or bearing type high strength bolts (threads included in shear plane) in single or double shear.
(E) Simple shear connections shall be capable of end rotation per AISC requirements for “Unrestrained Members”.
- Welded connections shall be made by approved certified welders using filler metal conforming to E70XX or F7X-EXXX with low hydrogen.
- Welds shall develop the full strength of the materials being welded, unless noted otherwise, except that fillet welds shall be a minimum of ¼”.

- Beam connections, unless noted otherwise, shall provide connection capacity as follows, or as shown on the plans, whichever is larger:

(A) Non-composite beams: support a reaction “R” equal to ½ the total uniform load capacity of beam for a given shape, span and grade of steel per “Maximum Total Uniform Load” Table 3-6 to 3-9, AISC Manual of Steel Construction, 14 th Edition.							
(B) Composite beams: support a reaction “Rc” = Multiplier x “R” (as defined above):							
	<table><tr><td>Rc = 1.50 x R</td><td>(for beam depth greater than 21”)</td></tr><tr><td>Rc = 2.00 x R</td><td>(for beam depth greater than 14” but less than or equal to 21”)</td></tr><tr><td>Rc = 2.25 x R</td><td>(for beam depth great than 8” but less than or equal to 14”)</td></tr></table>	Rc = 1.50 x R	(for beam depth greater than 21”)	Rc = 2.00 x R	(for beam depth greater than 14” but less than or equal to 21”)	Rc = 2.25 x R	(for beam depth great than 8” but less than or equal to 14”)
Rc = 1.50 x R	(for beam depth greater than 21”)						
Rc = 2.00 x R	(for beam depth greater than 14” but less than or equal to 21”)						
Rc = 2.25 x R	(for beam depth great than 8” but less than or equal to 14”)						
(C) Add to “R” or “Rc” the loads or reactions of members supported by the beam near supports and/or the vertical components of force in diagonal bracing members framing into the beam.							
- Ends of columns at splices and at other bearing connections shall be “finished to bear” to complete the true bearing.
- Provide stiffeners “finished to bear” under all load concentrations on supporting members, over columns, and where shown on drawings.
- Provide temporary erection bracing and supports to hold structural steel framing securely in position. Such temporary bracing and supports shall not be removed until permanent bracing has been installed and concrete for floor slabs has attained 75% of specified concrete strength.
- Structural steel framing shall be true and plumb before connections are finally bolted or welded.
- Field cutting of structural steel or any field modifications of structural steel shall not be made without prior written approval by architect for each specific case.
- Structural steel encased in masonry shall be covered with mastic coating per specifications.
- Structural steel members shall be fireproofed per specifications.
- Structural steel members and connections exposed to the weather shall be galvanized.
- Camber shall be by cold-formed process in conformance with AISC specification and tolerance.

STEEL DECK AND SHEAR CONNECTOR

- Steel deck and shear connector work shall conform to the “Specification for Design of Light Gage and Cold-Formed Steel Structural Members” (AISC 1989); “Structural Welding Code – Steel” (AWS D1.1-94); and “Structural Welding Code – Sheet Steel” (AWS D1.3-89).
- Steel deck cross sections are only represented diagrammatically on the drawings.
- Steel deck panels shall be formed from steel sheets conforming to ASTM A653, Grade 33, with a minimum yield point of 33,000 PSI, ASTM A570 (UNGALV), Grade 33 or ASTM A611 (UNGALV), Grade C with a minimum yield point of 33,000 PSI and a thickness not thinner than 20 gage.
- Floor construction in general consists of concrete fill cast on steel deck and composite in action with the structural steel beams by means of welded shear connectors.
- Shear connectors shall conform to ASTM A108, Grades 1010, 1015, 1017 or 1020. Typically, shear connectors shall be ¾” diameter x 4 ½” long headed studs, unless noted otherwise, but in no case shall shear connectors extend less than 1-1/2” above steel deck.
- The number of shear connectors required per beam is indicated by “(32)”, etc. on the drawings. (see beam explanation diagram) Where no shear connectors are indicated for a beam which supports a concrete slab, provide shear connectors at 24” O.C.
- Shear connectors shall be equally spaced over the length of the beam. Where the number of steel deck corrugations available is less than the number of shear connectors, use pairs of shear connectors starting from each end of beam and continuing toward the center, until it is possible to return to a single shear connector in each corrugation. Shear connectors shall be spaced not closer than 3” transversely and 4 1-2” longitudinally.
- Horizontal clearance shall be a minimum of 1” from the edge of any shear connector to the faced of concrete, steel deck rib, or similar adjacency.
- Edge distance from the center of a shear connector to the edge of a structural steel beam shall preferably be 2”, but in no case less than 1 ½”.

MASONRY CONSTRUCTION

- Clay (brick) and concrete masonry unit (CMU) construction shall conform to “Building Code Requirements for Masonry Structures” (ACI 530-99/ASCE 5-99/TMS402-99), and to “Specifications for Masonry Structures” (ACI 530.1-99/ASCE 6-99/TMS 602-99).
- Materials strings shall be as follows:

(A) Face brick shall conform to ASTM C-215 Grade SW with compressive strength of 5000 PSI.
(B) Common brick shall conform to ASTM C-62 Grade SW with compressive strength of 5000 PSI.
(C) Concrete masonry units shall conform to ASTM C-90 or C-145 Grade N-1.
(D) Mortar shall conform to ASTM C-270, Type M or S.
(E) Grout shall conform to ASTM C-476 fine or coarse.
- Masonry shall have Fm = 1500 PSI. Fm is the compressive strength of the masonry at 28 days as determined by prism tests.
- Prior to grouting cells, bars and cells must be inspected by the testing agency.
- The base of each cell in which a bar is placed must have a cleanout hole.
- The design of reinforced masonry construction is based on allowable stresses predicated on “with inspection” provisions, requiring that qualified masonry inspection take place on a continuous basis whenever masonry is being placed.
- Reinforced masonry walls shall have bond beams at each floor level. Bond beam reinforcing shall be extended into and be continuous with all intersecting bond beams.
- Anchor to masonry walls shall be 3/4” diameter expansion bolts or anchor bolts. Bolts shall be 2” shorter than wall thickness.
- Bonding methods, ties, lintels and accessories shall be approved by the architect.
- Submit shop drawings, with ample time for architect’s review and approval, for structural elements including structural steel.
- Masonry openings more than 16” wide require approved lintels.

- Masonry openings for utilities are to be closed up with new brick work around the utility.
- Provide and install lintels for openings in accordance with the schedule and details on SO.2. Where lintel abuts columns or walls, provide connections to such. (Submit shop drawing of connection detail for approval.)
- Wall bearing beams shall have bearing plates of sufficient size to develop the maximum end reaction of the beam. Plates shall bear on concrete filled blocks having a compressive strength of 250.0 PSI.
- Fill cores of concrete blocks under all bearing plates with concrete for a width equal to 3 times the bearing plate length.
- Provide 1-#5 vertical reinforcing at 24” OC. @ elevator shaft, and 2#4 vertical reinforcing at 8” OC in CMU walls that must act as a vehicle barrier. This reinforcing shall be continuous full height.
- Masonry block cells containing vertical reinforcing shall be grouted solid. Filling cells with mortar is unacceptable. The compressive strength of grout at the end of 28 days shall be 3000 PSI minimum.
- Reinforced masonry walls shall have # 9 g. wire ladder type joint reinforcement at 16” OC horizontal reinforcement.
- Provide 2-#5 continuous horizontal bars in the top course (bond beam) of walls below each floor level and the roof, and fill continuously with grout.
- Provide 1-#5 additional vertical reinforcing bar at each corner, door or window jamb, and at any discontinuity in the wall.

STRUCTURAL TIMBER CONSTRUCTION

- Timber construction shall conform to Part II “Design” as published in the “Timber Construction Manual” (AITC 6th Edition) and to “National Design Specification for Wood Construction” (NF.PA, 2012 Edition).
- New timber for structural use shall have a moisture content as specified in the “National Design Specification for Wood Construction (NF.PA, 2012 Edition).
- Timber construction shall conform to Article 23 of the “International Building Code”.
- Material properties for timber shall conform to the following:

(A) For members with nominal 2” thickness. S-P-F #1/2# or better (15% max MC).	
Allowable bending stress:	Fb = 875 PSI (single member use)
Fb = 1000 PSI (multiple member use)	
Allowable shear stress Fv = 135 PSI	
Compression parallel to grain = 1100 PSI	
Compression perpendicular to grain = 425 PSI	
Modulus of elasticity = 1,400,000 PSI	
(B) For members with nominal 4” and greater, Douglas Fir-Select Structural (19% max MC)	
Allowable bending stress Fb = 1,600 PSI	
Allowable shear stress Fv = 85 PSI	
Compression parallel to grain = 1,100 PSI	
Compression perpendicular to grain = 625 PSI	
Modulus of elasticity = 1,600,000 PSI	
(C) For members with nominal 2” x 12” thicknesses used as rafters, Douglas Fir-Select Structural (19% max MC).	
Allowable bending stress:	Fb = 1300 PSI (single member use)
Fb = 1500 PSI (multiple member use)	
Allowable shear stress Fv = 180 PSI	
Compression parallel to grain = 1,700 PSI	
Compression perpendicular to grain = 650 PSI	
Modulus of elasticity = 1,400,000 PSI	
(D) For members with nominal 4” and greater, Douglas Fir-Select Structural (19% max MC).	
Allowable bending stress Fb = 1,600 PSI	
Allowable shear stress Fv = 85 PSI	
Tension parallel to grain = 950 PSI	
Compression parallel to grain = 1,100 PSI	
Compression perpendicular to grain = 625 PSI	
Modulus of elasticity = 1,600,000 PSI	
(E) For pressure-treated members with nominal 2” thickness, Southern Pine #1 or better (19% max MC).	
Allowable bending stress Fb = 1300 PSI	
Allowable shear stress Fv = 90 PSI	
Compression parallel to grain = 1,550 PSI	
Compression perpendicular to grain = 565 PSI	
Modulus of elasticity = 1,500,000 PSI	
(F) For pressure-treated members with nominal 4” thickness and greater, Southern Pine #2 pressure-treated (19% max MC).	
Allowable bending stress Fb = 1250 PSI	
Allowable shear stress Fv = 95 PSI	
Compression parallel to grain = 725 PSI	
Compression perpendicular to grain = 440 PSI	
Modulus of elasticity = 1,400,000 PSI	

- “PT” indicates pressure-treated lumber (to be used when in contact with concrete, masonry or weather).
- ‘9-1/2” AJS 150’s’ etc. indicates engineered wood I-Joist with machine stress rated lumber flanges and OSB webs by the Boise Cascade Co. or equal.
- ‘3-1/2” x 16” LVL’ etc. indicates laminated veneer lumber-2.0 E beam or post by the Boise Cascade Co. or equal.
- Joist support by nailing is forbidden unless used with an approved hanger. Unless noted otherwise on plans, all flush framed joists and beams shall be framed with Simpson hangers as follows (or approved equals):

(A) 2x6; 2x8	Type ‘U26’
(B) 2-2x6; 2-2x8	Type ‘U26-2’
(C) 3-2x6; 3-2x8	Type ‘U26-3’
(D) 2x10; 2x12	Type ‘U210’
(E) 2-2x10; 2-2x12	Type ‘U210-2’
(F) 3-2x10; 3-2x12	Type ‘U210-3’
(G) 9-1/2” AJS 140’s	Type ‘ITS2.56/9.5’
(H) 9-1/2” AJS 20’s	Type ‘ITS2.56/9.5’
(I) 9-1/2” AJS 25’s	Type ‘ITS3.56/9.5’
(J) 3-1/2” x 9-1/2” L.V.L.	Type ‘HGLTV3.59’
(K) 5-1/4” x 9-1/2” L.V.L.	Type ‘HGLTV5.59’
(L) 3-1/2” x 11-7/8” L.V.L.	Type ‘HGLTV3.511’
(M) 5-1/4” x 11-7/8” L.V.L.	Type ‘HGLTV5.511’
(N) 3-1/2” x 14” L.V.L.	Type ‘HGLTV3.514’
(O) 5-1/4” x 14” L.V.L.	Type ‘HGLTV5.514’

- | | |
|-------------------------|-------------------|
| (O) 3-1/2” x 16” L.V.L. | Type ‘HGLTV3.516’ |
| (P) 5-1/4” x 16” L.V.L. | Type ‘HGLTV5.516’ |
- (It is the contractor’s responsibility to determine correct hangers for all sloped and/or skewed conditions.)
- Minimum bearing for all joists and rafters shall be 4”.
 - Use double joists under all partitions.
 - Partition and outside stud walls shall be bridges once in their story height or at least every 4’-6”.
 - Anchor bolts and bolts for structural timber shall be ASTM A 307. Standard cut washers shall be provided between wood and bolt head, and between wood and bolt nut unless steel plates or plate washers are used.
 - Exterior walls shall be framed with 2x6’s at 16” C/C with 1/2” APA rated SHEATHING, EXP. 1, span rating 24/16. Sheathing shall be installed with the long dimension perpendicular to the framing and shall be solidly blocked at all joints and nailed to studs with 10D galvanized nails at 4” on center at panel edges and at 12” on center at intermediate supports.
 - Interior walls indicated on plans shall be framed with 2x4’s at 16” C/C or 2x6’s at 16” C/C (see arch drawings).
 - Interior walls indicated on plans as “SW” (shear walls) shall be framed with 2x6’s with 32/16-1/2” exterior plywood sheathing (see bearing wall schedule). Plywood shall be solidly blocked at all joints and nailed to studs with 10D galvanized nails at 4” on center at panel edges and at 12” on center at intermediate supports.
 - Roof construction shall be as shown on the plans with 3/4” APA rated SHEATHING, EXP. 1, span rating 32/16 or 5/8” Exterior grade plywood. (See plan notes) Roof sheathing shall be installed perpendicular to the framing and shall be nailed with 8D ring shank nails spaced at 6” along panel edges and at 12” along intermediate framing members.
 - Floor construction shall be as shown on the plans with 3/4” T&G APA rated ADVANTECH®, EXP.1, span rating 32/16. Floor sheathing shall be installed perpendicular to the framing, and shall be glued and nailed to the joists and beams with 8D ring shank nails spaced at 6” along panel edges and at 12” along intermediate framing members.
 - Interior door and window headers shall be a minimum of 2-2x10’s unless noted otherwise on the plans.
 - Exterior door and window headers shall be a minimum of 3-2x10’s unless otherwise noted on the plans.
 - No joist shall be noted or drilled with holes without the specific approval of the architect.
 - No joist shall be repaired or reinforced in any way without the specific approval of the architect.
 - Beams built up of timbers shall be firmly nailed or bolted together.
 - Plywood shall be laid with face grain parallel to span; stagger all joints.
 - Sills shall be 2-2x6 (pressure-treated) and shall be anchored to slab with 3/4” diameter expansion bolts with 3.25” embedment not more than 32” OC and at 8” from each corner.
 - Temporary erection bracing shall be provided to hold structural timber securely in position as described on the drawings. It shall not be removed until permanent bracing has been installed.
 - Timber shall be generally knot-free, with only small tight knots permitted and generally straight-grained.
 - Structural timber shall be identified by the grade mark of or certificate of inspection issued by a grading or inspection bureau or agency recognized as being competent.
 - Structural timber shall be visually stress-graded lumber in accordance with the provisions of ASTM designation D245-74, “Methods for Establishing Structural Grades and Related Allowable Properties for Visually Graded Lumber”.
 - Timber shall be so handled and covered as to prevent marring and moisture absorption from snow or rain.
 - Steel plates and angles shall be new steel conforming to ASTM A36.

STRUCTURAL DESIGN LOADS

- Dead loads

(A) Weight of building components	
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- Live loads

(A) Typical residential floor – 40 PSF	
(B) Retail – 100 PSF	
(C) Roof snow load – 30 PSF plus drift	
Pg= 40 PSF; Is=1.0; C=1.0; C1=1.0;	
- Wind loads – Per Mass. Building Code and ASCE7-10; Exposure C Risk Category II – Basic Wind Speed V (ult.) = 128 mph Directional Method

Height	Wall (Psf) (ult.)
0’-15’	30.26
15’-20’	32.15
20’-30’	35.02
30’-40’	37.21
40’-50’	39.00
- Earthquake loads- Per Mass. Code and ASCE7-10; Occupancy Category “II” Importance Factor I=1.0; Site Class “C” Seismic Performance Category ‘B’ Equivalent Lateral Force Procedure

1. Upper Section (Level 2 to Roof)	
R=6.5; Cd=4.0 (Light Framed Shear Walls sheathed w/ Wood Structural Panels)	
Ss= .224; Fa=1.2; SDS= .18g	
Si= .070; Fv=1.7; SD1= .08g	
Cs= .028; W= 523 kips; V=Cs x W; V= 14.6 kips (Ultimate)	
- Lower Section (Base to Level 2)

R=3.0; Cd=3.0 (Structural Steel System Not Specifically Detailed For Seismic Resistance)	
Ss= .224; Fa=1.2; SDS= .18g	
Si= .070; Fv=1.7; SD1= .08g	
Cs= .06; W= 452 kips; V=Cs x W+V(upper); V= 41.8 kips (Ultimate)	

R&G

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CLIENT INFORMATION

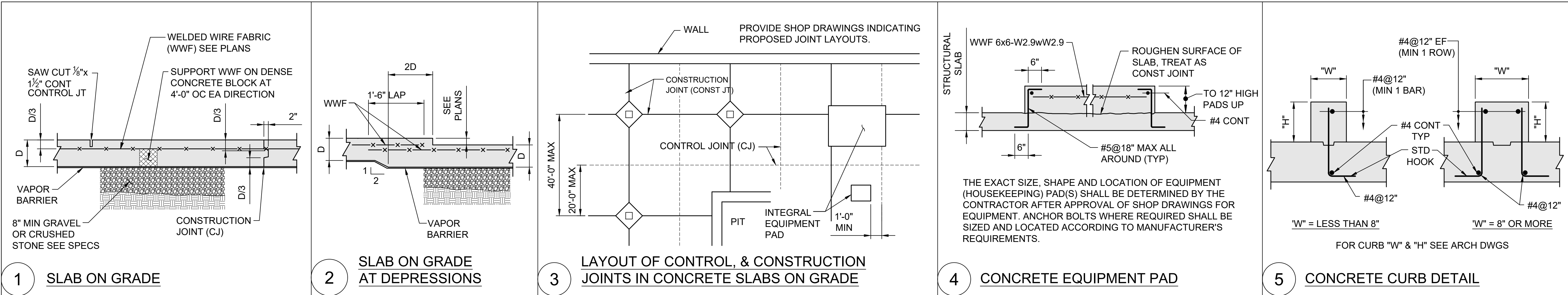
PROJECT LOCATION

5 FREMONT STREET
WINTHROP, MA

DRAWING TITLE

GENERAL NOTES

SCALE	NTS	DATE	SEPT 08, 2021
PROJECT NO.		REVISION NO.	
DRAWN BY	BSM	DRAWING NO.	
VERIFIED BY	CG		S.001



CATEGORY					
STRUCTURAL ELEMENT	CONCRETE COVER	CATEGORY ACCORDING TO CENTER-TO-CENTER BAR SPACING			
		$\leq 3DIA_b$	$>3DIA_b$ < $4DIA_b$	$\geq 4DIA_b$ < $6DIA_b$	$\geq 6DIA_b$
BEAMS, COLUMNS, AND INNER LAYER OF WALLS OR SLABS	$\leq DIA_b$ $> DIA_b$	1 1	1 3	1 5	2 6
ALL OTHERS	$\leq DIA_b$ $> DIA_b$ < $2DIA_b$ $\geq 2DIA_b$	1 1 1	1 3 3	1 3 5	2 4 6

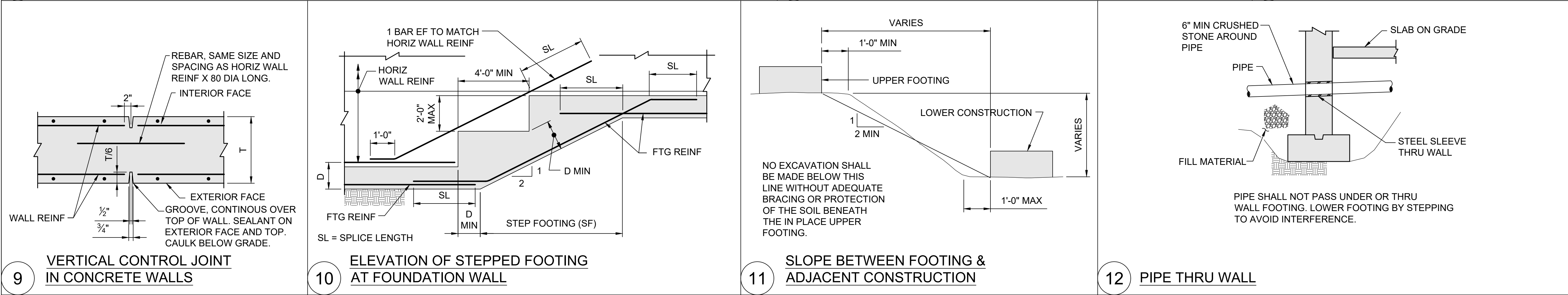
TYPICAL ABBREVIATIONS	
DIA_b = NOMINAL BAR DIAMETER	
> = GREATER THAN	
$\geq$ = EQUAL TO OR GREATER THAN	
< = LESS THAN	
$\leq$ = EQUAL TO OR LESS THAN	

- AVOID SPLICES IN REGIONS OF MAXIMUM MOMENT. IF THIS IS NOT POSSIBLE STAGGER SPLICES SO THAT NOT MORE THAN 50% OF THE BARS ARE SPLICED WITHIN A REQUIRED SPLICE LENGTH OTHERWISE INCREASE SPLICE LENGTH BY 30%.
- TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST IN THE MEMBER BELOW THE REINFORCEMENT. WALL REINF IS CLASSIFIED AS OTHER BARS.
- FOR LIGHTWEIGHT AGGREGATE CONCRETE MULTIPLY THE VALUES ABOVE BT 1.3.

MINIMUM SPLICE AND EMBEDMENT LENGTH SCHEDULE (UNLESS SHOWN OTHERWISE ON DRAWINGS)													
CLASS B TENSION SPLICE							$F_y=60000$ PSI						
$f = 4000$ PSI,NORMAL WEIGHT													
BAR SIZE	TOP BARS CATEGORY						OTHER BARS CATEGORY						
	1	2	3	4	5	6	1	2	3	4	5	6	
#3	18"	18"	18"	18"	18"	18"	16"	16"	16"	16"	16"	16"	16"
#4	26"	24"	24"	24"	24"	24"	20"	19"	19"	19"	19"	19"	19"
#5	40"	32"	30"	30"	30"	30"	31"	25"	23"	23"	23"	23"	23"
#6	57"	45"	40"	36"	36"	36"	44"	35"	31"	28"	28"	28"	28"
#7	77"	62"	54"	43"	42"	42"	59"	48"	42"	33"	33"	33"	33"
#8	102"	81"	71"	57"	51"	48"	78"	63"	55"	44"	39"	37"	37"
#9	129"	103"	90"	72"	64"	55"	99"	79"	69"	56"	50"	42"	42"
#10	163"	131"	114"	92"	82"	65"	126"	101"	88"	70"	63"	50"	50"
#11	200"	160"	140"	112"	100"	80"	154"	123"	108"	86"	77"	62"	62"

7 HORIZONTAL WALL REINFORCEMENT PLANS

8 VERTICAL CONSTRUCTION JOINT IN CONCRETE WALLS



SUB. NO.	SUBMITTAL DATE	DESCRIPTION	REV. NO.

ENGINEER:

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CLIENT INFORMATION

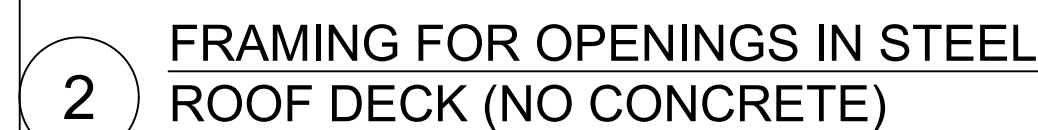
PROJECT LOCATION

**5 FREMONT STREET
WINTHROP, MA**

DRAWING TITLE

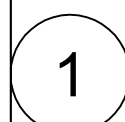
TYPICAL DETAILS

SCALE	NTS	DATE	SEPT 08, 2021
PROJECT NO.		REVISION NO.	
DRAWN BY	BSM	DRAWING NO.	
VERIFIED BY	CG		S.002



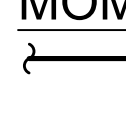
SCALE: 1½" = 1'-0"

SCALE NTS	DATE SEPT 08, 2021
PROJECT NO.	REVISION NO.
DRAWN BY BSM	DRAWING NO. S.003
VERIFIED BY CG	

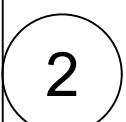


TYPICAL TUBE TO
TUBE CONNECTION

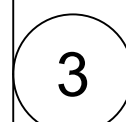
TYPICAL TUBE TO
TUBE CONNECTION



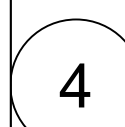
BEAM TO TUBE COLUMN MOMENT CONNECTION



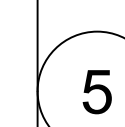
TYPICAL BEAM TO COLUMN CONNECTION



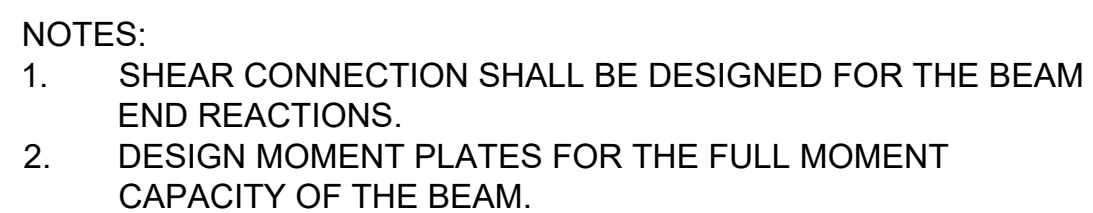
TYPICAL BEAM TO BEAM CONNECTION



BEAM EXPLANATION DIAGRAM



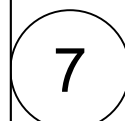
BEAM TO BEAM MOMENT CONNECTION



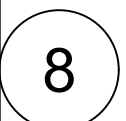
- NOTES:
1. SHEAR CONNECTION SHALL BE DESIGNED FOR THE BEAM END REACTIONS.
 2. DESIGN MOMENT PLATES FOR THE FULL MOMENT CAPACITY OF THE BEAM.

6

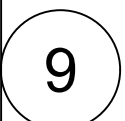
1. PROVIDE AND INSTALL LINTEL ANGLES FOR MASONRY OPENINGS IN ACCORDANCE WITH THE SCHEDULE ABOVE. INSTALL LONG LEG VERTICAL. SEE ARCHT & MECH PLANS FOR LOCATIONS.
2. PROVIDE 6" MIN BEARINGS AT EACH END BUT NOT LESS THAN 1" PER FOOT OF SPAN. FILL 2 COURSES OF MASONRY BELOW BEARING WITH MORTAR.
3. WHERE MINIMUM BEARING CANNOT BE PROVIDED, ATTACH SECURELY TO ADJACENT STRUCTURAL MEMBERS OR PROVIDE SEPARATE SUPPORTS.
4. WHERE LINTELS OCCUR IN EXTERIOR WALLS MINIMUM THICKNESS SHALL BE 3/4" AND ANGLES SHALL BE HOT DIP GALVANIZED.
5. WHERE WALL THICKNESS EXCEEDS 12" PROVIDE ONE ADDITIONAL ANGLE FOR EACH ADDITIONAL 4" OF WALL.



TYPICAL COLUMN CAP PLATE DETAIL



TYPICAL DETAIL AT BASE
PLATE OF TRANSFER BEAMS



9

ENGINEER:

ENGINEER:

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CLIENT INFORMATION

PROJECT LOCATION

5 FREMONT STREET
WINTHROP, MA

DRAWING TITLE

TYPICAL DETAILS

SCALE

NTS

DATE	SEPT 08, 202
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PROJECT NO.

REVISION No.	
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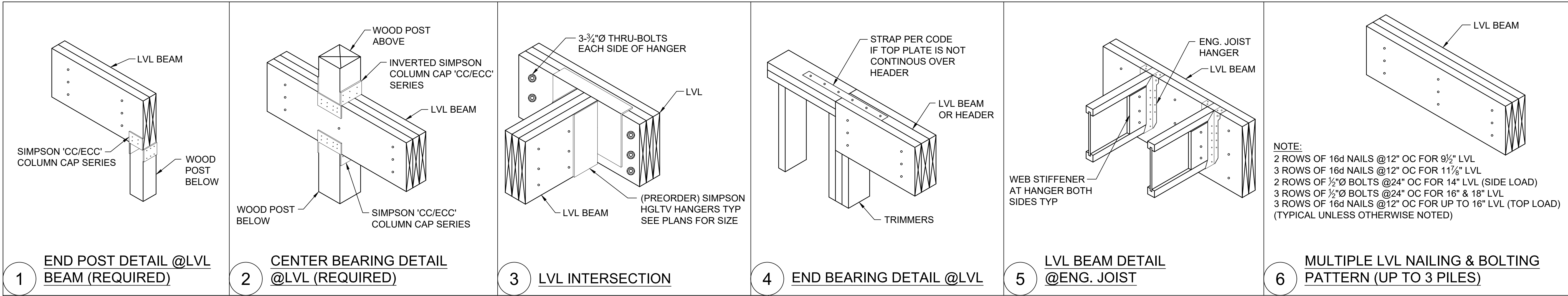
DRAWN BY

BSM

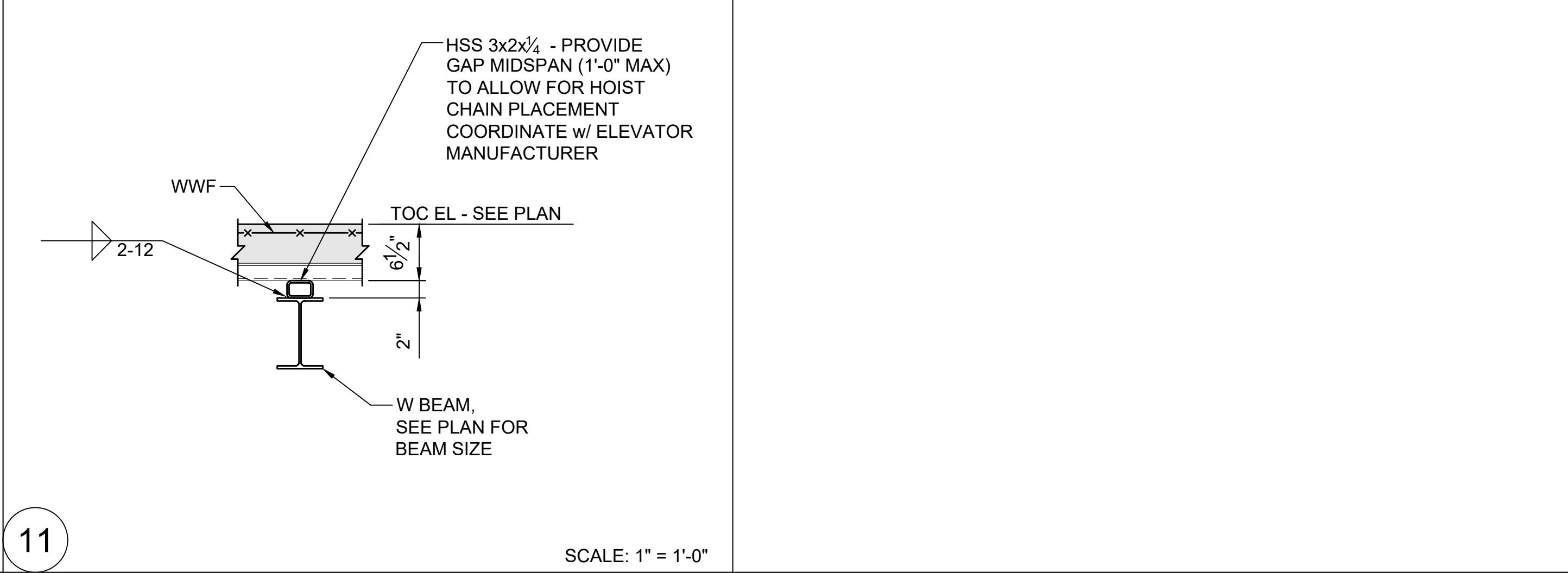
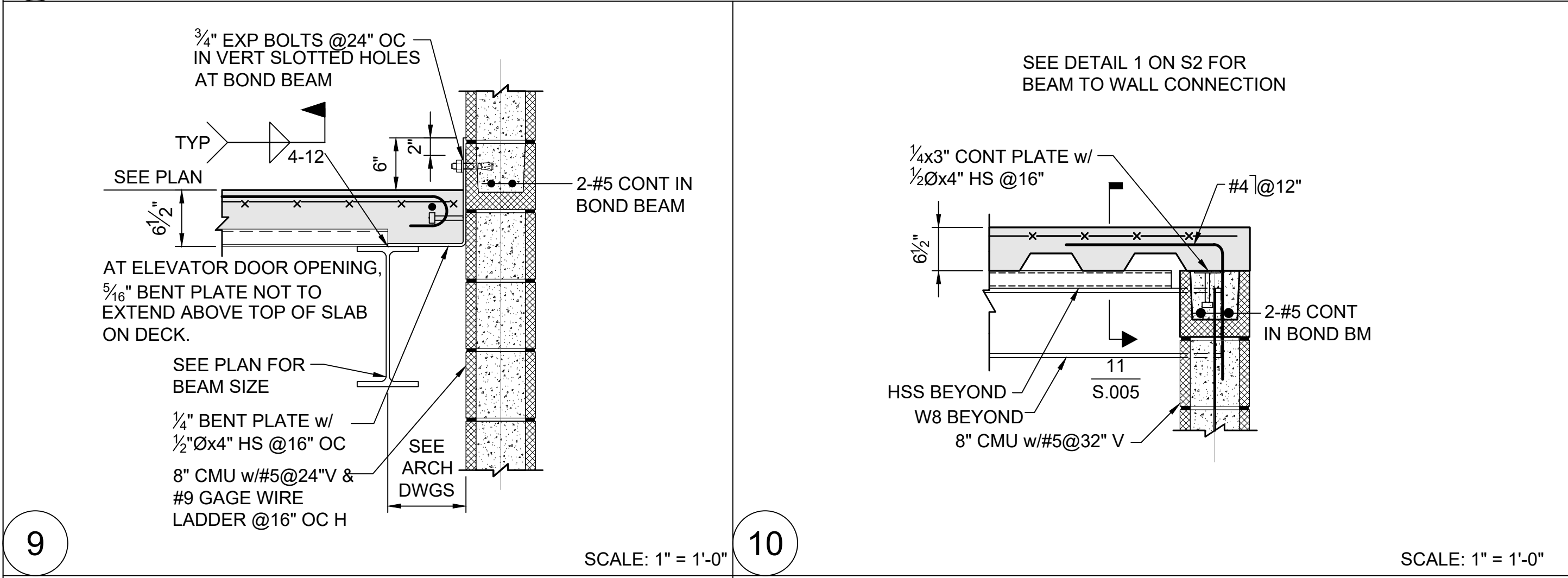
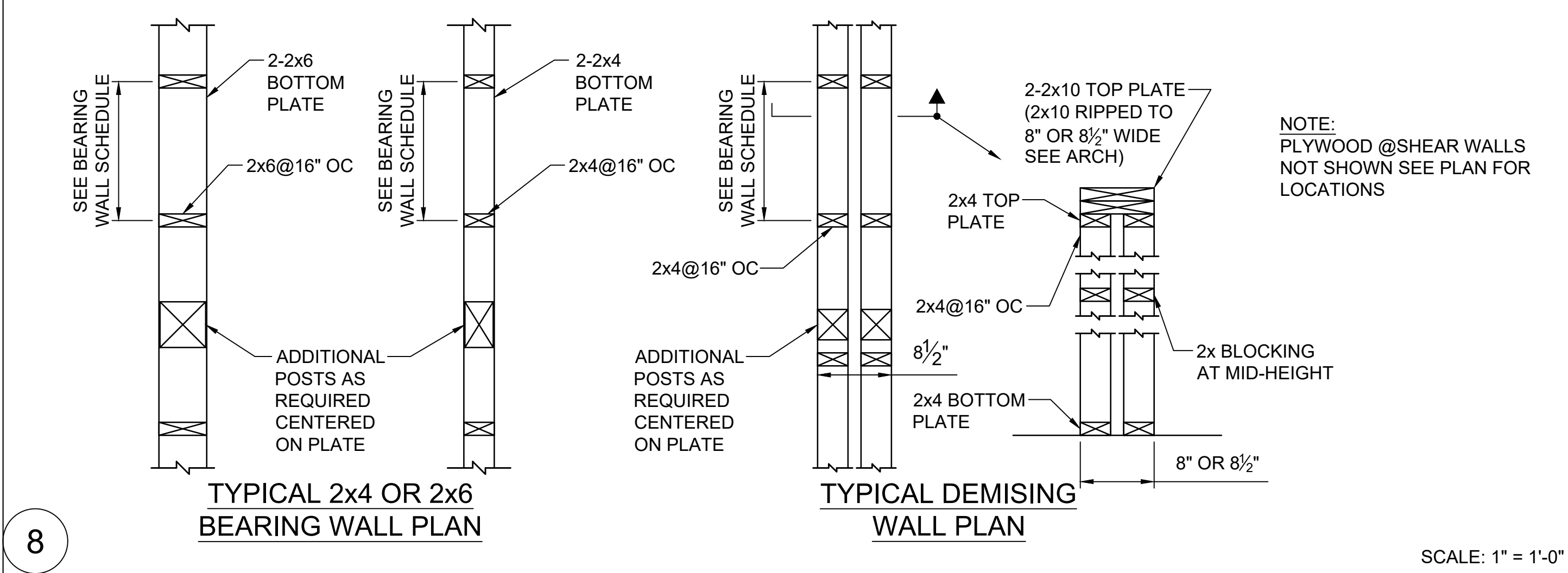
DRAWING NO.

VERIFIED BY	
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S.004



BEARING WALL TYPE SCHEDULE			
WALL TYPE "W1"		WALL TYPE "W2"	
ROOF		ROOF	
FIFTH FLOOR	2x4@16" oc	2x4@12" oc	2x4@12" oc
FOURTH FLOOR	2x4@16" oc	2-2x4@16" oc	2-2x4@16" oc
THIRD FLOOR	2x4@12" oc	2-2x4@16" oc	2-2x4@16" oc
SECOND FLOOR	2-2x6@16" oc	2-2x4@12" oc	2-2x4@12" oc
(TYPICAL 2x6 BEARING WALL & CORRIDOR WALL)		(TYPICAL UNIT DEMISING WALL)	



SUB. NO.	SUBMITTAL DATE	DESCRIPTION	REV. NO.

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CLIENT INFORMATION

PROJECT LOCATION

5 FREMONT STREET
WINTHROP, MA

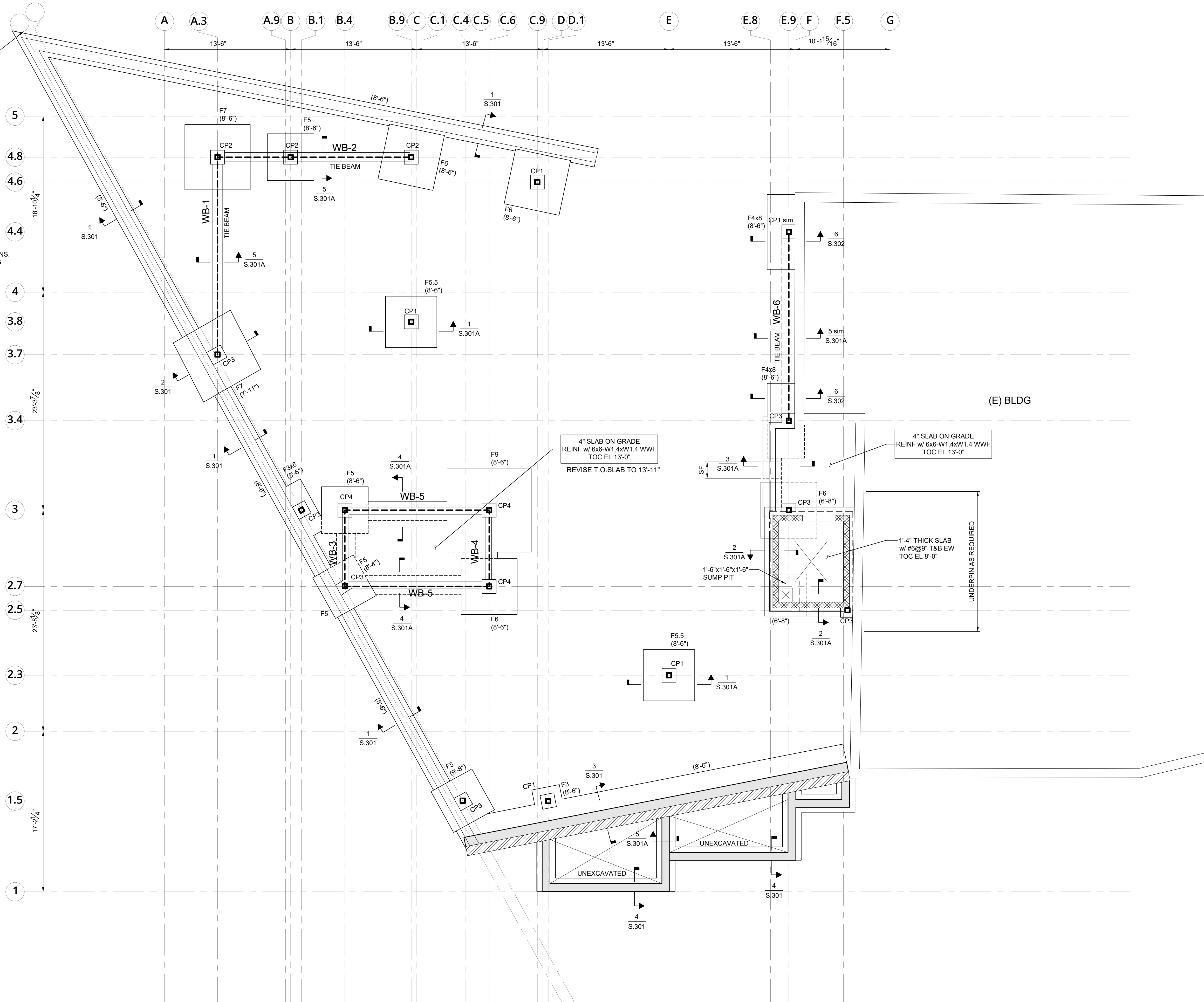
DRAWING TITLE

TYPICAL DETAILS

SCALE	NTS	DATE	SEPT 08, 2021
PROJECT NO.		REVISION NO.	
DRAWN BY	BSM	DRAWING NO.	S.005
VERIFIED BY	CG		

- NOTES:
- FOR GENERAL NOTES SEE S.001.
 - FOR TYPICAL DETAILS SEE S.002, S.003, S.004, & S.005.
 - FOR STEEL COLUMN SCHEDULE & DETAILS SEE S.201.
 - WB-1 ETC INDICATES BRACING ELEVATION SEE S.202 FOR ELEVATION & DETAILS.
 - *CP1* INDICATES PIER TYPE SEE S.301A FOR SIZE & REINFORCING.
 - (4'-6") ETC INDICATES BOTTOM OF FOOTING ELEVATIONS.
 - *F1* ETC INDICATES FOOTING TYPE SEE THIS DRAWING FOR SCHEDULE.
 - *SF* INDICATES STEPPED FOOTING SEE DETAIL 10 ON S.002.

FOOTING SCHEDULE		
2 TSF (ALLOWABLE BEARING CAPACITY)		
MARK	TYPE	REINF
F3	3'-0"x3'-0"x1'-0"	4-#4 BEW
F4	4'-0"x4'-0"x1'-0"	4-#5 BEW
F5	5'-0"x5'-0"x1'-2"	5-#5 BEW
F5.5	5'-6"x5'-6"x1'-3"	6-#5 BEW
F6	6'-0"x6'-0"x1'-4"	8-#5 BEW
F7	7'-0"x7'-0"x1'-7"	7-#6 BEW
F8	8'-0"x8'-0"x1'-10"	9-#6 BEW
F9	9'-0"x9'-0"x2'-0"	11-#6 BEW
F3x6	3'-0"x6'-0"x1'-0"	7-#6 SB 4-#6 LB
F4x8	4'-0"x8'-0"x1'-0"	8-#6 SB 5-#6 LB



SUB. NO.	SUBMITTAL DATE	DESCRIPTION	REV. NO.
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CLIENT INFORMATION

PROJECT LOCATION

5 FREMONT STREET
WINTHROP, MA

DRAWING TITLE

GARAGE / FOUNDATION
PLAN

SCALE
 $\frac{3}{16}" = 1'-0"$ DATE
SEPT 08, 2021

PROJECT NO. REVISION NO.

DRAWN BY
BSM DRAWING NO.
VERIFIED BY
CG S.100

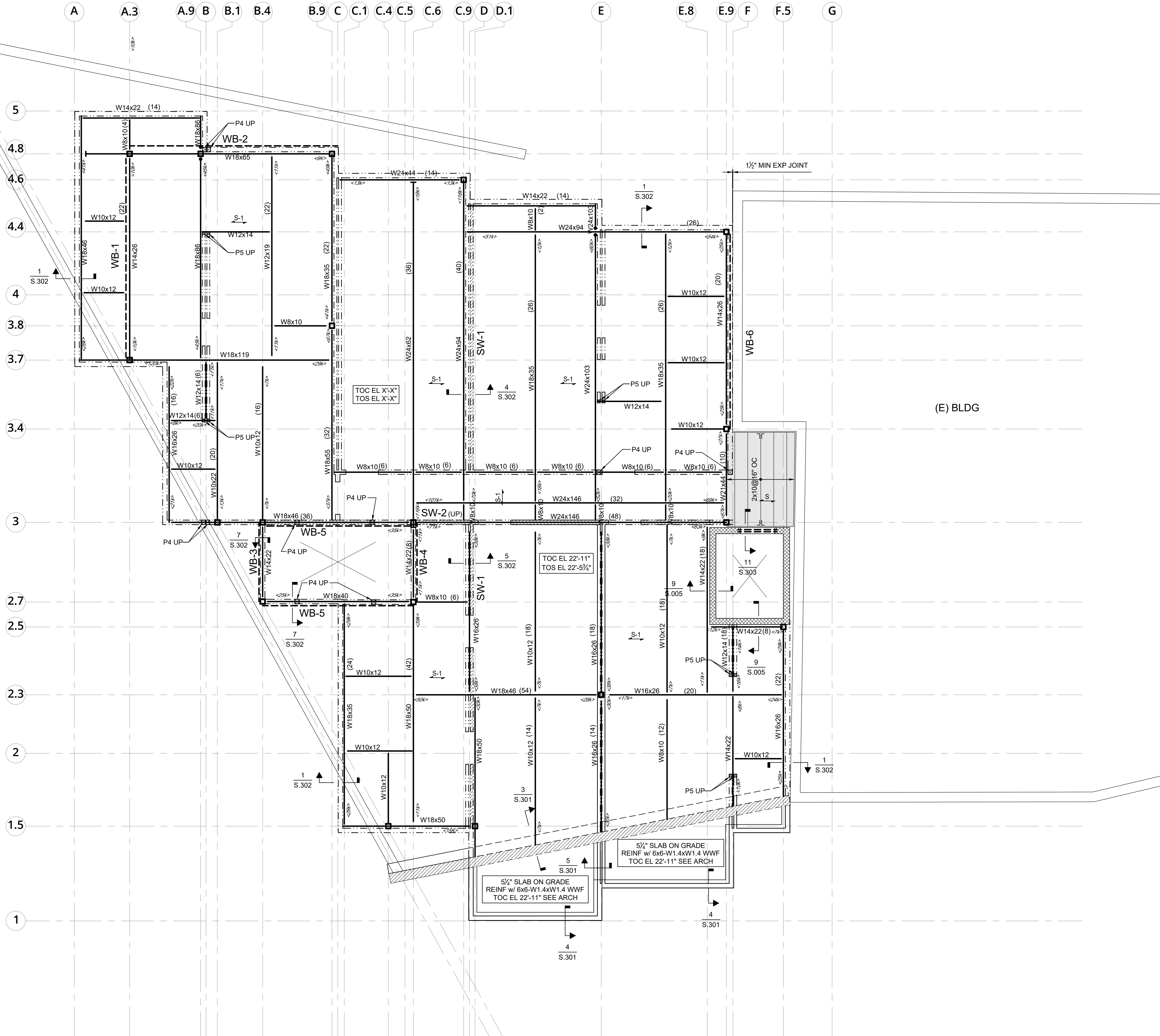
CONTRACTOR-COORDINATE
LOCATION OF JOISTS
w/ RECESSED LIGHTING
LOCATIONS AND ALL
PLUMBING/MECHANICAL-SEE
ARCH DRAWINGS

NOTES:

1. FOR GENERAL NOTES SEE S.001.
2. FOR TYPICAL DETAILS SEE S.002, S.003, S.004, & S.005.
3.  INDICATES BEARING WALL BELOW.
4.  INDICATES BEARING WALL STARTS ON BEAM.
5.  INDICATES FLUSH FRAMED CONDITION.
6.  REQUIRING JOIST HANGER SEE SCHEDULE ON S.001.
7.  S-1, INDICATES SPAN OF 2'-18 GAGE GALVANIZED STEEL DECK w/ 3/4" LIGHT WEIGHT CONCRETE TOPPING SLAB - REINFORCE w/ 6x6-W2.9xW2.9 WWF (5/2" TOTAL THICKNESS).
8. ALL DIMENSIONS SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. SEE ARCHITECT DRAWINGS FOR VERIFICATION OF DIMENSIONS.
9. WB-1 ETC INDICATES BRACING ELEVATION. SEE S.202 FOR ELEVATION & DETAILS.
10. FOR STEEL COLUMN SCHEDULE & DETAILS SEE S.201.
11. TOP OF STEEL EL SEE PLAN.
12. TOP OF SLAB EL SEE PLAN.
13.  INDICATES MOMENT CONNECTION SEE S.004.
14.  S- INDICATES SPAN OF 3/4' T&G PLYWOOD GLUED & NAILED TO JOISTS & BEAMS.

WALL NOTES:

1. ALL INTERIOR WALLS SHOWN ARE 2x6 (W1) or 2-2x4 (W2) U.N.O. w/ W1A or W2A. SEE BEARING WALL TYPE SCHEDULE AT DETAIL 7 ON S.005 FOR STUD SPACING. (SEE ARCH DRAWINGS).
2. ALL EXTERIOR WALLS SHOWN ARE 2x6@16" OC w/ 1/2" FRT SHEATHING ON ONE SIDE, PLYWOOD IS NAILED TO STUDS w/ 10d GALVANIZED COMMON NAILS SPACED @4" OC @ PANEL EDGES & 12" OC @ INTERMEDIATE SUPPORTS.
3.  SW-1 INDICATES 2x4 (W1) w/ 1/2" PLYWOOD SHEATHING ON ONE SIDE, SHEAR WALL PLYWOOD IS NAILED TO STUDS w/ 10d GALVANIZED COMMON NAILS SPACED @4" OC @ PANEL EDGES & 12" OC @ INTERMEDIATE SUPPORTS.
4.  SW-2 INDICATES 2x6 (W1 or W1A) w/ 1/2" PLYWOOD SHEATHING ON ONE SIDE, SHEAR WALL PLYWOOD IS NAILED TO STUDS w/ 10d GALVANIZED COMMON NAILS SPACED @4" OC @ PANEL EDGES & 12" OC @ INTERMEDIATE SUPPORTS.
5.  SW-1A INDICATES TWO 2x4 (W2 or W2A) w/ 1/2" PLYWOOD SHEATHING ON ONE SIDE OF EACH WALL, SHEAR WALL PLYWOOD IS NAILED TO STUDS w/ 10d GALVANIZED COMMON NAILS SPACED @4" OC @ PANEL EDGES & 12" OC @ INTERMEDIATE SUPPORTS.
6.  SW-2A INDICATES TWO 2x4 (W2 or W2A) w/ 1/2" PLYWOOD SHEATHING ON ONE SIDE OF ONE 2x4 WALL, SHEAR WALL PLYWOOD IS NAILED TO STUDS w/ 10d GALVANIZED COMMON NAILS SPACED @4" OC @ PANEL EDGES & 12" OC @ INTERMEDIATE SUPPORTS.



SUB. NO.	SUBMITTAL DATE	DESCRIPTION	REV. NO.

ENGINEER:

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CLIENT INFORMATION

PROJECT LOCATION

5 FREMONT STREET
WINTHROP, MA

DRAWING TITLE

FIRST FLOOR
FRAMING PLAN

SCALE
3/16" = 1'-0"

PROJECT NO.

DRAWN BY
BSM
VERIFIED BY
CG

DATE
SEPT 08, 2021

REVISION NO.

DRAWING NO.

S.101

WALL NOTES:

- ALL INTERIOR WALLS SHOWN ARE 2x6 (W1) or 2-2x4 (W2) U.N.O. w/ W1A or W2A. SEE BEARING WALL TYPE SCHEDULE AT DETAIL 7 ON S.005 FOR STUD SPACING. (SEE ARCH DRAWINGS).
- ALL EXTERIOR WALLS SHOWN ARE 2x6@16" OC w/ 1/2" FRT SHEATHING ON ONE SIDE. PLYWOOD IS NAILED TO STUDS w/ 10d GALVANIZED COMMON NAILS SPACED @4" OC @ PANEL EDGES & 12" OC @ INTERMEDIATE SUPPORTS.
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- SW-2** INDICATES 2x6 (W1 or W1A) w/ 1/2" PLYWOOD SHEATHING ON ONE SIDE. SHEAR WALL PLYWOOD IS NAILED TO STUDS w/ 10d GALVANIZED COMMON NAILS SPACED @ 4" OC @ PANEL EDGES & 12" OC @ INTERMEDIATE SUPPORTS.
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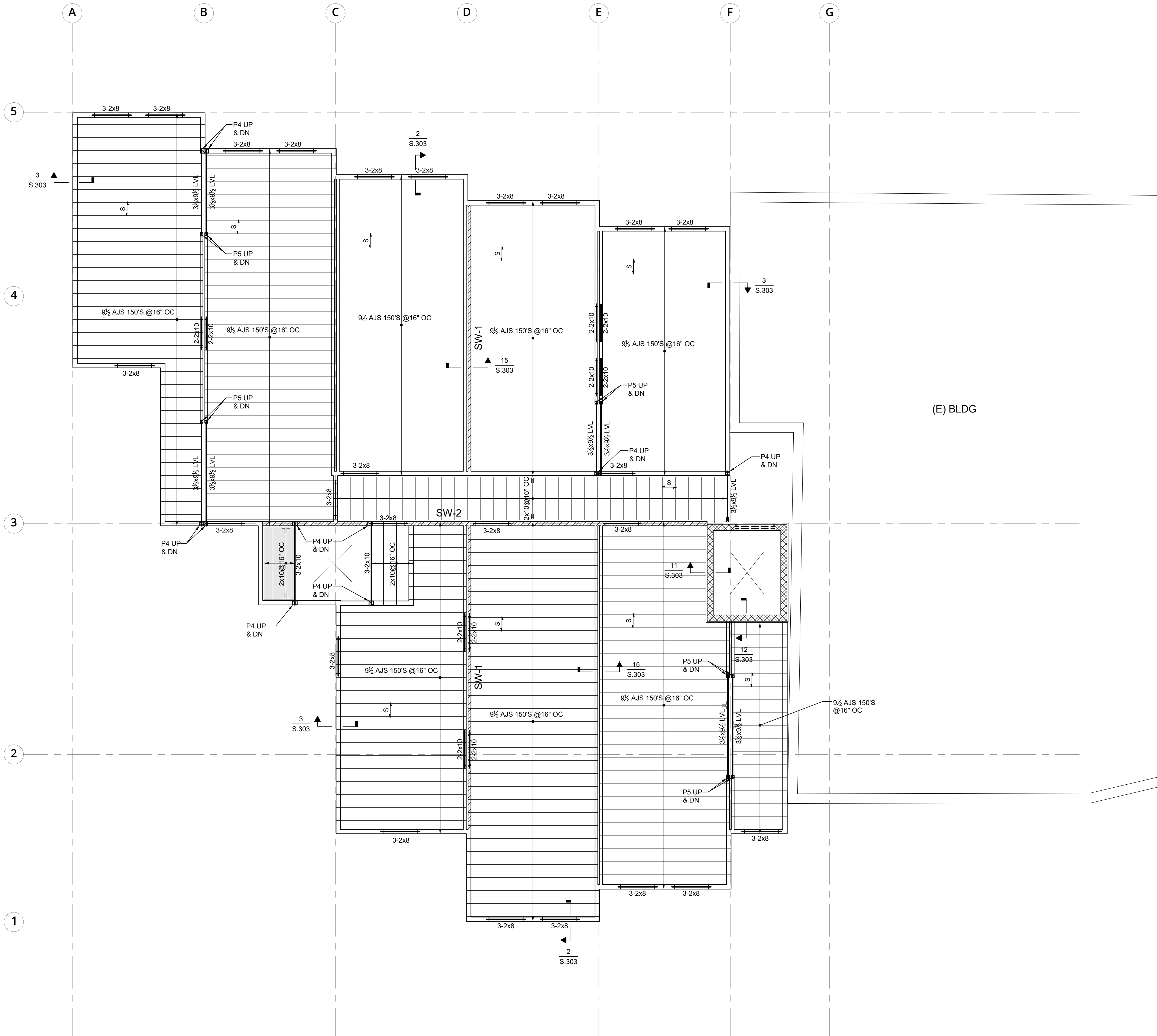
CONTRACTOR-COORDINATE
LOCATION OF JOISTS
w/ RECESSED LIGHTING
LOCATIONS AND ALL
PLUMBING/MECHANICAL-SEE
ARCH DRAWINGS

POST
SCHEDULE

MARK	TYPE
P1	2-2x4
P2	3-2x4
P3	2-2x6
P4	3-2x6
P5	3/2x3 1/2 LVL
P6	3/2x5 1/2 LVL
P7	5/2x5 1/2 LVL

NOTES:

- FOR GENERAL NOTES SEE S.001.
- FOR TYPICAL DETAILS SEE S.002, S.003, S.004, & S.005.
- INDICATES BEARING WALL BELOW.
- INDICATES BEARING WALL STARTS ON BEAM.
- INDICATES FLUSH FRAMED CONDITION REQUIRING JOIST HANGER SEE SCHEDULE ON S.001.
- ALL INTERIOR WALLS SHOWN ARE 2x4@16" OC OR 2x6@16" OC (SEE ARCH DWGS)
- ALL EXTERIOR WALLS SHOWN ARE 2x6@16" OC (UNLESS NOTED ON PLAN) w/ 1/2" PLYWOOD SHEATHING ON ONE SIDE. PLYWOOD IS NAILED TO STUDS w/ 10d GALV. COMMON NAILS SPACED AT 4" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS.
- S INDICATES SPAN OF 3/4" T&G PLYWOOD GLUED & NAILED TO JOISTS & BEAMS.
- R INDICATES SPAN OF 3/8" EXTERIOR GRADE PLYWOOD.
- SW-1** INDICATES 2x6@16" OC w/ 1/2" PLYWOOD SHEATHING ON ONE SIDE. PLYWOOD IS NAILED TO STUDS w/ 10d GALV. COMMON NAILS SPACED AT 4" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS.



SUB. NO.	SUBMITTAL DATE	DESCRIPTION	REV. NO.

ENGINEER:

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CLIENT INFORMATION

PROJECT LOCATION

**5 FREMONT STREET
WINTHROP, MA**

DRAWING TITLE

**SECOND FLOOR
FRAMING PLAN**

SCALE
3/16" = 1'-0"

DATE
SEPT 08, 2021

PROJECT NO.

REVISION NO.

DRAWN BY
BSM

DRAWING NO.

VERIFIED BY
CG

S.102

WALL NOTES:

- ALL INTERIOR WALLS SHOWN ARE 2x6 (W1) or 2-2x4 (W2) U.N.O. w/ W1A or W2A. SEE BEARING WALL TYPE SCHEDULE AT DETAIL 7 ON S.005 FOR STUD SPACING. (SEE ARCH DRAWINGS).
- ALL EXTERIOR WALLS SHOWN ARE 2x6@16" OC w/ 1/2" FRT SHEATHING ON ONE SIDE. PLYWOOD IS NAILED TO STUDS w/ 10d GALVANIZED COMMON NAILS SPACED @4" OC @ PANEL EDGES & 12" OC @ INTERMEDIATE SUPPORTS.
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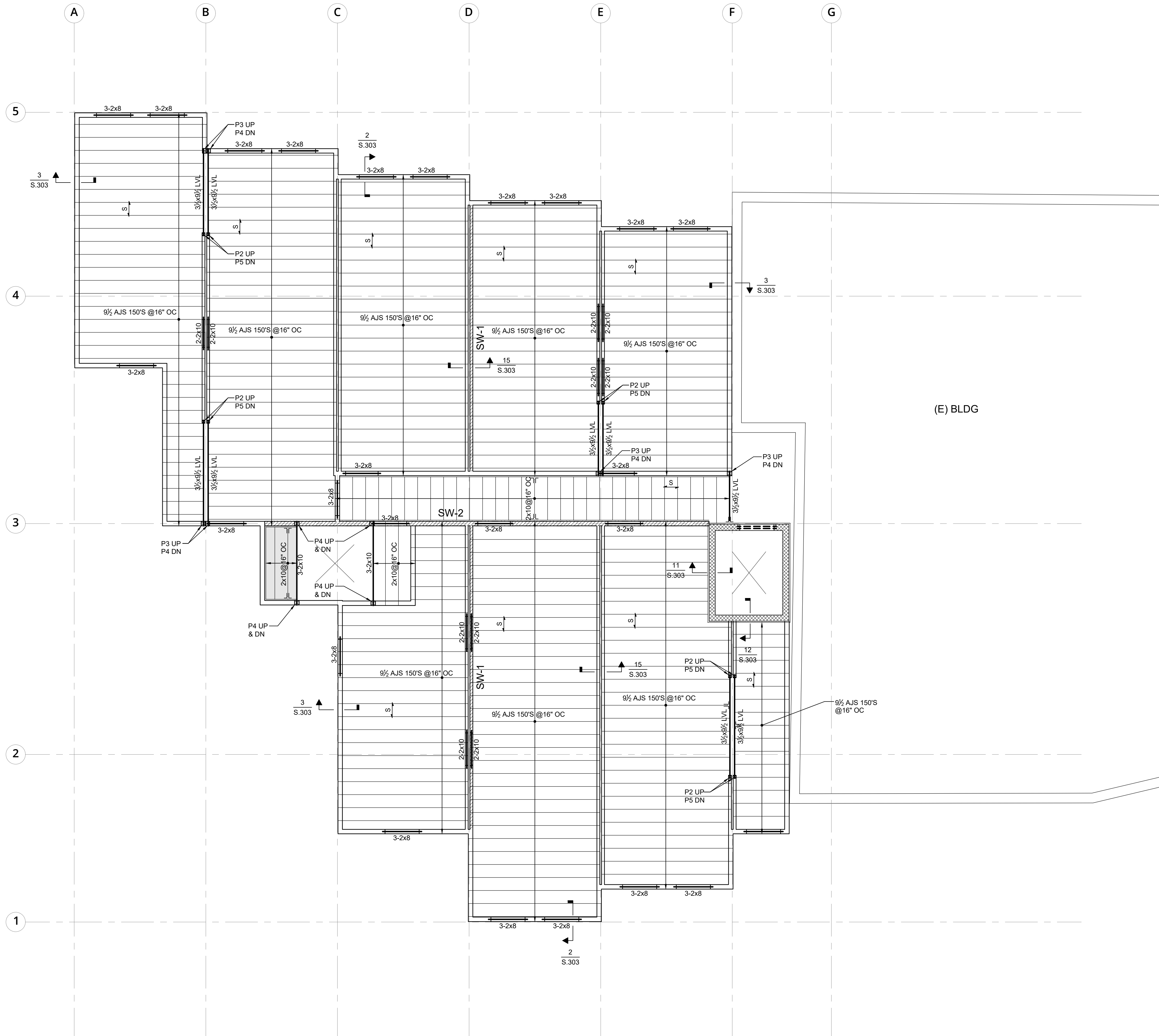
CONTRACTOR-COORDINATE
LOCATION OF JOISTS
w/ RECESSED LIGHTING
LOCATIONS AND ALL
PLUMBING/MECHANICAL-SEE
ARCH DRAWINGS

POST
SCHEDULE

MARK	TYPE
P1	2-2x4
P2	3-2x4
P3	2-2x6
P4	3-2x6
P5	3/2x3/2 LVL
P6	3/2x5/2 LVL
P7	5/2x5/2 LVL

NOTES:

- FOR GENERAL NOTES SEE S.001.
- FOR TYPICAL DETAILS SEE S.002, S.003, S.004, & S.005.
- INDICATES BEARING WALL BELOW.
- INDICATES BEARING WALL STARTS ON BEAM.
- INDICATES FLUSH FRAMED CONDITION REQUIRING JOIST HANGER SEE SCHEDULE ON S.001.
- ALL INTERIOR WALLS SHOWN ARE 2x4@16" OC OR 2x6@16" OC (SEE ARCH DWGS)
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- S INDICATES SPAN OF 3/4" T&G PLYWOOD GLUED & NAILED TO JOISTS & BEAMS.
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- SW-1** INDICATES 2x6@16" OC w/ 1/2" PLYWOOD SHEATHING ON ONE SIDE. PLYWOOD IS NAILED TO STUDS w/ 10d GALV. COMMON NAILS SPACED AT 4" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS.



SUB. NO.	SUBMITTAL DATE	DESCRIPTION	REV. NO.

ENGINEER:

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CLIENT INFORMATION

PROJECT LOCATION

5 FREMONT STREET
WINTHROP, MA

DRAWING TITLE

THIRD FLOOR
FRAMING PLAN

SCALE

3/16" = 1'-0"

DATE

SEPT 08, 2021

PROJECT NO.

REVISION NO.

DRAWN BY

BSM

DRAWING NO.

VERIFIED BY

CG

S.103

WALL NOTES:

- ALL INTERIOR WALLS SHOWN ARE 2x6 (W1) or 2x4 (W2) U.N.O. w/ W1A or W2A. SEE BEARING WALL TYPE SCHEDULE AT DETAIL 7 ON S.005 FOR STUD SPACING. (SEE ARCH DRAWINGS).
- ALL EXTERIOR WALLS SHOWN ARE 2x6@16" OC w/ 1/2" FRT SHEATHING ON ONE SIDE. PLYWOOD IS NAILED TO STUDS w/ 10d GALVANIZED COMMON NAILS SPACED @4" OC @ PANEL EDGES & 12" OC @ INTERMEDIATE SUPPORTS.
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- SW-1A** INDICATES TWO 2x4 (W2 or W2A) w/ 1/2" PLYWOOD SHEATHING ON ONE SIDE OF EACH WALL. SHEAR WALL PLYWOOD IS NAILED TO STUDS w/ 10d GALVANIZED COMMON NAILS SPACED @ 4" OC @ PANEL EDGES & 12" OC @ INTERMEDIATE SUPPORTS.
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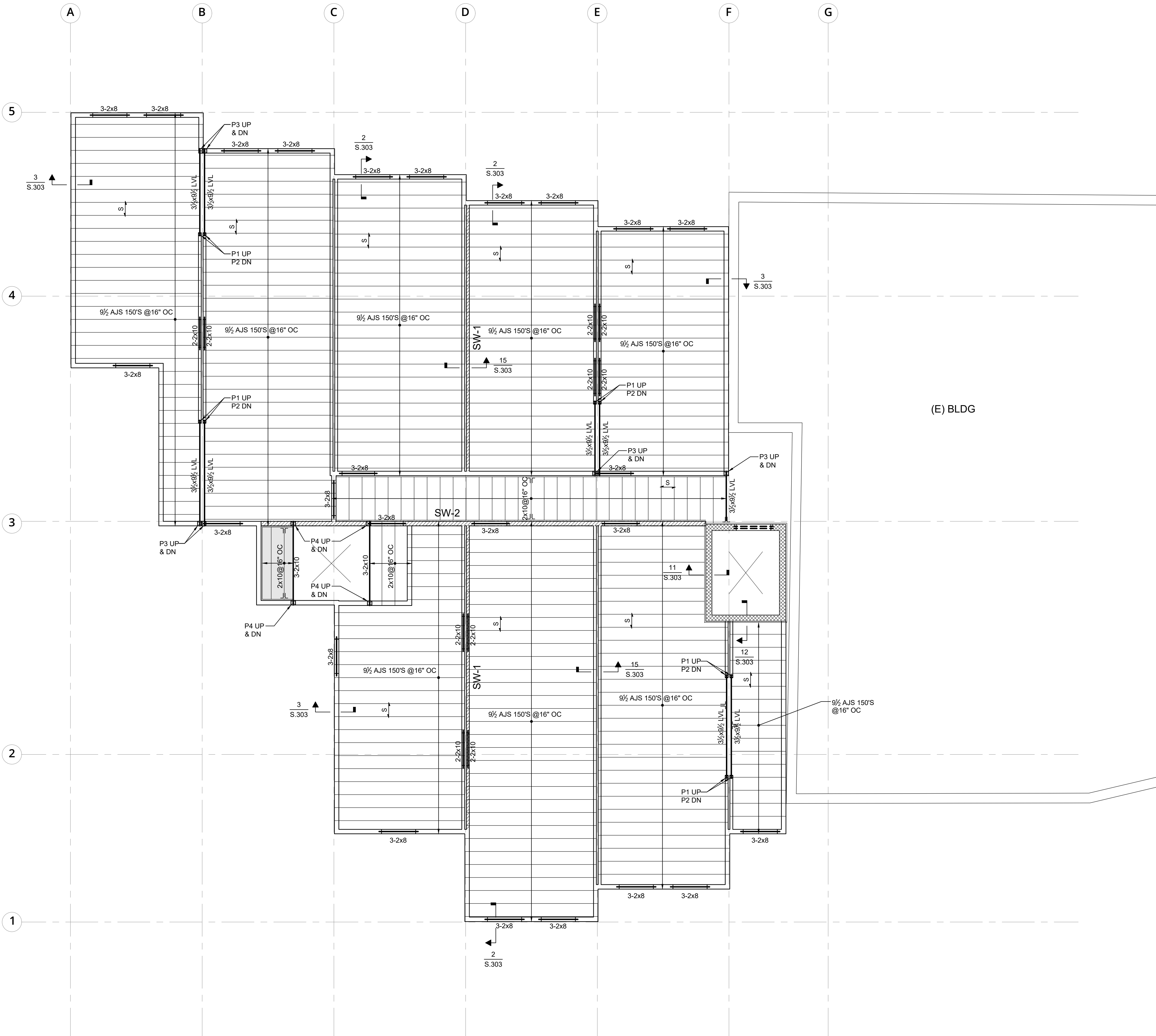
CONTRACTOR-COORDINATE
LOCATION OF JOISTS
w/ RECESSED LIGHTING
LOCATIONS AND ALL
PLUMBING/MECHANICAL-SEE
ARCH DRAWINGS

POST
SCHEDULE

MARK	TYPE
P1	2-2x4
P2	3-2x4
P3	2-2x6
P4	3-2x6
P5	3/2x3 1/2 LVL
P6	3/2x5 1/2 LVL
P7	5/2x5 1/2 LVL

NOTES:

- FOR GENERAL NOTES SEE S.001.
- FOR TYPICAL DETAILS SEE S.002, S.003, S.004, & S.005.
- INDICATES BEARING WALL BELOW.
- INDICATES BEARING WALL STARTS ON BEAM.
- INDICATES FLUSH FRAMED CONDITION REQUIRING JOIST HANGER SEE SCHEDULE ON S.001.
- ALL INTERIOR WALLS SHOWN ARE 2x4@16" OC OR 2x6@16" OC (SEE ARCH DWGS)
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CLIENT INFORMATION

PROJECT LOCATION

5 FREMONT STREET
WINTHROP, MA

DRAWING TITLE

FOURTH FLOOR
FRAMING PLAN

SCALE
3/16" = 1'-0"

DATE
SEPT 08, 2021

PROJECT NO.

REVISION NO.

DRAWN BY
BSM

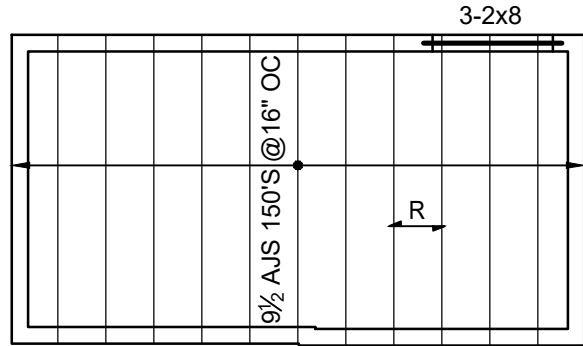
DRAWING NO.

VERIFIED BY
CG

S.104

WALL NOTES:

- ALL INTERIOR WALLS SHOWN ARE 2x6 (W1) or 2-2x4 (W2) U.N.O. w/ W1A or W2A. SEE BEARING WALL TYPE SCHEDULE AT DETAIL 7 ON S.005 FOR STUD SPACING. (SEE ARCH DRAWINGS).
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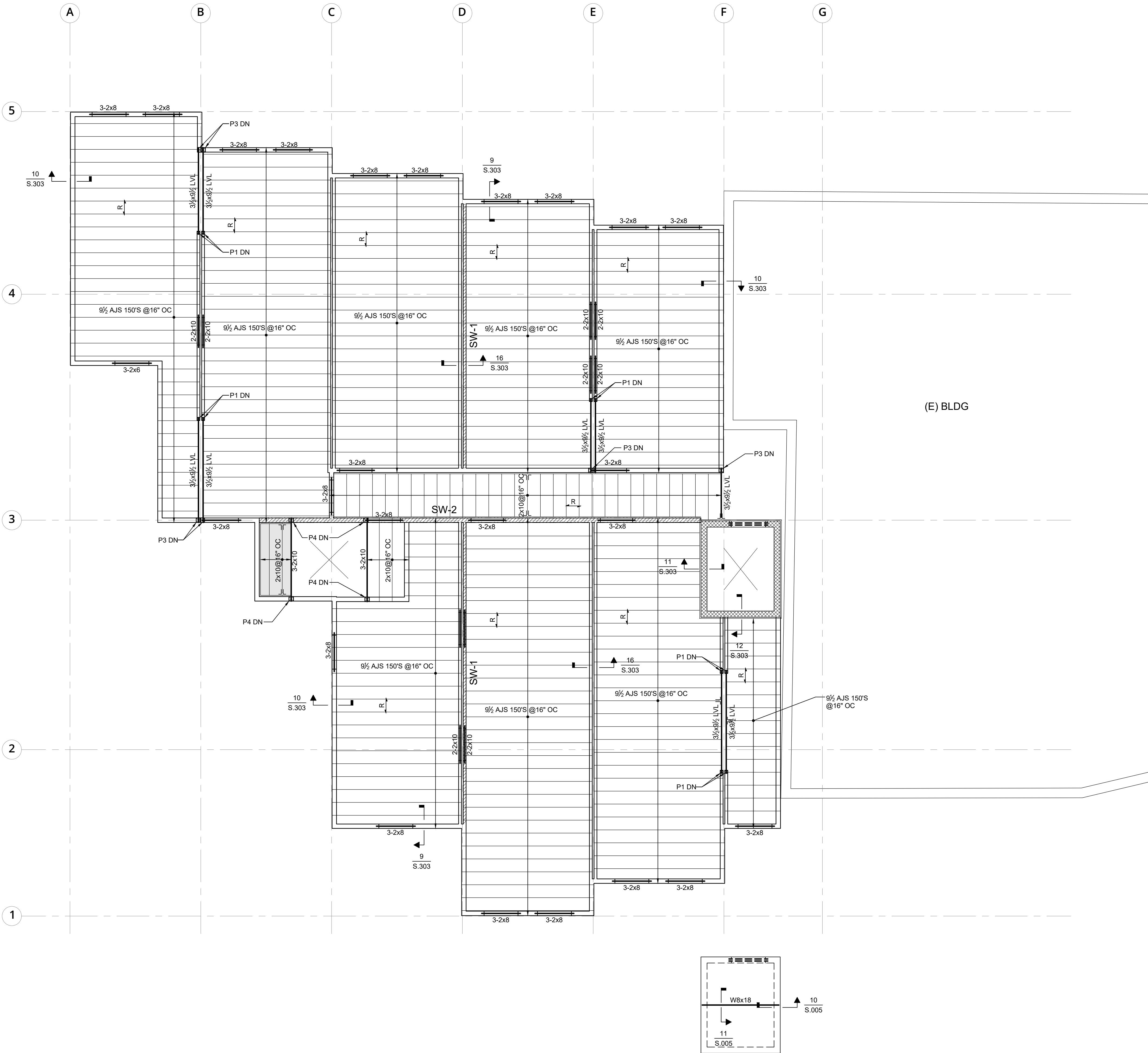
CONTRACTOR-COORDINATE
LOCATION OF JOISTS
w/ RECESSED LIGHTING
LOCATIONS AND ALL
PLUMBING/MECHANICAL-SEE
ARCH DRAWINGS

POST
SCHEDULE

MARK	TYPE
P1	2-2x4
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P3	2-2x6
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(E) BLDG

SUB. NO.	SUBMITTAL DATE	DESCRIPTION	REV. NO.

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CLIENT INFORMATION

PROJECT LOCATION

5 FREMONT STREET
WINTHROP, MA

DRAWING TITLE

ROOF FRAMING PLAN

SCALE
3/16" = 1'-0"

DATE
SEPT 08, 2021

PROJECT NO.

REVISION NO.

DRAWN BY
BSM

DRAWING NO.

VERIFIED BY
CG

S.105

[illegible]ENGINEER:

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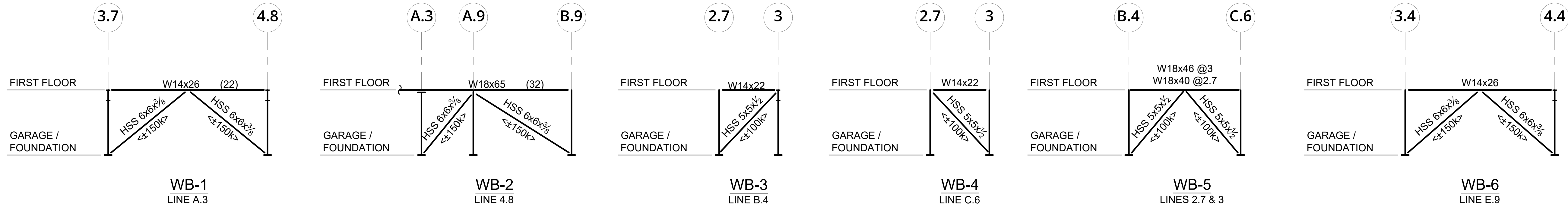
CLIENT INFORMATION

5 FREMONT STREET
WINTHROP, MA

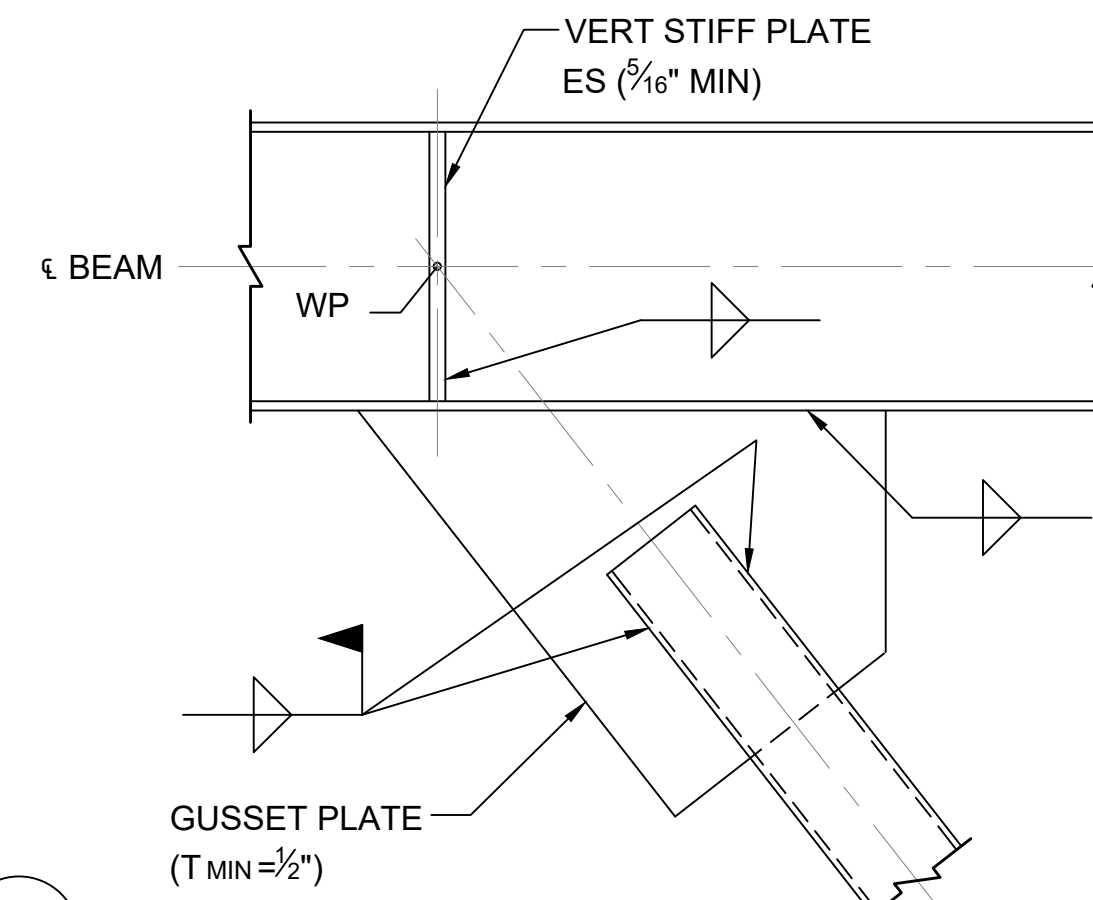
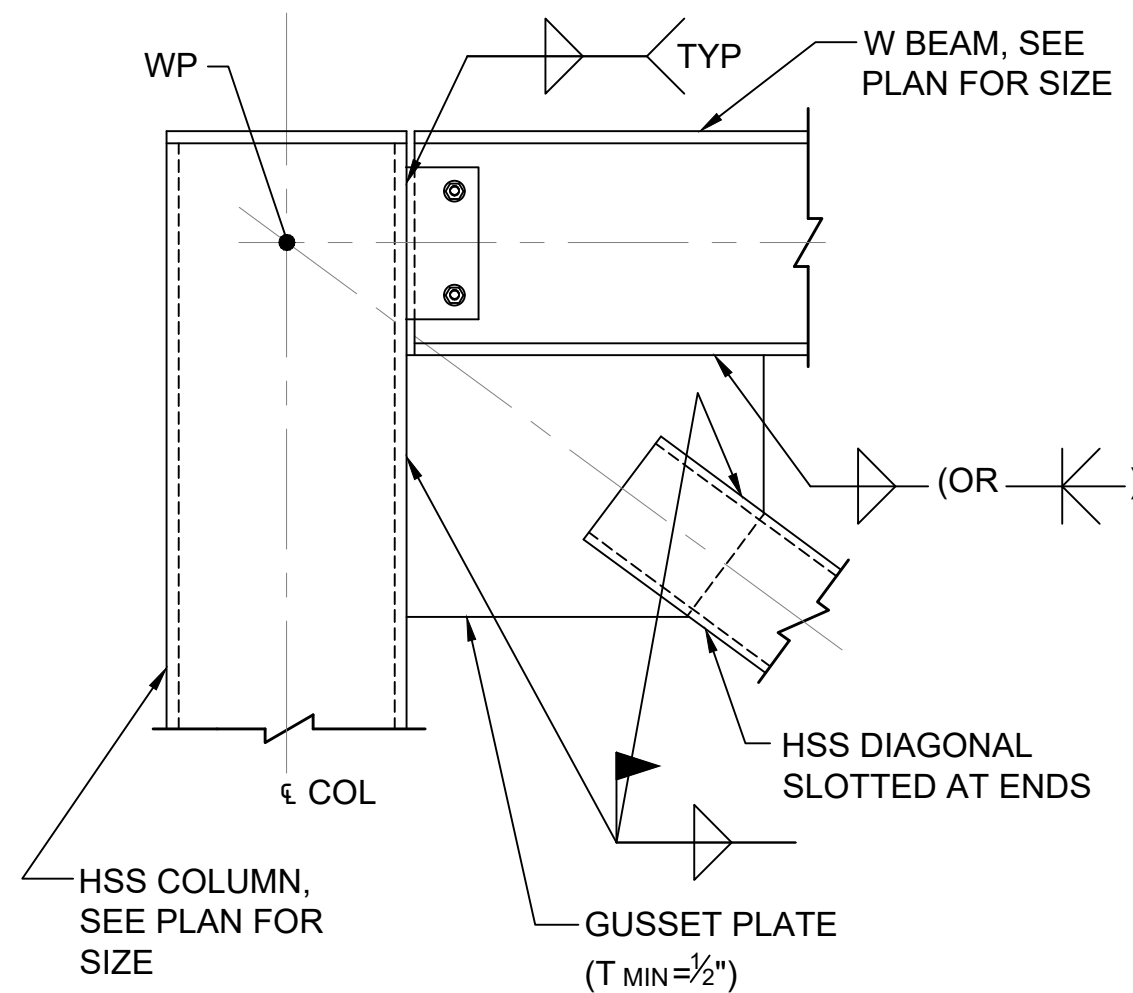
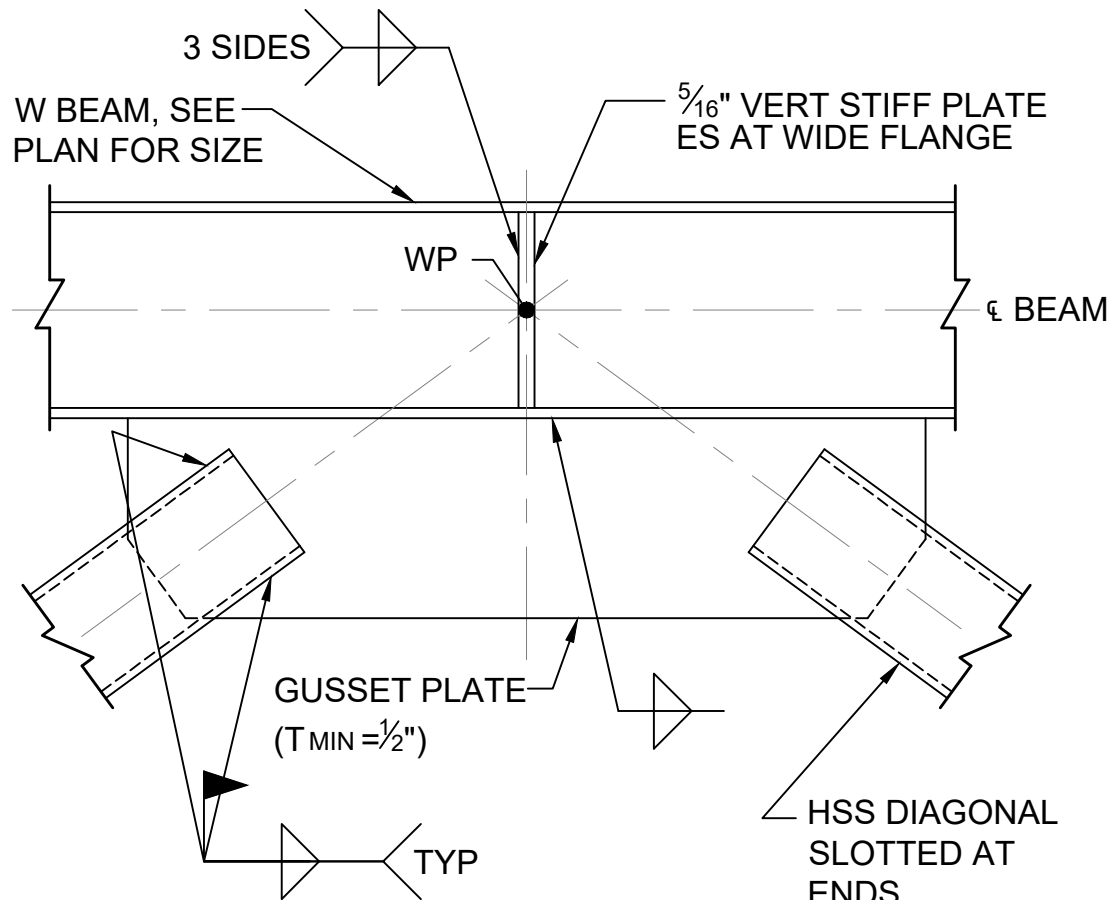
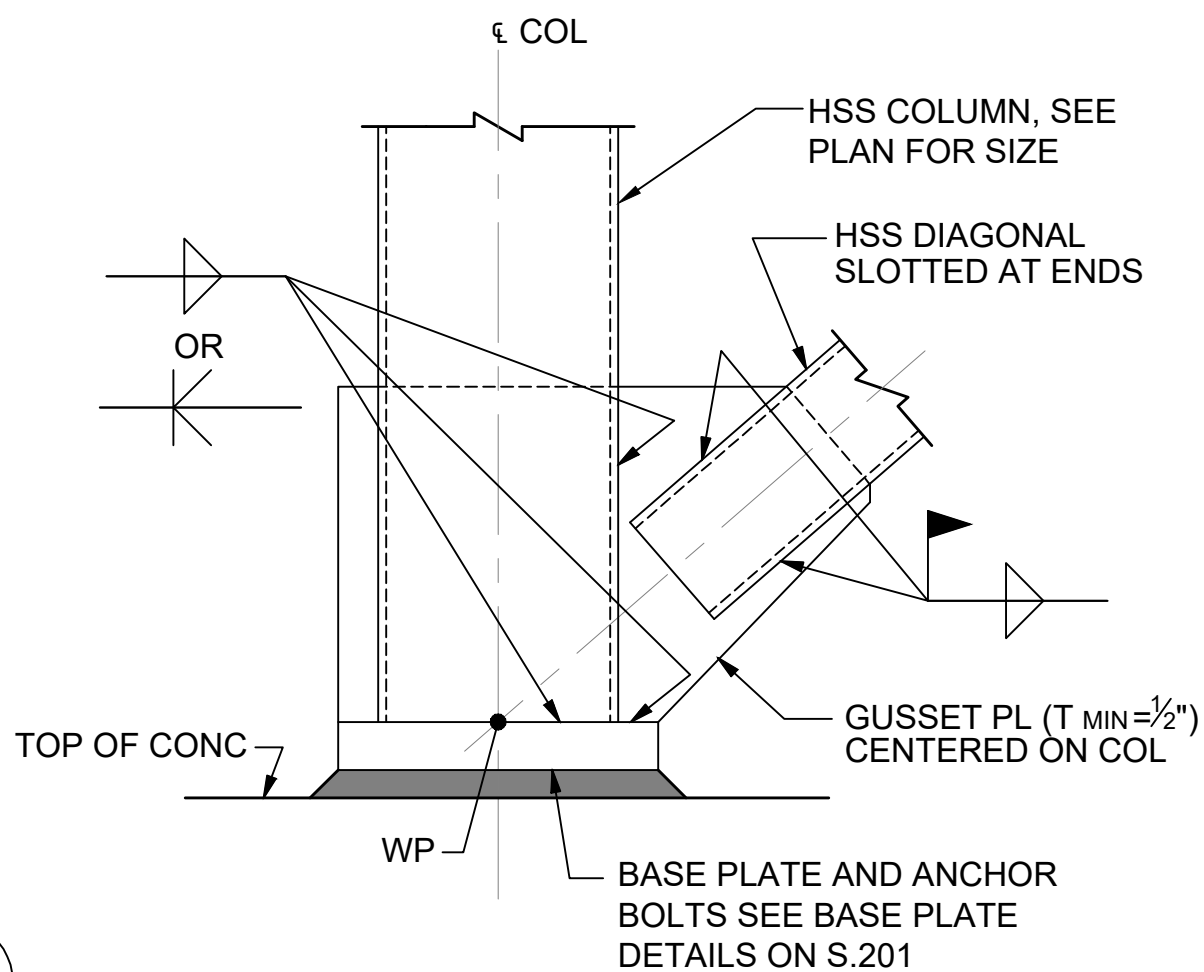
COLUMN SCHEDULE & DETAILS

S.201





- BRACING NOTES:
1. FOR GENERAL NOTES & TYPICAL DETAILS SEE S.001, S.002, S.003, S.004, & S.005.
 2. FOR COLUMN SIZES SEE S.201.
 3. FOR BASE PLATE TYPES SEE DETAILS ON S.201.
 4. FOR BRACE ELEVATIONS SEE THIS SHEET.
 5. CONNECTIONS SHALL BE DESIGNED FOR THE AXIAL FORCES SHOWN (NO INCREASE FOR SHORT TERM LOADS IS PERMITTED.)
 6. (±20k) ETC INDICATES AXIAL FORCE IN BRACING MEMBERS IN KIPS. (+) = TENSION ; (-) = COMPRESSION.
 7. BOLTS USED IN BRACING CONNECTIONS SHALL BE SLIP CRITICAL TYPE HIGH STRENGTH BOLTS.
 8. CONTRACTOR TO COORDINATE GUSSET PLATE CONFIGURATIONS WITH OPENINGS.
 9. H EQUALS AXIAL FORCE IN MEMBER FOR CONNECTION DESIGN.



SUB. NO.	SUBMITTAL DATE	DESCRIPTION	REV. NO.

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CLIENT INFORMATION

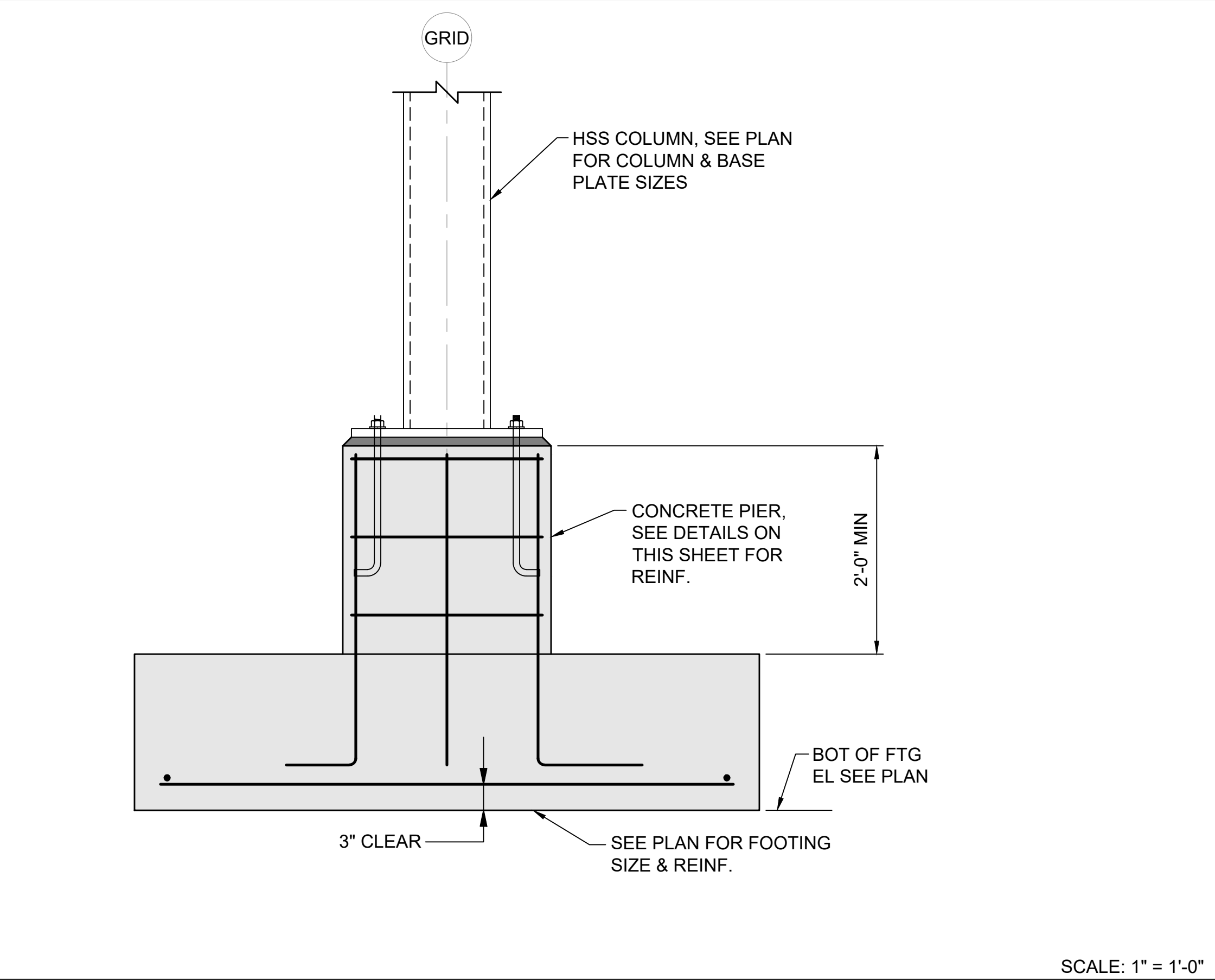
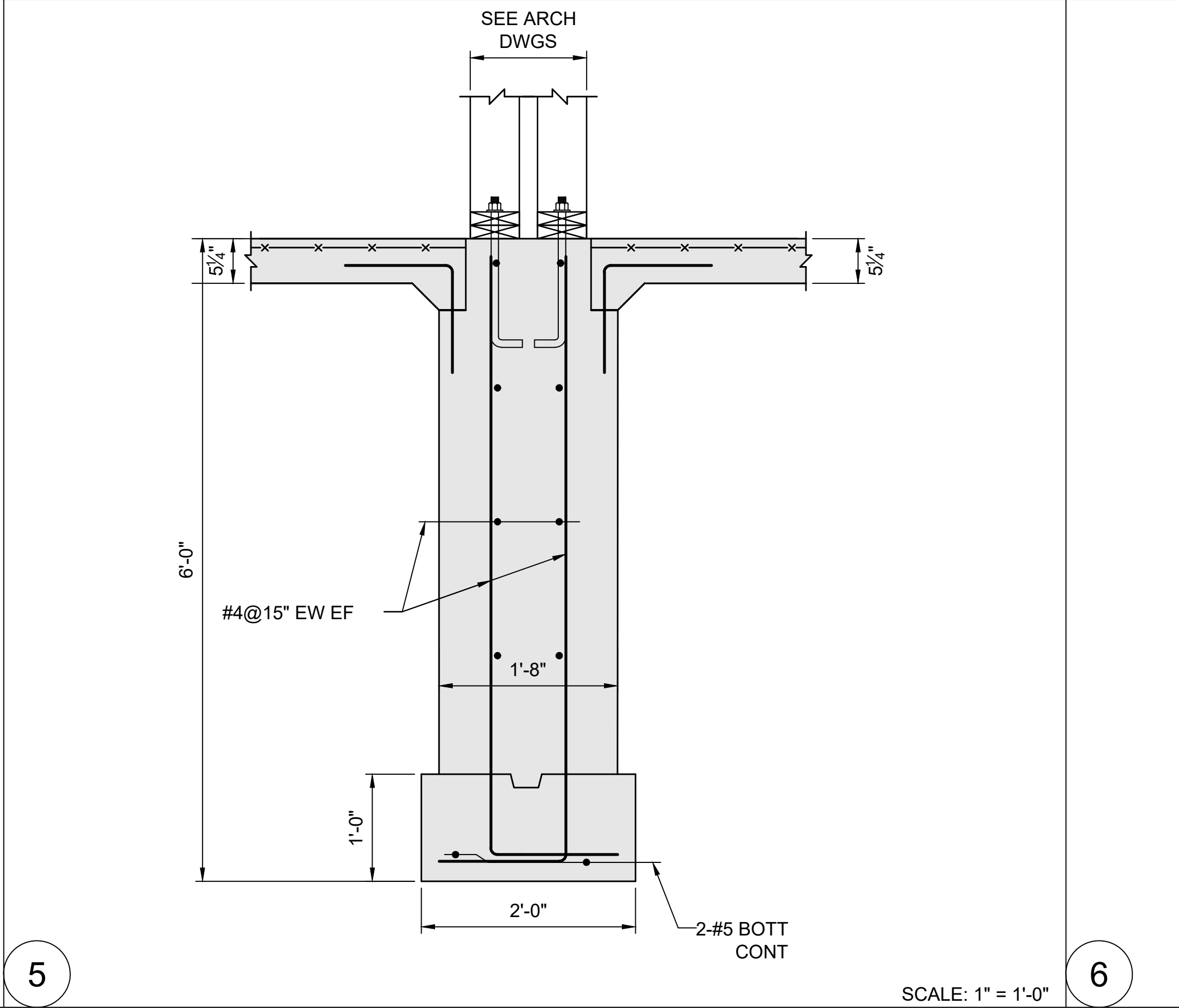
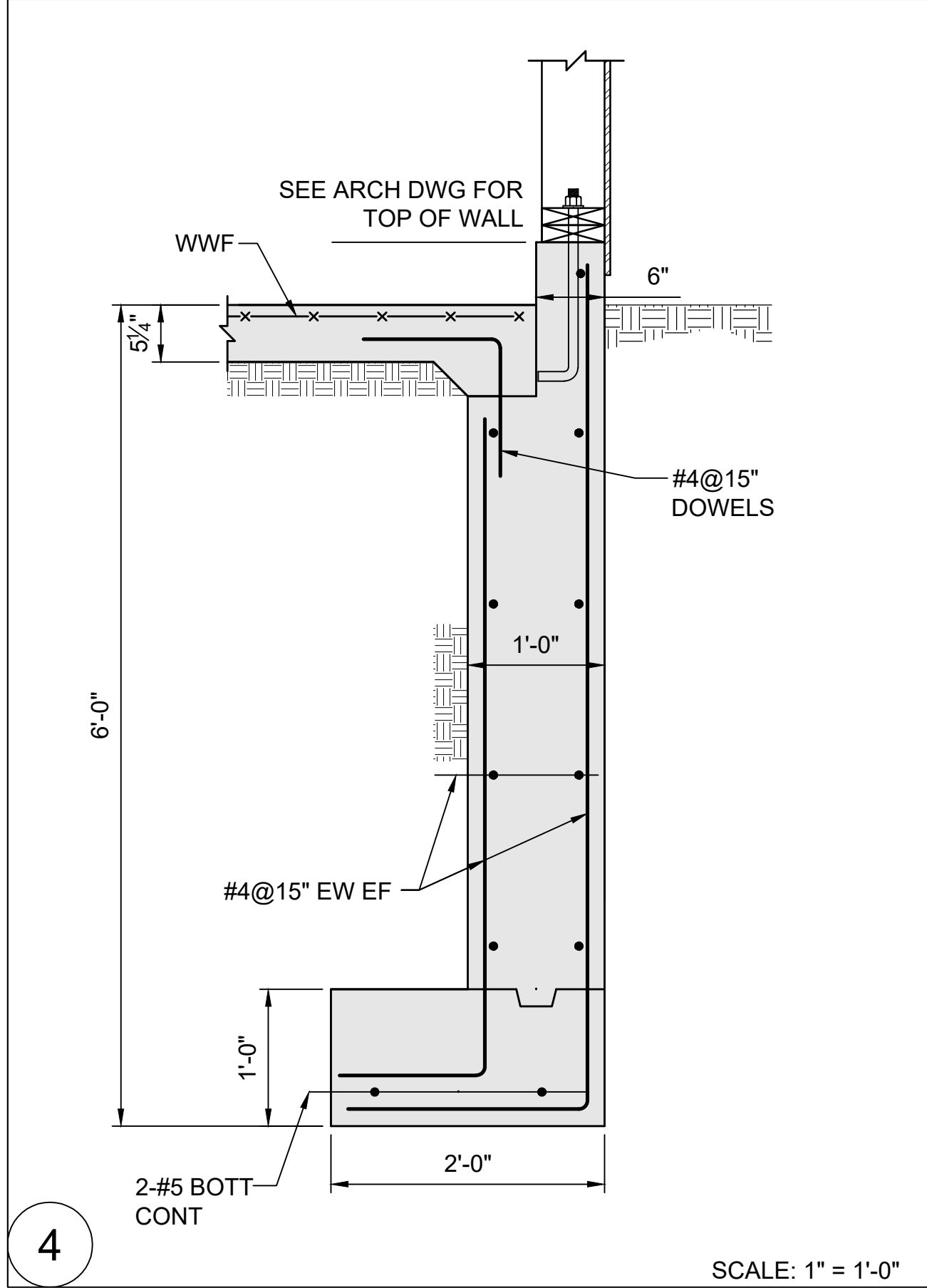
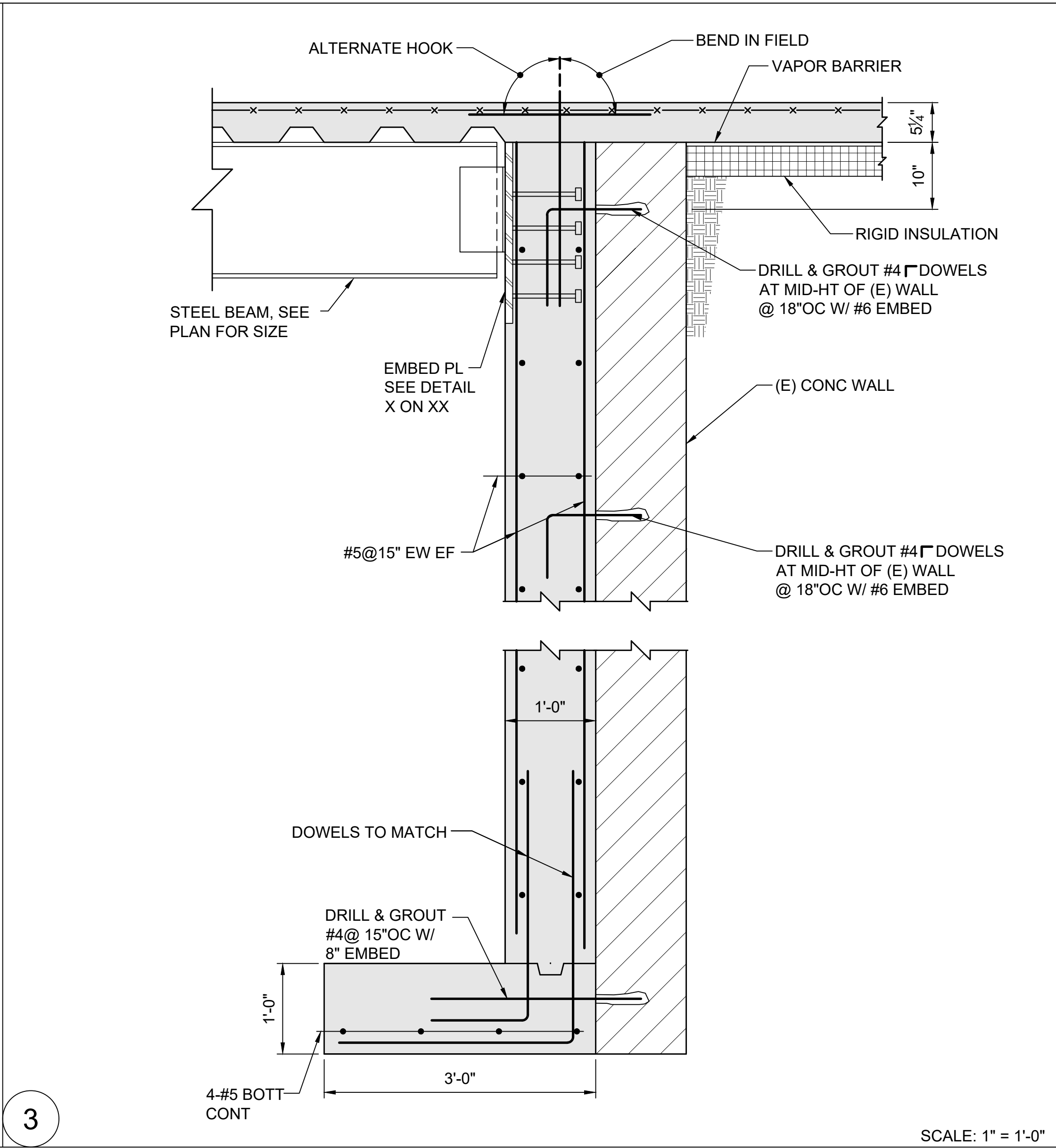
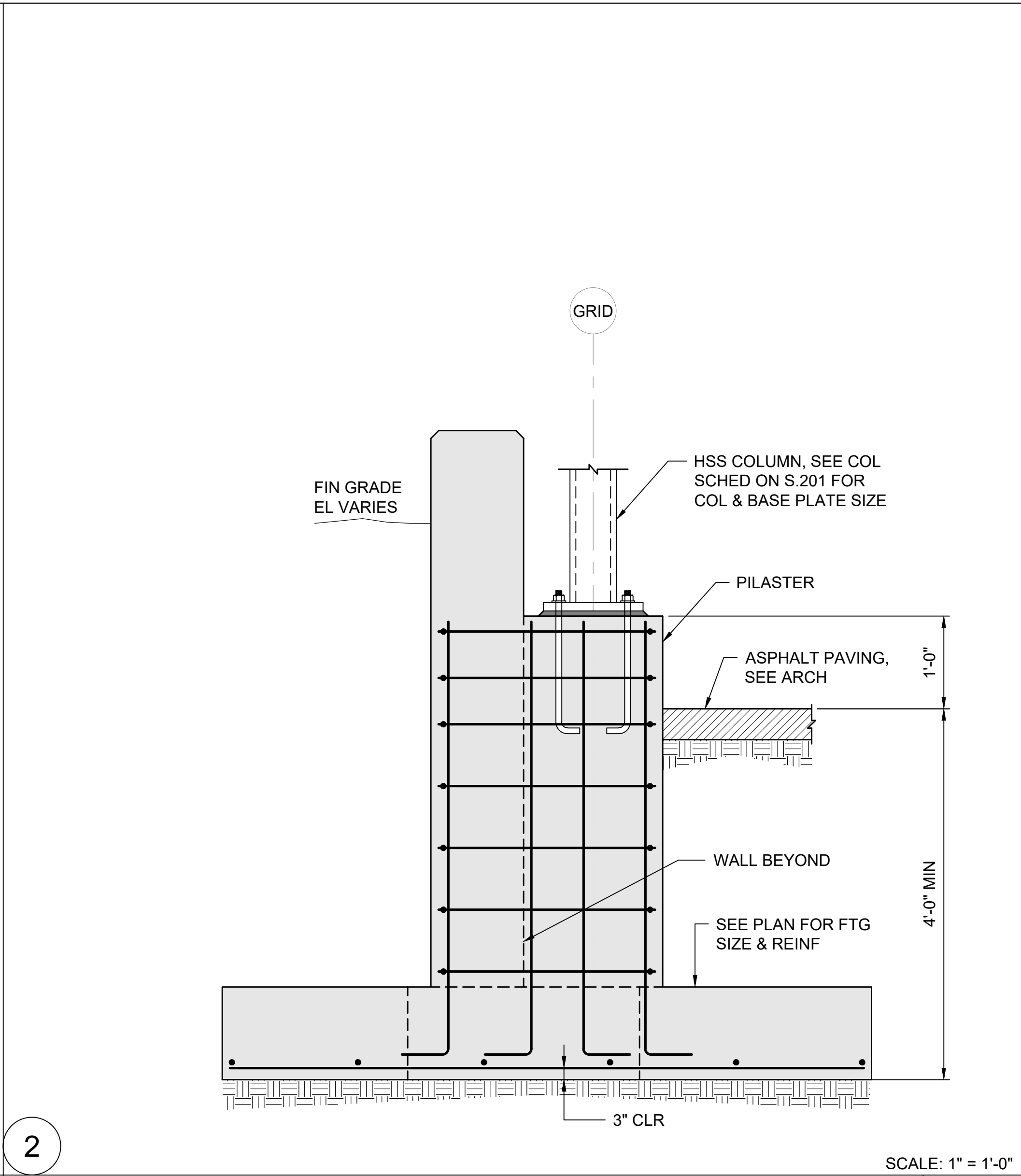
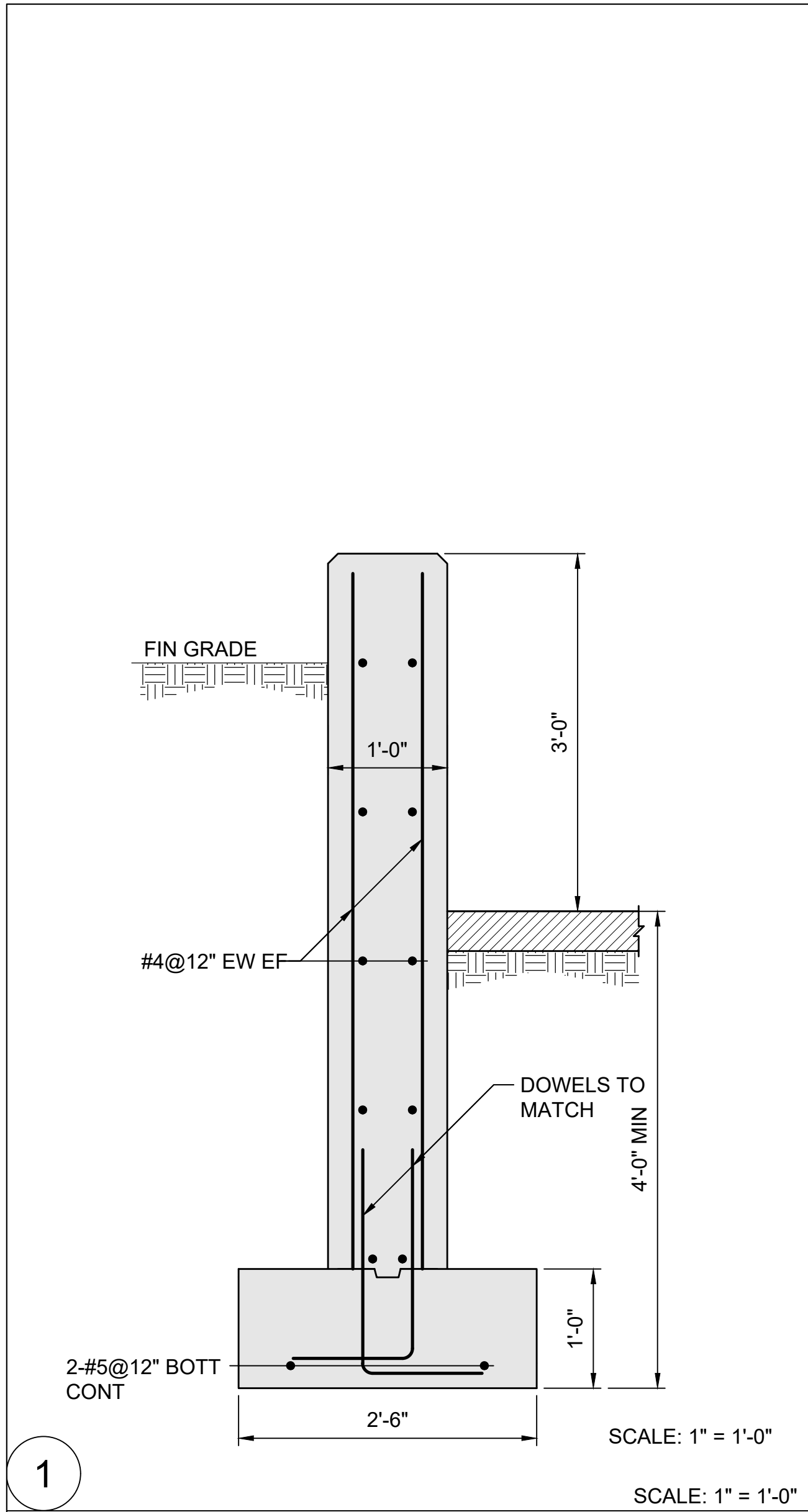
PROJECT LOCATION

5 FREMONT STREET
WINTHROP, MA

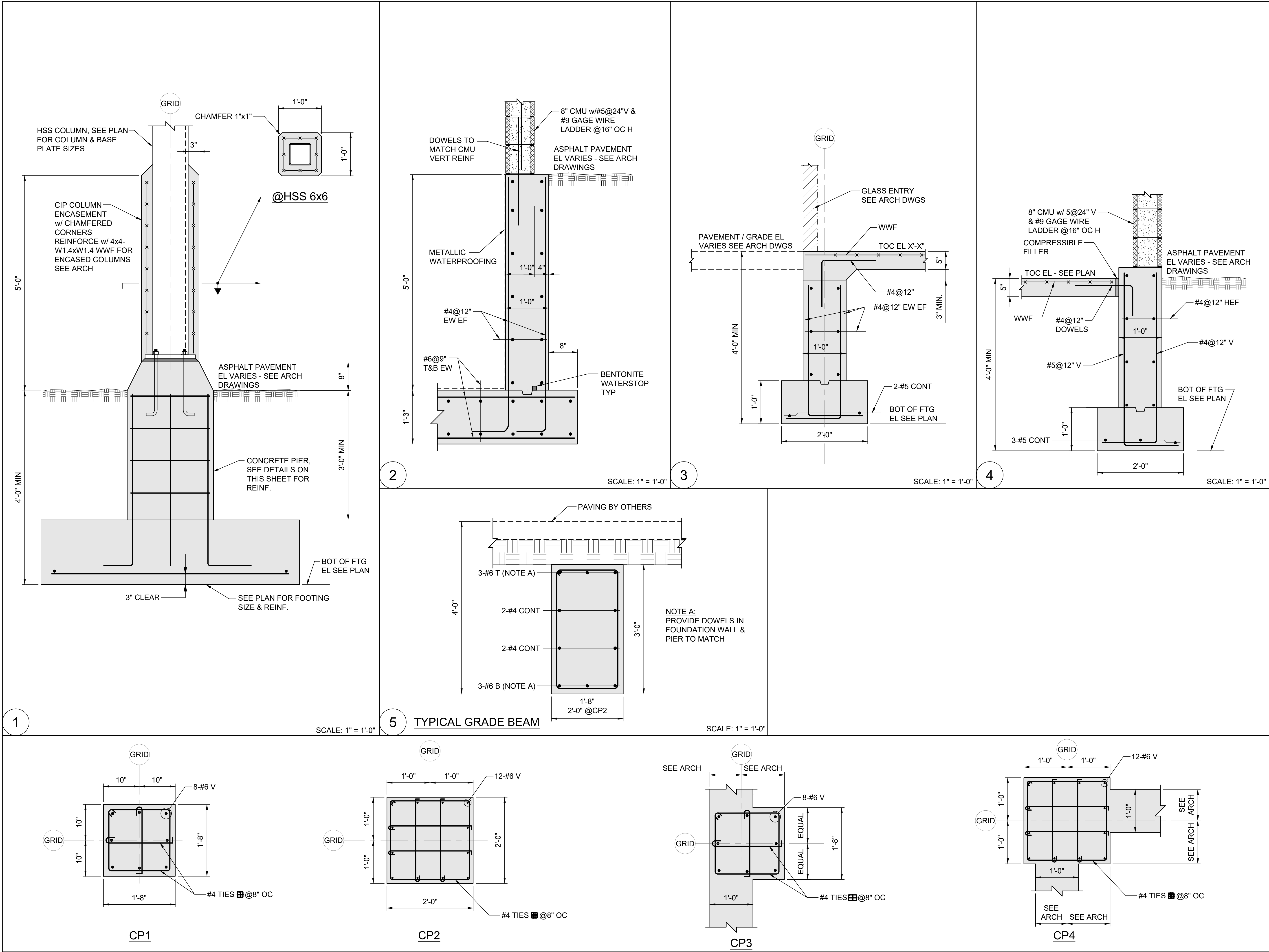
DRAWING TITLE

BRACING ELEVATIONS
& DETAILS

SCALE	NTS	DATE	SEPT 08, 2021
PROJECT NO.		REVISION NO.	
DRAWN BY	BSM	DRAWING NO.	S.202
VERIFIED BY	CG		



SUB. NO.	SUBMITTAL DATE	DESCRIPTION	REV. NO.
ENGINEER:			
R&G Roome & Guarracino LLC STRUCTURAL ENGINEERS 48 Grove Street, Somerville, MA T: 617-628-1700 F: 617-628-1711			
COMMERCIAL RESIDENTIAL HOSPITALITY 320 NEVADA STREET, SUITE 301 NEWTON, MA 02460 T: 617.448.5872 E-MAIL: DAVID.BARSKY@DAVIDBARSKYARCHITECT.COM			
CLIENT INFORMATION			
PROJECT LOCATION			
5 FREMONT STREET WINTHROP, MA			
DRAWING TITLE			
SECTIONS			
SCALE	AS NOTED	DATE	SEPT 08, 2021
PROJECT NO.	REVISION NO.		
DRAWN BY	BSM	DRAWING NO.	
VERIFIED BY	CG	S.301	



SUB. NO.	SUBMITTAL DATE	DESCRIPTION	REV. NO.

ENGINEER:



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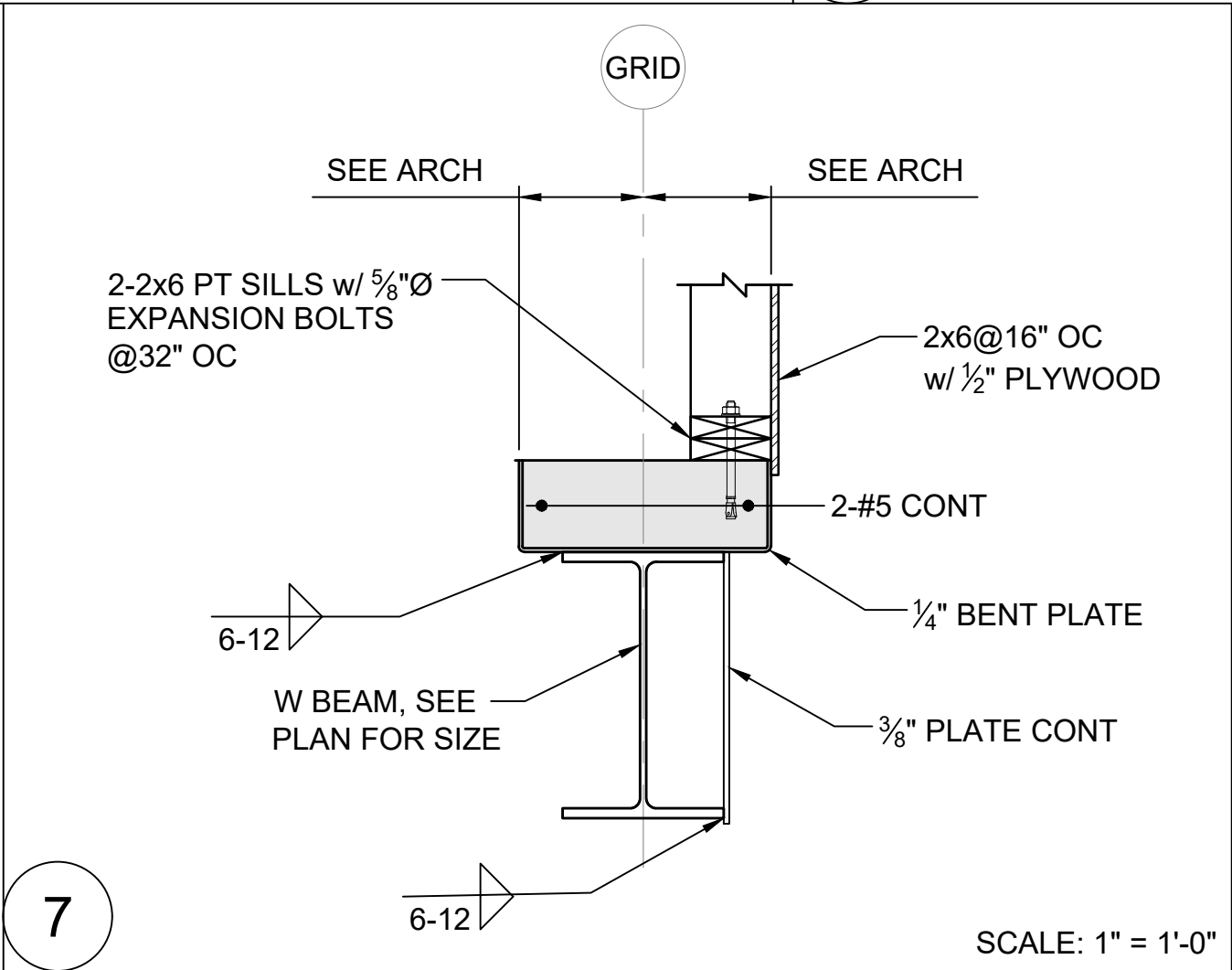
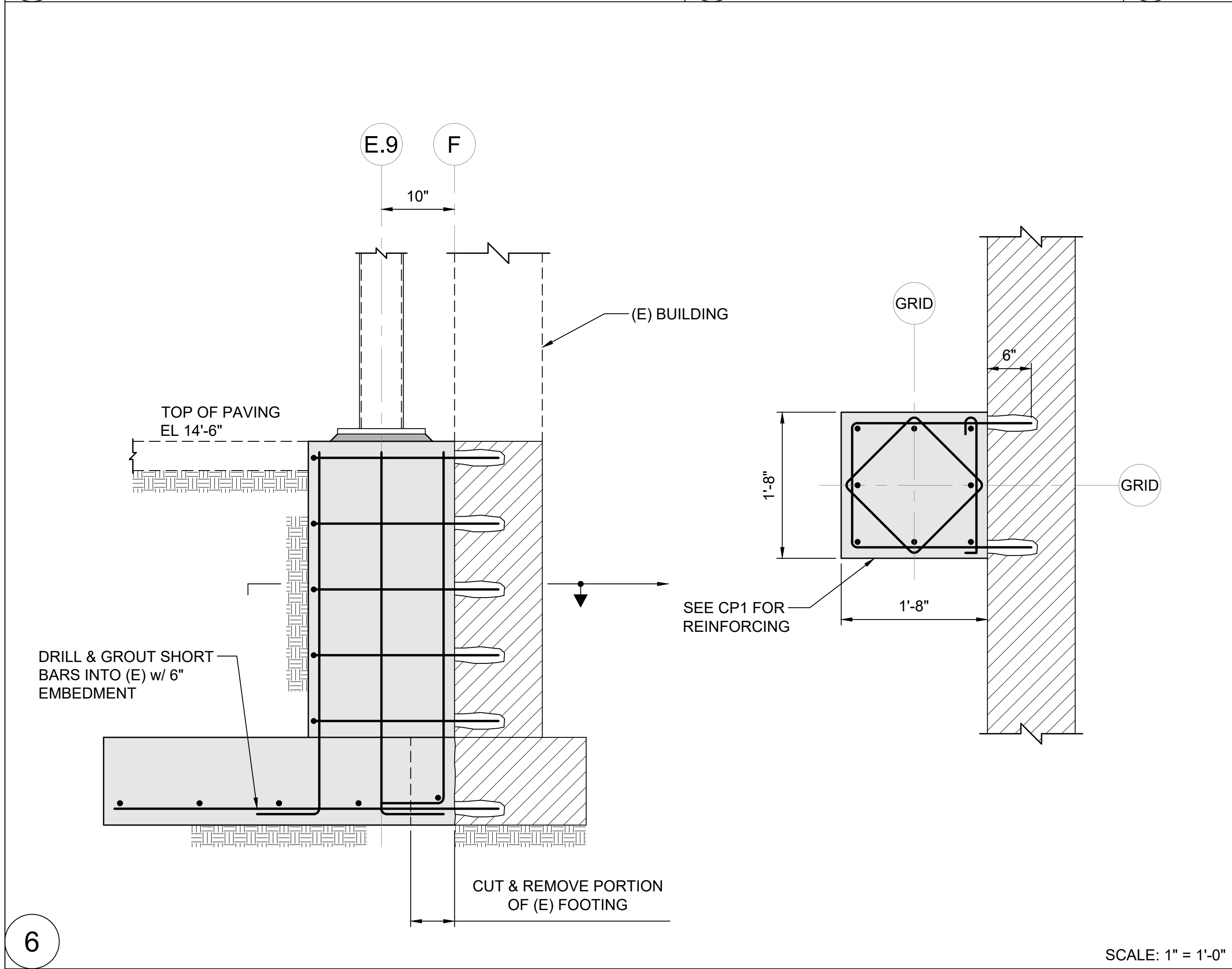
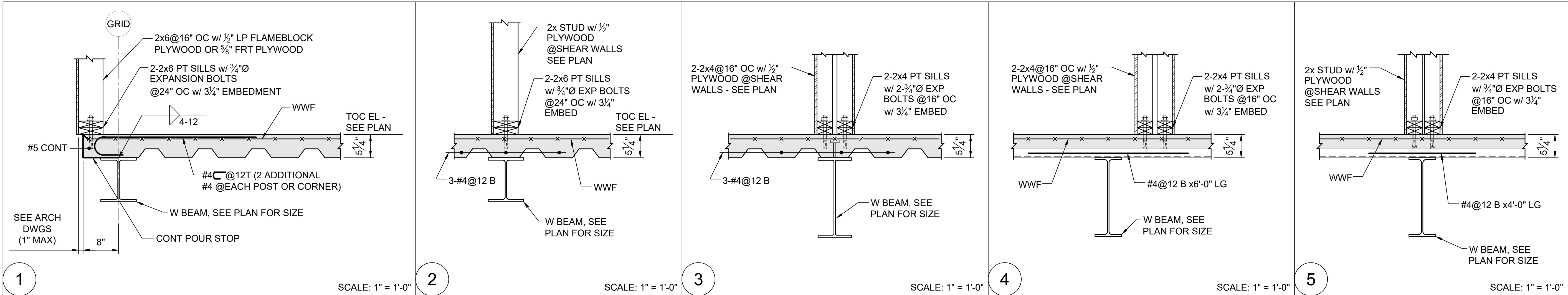
PROJECT LOCATION

**5 FREMONT STREET
WINTHROP, MA**

DRAWING TITLE

SECTIONS

SCALE AS NOTED	DATE SEPT 08, 2021
PROJECT NO.	REVISION NO.
DRAWN BY BSM	DRAWING NO. S.301A
VERIFIED BY CG	



SUB. NO.	SUBMITTAL DATE	DESCRIPTION	REV. NO.

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CLIENT INFORMATION

PROJECT LOCATION
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WINTHROP, MA**

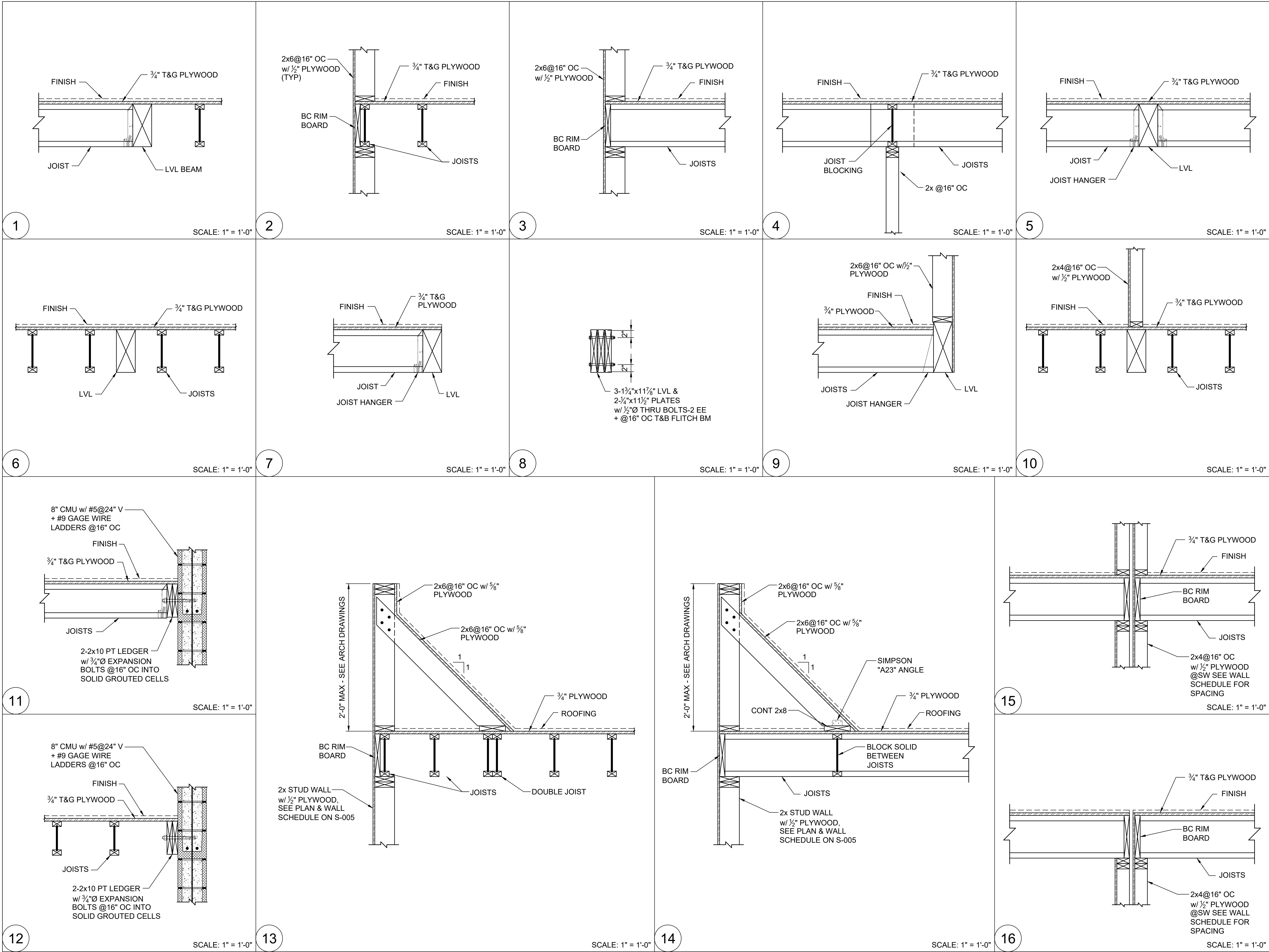
DRAWING TITLE
SECTIONS

SCALE	DATE
AS NOTED	SEPT 08, 2021

PROJECT NO.	REVISION NO.

DRAWN BY	DRAWING NO.
BSM	S.302

VERIFIED BY
CG



SUB. NO.	SUBMITTAL DATE	DESCRIPTION	REV. NO.

ENGINEER:

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CLIENT INFORMATION

PROJECT LOCATION

5 FREMONT STREET
WINTHROP, MA

DRAWING TITLE

SECTIONS

SCALE	AS NOTED	DATE	SEPT 08, 2021
PROJECT NO.		REVISION NO.	
DRAWN BY	BSM	DRAWING NO.	S.303
VERIFIED BY	CG		