`GENERAL

1. 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.
2. 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.
3. Verify and coordinate dimensions related to this project.
4. 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.
5. 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.
6. Details not specifically shown shall be similar to those shown for the most nearly similar condition as determined by the architect.
7. The contractor shall submit complete shop drawings for all parts of the work. No performance of the work shall commence without review of the shop drawings by the architect.

FOUNDATIONS

1. Foundations for this project consist of spread footings, helical piles, pile caps, foundation walls, and slabs on grade. The allowable bearing pressure is 2 tons per square foot and the helical piles have a 10 ton capacity based on the geotechnical report prepared by McPhail Associates, dated July 8, 2021.
2. No responsibility is assumed by the architect for the validity of the subsurface conditions described on the drawings.
3. Foundation units shall be centered under supported structural members, unless noted otherwise on the drawings.
4. Exterior construction shall be carried down below finished exterior grade to a minimum depth of 4'-0", unless noted otherwise.
5. 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.
6. 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.
7. Bottom 3 inches of exactions for footings shall be finished by hand shovel.
8. Backfill under any portion of the structure shall be compacted in 6" lifts.
9. No foundation concrete shall be placed in water or on frozen subgrade material.
10. Protect in-place foundations and slabs from frost penetration until the project is completed.
11. Do not backfill behind foundation walls until permanent lateral structural support system is in place and of full strength.
12. 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

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

(A) Footings, walls, piers	4000 PSI	(Normal weight)
(B) Slabs-on-grade, beams, columns	4000 PSI	(Normal weight)
(D) Topping slabs & housekeeping pads	3000 PSI	(Normal weight)

4. Concrete to be exposed to the weather in the finished project shall be air entrained.
5. Provide a vapor barrier under interior slabs cast on grade.
6. 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.
7. 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.
8. 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.

9. Minimum of 72 hours shall elapse between adjacent concrete placements.
10. Concrete shall be placed without horizontal construction joints except where shown or noted. Concrete slabs shall be placed so that the slab thickness is at no point less than that indicated on the drawings.
11. Structural steel below grade shall be encased in concrete with a minimum cover of 2".

REINFORCEMENT

1. Reinforcement work of detailing, fabrication and erection shall conform to "Building Code Requirements for Reinforced Concrete" (ACI 318-14), "ACI Detailing Manual – 1994" (SP-66), "CRSI Manual of Standard Practice" (MSP 1-97), and "Structural Welding Code – Reinforcing Steel" (AWS D1.4-92).
2. 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 A1064	

3. 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.
4. 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:

#6 through #18 bars	2.0"
#5 bars, 5/8" wire and smaller	1.5"

(C) Surfaces not in contact with earth or exposed to weather - walls, slabs, joists:

#14 and #18 bars	1.5"
#11 bars and smaller	1.0"

Beams, girders and columns – principal reinforcement, ties, stirrups or spirals: 1.5"

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.
6. 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.
7. Where reinforcement is required in section, reinforcement is considered typical wherever the section applies.
8. Reinforcement shall be continuous through construction joints.
9. Dowels shall match bar size and number, unless noted otherwise.
10. Welded wire fabric shall lap 8" or 1-1/2" spaces, whichever is larger and shall be wired together.
11. Reinforcement shall not be tack-welded.
12. Installation of reinforcement shall be completed at least 24 hours prior to the scheduled concrete placement. Notify architect of completion at least 24 hours prior to the scheduled completion of the installation of reinforcement.

STRUCTURAL STEEL

1. 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).
2. Structural steel shall be detailed in accordance with "Detailing for Steel Construction (AISC)" and where required, designed in accordance with cited references.
3. 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.
4. 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) Anchor bolts	ASTM A307	
(E) High strength bolts	ASTM A325	

5. 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.
6. Welded connections shall be made by approved certified welders using filler metal conforming to E70XX or F7X-EXXX with low hydrogen.
7. Welds shall develop the full strength of the materials being welded, unless noted otherwise, except that fillet welds shall be a minimum of ¼".
8. Ends of columns at splices and at other bearing connections shall be "finished to bear" to complete the true bearing.
9. Provide stiffeners "finished to bear" under all load concentrations on supporting members, over columns, and where shown on drawings.
10. 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.
11. Structural steel framing shall be true and plumb before connections are finally bolted or welded.
12. 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.
13. Structural steel encased in masonry shall be covered with mastic coating per specifications.
14. Structural steel members and connections exposed to the weather shall be galvanized.

MASONRY CONSTRUCTION

1. Clay (brick) and concrete masonry unit (CMU) construction shall conform to "Building Code Requirements for Masonry Structures" (ACI 530-08/ASCE 5-08/TMS402-08), and to "Specifications for Masonry Structures" (ACI 530.1-08/ASCE 6-08/TMS 602-08).
2. Materials strings shall be as follows:
   (A) Concrete masonry units shall conform to ASTM C-90 or C-145 Grade N-1.
   (B) Mortar shall conform to ASTM C-270, Type M or S.
   (C) Grout shall conform to ASTM C-476 fine or coarse.
3. Masonry shall have f'm = 1500 PSI. f'm is the compressive strength of the masonry at 28 days as determined by prism tests.
4. Prior to grouting cells, bars and cells must be inspected by the testing agency.
5. The base of each cell in which a bar is placed must have a cleanout hole.
6. 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.
7. 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.
8. Anchors to masonry walls shall be 3/4" diameter expansion bolts or anchor bolts. Bolts shall be 2" shorter than wall thickness.
9. Bonding methods, ties, lintels and accessories shall be approved by the architect.
10. Submit shop drawings, with ample time for architect's review and approval, for structural elements including structural steel.
11. Masonry openings more than 16" wide require approved lintels.
12. Masonry openings for utilities are to be closed up with new brick work around the utility.
13. Provide and install lintels for openings in accordance with the schedule and details. Where lintel abuts columns or walls, provide connections to such. (Submit shop drawing of connection detail for approval.)
14. 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.
15. Fill cores of concrete blocks under all bearing plates with concrete for a width equal to 3 times the bearing plate length.
16. Provide 1-#5 vertical reinforcing at 32" OC. This reinforcing shall be continuous full height.
17. 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.
18. Reinforced masonry walls shall have a #9 GA. wire ladders (ladder or truss type) at 16" OC horizontal reinforcement.
19. Provide 2-#5 continuous horizontal bars in the top course (bond beam) of walls below each floor level and roof and fill continuously with grout.
20. Provide 1-#5 additional vertical reinforcing bar at each corner, door or window jamb, and at any discontinuity in the wall.

RENOVATION AND RESTORATION

1. The contractor shall notify the architect when, in the course of construction or demolition, conditions are uncovered which are unanticipated or otherwise appear to present a dangerous condition.
2. Damaged load bearing masonry shall be removed and replaced or repaired as directed by the architect.
3. Damaged stone lintels shall be repaired or replaced.
4. New masonry shall be bonded or otherwise tied to adjacent masonry work.
5. Second-hand brick shall not be used in masonry bearing walls unless approval is given by the architect for each specific case.
6. **Information regarding existing construction or conditions is based on available record drawings which may or may not truly reflect existing conditions. Such information is included on assumption that it may be of interest to the contractor, but the architect assumes no responsibility for its accuracy or completeness.**
7. Verify all dimensions and conditions on the job. Discrepancies shall be brought immediately to the attention of the architect before proceeding with that part of the work.
8. Where new work will be adjacent to or framing existing construction, verify dimensions of existing construction prior to fabrication of new members.
9. Provide all labor and material for any framing required to connect new framing to existing construction. Wherever it is necessary to remove existing construction in order to construct new work, the affected area shall be patched and rebuilt to match existing adjacent work to satisfaction of the architect.
10. Details shown on any drawing shall be considered typical for all similar conditions.
11. Notify architect of any contemplated structural alteration in reasonable time to render and document the architect's decision.
12. Structural materials and components shall have prior approval of the architect.
13. Structural work on this project shall be performed under the supervision of an inspector approved by the architect. Alterations or modifications not indicated on the drawings shall be approved by the architect in writing before such work is initiated. The architect will periodically observe structural elements to assure general compliance with the contract documents, but detailed inspection and testing requirement will be prepared by an independent testing agent hired by the owner. Deficiencies not indicated on the drawings or exposed during construction shall be corrected as directed by the architect.
14. Structural alteration shall be preceded by adequate shoring and bracing.
15. Screw-type shoring posts shall be provided for existing work during the removal of existing bearing walls and structural members and the installation of new structural work.
16. Temporary shores shall be placed as close as practicable to the existing structural work being removed.
17. Headers shall be placed across top of shoring posts and shall be snug tight against underside of the structure above.
18. Shoring shall bear on sleepers to prevent damage to the structure below.
19. Temporary shores shall be individually designed, erected, supported, braced and maintained by the contractor to safely support all dead loads presently carried by the existing structural work being removed and any construction live loads.
20. Structural steel shall be completely installed before removing any shores.
21. Shores shall be released gradually and left loosely in place for at least 2 days to allow for structural shake out.

STRUCTURAL TIMBER CONSTRUCTION

1. 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).
2. New timber for structural use shall have a moisture content as specified in the "National Design Specification for Wood Construction (NF.PA, 2012 Edition).
3. Timber construction shall conform to Article 23, "Wood" of the Mass. Code, latest edition
4. 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 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 = 1550 PSI
   Compression perpendicular to grain = 565 PSI
   Modulus of elasticity = 1,500,000 PSI
   (D) 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
5. "PT" indicates pressure-treated lumber (to be used when in contact with concrete, masonry or weather).
6. "11-7/8" AJS 20's" etc. indicates engineered wood I-Joist with machine rated lumber flanges and OSB webs by the Boise Cascade Co. or equal.
7. "3-1/2" x 11-7/8" LVL" etc. indicates laminated veneer lumber-L.V.L.-2.0 E beam or post by the Boise Cascade Co. or equal.
8. 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) 11-7/8" AJS 140's	Type 'ITS2.56/11.88'
(H) 11-7/8" AJS 20's	Type 'ITS3.56/11.88'
(I) 3-1/2" x 9-1/2" L.V.L.	Type 'HGLTV3.5/9.5'
(J) 5-1/4" x 9-1/2" L.V.L.	Type 'HGLTV5.5/9.5'
(K) 3-1/2" x 11-7/8" L.V.L.	Type 'HGLTV3.5/11.88'
(L) 5-1/4" x 11-7/8" L.V.L.	Type 'HGLTV5.5/11.88'
(M) 3-1/2" x 14" L.V.L.	Type 'HGLTV3.5/14'
(N) 5-1/4" x 14" L.V.L.	Type 'HGLTV5.5/14'

(It is the contractor's responsibility to determine correct hangers for all sloped and/or skewed conditions.)

9. Minimum bearing for all joists and rafters shall be 4".
10. Use double joists under all partitions.
11. Partition and outside stud walls shall be bridged once in their story height or at least every 4'-6".
12. 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.
13. Exterior walls shall be framed with 2x6's at 16" C/C (unless noted on plans) with 32/16 – ½" zip R-6 sheathing. Plywood to be nailed to studs with 10D galvanized nails at 4" on center at panel edges and at 12" on center at intermediate supports.
14. Interior walls indicated on plans shall be framed with 2x4's or 2x 6's at 16" C/C (see Architectural drawings for locations).
15. Interior walls indicated on plans as shear walls (SW) shall be framed with 2x4's or 2x6's with 32/16 – ½" exterior plywood sheathing. Plywood sheathed walls to be fully blocked and nailed to studs with 10D galvanized nails at 4" on center at panel edges and at 12" on center at intermediate supports.
16. Roof construction shall be as shown on the plans with 32/16-5/8" exterior plywood.
17. Floor construction shall be as shown on the plans with 32/16-3/4" exterior tongue and groove plywood sheathing, glued and nailed to the joists and beams.
18. "Advantech" sheathing, of the same thickness, may be substituted for the plywood sheathing specified above. OSB is not acceptable.
19. Interior door headers shall be a minimum of 2-2x8's unless noted otherwise on the plans.
20. Exterior door and window headers shall be a minimum of 3-2x8's unless otherwise noted on the plans.
21. No joist shall be noted or drilled with holes without the specific approval of the architect.
22. No joist shall be repaired or reinforced in any way without the specific approval of the architect.
23. Beams built up of timbers shall be firmly nailed or bolted together.
24. Plywood shall be laid with face grain parallel to span; stagger all joints.
25. Sills shall be 2-2x6's PT (pressure-treated) see plans for locations, and shall be anchored with 5/8" diameter anchor bolts not more than 32" OC and at 8" from each corner.
26. 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.
27. Timber shall be generally knot-free, with only small tight knots permitted and generally straight-grained.
28. 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.
29. 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".
30. Timber shall be so handled and covered as to prevent marring and moisture absorption from snow or rain.
31. Steel plates and angles shall be new steel conforming to ASTM A36.

WOOD ROOF TRUSSES

1. See general notes and drawings for design notes.
2. Design trusses for the following load combinations:
   (A) Dead load + attic live load + uniform snow load
   (B) Dead load + attic live load + unbalanced snow load (unbalanced snow load + 1.5 x uniform snow load on one side of the ridge and zero on the other.)
   (C) Dead load + wind load
   (D) Dead load + attic live load + unbalanced snow load + wind load (wind load shall be applied perpendicular to roof planes in accordance with the Massachusetts State Building Code.)
3. Design stresscs may be increased to account for various duration of loads.
4. Limit midspan deflections to the following:
   (A) Dead load only = ½"
   (B) Dead load + attic live load + uniform snow load = ¾"
5. Design and provide hold-down and bearing connections to wood support plates.
6. Design and provide permanent bottom chord bracing.
7. Wood trusses shall be designed and fabricated by a member of the Truss Plate Institute. Engineering drawings conforming to design load and deflection criteria contained in these notes shall be submitted for approval before fabrication. They shall bear the seal of a registered engineer.
8. Design standards shall confirm with the applicable provisions of the "National Design Specifications for Wood Construction", 1991 published by the National Forest Products Association and the "Design Specifications for Metal Plate Connected Wood Trusses", (P1-95) published by the Truss Plate Institute.
9. All connector plates shall be a minimum thickness of 0.0.36" and shall be hot dipped galvanized according to ASTMA525, coating designation G60.
10. Quality control – lumber defects such as wane or knots occurring in the connector plate area must not affect more than 10% of the required plate area or number of effective teeth required for each truss member. Connector plates shall be applied to both faces of truss at each joint and should provide firm, even contact between the plate and the wood. All wood members shall be accurately cut and fabricated so that all members have good bearing and all completed truss units are uniform. See Truss Plate Institute "Quality Control Manual CCM-88" for tolerances and other special requirements.
11. Bracing – all trusses must be securely braced both during erection and after permanent installation in a building in accordance with "Bracing Wood Trusses" commentary and recommendations (BWT-76) as published by the Truss Plate Institute. Erection bracing shall hold trusses straight and plumb and in a safe condition until decking and permanent truss bracing has been fastened forming a structurally sound roof framing system. All erection and permanent bracing shall be installed and all trusses permanently fastened before application of any loads. Permanent structural cross-bracing to ensure overall rigidity of the roof system shall be in accordance with architectural/engineering plans for the building structure. See truss design drawings for any additional special bracing requirements. Materials used in bracing are to be furnished by the erection contractor unless otherwise noted in the specifications.

STRUCTURAL DESIGN LOADS

1. Dead loads
   (A) Weight of building components
2. Live loads
   (A) Public areas, stairs, etc. – 100 PSF
   (B) Second floor office/corridors – 80 PSF
   (C) Roof snow load – 38 PSF plus drift
   Pg =50 PSF; Is=1.1;Ce=1.0;Ct=1.1;
3. Wind loads – Per Mass. Code and ASCE7-10; Exposure B
   Risk Category III (Ult.) = 135 MPH
   Directional Method

Height	Wind Load (Ult.) (PSF)
0'-15'	23.6
15'-30'	29.0
30'-47'	32.9

4. Earthquake loads- Per Mass. Code and ASCE7-10; Occupancy Category "III"
   Importance Factor I=1.25; Site Class "C"
   Seismic Performance Category 'C'
   For Renovation of Existing Structure- Level II-Work Area Method-no change of Occupancy Category; Small low roof addition. Existing lateral load resisting system (Unreinforced Masonry Shear Walls) is not being modified-analysis for 75% new IIBC seismic loads did not over stress the system. Affected gravity load members are reinforced, already meet code, or have loads increased by less than 5% per IEBC criteria.

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PROJECT NAME:

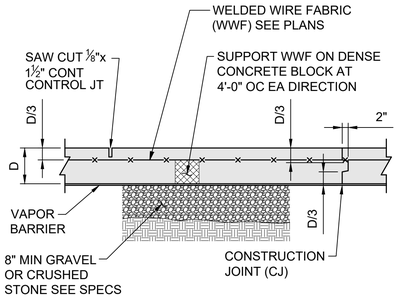
HAGER HOMESTEAD
MASSACHUSETTS COHOUSING
336 KING STREET
LITTLETON, MA 01460

HAGER HOMESTEAD
GENERAL NOTES

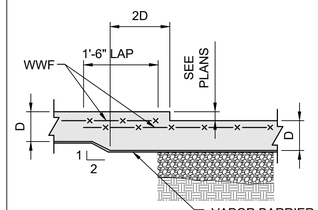
JOB NO.	
DRAWN BY:	BSM
CHECKED BY:	RR/JFB
DATE:	09.16.2021
REVISIONS:	
100% CONSTRUCTION DOCUMENTS	

DRAWING NO.

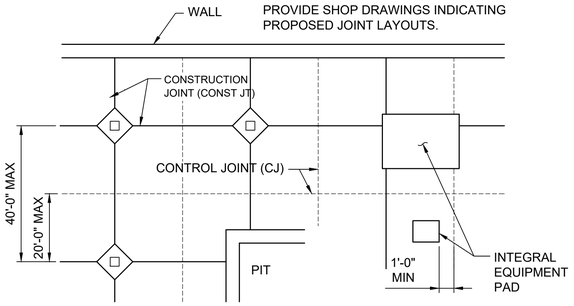
S0.1



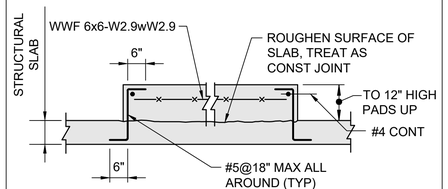
1 SLAB ON GRADE



2 SLAB ON GRADE AT DEPRESSIONS

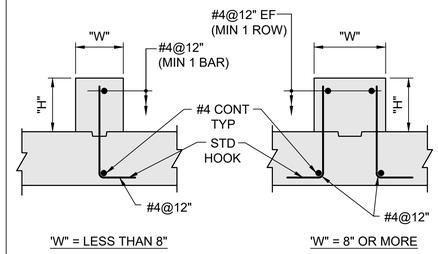


3 LAYOUT OF CONTROL, & CONSTRUCTION JOINTS IN CONCRETE SLABS ON GRADE



THE EXACT SIZE, SHAPE AND LOCATION OF EQUIPMENT (HOUSEKEEPING) PAD(S) SHALL BE DETERMINED BY THE CONTRACTOR AFTER APPROVAL OF SHOP DRAWINGS FOR EQUIPMENT. ANCHOR BOLTS WHERE REQUIRED SHALL BE SIZED AND LOCATED ACCORDING TO MANUFACTURER'S REQUIREMENTS.

4 CONCRETE EQUIPMENT PAD



FOR CURB "W" & "H" SEE ARCH DWGS

5 CONCRETE CURB DETAIL

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	$\leq DIA_b$	1	1	1	2
	$>DIA_b$	1	3	5	6
ALL OTHERS	$\leq DIA_b$	1	1	1	2
	$>DIAb <2DIA_b$	1	3	3	4
	$\geq 2DIA_b$	1	3	5	6

TYPICAL ABBREVIATIONS
DIA_b = NOMINAL BAR DIAMETER
> = GREATER THAN
≥ = EQUAL TO OR GREATER THAN
< = LESS THAN
≤ = EQUAL TO OR LESS THAN

1. 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%.
2. 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.
3. FOR LIGHTWEIGHT AGGREGATE CONCRETE MULTIPLY THE VALUES ABOVE BT 1.3.

6

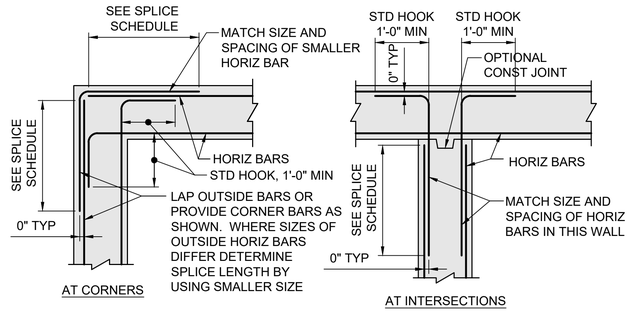
MINIMUM SPLICE AND EMBEDMENT LENGTH SCHEDULE

(UNLESS SHOWN OTHERWISE ON DRAWINGS)

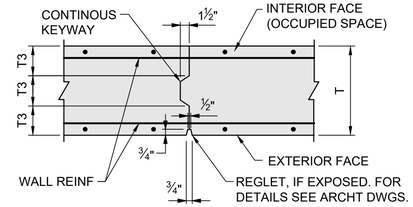
CLASS B TENSION SPLICE — Fy=60000 PSI

f = 4000 PSI,NORMAL WEIGHT

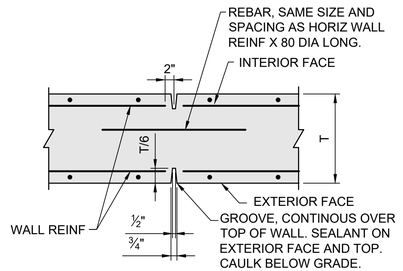
BAR SIZE	TOP BARS CATEGORY						OTHER BARS CATEGORY					
	1	2	3	4	5	6	1	2	3	4	5	6
#3	18"	18"	18"	18"	18"	18"	16"	16"	16"	16"	16"	16"
#4	26"	24"	24"	24"	24"	24"	20"	19"	19"	19"	19"	19"
#5	40"	32"	30"	30"	30"	30"	31"	25"	23"	23"	23"	23"
#6	57"	45"	40"	36"	36"	36"	44"	35"	31"	28"	28"	28"
#7	77"	62"	54"	43"	42"	42"	59"	48"	42"	33"	33"	33"
#8	102"	81"	71"	57"	51"	48"	78"	63"	55"	44"	39"	37"
#9	129"	103"	90"	72"	64"	55"	99"	79"	69"	56"	50"	42"
#10	163"	131"	114"	92"	82"	65"	126"	101"	88"	70"	63"	50"
#11	200"	160"	140"	112"	100"	80"	154"	123"	108"	86"	77"	62"



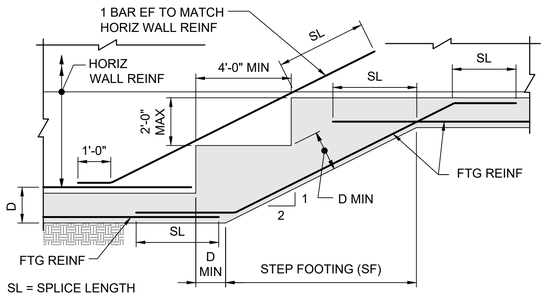
7 HORIZONTAL WALL REINFORCEMENT PLANS



8 VERTICAL CONSTRUCTION JOINT IN CONCRETE WALLS

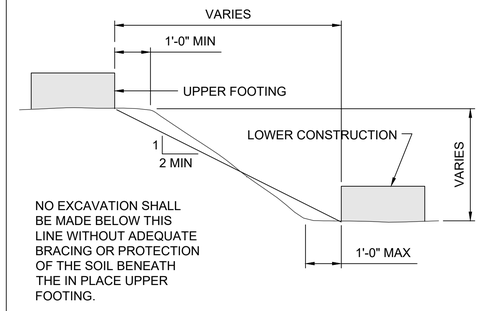


9 VERTICAL CONTROL JOINT IN CONCRETE WALLS



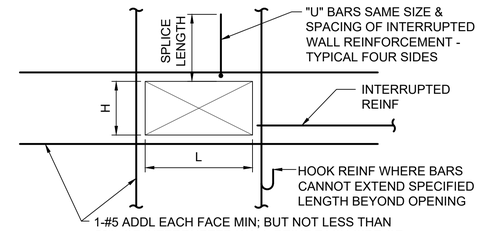
SL = SPLICE LENGTH

10 ELEVATION OF STEPPED FOOTING AT FOUNDATION WALL



NO EXCAVATION SHALL BE MADE BELOW THIS LINE WITHOUT ADEQUATE BRACING OR PROTECTION OF THE SOIL BENEATH THE IN PLACE UPPER FOOTING.

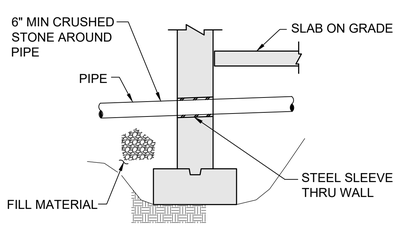
11 SLOPE BETWEEN FOOTING & ADJACENT CONSTRUCTION



1-#5 ADDL EACH FACE MIN; BUT NOT LESS THAN 50% OF INTERRUPTED WALL REINF EACH SIDE OF OPENING. SPACE BARS AT 3" OC, EACH FACE. LENGTH OF ADDL REINF = L+H+(2xSPLICE LENGTH).

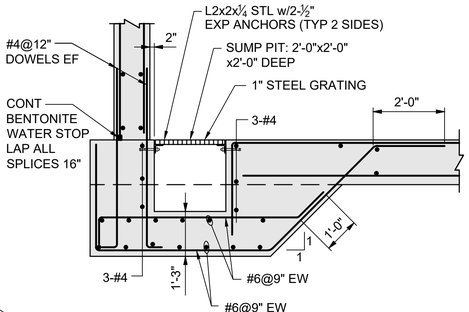
NOTES:
1. WALL OPENINGS SHALL BE COORDINATED AND DETAILED ON THE REINFORCEMENT SHOP DRAWINGS.

12 REINFORCEMENT AT OPENINGS IN REINFORCED CONCRETE WALLS

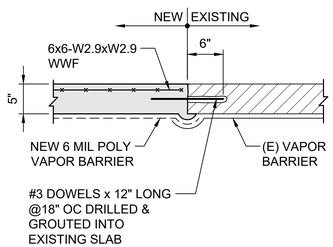


PIPE SHALL NOT PASS UNDER OR THRU WALL FOOTING. LOWER FOOTING BY STEPPING TO AVOID INTERFERENCE.

13 PIPE THRU WALL



14 ELEVATOR SUMP PIT



15 TYPICAL DETAIL @NEW SLAB INFILL

SCALE: 1" = 1'-0"

SHELDON PENNOYER ARCHITECTS
ARCHITECTURE PLANNING + DESIGN
SHELDON PENNOYER ARCHITECTS
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R&G
Rooney & Guarracino LLC
STRUCTURAL ENGINEERS
393 DEVONSHIRE STREET, BOSTON, MA
T. 617-426-3700 Fax: 617-426-3711

PROJECT NAME:

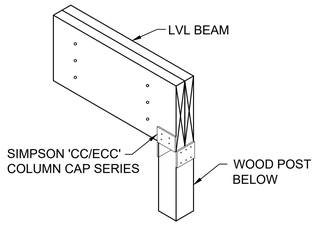
HAGER HOMESTEAD
MASSACHUSETTS COHOUSING
336 KING STREET
LITTLETON, MA 01460

HAGER HOMESTEAD
TYPICAL DETAILS

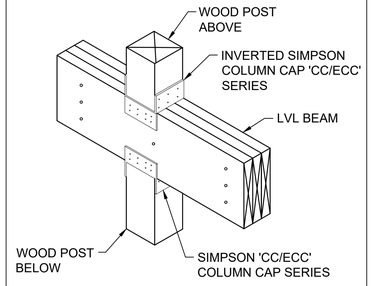
JOB NO.	
DRAWN BY:	BSM
CHECKED BY:	RR/JFB
DATE:	09.16.2021
REVISIONS:	
100% CONSTRUCTION DOCUMENTS	

DRAWING NO.

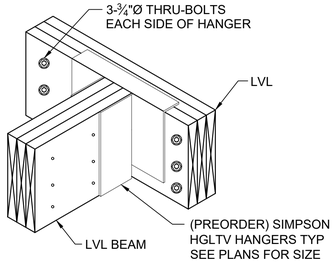
S0.2



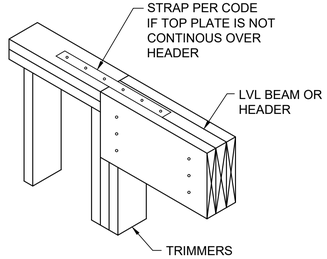
1 END POST DETAIL @LVL BEAM (REQUIRED)



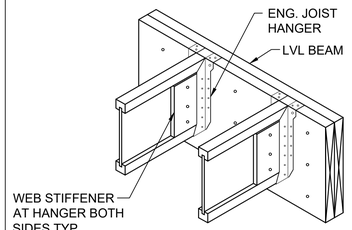
2 CENTER BEARING DETAIL @LVL (REQUIRED)



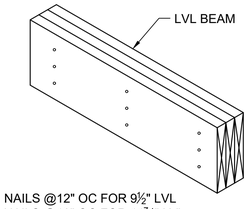
3 LVL INTERSECTION



4 END BEARING DETAIL @LVL

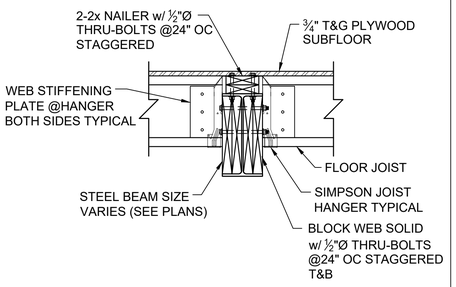


5 LVL BEAM DETAIL @ENG. JOIST



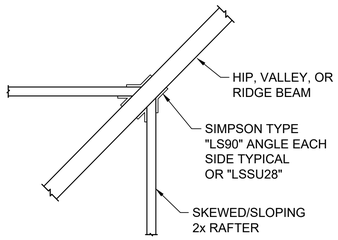
NOTE:
2 ROWS OF 16d NAILS @12" OC FOR 9½" LVL
3 ROWS OF 16d NAILS @12" OC FOR 11⅞" LVL
2 ROWS OF ½"Ø BOLTS @24" OC FOR 14" LVL (SIDE LOAD)
3 ROWS OF ½"Ø BOLTS @24" OC FOR 16" & 18" LVL
3 ROWS OF 16d NAILS @12" OC FOR UP TO 16" LVL (TOP LOAD)
(TYPICAL UNLESS OTHERWISE NOTED)

6 MULTIPLE LVL NAILING & BOLTING PATTERN (UP TO 3 PILES)



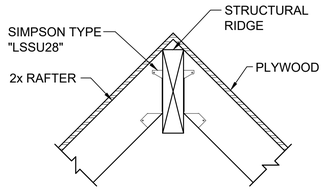
7 FLUSH STEEL BEAM CONNECTION

SCALE: 1" = 1'-0"



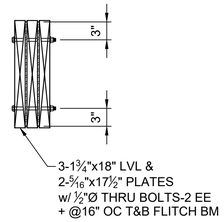
8 SKEWED/SLOPING RAFTER TO RIDGE, VALLEY, OR HIP

SCALE: 1" = 1'-0"



9 RAFTER CONNECTION @STRUCTURAL RIDGE

SCALE: 1" = 1'-0"

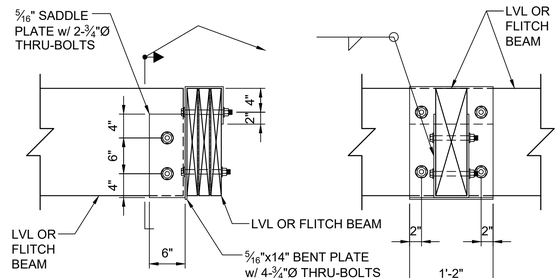


10 FLITCH BEAM #1

SCALE: 1" = 1'-0"

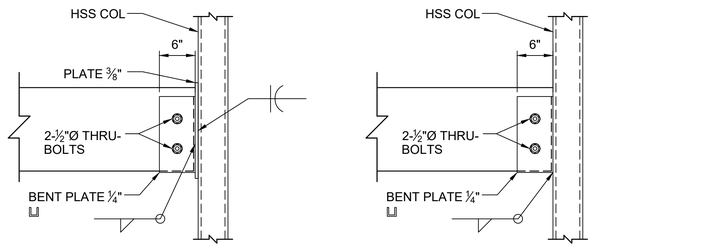
NOTE:
FLOOR FRAMING OMITTED FOR CLARITY

PROVIDE CONNECTION WHERE TYPICAL SIMPSON CONNECTOR CANNOT BE USED



11 TYPICAL LVL/FLITCH BEAM TO LVL/FLITCH BEAM

SCALE: 1" = 1'-0"

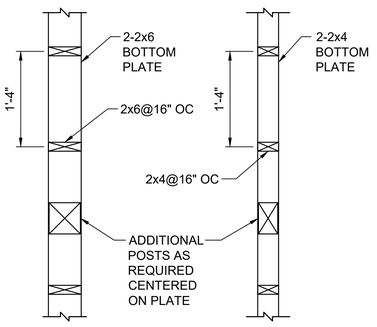


OUTSIDE WITH OF BENT PLATE GREATER THAN COLUMN WIDTH

OUTSIDE WITH OF BENT PLATE EQUAL OR SMALL THAN COLUMN WIDTH

12 LVL BEAM TO HSS COLUMN CONNECTION

SCALE: 1" = 1'-0"

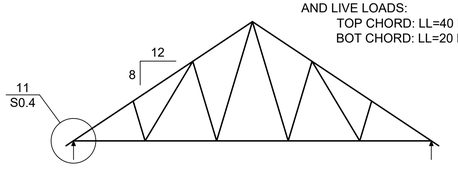


TYPICAL 2x4 OR 2x6 BEARING WALL PLAN

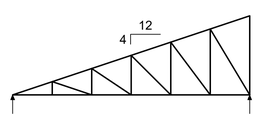
13

SCALE: 1" = 1'-0"

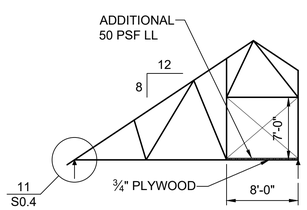
NOTES:
1. SEE DRAWING CH-ILS0.1 FOR GENERAL NOTES & ADDITIONAL TRUSS DESIGN INFORMATION.
2. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEV.
3. DESIGN FOR THE FOLLOWING DEAD AND LIVE LOADS:
   TOP CHORD: LL=40 PSF DL=15 PSF
   BOT CHORD: LL=20 PSF DL=10 PSF



TRUSS TYPE R-1
GIRDER TRUSS TYPE R-1



TRUSS TYPE R-2
GIRDER TRUSS TYPE R-2



TRUSS TYPE R-3

14 COMMON HOUSE ONLY

BEARING WALL TYPE SCHEDULE

WALL TYPE "W1"	WALL TYPE "W2"
ROOF	ROOF
2x6@16" OC @W1 2x6@16" OC @W1A	2x4@16" OC — 2x4@16" OC
SECOND FLOOR	SECOND FLOOR
2x6@16" OC @W1 2-2x6@12" OC @W1A	2-2x4@16" OC — 2-2x4@16" OC
FIRST FLOOR	FIRST FLOOR
2x6@12" OC @W1 2-2x6@12" OC @W1A	2-2x4@16" OC — 2-2x4@16" OC
FOUNDATION	FOUNDATION

15 COMMON HOUSE ONLY

SHELDON PENNOYER ARCHITECTS
ARCHITECTURE PLANNING + DESIGN
SHELDON PENNOYER ARCHITECTS
64 NORTH MAIN STREET
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R&G
Roome & Guarnaccino LLC
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200 Portland Street, Suite 5A, Boston, MA
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PROJECT NAME:

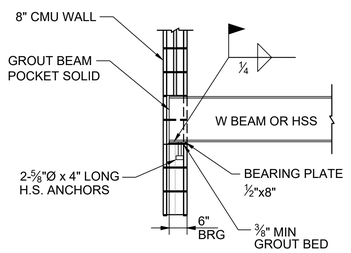
HAGER HOMESTEAD
MASSACHUSETTS COHOUSING
336 KING STREET
LITTLETON, MA 01460

HAGER HOMESTEAD
TYPICAL DETAILS

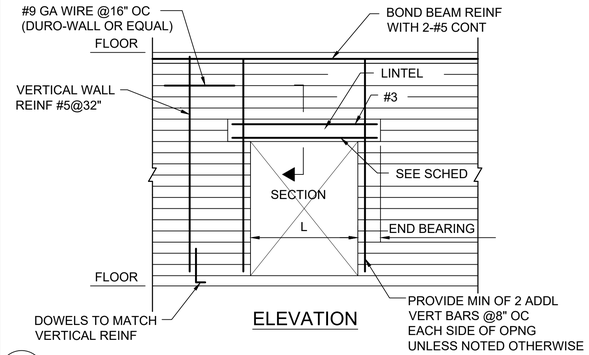
JOB NO.	
DRAWN BY:	BSM
CHECKED BY:	RR/JFB
DATE:	09.16.2021
REVISIONS:	
100% CONSTRUCTION DOCUMENTS	

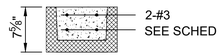
DRAWING NO.

S0.3

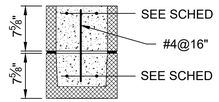


1 STEEL BEAM PERPENDICULAR TO WALL





CONC BLOCK LINTEL
SPANS UP TO 5'-0"



CONC BLOCK LINTEL
SPANS OVER 5'-0" TO 9'-0"

CLEAR SPAN L	REINF IN LINTELS	END BEARING
	8" WALL	
UP TO 4'-0"	2-#4	8"
TO 5'-0"	2-#4	8"
TO 6'-0"	2-#4	8"
TO 7'-0"	2-#5	8"
TO 8'-0"	2-#6	8"
TO 9'-0"	3-#6	12"

NOTES:
1. CONCRETE fc=3000 PSI
2. CMU fm=1500 PSI MIN

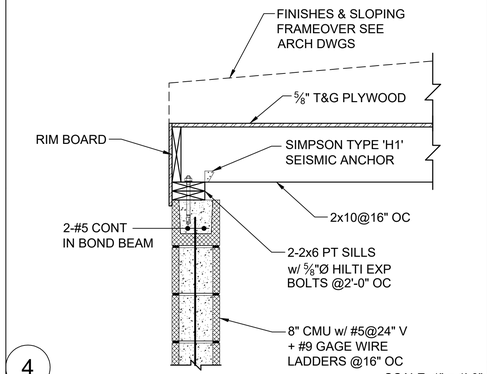
2 REINFORCED CONCRETE LINTELS & TYPICAL REINF ARRANGEMENT FOR CMU WALLS

STEEL ANGLE LINTEL SCHEDULE

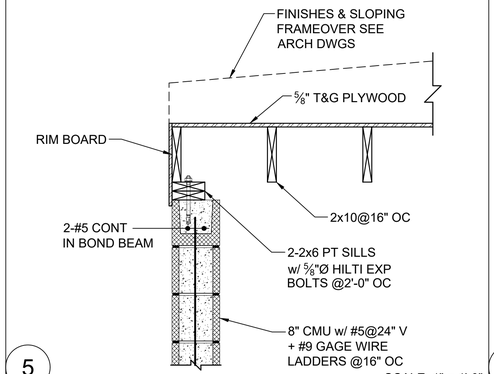
MASONRY OPENING	WALL THICKNESS			
	4" WALL	6" WALL	8" WALL	12" WALL
3'-0"	1-L3½ x 3½ x ¼	2-L3½ x 3½ x ¼	2-L3½ x 3½ x ¼	3-L3½ x 3½ x ¼
4'-0"	1-L4 x 3½ x ¼	2-L3 x 2½ x ¼	2-L4 x 3½ x ¼	3-L4 x 3½ x ¼
5'-0"	1-L4 x 3½ x ¼	2-L3½ x 2½ x ¼	2-L5 x 3½ x ¼	3-L5 x 3½ x ¼
6'-0"	1-L5 x 3½ x ¼	2-L3½ x 2½ x ¼	2-L5 x 3½ x ¼	3-L5 x 3½ x ¼
9'-0"	1-L6 x 3½ x ⅜	2-L3½ x 2½ x ¼	2-L6 x 3½ x ⅜	3-L6 x 3½ x ⅜

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 BEARING 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 5/16" AND ANGLES SHALL BE HOT DIP GALVANIZED.
5. WHERE WALL THICKNESS EXCEEDS 12" PROVIDE ONE ADDITIONAL ANGLE FOR EACH ADDITIONAL 4" OF WALL.

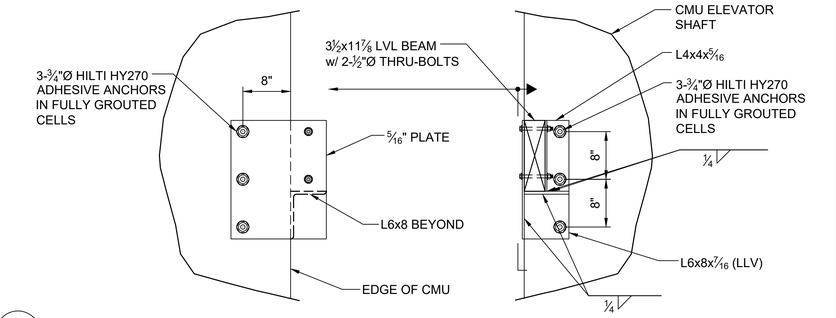
3



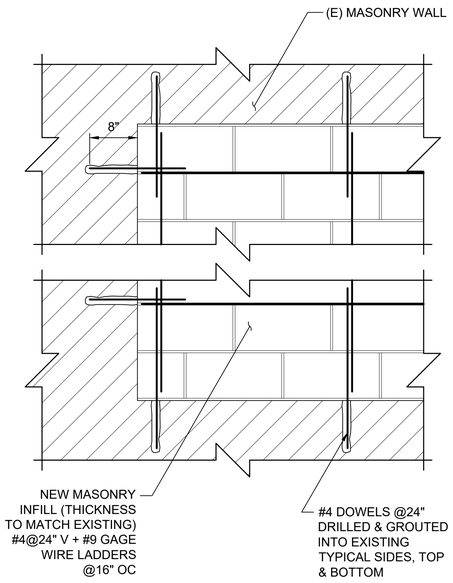
4 SCALE: 1" = 1'-0"



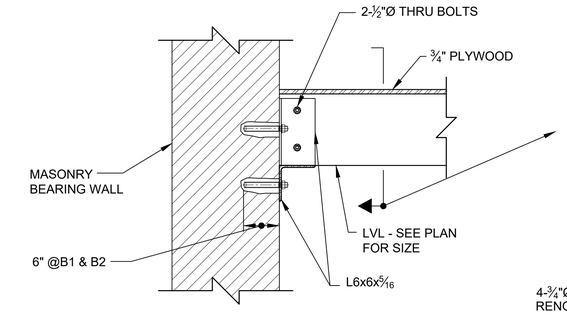
5 SCALE: 1" = 1'-0"

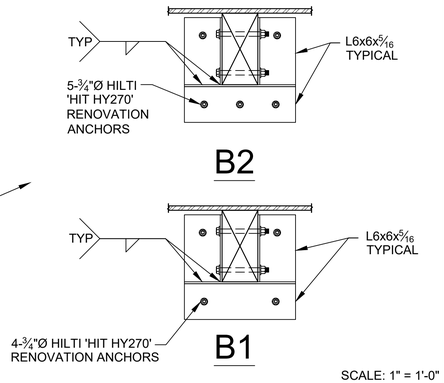


6 SCALE: 1" = 1'-0"

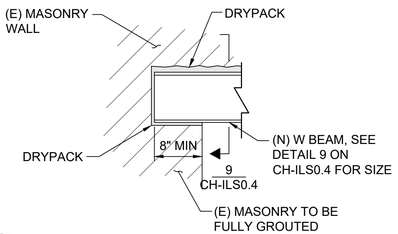


10 SCALE: 1" = 1'-0"





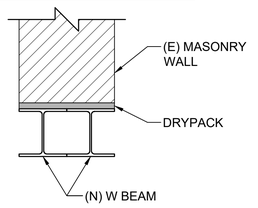
7 SCALE: 1" = 1'-0"



SEE ARCH DWGS FOR DEMO SCOPE

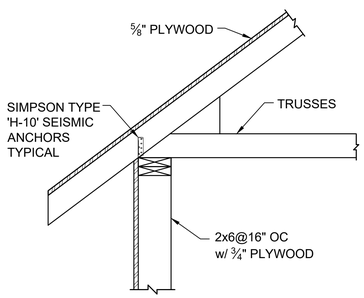
8 SCALE: 1" = 1'-0"

(E) WALL WIDTH	LINTEL SIZE
8"	1-W8x31
12"	2-W8x21
16"	2-W8x31



SEE ARCH DWGS FOR DEMO SCOPE

9 SCALE: 1" = 1'-0"



11 SCALE: 1" = 1'-0"

SHELDON PENNOYER ARCHITECTS
ARCHITECTURE PLANNING + DESIGN
SHELDON PENNOYER ARCHITECTS
64 NORTH MAIN STREET
SUITE ONE
CONCORD, NH 03301

R&G
Roome & Guarnaccio LLC
STRUCTURAL ENGINEERS
200 Portland Street, Suite 4A Boston, MA
T. 617-426-7700 Fax. 617-426-7711

PROJECT NAME:

HAGER HOMESTEAD
MASSACHUSETTS COHOUSING
336 KING STREET
LITTLETON, MA 01460

HAGER HOMESTEAD
TYPICAL DETAILS

JOB NO.	
DRAWN BY:	BSM
CHECKED BY:	RR/JFB
DATE:	09.16.2021
REVISIONS:	
100% CONSTRUCTION DOCUMENTS	

DRAWING NO.

S0.4

NOTES:
1. FOR GENERAL NOTES SEE S0.1.
2. FOR TYPICAL DETAILS SEE S0.2, S0.3, & S0.4.
3. ALL EXISTING FRAMING NEED TO BE FIELD VERIFIED BY GC. CONTACT ARCH/EOR IF EXISTING CONDITIONS DIFFER FROM WHAT IS SHOWN.
4. (X'-X") INDICATES BOTTOM OF FOOTING ELEVATIONS.
5. F1 ETC INDICATES FOOTING TYPE SEE THIS DRAWING FOR FOOTING SCHEDULE.
6. SF INDICATES STEPPED FOOTING, SEE DETAIL 10 ON S0.2.
7. BOTTOM OF FTG ELEVATION TO MATCH EXISTING ADJACENT BOTTOM OF FTG ELEVATION.
8. UNDERPINNING OF EXISTING FOOTING MAY BE REQUIRED.
9. EXISTING WOOD POSTS ARE ASSUMED TO BE 5x5 POST. SISTER POSTS w/ 2x6 ON TWO SIDES, SEE DETAIL 2 ON CH-ILS2.3. IF EXISTING POSTS ARE DAMAGED / DETERIORATED, REPLACE w/ HSS 3½x3½x5/16, SEE DETAIL 1 ON CH-ILS2.3.
10. IF ANY OF THE EXISTING SLAB ON GRADE NEED TO BE REUSED REPAIRED, SEE DETAIL 15 ON S0.2.
11. ALL DIMENSIONS SHOWN FOR INFORMATIONAL PURPOSES ONLY. SEE ARCH DWGS.

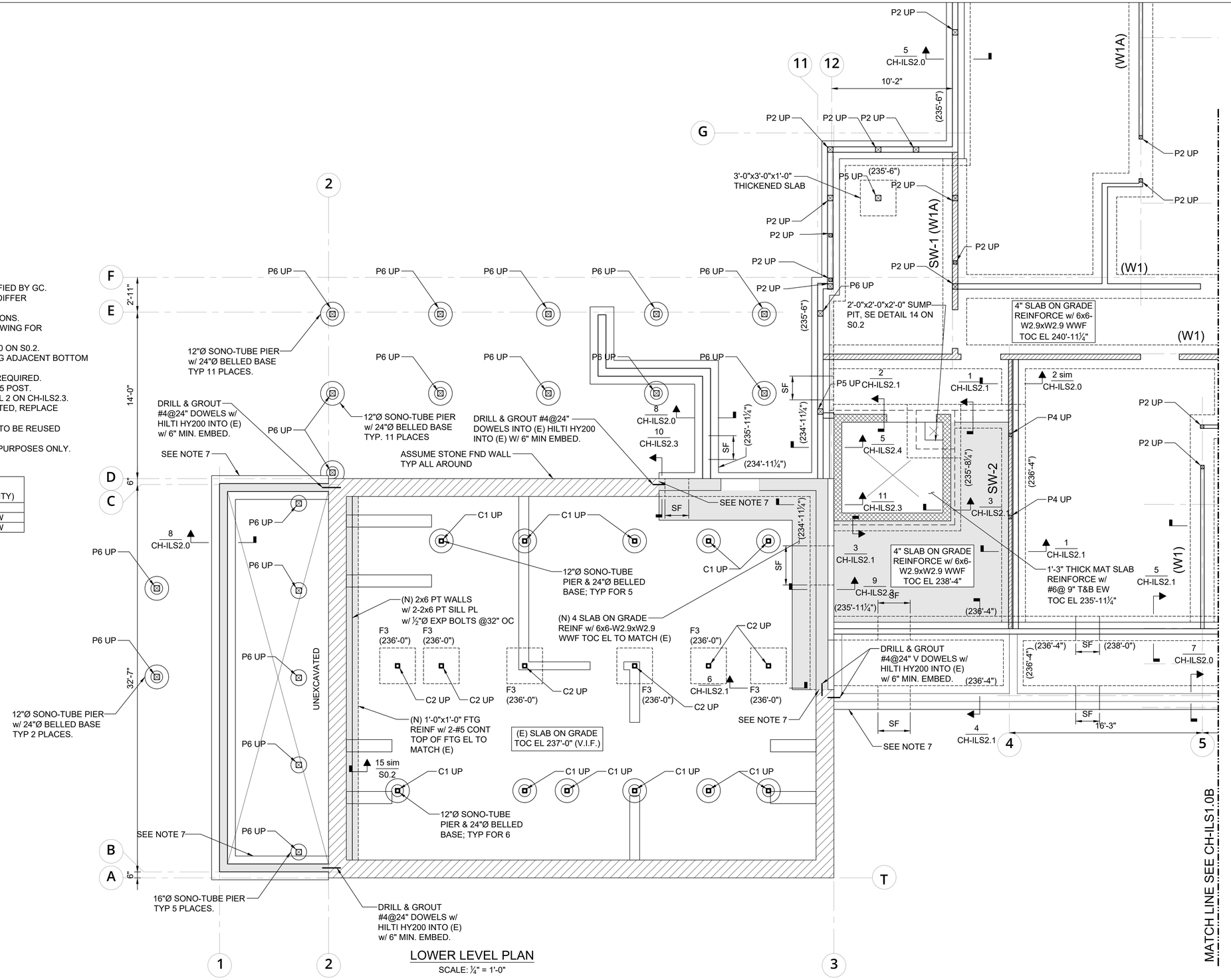
FOOTING SCHEDULE
2 TSF (ALLOWABLE BEARING CAPACITY)

MARK	TYPE	REINF
F4	4'-0"x4'-0"x1'-0"	5-#4 BEW
F3	3'-0"x3'-0"x1'-0"	5-#4 BEW

POST / COLUMN SCHEDULE

MARK	TYPE
C1	HSS 3½x3½x5/16 SEE NOTE
C2	HSS 4x4x¼ SEE NOTE
P1	2-2x6
P1A	2-2x4
P2	3-2x6
P2A	3-2x4
P3	4-2x6
P3A	4-2x4
P4	3½x5¼ PSL
P5	5¼x5¼ PSL
P6	6x6 PT
P7	3½x3½ PSL

NOTE:
PROVIDE 10"x10"x¾" BASE PL w/ 4-⅝"Ø HILTI EXP BOLTS



LOWER LEVEL PLAN
SCALE: ¼" = 1'-0"

REVISIONS DUE TO EXISTING CONDITIONS
04/20/2022

SHELDON PENNOYER ARCHITECTS
64 NORTH MAIN STREET
SUITE ONE
CONCORD, NH 03301

PROJECT NAME:
HAGER HOMESTEAD
MASSACHUSETTS COHOUSING
336 KING STREET
LITTLETON, MA 01460

EXISTING COMMON HOUSE

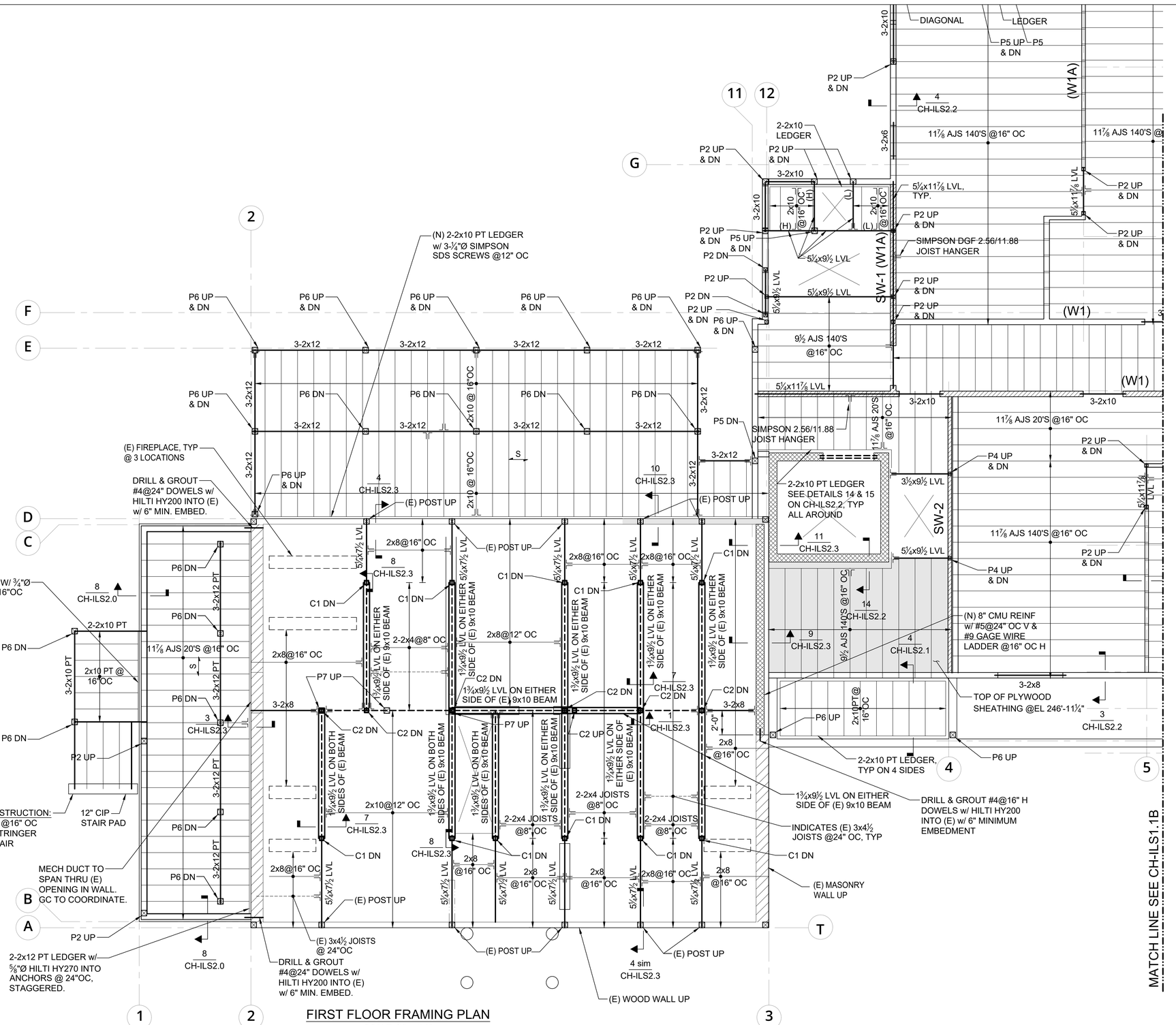
COMMON HOUSE–
LOWER LEVEL PLAN

JOB NO.	
DRAWN BY:	BSM/LJM
CHECKED BY:	RR/JFB
DATE:	09.16.2021
REVISIONS:	
100% CONSTRUCTION DOCUMENTS	

DRAWING NO.
CH–IL
S1.0A

NOTES:
1. FOR GENERAL NOTES SEE S0.1.
2. FOR TYPICAL DETAILS SEE S0.2, S0.3, & S0.4.
3. ALL EXISTING FRAMING NEED TO BE FIELD VERIFIED.
4. S INDICATES ¾" T&G PLYWOOD GLUED & NAILED TO JOISTS & BEAMS.
5. EXISTING EXTERIOR WALL ASSUMED TO BE WOOD BEARING.
6. EXISTING EXTERIOR WALL ASSUMED TO BE 3 WYTHE BRICK BEING THE BEARING WALL.
7. EXISTING WOOD POSTS ARE ASSUMED TO BE 5x5 POST. SISTER POSTS w/ 2x6 ON TWO SIDES, SEE DETAIL 2 ON CH-ILS2.3. IF POSTS ARE DAMAGED / DETERIORATED REPLACED w/ HSS 3½x3½x5/16, SEE DETAIL 1 ON CH-ILS2.3.
8. EXISTING 9x10 BEAMS BEAR ON EXISTING STONE FOUNDATION WALL.

POST / COLUMN SCHEDULE	
MARK	TYPE
C1	HSS 3½x3½x5/16
C2	HSS 4x4x¼
P1	2-2x6
P1A	2-2x4
P2	3-2x6
P2A	3-2x4
P3	4-2x6
P3A	4-2x4
P4	3½x5¼ PSL
P5	5¼x5¼ PSL
P6	6x6 PT
P7	3½x3½ PSL



FIRST FLOOR FRAMING PLAN
SCALE: ¼" = 1'-0"

REVISIONS DUE TO EXISTING CONDITIONS
04/20/2022

SHELDON PENNOYER ARCHITECTS
64 NORTH MAIN STREET
SUITE ONE
CONCORD, NH 03301

PROJECT NAME:
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MASSACHUSETTS COHOUSING
336 KING STREET
LITTLETON, MA 01460

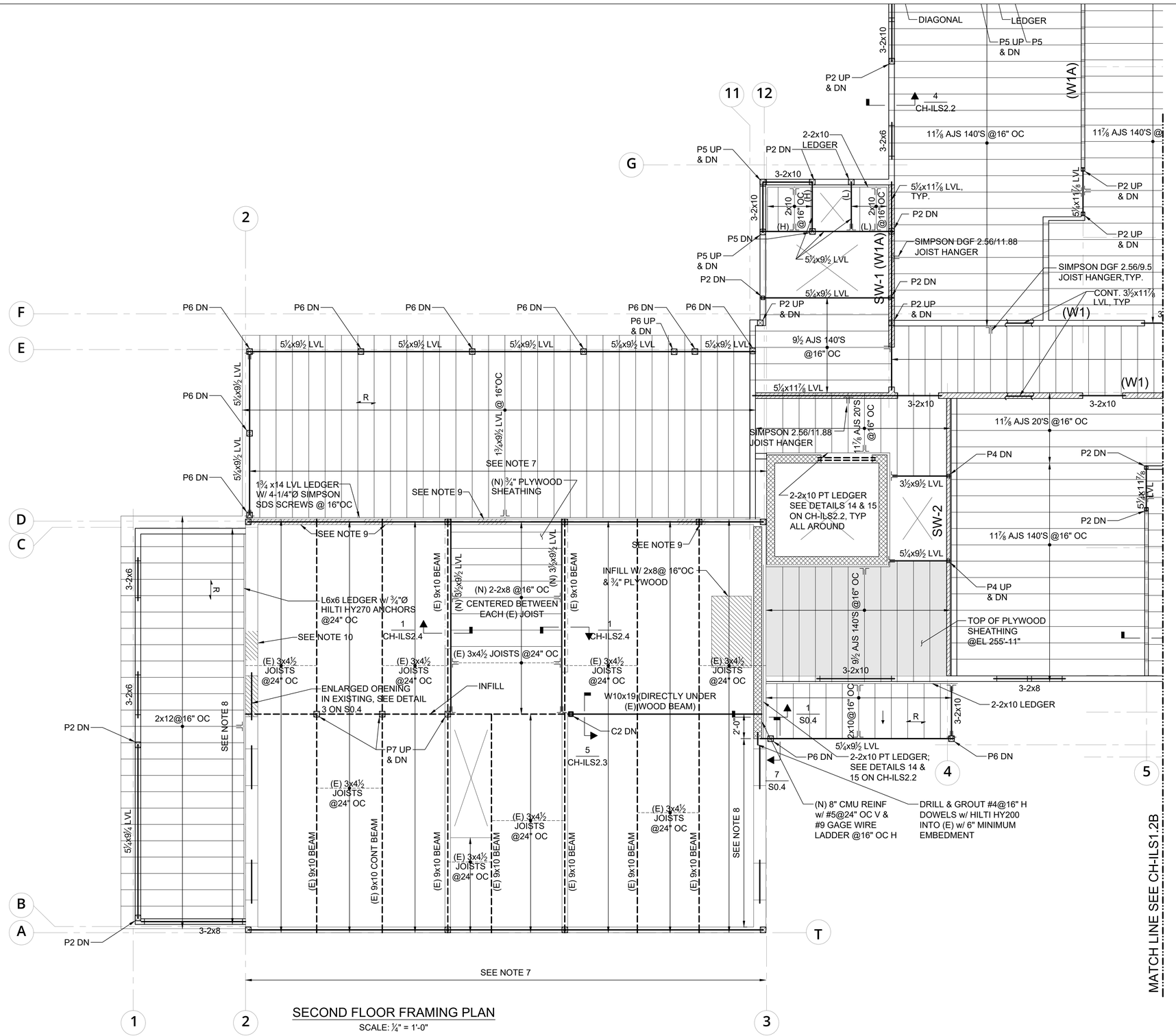
COMMON HOUSE– FIRST FLOOR FRAMING PLAN

JOB NO.	
DRAWN BY:	BSM/IJM
CHECKED BY:	RR/JFB
DATE:	09.16.2021
REVISIONS:	
100% CONSTRUCTION DOCUMENTS	

DRAWING NO.
CH–IL
S1.1A

NOTES:
1. FOR GENERAL NOTES SEE S0.1.
2. FOR TYPICAL DETAILS SEE S0.2, S0.3, & S0.4.
3. ALL EXISTING FRAMING NEED TO BE FIELD VERIFIED.
4. S INDICATES ¾" T&G PLYWOOD GLUED & NAILED TO JOISTS & BEAMS.
5. R INDICATES ⅝" EXTERIOR GRADE PLYWOOD GLUED & NAILED TO JOISTS & BEAMS.
6. FLITCH BEAM #1 INDICATES 3-1¾x18 LVL + 2-5/16 x17½ PLATES. SEE DETAIL 10 ON S0.3.
7. EXISTING EXTERIOR WALL ASSUMED TO BE WOOD BEARING WALL
8. EXISTING EXTERIOR WALL ASSUMED TO BE 3 WYTHE BRICK BEARING WALL.
9. INFILL EXISTING OPENINGS w/ 2x6 @ 16"OC w/ ½" PLYWOOD.
10. INFILL EXISTING OPENING IN MASONRY, SEE DETAIL 10 ON S0.4.

POST / COLUMN SCHEDULE	
MARK	TYPE
C1	HSS 3½x3½x5/16
C2	HSS 4x4x¼
P1	2-2x6
P1A	2-2x4
P2	3-2x6
P2A	3-2x4
P3	4-2x6
P3A	4-2x4
P4	3½x5¼ PSL
P5	5¼x5¼ PSL
P6	6x6 PT
P7	3½x3½ PSL



SECOND FLOOR FRAMING PLAN
SCALE: ¼" = 1'-0"

REVISIONS DUE TO EXISTING CONDITIONS
04/20/2022

SHELDON PENNOYER ARCHITECTS
64 NORTH MAIN STREET
SUITE ONE
CONCORD, NH 03301

PROJECT NAME:

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MASSACHUSETTS COHOUSING
336 KING STREET
LITTLETON, MA 01460

EXISTING COMMON HOUSE

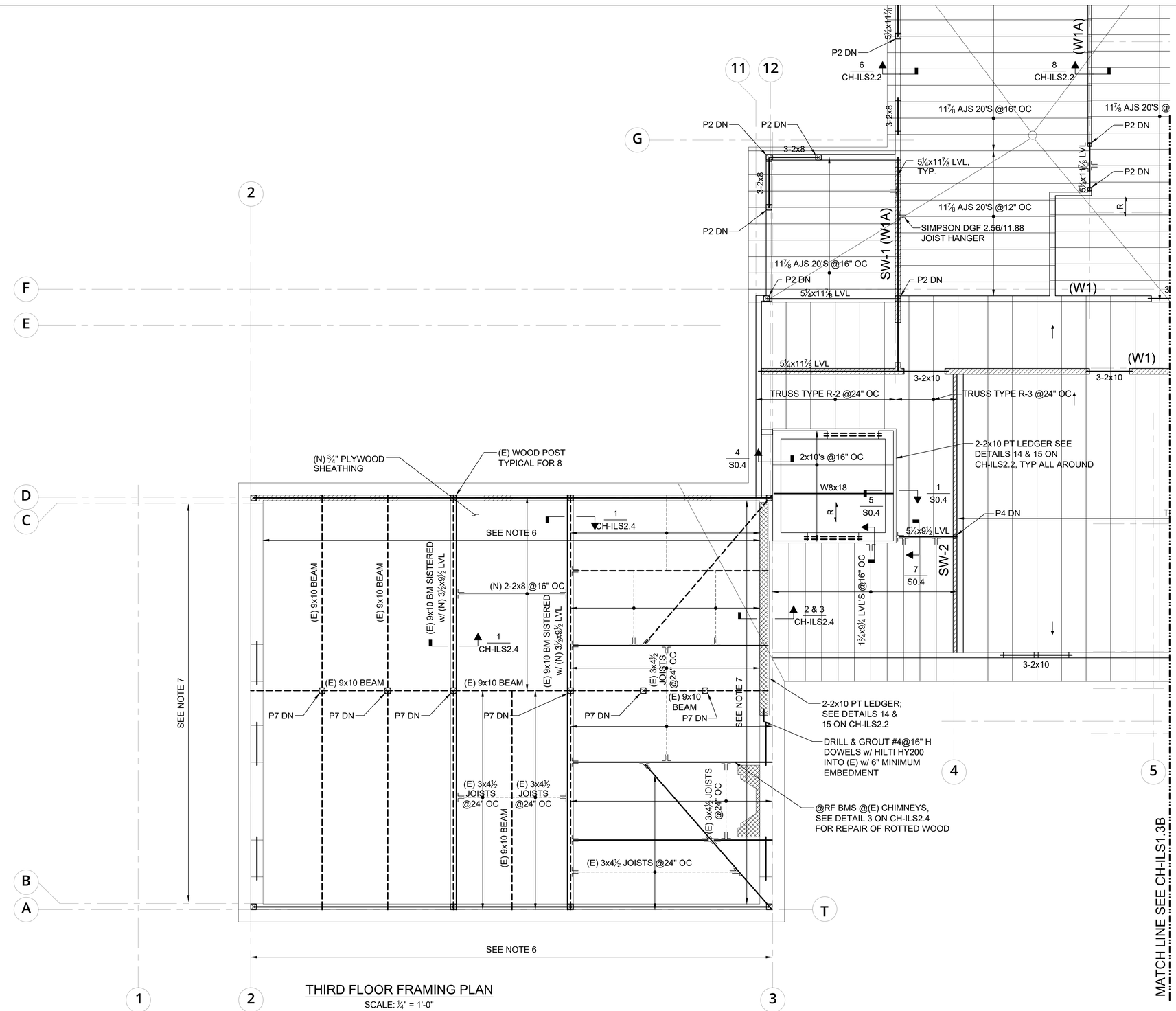
COMMON HOUSE - SECOND FLOOR FRAMING PLAN

JOB NO.	
DRAWN BY:	BSM
CHECKED BY:	RR/JFB
DATE:	09.16.2021
REVISIONS:	
100% CONSTRUCTION DOCUMENTS	

DRAWING NO.
CH-IL S1.2A

NOTES:
1. FOR GENERAL NOTES SEE S0.1.
2. FOR TYPICAL DETAILS SEE S0.2, S0.3, & S0.4.
3. ALL EXISTING FRAMING NEED TO BE FIELD VERIFIED.
4. S INDICATES ¾" T&G PLYWOOD GLUED & NAILED TO JOISTS & BEAMS.
5. R INDICATES ⅝" EXTERIOR GRADE PLYWOOD GLUED & NAILED TO JOISTS & BEAMS.
6. EXISTING EXTERIOR WALL ASSUMED TO BE WOOD BEARING WALL
7. EXISTING EXTERIOR WALL ASSUMED TO BE 3 WYTHE BRICK BEARING WALL.
8. INFILL EXISTING OPENING IN MASONRY, SEE DETAIL 10 ON S0.4.

POST / COLUMN SCHEDULE	
MARK	TYPE
C1	HSS 3½x3½x5/16
C2	HSS 4x4x¼
P1	2-2x6
P1A	2-2x4
P2	3-2x6
P2A	3-2x4
P3	4-2x6
P3A	4-2x4
P4	3½x5¼ PSL
P5	5¼x5¼ PSL
P6	6x6 PT
P7	3½x3½ PSL



THIRD FLOOR FRAMING PLAN
SCALE: ¼" = 1'-0"

REVISIONS DUE TO EXISTING CONDITIONS
04/20/2022

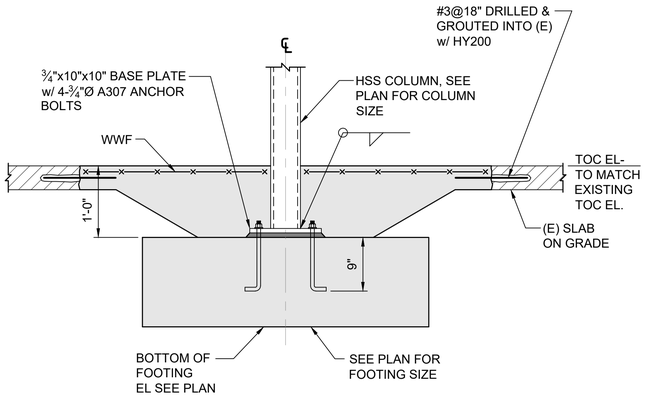
SHELDON PENNOYER ARCHITECTS
64 NORTH MAIN STREET
SUITE ONE
CONCORD, NH 03301

PROJECT NAME:
HAGER HOMESTEAD
MASSACHUSETTS COHOUSING
336 KING STREET
LITTLETON, MA 01460

EXISTING COMMON HOUSE
COMMON HOUSE – THIRD FLOOR FRAMING PLAN

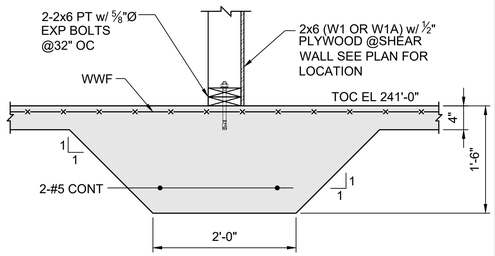
JOB NO.	
DRAWN BY:	BSM
CHECKED BY:	RR/JFB
DATE:	09.16.2021
REVISIONS:	
100% CONSTRUCTION DOCUMENTS	

DRAWING NO.
CH–IL
S1.3A



1

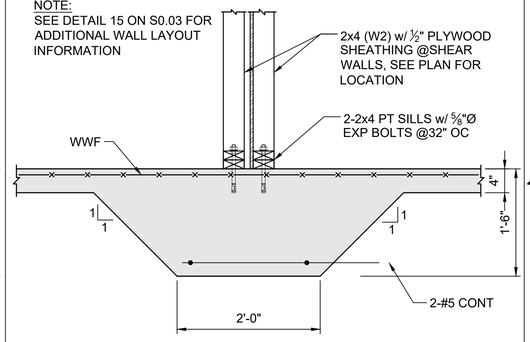
SCALE: 1" = 1'-0"



NOTE:
SEE DETAIL 15 ON S0.03 FOR ADDITIONAL WALL LAYOUT INFORMATION

2

SCALE: 1" = 1'-0"



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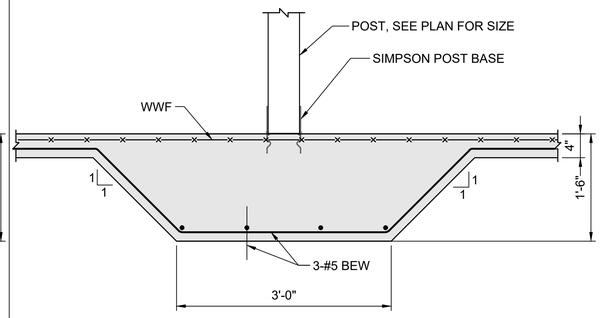

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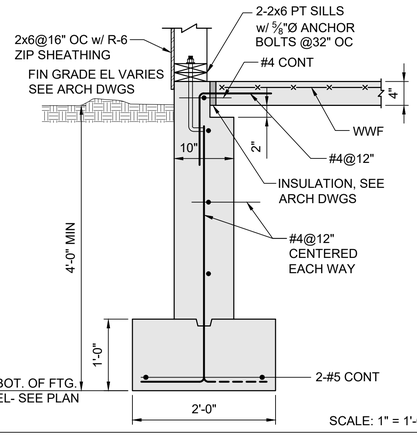

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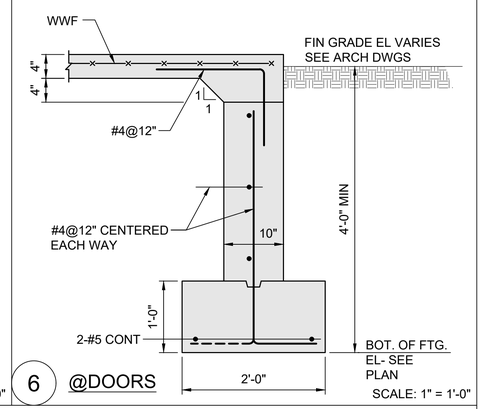
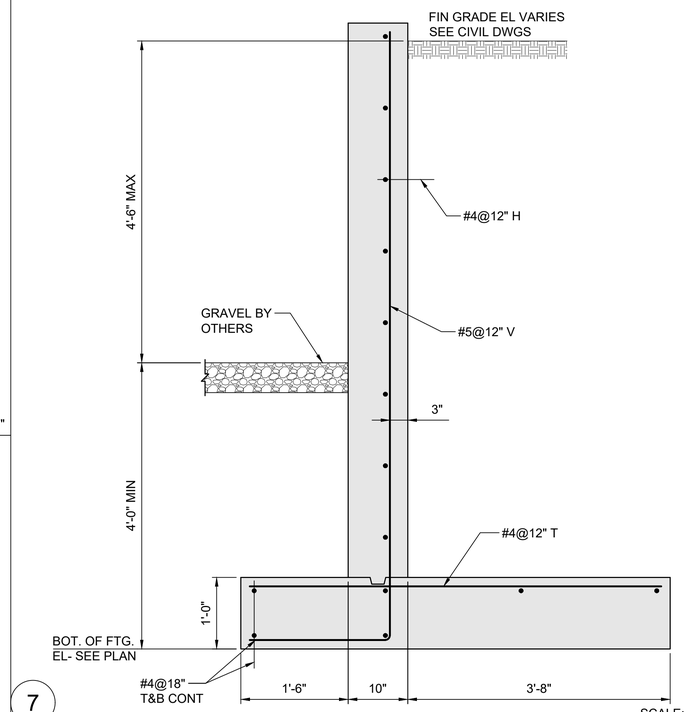
SCALE: 1" = 1'-0"



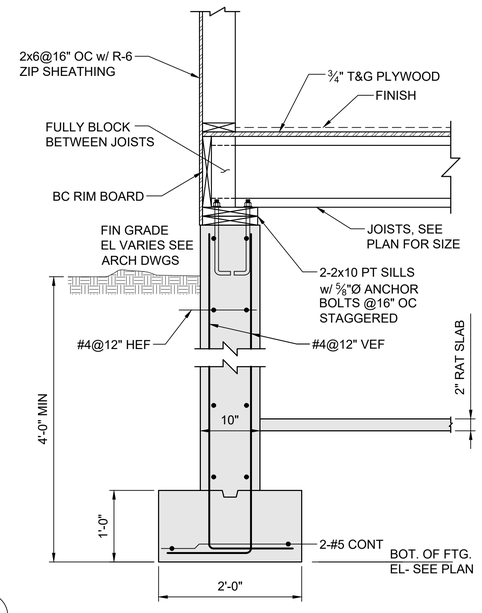
6 @DOORS

SCALE: 1" = 1'-0"



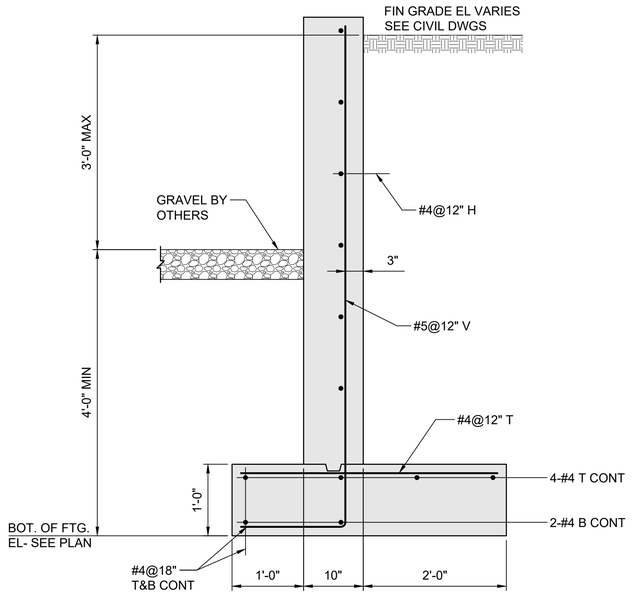
7

SCALE: 1" = 1'-0"



8

SCALE: 1" = 1'-0"



9

SCALE: 1" = 1'-0"

SHELDON PENNOYER ARCHITECTS
ARCHITECTURE PLANNING + DESIGN
SHELDON PENNOYER ARCHITECTS
64 NORTH MAIN STREET
SUITE ONE
CONCORD, NH 03301

R&G
Roome & Giarrusso LLC
STRUCTURAL ENGINEERS
280 Summer Street, Boston, MA
T. 617-426-3700 Fax: 617-426-3711

PROJECT NAME:

HAGER HOMESTEAD
MASSACHUSETTS COHOUSING
336 KING STREET
LITTLETON, MA 01460

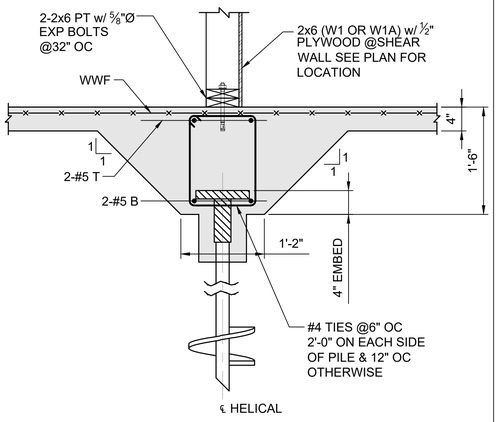
EXISTING COMMON HOUSE

COMMON HOUSE-SECTIONS

JOB NO.	
DRAWN BY:	BSM
CHECKED BY:	RR/JFB
DATE:	09.16.2021
REVISIONS:	
100% CONSTRUCTION DOCUMENTS	

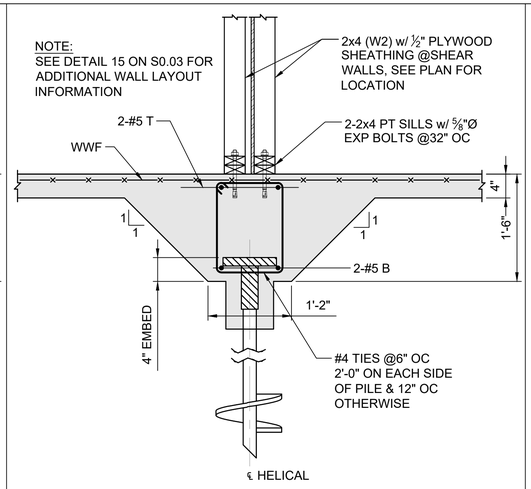
DRAWING NO.

CH-IL
S2.0



NOTE:
SEE DETAIL 15 ON S0.03 FOR ADDITIONAL WALL LAYOUT INFORMATION

1 SCALE: 1" = 1'-0"



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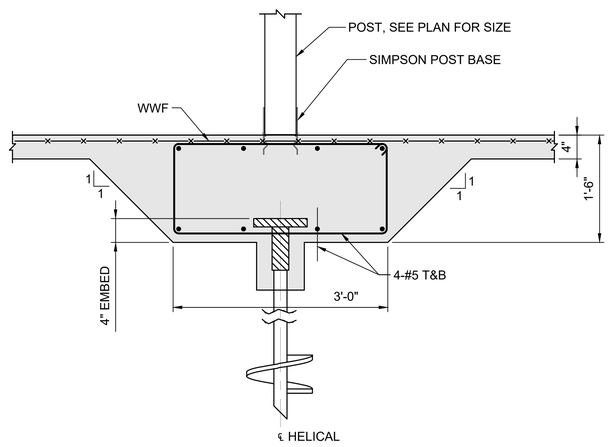

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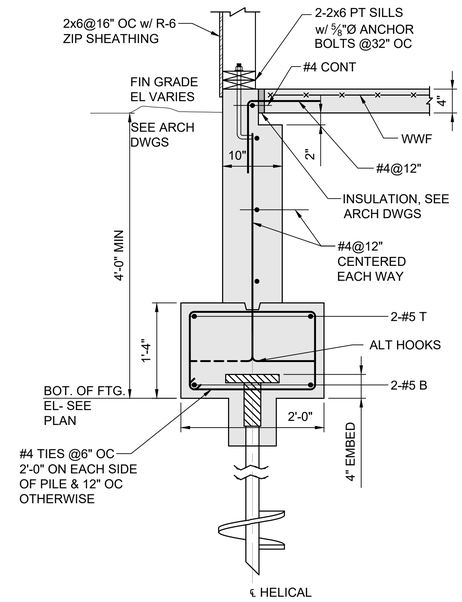

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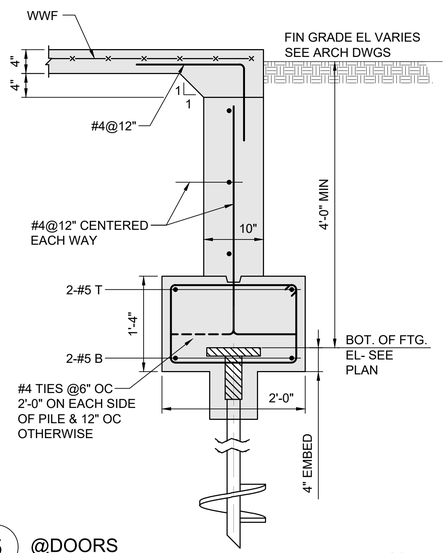
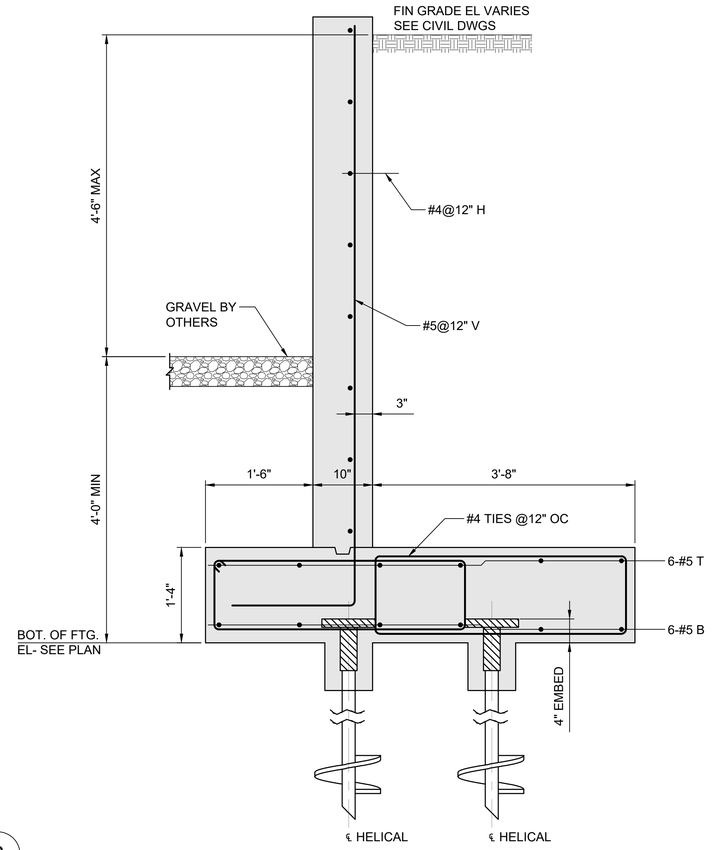


5 @DOORS SCALE: 1" = 1'-0"



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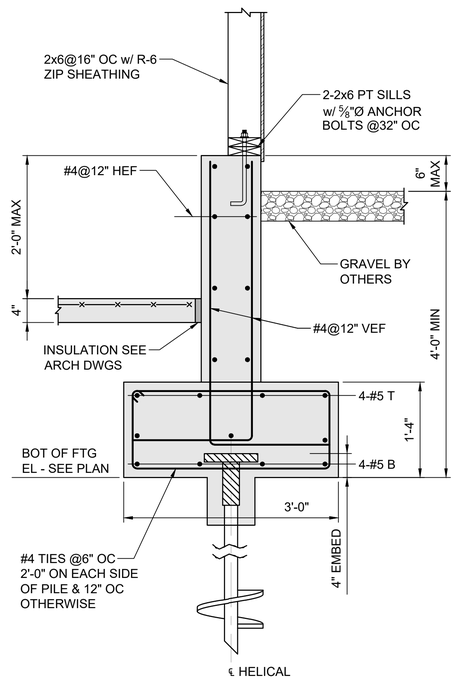
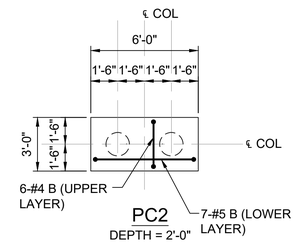


7 SCALE: 1" = 1'-0"



8 SCALE: ¾" = 1'-0"

SHELDON PENNOYER ARCHITECTS
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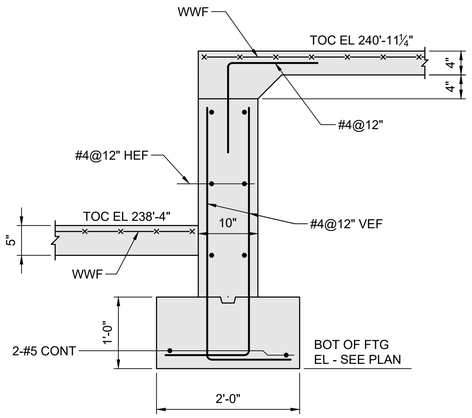
R&G
Roome & Guarnaccino LLC
STRUCTURAL ENGINEERS
399 Boylston Street, 5th Floor, Boston, MA
T. 617-426-3700 617-426-3711

PROJECT NAME:
HAGER HOMESTEAD
MASSACHUSETTS COHOUSING
336 KING STREET
LITTLETON, MA 01460

EXISTING COMMON HOUSE
COMMON HOUSE–SECTIONS

JOB NO.	
DRAWN BY:	BSM
CHECKED BY:	RR/JFB
DATE:	09.16.2021
REVISIONS:	
100% CONSTRUCTION DOCUMENTS	

DRAWING NO.
CH–IL
S2.0A



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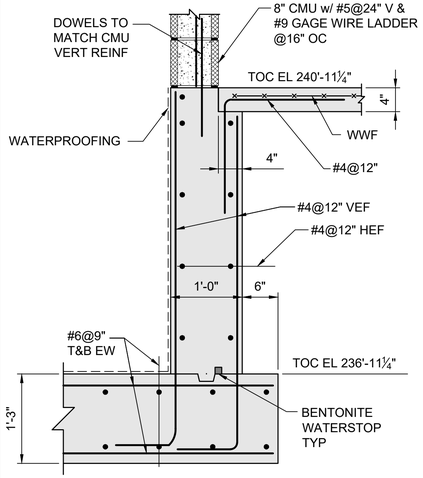

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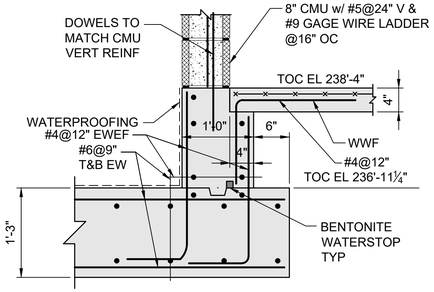
SCALE: 1" = 1'-0"



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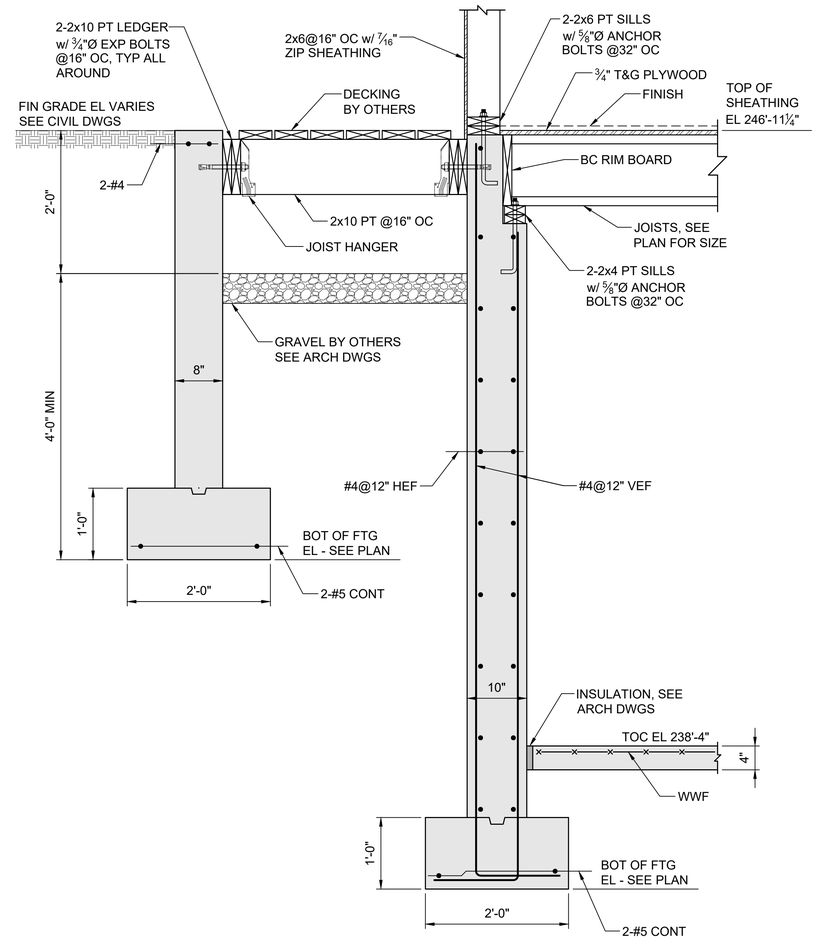
SCALE: 1" = 1'-0"



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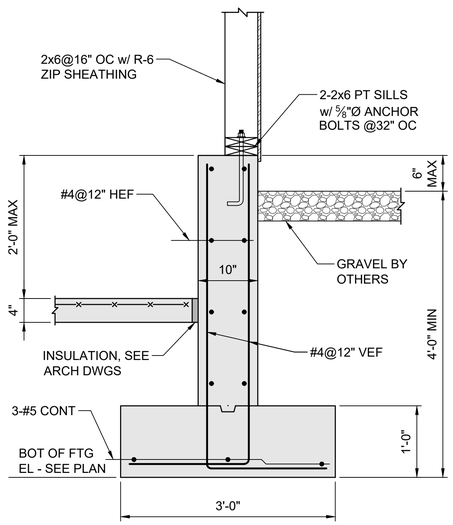

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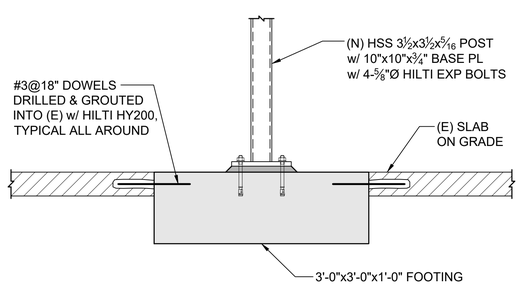
SCALE: 1" = 1'-0"



6

SCALE: 1" = 1'-0"

REVISIONS DUE TO EXISTING CONDITIONS
04/20/2022

SHELDON PENNOYER ARCHITECTS
ARCHITECTURE PLANNING + DESIGN
SHELDON PENNOYER ARCHITECTS
64 NORTH MAIN STREET
SUITE ONE
CONCORD, NH 03301

R&G
Rooney & Guarracino LLC
STRUCTURAL ENGINEERS
269 South Western Ave. Suite 4A
T. 617-625-7700

PROJECT NAME:

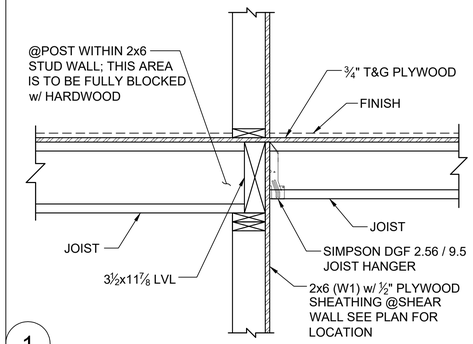
HAGER HOMESTEAD
MASSACHUSETTS COHOUSING
336 KING STREET
LITTLETON, MA 01460

EXISTING COMMON HOUSE

COMMON HOUSE–SECTIONS

JOB NO.	
DRAWN BY:	BSM
CHECKED BY:	RR/JFB
DATE:	09.16.2021
REVISIONS:	
100% CONSTRUCTION DOCUMENTS	

DRAWING NO.
CH–IL
S2.1



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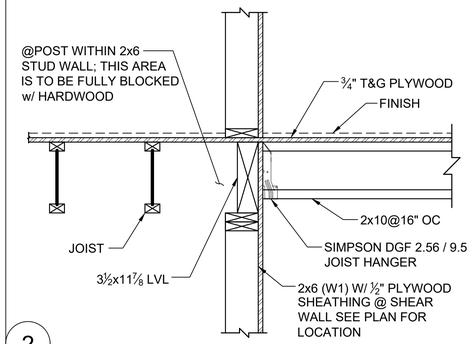

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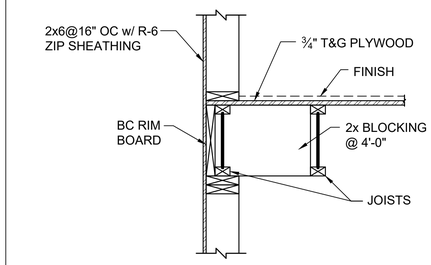

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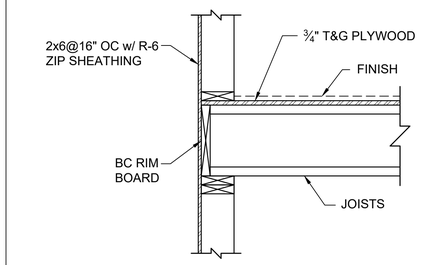

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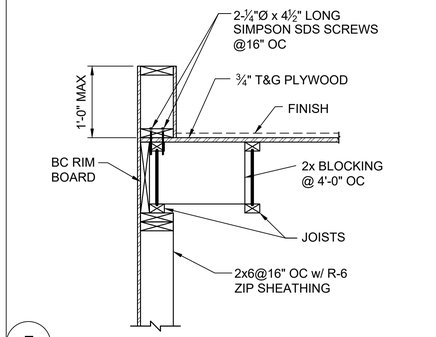

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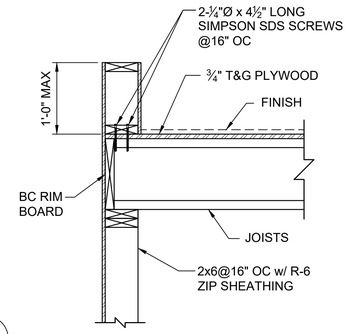

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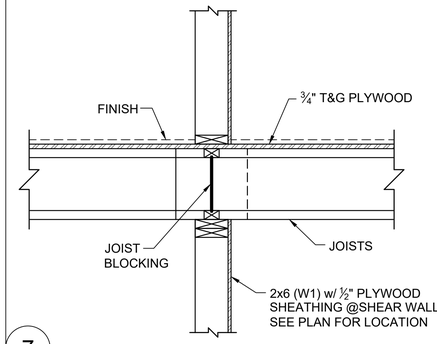

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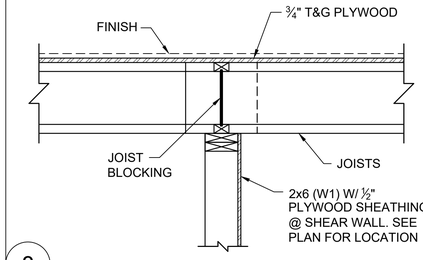

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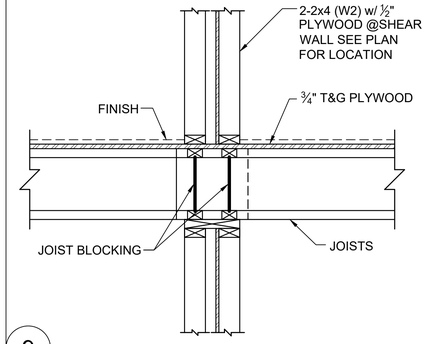

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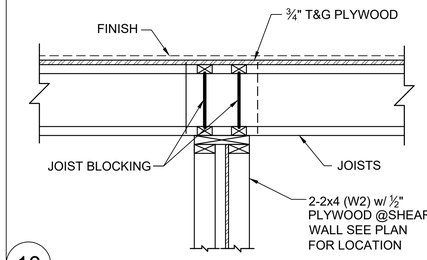

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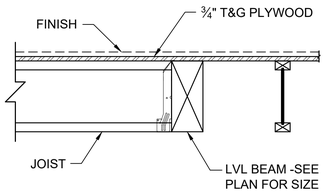

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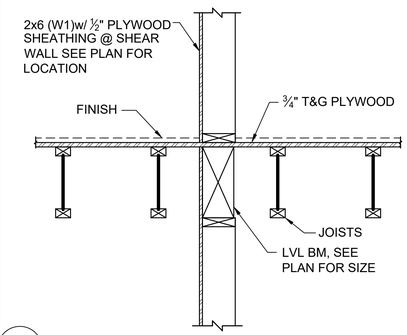

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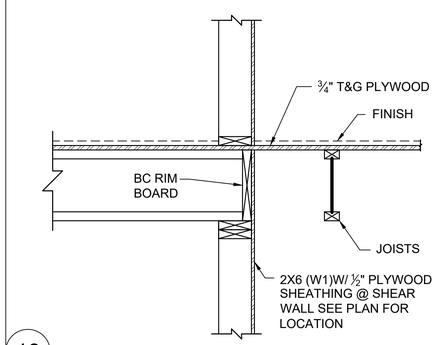

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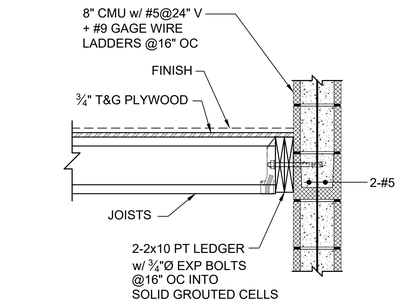

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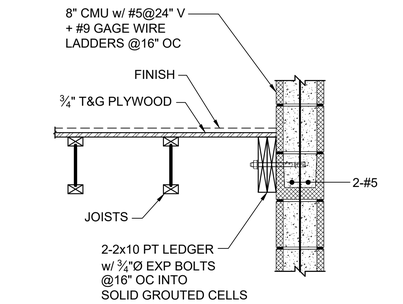

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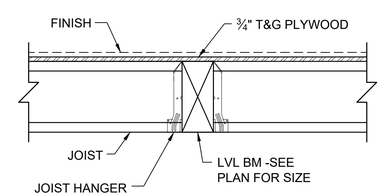

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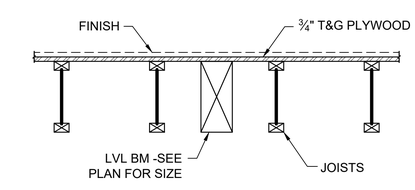

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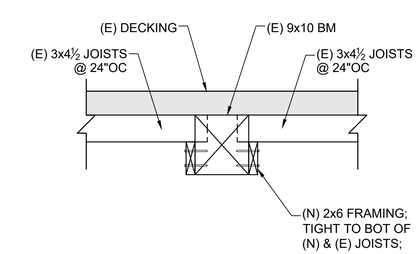

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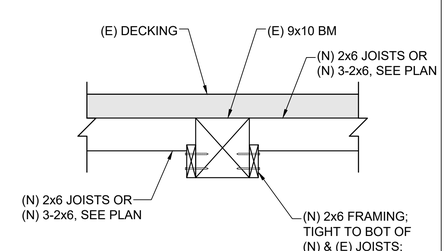

19 SCALE: 1" = 1'-0"

SHELDON PENNOYER ARCHITECTS
ARCHITECTURE PLANNING + DESIGN
SHELDON PENNOYER ARCHITECTS
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R&G
Roome & Guarraccino LLC
STRUCTURAL ENGINEERS
200 Portland Street, Suite 400, Boston, MA
T. 617-426-3700 F. 617-426-3711

PROJECT NAME:

HAGER HOMESTEAD
MASSACHUSETTS COHOUSING
336 KING STREET
LITTLETON, MA 01460

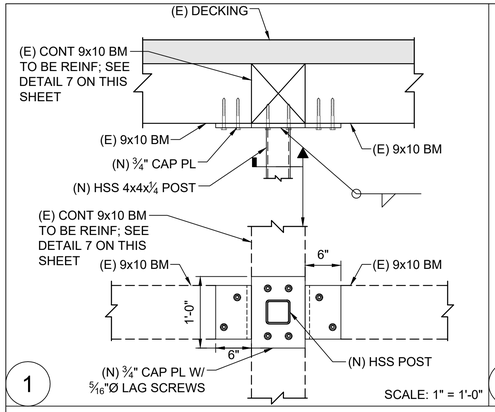
EXISTING COMMON HOUSE

COMMON HOUSE–SECTIONS

JOB NO.	
DRAWN BY:	BSM
CHECKED BY:	RR/JFB
DATE:	09.16.2021
REVISIONS:	
100% CONSTRUCTION DOCUMENTS	

DRAWING NO.

CH–IL
S2.2



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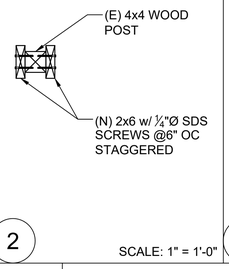

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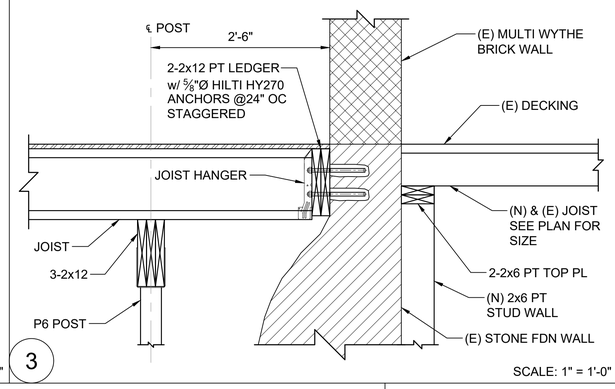

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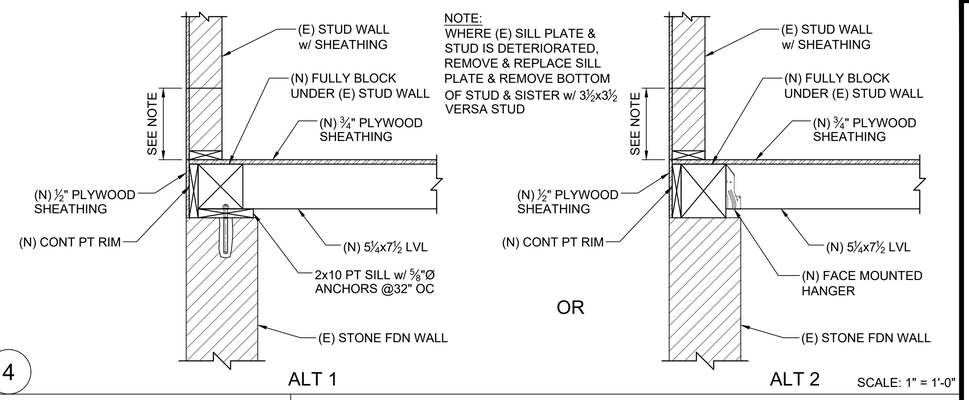

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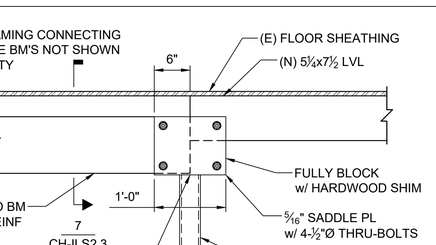

5

SCALE: 1" = 1'-0"

6

SCALE: 1" = 1'-0"

7

SCALE: 1" = 1'-0"

8

SCALE: 1" = 1'-0"

9

SCALE: 1" = 1'-0"

10

SCALE: 1" = 1'-0"

11

REVISIONS DUE TO EXISTING CONDITIONS
04/20/2022

SCALE: 1" = 1'-0"

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Roome & Guarnaccino LLC
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200 Portland Street, Suite 4-1, Boston, MA
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PROJECT NAME:

HAGER HOMESTEAD
MASSACHUSETTS COHOUSING
336 KING STREET
LITTLETON, MA 01460

EXISTING COMMON HOUSE

COMMON HOUSE–SECTIONS

JOB NO.	
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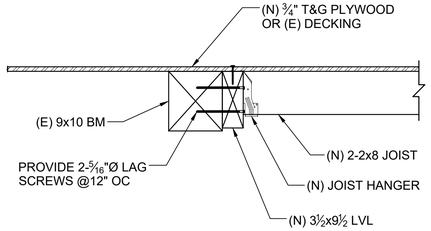
DRAWING NO.
CH–IL
S2.3



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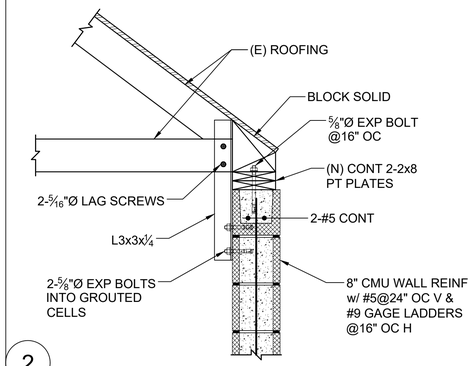

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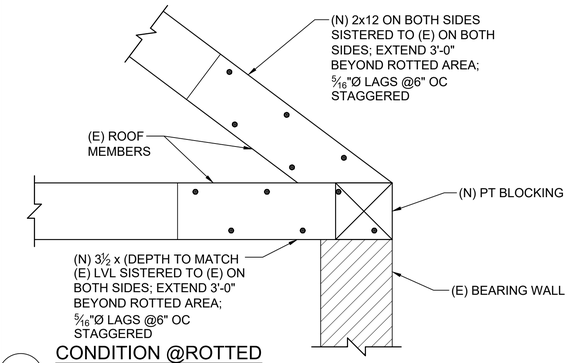
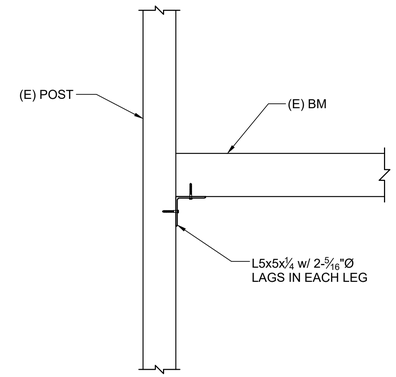


3 CONDITION @ROTTED ROOF WOOD MEMBERS

SCALE: 1" = 1'-0"



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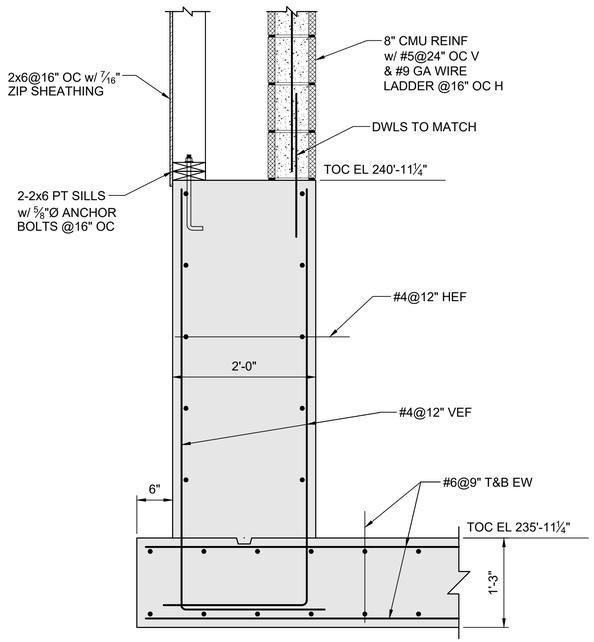

5

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EXISTING COMMON HOUSE

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S2.4