

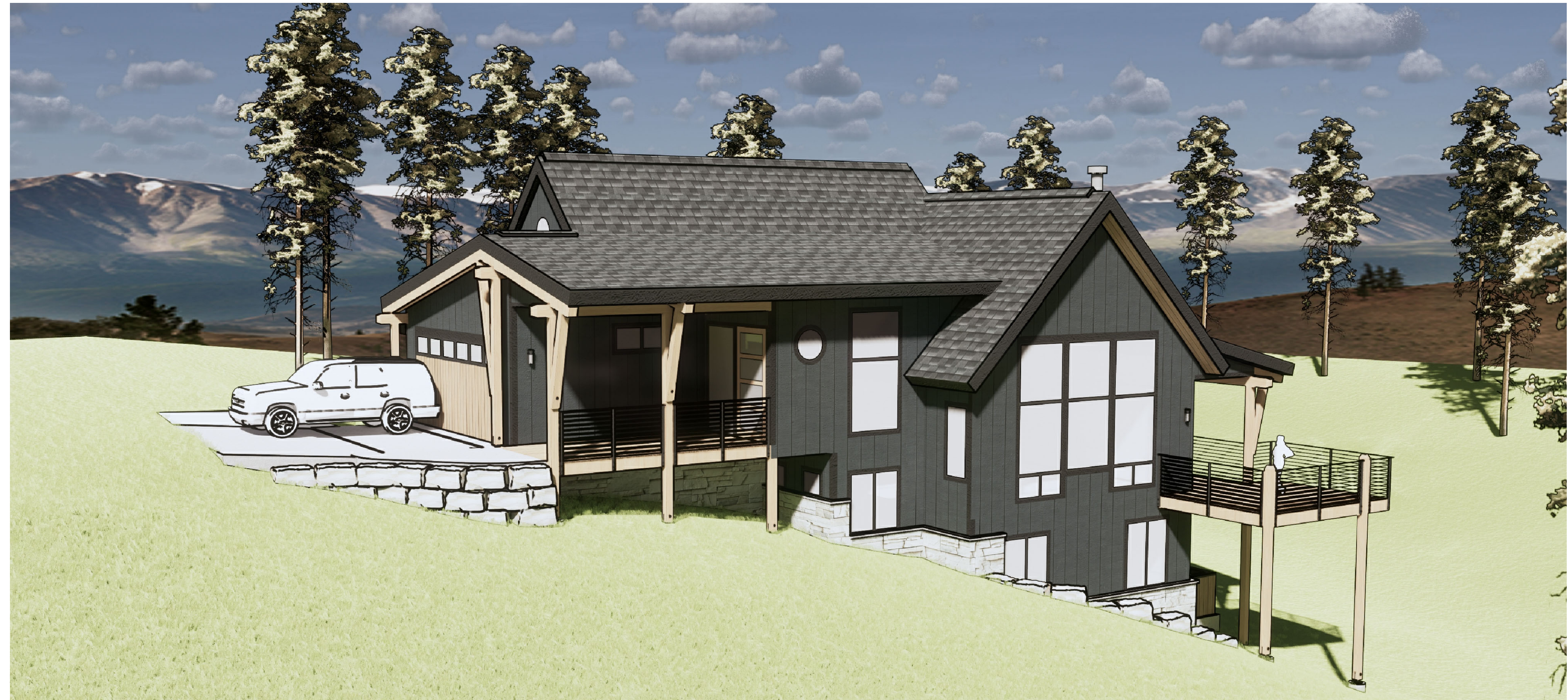
HOLOMBO RESIDENCE

GENERAL NOTES

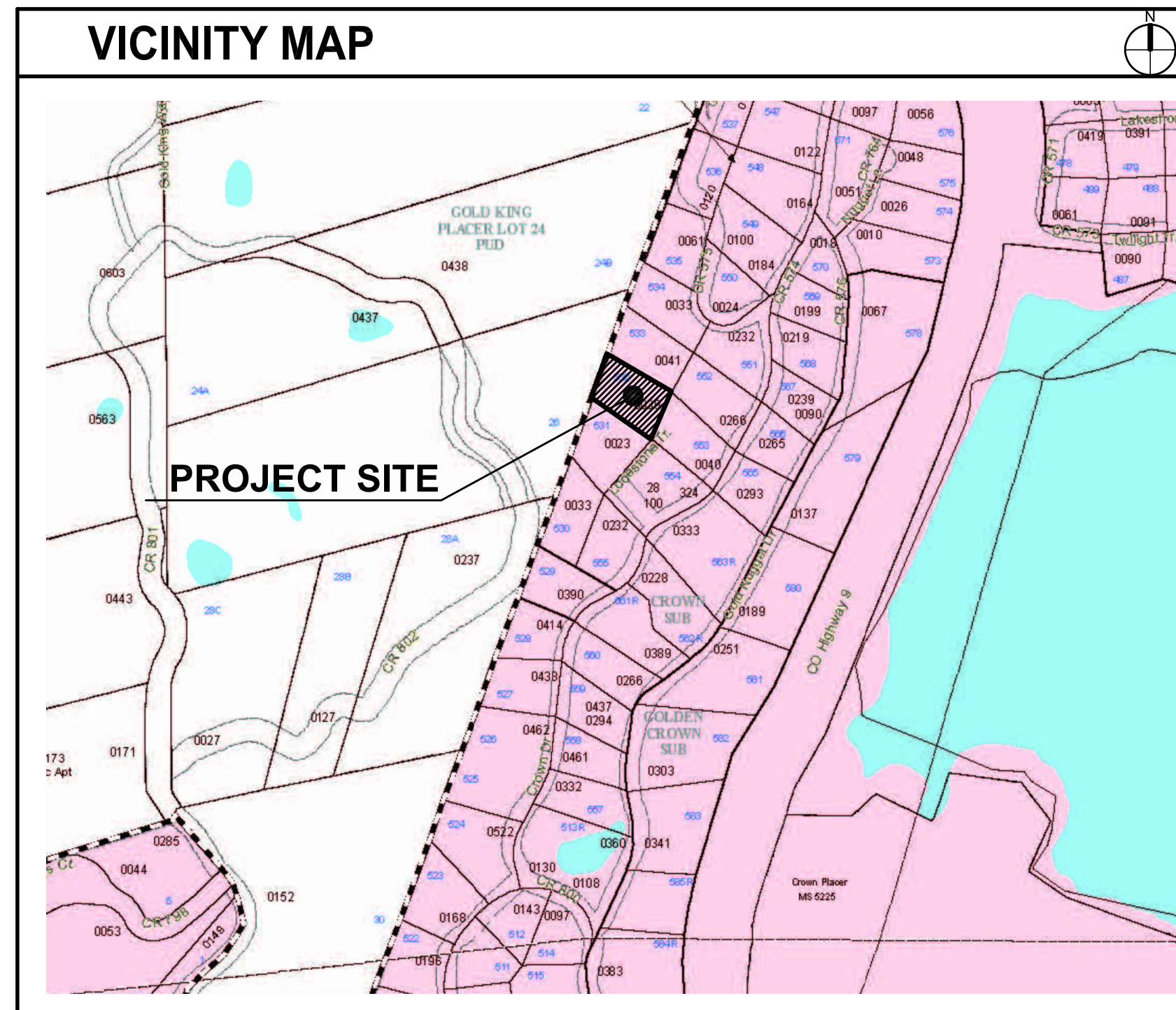
- 1) COPYRIGHT: All plans, designs, and concepts shown in these drawings are the exclusive property of BHH Partners, Planners and Architects, A.I.A./P.C. and shall not be used, disclosed, or reproduced for any purpose whatsoever without the Architect's written permission.
- 2) CODES: This project is governed by the applicable building code as adopted by the jurisdiction of record in Colorado. Code compliance is mandatory. The drawings and specifications shall not permit work that does not conform to these codes. The General Contractor and Subcontractors shall be responsible for satisfying all applicable codes and obtaining all permits and required approvals. Building areas are shown for code purposes only and shall be recalculated for any other purposes.
- 3) FIELD VERIFICATION: Verify all dimensions, conditions, and utility locations on the job site prior to beginning any work or ordering any materials. Notify Architect of any conflicts or discrepancies in the drawings immediately.
- 4) DIMENSIONS: Written dimensions always take precedence over scaled dimensions. DO NOT SCALE DRAWINGS. Verify all dimensions shown prior to beginning any work and notify Architect of any conflicts or discrepancies for interpretation or clarification. Plan dimensions are to the face of framing members, face of wood furring or face of concrete walls unless otherwise noted. Section or elevation dimensions are to top of concrete, top of plywood, or top of wall plates or beams unless otherwise noted.
- 5) DISCREPANCIES: The Owner has requested the Architect to provide limited architectural and engineering services. In the event additional details or guidance is needed by the Contractor for construction of any aspect of this project, he shall immediately notify the Architect. Failure to give simple notice shall relieve the Architect of responsibility. Do not proceed in areas of discrepancy until all such discrepancies have been fully resolved with written direction from the Architect.
- 6) DUTY OF COOPERATION: Release of these plans contemplates further cooperation among the Owner, his Contractor, and the Architect. Design and construction are complex. Although the Architect and his Consultants have performed their services with due care and diligence, they cannot guarantee perfection. Communication is imperfect, and every contingency cannot be anticipated. Any ambiguity or discrepancy discovered by the use of these plans shall be reported immediately to the Architect. Failure to notify the Architect compounds misunderstanding and increases construction costs. A failure to cooperate by a simple notice to the Architect shall relieve the Architect from responsibility for all consequences.
- 7) CHANGES TO THE WORK: Any items described herein that impact project budget or time shall be requested from the Contractor via a written change order request prior to such work. Performance of such work without approval by change order indicates General Contractor's acknowledgment of no increase in contract sum or time. Changes from the plans or specifications made without consent of the Architect are unauthorized and shall relieve the Architect of responsibility for any and all consequences resulting from such changes.
- 8) WORKMANSHIP: It is the intent and meaning of these drawings that the Contractor and each Subcontractor provide all labor, materials, transportation, supplies, equipment, etc., to obtain a complete job within the recognized standards of the industry.
- 9) SUBSTITUTIONS: Substitution of "equal" products will be acceptable with Architect's written approval. See specifications.
- 10) CONSTRUCTION SAFETY: These drawings do not include the necessary components for construction safety. The General Contractor shall provide for the safety, care of utilities and adjacent properties during construction, and shall comply with state and federal safety regulations.
- 11) EXCAVATION PROCEDURES: Upon completion of any excavation, the Owner shall retain a soils engineer to inspect the subsurface conditions in order to determine the adequacy of foundation design. See specifications. CONTRACTOR SHALL NOT POUR ANY CONCRETE UNTIL APPROVAL IS OBTAINED FROM SOILS ENGINEER.
- 12) FIELD CUTTING OF STRUCTURAL MEMBERS: The General Contractor shall field coordinate and obtain approval from Engineer before any cutting, notching or drilling of any cast-in-place concrete, steel framing, or any other structural elements which may affect the structural integrity of the building. Refer to the appropriate Code Requirements, manufacturer's or supplier's instructions, and structural drawings for additional requirements.
- 13) WEATHER CONDITIONS: The Owner has been advised that due to harsh winter conditions, roof and deck surfaces must be maintained reasonably free of ice and snow to ensure minimal problems with these surfaces. All roofing, roofing membranes, and waterproofing shall be approved in writing by product manufacturer (W.R. Grace for bluthene, etc.) prior to proceeding with any work. Failure to provide these written approvals removes all responsibility for the work from the Architect.
- 14) BUILDING AREA: Building areas are shown for code purposes only and shall be recalculated for any other use.
- 15) PROJECT STAKING: The general contractor shall verify all existing grades and stake all building corners and the driveway location for Owner/Architect and jurisdiction approval prior to beginning any site clearing.
- 16) SITE DISTURBANCE: It is the responsibility of the contractor to protect the existing trees to remain and adjacent properties from damage during construction. Provide protective fencing throughout construction.
- 17) PROJECT GRADES: The general contractor shall check and verify all grades including paved area slopes prior to pouring any foundations. Survey work should be verified in detail. See numbers 5 and 6.
- 18) EXTERIOR MATERIAL MOCK UP: The General Contractor shall provide a mock up of all exterior materials for review by the Owner and Architect. This mock up shall be provided and signed off in writing prior to any exterior stain or exterior finish work. The sample shall include fascia, trim, window cladding and all other exterior finishes including a 3'-0"x3'-0" (min) sample of exterior stonework if applicable. This mock up shall be retained on site until the final punch.

BID ALTERNATES

- ALTERNATE NO. 1 - ALTERNATE INSULATION SYSTEMS - Provide additional cost for complete Closed Cell Insulation Systems in walls, roofs, cantilevered floors and underslab. Provide submittal and breakdown of proposed alternate.
- ALTERNATE NO. 2 - INSULATION UPGRADE - Provide cost for insulation at roofs and exterior walls to be of closed cell foam throughout.
- ALTERNATE NO. 3 - FOUNDATION WALL WATERPROOFING - If recommended by the Soils Engineer, provide upgraded waterproofing (Bluthene 3000 System and waffle drain). Provide cost for all concrete walls.
- ALTERNATE NO. 4 - SEALANT PACKAGE UPGRADE - Provide cost to add "Knauf Eco-seal™" sealant package to home prior to insulation work. Install water-based elastomeric sealant system in strict accordance with manufacturer's requirements.
- ALTERNATE NO. 5 - COPPER PIPING/PEX PIPING - Provide cost for domestic hot water and domestic cold water piping for both materials for owner consideration. (Pex piping requires written owner approval. Pex domestic water piping is not recommended by Architect).
- ALTERNATE NO. 6 - WOOD CEILING OPTIONS - Provide additional alternates for Owner consideration as deemed appropriate by the General Contractor. Verify scope with Owner.
- ALTERNATE NO. 7 - UNDER SLAB INSULATION - Provide bid alternate for closed cell foam under all ground slabs for the project (vapor barrier is not needed).
- ALTERNATE NO. 8 - EPOXY FLOOR - Provide cost to apply epoxy paint coating, as selected by Owner, at garage floor. Heavy duty latex to be in base bid.
- ALTERNATE NO. 9 - EMERGENCY WATER SHUTOFF CONTROL - Provide additional cost for adding a self-contained, wireless leak detection and automatic water shutoff system. Provide a "Water Cop" valve and (3) "Water Hound" wireless shutoff sensors by Smart Home Products, www.smarthomecatalog.com.
- ALTERNATE NO. 10 - ERV/HRV SYSTEM - Provide cost savings for deletion of HRV system in lieu of continuously running fan. Coordinate location with Owner and Architect.
- ALTERNATE NO. 11 - MAKE UP AIR UNIT - Provide options for reduction or deletion of makeup air unit for range hood. Provide submittal.
- ALTERNATE NO. 12 - CAMERA SYSTEM - Provide added cost for camera system to be integrated with security system.
- ALTERNATE NO. 13 - WIRELESS SATELLITE DISH - Provide additional cost for providing satellite dish, Internet and television with all related equipment.
- ALTERNATE NO. 14 - MOTORIZED WINDOW SHADES - Provide additional cost for motorized window shades enclosed in wood valance for great room window walls.
- ALTERNATE NO. 15 - ENVIRONMENTAL PRODUCTS - Provide additional cost for substitution of environmental, sustainable or non-toxic building products.



VIEW FROM NORTH



LEGAL DESCRIPTION

LOT 532
THE CROWN SUBDIVISION
XX AC. / XX SQ. FT.

0039 LODSTONE TRAIL
BLUE RIVER, COLORADO

AREA CALCULATIONS

	UN-FINISHED	FINISHED	TOTAL
LOWER	00	1,445	1,445 SF
MAIN	562	1,488	2,050 SF
TOTAL	562 SF	2,933 SF	3,495 SF

5/8" TYPE GYPSUM BOARD USED THROUGHOUT
NOTE: SQUARE FOOTAGES ARE CALCULATED FOR CODE PURPOSES ONLY AND SHOULD BE RECALCULATED FOR ANY OTHER PURPOSES.

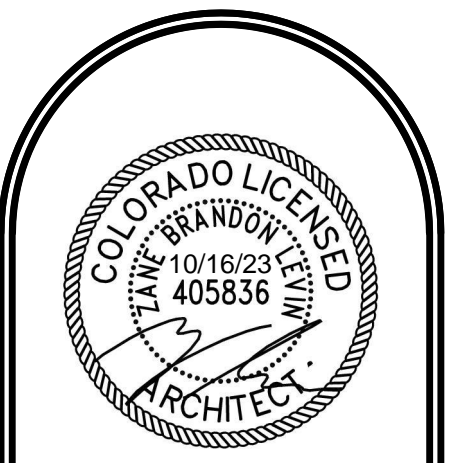
FINISHED FLOOR ELVs.

	U.S.G.S.	= ARCHITECTURAL
LOWER LEVEL - T.O. CONC.	9,988'	= 100'-0"
MAIN LEVEL - T.O. PLYWD.	9,999'	= 111'-0"
GARAGE LEVEL - T.O. CONC.	10,005.5'	= 117'-6"

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- E-1.3 UPPER LEVEL ELECTRICAL PLAN
- CMP-1.1 CONSTRUCTION MANAGEMENT PLAN

SURVEYOR: LITTLEHORN ENGINEERING, LLC. 351 U.S. HIGHWAY 285 SUITE 201 FAIRPLAY, CO. 80440 719.836.7120 design@johnlittlehorn.com	SOILS ENGINEER: LITTLEHORN ENGINEERING, LLC. 351 U.S. HIGHWAY 285 SUITE 201 FAIRPLAY, CO. 80440 719.836.7120 design@johnlittlehorn.com	M/E/P ENGINEER: DMCE ENGINEERING 1480 HOYT STREET, SUITE 200 LAKEWOOD, COLORADO 80215-4728 JOSHUA L. COOK - P.E. 720.798.5041 josh@dmce.com	ENGINEER: ENGINEERING DESIGNWORKS 1855 SKI TIME SQUARE, UNIT E2C STEAMBOAT SPRINGS, COLORADO 80477 970.879.4890 carl@engineeringdesignworks.com	CONTRACTOR: LEE HOLOMBO 3347 CEMETERY ROAD TRENTON, KY. 42286 931.220.7787 - LEE holombocon@aol.com	ARCHITECT: BHH Partners of COLORADO 560 ADAMS AVENUE SILVERTHORNE, COLORADO 80498 (970) 513-1000 ZANE LEVIN (principal architect) zlevin@bhpartners.com TED SHAFFER (arch1 manager) tshaffer@bhpartners.com	OWNER: LEE & MIRIAM HOLOMBO 3347 CEMETERY ROAD TRENTON, KY. 42286 931.220.7787 - LEE holombocon@aol.com
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REVISIONS:

JOB NO: 12315.0
DATE: 10.16.23
DRAWN BY: T. SHAFFER
CHECKED BY: Z. LEVIN

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HOLOMBO RESIDENCE
0039 LODSTONE TRAIL, BLUE RIVER, COLORADO 80424 (LOT 532, THE CROWN SUBDIVISION)

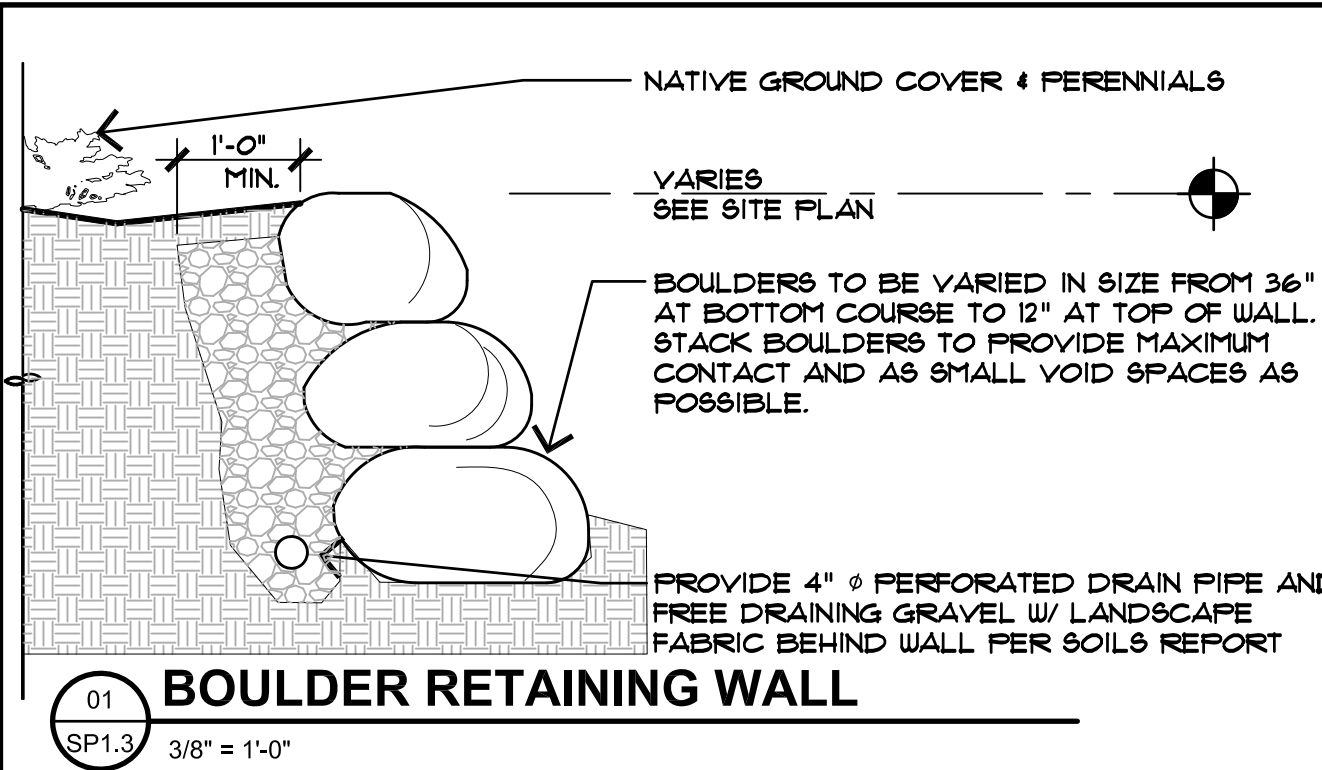
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SHEET NUMBER:
T-1.1
TITLE SHEET, GENERAL NOTES, SCHEDULES AND INFORMATION

REQUIRED SNOWSTACK

	SQ. FT.	PERCENTAGE
HARDSCAPE - (DRIVEWAY, ENTRY WALK AND PATIO)	791 S.F.	100%
REQ'D SNOW STACK (25% OF HARDSCAPE)	198 S.F.	25%
TOTAL SNOW STACK PROVIDED	234 S.F.	29%

BUILDING HEIGHT TABLE

RIDGE POINT	RIDGE ELEVATION	NATURAL EXIST'G GRADE ELEVATION (APPROX.)	FINISHED GRADE ELEVATION	AS MEASURED FROM	CALCULATIONS	HEIGHT
A	10,025.65'	9,990.8'	9,990'	EXIST'G GRADE	10,025.65' - 9,990.8' =	34.85'
B	10,028.29'	10,001.75'	9,986'	EXIST'G GRADE	10,028.29' - 10,001.75' =	26.54'
C	10,025.65'	9,996.6'	10,005.5'	EXIST'G GRADE	10,025.65' - 9,996.6' =	29.05'
D	10,028.29'	9,994'	9,988'	FINISH GRADE	10,028.29' - 9,994' =	34.29'



REVEGETATION NOTES

REVEGETATE ALL DISTURBED AREAS ON THE SITE WITH:

SHORT DRY GRASS MIX #2 LB/1000 SF:
 HARD FESCUE 30%
 CREEPING RED FESCUE 30%
 SHEEP FESCUE 25%
 CANADA BLUEGRASS 10%
 CANBY BLUEGRASS 5%

SLOPES OVER 3:1 SHALL BE MAT TACKIFIED OR NETTED.

MOUNTAIN MAGIC WILDFLOWER MIX #1 LB/1000 SF:
 BABY'S BREATH 25%
 CALIFORNIA POPPY 15%
 BLUE FLAX 15%
 WALLFLOWER 15%
 PENSTEMON, ROCKY MOUNTAIN 15%
 WILD THYME 10%

ROCKY MOUNTAIN BLUE COLUMBINE MIX #1 LB/2500 SF OR WESTERN NATIVE WILDFLOWER MIX #1 LB/6000 SF:
 BLUE ANKETFLOWER 25%
 SHIRLEY POPPY 15%
 LUPINE MIX 15%
 MAIDEN PINKS 15%
 WILD THYME 10%
 PENSTEMON, SMALL FLOWERED 15%
 PENSTEMON, ROCKY MOUNTAIN 15%
 PENSTEMON, WASATCH 15%
 PENSTEMON, RYDBERGS 15%
 GAILLARDIA/BLANKETFLOWER 15%

LANDSCAPE NOTES

- PROVIDE 3" (MIN.) CLAYFREE TOPSOIL AND SEED ALL DISTURBED AREAS WITH SHORT SEED MIX (AS APPROVED BY SUMMIT COUNTY STRIP AND STOCKPILE EXISTING TOPSOIL IN CONSTRUCTION AREA. SCREEN TOPSOIL PRIOR TO INSTALLATION.)
- KEEP EXISTING TREES WHERE POSSIBLE. TAKING INTO CONSIDERATION DRIP LINES AND ROOT STRUCTURE. PROTECT EXISTING TREES WITH FENCING LOCATED AT OR OUTSIDE DRIP LINE OF TREE. STOCKPILE AND REUSE EXISTING TREES WHERE POSSIBLE.
- GENERAL CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDING FOUNDATIONS PER SPECIFICATIONS AND CODE REQUIREMENTS.
- PRIOR TO ANY LANDSCAPE WORK, REMOVE ALL DEBRIS, PAINT, CONCRETE, STUMPS, SLASH, ETC. FROM LANDSCAPE AREA.
- LOCATE ALL PLANTINGS TO AVOID SNOW STACKING & SNOW SLIDE AREAS FROM ABOVE.
- SHRUBS ARE TO BE FIELD LOCATED AS APPROVED BY OWNER AND ARCHITECT.
- ALL NEW LANDSCAPING TO BE IRRIGATED WITH DRIP IRRIGATION SYSTEM. MAXIMUM 1,000 SF IRRIGATED SPACE. PROVIDE SUBMITTAL.
- ALL NEW PLANTINGS SHOULD BE HIGH ALTITUDE GROWN AND OR COLLECTED TO ENSURE BETTER SURVIVAL.
- NATURALIZE GROUPING OF TREES BY VARYING HEIGHT & LOCATION WHEREVER POSSIBLE.
- SCREEN ALL UTILITY PEDESTALS WITH LANDSCAPE MATERIAL.
- PROVIDE 3" TO 4" DIAMETER STONE RIP-RAP OVER WEED BARRIER FABRIC AT BUILDING DRIP LINES. UNULATE EDGES AND PROVIDE LANDSCAPE EDGING AT RIPRAP TO TOPSOIL JUNCTURE.
- INSTALL & BACKFILL ALL PLANTINGS WITH SOIL MIX INCLUDING ORGANIC SOIL AMENDMENTS PER SPECIES REQUIREMENTS AND LANDSCAPE DETAILS.
- ROOT FEED ALL NEWLY PLANTED TREES DURING INSTALLATION. PROVIDE LIQUID GROWTH TREE STIMULATOR AND SOLUBLE FERTILIZER AT RECOMMENDED RATE FOR EACH TREE SPECIES.
- PROVIDE 3" OF SHREDDED BARK MULCH AT ALL SHRUB AND TREE WELLS.
- LANDSCAPE BOULDERS OF 2" OR LARGER SHALL BE RETAINED ON SITE FOR USE IN LANDSCAPE WORK. BURY DECORATIVE BOULDERS ONE-HALF OF DIAMETER AS APPROVED BY TOWN OF BLUE RIVER PRIOR TO INSTALLATION.
- ALL ROCK OUTCROPPINGS THAT ARE TO REMAIN SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITY.
- ADDITIONAL CONSULTATION WITH A QUALIFIED LANDSCAPE PROFESSIONAL AT OWNER OPTION IS RECOMMENDED.

NOTE: ALL LANDSCAPING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH SUMMIT COUNTY AND TOWN OF BLUE RIVER.

CONTOUR LEGEND

EXISTING MINOR	---	DRAINAGE ARROW	→
EXISTING MAJOR	- - -	SPOT GRADE AT DOT	● 9,988'
PROPOSED	—●—		

LOT COVERAGE

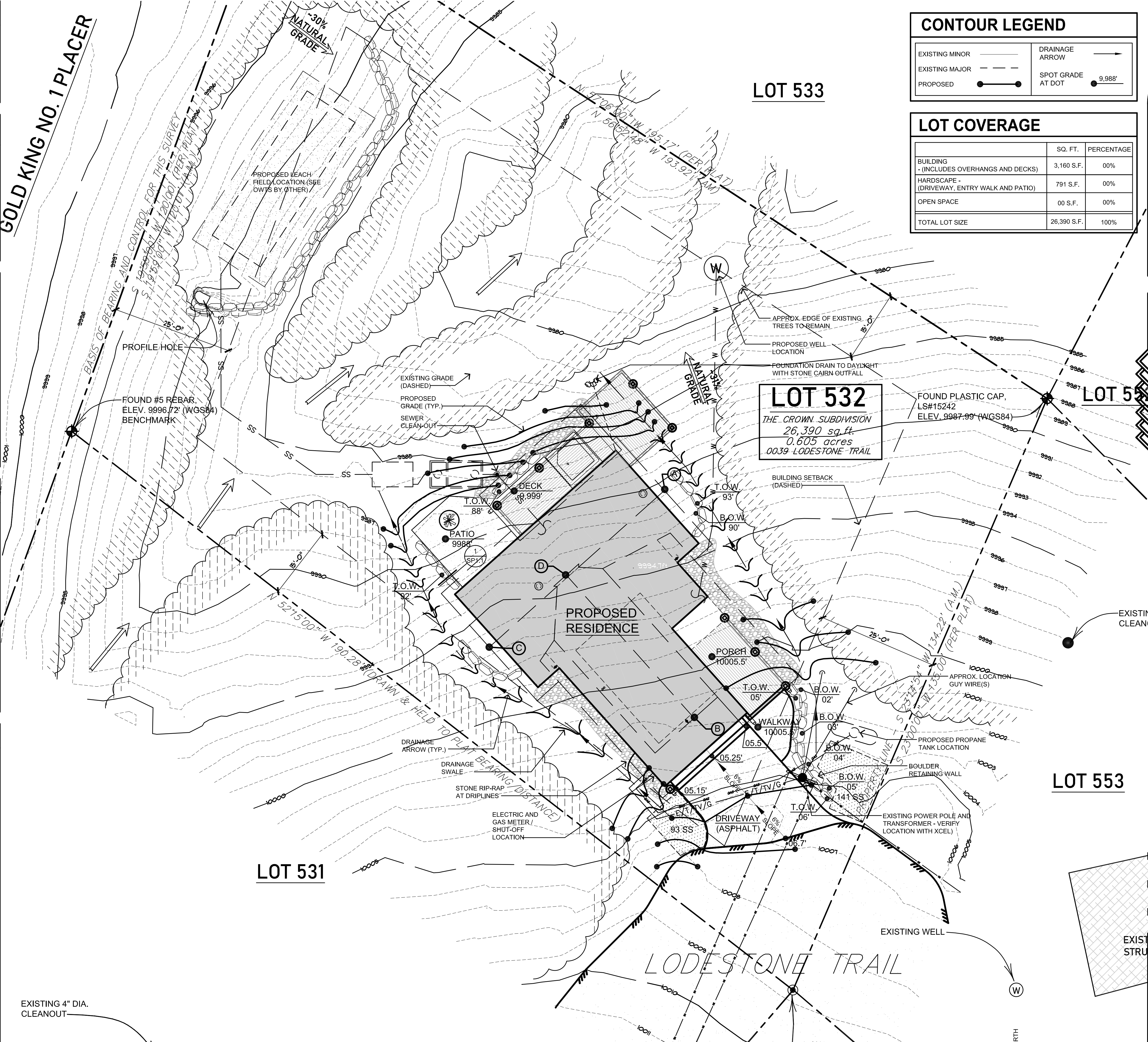
	SQ. FT.	PERCENTAGE
BUILDING - (INCLUDES OVERHANGS AND DECKS)	3,160 S.F.	00%
HARDSCAPE - (DRIVEWAY, ENTRY WALK AND PATIO)	791 S.F.	00%
OPEN SPACE	00 S.F.	00%
TOTAL LOT SIZE	26,390 S.F.	100%



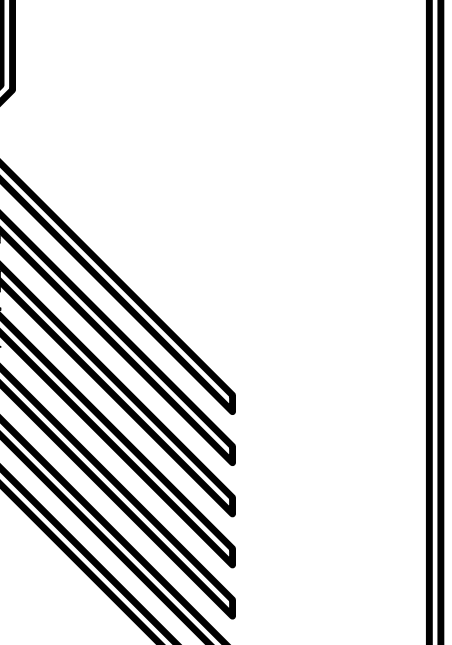
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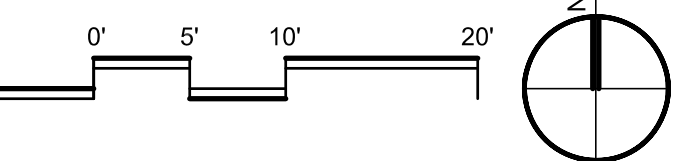
EXISTING 4" DIA. CLEANOUT

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HOLOMBO RESIDENCE
 0039 LODGESTONE TRAIL, BLUE RIVER, COLORADO 80424 (LOT 532, THE CROWN SUBDIVISION)

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SP-1.1
 PROPOSED SITE AND LANDSCAPE PLAN

PROPOSED SITE and LANDSCAPE PLAN



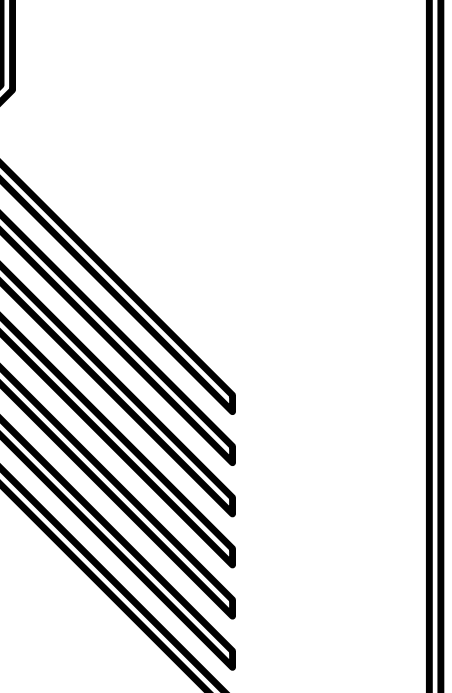


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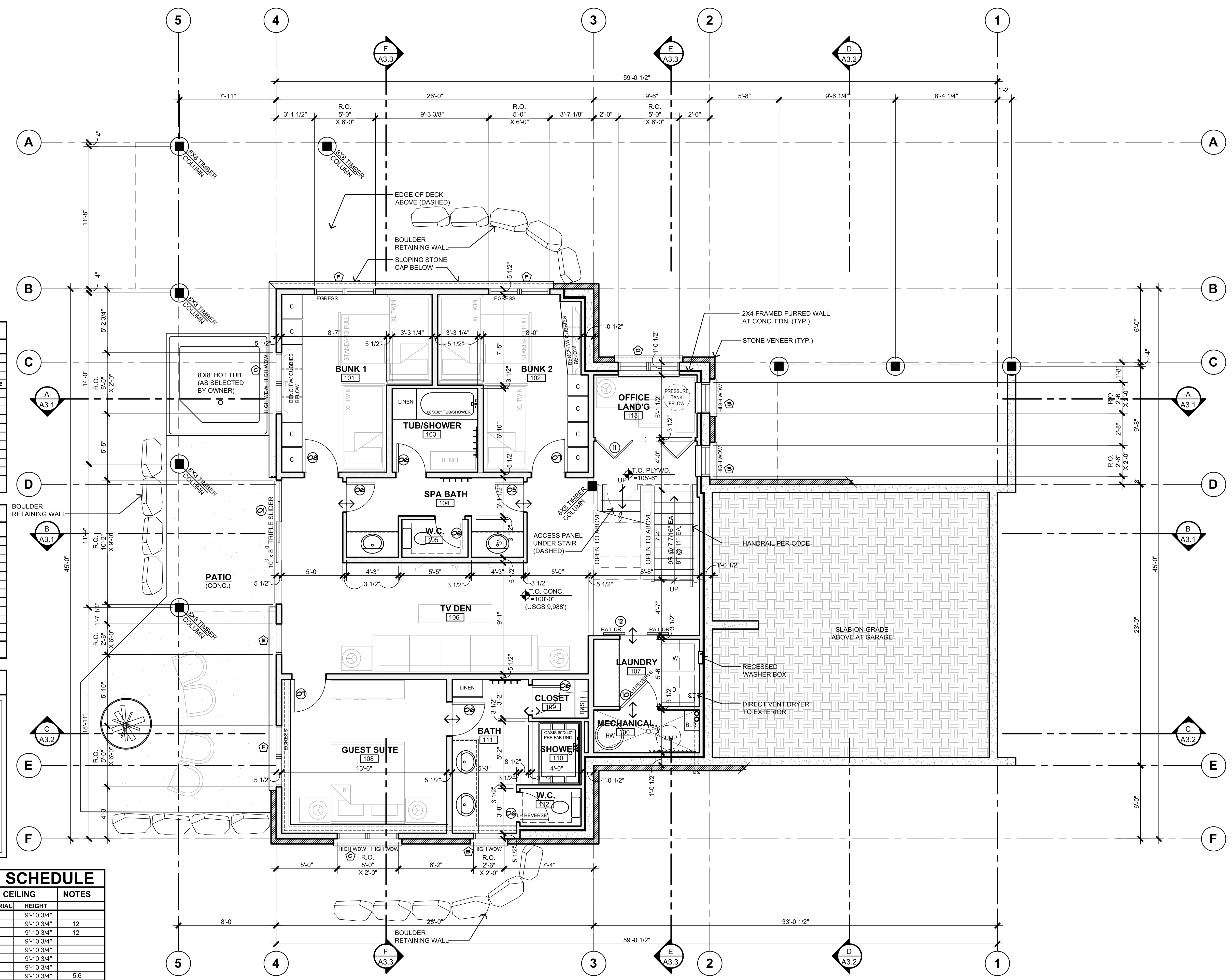
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 SHEET NUMBER:
A-1.1
 LOWER LEVEL PLAN



DOOR TYPE SCHEDULE

ID	WIDTH	HEIGHT	OPERATION	NOTES
O1	10'-0"	9'-0"	TRIPLE SLIDER	
O2	12'-0"	9'-0"	TRIPLE SLIDER	
O3	4'-0"	9'-0"	RT HAND SWING	
O4	18'-0"	8'-0"	OVERHEAD	WIDUS ON UPPER
O5	2'-4"	1'-0"	RH SWING	
O6	2'-4"	1'-0"	LH SWING	
O7	2'-8"	1'-0"	RH SWING	
O8	2'-8"	1'-0"	LH SWING	
O9	3'-0"	1'-0"	RH SWING	
O10	3'-0"	1'-0"	LH SWING	
O11	8'-0"	1'-0"	BI-FOLD	(2) DOORS
O12	3'-0"	1'-0"	DBL. RAIL	

NOTE: SEE ELEVATIONS FOR DOOR ID TAGS

WINDOW TYPE SCHEDULE

ID	WIDTH	HEIGHT	OPERATION	NOTES
A	2'-0"	DIAMETER	FIXED	
B	2'-6"	2'-0"	AWNING	
C	5'-0"	2'-0"	DBL. AWNING	
D	5'-0"	5'-0"	DBL. CASEMENT	
E	2'-6"	6'-0"	CASEMENT	
F	5'-0"	6'-0"	DBL. CASEMENT	
G	4'-0"	9'-0"	FIXED	TEMPERED
H	5'-0"	4'-0"	FIXED	
I	5'-0"	5'-0"	FIXED	
J	5'-0"	6'-0"	FIXED	

NOTE: SEE ELEVATIONS FOR WINDOW ID TAGS

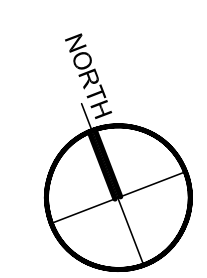
- ROOM FINISH NOTES**
- NOTE: VERIFY ALL INTERIOR FINISHES WITH OWNER
- 5/8" TYPE 'X' GYPSUM BOARD WITH LIGHT HAND TROWELED FINISH (PAINT)
 - 1/2" CEMENT BOARD WITH TILED FINISH
 - PROVIDE EPOXY FLOOR FINISH
 - VERIFY MILLWORK WITH OWNER-PROVIDE SUBMITTAL
 - PROVIDE RAIL DOOR & RAIL DOOR HARDWARE. VERIFY FINISH WITH OWNER
 - TOP LOAD WASHER AND DRYER
 PROVIDE 60"X40" AQUAPEUTICS OASIS LUXURY STEAM SHOWER. ROUGH-IN REQUIRED ELECTRICAL AND PLUMBING PER MANUFACTURER SPECIFICATIONS.
 - PROVIDE SPECIAL FINISHES, LAVATORY, AND LIGHT FIXTURES PER OWNER
 - VERIFY CLOSET SYSTEMS WITH OWNER
 - OPTIONAL BUNK ALCOVE WITH NICHE & ELECTRICAL OUTLET (2 PER BUNK TYP.)

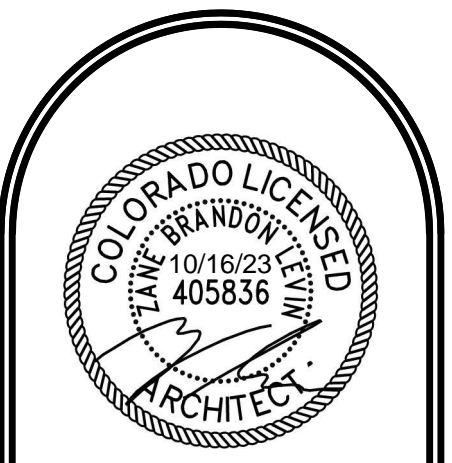
LOWER LEVEL ROOM FINISH SCHEDULE

#	ROOM NAME	FLOOR	WALLS	CEILING	NOTES		
		MATERIAL	BASE	MATERIAL	MATERIAL	HEIGHT	
100	MECHANICAL	CONCRETE	VINYL	1	1	9'-10 3/4"	
101	BUNK 1	CARPET	WOOD	1	1	9'-10 3/4"	12
102	BUNK 2	CARPET	WOOD	1	1	9'-10 3/4"	12
103	TUB/SHOWER	TILE	TILE	1	1	9'-10 3/4"	
104	SPA BATH	TILE	WOOD	1	1	9'-10 3/4"	
105	WATER CLOSET	TILE	WOOD	1	1	9'-10 3/4"	
106	TV DEN	CARPET	WOOD	1	1	9'-10 3/4"	
107	LAUNDRY	TILE	WOOD	1	1	9'-10 3/4"	5,6
108	GUEST SUITE	CARPET	WOOD	1	1	9'-10 3/4"	
109	CLOSET	CARPET	WOOD	1	1	9'-10 3/4"	
110	SHOWER	TILE	TILE	1	1	9'-10 3/4"	7
111	BATH	TILE	WOOD	1	1	9'-10 3/4"	
112	WATER CLOSET	TILE	WOOD	1	1	9'-10 3/4"	
113	OFFICE LAND'G	CARPET	WOOD	1	1	10'-10"	

LOWER LEVEL PLAN
 SCALE: 1/4" = 1'-0"

1,445 SF - FINISHED
 00 SF - UNFINISHED



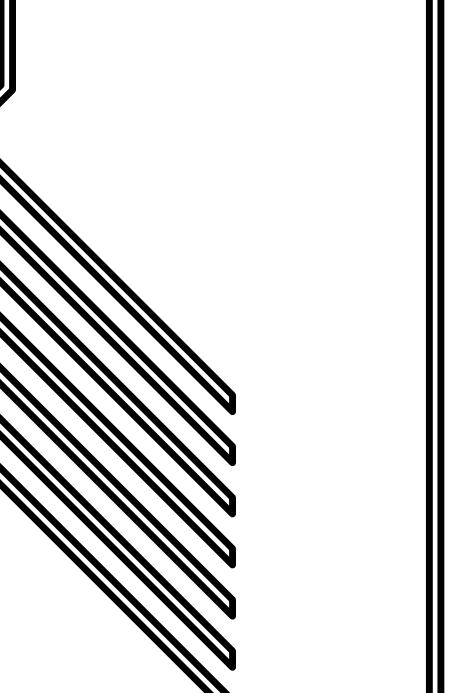


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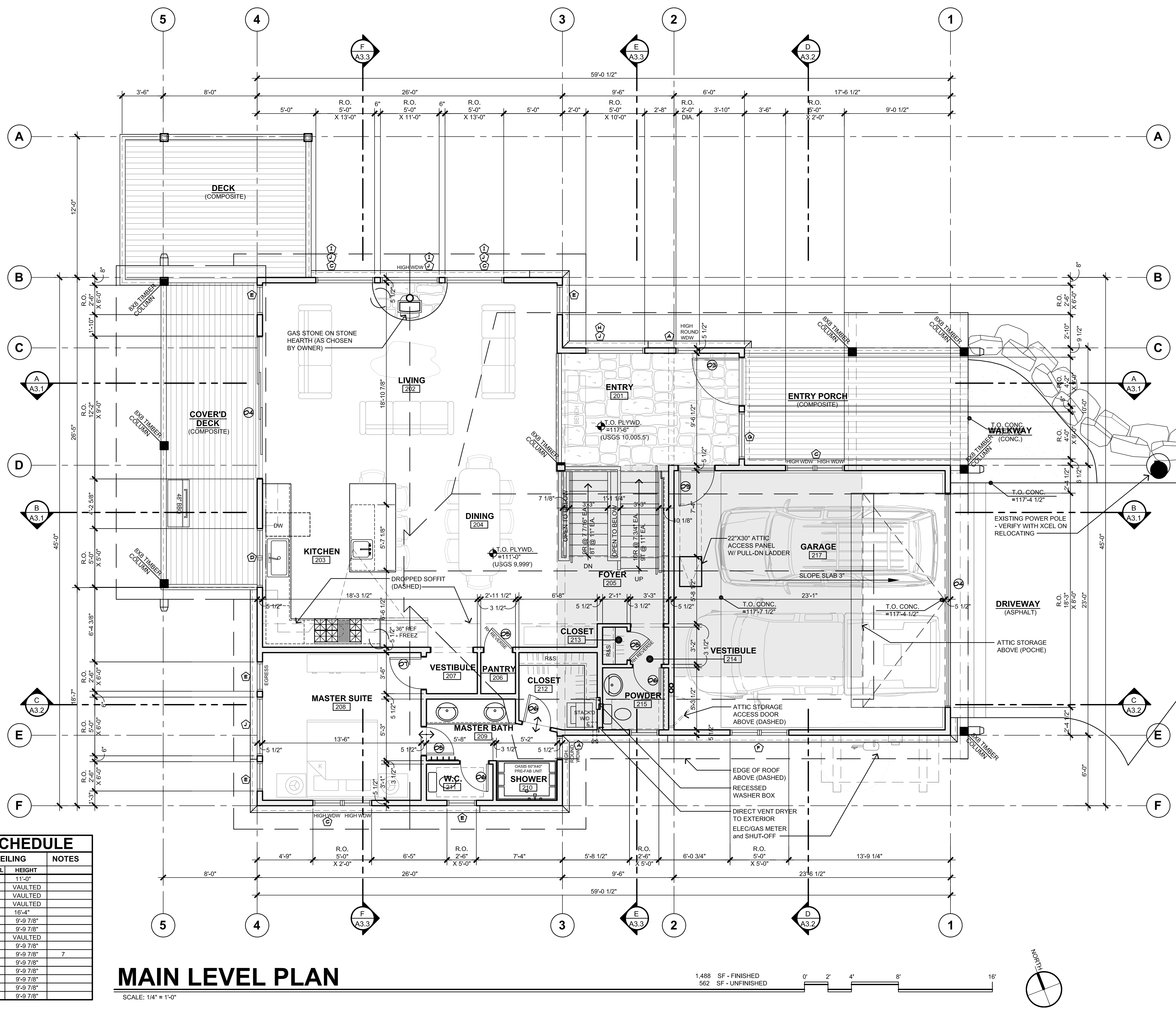
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HOLOMBO RESIDENCE
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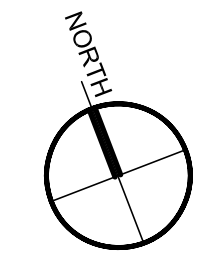
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 SHEET NUMBER:
A-1.2
 MAIN LEVEL PLAN



MAIN LEVEL PLAN

SCALE: 1/4" = 1'-0"

1,488 SF - FINISHED
 562 SF - UNFINISHED



DOOR TYPE SCHEDULE

ID	WIDTH	HEIGHT	OPERATION	NOTES
01	10'-0"	9'-0"	TRIPLE SLIDER	
02	12'-0"	9'-0"	TRIPLE SLIDER	
03	4'-0"	9'-0"	RT HAND SWING	
04	18'-0"	8'-0"	OVERHEAD	WIDUS ON UPPER
05	2'-4"	1'-0"	RH SWING	
06	2'-4"	1'-0"	LH SWING	
07	2'-8"	1'-0"	RH SWING	
08	2'-8"	1'-0"	LH SWING	
09	3'-0"	1'-0"	RH SWING	
10	3'-0"	1'-0"	LH SWING	
11	8'-0"	1'-0"	BI-FOLD	(2) DOORS
12	3'-0"	1'-0"	DBL. RAIL	

NOTE: SEE ELEVATIONS FOR DOOR ID TAGS

WINDOW TYPE SCHEDULE

ID	WIDTH	HEIGHT	OPERATION	NOTES
A	2'-0"	DIAMETER	FIXED	
B	2'-6"	2'-0"	AWNING	
C	5'-0"	2'-0"	DBL. AWNING	
D	5'-0"	5'-0"	DBL. CASEMENT	
E	2'-6"	6'-0"	CASEMENT	
F	5'-0"	6'-0"	DBL. CASEMENT	
G	4'-0"	9'-0"	FIXED	TEMPERED
H	5'-0"	4'-0"	FIXED	
I	5'-0"	5'-0"	FIXED	
J	5'-0"	6'-0"	FIXED	

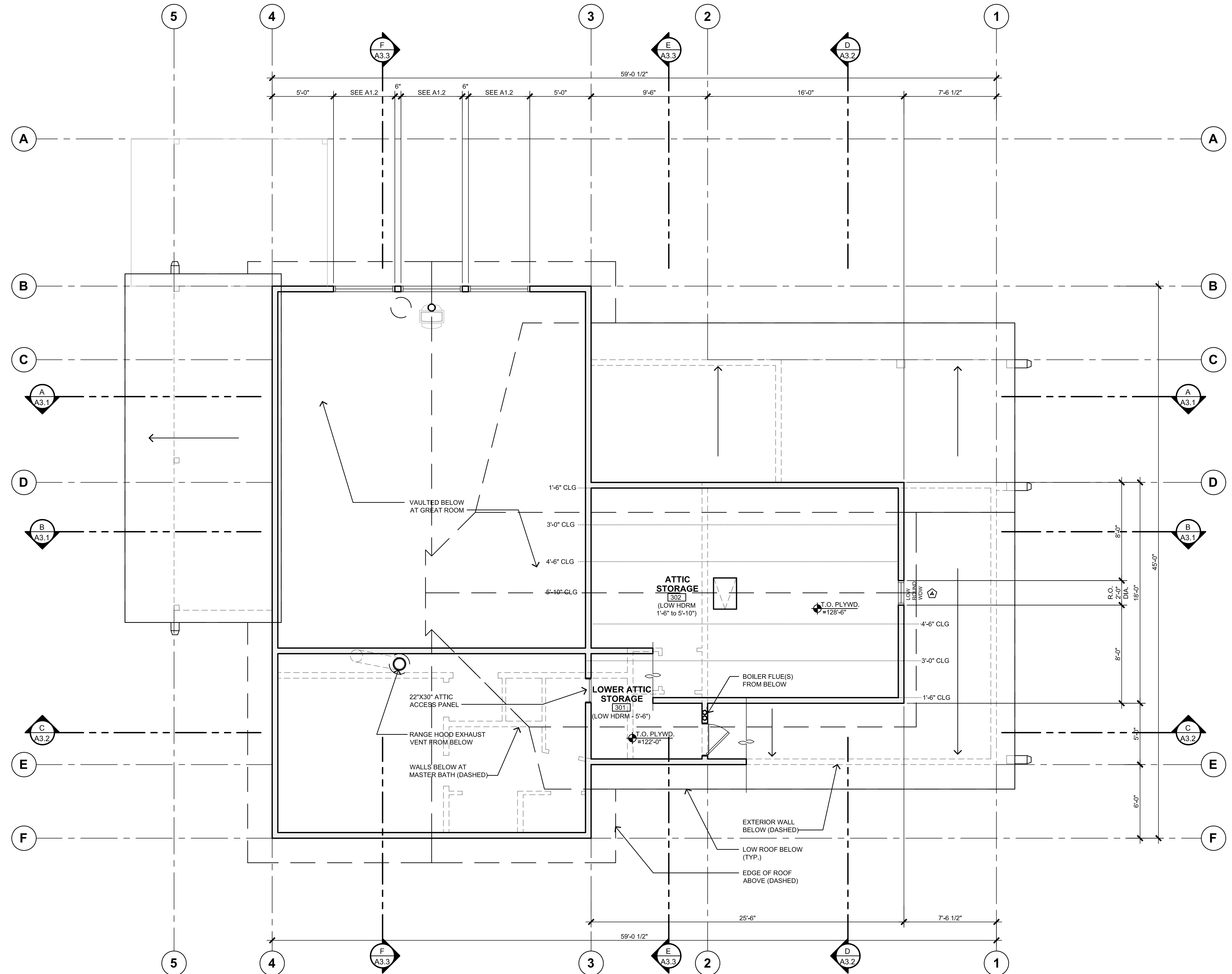
NOTE: SEE ELEVATIONS FOR WINDOW ID TAGS

ROOM FINISH NOTES

- NOTE: VERIFY ALL INTERIOR FINISHES WITH OWNER
- 5/8" TYPE 'X' GYPSUM BOARD WITH LIGHT HAND TROWELED FINISH (PAINT)
 - 1/2" CEMENT BOARD WITH TILED FINISH
 - PROVIDE EPOXY FLOOR FINISH
 - VERIFY MILLWORK WITH OWNER-PROVIDE SUBMITTAL
 - PROVIDE RAIL DOOR & RAIL DOOR HARDWARE. VERIFY FINISH WITH OWNER
 - TOP LOAD WASHER AND DRYER
 - PROVIDE 60"x40" 'AQUAPEUTICS' OASIS LUXURY STEAM SHOWER. ROUGH-IN REQUIRED ELECTRICAL AND PLUMBING PER MANUFACTURER SPECIFICATIONS.
 - PROVIDE SPECIAL FINISHES, LAVATORY, AND LIGHT FIXTURES PER OWNER
 - VERIFY CLOSET SYSTEMS WITH OWNER
 - OPTIONAL BUNK ALCOVE WITH NICHE & ELECTRICAL OUTLET (2 PER BUNK TYP.)

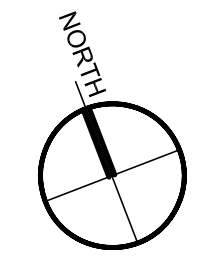
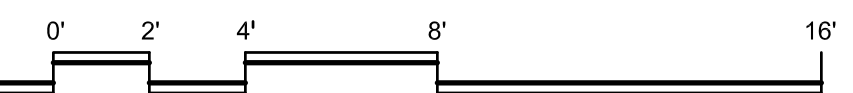
MAIN LEVEL ROOM FINISH SCHEDULE

#	ROOM NAME	FLOOR	WALLS		CEILING		NOTES
			MATERIAL	BASE	MATERIAL	HEIGHT	
201	ENTRY		SLATE	WOOD	1	11'-0"	
202	LIVING		WOOD	WOOD	1	1	VAULTED
203	KITCHEN		WOOD	WOOD	1	1	VAULTED
204	DINING		WOOD	WOOD	1	1	VAULTED
205	FOYER		WOOD	WOOD	1	1	16'-4"
206	PANTRY		WOOD	WOOD	1	1	9'-9 7/8"
207	VESTIBULE		WOOD	WOOD	1	1	9'-9 7/8"
208	MASTER SUITE		WOOD	WOOD	1	1	VAULTED
209	MASTER BATH		TILE	WOOD	1	1	9'-9 7/8"
210	SHOWER		TILE	TILE	1	1	9'-9 7/8"
211	WATER CLOSET		TILE	WOOD	1	1	9'-9 7/8"
212	CLOSET		WOOD	WOOD	1	1	9'-9 7/8"
213	CLOSET		WOOD	WOOD	1	1	9'-9 7/8"
214	VESTIBULE		WOOD	WOOD	1	1	9'-9 7/8"
215	POWDER		WOOD	WOOD	1	1	9'-9 7/8"



ATTIC LEVEL PLAN

SCALE: 1/4" = 1'-0"

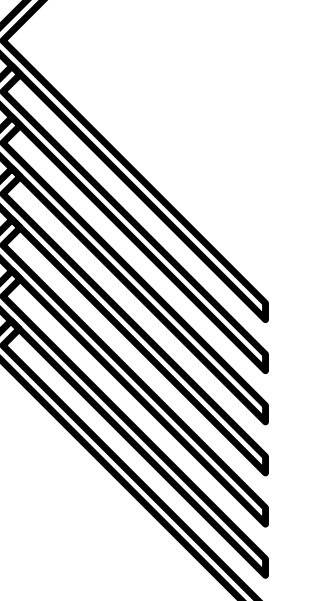


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HOLOMBO RESIDENCE
 0039 LODestone TRAIL, BLUE RIVER, COLORADO 80424 (LOT 532, THE CROWN SUBDIVISION)

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 SHEET NUMBER:

A-1.3
 ATTIC LEVEL PLAN

ROOF NOTES:

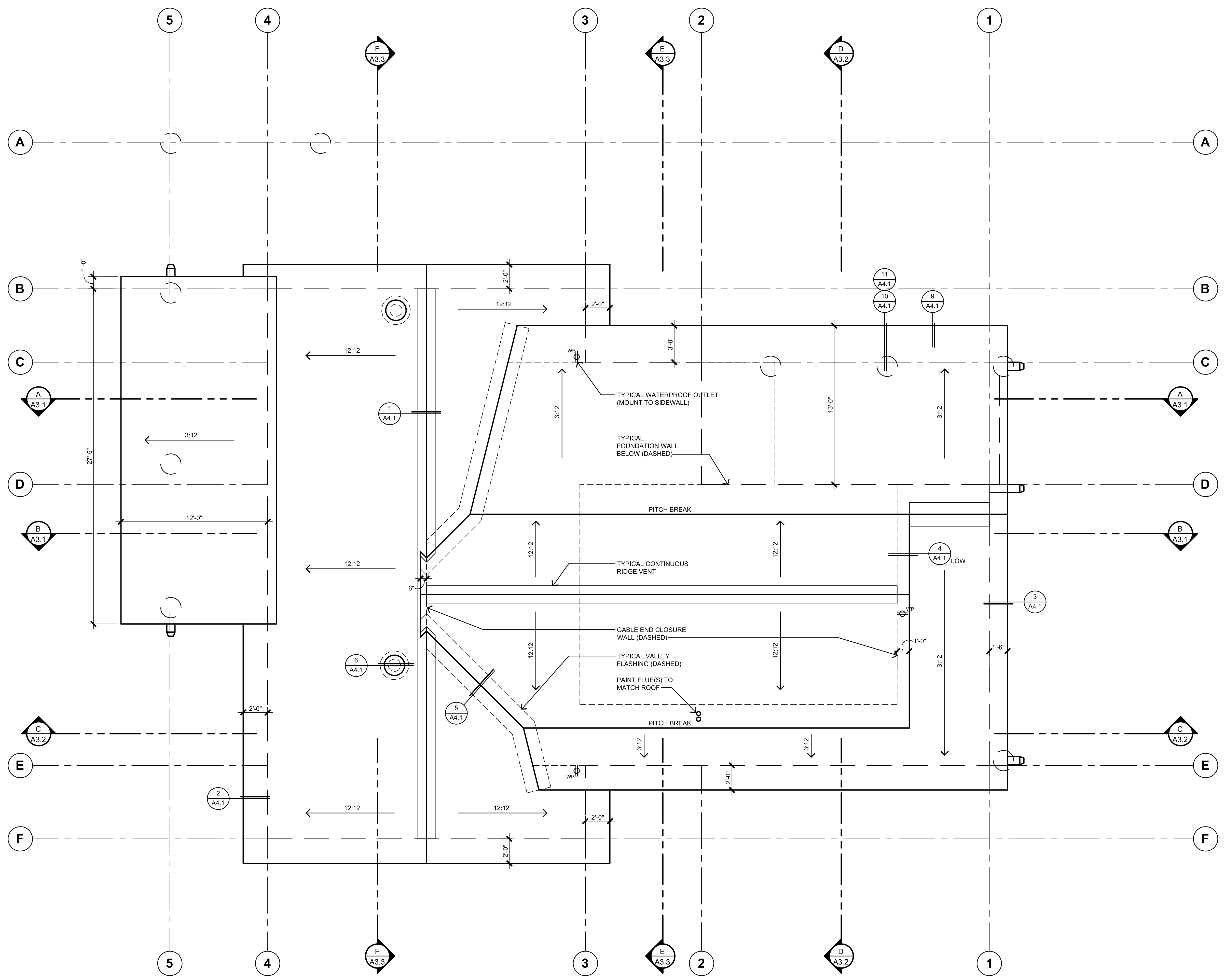
1. PROVIDE HEAT TAPE @ HEATED GUTTERS & DOWNSPOUTS. PROVIDE ELECTRIC OUTLET FOR HEAT TAPE AT EACH DOWNSPOUT LOCATION.
2. PAINT ALL EXPOSED PIPING EXTENDING THROUGH ROOF TO MATCH ROOF.
3. PROVIDE VALLEY FLASHING AT ALL VALLEYS.
4. OVERHANG DIMENSIONS ARE TO END OF RAFTER/TRUSSES - SEE DETAILS.
5. REFER TO PLAN FOR ALL ROOF OVERHANGS.
6. PROVIDE KICK-OUT FLASHING AT ALL EAVE/WALL JUNCTURES.
7. PROVIDE ADDITIONAL SOFFIT OUTLETS FOR CHRISTMAS LIGHTING - LOCATE PER OWNER INPUT.
8. SEE SHEET SP.2 FOR BUILDING RIDGE HEIGHTS.
9. PROVIDE ILC AS REQUIRED.
10. CONTRACTOR TO COORDINATE HEATED GUTTER AND DOWNSPOUT LOCATIONS WITH ARCHITECT.
11. ALL PLUMBING VENTS, BOILER VENTS, AND OTHER ROOF PENETRATIONS ARE WITHIN 5" OF RIDGE LINES. PAINT TO MATCH ROOF COLOR.

COLD ROOF NOTE:

THIS PROJECT INCLUDES A "COLD ROOF" DESIGN. PROVIDE INSULATION BAFFLES AT ALL RAFTER SPACES AND HOLD DOWN VALLEY FRAMING TO ENSURE AIRFLOW ABOVE ALL VALLEYS. THIS INCLUDES FLUSH VALLEYS (SEE DETAIL). IF NECESSARY DRILL HOLES FOR VENTILATION AS APPROVED BY THE STRUCTURAL ENGINEER. THIS INCLUDES BEAMS AND ALL AREAS THAT RESTRICT AIR FLOW FROM SOFFIT VENTS UP TO RIDGE VENTS. PROVIDE 1" DIAMETER HOLES @ 8' O.C. IN THESE AREAS. RETAIN 1 1/2" OF BEAM ABOVE VENTILATION HOLES. VERIFY WITH STRUCTURAL ENGINEER.

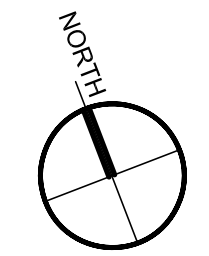
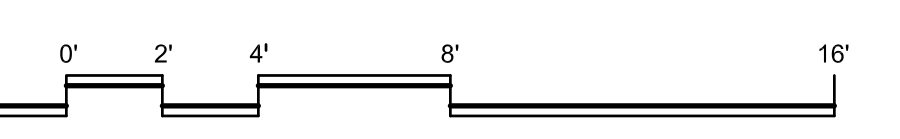
ROOFING NOTE:
REFER TO SPECIFICATIONS. PROVIDE ROOF PRIMER, ROOF MEMBRANE AND ALL ROOFING PER SPECIFICATION REQUIREMENTS. PROVIDE "W.R. GRACE" MANUFACTURER CERTIFICATION LETTER STATING THAT ALL MEMBRANES HAVE BEEN INSTALLED IN COMPLETE COMPLIANCE WITH ALL MANUFACTURER'S REQUIREMENTS.

MAINTENANCE NOTE:
THE OWNER HAS BEEN ADVISED THAT ALL ROOF AND DECK SURFACES MUST BE MAINTAINED RELATIVELY FREE OF SNOW & ICE.



ROOF PLAN

SCALE: 1/4" = 1'-0"



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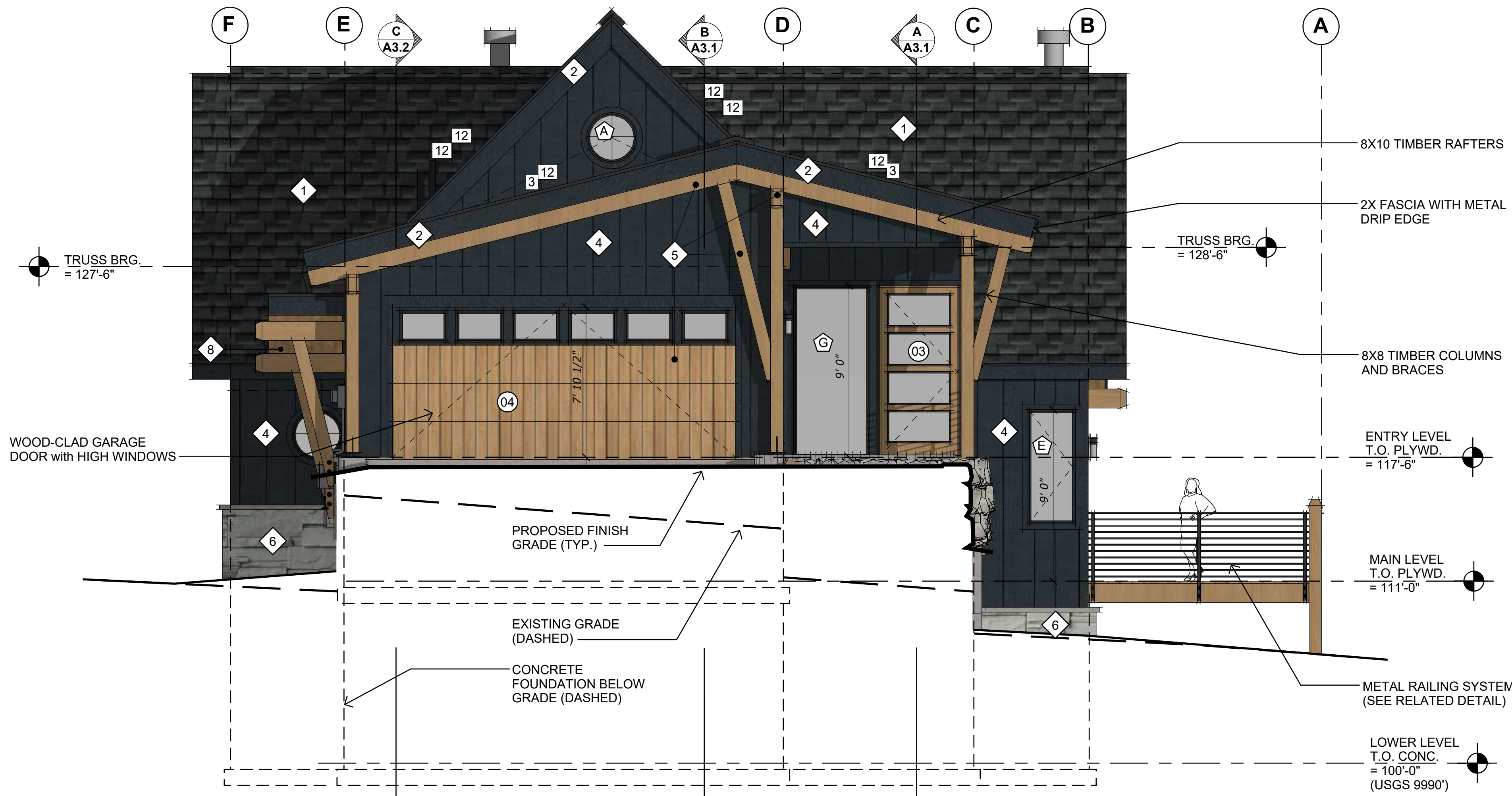
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HOLOMBO RESIDENCE
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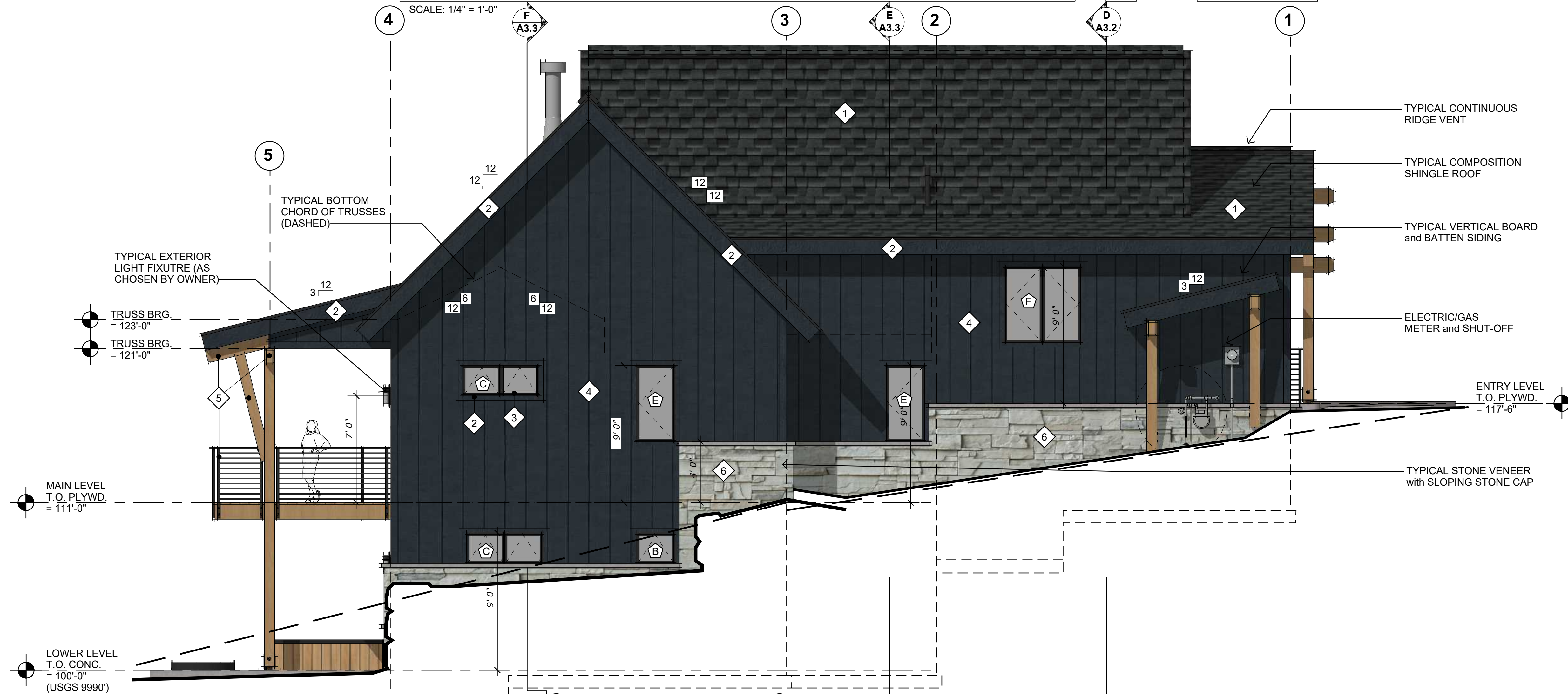
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SHEET NUMBER:
A-1.4
ROOF PLAN

COLOR LEGEND	
1	COMPOSITION SHINGLE ROOFING 40 YR - MFGR: CERTAINTEED LANDMARK PRO - COLOR: MAX DEF MOIRE BLACK
2	FASCIA and TRIM - MFGR: JAMES HARDIE - COLOR: MIDNIGHT SOOT
3	WINDOW CLAD - MFGR: SIERRA PACIFIC - COLOR: BLACK
4	VERTICAL BOARD and BATTEN - MFGR: JAMES HARDIE - COLOR: MIDNIGHT SOOT
5	BEAMS and COLUMNS - MFGR: SHERWIN WILLIAMS - COLOR: CROSSROADS
6	STONE VENEER - MFGR: GALLEGOS STONE COMPANY - COLOR: #366 COURTLAND LOW RISE
7	METAL DRIP EDGE, METAL RAILINGS and ACCENTS - COLOR: MATTE BLACK
8	SOFFITS - MFGR: JAMES HARDIE - COLOR: CYPRUS YELLOW



EAST ELEVATION

SCALE: 1/4" = 1'-0"



SOUTH ELEVATION

SCALE: 1/4" = 1'-0"



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HOLOMBO RESIDENCE
0039 LODGESTONE TRAIL, BLUE RIVER, COLORADO 80424 (LOT 532, THE CROWN SUBDIVISION)

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A2.1
BUILDING ELEVATIONS

COLORADO LICENSED ARCHITECT
 10/16/23
 405836

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WEST ELEVATION

SCALE: 1/4" = 1'-0"



NOTE: REFER TO SHEET A-2.1 FOR TYPICAL NOTES AND MATERIALS.

TRUSS BRG. = 123'-0"
 TRUSS BRG. = 121'-0"

MAIN LEVEL T.O. PLYWD. = 111'-0"

LOWER LEVEL T.O. CONC. = 100'-0"



NORTH ELEVATION

SCALE: 1/4" = 1'-0"



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HOLOMBO RESIDENCE
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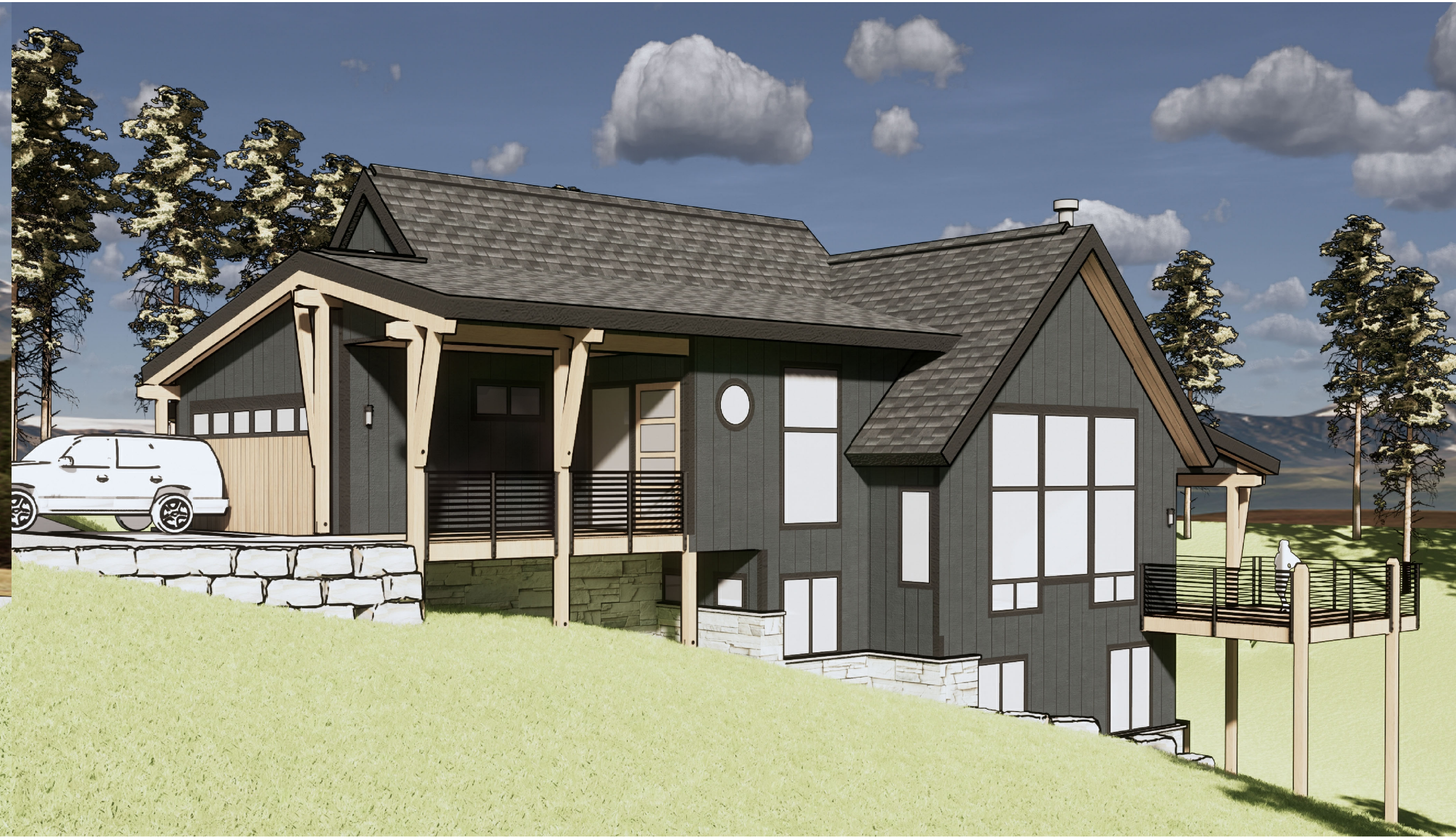
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A2.2
 BUILDING ELEVATIONS



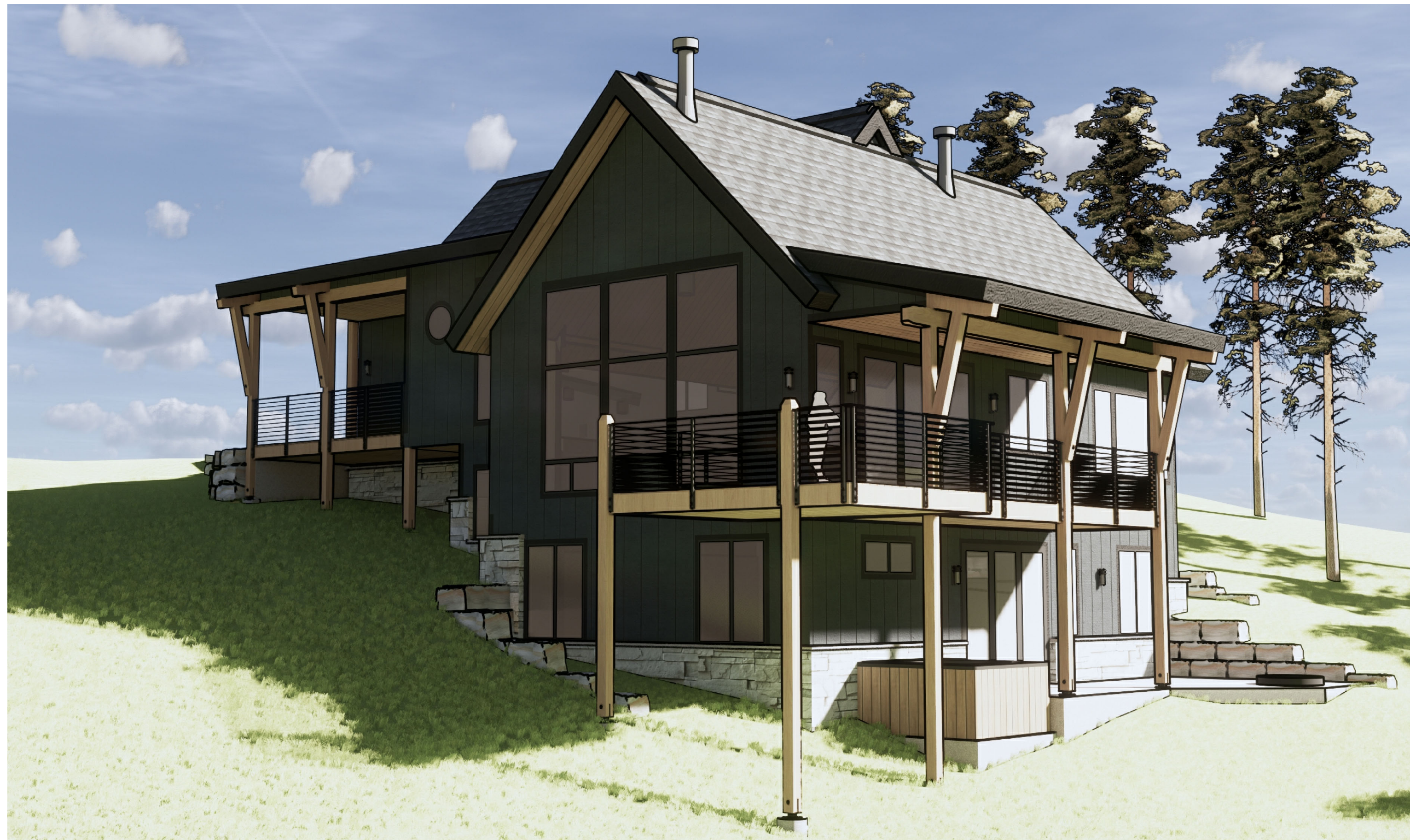
VIEW FROM SOUTHEAST

SCALE: N.T.S.



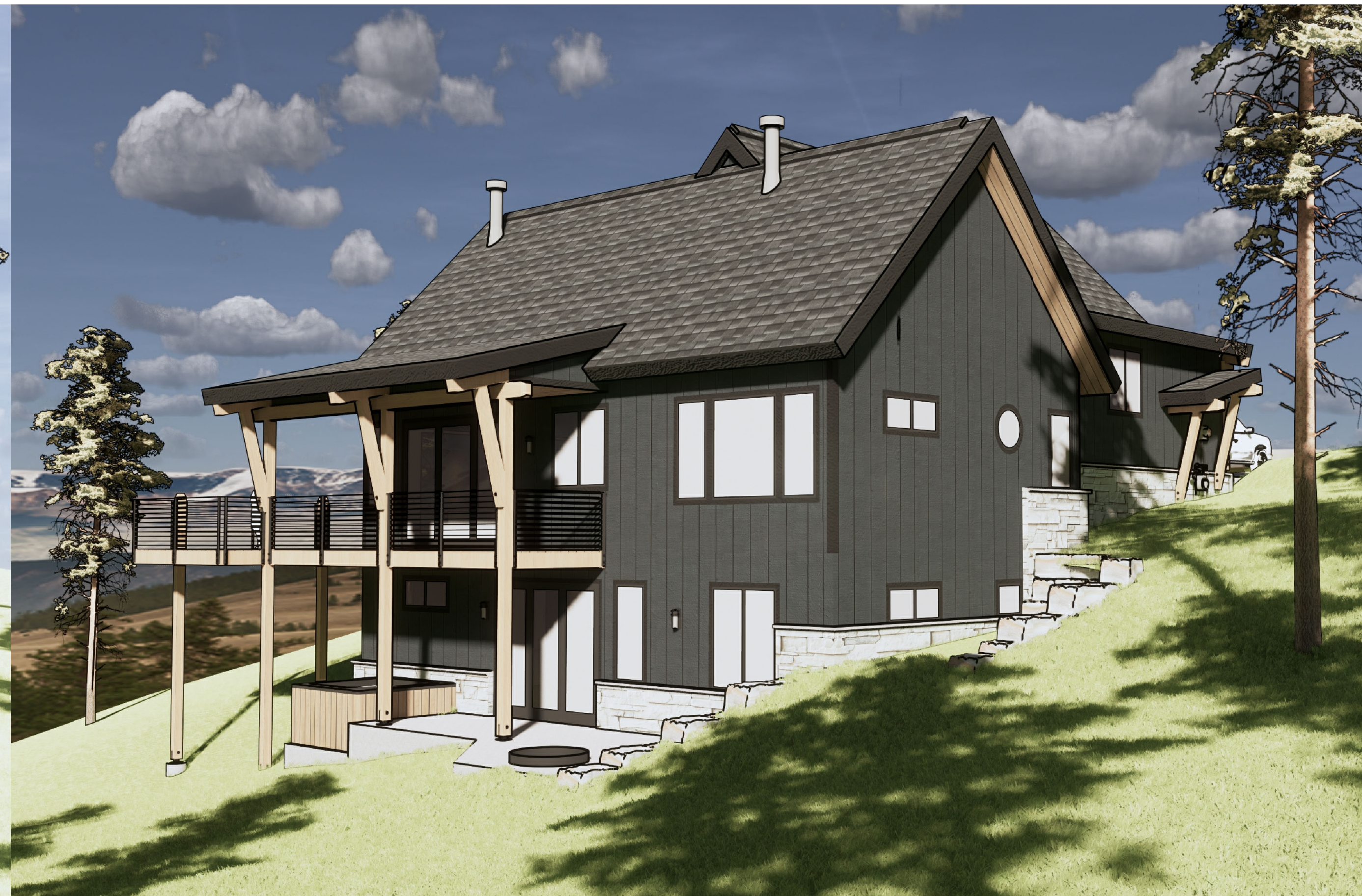
VIEW FROM NORTHEAST

SCALE: N.T.S.



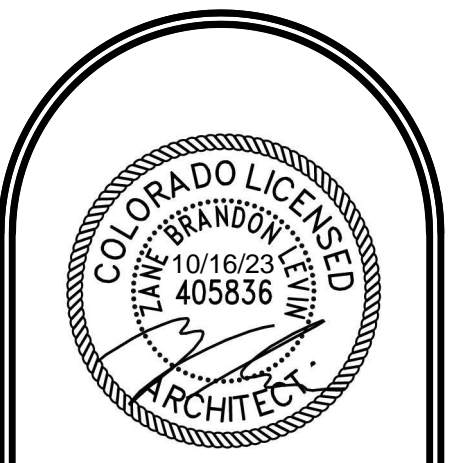
VIEW FROM NORTHWEST

SCALE: N.T.S.



VIEW FROM SOUTHWEST

SCALE: N.T.S.

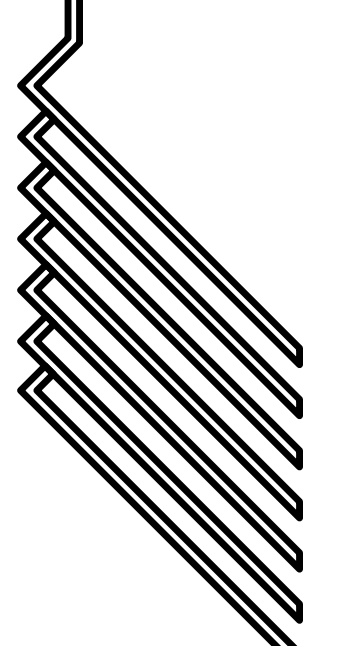


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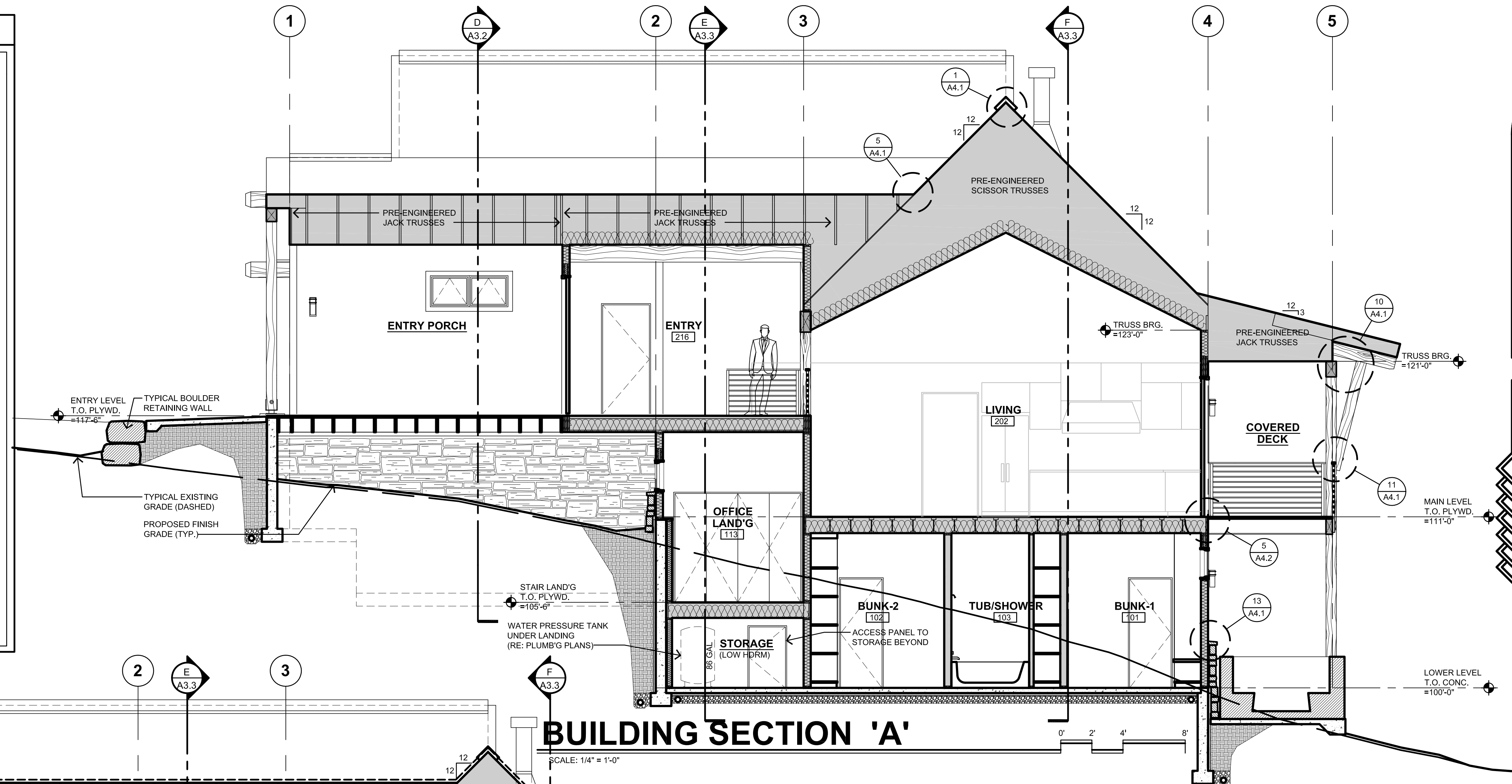
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 SHEET NUMBER:
A-2.3
 BUILDING PERSPECTIVES

AIR BARRIER REQUIREMENTS

PROVIDE SEALED AIR BARRIER CONSTRUCTION PER INTERNATIONAL ENERGY CODE REQUIREMENTS AS ADOPTED BY THE LOCAL BUILDING DEPARTMENT FOR THIS PROJECT. WORK SHALL INCLUDE THE FOLLOWING AS APPLICABLE TO THE SPECIFIC PROJECT:

1. **EXTERIOR BUILDING ENVELOPE**
- PROVIDE CONTINUOUS SEALANT BEAD AROUND ALL ELECTRICAL & ENVIRONMENTAL AIR PENETRATIONS AT THE EXTERIOR BUILDING ENVELOPE.
2. **EXTERIOR FLOOR PLATES**
- PROVIDE CONTINUOUS SEALANT BEAD BETWEEN PLYWOOD OR SLABS AND BOTTOM PLATE OF EXTERIOR FRAMING.
3. **GARAGE SEALS**
- PROVIDE CONTINUOUS SEALANT BEAD BETWEEN CONDITIONED SPACE & GARAGE SPACE TO INCLUDE FLOOR PLATES, RIM JOISTS, ATTIC TOP PLATES, & WALL PLATES.
4. **INTERIOR BATH TUBS & SHOWERS ADJACENT TO EXTERIOR WALLS**
- PROVIDE CONTINUOUS SEALANT BEAD BETWEEN FLOOR PLATES AND FLOORING AT TUBS THAT ARE LOCATED ADJACENT TO ANY EXTERIOR WALL. PROVIDE CONTINUOUS SEALANT BEAD BETWEEN DRYWALL AND CEMENT BOARD AT ANY JOINTS AT EXTERIOR WALLS.
5. **INTERIOR RIM FLOOR BOARDS**
- PROVIDE CONTINUOUS SEALANT BEAD AT CEILING AND FLOOR PLATES AND AT TOP AND BOTTOM OF EXTERIOR RIM BOARD CONSTRUCTION.
6. **ATTIC & EAVE Baffle Construction**
- PROVIDE CONTINUOUS SEALANT BEAD AT BOTH CUT ROOFS & ATTIC TRUSSES.
7. **INTERIOR SOFFITS, EXTERIOR WALLS, & EXTERIOR CEILINGS**
- PROVIDE CONTINUOUS SEALANT BEAD AT TOP PLATES AND ALL DRYWALL JOINTS PRIOR TO INTERIOR SOFFIT CONSTRUCTION. (CONTINUOUS DRYWALL TO BE PROVIDED AT ALL EXTERIOR WALLS AND CEILINGS PRIOR TO ANY SOFFIT CONSTRUCTION). PROVIDE SEALANT BEAD AT ALL SOFFIT JUNCTURES AT ALL EXTERIOR WALLS AND CEILINGS.
8. **INSULATED CANTILEVERED FLOORS**
- PROVIDE CONTINUOUS SEALANT BEAD AT EXTERIOR LOWER PLATE AT CANTILEVER, AT TOP AND BOTTOM OF RIM BOARDS AT EXTERIOR CANTILEVER, AND AT BOTTOM PLATE AT EXTERIOR WALL AT CANTILEVER.
9. **RECESSED CAN LIGHTING AT EXTERIOR CEILINGS & ATTICS**
- PROVIDE CONTINUOUS SEALANT BEAD AT ALL CAN LIGHTS AT CEILING PLANE. PROVIDE SEALED UNITS OR PROVIDE CONTINUOUS SEALANT BEAD AT ALL CAN LIGHT HOUSING EDGES AND OPENINGS.
10. **FIREPLACE PLATFORMS AT EXTERIOR WALLS**
- PROVIDE CONTINUOUS SEALANT BEAD AROUND ALL FRAMING PRIOR TO FIREPLACE PLATFORM CONSTRUCTION. PROVIDE DRYWALL ON ALL SURFACE PRIOR TO PLATFORM OR FIREPLACE CHASE CONSTRUCTION.
11. **TOP PLATE PLUMBING & ELECTRICAL PENETRATIONS AT EXTERIOR WALLS**
- PROVIDE CONTINUOUS SEALANT OR EXPANDING FOAM SEALANT AT ALL PLUMBING PENETRATIONS AT EXTERIOR WALLS TO INCLUDE TOP PLATES.
12. **ATTIC ACCESS HATCHES**
- PROVIDE MINIMUM OF 1 INCH RIGID INSULATION AT ALL ATTIC ACCESS HATCHES. INSTALL HATCHES TO PROVIDE AIR TIGHT CONSTRUCTION. PROVIDE CONTINUOUS SEALANT BEAD AROUND ALL FRAMING PRIOR TO ATTIC ACCESS HATCH INSULATION.



BUILDING SECTION 'A'

SCALE: 1/4" = 1'-0"

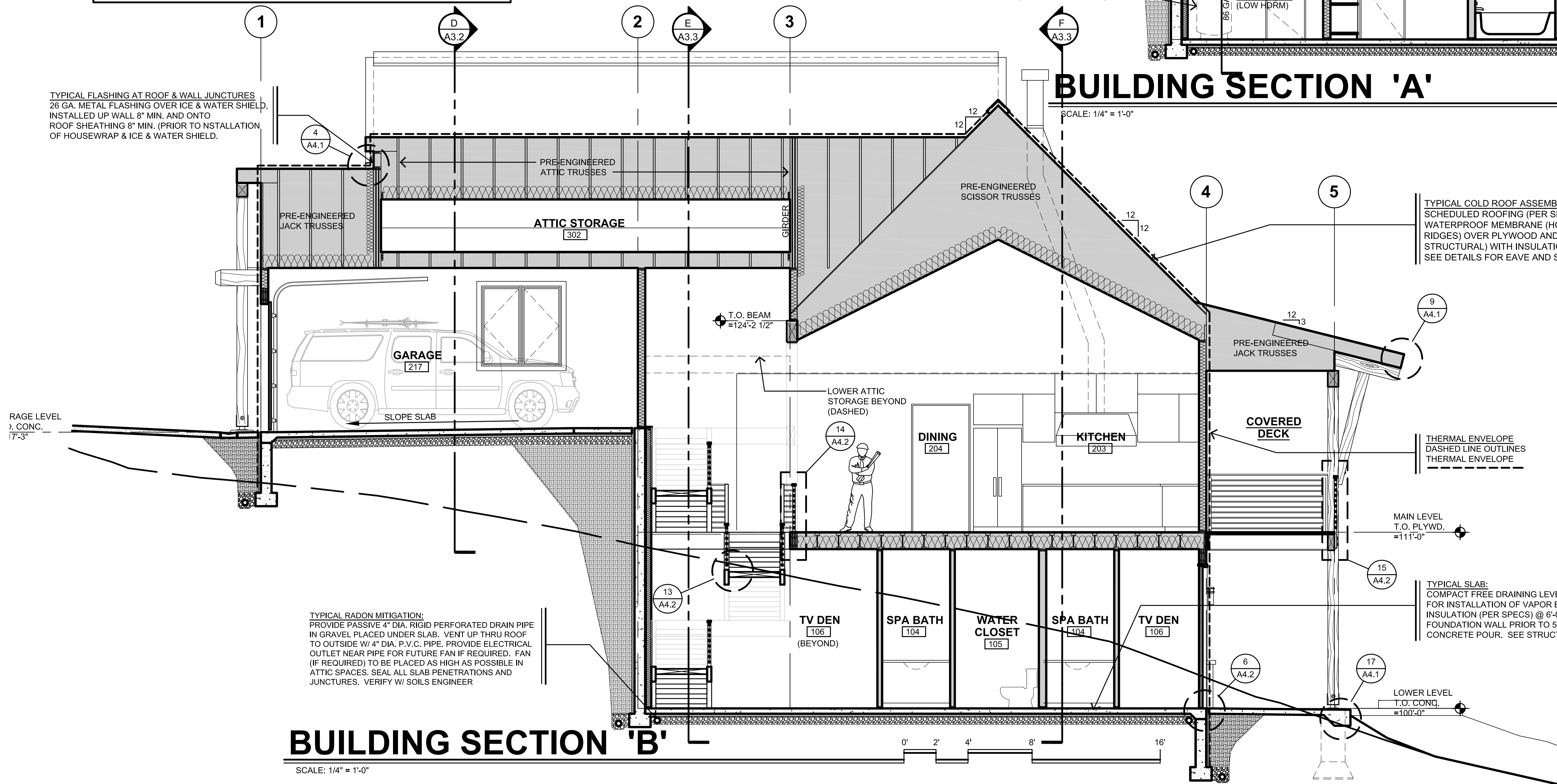
TYPICAL FLASHING AT ROOF & WALL JUNCTURES
26 GA. METAL FLASHING OVER ICE & WATER SHIELD,
INSTALLED UP WALL 8" MIN. AND ONTO
ROOF SHEATHING 8" MIN. (PRIOR TO INSTALLATION
OF HOUSEWRAP & ICE & WATER SHIELD.

TYPICAL COLD ROOF ASSEMBLY:
SCHEDULED ROOFING (PER SPECS) OVER
WATERPROOF MEMBRANE (HOLD DOWN 3'-0" FROM
RIDGES) OVER PLYWOOD AND FRAMING (PER
STRUCTURAL) WITH INSULATION (PER SPECS).
SEE DETAILS FOR EAVE AND SOFFIT VENTS.

THERMAL ENVELOPE

ROOF INSULATION:	R-49
EXTERIOR WALLS:	R-20 CAVITY
EXTERIOR WALLS BELOW GRADE:	R-15 CONTINUOUS EXTERIOR or R-19 CAVITY INTERIOR
FLOORS AT CANTILEVERS:	R-13 w/ R-10 CONT. AT EXTERIOR (2x4 STUDS+ 8" CONC.)
UNDER SLABS:	R-30
WINDOWS/DOORS:	R-10 (FOR ENTIRE HEATED SLAB + SLAB EDGE) U-FACTOR: 0.30 (max)

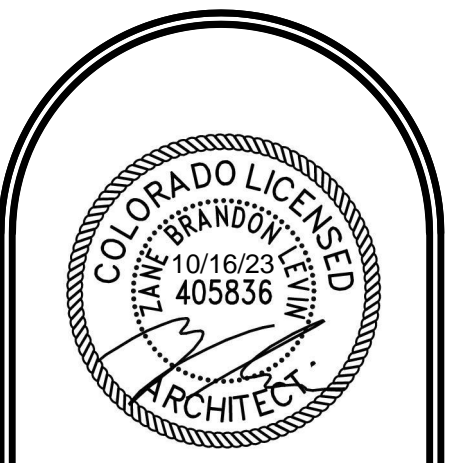
SEE DETAILS AND SPECIFICATIONS FOR RELATED SPECIFIC INSULATION REQUIREMENTS FOR EXTERIOR BUILDING ENVELOPE



BUILDING SECTION 'B'

SCALE: 1/4" = 1'-0"

TYPICAL RADON MITIGATION:
PROVIDE PASSIVE 4" DIA. RIGID PERFORATED DRAIN PIPE
IN GRAVEL PLACED UNDER SLAB. VENT UP THRU ROOF
TO OUTSIDE W/ 4" DIA. P.V.C. PIPE. PROVIDE ELECTRICAL
OUTLET NEAR PIPE FOR FUTURE FAN IF REQUIRED. FAN
(IF REQUIRED) TO BE PLACED AS HIGH AS POSSIBLE IN
ATTIC SPACES. SEAL ALL SLAB PENETRATIONS AND
JUNCTURES. VERIFY W/ SOILS ENGINEER



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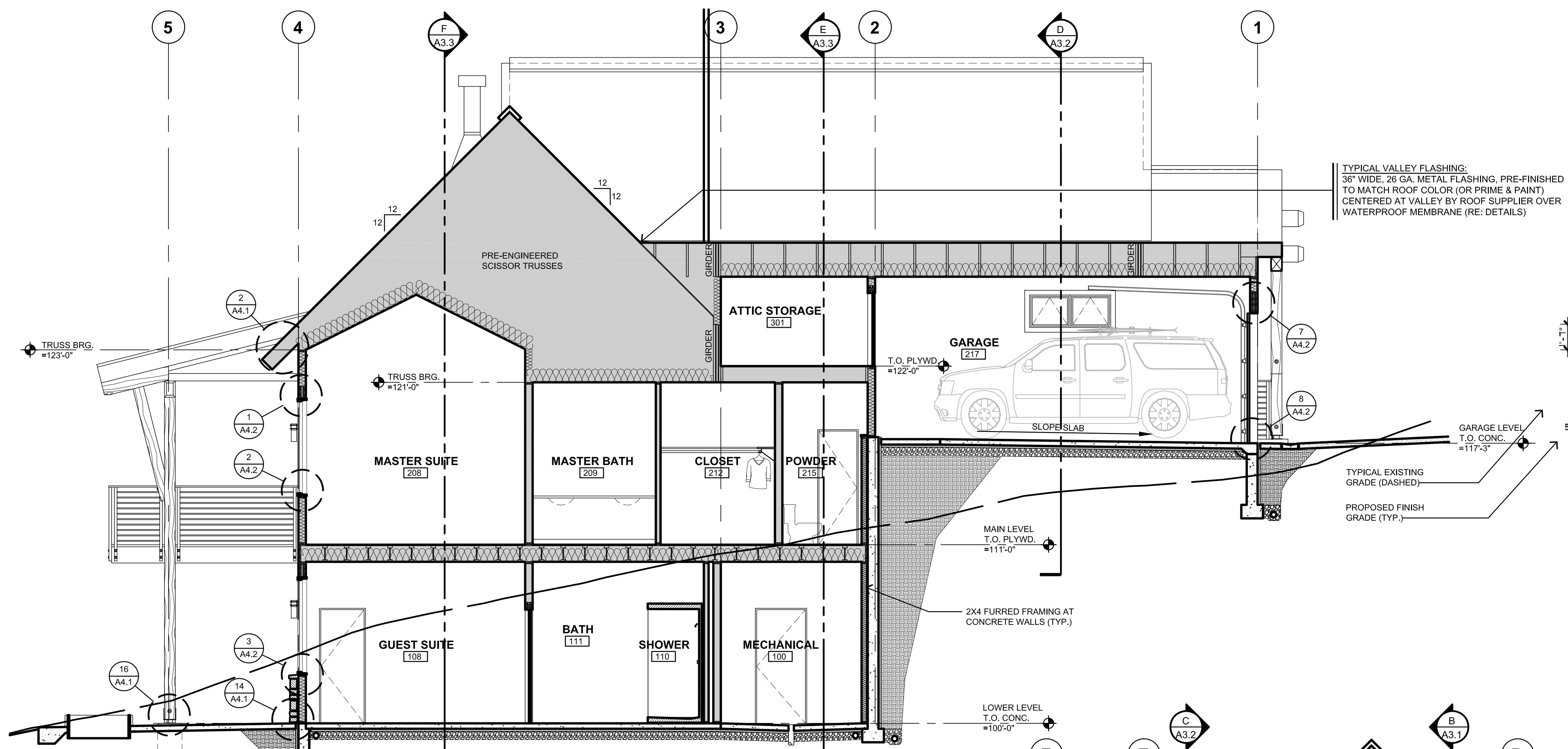
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HOLOMBO RESIDENCE
0039 LODGESTONE TRAIL, BLUE RIVER, COLORADO 80424 (LOT 532, THE CROWN SUBDIVISION)

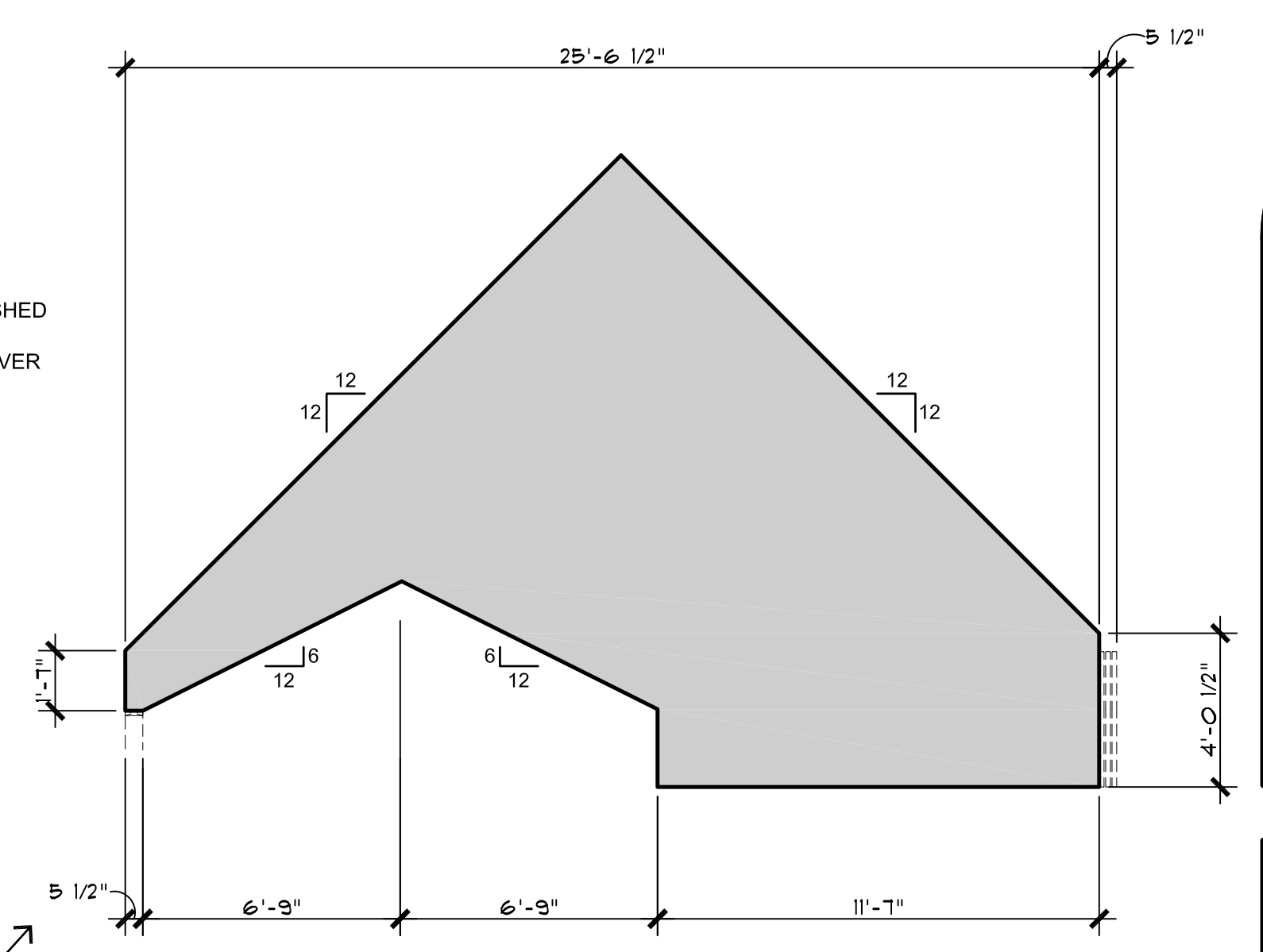
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A-3.1
BUILDING SECTIONS



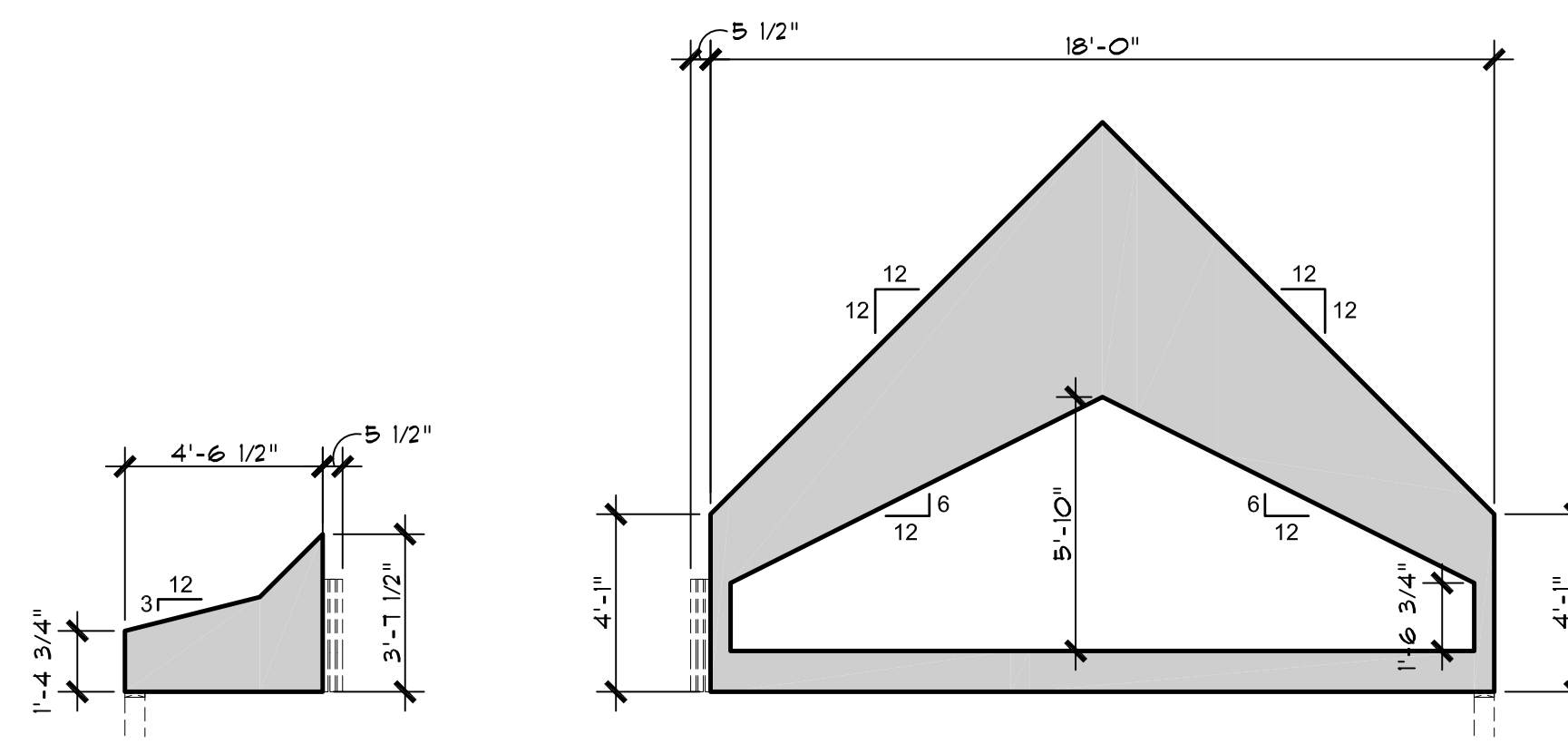
BUILDING SECTION 'C'

SCALE: 1/4" = 1'-0"



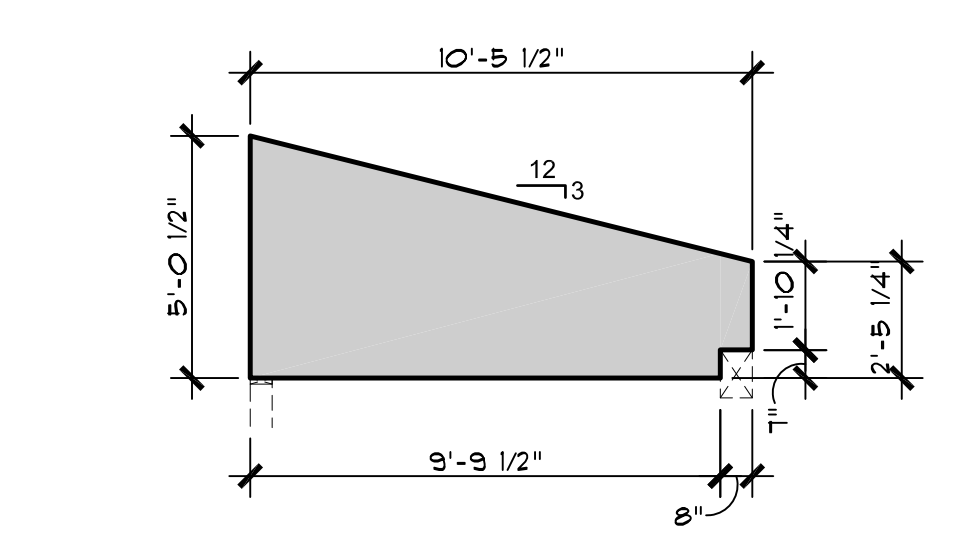
TRUSS AT MASTER

SCALE: 1/4" = 1'-0"



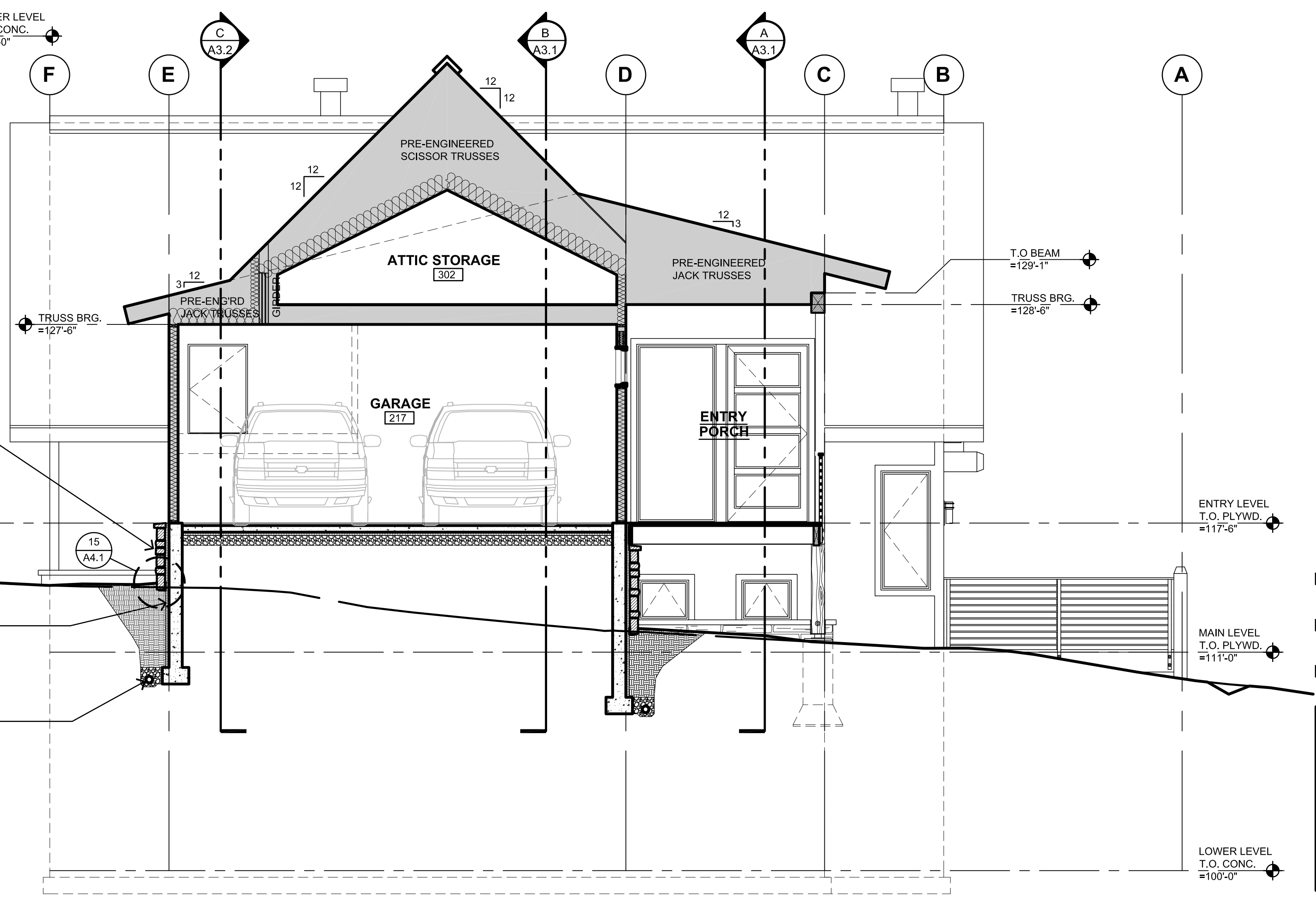
TRUSSES AT GARAGE

SCALE: 1/4" = 1'-0"



TRUSS AT ENTRY PORCH

SCALE: 1/4" = 1'-0"



BUILDING SECTION 'D'

SCALE: 1/4" = 1'-0"

TYPICAL VALLEY FLASHING:
36" WIDE, 26 GA. METAL FLASHING, PRE-FINISHED TO MATCH ROOF COLOR (OR PRIME & PAINT) CENTERED AT VALLEY BY ROOF SUPPLIER OVER WATERPROOF MEMBRANE (RE: DETAILS)

TYPICAL STONE VENEER:
5" NOMINAL THICK STONE (PER SPECS) WITH METAL TIES @ 16" O.C. EACH WAY OVER WAFFLE DRAIN OR DRAINAGE BOARD OVER 1/2" PRESSURE TREATED PLYWOOD SHEATHING OR CONCRETE FOUNDATION WALL. BEAR ON 4" C.M.U. UP FROM FOOTING OR ON STEEL ANGLE ALONG FINISH GRADES PER STRUCTURAL WITH 2 COATS DAMPPROOFING.

TYPICAL FOUNDATION WATERPROOFING:
AT UPHILL SIDES OF FOUNDATION INSTALL RIGID INSULATION (PER SPECS) OVER DRAIN MAT OVER WATERPROOF MEMBRANE (IF REQUIRED BY SOILS ENGINEER). PROVIDE DAMPPROOFING AT SIDE WALLS AND DOWNHILL WALLS.

TYPICAL FOUNDATION DRAIN:
SET 4" DIA. RIGID PVC IN BED OF WASHED ROCK. SLOPE & TERMINATE PER SITE PLAN, SP-1.



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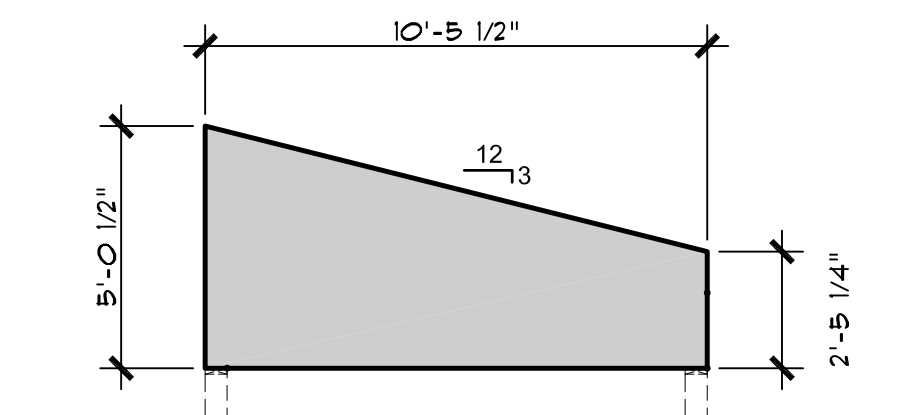
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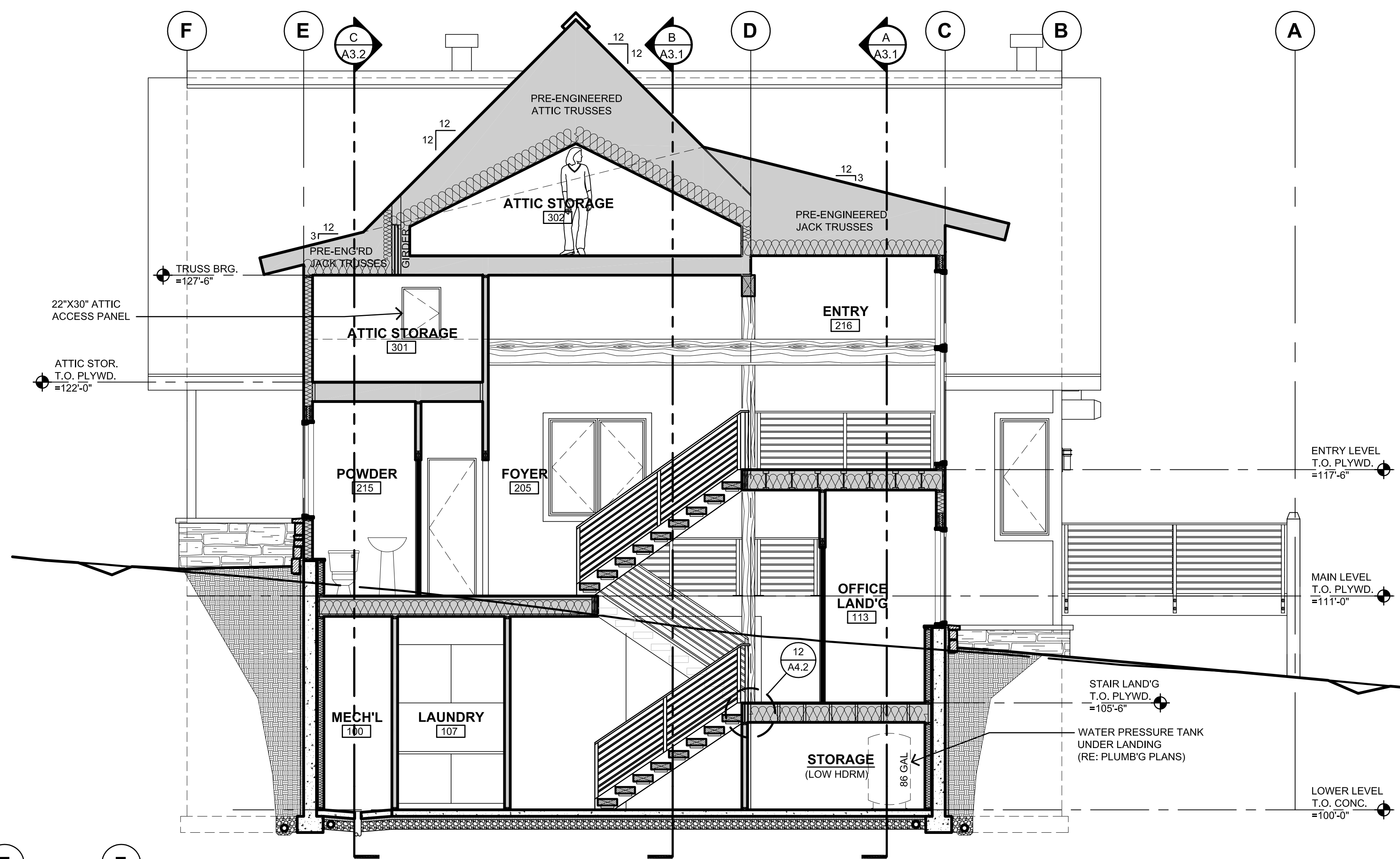
HOLOMBO RESIDENCE
0039 LODGESTONE TRAIL, BLUE RIVER, COLORADO 80424 (LOT 532, THE CROWN SUBDIVISION)

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SHEET NUMBER:
A-3.2
BUILDING SECTIONS



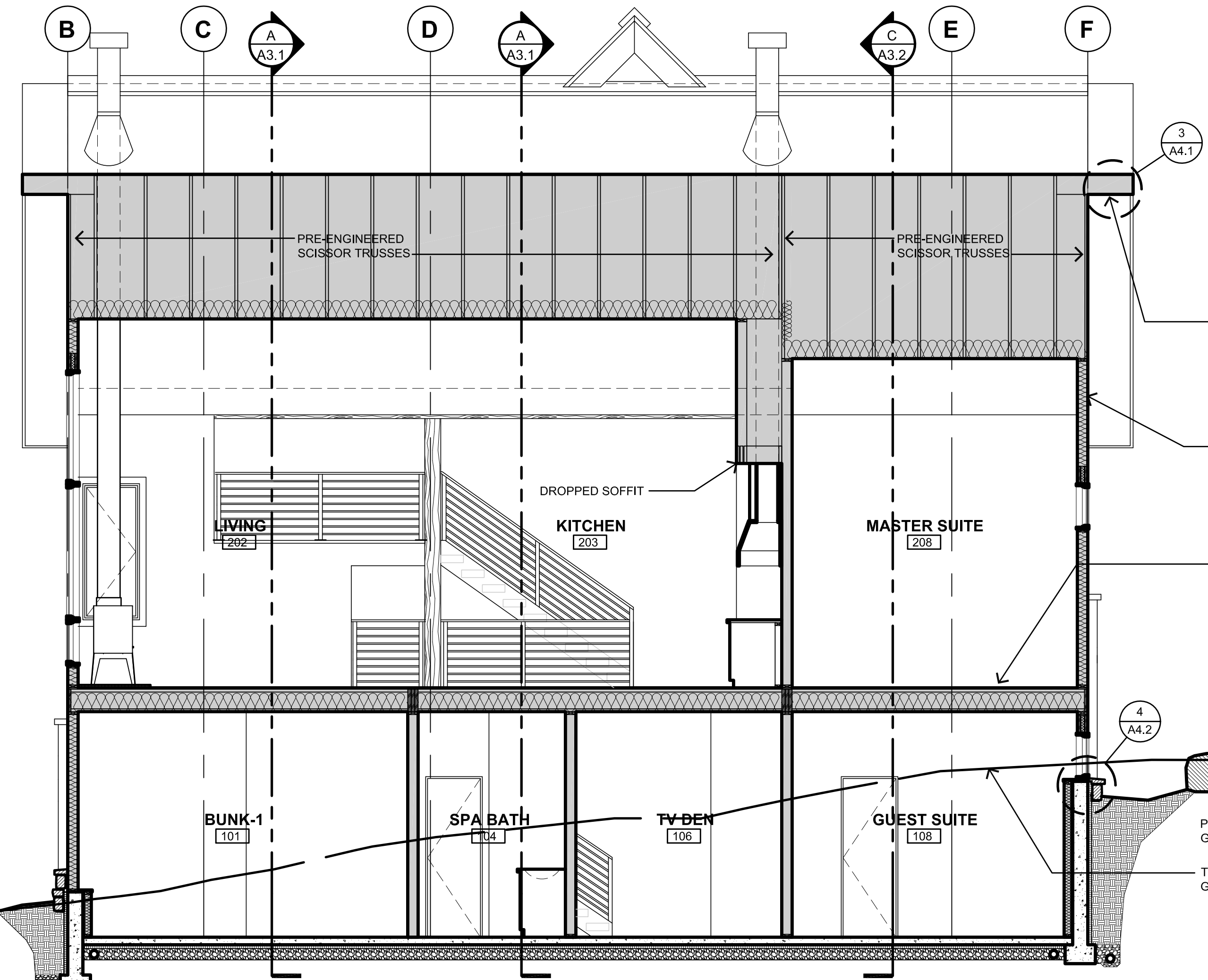
TRUSS AT ENTRY

SCALE: 1/4" = 1'-0"



BUILDING SECTION 'E'

SCALE: 1/4" = 1'-0"



BUILDING SECTION 'F'

SCALE: 1/4" = 1'-0"

- TYPICAL SOFFIT @ RAKES & EAVES:
BLOCK BETWEEN RAFTERS FOR 1x8 T&G CVG CEDAR (PER SPECS.) OVER FRAMING PER STRUCTURAL PLANS (U.N.O.)
- TYPICAL EXTERIOR WALL:
SIDING (PER SPECS & ELEVATIONS) OVER TYVEK, OVER 1/2" SHEATHING, 2X8 STUDS @ 16" O.C. W/ INSULATION (PER SPECS) PROVIDE 5/8" DRYWALL OVER 4 MIL. VAPOR BARRIER @ INTERIOR.
- TYPICAL FLOOR / CEILING:
3/4" PLYWOOD SUBFLOOR (PER STRUCT.) OVER WOOD JOISTS (PER STRUCT.) W/ INSULATION (PER SPECS) PROVIDE 5/8" GYP. BD AT CEILING. PROVIDE 5/8" X GYP. BOARD AT GARAGE CEILING.

COLORADO LICENSED
TAYLOR SWANBOW ARCHITECTS
ARCHITECTS

REVISIONS:

JOB NO: 12315.0
DATE: 10.16.23
DRAWN BY: T. SHAFFER
CHECKED BY: Z. LEVIN

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ISSUED FOR CONSTRUCTION: 10.16.23

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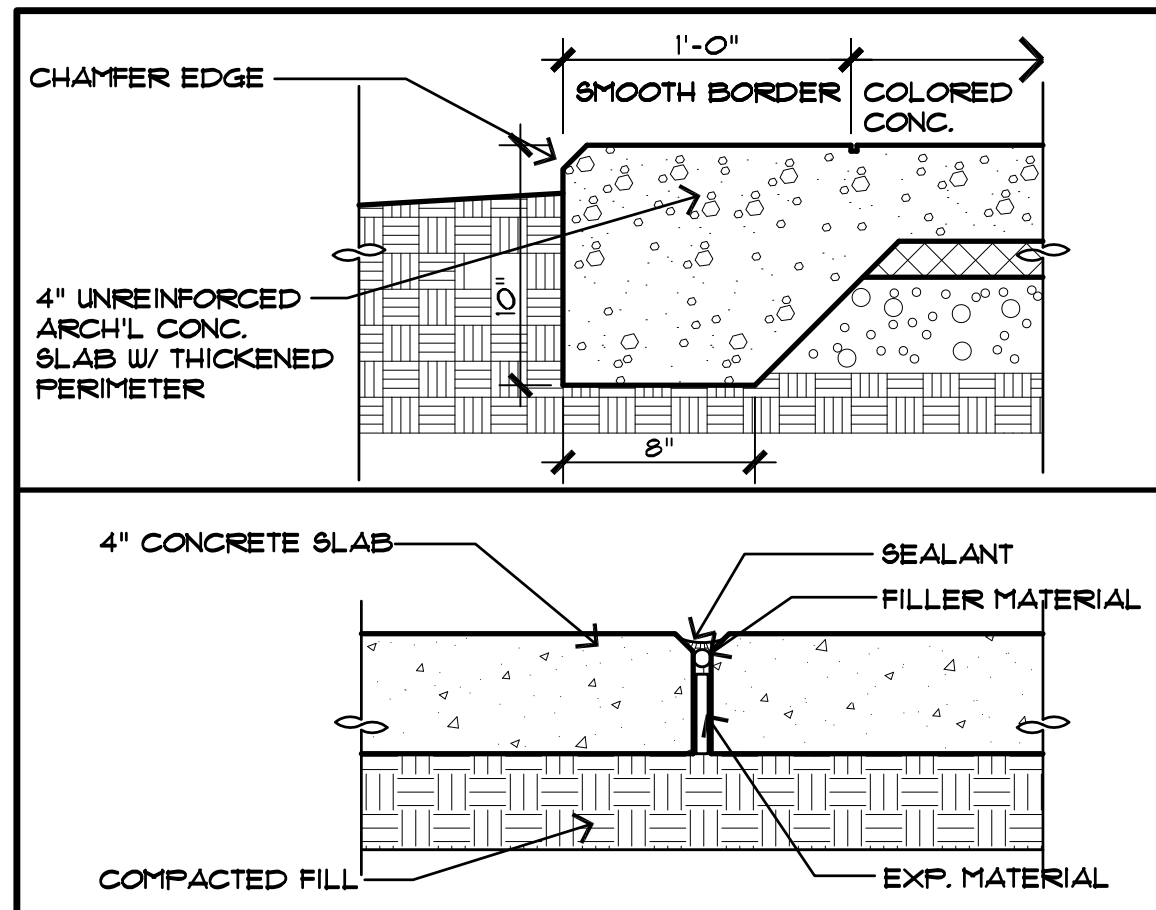
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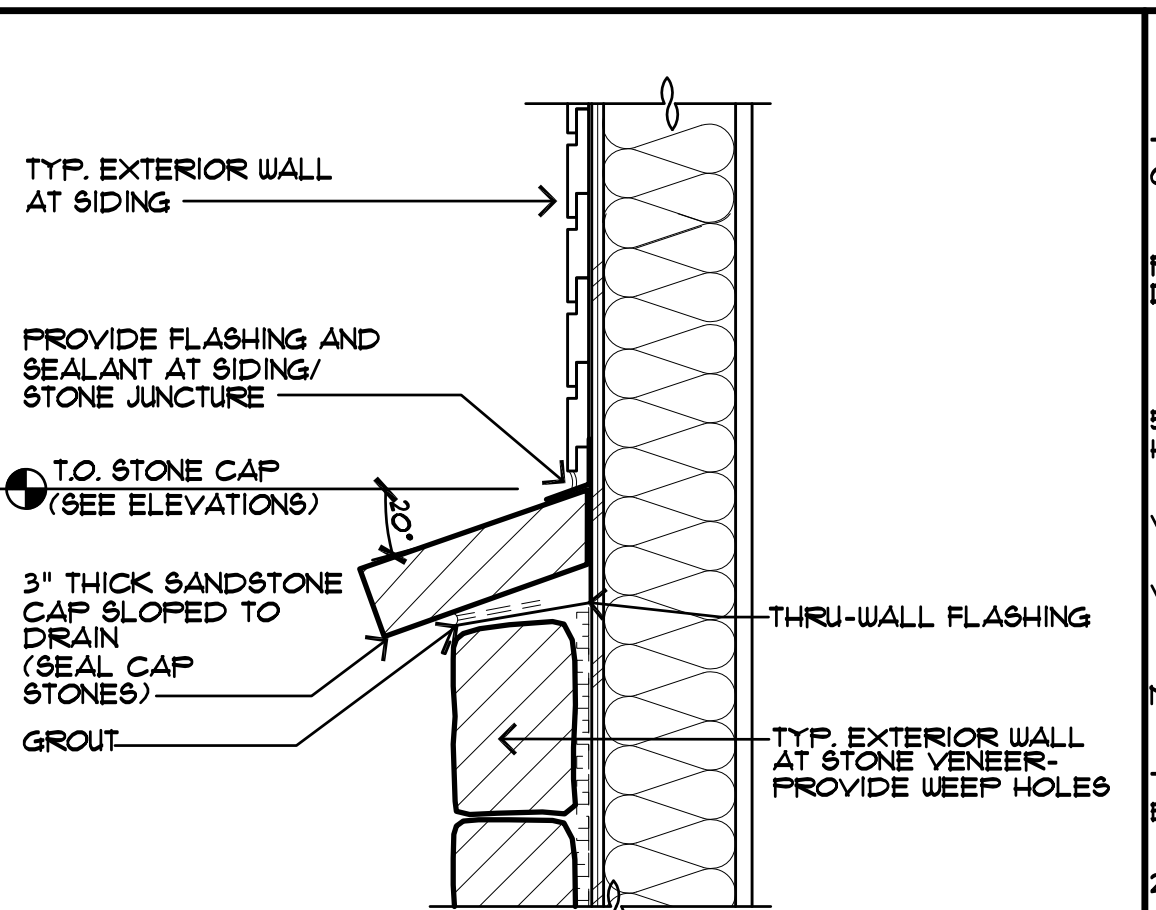
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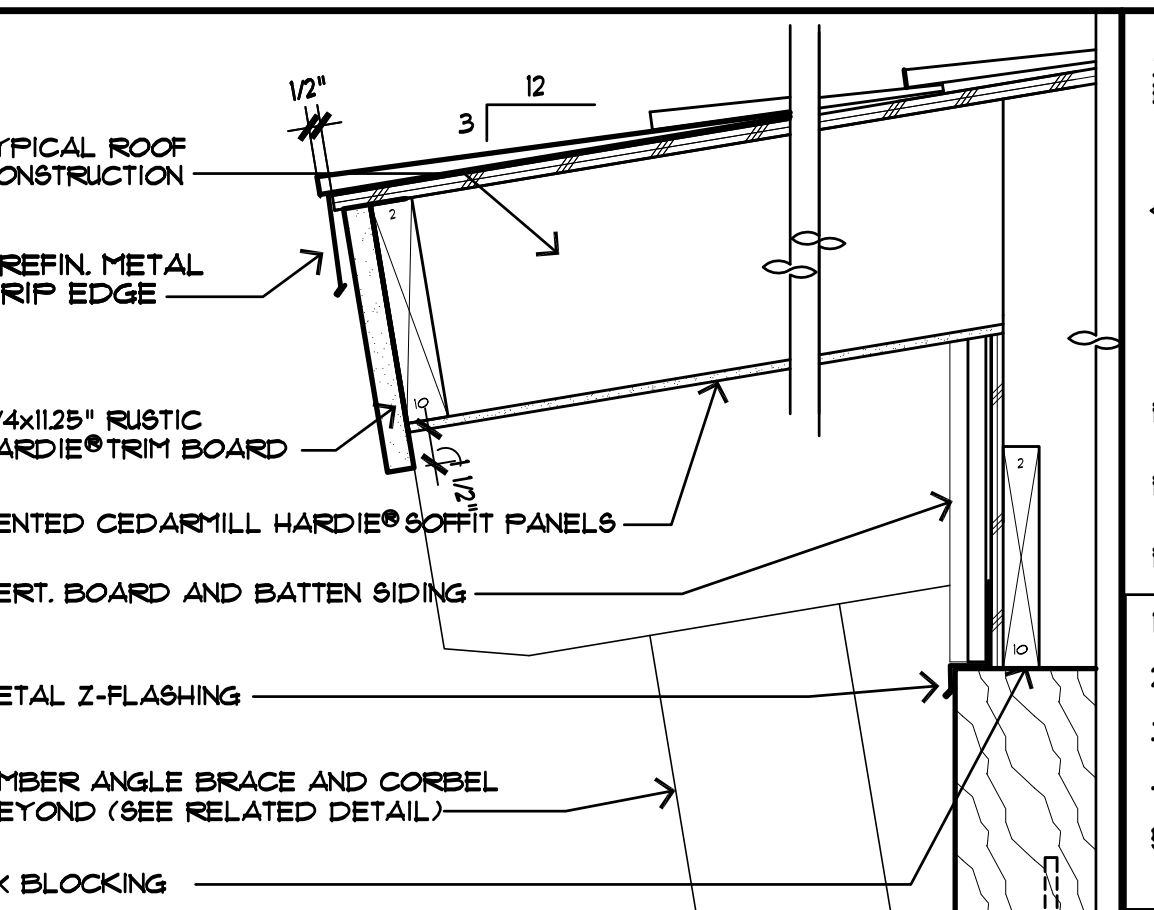
BUILDING SECTIONS



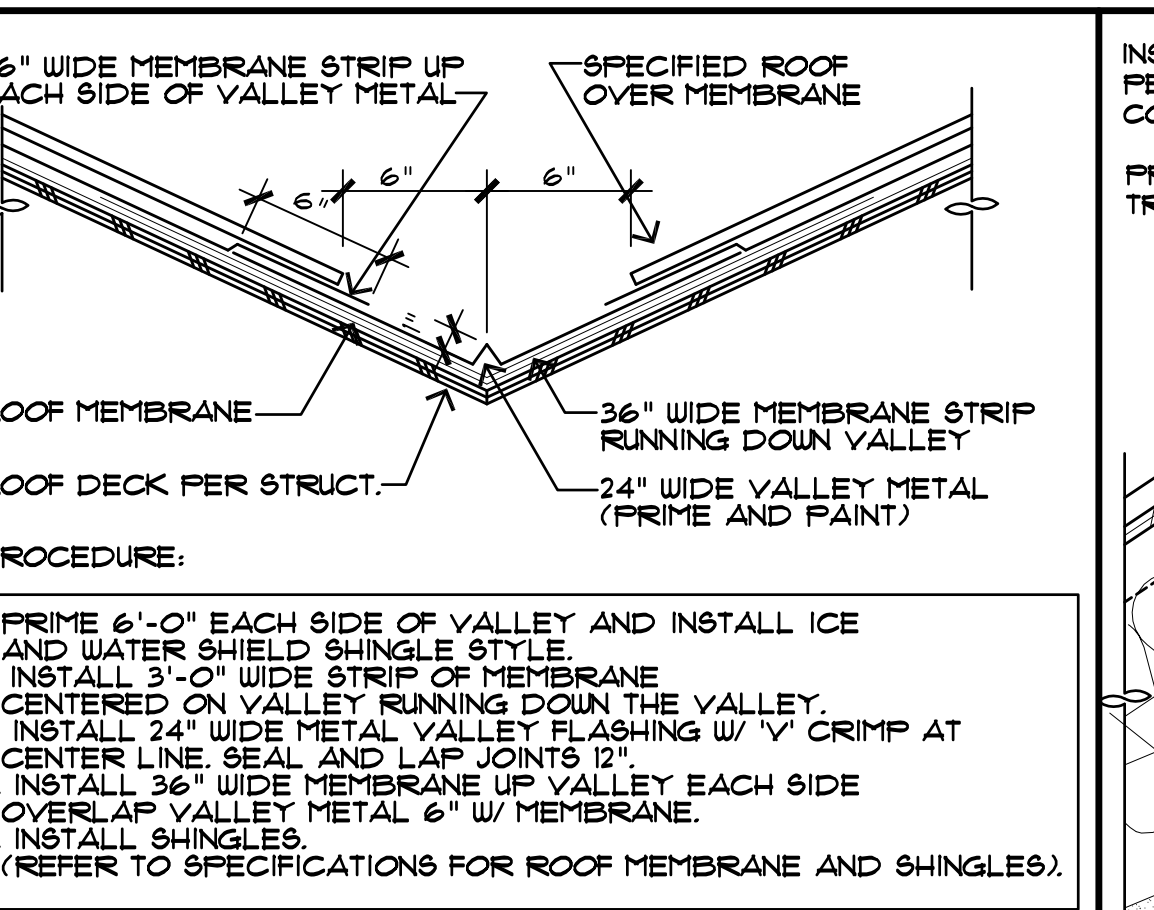
17 WINDOW HEAD AT HORIZONTAL SIDING
A4.1 1 1/2" = 1'-0"



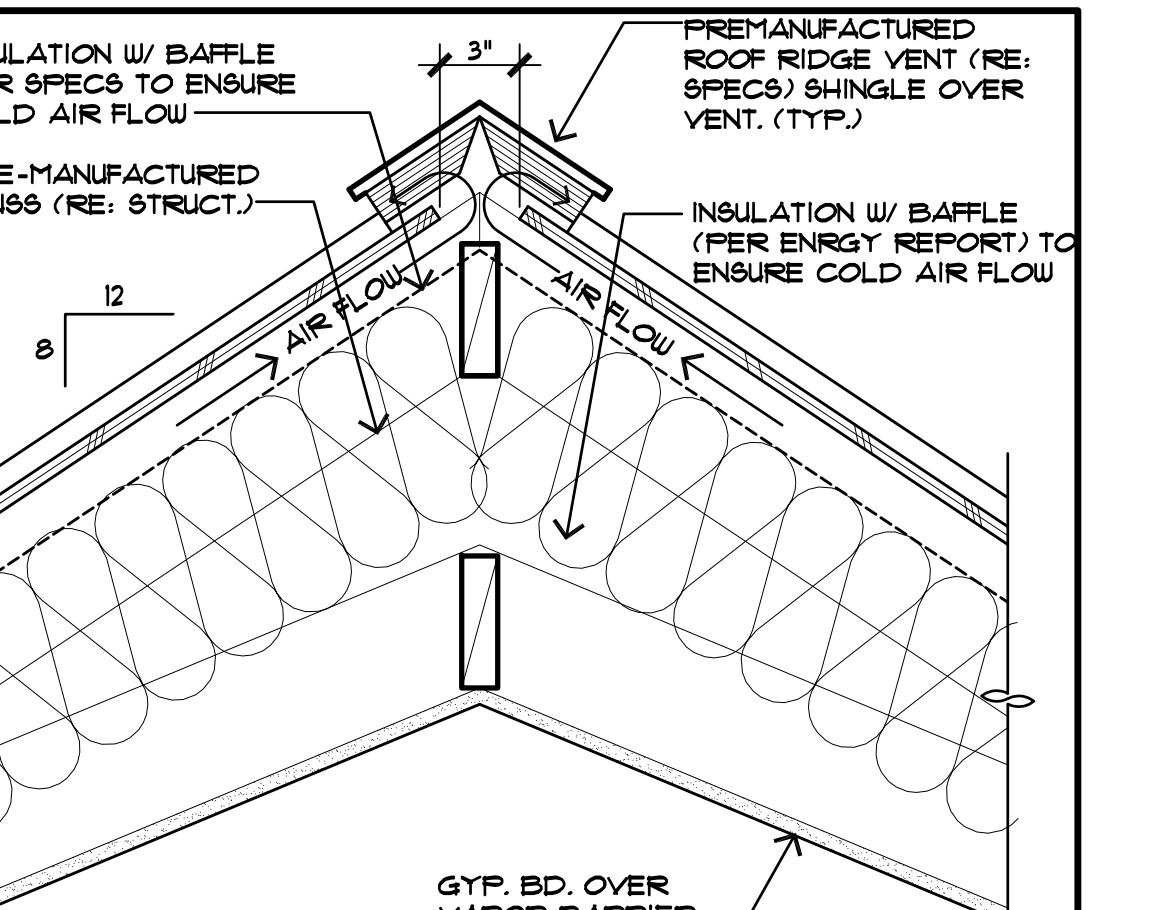
13 STONE VENEER AT STONE CAP
A4.1 1 1/2" = 1'-0"



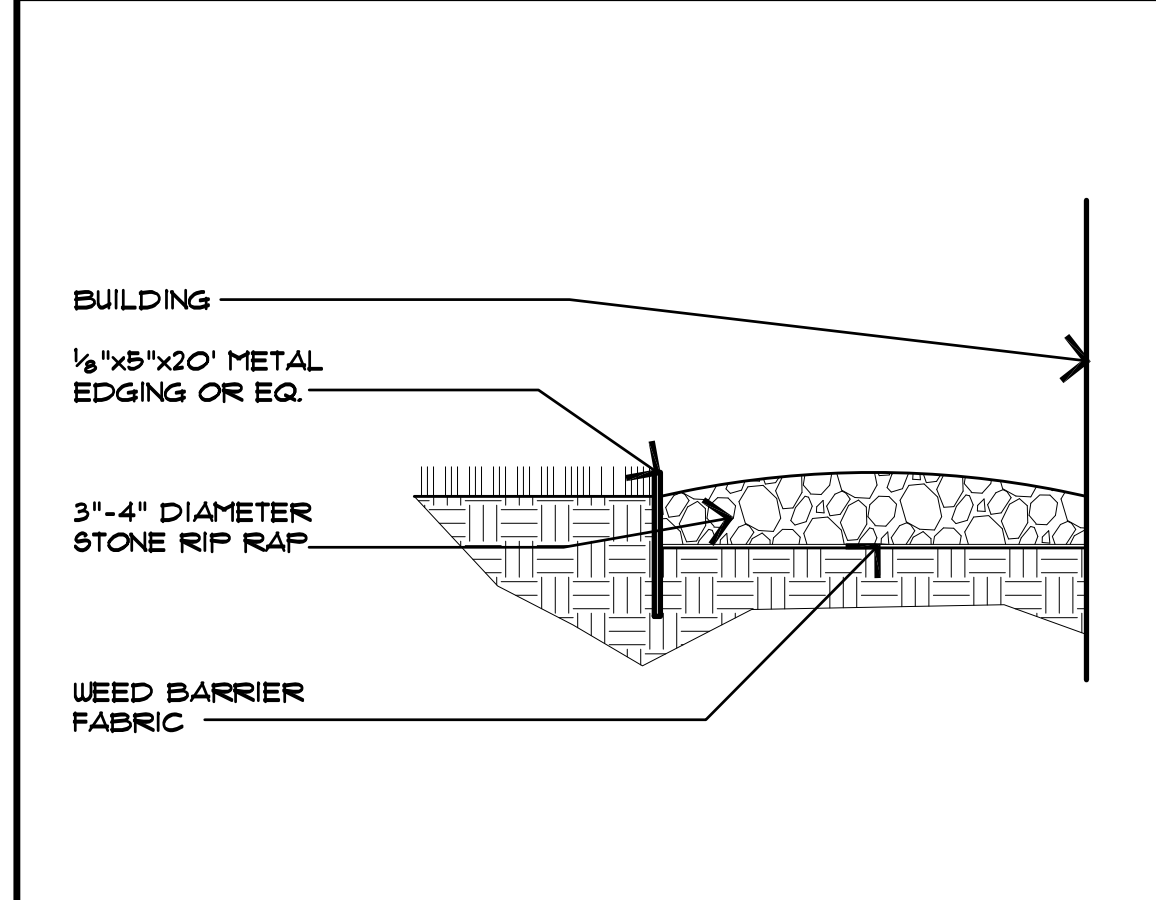
9 FASCIA AT PORCH
A4.1 1 1/2" = 1'-0"



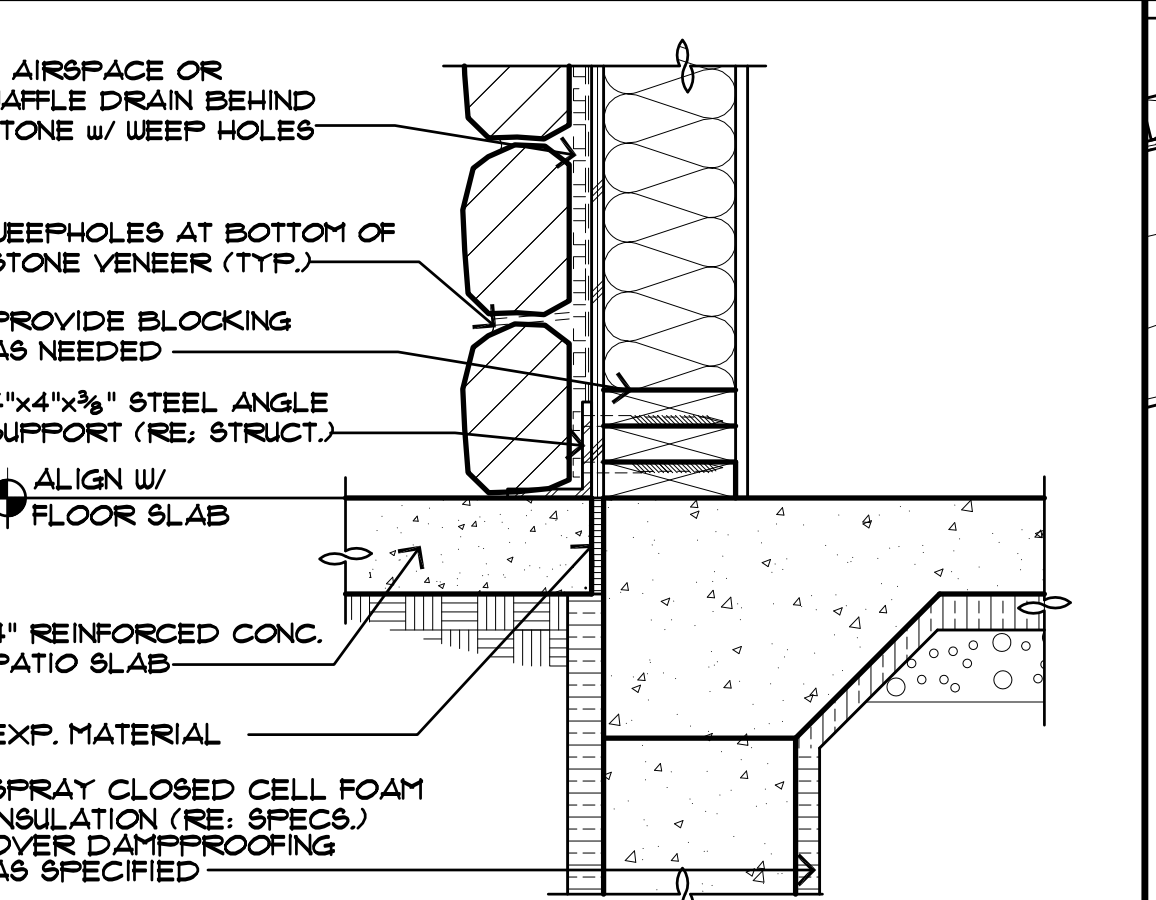
5 VALLEY FLASHING
A4.1 1 1/2" = 1'-0"



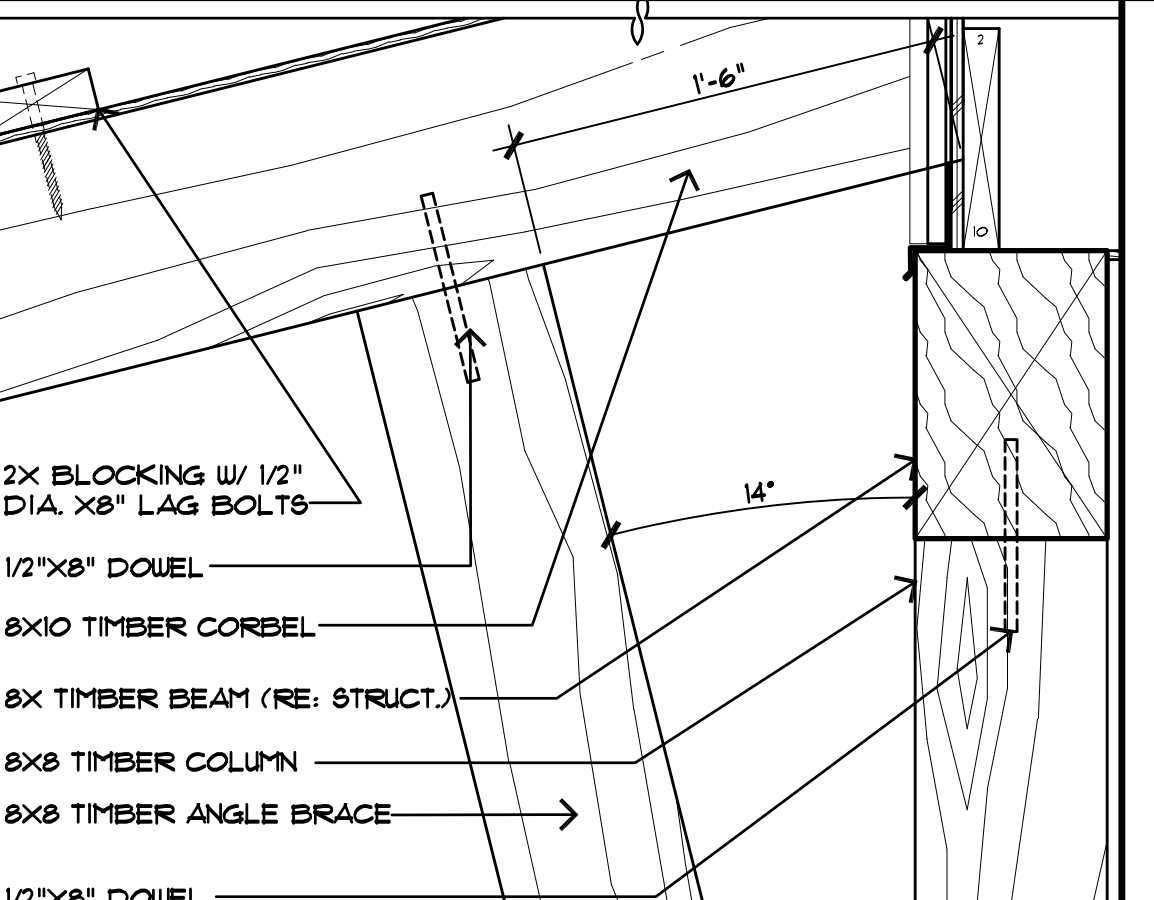
1 RIDGE VENT
A4.1 1 1/2" = 1'-0"



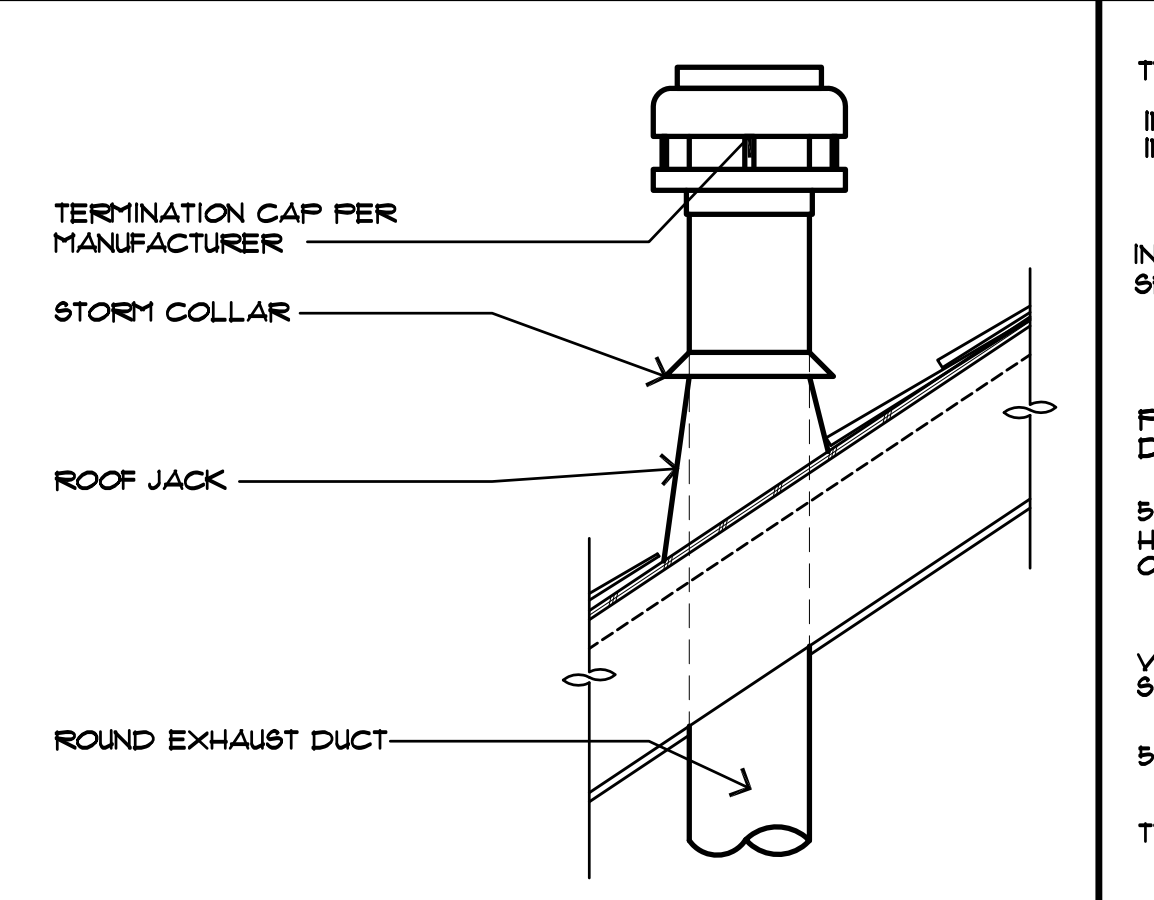
18 STONE RIP-RAP AT EAVE DRIP LINES
A4.1 1 1/2" = 1'-0"



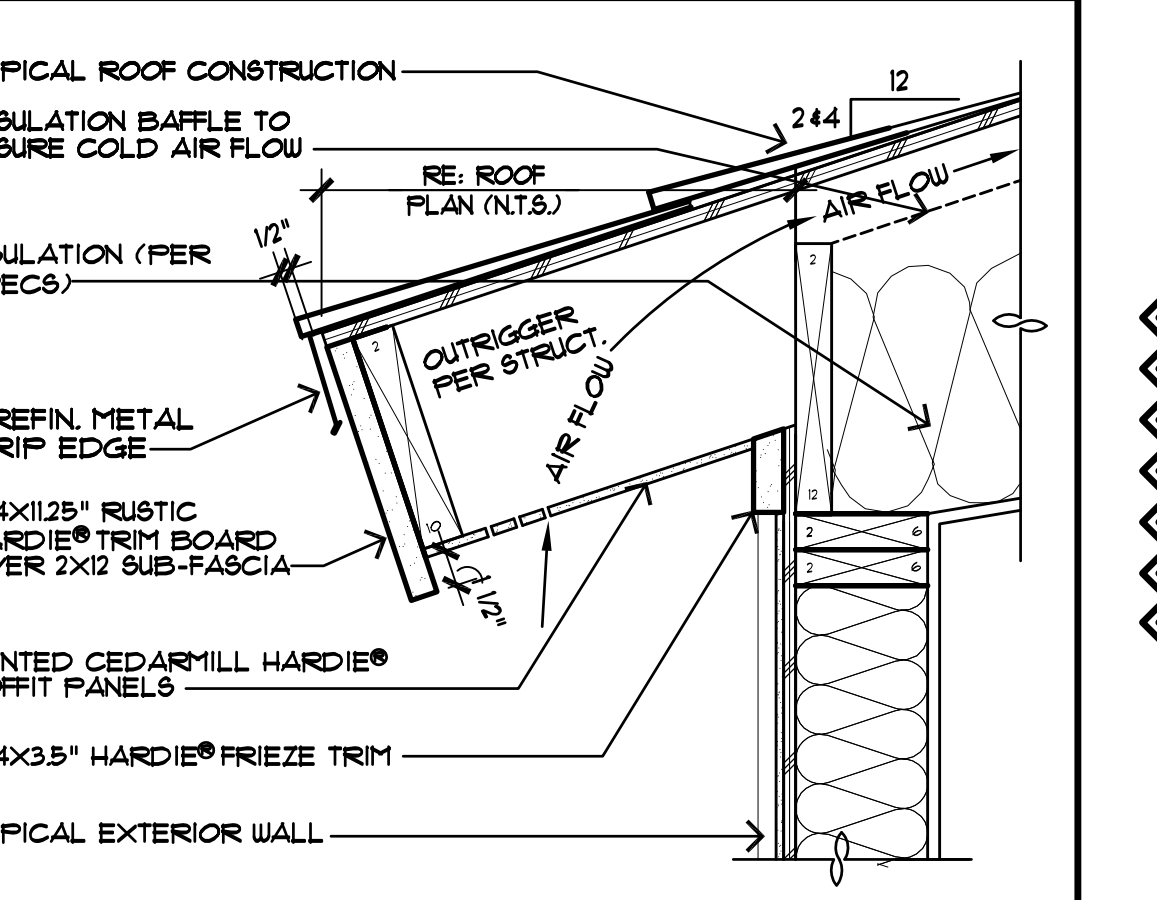
14 STONE VENEER AT PATIO
A4.1 1 1/2" = 1'-0"



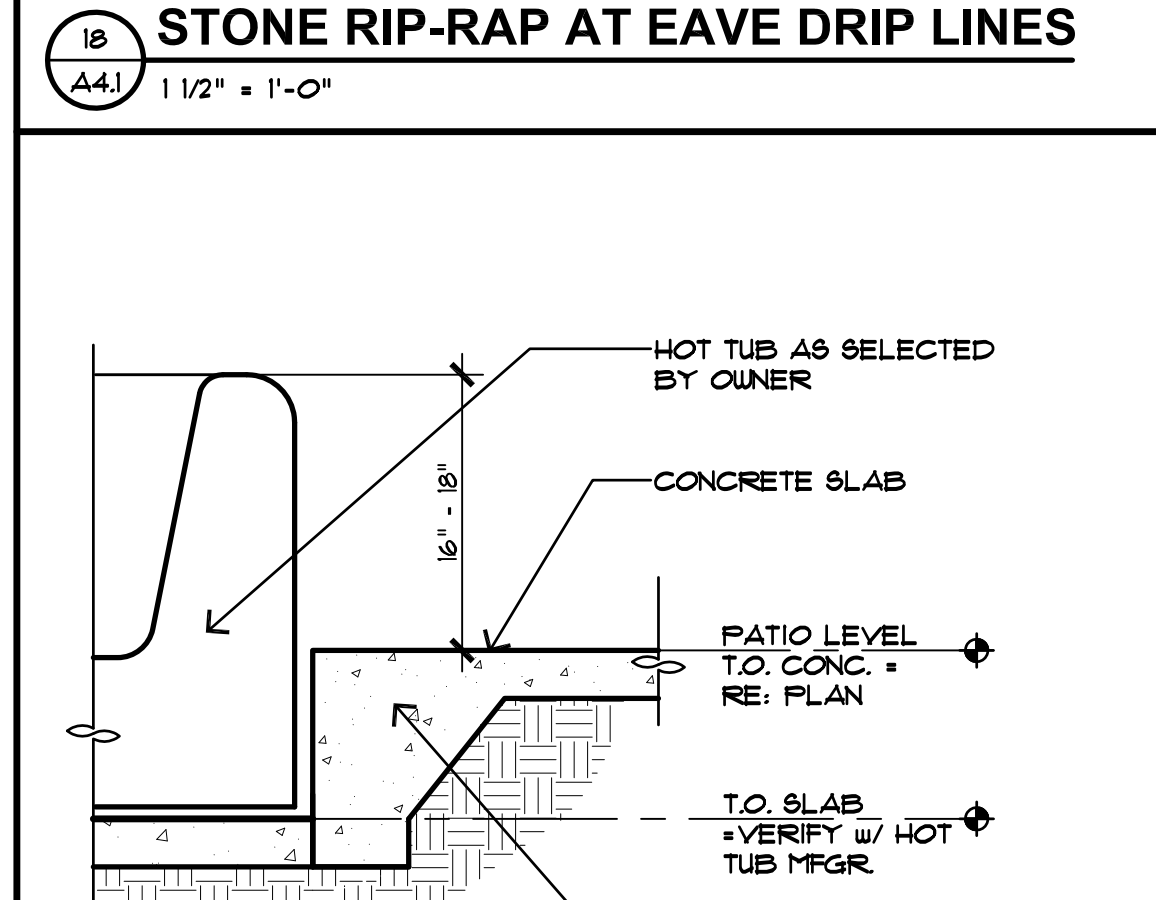
10 ANGLE BRACE AT BEAM
A4.1 1 1/2" = 1'-0"



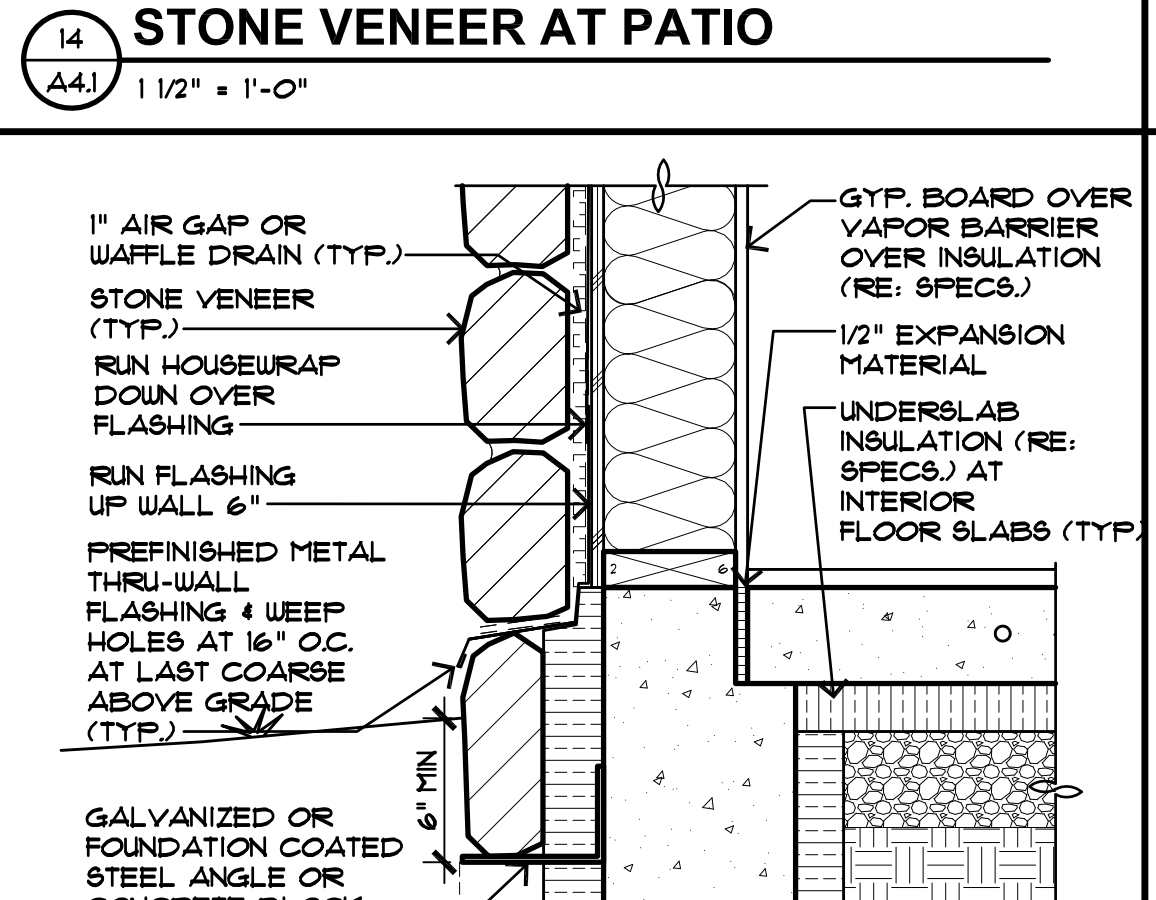
6 THROUGH-ROOF VENT
A4.1 3/4" = 1'-0"



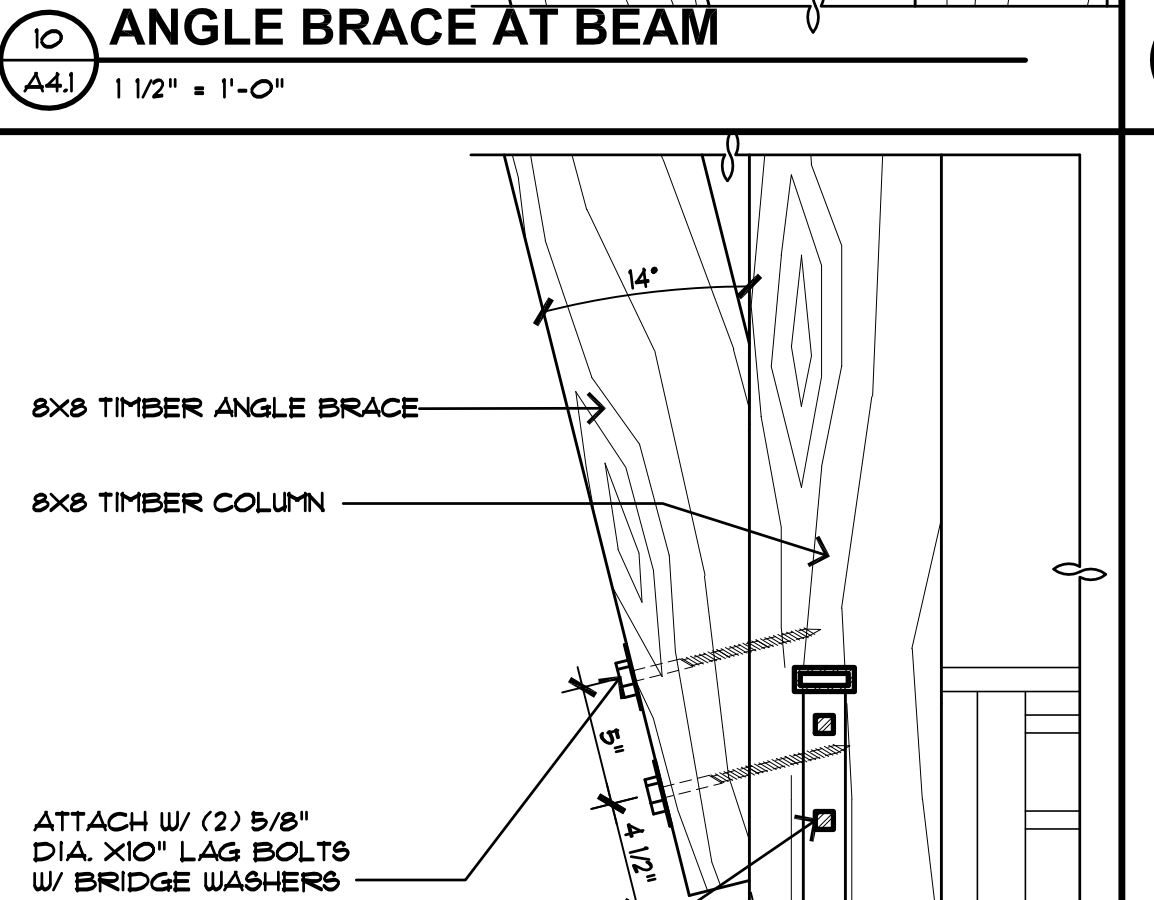
2 FASCIA AT EAVE
A4.1 1 1/2" = 1'-0"



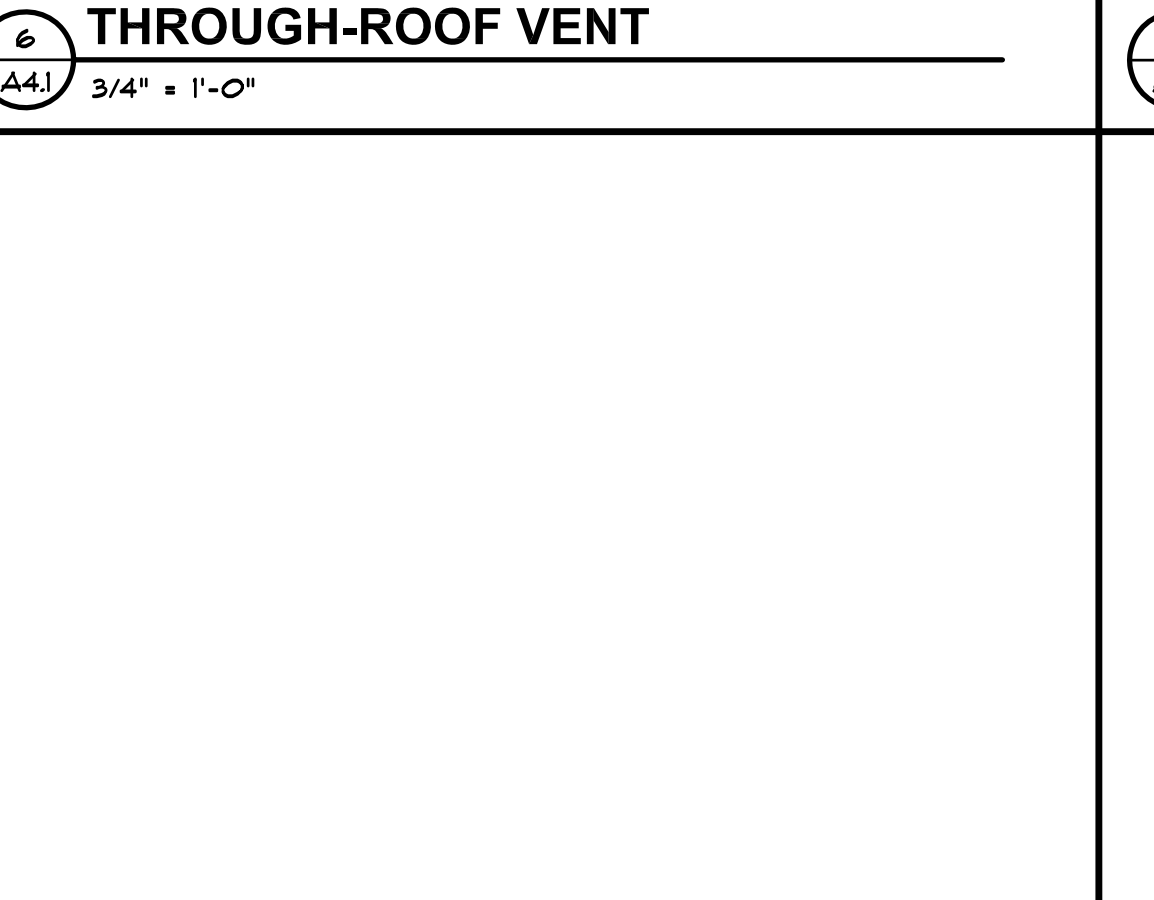
19 PATIO EDGE AT DROPPED HOT TUB
A4.1 3/4" = 1'-0"



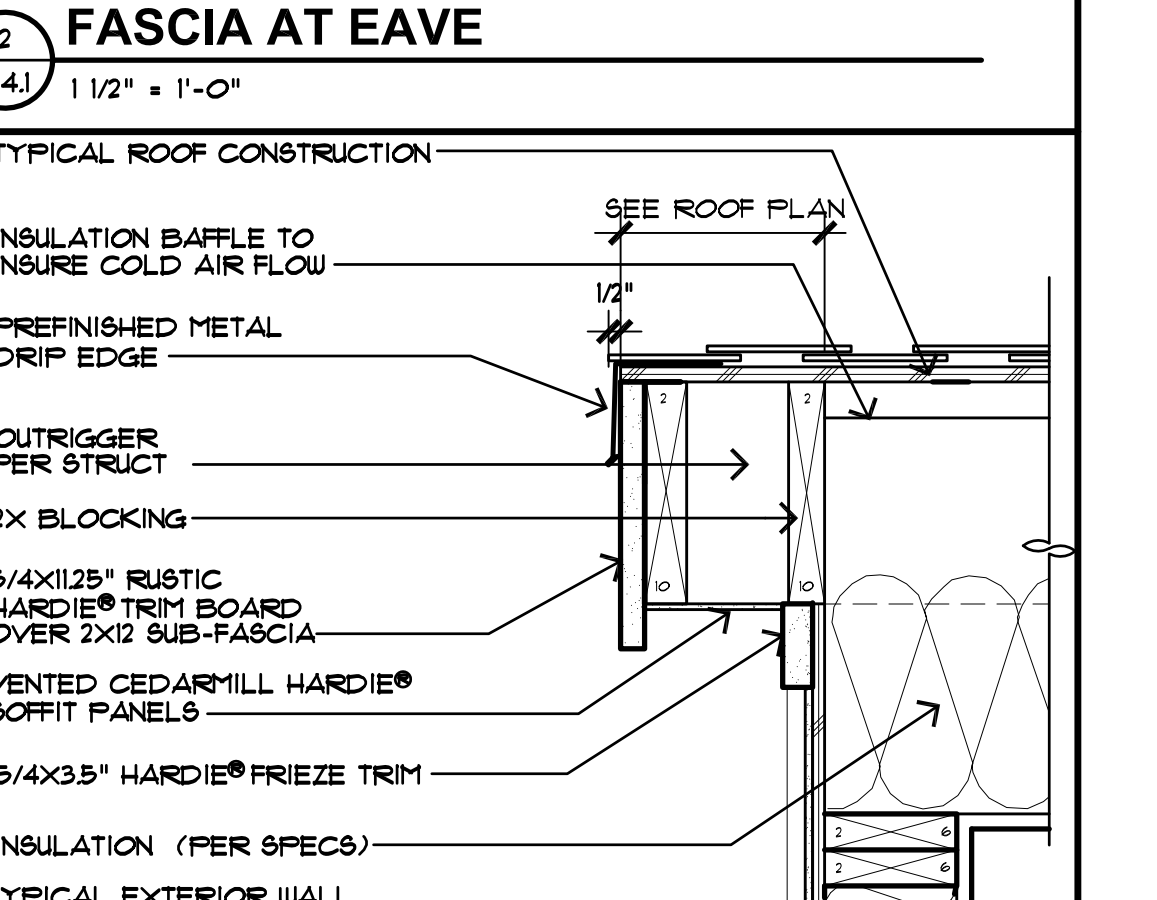
15 STONE VENEER AT FOUNDATION
A4.1 1 1/2" = 1'-0"



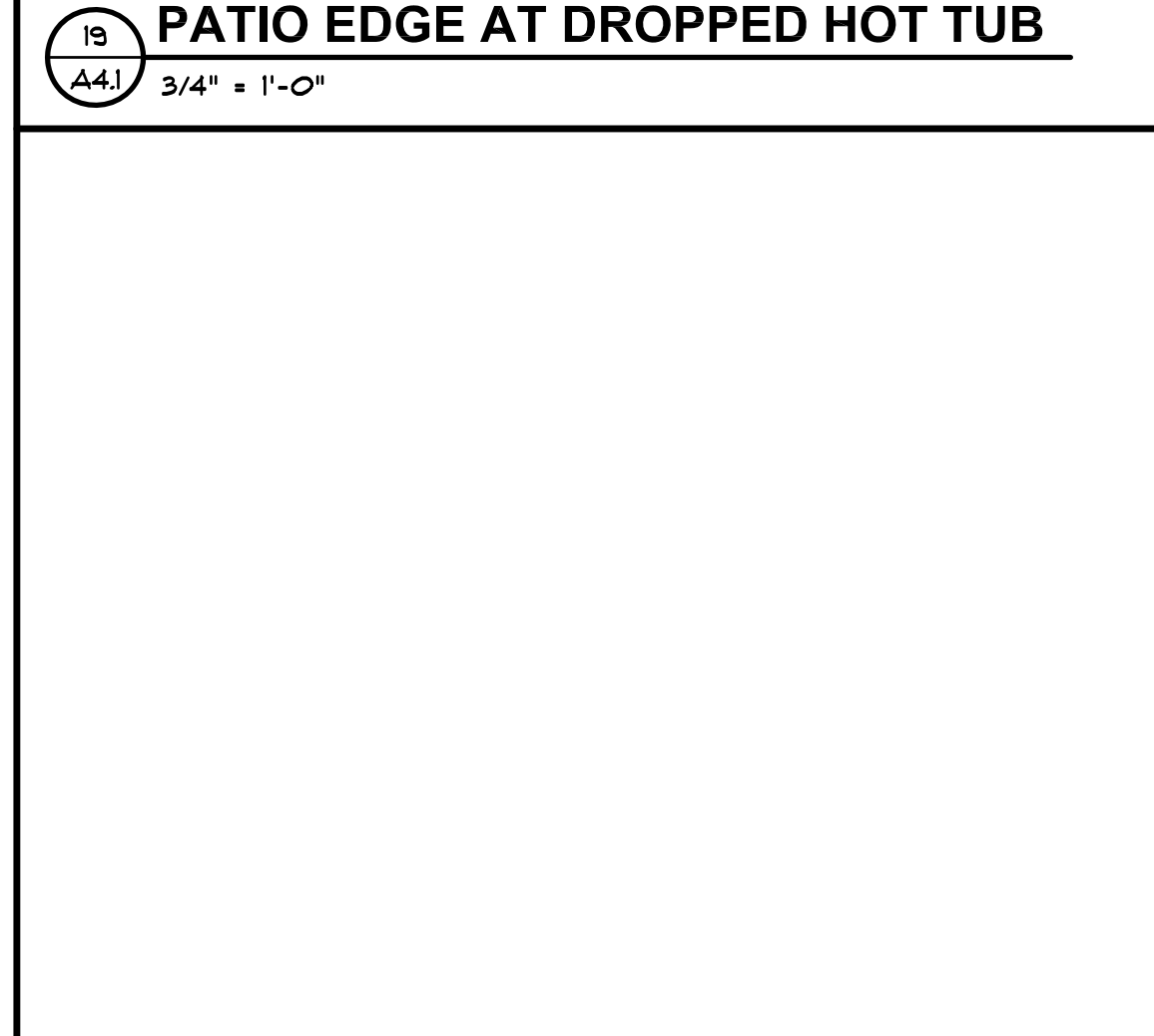
11 ANGLE BRACE AT COLUMN
A4.1 1 1/2" = 1'-0"



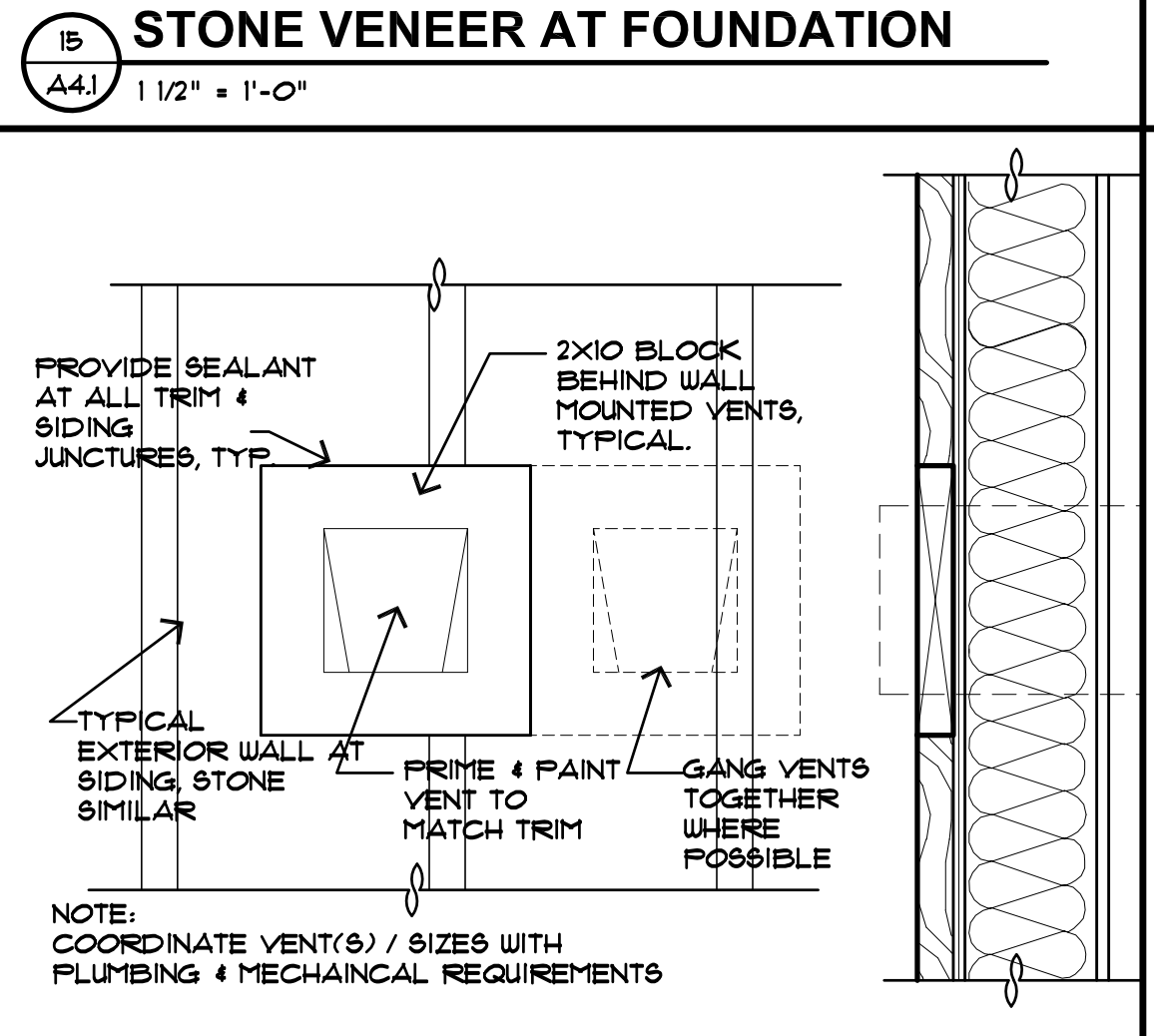
1 BLANK
A4.1 1 1/2" = 1'-0"



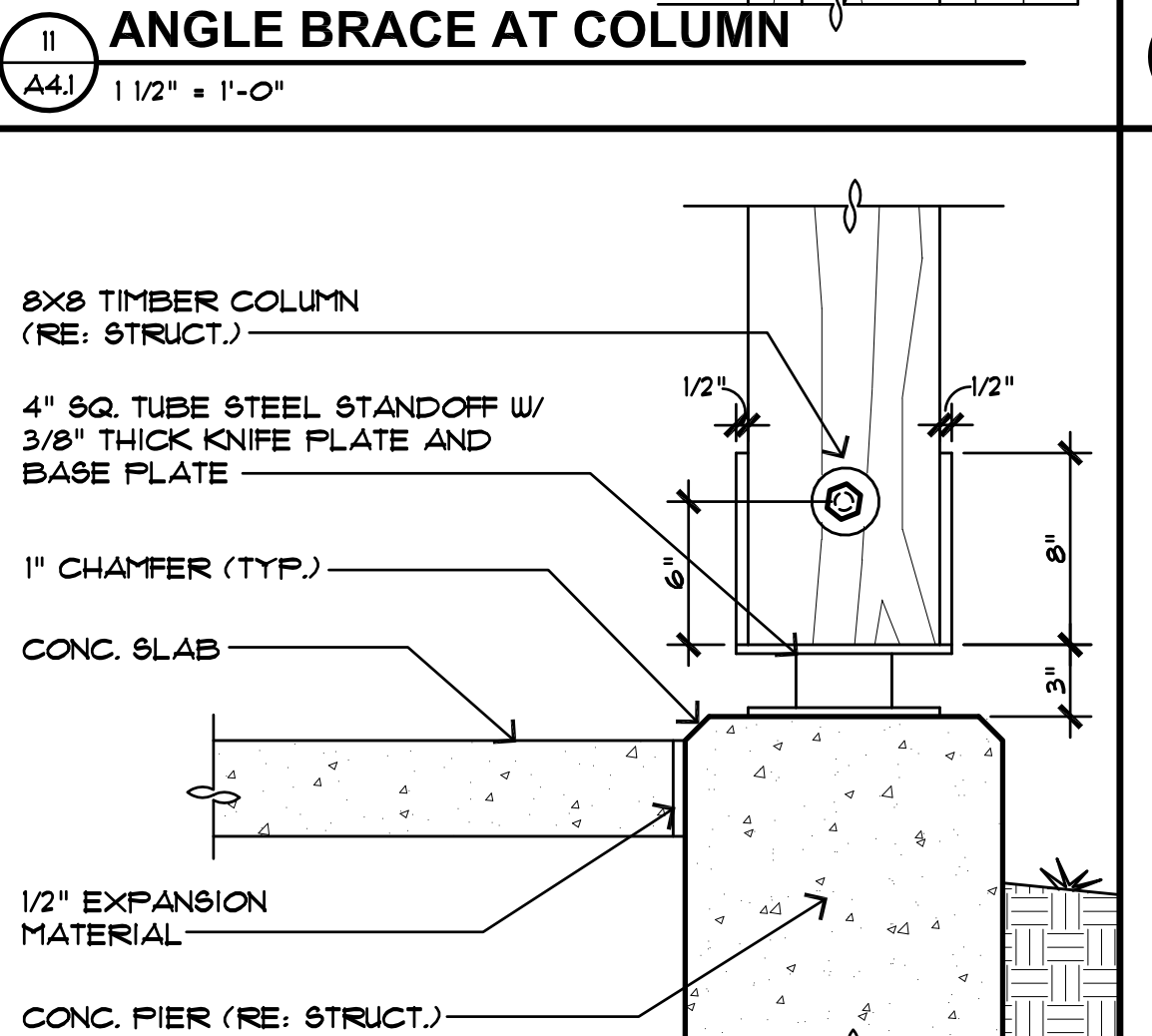
3 FASCIA AT RAKE
A4.1 1 1/2" = 1'-0"



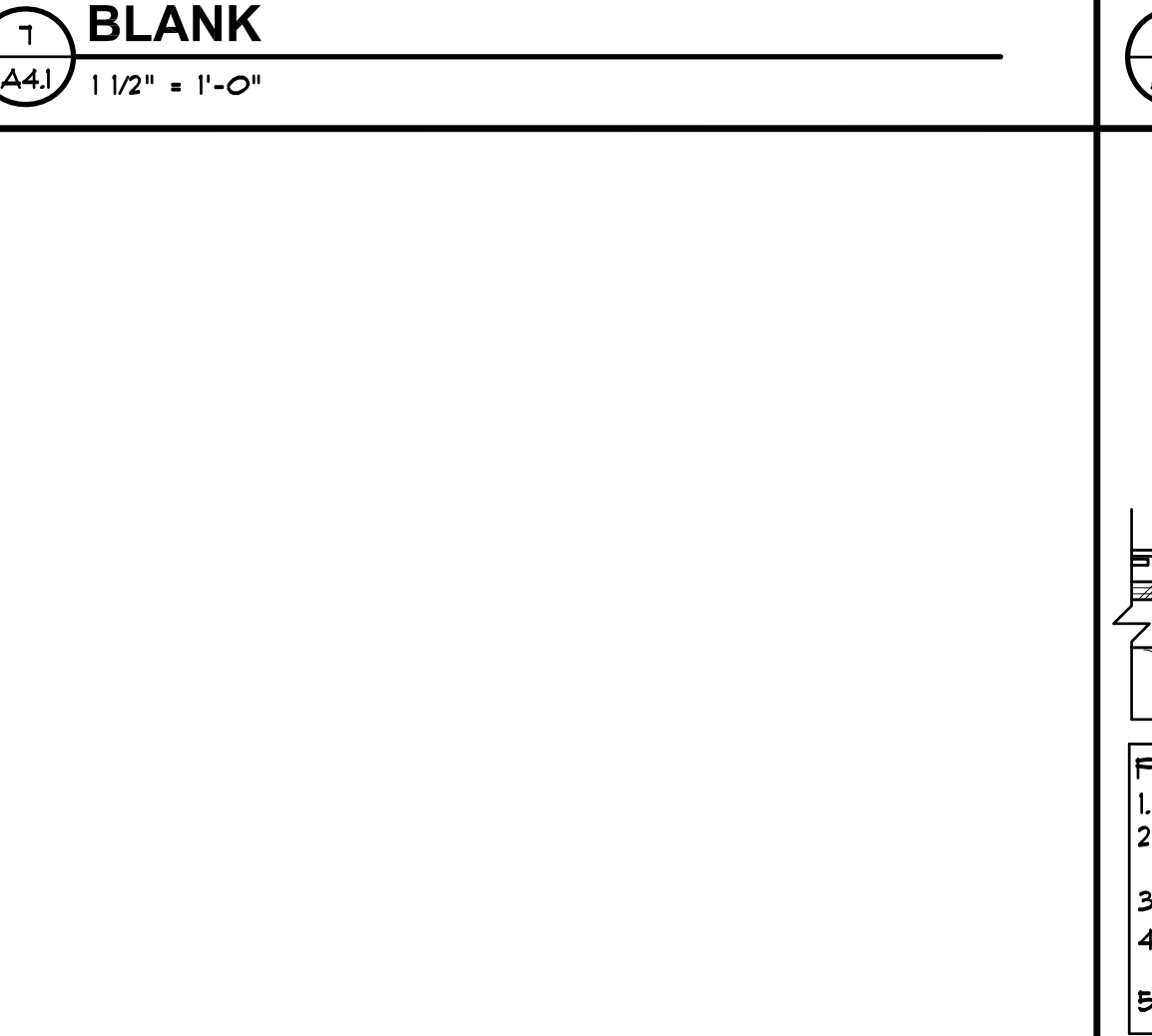
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A4.1 3/4" = 1'-0"



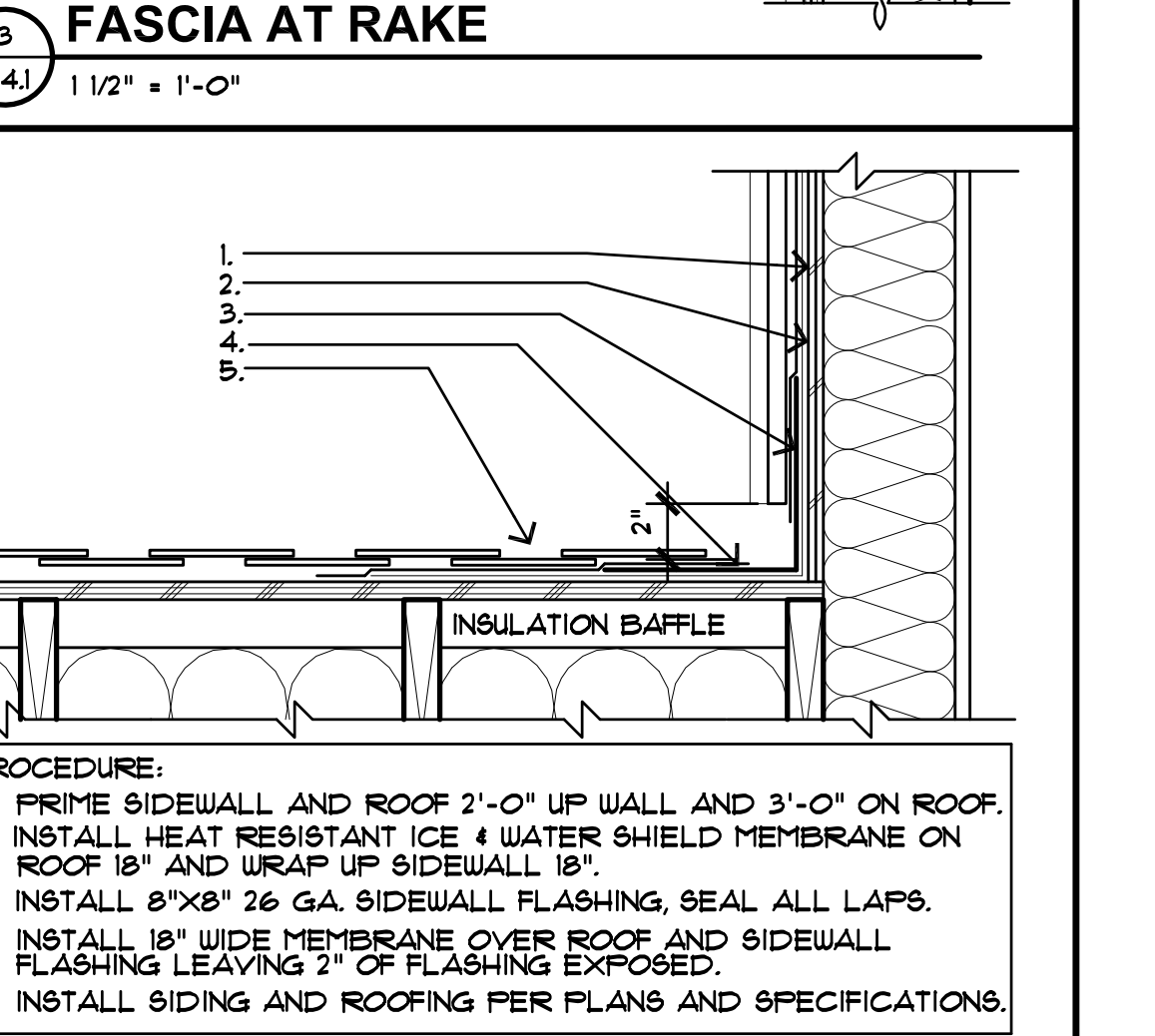
16 WALL VENT TERMINATION
A4.1 1 1/2" = 1'-0"



12 COLUMN AT BASE
A4.1 1 1/2" = 1'-0"



8 BLANK
A4.1 1 1/2" = 1'-0"



4 ROOF/WALL FLASHING
A4.1 1 1/2" = 1'-0"

COLOrado LICENSED ARCHITECT
T. SHAFFER
1016/23
405836

REVISIONS:

JOB NO: 12315.0
DATE: 10.16.23
DRAWN BY: T. SHAFFER
CHECKED BY: Z. LEVIN

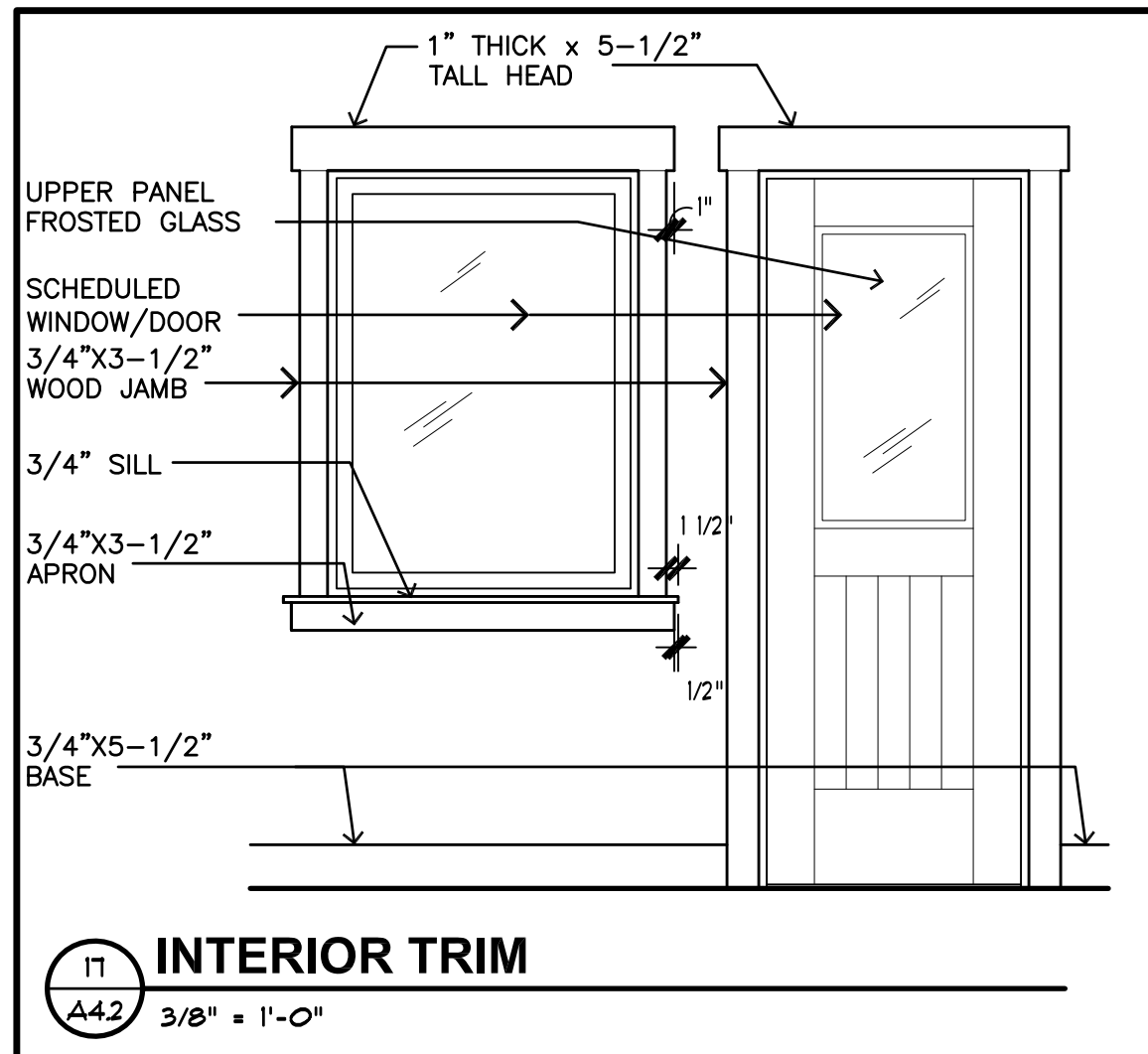
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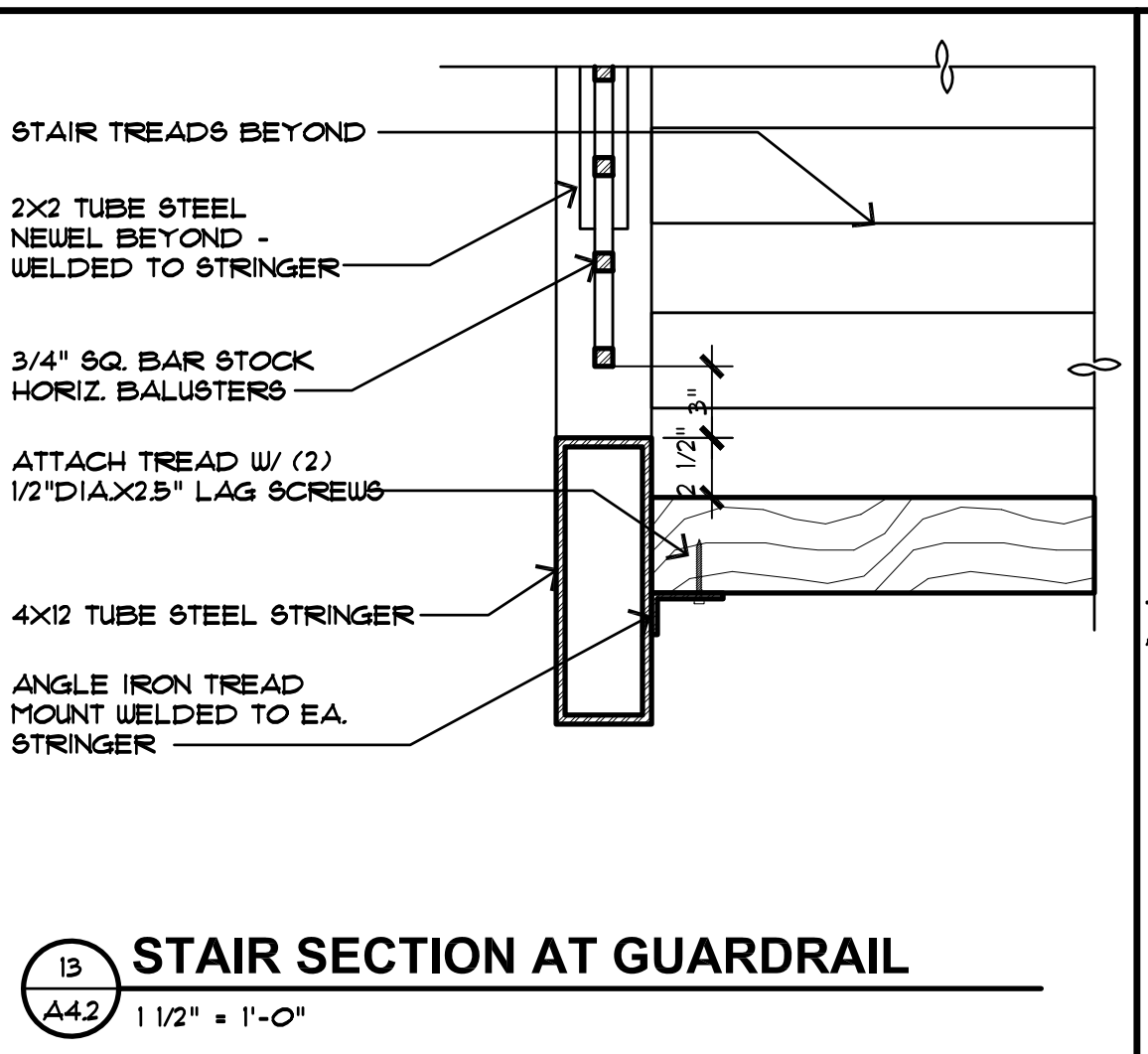
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HOLOMBO RESIDENCE
0039 LODGESTONE TRAIL, BLUE RIVER, COLORADO 80424 (LOT 532, THE CROWN SUBDIVISION)

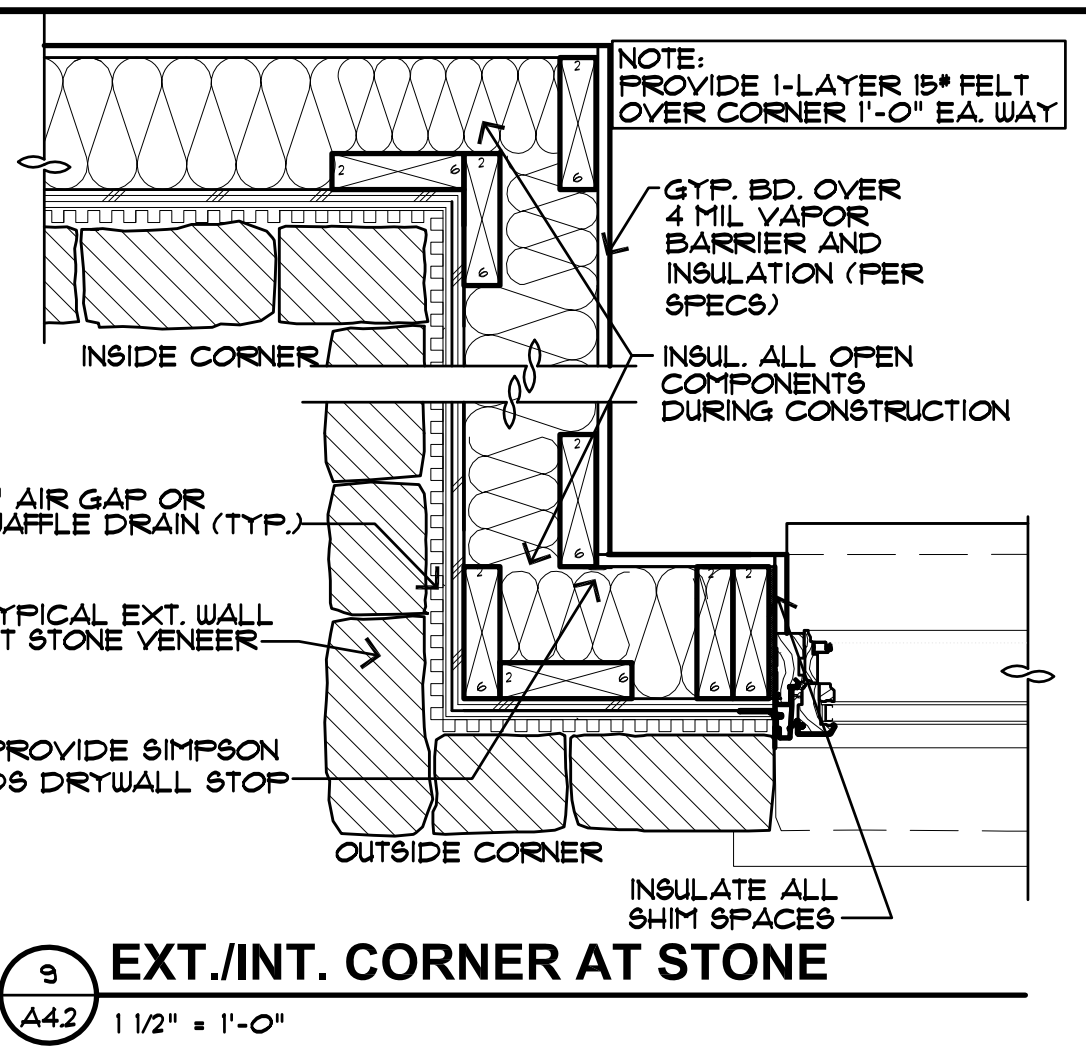
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A-4.1
ARCHITECTURAL
DETAILS



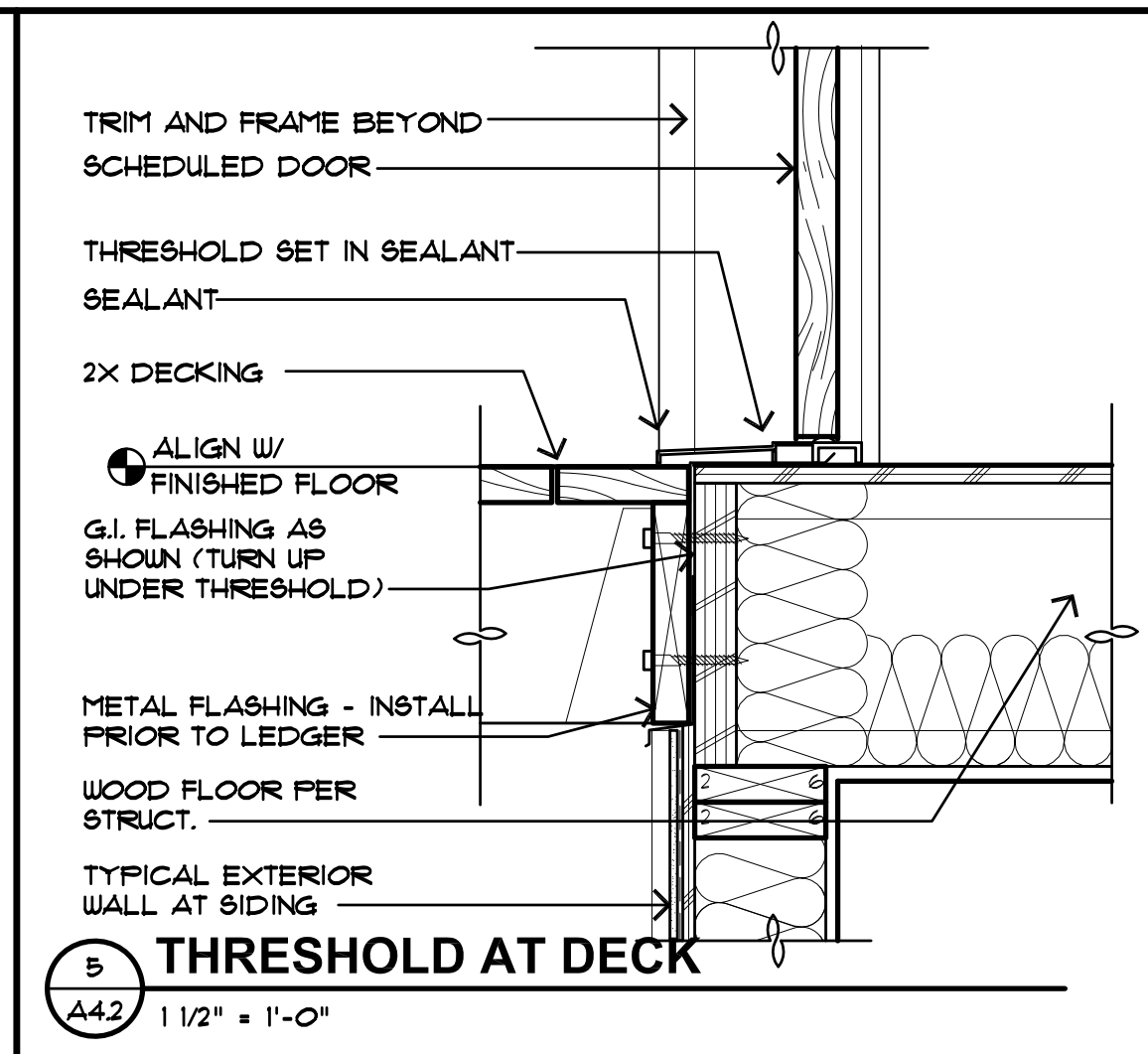
17 INTERIOR TRIM
A42 3/8" = 1'-0"



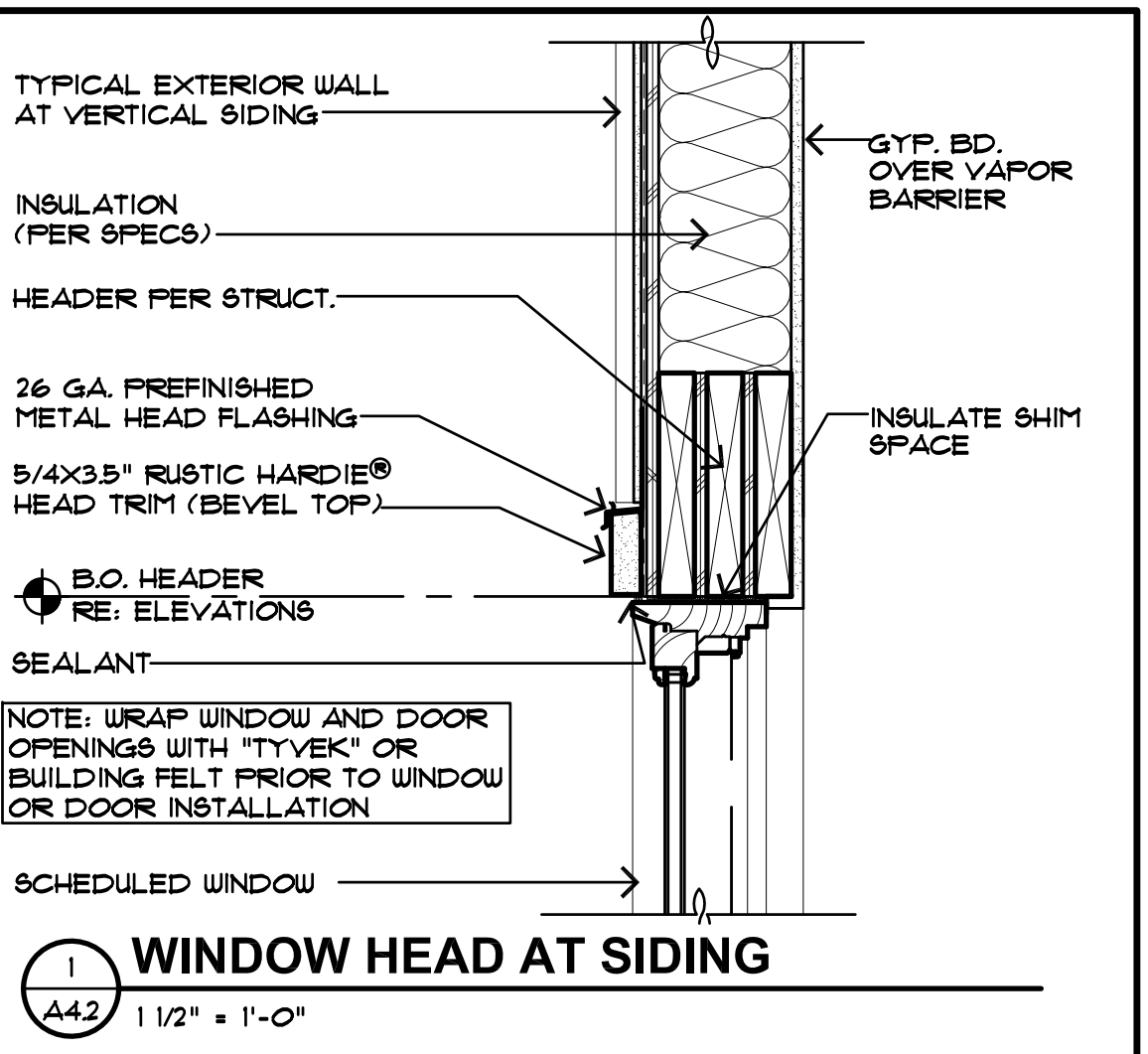
13 STAIR SECTION AT GUARDRAIL
A42 1 1/2" = 1'-0"



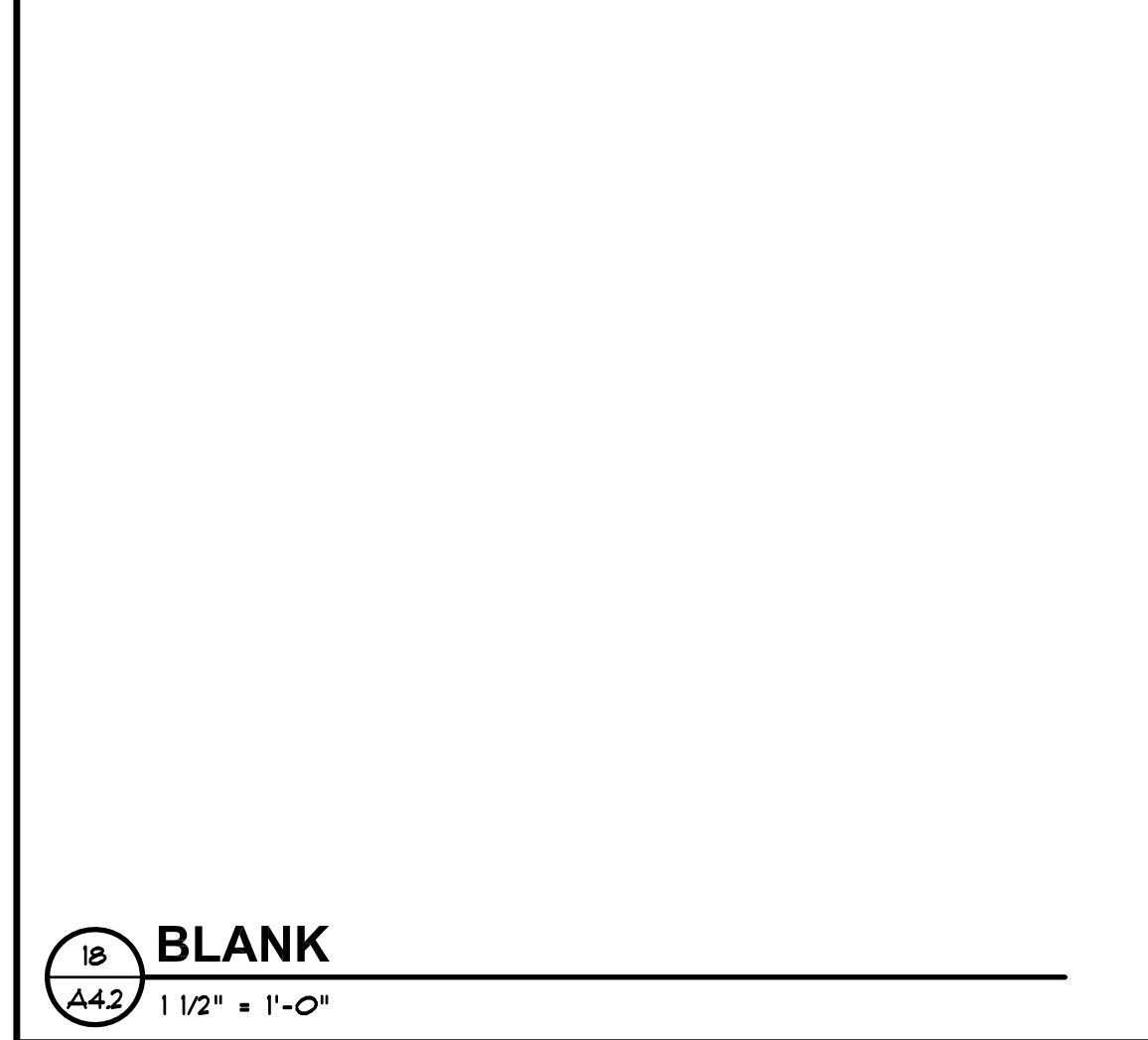
9 EXT./INT. CORNER AT STONE
A42 1 1/2" = 1'-0"



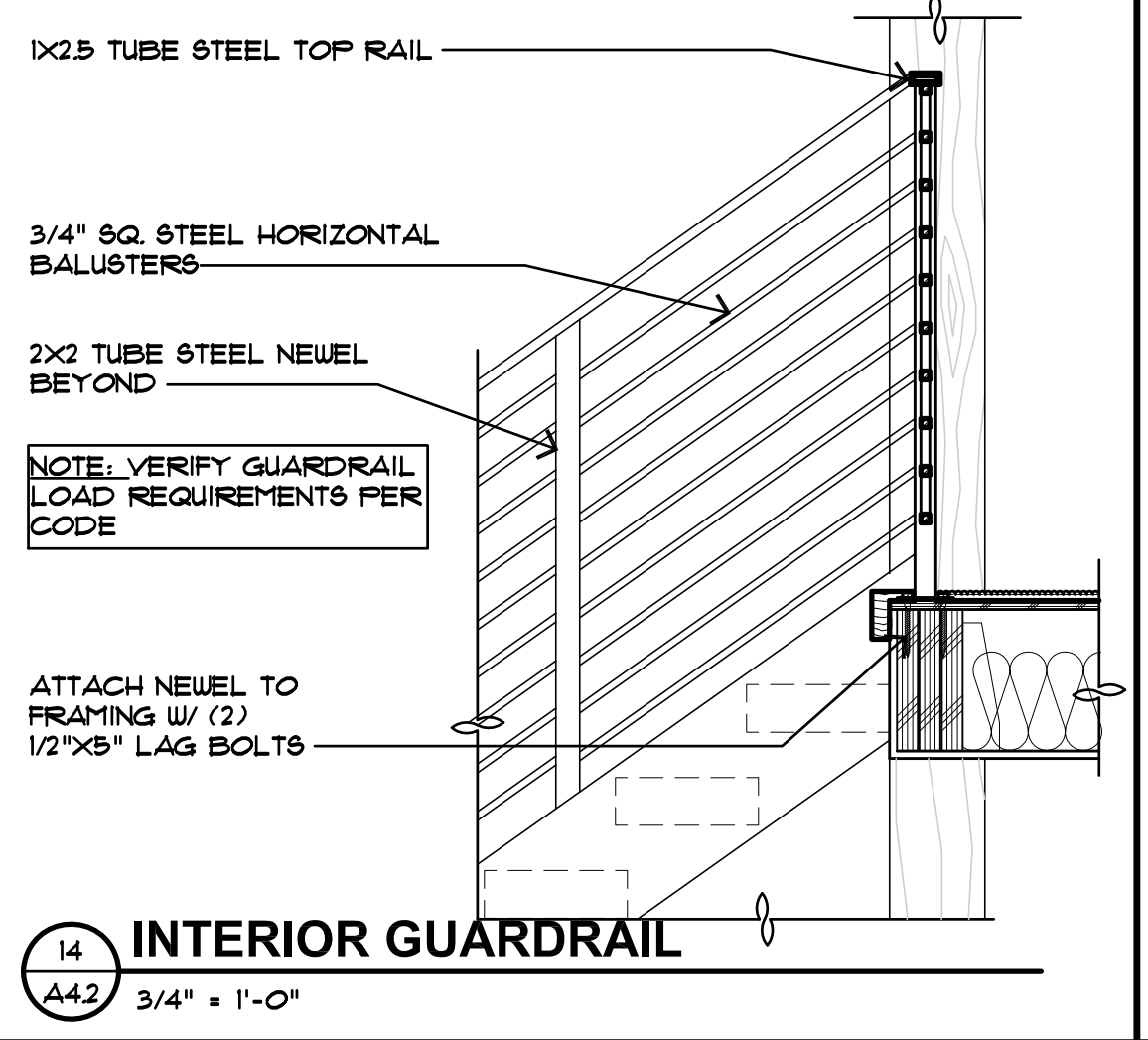
5 THRESHOLD AT DECK
A42 1 1/2" = 1'-0"



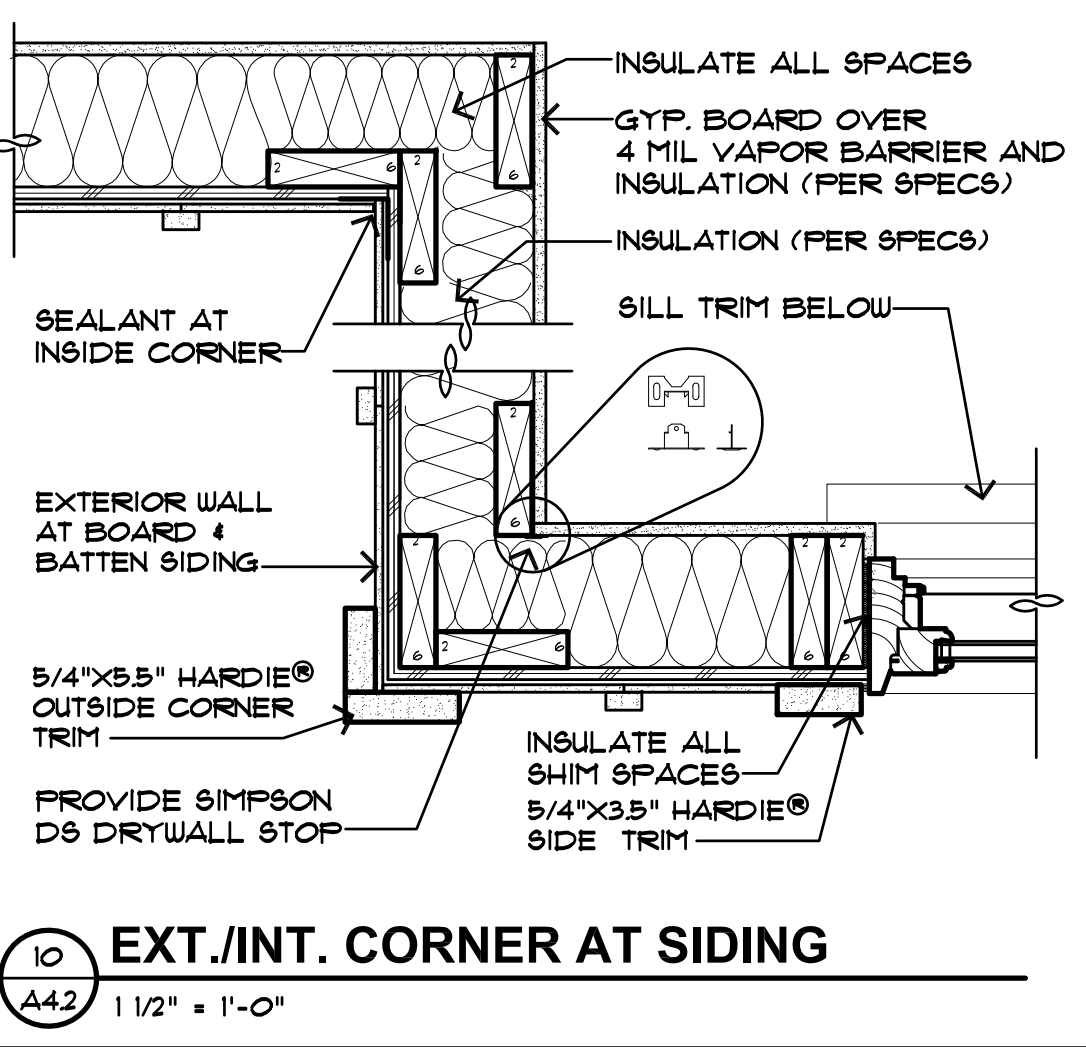
1 WINDOW HEAD AT SIDING
A42 1 1/2" = 1'-0"



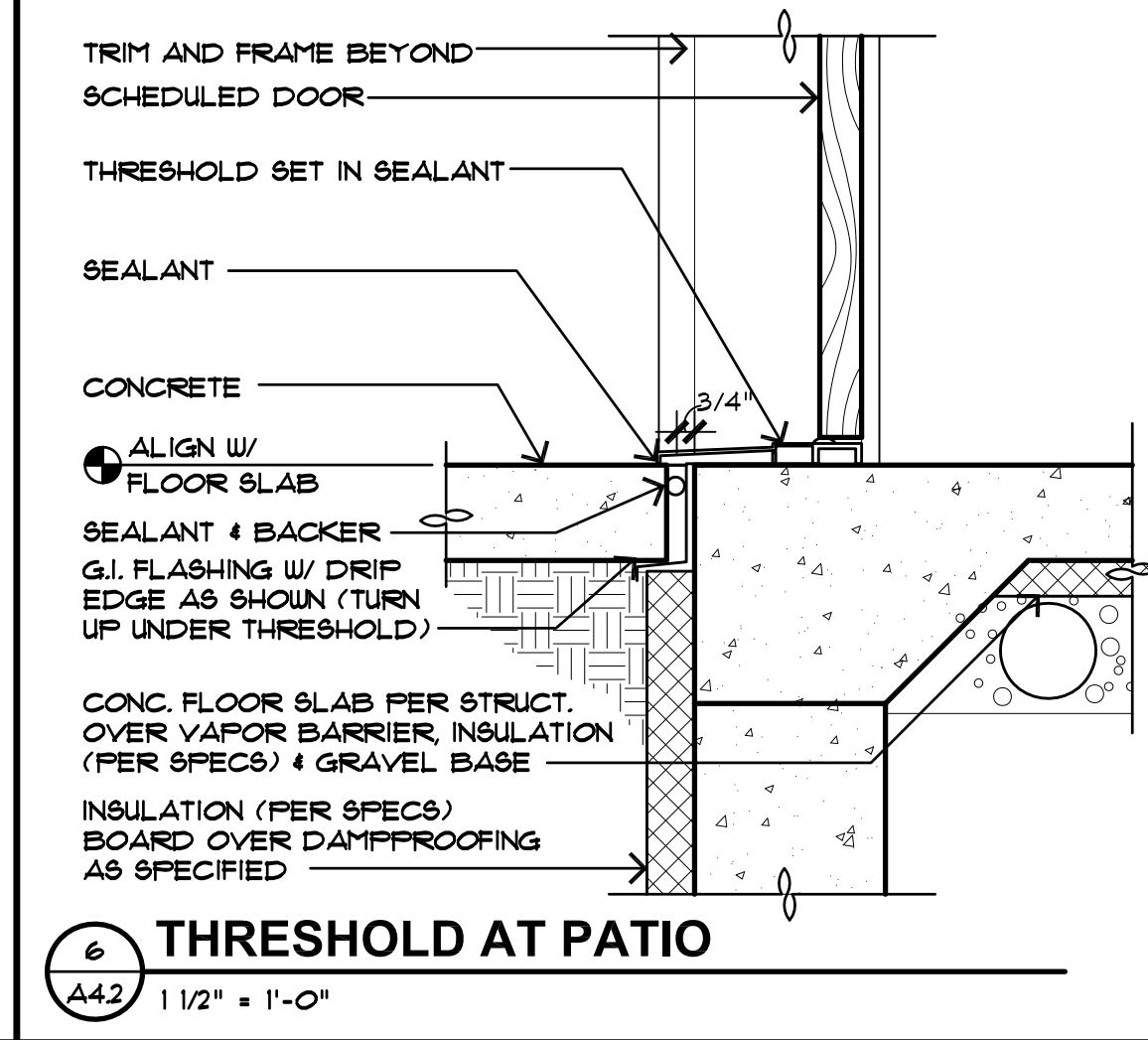
18 BLANK
A42 1 1/2" = 1'-0"



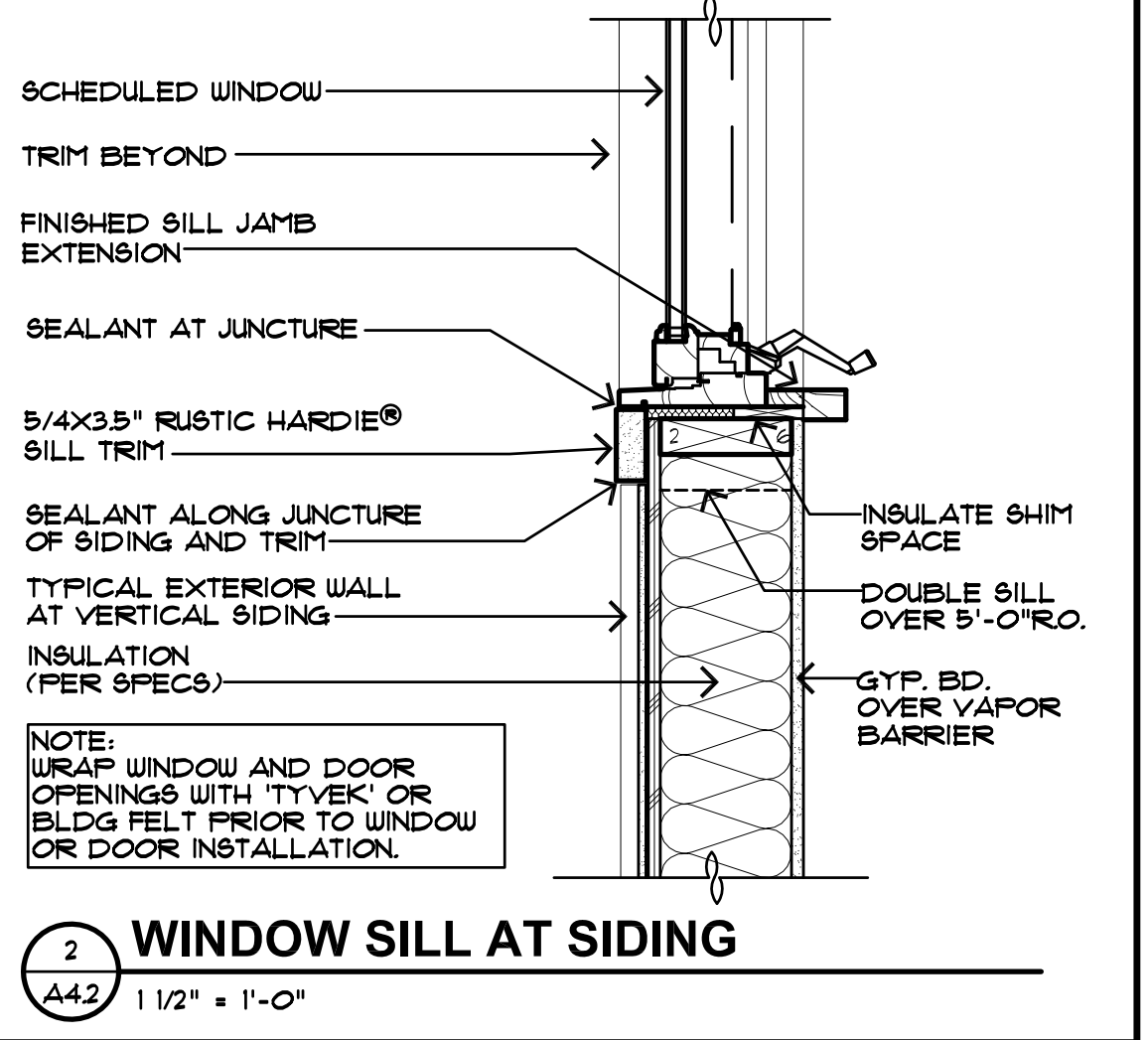
14 INTERIOR GUARDRAIL
A42 3/4" = 1'-0"



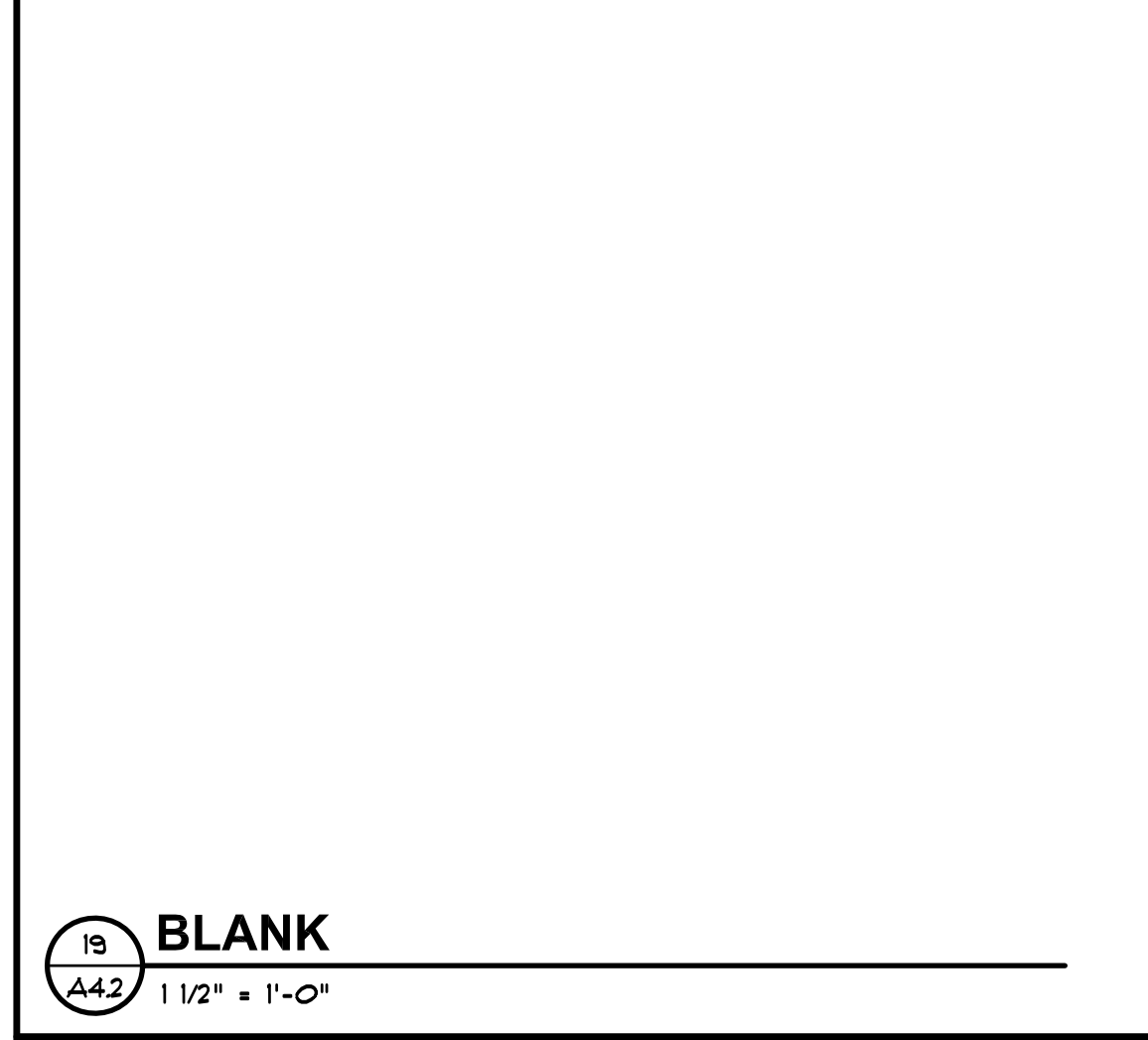
10 EXT./INT. CORNER AT SIDING
A42 1 1/2" = 1'-0"



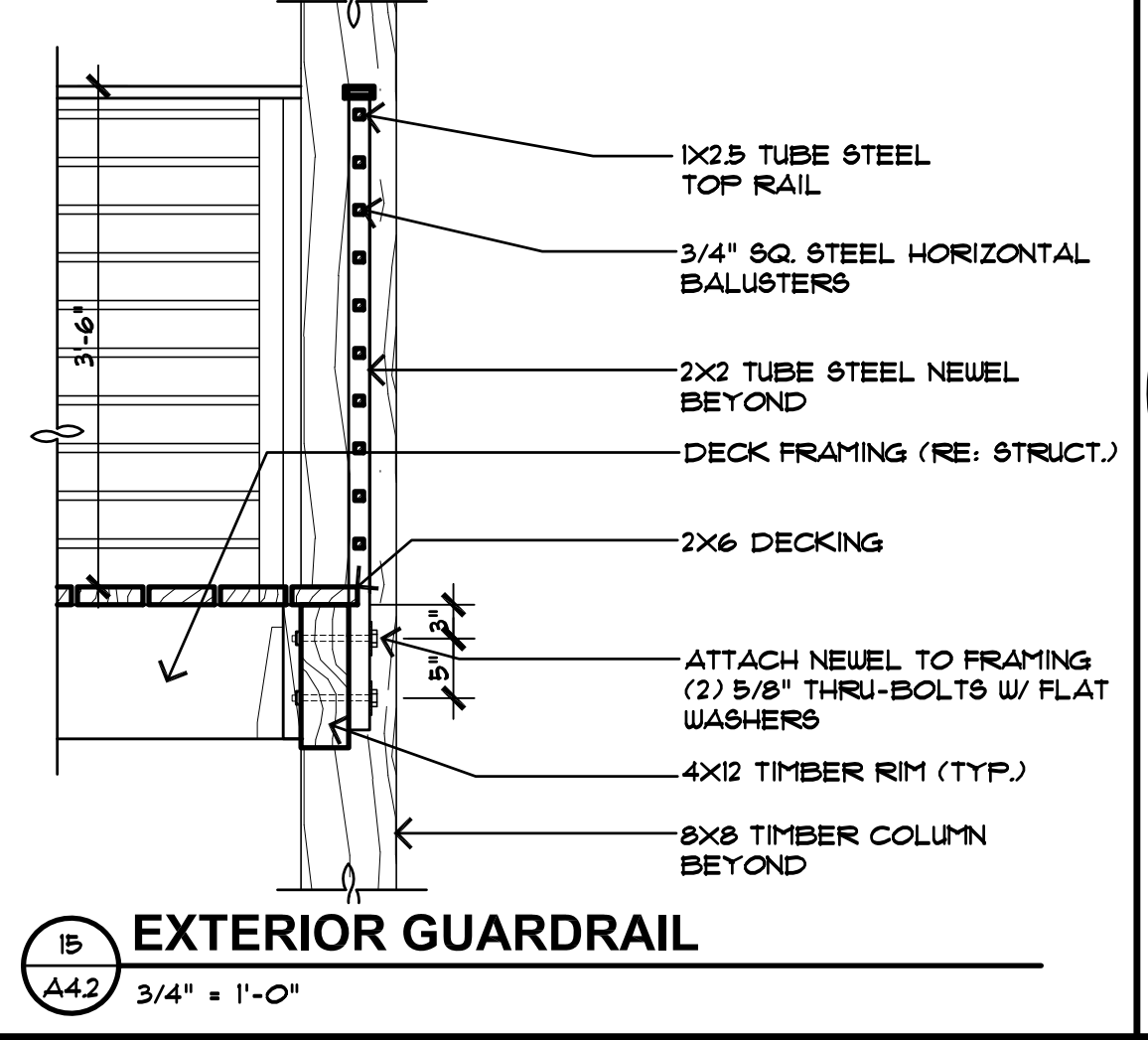
6 THRESHOLD AT PATIO
A42 1 1/2" = 1'-0"



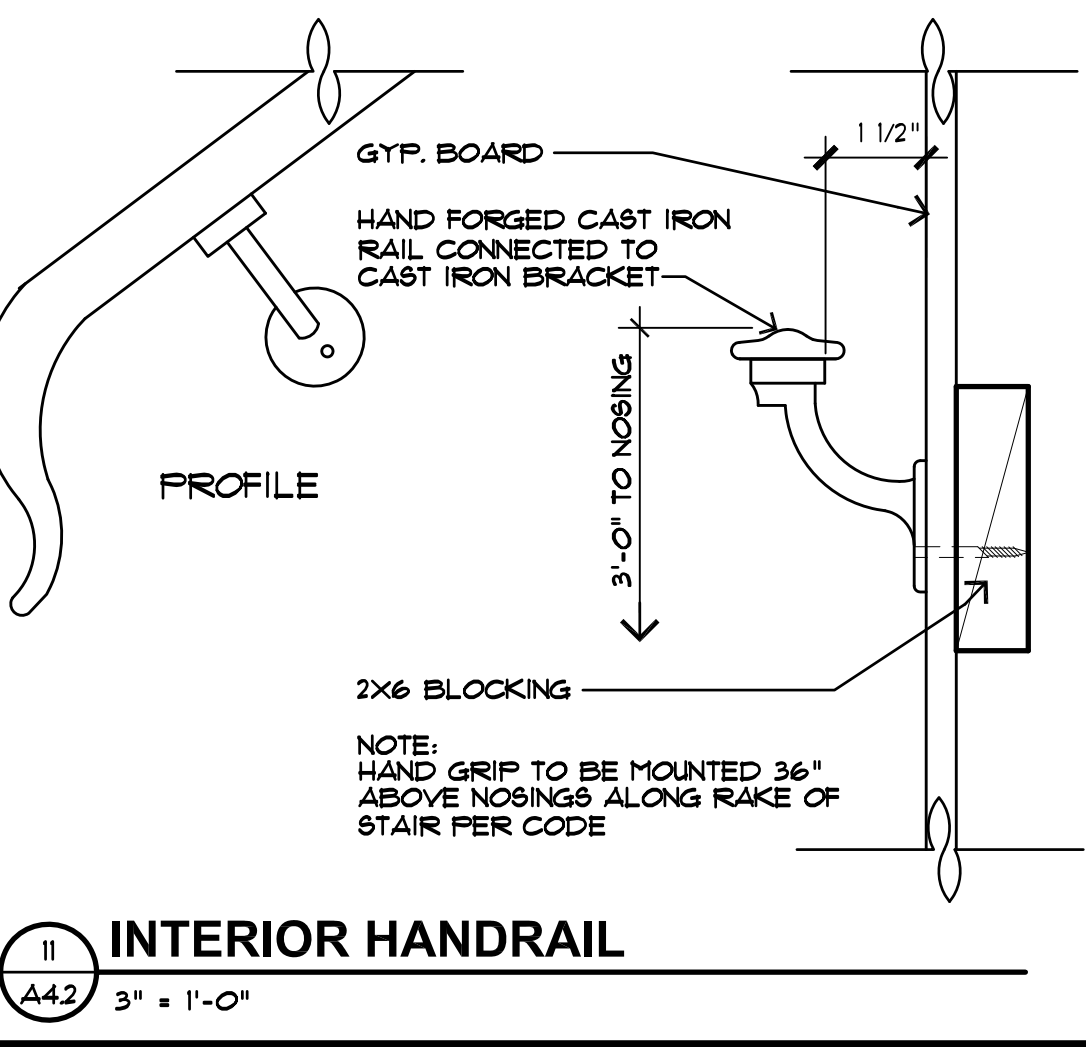
2 WINDOW SILL AT SIDING
A42 1 1/2" = 1'-0"



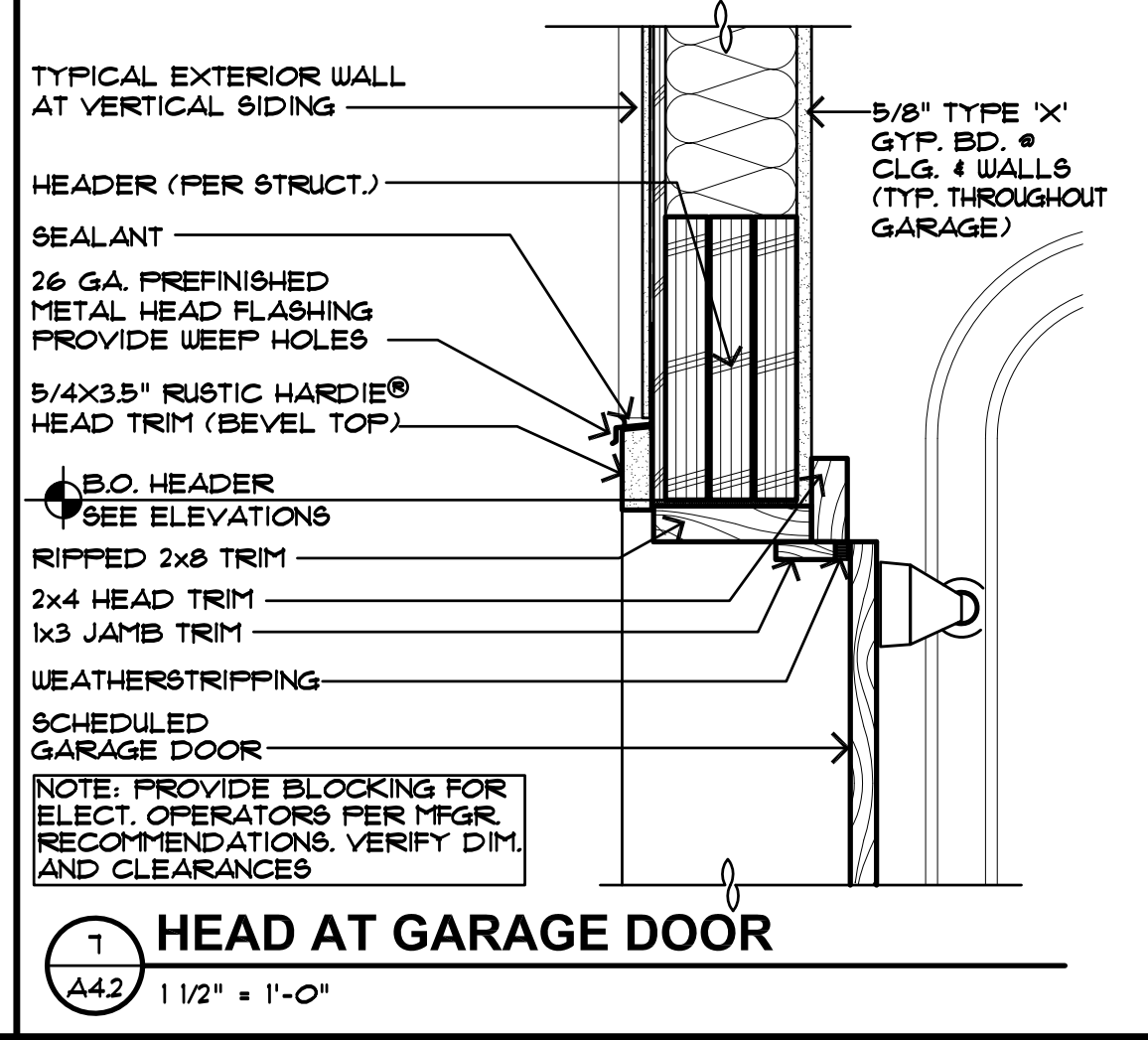
19 BLANK
A42 1 1/2" = 1'-0"



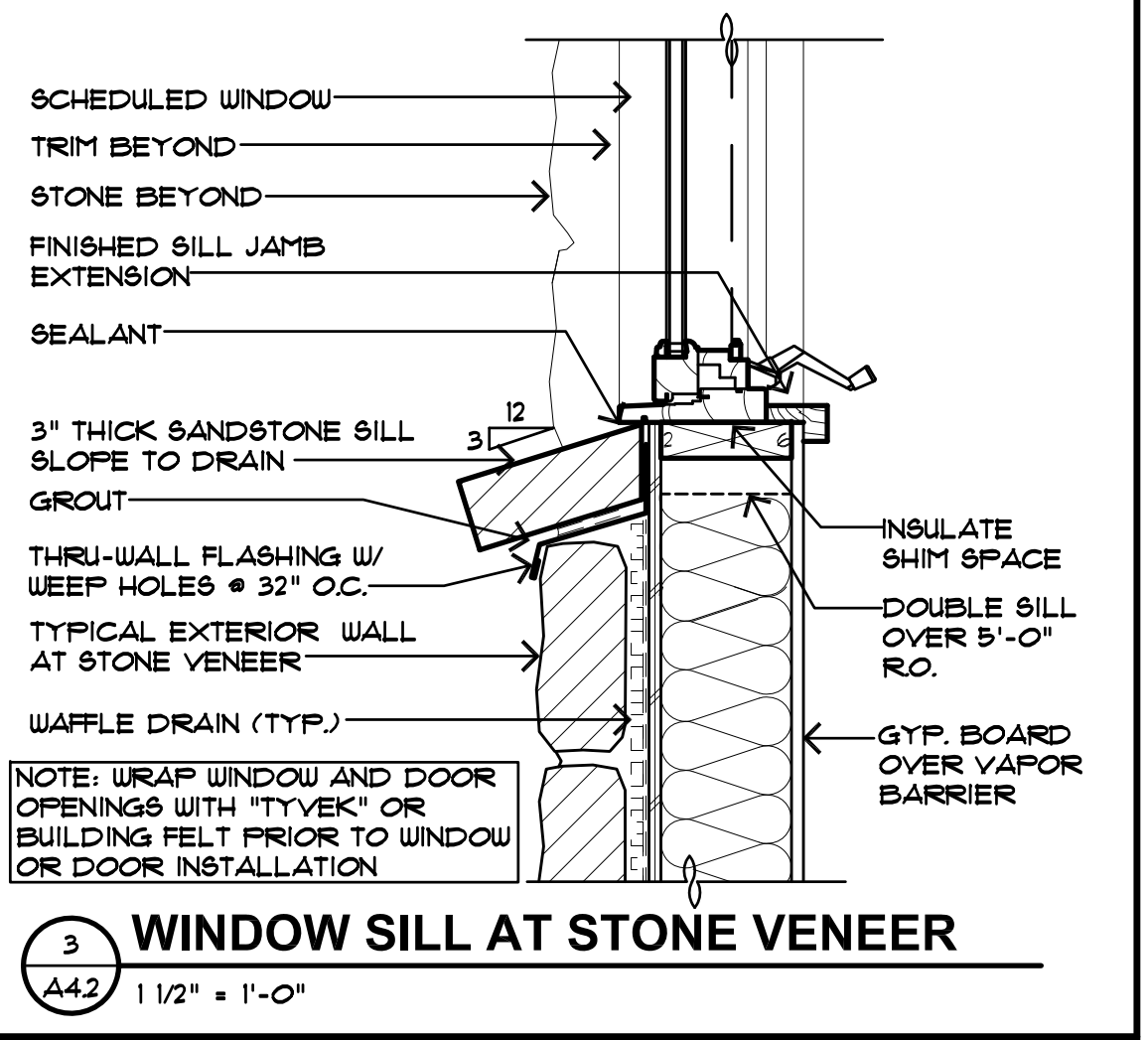
15 EXTERIOR GUARDRAIL
A42 3/4" = 1'-0"



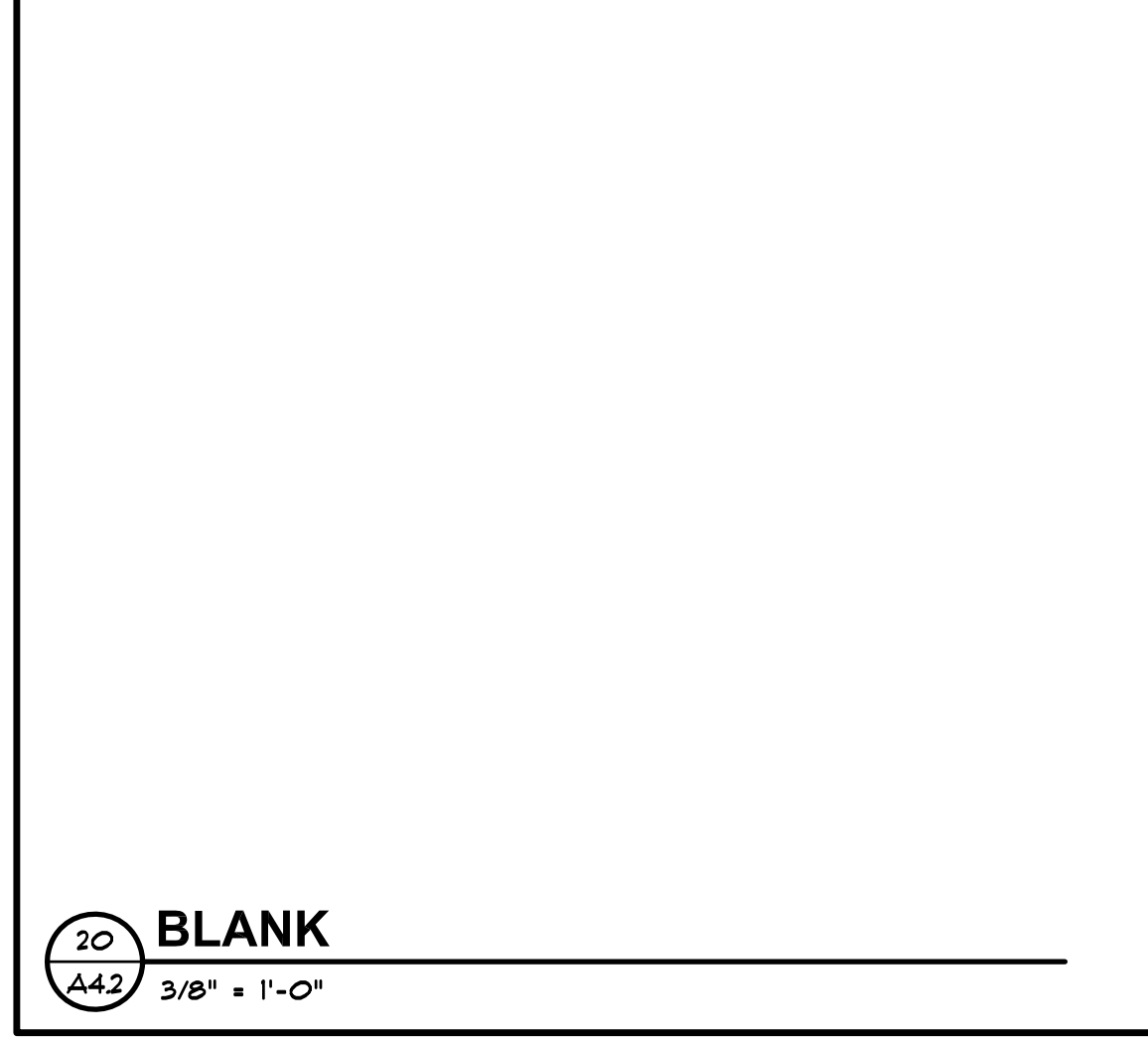
11 INTERIOR HANDRAIL
A42 3" = 1'-0"



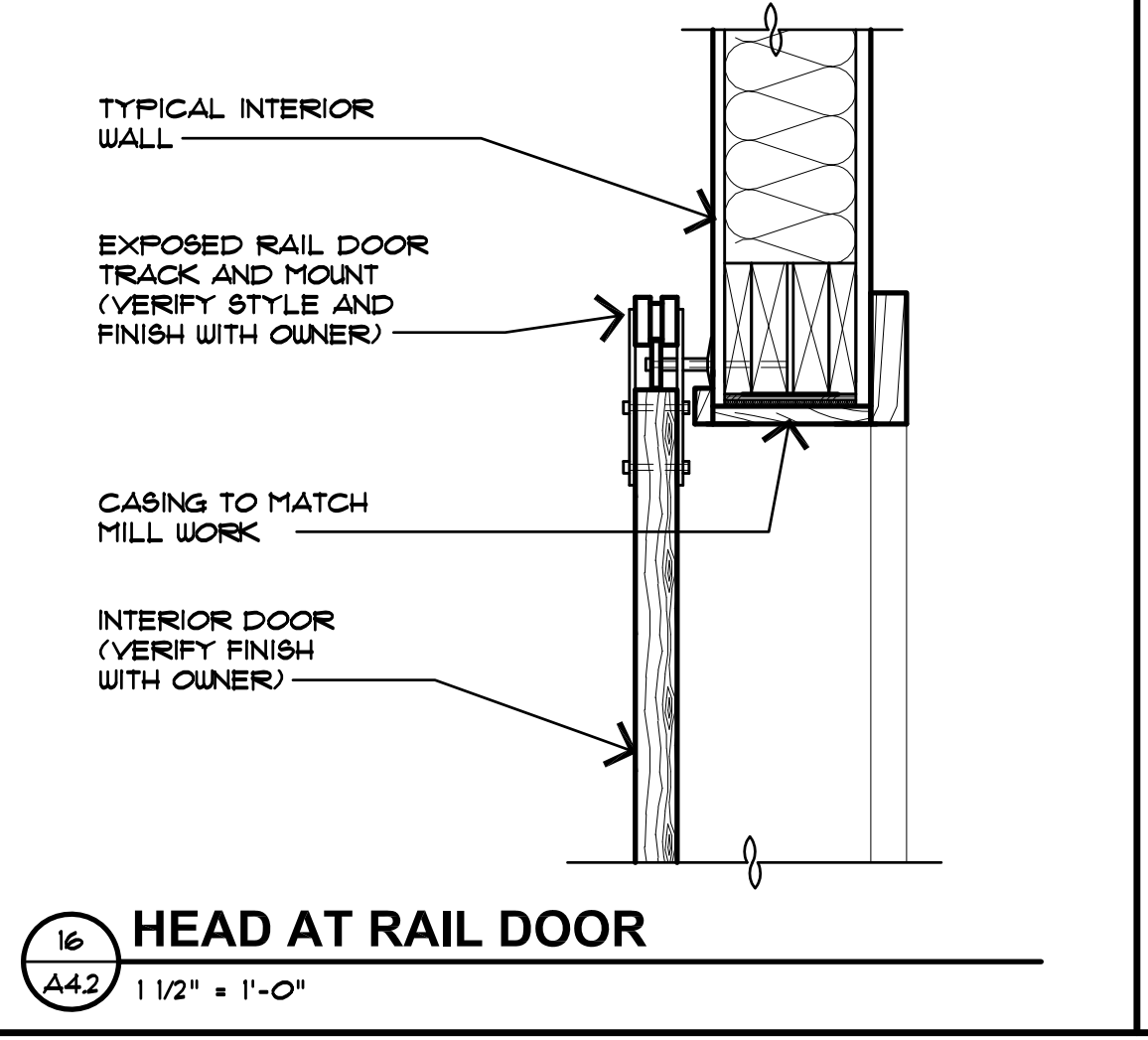
7 HEAD AT GARAGE DOOR
A42 1 1/2" = 1'-0"



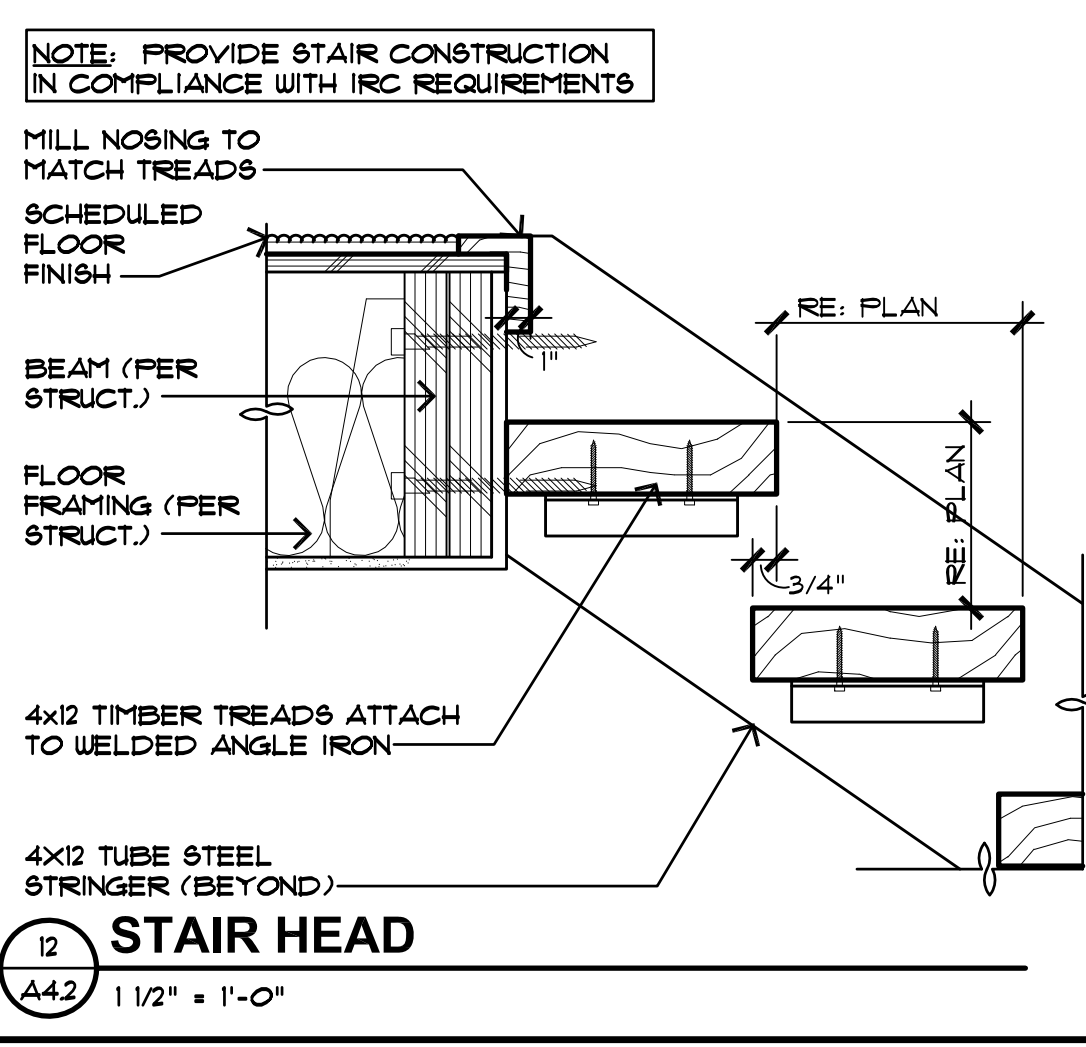
3 WINDOW SILL AT STONE VENEER
A42 1 1/2" = 1'-0"



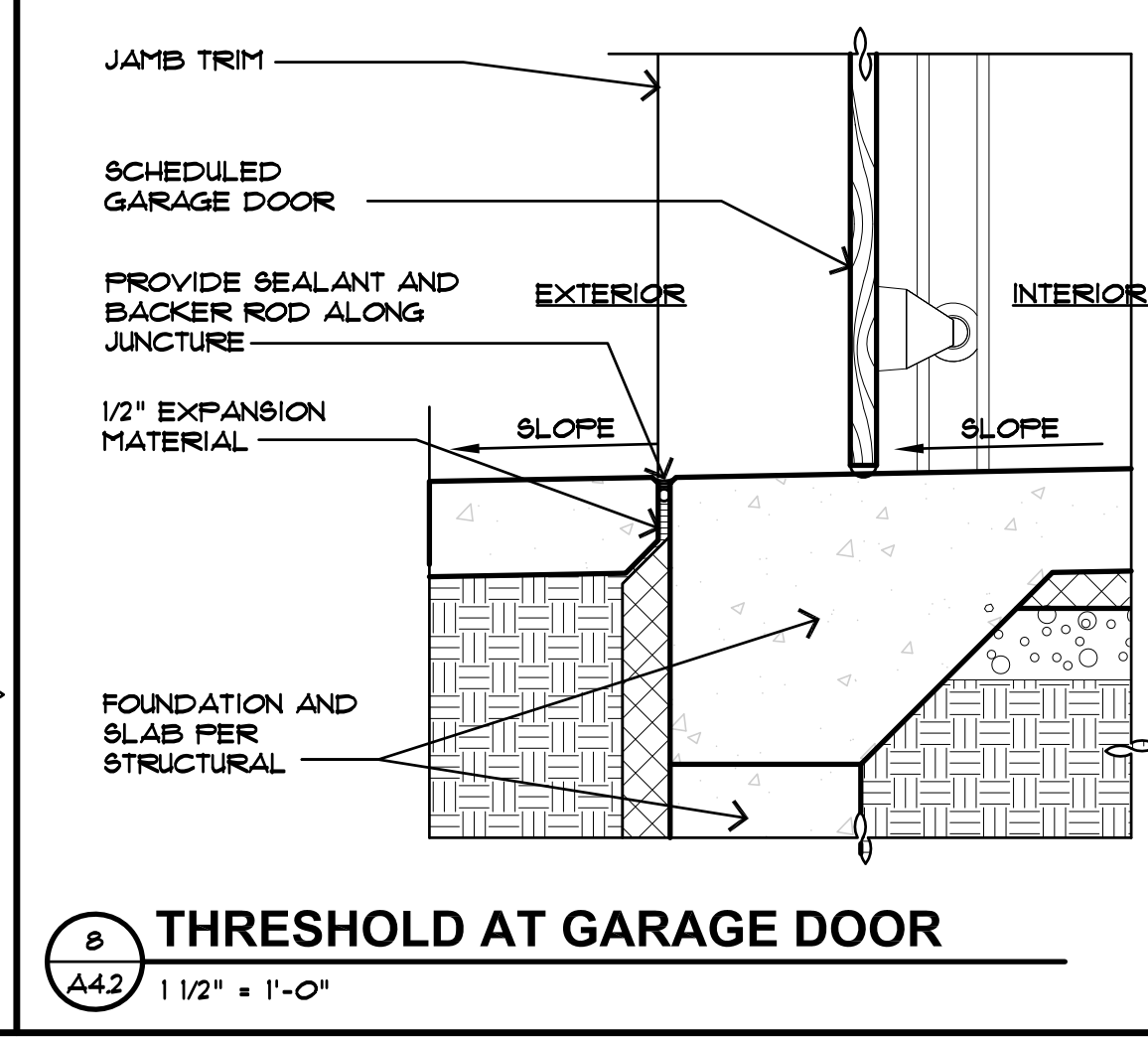
20 BLANK
A42 3/8" = 1'-0"



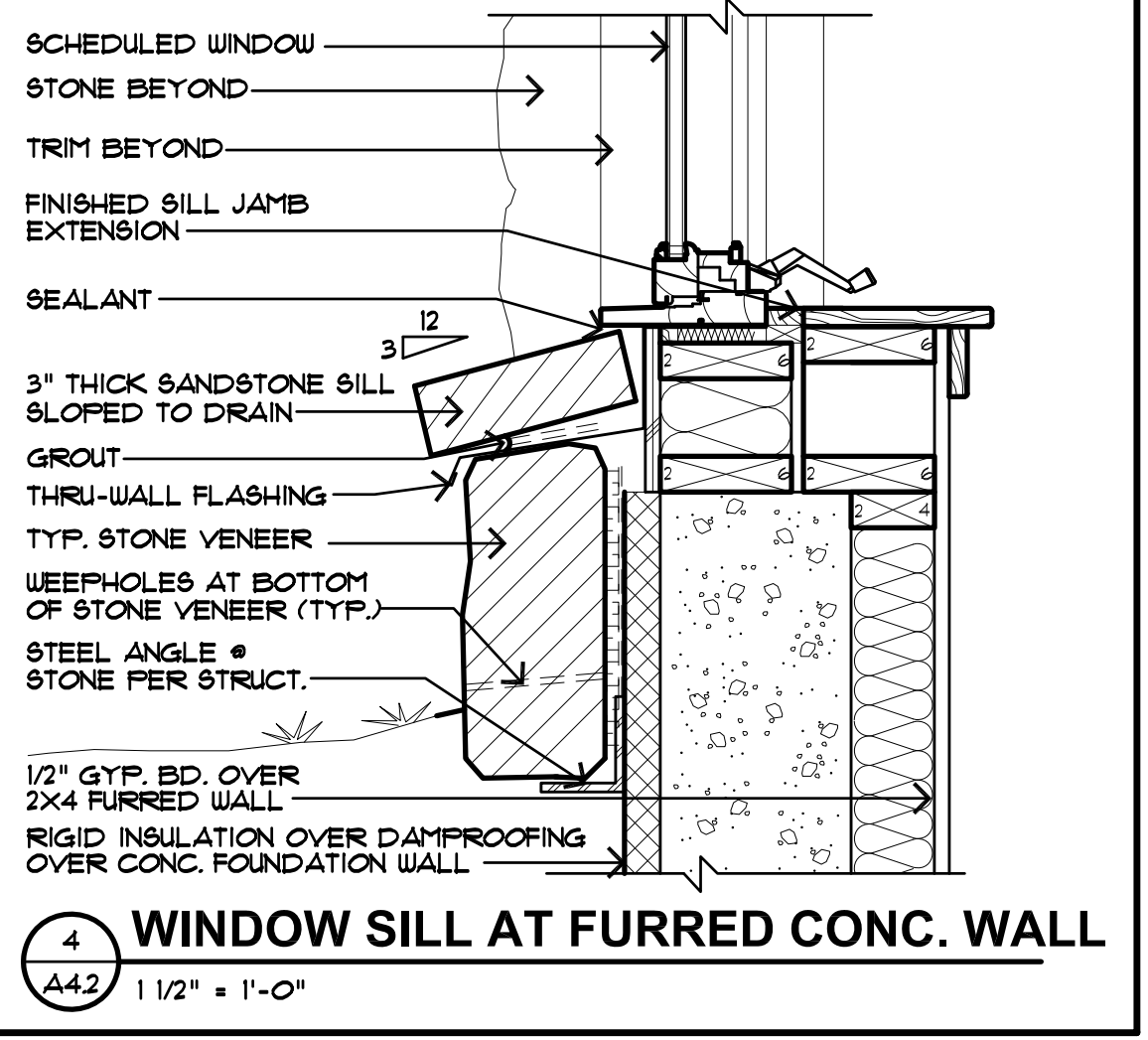
16 HEAD AT RAIL DOOR
A42 1 1/2" = 1'-0"



12 STAIR HEAD
A42 1 1/2" = 1'-0"



8 THRESHOLD AT GARAGE DOOR
A42 1 1/2" = 1'-0"



4 WINDOW SILL AT FURRED CONC. WALL
A42 1 1/2" = 1'-0"

REVISIONS:

 JOB NO: 12315.0

 DATE: 10.16.23

 DRAWN BY: T. SHAFFER

 CHECKED BY: M. HOGAN

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ISSUED FOR CONSTRUCTION: 10.16.23

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HOLOMBO RESIDENCE

 0039 LODGESTONE TRAIL, BLUE RIVER, COLORADO 80424 (LOT 532, THE CROWN SUBDIVISION)

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 SHEET NUMBER:

A4.2

 ARCHITECTURAL DETAILS

HOLOMBO RESIDENCE OUTLINE SPECIFICATIONS

I. GENERAL REQUIREMENTS:

A. GENERAL NOTES

1. **SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS:** Reference is made to the Project Drawings, Project Contract, Project Addenda, Architect's Supplemental Instructions, and other Contract Documents pertaining to the work related to and associated with these specifications.

2. **CONFLICTS/DISCREPANCIES/ERRORS/OMISSIONS IN DOCUMENTS:** Notify the Architect of any conflicts between this and other Contract Documents prior to performance of any work.

In the event of conflict between documents, the item of most or greatest extent of work as determined by the Architect, shall apply and be performed by the Contractor. If code or other requirements exceed the provisions shown on the contract documents, the Contractor shall notify the Architect in writing. If requirements of the contract documents exceed code requirements, work shall be furnished and installed in accordance with the contract documents.

Figured dimensions on the drawings shall govern and details shall take precedence over smaller scale drawings. Specifications and construction drawings are intended to agree. Generally the specifications shall take precedence over the drawings, but should discrepancies occur, the Contractor shall do no work without clarification from the Architect. Work called for by the drawings and not mentioned in the specifications, or vice versa, shall be furnished as though set forth by both.

In the case of disagreement between the drawings and specifications or within either document itself, the better quality or greater quantity of work shall be performed by the Contractor and the matter drawn to the Architect's attention for decision.

Any work done contrary to these requirements shall be removed and replaced at the Contractor's expense.

3. **SUBSTITUTIONS:** Substitution of "equal products" is acceptable but only with the Architect's and Owner's written permission. Submittal of manufacturer's literature is required.

4. **INDUSTRY STANDARDS REQUIREMENTS:** All trades shall perform their work within the recognized standards of the applicable industry. Reference is made to specific trade standards for each subcontractor trade. No subcontractor shall begin work until he has accepted the substrates on which his work will be based or installed.

5. **CODE REQUIREMENTS:** All work shall be in complete conformance with the current edition of the International Residential Code (IRC) as modified and adopted by the local jurisdiction.

6. **NOTICE OF REVIEW:** The Contractor and all Subcontractors shall review all sections of these specifications prior to performance of any work.

7. **SUBMITTALS:** Formal written/graphic shop drawings and/or submittals are required for Architect's review and approval. Failure of the Contractor to provide shop drawings and/or submittals removes all responsibility for the design of the work from the Architect. Shop drawings or submittals are to be provided for each item indicated in the specifications.

8. **DEVIATIONS FROM DRAWINGS:** Any deviation whatsoever from the drawings and/or specifications is not allowed without the Architects written permission. Failure to provide such written authorization places all responsibility for the variation on the contractor. Deviations from the contract documents shall be made only after written approval is obtained from the Owner and Architect.

9. **CHANGE ORDERS:** Any request for increase in contract sum or contract time must be approved on A.I.A. Document G701 prior to any related work. Failure of the Contractor to obtain this approval prior to the work constitutes his acceptance of no change in contract sum or contract time.

APPROVALS: The conditions of approval by the Town of Blue River and Summit County must be followed by the Contractor.

11. **STANDARD OF CARE:** The Architect shall perform its services in accordance with that degree of skill and care ordinarily exercised by similarly situated members of Architect's profession involved in the design of similar projects in the same locale as the Project.

12. **MOLD NOTIFICATION:** It is understood by the parties that the existing or constructed building may, as a result of post-construction, use, maintenance, operation or occupation, contain or be caused to contain mold substances which can present health hazards and result in bodily injury, property damage and/or necessary remedial measures and costs. Owner and General Contractor agree to release, indemnify and hold the Architect harmless from and against all claims, costs, liabilities and damages, including reasonable attorneys' fees and costs, arising in any way from the existence of mold as a result of the use, maintenance, operation, or occupation of the completed project.

13. **EXTERIOR MATERIAL MOCK UP:** The General Contractor shall provide a mock up of all exterior materials for review by the Owner, Architect and Interior Designer. This mock up shall be provided and signed off in writing prior to any exterior stain or exterior finish work. The sample shall include fascia, trim, window cladding, and all other exterior finishes including 3' x 3' sample of exterior stonework. This shall be retained on site until the final punch list is complete.

14. **MAINTENANCE REQUIREMENT:** The Owner and General Contractor are advised that ongoing maintenance of the proposed project will be required during and after construction. These items of work that need maintenance include, but are not limited to, water penetration maintenance such as caulking, sealants, and flashing, maintenance of roof surfaces such as sloped roofs, flat roofs, or waterproof decks, if applicable, and interior maintenance of systems that reduce moisture and possibility of mold formation such as HVAC systems, operable windows, exhaust fans, etc.

15. **SNOW AND ICE MAINTENANCE REQUIREMENT:** The Owner and General Contractor are advised that due to harsh winter conditions, roof and deck surfaces must be maintained reasonably free of ice and snow to ensure minimal problems with these surfaces. If applicable, the Owner and General Contractor agree to notify any purchasers of this requirement.

B. BIDDING REQUIREMENTS AND CONTRACT FORMS

Each Contractor or Subcontractor will supply to the Owner original liability and workers compensation insurance forms as a condition of a bid award. No work will start without appropriate insurance.

A lien release will be provided by each supplier and contractor as a condition of partial and/or final payment for supplier provided and work performed.

The contract forms listed below are strongly recommended by the Architect. Alternate forms for contract may be used if approved by Owner's legal counsel.

Items listed below are to be prepared separately by the General Contractor from these specifications but shall form a part of the Contract Documents for the work:

STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR (AIA - A117 - 1987 Edition). (Cost of the work plus a fee with a guaranteed maximum price). Copies are available from the Architect. (This contract contains general conditions for construction)

SUPPLEMENTARY CONDITIONS TO THE AGREEMENT BETWEEN OWNER AND CONTRACTOR (Supplementary conditions will be as included by the Architect and the Owner). Preliminary Supplementary conditions have been included with the Instruction to Bidders.

CERTIFICATE OF INSURANCE AIA G705, 1987 Edition Certificate of Insurance Form.

A. SUMMARY OF WORK AND SCOPE OF WORK

The general provisions of the Contract, including General and Supplementary Conditions and other General Requirements sections apply to the work specified in this section and all other sections of the specifications.

The intent and meaning of the Contract Documents are that each Contractor, under the terms of his Contract, shall take such actions as necessary and/or required to provide labor, materials, supplies, equipment, transportation, facilities, and appurtenances thereto which are indicated or reasonably implied by each Drawing and each section of the Specifications, all of which are collectively necessary and required for the execution of the work, identified and described by the Contract Documents.

Certain items of equipment and other work are indicated as Not in Contract, "N.I.C." work. The following work shall not be furnished under this Contract and are "N.I.C.":

Furnishings and Window and Wall Coverings
Building Permit Fee - Paid by Owner (coordinated by General Contractor).
Xcel Energy Fees - Paid by Owner (coordinated by General Contractor).
Tap fees and other typical soft costs will be paid directly by the Owner.
Stereo components, televisions, and satellite dishes. Wiring and built-in components should be coordinated by General Contractor.
Other items as designated by Owner.

B. ALTERNATES

Work included: To enable the Owner to compare total costs where alternate materials and methods might be used, Alternatives have been established as described on the Drawings.

If the Owner elects to proceed on the basis of one or more of the described alternatives, make all modifications to the work required in furnishing and installing the selected alternative or alternatives to the approval of the Architect and at no additional cost to the Owner other than as proposed for each alternate.

Immediately after award of the Contract, or as soon thereafter as the Owner has made decisions on which, if any, alternatives will be selected, thoroughly and clearly advise all necessary personnel and suppliers as to the nature and extent of alternatives selected by the Owner. Use all means necessary to alert those personnel and suppliers involved as to all changes in the work caused by the Owner's selection or rejection of alternatives.

Provide pricing for the following deduct or add Alternates as described below:

ALTERNATE NO. 1 - ALTERNATE INSULATION SYSTEMS— Provide additional cost for complete Closed Cell Insulation Systems in walls, roofs, cantilevered floors and underslab. Provide submittal and breakdown of proposed alternate.

ALTERNATE NO. 2 — INSULATION UPGRADE – Provide cost for insulation at roofs and exterior walls to be of closed cell foam throughout.

ALTERNATE NO. 3 – FOUNDATION WALL WATERPROOFING – If recommended by the Soils Engineer, provide upgraded waterproofing (Bituthene 3000 System and waffle drain). Provide cost for all concrete walls.

ALTERNATE NO. 4 - SEALANT PACKAGE UPGRADE - Provide cost to add "Knauf" Eco-seal™ sealant package to home prior to insulation work. Install water-based elastomeric sealant system in strict accordance with manufacturer's requirements.

ALTERNATE NO. 5 - COPPER PIPING/ PEX PIPING – Provide cost for domestic hot water and domestic cold water piping for both materials for owner consideration. (Pex piping requires written owner approval. Pex domestic water piping is not recommended by Architect).

ALTERNATE NO. 6 - WOOD CEILING OPTIONS - Provide additional alternates for Owner consideration as deemed appropriate by the General Contractor. Verify scope with Owner.

ALTERNATE NO. 7- UNDER SLAB INSULATION - Provide bid alternate for closed cell foam under all ground slabs for the project (vapor barrier is not needed).

ALTERNATE NO. 8 – EPOXY FLOOR - Provide cost to apply epoxy paint coating, as selected by Owner, at garage floor. Heavy duty latex to be in base bid.

ALTERNATE NO. 9 – EMERGENCY WATER SHUTOFF CONTROL – Provide additional cost for adding a self-contained, wireless leak detection and automatic water shutoff system. Provide a "Water Cop" valve and (3) "Water Hound" wireless shutoff sensors by Smart Home Products, www.smarthometalogo.com.

ALTERNATE NO. 10 – ERV/HRV SYSTEM - Provide cost savings for deletion of HRV system in lieu of continuously running fan. Coordinate location with Owner and Architect.

ALTERNATE NO. 11 – MAKE UP AIR UNIT – Provide options for reduction or deletion of makeup air unit for range hood. Provide submittal.

ALTERNATE NO. 12 – CAMERA SYSTEM – Provide added cost for camera system to be integrated with security system.

ALTERNATE NO. 13 – WIRELESS SATELLITE DISH – Provide additional cost for providing satellite dish, internet and television with all related equipment.

ALTERNATE NO. 14 – MOTORIZED WINDOW SHADES – Provide additional cost for motorized window shades enclosed in wood valance for great room window walls.

ALTERNATE NO. 15 - ENVIRONMENTAL PRODUCTS – Provide additional cost for substitution of environmental, sustainable or non-toxic building products.

ACQ – Low Toxic – Pressure Treated Lumber
Cotton Insulation/ recycled content insulation
Solvent free adhesives Low VOC construction and subfloor adhesives
Wheat board composite particle board – Industrial-grade particleboard for cabinets, countertops, shelving, closets, and underlayment.
UV resistant composite exterior decking 'Timber Tek'
Recycled content tiles and composite counter tops
Recycled content carpets PET & low VOC
VOC free paint and wood finish
Rapidly Renewable materials locally manufactured and distributed

Provide additional alternates for Owner consideration as deemed appropriate by the General Contractor.

A. CASH ALLOWANCES

Cash allowances for purchase net or gross of certain materials are specified hereinafter. The net amounts stated shall be included as a part of the Contractor's Base Bid. The amount stated shall be considered as a net amount including costs for purchase of specified materials and any sales tax in conjunction therewith.

All cash allowance sums are net, and in addition thereto, Contractor shall also include in Base Bid such expenses and profit as he desires for his work and services in connection with the item the cash allowance is to cover, together with all costs for insurance, mark up, freight, delivery to the job site, bonds, overhead and other usual Contractor's costs. Even if the cash allowance is exceeded, no allowance or extra will be authorized for additional Contractor costs related to overhead profit or supervision after Contract is awarded in connection with items covered by cash allowance. All allowances shall be converted to dollar amounts in the final budget for the project. All allowances shall be grouped together in the final project budget to allow them to be analyzed separately from other bid items.

Contractor shall purchase or award subcontracts on items covered by cash allowances to such firms and for such sums as are directed by Architect; provided, however, that Architect will not require that purchases or awards be made to firms against whom Contractor has stated a reasonable objection.

After items covered by cash allowance have been purchased or awarded or negotiated with Contractor, Contract sum shall be adjusted to reflect actual net cost paid by Contractor for such items; if actual cost of items is less than cash allowance, Contract sum shall be reduced by difference between actual cost and Contract; if actual cost is more than allowance, Contract Sum shall be likewise increased.

Except for cash allowances that stipulate that they are to include both "purchase and installation," the Contractor shall include in his base bid all costs for installation of the materials that are purchased under the cash allowance.

Provide cash allowances for the following items:

Hardware: Allow the sum of \$_____ for the purchase of finish hardware and cabinet hardware. Installation of all hardware is to be in the base bid.

Bath Accessories: Allow the sum of \$_____ for purchase of toilet accessories. Installation of all of these items shall be in the base bid for the project. Provide blocking as required as part of the base bid.

Carpet: Allow the sum of \$_____ per sq. yd. for purchase and installation of carpet and pad for the project. The General Contractor shall include in his contract the quantity of carpet anticipated to be provided in the project.

Entry Door: Allow the sum of \$_____ for purchase of entry door and frame transom and sidelights.

Bath/Kitchen Fixtures: Allow the net sum of \$_____ for purchase only of bath and kitchen faucets and fittings. All other incidental materials and piping and installation shall be in contractor's base bid. Provide submittal for Owner and Architect approval.

Interior Cabinetry: Allow the net sum of \$_____ for the purchase and delivery to the job site of the kitchen, bath, and other interior cabinetry excluding all countertops. Installation and any other incidental work related to millwork shall be in the base bid. Tile work will be performed under cash allowance above.

Granite/Countertops: Allow the sum of \$_____ per sq. ft. for the purchase and installation of granite countertops w/ edge detail as approved by Owner. (Tile tops are under tile allowance.) The total cost of this allowance will be determined prior to contract signing.

Wall Tile / Floor Tile: Allow the net sum of \$_____ per sq. ft. for the purchase and installation of ceramic wall tile and floor tile. Grout, mastic, backing materials and other related incidental materials shall be included in base bid. The General Contractor shall include in his contract the quantity of wall and floor tile anticipated to be provided in the project. The total cost of this allowance will be determined prior to contract signing.

Electrical Fixtures: Allow the sum of \$_____ for the purchase only of all electrical fixtures in the project to include both interior and exterior fixtures. Recessed housing trim and surface mounted fixtures are also to be included. Recessed housings are to be provided by the General Contractor in the base bid. Bulbs are part of the electrical allowance.

Mirrors and Shower Doors: Allow the net sum of \$_____ for purchase and delivery of frameless glass products. Installation any other incidental work shall be in the base bid.

Appliances: Allow the gross sum of \$_____ for the purchase and delivery to site. Installation to be in the base bid.

Stereo System: Allow the sum of \$_____ for supply and installation of wireless stereo system in areas selected by Owner only. Provide submittals.

Security System: Allow the gross sum of \$_____ for the supply and installation of monitored security and alarm system, compatible with Crestron Home Automation System, as coordinated by Owner with the General Contractor. All doors and windows to be hardwired Individually. Provide submittal.

Plumbing Fixtures: Allow the net sum of \$_____ for the purchase and delivery to the job site of the plumbing fixtures. Installation and any other incidental work related to the plumbing fixtures shall be in the base bid.

Closet Systems: Allow the gross sum of \$_____ for supply and installation of closet shelving, drawers, and rods per Owner's requirements.

A. PROJECT COORDINATION

All Contractors and/or Subcontractors responsible for work defined by individual sections of the specifications shall, jointly and separately, coordinate their various sections of work as to scheduling, installation procedures, shop drawings, and, finally, installation of all related materials.

Before starting a section of work, the responsible Contractor and/or his Subcontractor shall carefully examine all preparatory work that has been executed to receive his work. He shall check carefully, by whatever means are required, to ensure that his work and adjacent related work will finish to proper contours, planes, and levels. He shall promptly notify the General Contractor of any defects or imperfections in preparatory work that will in any way affect satisfactory completion of his work. Absence of such notification will be construed as an acceptance of preparatory work, and later claims of defects therein will not be recognized.

Under no condition shall work proceed prior to preparatory work having been completed, cured, dried, and/or otherwise made satisfactory to receive such related work. Responsibility for timely installation of all materials rests solely with the General Contractor who will maintain coordination at all times.

B. PROJECT MEETINGS

The General Contractor shall be responsible for scheduling project meetings on a regular basis to ensure uninterrupted progression of the work. The General Contractor shall issue minutes of the meetings indicating persons responsible for various action items. Project meetings shall address, but not be limited to, the following general items:

- a. Meeting attendees
- b. Schedule review
- c. Old business
- d. New business
- e. Pending change orders

To the greatest extent possible the project meetings will be held at the project site.

H. CONSTRUCTION SCHEDULES

The General Contractor shall be responsible for all construction scheduling, and shall be responsible to see that the work is done in a timely manner. A progress schedule shall be prepared and submitted to the Owner/Architect for review within 10 days of start of work. The General Contractor shall notify the Architect of any changes in the construction schedule.

The General Contractor shall not allow or direct materials of any trade to be installed prematurely, when such materials may be damaged by subsequent work of other trades. When recognized construction procedures or design requirements prescribe that materials be installed before execution of other work which may damage or defect such completed work, the General Contractor shall then take such steps as are necessary to protect such completed work, except when such work is expressly specified to be protected by the Contractor or Sub-Contractor installing the work.

The Contractor shall also obtain approval of any work that may affect the normal operations of the overall projects function prior to beginning any work.

SUBMITTALS

The General Contractor shall prepare a submittal checklist for the initial preconstruction meeting. A copy of a sample checklist is available from the Architect. Checklist shall include:

- scheduled submission date for each submittal
- lead times (when applicable)
- any additional information that the General Contractor needs to prepare all submittals and order all materials.

The General Contractor is responsible for submitting product information for Owner/Architect review and approval, as set forth below. Owner/Architect shall have authority to reject submittal if not in conformance with Contract Documents. See specifications and drawings for submittals required. Submittals are required for, but are not limited to, the following:

- *Steel fabrication shop drawings to include loose steel lintels and masonry angles.
- *Heating system calculations and component literature, including hot water storage sizing and warranty information (within thirty days of award of Contract - see Division XV.).
- *Pumping riser diagrams and any equipment (steam generator, etc.) information, if required (within thirty days of award of Contract - see Division XV.).
- *Pumbing fixture and fittings catalog cuts and installation diagrams. Provide purchase costs.

Alternate insulation systems if selected by Owner.

- a) Window and patio door list (include size, operation, and options, including purchase cost).
- Stone veneer sample panel/ exterior mockup panel for all exterior finishes.
- Timber shop drawings finish sample and joinery details.
- *Truss shop drawings.
- Fireplace submittal.
- Stain/paint color samples and literature (interior and exterior).
- Front door submittal and shop drawings.
- Garage door submittal.
- Door hardware schedule, with purchase cost.
- Drywall sample texture panel.
- Title layout submittals and shop drawings including tile pan submittal and certification documents.
- Interior cabinetry shop drawings (plans and elevations at 3/8" scale), with purchase cost.
- Closet systems.
- Appliance catalog cuts, with purchase cost.
- Toilet and bath accessories.
- Bath and laundry exhaust fans.
- Radon Test
- Electrical fixture catalog cuts, with purchase cost.
- Electrical service diagram and panel schedule (within thirty days of award of Contract - see Division XVI.)

- 27. Programmable lighting system
- 28. Audio/video/computer/security systems submittal.
- 29. Telephone/Cable TV/Satellite/Communication System submittal including wireless internet.
- 30. Any material or product substitutions requested by General Contractor (see spec section below).
- 31. *Snowmelt system (if applicable)

NOTE: Submittals marked with * are critical for review by the Architect.

J. TEMPORARY FACILITIES

Make required arrangements, secure, and pay for all water, gas, telephone, and other utilities needed during progress of construction. Temporary tie-in for electricity shall be provided by the Contractor. If power is not yet available through Xcel Energy, a temporary generator shall be supplied by the Contractor.

Provide such temporary sheds, sanitary facilities, enclosures, dust control methods, barricades, canopies, and fencing as are required for safe and proper completion of the work and as shown on the drawings. Provide job site fire extinguisher and first aid kit.

The drawings do not include the necessary requirements for construction safety. The General Contractor shall provide all required aspects of construction for safe completion of the work.

Maintain temporary facilities and controls as long as needed for safe and proper completion of the work. Remove such temporary facilities and controls as rapidly as progress of the work will permit, or as directed by the Owner.

Dogs are not allowed on the construction site.

Use of tobacco products is not allowed on this construction site.

Fencing requirements shall be reviewed on site and approved by the Owner/Architect.

K. SUBSTITUTIONS

The Contract shall be based on the standards of quality established in the Contract Documents. Substitutions will be considered only when listed at time of bidding and when substantiated by the Contractor's submittal of required data within 21 calendar days after award of the Contract.

The following products do not require further approval except for interface within the work:

Products specified by reference to standard specifications such as ASTM and similar standards.

Products specified by manufacturer's name and catalog model number.

Do not substitute materials, equipment, or methods unless such substitution has been specifically approved in writing for this work by the Architect.

Where the phrase "or equal" or "or equal as approved by the Architect" occurs in the Contract Documents, do not assume that the materials, equipment, or methods will be approved as equal unless the item has been specifically so approved for this work by the Architect.

L. PROJECT CLOSEOUT

Closeout is hereby defined to include the general requirements near the end of the Contract Time, in preparation for final acceptance, final payment, normal termination of the Contract, occupancy by the Owner, and similar actions evidencing completion of the work.


All warranties and guarantees shall begin on the date of the Architects Issuance of Certificate of Substantial Completion unless otherwise specified in writing and approved by the Architect.

Prior to requesting Architect's inspection for certification of substantial completion, complete the following, and list known exceptions in the General Contractors request for Substantial Completion:

1. Submit last progress-payment request, with sworn statement showing 100% completion of the work, complete with associated releases, consents, and supports.
2. Submit statement showing final accounting of changes to the Contract Sum. Account for all allowance items.
3. Advise Owner of pending insurance change-over requirements.
4. Complete start up of all systems.
5. Submit special guarantees, warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.
6. Obtain and submit certificate of occupancy.
7. Discontinue (or change over) and remove from the project site temporary facilities and services, along with construction tools and facilities.
8. Submit record drawing.
9. Complete the final cleaning.
10. Complete changeover of locks and transmit keys to the Owner.
11. Touch-up and otherwise repair and restore marred exposed finishes. Submit General Contractors complete punch list of work remaining.
12. Submit operations, maintenance and warranty information manual in a three ring binder for Architect review.
13. Building Information Manual: Submit the following items in a three-ring binder for Architect review:
 - a) Copy of Certificate of Occupancy
 - b) Submit special guarantees, warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.
 - c) All applicable operations, maintenance, and warranty information for project.

Prior to requesting Architect's final inspection for certification of final acceptance and final payment, complete the following and list known exceptions (if any) in the inspection request:

1. Submit final payment request with final releases and supports not previously submitted and accepted. Include Certificates of Insurance for products and completed operations.
2. Submit updated final statement, accounting for any additional changes to the Contract sum.
3. Submit certified copy of the Architect's or Engineer's final punch list of itemized work to be completed or corrected stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by the Architect or Engineer.
4. Finalize operations, maintenance and warranty manual and deliver two copies to the Owner.




REVISIONS:

JOB NO: 12315.0
DATE: 10.16.23
DRAWN BY: T. SHAFFER
CHECKED BY: Z. LEVIN

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ISSUED FOR CONSTRUCTION: 10.16.23



560 ADAMS AVENUE SILVERTHORNE, CO 80498 (970) 510-1000

HOLOMBO RESIDENCE

0039 LODGESTONE TRAIL, BLUE RIVER, COLORADO 80424 (LOT 532, THE CROWN SUBDIVISION)

© 2023

SHEET NUMBER:

A-5.1

OUTLINE SPECIFICATIONS

II. SITEWORK:

NOTE: The Grading information shown in these plans is diagrammatic and shall be verified and reviewed by a licensed Colorado Engineer. Provide stamped letter and plan revisions required to Owner and to Architect prior to any concrete work from the engineer. See item F below.

A. SOILS REPORT – An open hole inspection will be done at time of excavation. Upon completion of excavation to final depth, contact Soils Engineer, to arrange for site observation prior to the forming of any footings. The Soils Engineer is to provide written recommendations for Owner/Architect review. The recommendations of the Soils Engineer will then be incorporated into the work and the work will be modified accordingly if required. The cost of this work is to be paid by the Owner.

B. CONSTRUCTION STAGING – Construction staging shall be indicated on the site plan by the general contractor. Provide additional construction staging information in compliance with all requirements of Town of Blue River and Summit County.

C. SITE CLEARING & TOPSOIL - Flag all trees to be removed as indicated on plans, and receive Owner/Architect/ARB approval prior to cutting. Remove all stumps and organic material and dispose of legally off site. Retain boulders from excavation for reuse as directed by architect and as shown on plans. Strip and stockpile topsoil prior to construction.

D. EXCAVATION/BACKFILL - Extent of excavation shall be as shown on the drawings. Backfill for the project shall be of soil containing stones or rocks less than 6" in diameter. Install lifts and compact to minimum proctor density as recommended by Soils Engineer. Compact soils disturbed below footing bearing elevations or remove loose soils and fill with lean concrete. Backfill to be brought up equally on both sides of subgrade foundation walls where applicable. The foundation is designed to be supported from the top by floor construction. Do not backfill until these items have been completed. Slope finish grade away from building per Soils Engineer recommendations and IBC requirements (6" in 10'). Consult the Architect, Soils Engineer, and Structural Engineer for additional information.

F. DRAINAGE STRUCTURES – Provide drainage as shown on the drawings. Install all drainage per industry standards. Provide pit run gravel fill where shown on the drawings. Provide copy of soils engineer design/letter to Owner and Architect.

G. LANDSCAPING – Contractor to final grade the site. TOPSOIL - 4" of clean, clay free topsoil. SEEDING - At all disturbed areas. Provide short grass mix as approved per Town of Silverthorne guidelines. PLANTINGS - See landscape plan. Provide 18 month written warranty for all planting materials to cover labor & materials. The landscape contractor shall provide a maintenance schedule for owner/maintenance requirements and also a maintenance agreement proposal for owner review. Install all plantings in strict accordance with American Nursery Association Standards.

H. LANDSCAPE IRRIGATION SYSTEM – Provide for irrigation system by others. Provide water rough-in as required. Coordinate system installation and stub outs with owner prior to topsoil.

I. DRIVE PAVING - Provide 3" of asphalt paving over 6" of type 6 road base per Town of Blue River Engineering Department standards. Prior to work, confirm design in writing with Soils Engineer. Road base is in the General Contractor's contract.

J. SITE UTILITIES - Coordinate site utility installation with Division XV. work. Restore all excavations and trenches to existing conditions. Provide compaction per Town of Blue River standards. Utilities have been stubbed to lot line by others and are N.I.C. Utility work onsite is by General Contractor. Sewer line to be verified as appropriate for gravity drain system.

EROSION CONTROL AND DRAINAGE FEATURES - Provide snow fencing to protect all trees to remain and areas to be left undisturbed. Provide erosion control and project fencing as required by Town of Blue River. See Item F above.

III. CONCRETE: Provide written soils engineer approval for all waterproofing / dampproofing and for all subgrade work prior to any concrete work.

A. FOUNDATIONS: See structural notes on the drawings. See structural details.

Footings: Concrete - See Plans

Foundation Walls: Concrete - See Plans

Int. Footing Pads: Concrete - See Plans

Retaining Walls: Natural Board-Formed – Random Width – Rough Sawn Concrete – See Plans

B. FINISHED SLABS: Provide finish concrete slabs at garage and lower level with tooled control joints as shown. (Do not saw cut joints.) See structural notes. Verify finish with Owner.

C. SILLS: Redwood or ACQ treated lumber at areas in contact with concrete. Provide fiberglass sill sealer under all exterior wood sills in contact with concrete. See Division VI. and VII. Provide 1 layer of roof membrane under all wood columns in contact with concrete.

E. FOUNDATION DRAINAGE: Rigid perforated PVC pipe in 3/4" washed rock and slope to drywell. Provide elbow and tee fittings as required. Installation to be per code.

F. RADON PROTECTION: Rigid perforated PVC piping around the perimeter of crawl space. Set piping in 6" gravel or fill and stub to central standpipe in an accessible location and vent through the roof. Provide an electrical outlet for future power. Upon closure of home, provide radon test and review results with Architect and Owner. If radon is present at that time, an in-line fan can be installed to vent the gases to the exterior.

G. DAMPROOFING: Dissco Mastic 520. Provide sealant at all joints and hot asphaltic dampproofing at all walls below finish grade to extend over edge of footing. Cove base at wall and footing juncture. Dampproofing may be upgraded at suggestion of soils engineer. See code.

H. WATERPROOFING BID ALTERNATE: Parge wall to cover all imperfections and prime walls with W.R. Grace approved primer. Install Bituthene 3000 waterproof membrane sheets (roll stock) as recommended by manufacturer. Prior to backfill, obtain W.R. Grace approval letter of installation and provide copy to Owner and Architect. Provide waffle drain over Bituthene 3000 if recommended by soils engineer.

I. INTERIOR SLAB INSULATION: Provide 1-1/2" rigid insulation (R-10) below all concrete slabs. Provide 6 mil polyfilm vapor barrier over insulation. At Contractor option, if approved by Building official, provide closed cell spray foam insulation. Tape all tears and ensure that insulation/vapor barrier is continuous and completely unbroken.

J. EXTERIOR SLABS: See structural notes. Provide 6" granular gravel fill under all slabs on grade. Slope slabs to drains as shown. Provide hand tooled control joints to 1/3 of slab depth as shown on the plans. Provide air entrained concrete at all exterior slabs.

K. FOUNDATION WALL INSULATION: 2" (Styrofoam) insulation over mastic from top to footing to grade. This is to be coordinated with Waterproofing System is selected. Provide flashing over foam at areas above grade.

II. MASONRY:

A. STONE VENEER: Gallegos Stone Company, pattern: 'Courtland Lowrise' stone veneer, dry stacked. Provide 3'-0" x 3'-0" sample panel for Architect and Owner approval prior to work. Install all stone with corrugated fasteners @ 16" o.c. Provide weep holes @ 12" o.c. at lowest course above grade.

B. STEEL ANGLE SUPPORT – Provide steel angle at base of all interior stone work to include hearth and wall stone areas.

C. STONE BACKING – Prior to stone veneer installation, install Tyvek of 15# felt and waffle drain, perforated backer board to ensure adequate drainage plane, air-space behind stone veneer. Provide Keene Driwall Rainscreen 020-1. www.keenebuilding.com

D. SANDSTONE CAPS - Provide and install snapped sandstone caps and hearths at areas indicated on the drawings. Clean and seal all sandstone immediately after installation per stone sealer specifications.

E. FLASHING - Composition or sheet metal of size and configuration shown on the drawings. Provide step flashing at roof to masonry fireplace junctures.

F. MORTAR: Type S mortar ASTM Standard C270 - Natural grey mortar color. Provide type M mortar below grade.

G. MASONRY ANCHORS: 7/8" X 6" corrugated corrosion resistant metal ties at 16" O.C. each way unless noted otherwise.

H. THROUGH WALL FLASHING: Noblesseal 20 mil chlorinated polyethylene membrane, manufactured by the Noble Company, P. O. Box 332. Grand Haven, Michigan 49417, (616) 842-7844, or approved equal.

I. MASONRY SEALER: Provide sealant to all stone products as required and recommended by the manufacturer and supplier. "Stone Glamour" or equal, matte finish. See Division VII. All sealers to be non-glossy matte finish.

J. CONCRETE SEALER - See Division VII., K. Sealant & Caulking

Note: Installation and components to be per manufacturer's recommendations and code (R703.7).

V. METALS:

A. METAL FABRICATIONS: Provide shop drawings for all items such as structural steel beams, structural steel columns, loose lintels, steel lintels (galvanized for stone veneer), concrete embed plates, steel connector plates, etc.

B. BOLTS AND CONNECTORS: Provide galvanized bolts, nuts, and washers as indicated on the drawings. Square headed bolts and bridge washes to be utilized at visible locations.

C. STEEL LINTELS / STEEL ANGLES: Steel shop primed of size and configuration as shown on the drawings. Provide submittal.

D. METAL CAP FLASHINGS: Provide prefinished cap flashing on top of chimney cap.

VI. WOOD AND PLASTICS:

A. ROUGH CARPENTRY: Prior to building any exterior or interior walls, all framing dimension strings should be checked by the framing contractor and the general contractor to identify any potential framing discrepancies in dimensions. Any discrepancy should be brought to the attention of the Architect prior to beginning framing work.

Coordinate framing work with insulation contractor to provide for continuous air barrier at all insulation areas. Do not frame dropped ceilings, soffits, or fireplaces until air barrier is installed at all thermal envelope locations.

1. Exterior Wall Framing - As shown on the plans and structural notes - Insulate all exterior corners and concealed spaces (headers, etc.) during framing. Provide wall studs at 16" on center or as shown on plans. Install redwood or treated base plates at all areas in contact with slabs or foundation walls. If ACQ treated materials are used provide double galvanized or stainless steel connectors as recommended by ACQ manufacturer.

Prior to building any exterior or interior walls, all framing dimension strings should be checked by the Framing Contractor and the General Contractor to identify any potential framing discrepancies in dimension.

All walls to be framed square, straight, and plumb for rough carpentry. Provide blocking at all locations as shown on plans for any wall mounted handrails, towel bars, and shelving.

Fire Blocking - At walls greater than 10'-0" height, stairs, etc. per code requirements.

Draft Stopping – Install draft stops as required by IRC.

Wall Sheathing – 1/2" CDX plywood sheathing. Attach sheathing per notes on structural plans.

Housewrap - Tyvek or equal at all exterior walls under wood siding and stone veneer. Install per code. Wrap all window and door rough openings with Housewrap prior to window or door installation. Install at window heads per manufacturer recommendations. (Cut in additional strip over nail flange and tuck into slit above window or door openings.) 15-lb building felt may be provided in lieu of Tyvek at contractor option. Install in strict accordance with manufacturer's requirements.

Provide and install sill sealer insulation per Division VII., Section A.

Siding: Install all exterior siding in workman like manner and in compliance with industry standards. Insure that all siding is provided with minimum 6" clearance

from finish grade and 2" minimum clearance at roof, concrete or patio surfaces.

Vertical Siding: Species: Fiber Cement board
Manufacturer: James Hardie
Size - rustic Hardie battens over .312"x48"x96"
Hardie panel vertical siding board
Pattern – board and batten
Nailing - Hot dipped galvanized (double dipped) box nails or siding nails. Pre-drill if within 2" of saw cut.
Installation - Comply with all recommended installation procedures per industry standards.

Note: Pre-stain all siding and exterior trim with one coat of Sherwin Williams, Olympic or equal stain as specified. Second coat to be installed after siding installation.

1. Partition Framing - See drawings

Material: Species - Hem Fir
Grade - Construction
Spacing - 16" o.c. unless otherwise noted.

Fireblocking - Per code.

Hardware Backing – Provide 2x blocking at all hand railings, grab bars, toilet accessories, and specialty hangings, as required.

2. Ceiling Framing -

Material: Species - Hem Fir
Grade - #2 or better
Spacing - 16" o.c. unless otherwise noted.

Bridging: Stiff back if spans exceed 10' 0".

3. Roof Framing - See drawings. Install roof framing to allow for air flow over all valley and hip beams to ensure effective ventilation to soffit vents. (Drop hip and valley beams). Drill 1 1/2" diameter holes 1" from top of rafters at areas that are blocked to provide air ventilation path.

Material: Species - See structural notes and plans.
Spacing - Per plans
Blocking - At spans in excess of 12'0" at mid-span, and at manufacturer's recommendations.

Sheathing - 5/8" APA Rated Sheathing, Exposure 1 Plywood, ID 32/16, glue and nail per structural notes and plans.

4. Timber Beams – All exposed interior and exterior timber beams to have wire brushed finish. Provide architectural grade beams at all exposed conditions. Provide Douglas fir timbers as approved by Owner. Provide submittal.

5. Exterior Trim and Detail -

Soffits – Vented Cedar mill Hardie soffit panels.

Fascias – 5/4"x11.25" Hardie trim board

Corner Trim – 5/4"x5.5" Hardie trim board

Window and Door Trim – 5/4"x3.5" Hardie trim board.

Exterior/Interior Handrail – Ski cable profile rail with capped ends. See details.

Stone Cap - See Division IV for Sandstone caps.

Ridge Vent – Cor-a-vent or equal as shown on the drawings. Provide shingles to match roofing. Install in strict accordance with manufacturer's requirements.

Note: Pre-stain all siding and exterior trim with one coat Sherwin Williams, Olympic or equal stain as specified. Second coat to be installed after siding installation.

6. Exterior Decking – 2X6 'Fiberon' composite decking. Provide manufacturer's recommended fasteners at all exterior decks. Framing within 18" of grade shall be acq treated lumber or redwood lumber. Deck boards spaced at 5 3/4" o.c.

I. FINISH CARPENTRY - All interior woodwork to have stained finish (one coat stain where required plus two coats clear sealer as approved by Architect). Interior finish carpentry to be reviewed prior to beginning work with Architect. Millwork trim and finish to match. All interior finish carpentry shall be of stock material milled to profiles shown. Ease all edges. See Details.

Finish carpentry at all areas to be as follows:

1. Door & Window Casings – Drywall wrap. Provide head trim at doors and sill trim at windows. Verify wood species with Owner. See drawings.

2. Base Trim – Verify wood species with Owner. 5/8 x 5 1/2 base trim.

3. Interior Shelving - 3/4" enamelled particle board with 1x 2 alder edge.

4. Closet Shelving - 3/4" enamelled particle board with alder nosing. Provide fir closet rods stained finish. Coordinate design with interior designer and owner. Provide submittal. Provide low hanging and shelving at master closet.

See interior elevations and drawings for additional information.

C. ARCHITECTURAL WOODWORK - If applicable, all countertops and backsplashes are to be provided by the General Contractor. Installation for all of the above materials is a part of the contract. The supplier of the kitchen cabinets shall submit a complete layout with descriptions of functions and materials upon final selections by the Owner. The extent of this work is shown on the drawings. In the event of damage, immediately make known to Owner and make all repairs and replacements necessary at no additional cost to Owner. Make adjustments for installation at tile, wood and concrete floors where shown. See Cash Allowances. Provide the following:

Cabinetry - Provide hardwood panel (alder or equal) cabinetry. Manufacturer at Owner option. Provide submittal. See drawings. Provide solid surface countertops with square, eased edges. Verify materials with Owner. All countertops to be ADA Accessible. Provide 36" wide work station at kitchen island, open below countertop.

2. Built-In Cabinetry – Hardwood alder cabinetry. Coordinate with electrical for built-in lighting as required.

VII. THERMAL AND MOISTURE PROTECTION:

A. INSULATION: - (See division III for foundation wall insulation/protection board). All spaces around windows, mechanical electrical outlets, and other penetrations should be sealed with low expansion closed cell foam insulation. Any fiber insulation to include a fully aligned air barrier provided by sheet material at least equal to the material utilized in formulating the listed rating of the insulation. Install vapor barriers behind all beams and ledgers in contact with thermal envelope walls. Provide appropriate sealant at all such junctures. (See Bid Alternates for water-based elastomeric sealant and other insulation options).

For owner's consideration, provide Eco-Seal system by "Knauf" Products http://www.knaufinsulation.us/ Insulation shall be by manufacturer certified technicians in strict accordance with manufacturer requirements.

Exterior Walls Above Grade: Material – Blown In batt insulation
Thickness – 5 1/2" (R-23) or 3 1/2" (R-13)
Installation – Blown in
Vapor Barrier - 4 mil polyfilm at inside face of stud at exterior wall only. Seal and/or tape all penetrations tightly. Polyfilm to be continuous over all wall and ceiling spaces.

Roof/Ceiling: Material – Blown-in batt insulation / spray foam
Thickness -10-inch high density (R-49)
Installation – Blown in under spray foam
Vapor Barrier - 4 mil polyfilm - Seal and/or tape all penetrations tightly.

Underslab Insulation: Polystyrene 1 1/2" or 2" thick for under slab use or closed cell spray foam insulation at contractor option (Obtain building department approval). Tape all joints and penetrations per manufacturer recommendations. For heated slabs on grade; minimum R-10 (2" thick) required along perimeter; minimum R-5 for interior portions per IRC. (Verify with Building official.) Provide vapor barriers under all slabs.

Vapor Barrier at Slab: Provide minimum 6 mil. polyfilm under the floor slab (Insultarp or Astrofoil can act as the vapor barrier). Install as dictated and require per code.

Slab Edge: Provide 2" Polystyrene (R-10) thick rigid insulation.

Sills: Fiberglass sill sealer at all concrete to wood plate junctures. Sill sealer to be part of rough carpentry package.

Insulation Baffle: 1/4" cardboard corrugated insulation baffles to maintain cold roof flow, where shown on drawings. (Baffles to be compatible with spray foam urethane closed cell insulation where used.)

Interior Wall Sound Insulation: Provide R-11 Batt insulation at all interior walls as indicated on plans and stairs for sound control.

B. ROOFING UNDERLAYMENT: Under all roofing provide Vycor™ Ice and Water Shield. Install in strict compliance with manufacturer specifications and recommendations. Do not install membrane within 3'-0" of ridge lines (use 15# felt). Prime area 6'-0" each side of valleys and 6' up from edge of roof overhang with Bituthene primer P-3000. Provide membrane under and around all roof junctures to fascias prior to fascia trim installation. Upon completion of roofing underlayment work and prior to the installation of any roof material, schedule and notify the Architect of the W.R. Grace manufacturer representative review meeting on site. Provide manufacturer letter to the Owner and to the Architect stating that the roofing underlayment was installed in accordance with manufacturer's requirements. If metal roof is provided, install Vycor™ ultra membrane under all metal roofs.

C. SHINGLE ROOFING – Manufacturer: 'GAF' Style: Timberline Prestique composition shingles. Color: Charcoal. Install roofing system in strict accordance with manufacturer specifications and recommendations using manufacturers standard methods and materials of constructions. Provide manufacturers standard 50 year warranty. See Division VI and drawings for cold roof venting details.

D. SHOWER PAN LINING - Chloraloy 240 monolithic polyethylene membrane, manufactured by the Nobel Company, 614 Monroe St., Grand Haven, Michigan 49456, (616) 842-7844, or approved equal. Provide submittal on membrane for approval. A 24 hour flood test will be required to verify water tightness of installation. Install membrane per details on the drawings.

Schlüter system may be provided if approved by Architect as available through Daltile (735 South Huron, Denver CO 80223, 800/999-1743, www.schlüter.com) – provide submittal. Provide submittal to include KERDI matting membrane information, KERDI-BAND, grout specification, and curb waterproofing, in coordination with all tile work.

E. FLASHING – Material: Install all flashing to divert water to the exterior of the building envelope. Install all flashing per standards of the industry and in compliance with SMACNA recommendations. 26 ga. Galvanized Iron Finish - Pre-finish flashing at all visible areas. All exposed sheet metal to be prefinished or painted. Provide kick out flashings with all roof wall junctures.

F. SEALANT & CAULKING:

Joint Fillers: Closed cell expanded polyethylene, open cell polyurethane foam or as recommended by the sealant manufacturer.

Exterior Sealant at Horizontal Concrete Expansion Joints: Grey color one part urethane sealant PRC 6006 self leveling sealant as available through C.R. Lawrence, Inc. 1-800-421-6144.

Exterior Sealant at Wood, Stone and Vertical Concrete: Color to match adjacent surface as approved by Architect. Work Site U60 Unicrylic sealant or Tremco Mono 1 part acrylic terpolymer sealant as available through C.R. Lawrence, Inc. (800) 421-6144.

Interior Caulking at Latex Painted Area: Color to match adjacent surface as approved by Architect. Work Site 800 acrylic latex caulk as available through C.R. Lawrence, Inc. (800) 421-6144. Caulk between all baseboard trim and wall junctures and between all standing and running trim and wall junctures.

Interior Caulking at Oil Base Painted Areas: Color to match adjacent surfaces as approved by Architect. D.A.P. architectural grade caulking compound as available through C.R. Lawrence, Inc. (800) 421-6144.

Fire Barrier Sealant: At all piping and mechanical penetrations of rated walls, floors and ceilings. "Flame Seal" as manufactured by Nelson Co. or approved equal such as 3M Fire Barrier or Dow Corning System 2000.

G. MASONRY SEALER: Provide matt finish masonry sealer (Stone Glamour or equal) at all sandstone hearths and stone caps.



REVISIONS:

JOB NO: 12315.0

DATE: 10.16.23

DRAWN BY: T. SHAFER

CHECKED BY: Z. LEVIN

ISSUED FOR CONSTRUCTION: 10.16.23

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Partners of COLORADO 560 ADAMS AVENUE SILVERTHORNE, CO 80498 (970) 515-1000

HOLOMBO RESIDENCE

0039 LODESTONE TRAIL, BLUE RIVER, COLORADO 80424 (LOT 532, THE CROWN SUBDIVISION)

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SHEET NUMBER:

A-5.2

OUTLINE SPECIFICATIONS

VIII. DOORS AND WINDOWS

A. ENTRY DOOR: Entry door as approved by Owner. See Cash Allowances. Provide submittal.

B. EXTERIOR DOORS: Provide weather stripping and thresholds at all exterior doors as a part of the base bid for the work. All doors shall carry manufacturer's standard warranty and shall be installed in strict accordance with manufacturer's recommendations. Provide wood doors with wood frames. Provide submittal.

Provide 'Weathershield', 'Sierra-Pacific' or approved equal clad wood patio doors in size and configuration as shown on the drawings. Provide wood frames with integral stops and thresholds. Stain and seal doors per work in Division IX. Exterior patio doors to be clad to match windows.

C. INTERIOR DOORS: Verify species with Owner. Provide solid hardwood doors in sizes as shown and style as Selected by Owner. Provide flush panel doors. Paint grade. Install in strict accordance with manufacturers recommendations. Provide solid core door with threshold at interior garage door. Provide threshold at mechanical room door. Provide submittal for all doors.

D. HARDWARE: See Section I.E. for Cash Allowance. Installation of all hardware shall be in the base bid. Provide finish throughout and submittal of hardware with cut sheets for Architect review and approval. Approved manufacturers include Schlage, Russwin, Yale, Baldwin and Sargent.

E. WINDOWS: 'Weathershield', 'Sierra Pacific' or approved equal clad wood windows. Provide casement, awning and fixed as shown on the drawings. Provide detailed submittal for Architect approval prior to ordering windows. Provide color clad frames per color sample. Do not provide Brick Mould. Provide Low E glass at all window and patio door locations. Coordinate window coverings with Owner, Architect and Designer.

F. INSULATED GARAGE DOOR: Insulated Masonite Doors clad with vertical CVG cedar wood siding per plans with 3" standard heavy-duty track, weather-stripped and with automatic opener. Provide upper panel glazing as shown on plans. Provide submittal for Owner/Architect approval. Stain to match siding. Provide submittal. Provide track as noted above.

G. ATTIC ACCESS LADDER – Provide cost for providing 22"x30" attic pull-down ladder, as selected by the owner.

IX. FINISHES:

A. DRYWALL: Material – 1/2" type "X" drywall or 1/2" standard drywall throughout the project as noted on the drawings. Texture sample is required prior to work for Owner and Architect approval. Hand trowel texture throughout. Provide three coat finish, prime walls and then refinish as required for smooth or textured finish, then re-prime wall as required. Provide smooth finish at wall paper areas. Coordinate corner profile with Owner.

B. DRYWALL CEILINGS: Material – 1/2" standard drywall as noted. Textured finish to match wall texture.

C. TILE: Provide tile isolation underlayment (Schluter or equal) at concrete slabs to receive tile as shown on plans. Provide 1/2" cement board (wonder board or durorock) behind all areas to receive wall and ceiling tile. Provide fiberglass tape and screw cement board to framing with galvanized screws. Provide durorock underlayment under all tile countertops.

Tile materials are per Cash Allowance. All tile is to be installed by contractor and per manufacturers approved methods and in compliance with Tile Council of America recommended installation methods. See plan for scope of tile work. Provide sealant at all tile horizontal and vertical junctures.

Provide shop drawings for all tile layouts to be approved by Owner and Architect prior to beginning work. In general, all layout work should be centered and positioned in a logical and workmanlike manner. If recessed areas in wet areas are shown, such as shower niches, provide Bituthene 3000 waterproof membrane by W. R. Grace prior to cement underlayment installation.

Provide Schluter Systems shower pan assembly to include compatible drain system, mortar beds, Kerdi-Band and Kerdi-Matting. Install in strict compliance with manufacturer's recommendations. Installer to be certified by Schluter Systems. Provide certificate of certification to Architect prior to any tile work.

D. GRANITE COUNTERTOPS - Provide and install 3/4" thick stone and facing at each countertop (square, eased edges) as selected by Owner and indicated on the drawings. Install in strict accordance with supplier's requirements and recommendations. (Provide substrate and adhesive as approved.)

E. WOOD FLOORING: Provide and install a complete finished wood strip flooring in areas shown on the drawings. Use select grade, as selected by Owner, with tongue and groove edges.

Field finish by sanding to level using successively finer sandpaper. Filler: Benjamin Moore Benwood Paste wood filler or approved equal. Natural finish: Stain and three coats Benjamin Moore Urethane as approved by Owner. Prefinished flooring may be provided at Owner option.

Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction and with uniform appearance. All flooring materials to be stocked on site for a period not less than four weeks prior to installation.

Provide pre-finished or field finish by sanding to level using successively finer sandpaper. Filler: Benjamin Moore Benwood Paste wood filler or approved equal. Natural finish: Stain and three coats Benjamin Moore Urethane as approved by Owner. (Pre-finished floor may be provided if approved by Owner and Architect).

F. TRANSITION STRIPS: Provide submittal for transition strip to be used at junction or edge of all dissimilar flooring materials.

G. EXTERIOR PAINTING: Exterior siding and trim - 2 coats semi-transparent stain. Three colors to be used as approved by Owner and Architect. Provide the first coat to siding and trim prior to installation. Exterior metal surfaces - 2 coats oil base paint as approved by Owner and Architect. Provide sample for owner and architect approval. Exterior flashings – prefinished flashing.

H. CAULKING: Provide caulking at all baseboard trim and wall junctures and between all standing and running trim and wall junctures.

I. INTERIOR PAINTING: All colors and finishes to be approved by Owner and Architect. Refer to room finish schedule for locations of colors.

Drywall (dry areas) - Two coats eggshell finish latex paint. Colors as selected by Owner.

Drywall (wet area) - Two coats semi-gloss latex enamel (washable)

Wood doors and trim - Stain and two coats sealer.

Exposed Beams and Timbers - Stain and two coats sealer.

Windows and Jamb Extensions - Stain and two coats sealer to match trim.

Interior Metal - Polish and clear seal.

X. SPECIALTIES:

GAS STOVE AT LIVING ROOM – 'Napoleon' 28" Havelock direct vent gas heating stove. Provide natural gas logs and remote controller. Provide all related equipment as required by Building Department. See details. Provide combustion air kit. Coordinate all options with Owner. Install all in strict accordance with manufacturer's recommendations.

B. TOILET & BATH ACCESSORIES – Provided backing blocking as required for toilet and bath accessory installation. See Cash Allowances. Provide submittal. Coordinate with interior design, dark bronze rustic accessories. Verify with Owner.

C. MIRRORS – 1/4" polished plate glass w/ detailed wood trim. Coordinate frames at all interior vanity mirrors with Owner.

XI. EQUIPMENT:

A. APPLIANCES - Appliances are to be selected and verified with the Owner. See Cash Allowances. General Contractor to supply pricing information to Owner so that it may be decided who will purchase appliances. Installation shall be by General Contractor. Verify the appliance requirements with Owner prior to rough-in requirements for appliance work. Provide submittal for information to the Architect.

KITCHEN / LAUNDRY: (Verify all finishes and details for appliances)

(1) 36" Refrigerator with Icemaker
(1) 48" Range
(1) 24" Dishwasher
(1) 30" Microwave
(1) Garbage disposal

LAUNDRY:
(1) Front load Washer
(1) Front load Dryer

XII. FURNISHINGS: - None - N.I.C. by Owner.

XIII. SPECIAL CONSTRUCTION:

A. STEAM SHOWERS - Provide prefab 'Aqualetics' or equal at (2) showers, 60"x40" install in strict accordance with manufacturer's requirements. Provide submittal.

B. SPA (HOT TUB) - Provide 8'x8' prefab as selected by Owner. Provide 220V 50 amp dedicated circuit on exterior wall adjacent to hot tub. Provide lockable 'Tip Top' cover per code requirements. Provide submittal.

XIV. CONVEYING SYSTEMS: None

XV. MECHANICAL: (See DMCE plans for more detailed information)

A. PLUMBING

1. General: Provide submittal for all plumbing work as outlined below prior to any plumbing work.

Pex domestic water piping by Rehau may be provided as an alternate if approved in writing by the Owner. Provide copy of approval to Architect.

Pex piping may introduce harmful chemicals into domestic water. Copper piping is recommended for cold water supply to kitchen sinks and bathroom lavatories

2. Water Supply - Domestic well Individual water well as approved by the State of Colorado and Summit County. Provide wellness check for well casing, submersible pump, pitless adapter, 1 1/4" soft copper piping to mechanical room and pressure tank. Provide complete and operational system. Verify water quality with written water quality report for review by Owner and Architect. All connections, labor and materials to be paid for by General Contractor. Provide Bid Alternate for 'Water Cop' motorized safety shut-off water.

3. Domestic Cold Water Piping: Provide Type "L" copper piping throughout. Provide plumbing riser diagrams for Architect approval. Insulate cold water pipes with 1 1/2" Armaflex insulation to protect from heat gain from warm water piping. Provide for landscape irrigation system.

Domestic Hot Water Piping: Provide "Type L" copper piping throughout. Provide plumbing riser diagrams for Architect approval. Provide 1/2" Armaflex insulation on hot water piping. Provide hot water recirculating pump with aquastat timer control for hot water circulation. Provide air hammer arrestors as required.

5. Gas Piping: Provide threaded black pipe natural gas piping or code approved plastic piping to mechanical room and other areas as indicated on the drawings per code and Xcel Energy requirements. Provide gas meter per the location indicated on the drawings. Provide outlets as shown on the drawings.

6. Sanitary Sewage: Septic System - Provide complete septic system per detailed drawings as approved by Summit County Environmental Health Department and as provided by septic engineer. Locate field to protect trees as directed by Architect). See septic engineering design by Littlehorn Engineering. Copies available from Architect.

7. Plumbing Fixtures/Fittings: Provide complete submittal prior to any plumbing work. All plumbing fixtures and fittings are to have submittal reviewed by Owner before final ordering. Fittings to be per Cash Allowances. Colors from Kohler standard colors. See plans for fixtures and fittings to be provided.

Note: Verify with Owner all options, accessories, and finishes prior to ordering. See room finish schedule for additional information.

8. Wall Hydrants: Freeze proof Woodford #25CP 24" length wall hydrants as shown on the plans, with separate shut-off valve with access panels. Provide independent shut-off valve for all wall hydrants located in an accessible area such as under cabinet. Provide flush access panel if appropriate. In other areas provide access with appropriate access panel finished to match adjacent surface.

9. Floor Drains: Provide Wade, Zurn, or Josam (or equal) floor drains as shown on plans. (route to daylight). Provide submittal.

B. HEATING SYSTEM (See DMCE plans for more information)

UNDER-FLOOR RADIANT:

1. Provide submittals and complete shop drawing information for radiant staple-up heating system, as indicated on the drawing, to include the following:

a. Building heat loss calculations.
b. Heat transfer piping layouts and specifications.
c. Supplemental heat specifications as required.
d. Unit sizes/model numbers/manufacturer for boiler with specifications.
e. Pump information and specifications.
f. Zone valve information and specifications.
g. Intake air and exhaust requirements.
h. Boiler piping locations/layout and control specifications.
i. Thermostat submittals and specifications.
j. Flue size/requirements.
k. Gas pipe size/requirements.
l. High recovery hot water storage tank specifications.
m. Other pertinent information.

Provide complete submittal information, including manufacturer's cut sheets, and obtain Architects approval PRIOR TO ANY WORK.

2. Equipment – Manufacturer – Viessmann, Laars/Buderus, Triangle Tube or approved equal. Direct-vent high-efficiency, Hot water boiler(s) natural gas with direct vent flue venting system. Size and number of units in accordance with manufacturer specification and sizing information. Contractor shall submit proposed equipment layout and verify space and clearance requirements with manufacturer prior to framing work by General Contractor. Install in strict accordance with manufacturer's recommended details. Submit complete spec data PRIOR TO ANY WORK.

3. Controls - Manufacturer - Provide all necessary controls for a complete and operational system. Locate thermostats on interior walls above switch plates.

4. Zones - Locate thermostats on interior walls above switch plates. Provide heating zones for each floor as shown on the drawings. Provide hot water heater "sidearm" zone. Verify locations with Owner/Architect prior to installation. Install shut off valve on each side of each zone valve.

5. Other Mechanical Equipment – Provide 80-gallon gas fired hot water heater. Include in the shop drawings. Provide optional hot water circulating pump with disconnect switch for recirculating system. Install pumps to minimize vibration through structure. Provide submittal.

6. Piping - Copper piping for hot water supply to Vanguard or equal cross-linked, polyethylene tubing and recommended fittings and components.

7. Range Hood and Make-Up Air System – see bid alternates. (Verify with Owner) Provide variable speed CFM range hood, as selected by Owner, vented to exterior per manufacturer recommendations. Provide Variable CFM Make Up Air unit with controls integrated with range hood control. Provide exterior air intake with weighted damper and heating coil. Duct 2/3 of makeup air to hood location and 1/3 to floor or side wall grill under/behind refrigerator. Provide Submittal. Provide Make-Up Air unit per code.

8. Additional Information - Boilers to be installed by certified installer in accordance with manufacturer's recommendations. Insulate all hot water supply and return lines with 1/2" Armaflex insulation or equal.

9. Ductwork - Provide ductwork for dryer and range vent hood. Provide duct work for bathroom and laundry exhaust fans to exterior. Provide duct work as required for combustion air to fireplace. All ducts to be metal. Provide submittals as required.

10. Ventilation System – (Verify with Owner) Provide ERV and/or HRV system by Venmar AVS in size appropriate for size of home. Provide submittal. See plans. Provide remote control wiring and push button wall control. System to include cleanable filters, intelligent flow dampers and exterior vent louvers. Coordinate fan coil connection with boiler system. Locate unit centrally and not in mechanical room or garage. Provide well distributed small duct supply via horizontal unit with plenum duct systems and 2" sound attenuated tubing system. Install in strict accordance with manufacturer's requirements.

11. Additional Ductwork – Provide ductwork for hoods, equipment, exhaust fans and dryer vents to exterior. Coordinate locations with Architect prior to installation. Provide ductwork as required for combustion air to stove. All ducts to be metal. Provide back draft dampers at all exterior locations.

XVI. ELECTRICAL: (See DMCE plans for more detailed information)

A. GENERAL - The electrical contractor shall provide PRIOR TO ANY WORK electrical load calculations including service one line diagram for Architect approval. In addition, the electrical contractor shall provide panel schedules, equipment information, and complete electrical submittals for the Architect within 30 days of the awarding of the Contract.

B. ELECTRIC SERVICE - Provide 120/240 single phase power as approved by Xcel Energy of Colorado. The Contractor shall coordinate this work and pay for the cost of all work from the transformer to the house. The electrical contractor shall pay for electrical permit fee and other required fees and permits, if any. The electrical contractor shall be responsible for running the power from the transformer to the building as approved by the utility company. Provide aluminum service wiring and copper circuit wiring throughout. One electric meter shall be provided. Provide 14 KW generator with automatic transfer switch (coordinate scope with owner).

C. ELECTRICAL FIXTURES - Provide outlets, switches and plate covers throughout the project of "Decora" design, with built-in dimmers where shown. Install fixtures per manufacturer's requirements and locate fixtures to illuminate all spaces and all stairways per code requirements. (Verify color with Owner and Interior Designer.) Provide new lamps for all fixtures. Provide cut sheets and detailed submittal for Architect approval prior to ordering any materials. Provide ceiling fans as shown and as verified with Owner. See cash allowances.

All recessed cans within thermal envelope to be flush LED "PUCK" lights halo SLD4xWH series, or Juno Basics Series surface mounted LED fixture (www.junolightinggroup.com). Verify size and color with owner.

See room finish schedules for additional information.

D. HOME AUTOMATION SYSTEM – Consult with Owner to provide submittal for scope of Crestron Home Automation System.

E. TELEPHONE SYSTEM – Provide for three separate incoming lines (one dedicated line for computer modem/fax machine). Provide separate line from each telephone to central system control panel. Verify with Owner. Per Qwest representative (970) 940-4530. Confirm before installing. Provide structured bundled cable for all telephone and T.V. outlet locations. (See F. below.) All phones to home run to phone/TV panel.

F. CABLE TV – Install as shown on plans and per local Cable Company requirements. Provide structural bundled cable to each T.V. outlet. Structural cable shall include (2) CATV runs and (2) RG6 coaxial cables. Installation to be complete and ready for turn on by Cable T.V. operator at request of Owner. All cable to home run to phone/TV panel.

G. HOME ENTERTAINMENT/SOUND/INTERCOM/STEREO SYSTEM - Provide submittal for Architect's review from Owner's selection of pre-wire as available through contractor approved by Owner. Supplier to meet with Owner prior to submittal. Coordinate with telephone and cable T.V. systems.

H. WIRELESS INTERNET – Verify with Owner. As approved by Owner, provide complete wireless internet system for entire home. Provide submittal. Provide conduit for satellite dish installation from south roof area to telephone/T.V. control board.

I. OTHER EQUIPMENT – Special Outlets – see drawings
Door Bells – see drawings
Smoke Detectors/Carbon Monoxide - Shall be installed in all sleeping rooms and all other locations as indicated on drawings and per code requirements. Equipment shall be wired into building electrical system and also contain battery backup per code requirements. Install batteries and test all detectors prior to project completion. Smoke detection system engineered and designed by electrical subcontractor and approved by local jurisdiction.

J. SECURITY, FIRE, and LOW TEMPERATURE PROTECTION - Provide submittal for Architect's review from Owner's selection of security system with motion detectors and integrated low temperature alarm and heat detected fire monitoring system. Coordinate with "Water Cop" motorized water valve system if included in project.

K. SATELLITE DISH – Verify with Owner. Owner shall coordinate installation requirements with Contractor. Contractor to provide in his base bid PVC conduit from dish location to A/V equipment location at central control panel. See roof plan for location.

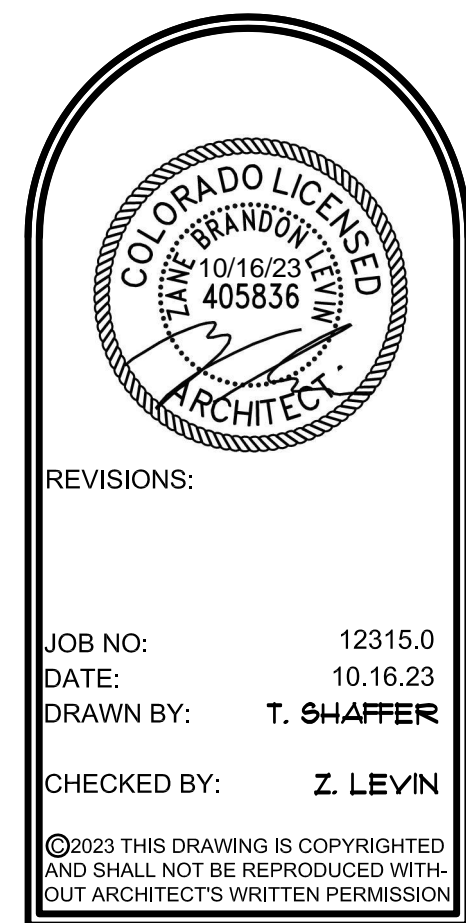
L. BATH & LAUNDRY EXHAUST FANS – Panasonic "Whisper Lite" ceiling mounted fan or fan/light combination. Some rating to 1.5 or less. Provide submittal along with other electrical fixtures.

M. WATERPROOF OUTLETS – Provide GFI protected exterior electrical outlets in soffits or roof headwalls and at all downspout nozzles as shown on the plans for future heat tape installation.

N. HEAT CABLE – If provided, provide "Sno-Trace" No. RGS-1 by Thermon, (800) 730-4328, or equal, to be coordinated for installation with gutters, and thermostatically controlled downspouts, as located on the plans.

O. ADDITIONAL INFORMATION - Installation of all electrical work shall comply with all local codes, rules and regulations and the latest edition of the National Electrical Code. Install site cable TV and telephone per Xcel Energy shared utility trench agreement.

END OF SPECIFICATIONS

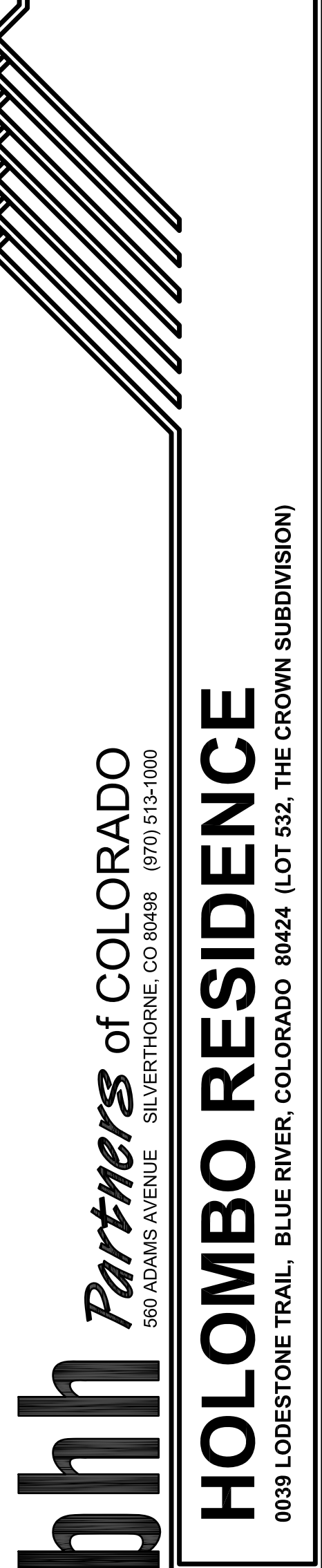


REVISIONS:

JOB NO: 12315.0
DATE: 10.16.23
DRAWN BY: T. SHAFFER
CHECKED BY: Z. LEVIN

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ISSUED FOR CONSTRUCTION: 10.16.23



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SHEET NUMBER:
A-5.3
OUTLINE SPECIFICATIONS

GENERAL

- DESIGN LIVE LOADS: Snow=100psf, Floor=40psf, Wind 115mph (3 Second Gust) Exposure C, Seismic Zone B
- RESPONSIBILITY: The contractor is responsible for cross referencing all plans and inspecting work placement at the site to assure that no omissions or discrepancies exist that might adversely affect construction or the integrity of the finished product. Job site and construction safety are not addressed in these plans and are the responsibility of the contractor. These responsibilities are industry standard.
- These plans are intended to be in accordance with 2018 IBC and IRC codes. All construction to be in conformance with these codes.

FOUNDATION

- Foundation designed in accordance with an ASSUMED Maximum allowable soil bearing pressure = 2500 psf, 0 min. Proper authorization of these assumptions are the responsibility of the owner.
- We recommend a soils engineer verify during excavation (and before construction of any part of the foundation) that soils types and conditions match those assumed above.
- Remove topsoils, organic material, and any questionable material below pads and footers. All pads and footings exposed to frost must maintain the required 48" frost depth. Minimum pad thickness = 12". The footing elevations of this design are indicated in economical relation to architectural elements. Proper soil bearing and/or the soil report may require lower footings.
- Drainage and grading details to divert surface drainage at least 10' away from the structure. Do not backfill against any foundation or retaining wall until all supporting floor and slab systems are in place and securely anchored, or other adequate wall support is provided.
- Where exterior backfill rises above any adjacent floor, use granular free draining backfill from drain tile up. Exterior backfill may be native inorganic material where final grade is below lowest floor (UNO). Before placing finish topsoil, we recommend capping backfill with a Mirafi fabric under 12"-24" of water impermeable material (e.g. clay).
- Provide 4" diameter perforated PVC drain tile in a 12" by 12" gravel envelope at lowest levels of and perimeter of excavation sloped a minimum of 1/8" per foot to an adequate daylighting drain. Provide cleanouts and screen end. Mirafi or other filter barriers will help prevent drain clogging. Test drain tile before and after backfilling.
- All construction and materials to conform with ACI 318.
- Reinforcing bar to be deformed 60 ksi steel (per ASTM A-615). Lap all rebar splices and corners 38 bar diameters minimum.
- Concrete supplier to provide mixes that replace 20% of portland cement with recycled fly ash from local coal burning power plants.
- Minimum concrete 28 day compressive strength = 3500psi for walls, footers, and pads, and 4000psi for slabs.
- Concrete cover: Concrete cast against and permanently exposed to earth: footing, pad = 3". Concrete exposed to earth or weather: walls, slabs = 1.5"
- Consolidate concrete per ACI 309. Cast in place concrete shall be poured continuously so as to prevent cold joints.
- Provide 1/2" diameter by 10" min anchor bolts at 24" on center with an embedment of 7" to connect framing to foundation (UNO). Anchor bolts to be located not more than 12" from foundation corner (TYP). Use galvanized anchor bolts with pressure treated plates. Finish all concrete wall tops to within 1/8" of specified elevations.
- Foundation insulation and waterproofing to be specified and installed in accordance with the above mentioned soils report, IRC, local codes, and accepted construction practice.
- Do not use foam form systems without approval of Engineer.
- Provide slab shrinkage reinforcement of 6x6xW1.4 welded wire mesh with 2" laps. Exterior slabs to be 5" minimum thickness with #3 rebar at 12" on center each way as reinforcement.
- Slab surfaces to be left free from trowel marks, uniform in appearance, and with a surface plane tolerance not exceeding 1/8" in 10'0" when tested with a 10' straightedge.
- Provide 1" deep tooled (or cut) control joints at approximately 10' on center in each direction.
- Provide 1/2" expansion joint material at all slab to wall, footing, or column interfaces. Provide a 6 mil poly barrier under all interior slabs for moisture protection and as a bond breaker. Provide an approved hardener and sealer to the surface of all slabs.
- If foundation is to sit through winter without complete framing, we recommend the building achieve enough backfill, framing, and floor sheathing to protect foundation bearing soils from moisture accumulation and frost heave.

STRUCTURAL STEEL

- All structural steel shall conform to ASTM specifications A36 except pipe columns which shall conform to ASTM A53 Grade B, and steel tube columns which shall conform to ASTM A500 Grade B. Steel to steel member connection bolts shall be A325 steel and miscellaneous wood embedded items shall be A36 steel.
- Steel column base plates shall bear evenly to concrete below via 4000 psi non shrink grout.
- Minimum welds to be per AISC and/or AWS, but not less than 3/16" continuous fillet unless otherwise noted. Welding quality control shall be per AWS. All welders shall have evidence of passing the American Welding Society Welding Qualifications Test as detailed in AWS D1.1.

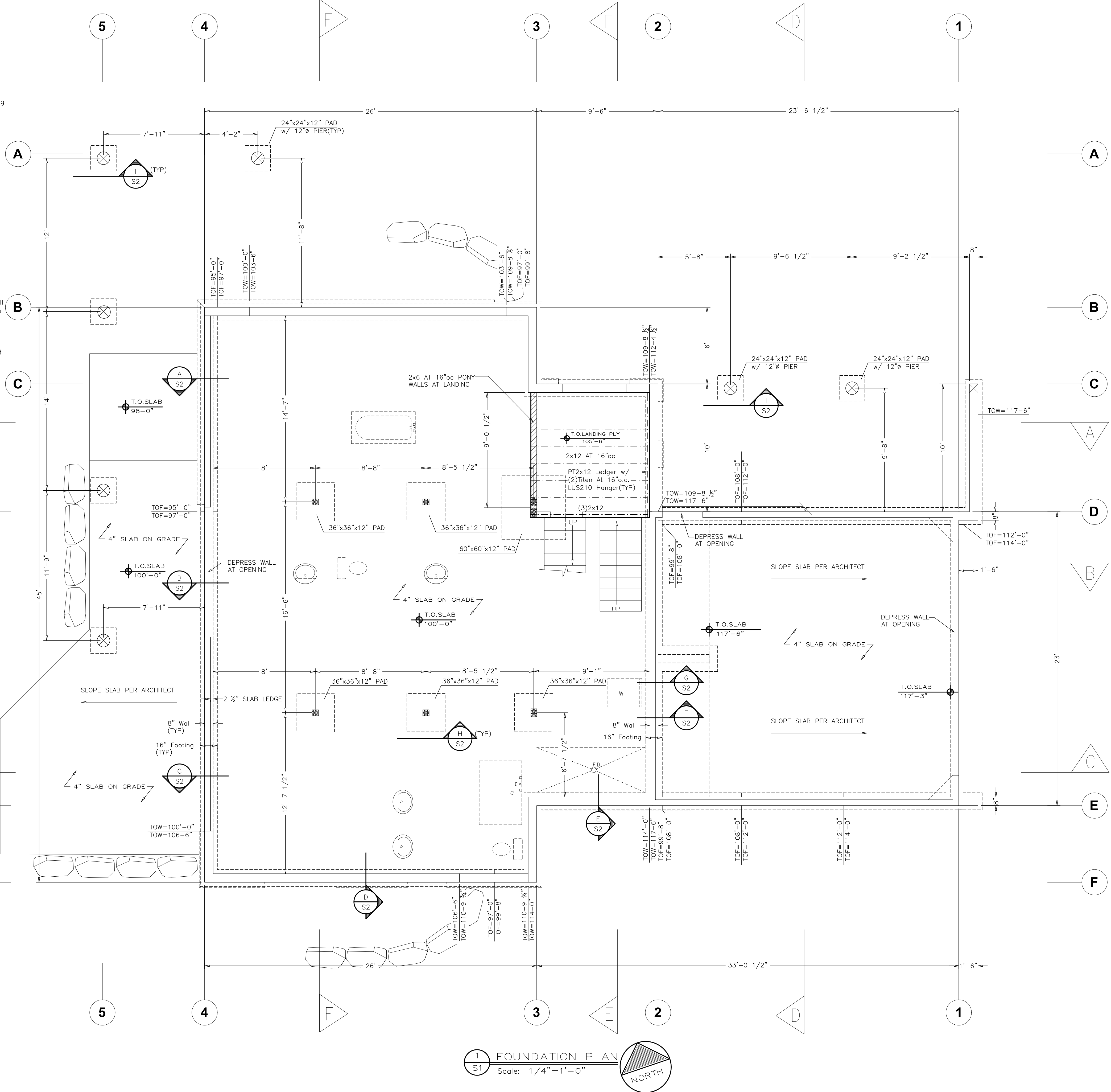
WOOD FRAMING

- Framing plans show structural requirements only. Additional members may be required for blocking, nailers and code requirements.
- Use Douglas Fir or Hem Fir "stud grade" (S4S) 2x6 for all wall studs(UNO). Use DF#2 (S4S) or better for all multi-stud posts, joists, rafters, headers, posts, beams and plates. 2x6 & 2x4 at 16"oc. Framing(TYP)
- Sill plates and any other lumber in direct contact with concrete- California Foundation Grade Redwood or Species Group B Pressure Treated Lumber. Use galvanized anchor bolts with pressure treated plates.
- Glulams (GL)- 24F-V8 manufactured in accordance with AITC 117-84, fb=2400psi. OK to use 24F-V4 for simple span applications only. All Glulams used in exterior applications must be sealed and protected from moisture with an appropriate preservative.
- Laminated Veneer Lumber (LVL)- manufactured in accordance with APA criteria. fb=2600psi.
- Timbers- Douglas Fir (DF) Grade specified on plan- #1 Fb>1300psi, #2 Fb>850psi.
- Exterior Wall Ply- 7/16" OSB APA rated 24/16 min with 8d's @6"oc edge, 12" oc field. Manufactured in conformance with APA PS 1-83. Floor Ply- 3/4" T&G OSB APA rated 24/0 minimum, 8d's @6"oc edge, 10"oc field. Glue to joists. Roof Ply - 5/8" OSB APA rated 40/20 minimum, 8d's @6"oc edge, 12"oc field.
- Roof Trusses- 100 psf snow load, 24"oc. Truss design and fabrication by others. No drop top gable truss adjacent to scissor truss without approval of Engineer.
- Maintain 6" clearance between untreated wood or siding and soils at finish grade.
- 1/2" Plywood sheath 100% all exterior frame. Ply to lap floor rim, top plates and sill plate.
- All floor and roof plywood place with 8' dimension perpendicular to framing with end joints staggered.
- All load bearing headers in 2x6 wall (2)9.5" LVL insulated header; in 2x4 wall (2)2x10, (UNO).
- Provide 2 studs under each end of all load bearing beams or headers >38"(UNO). (1)King stud min.(UNO)
- Multiple stud posts anticipate 2" min wall sections preventing buckling. Verify new adjacent openings with engineer.
- Studs removed for doors and windows shall be placed equally at the end of headers, up to (2)king (full height) studs each end.
- Posts to stack over equal below (UNO). Trusses spanning >18' to stack over studs below (UNO). Provide end joint where studs above do not stack over studs below.
- Solid block all bearing walls and posts for continuity to foundation.
- Block all trusses, outlookers, rafters and joists at all bearing points.
- Where full height foundation wall parallel to joists, block 1st joist space @24"oc.
- Wall studs to be continuous from floor to floor, or floor to roof. Balloon frame all gable walls. Provide firestop blocking at 10' max intervals in any wall with studs over 10' height.
- Connect joists to blocking with a minimum of (2)10d nails and connect joists to plate or beam below with a minimum of (3)10d toenails. Connect rim to plate below with 10d toenails @6"oc.
- Nail exterior wall sole plate to joists below with (3)10d and to blocking, rim or end joist with 10d's @4"oc.

- Connect all BCI rafters to blocking with (3)10d nails, and to plate or beam below with (4)10d nails. Provide beveled bearing plate at interior bearing, birdsmouth cut at exterior bearing. Provide beveled web stiffeners at birdsmouth and regular web stiffeners at interior bearing. Strap BCI rafters across ridge with LSTA 18. Connect blocking to plate below with (3)16d toenails minimum. Refer to BCI Specifiers Guide roof details.
- Connect all 2x rafters to blocking with (3)10d nails, and to plate or beam below with (4)10d nails. Provide birdsmouth or seat cut bearing at all beams and wall plates UNO.
- Connect common trusses to all bearing points with Simpson H2.5 connectors (UNO). Scissor trusses connect one end with Simpson TC26. Connect to blocking with (3)16d nails
- Ventilate roof framing per local codes.
- Nailing, blocking, and all other construction details per 2018 IBC and IRC, such as Table R602.3(1). (UNO)
- All connector callouts to be Simpson Strong-Tie or equal by Simpson Strong-Tie Company, Inc. Install per manufacturer's instructions.
- TJ and MicroLam (ML) are products by Trus Joist MacMillan. Install per manufacturer's instructions. Multiple ML's glue and nail together with (2) rows 16d @12"oc (UNO).
- Steel beams pook out per detail where noted. Where not otherwise noted, provide 2x full width nailer on top with 1/2" Thru bolt at 24"oc staggered side to side of beam web. Where frame wall pocket prevents beam rolling, connect steel beam base to post or beam below with (2)5/8" Lags. Otherwise connect beam to bearing via welded "ears" i.e., flanges similar to Simpson CC. Provide 1/4" fitted web stiffeners at steel beam point loads and bearing points (UNO).
- Ply shear wall sheath both sides fully with 1/2" CD ply with 8d's at 4"oc edge, 12"oc field (i.e. block edges). Frame from floor ply to roof ply or floor ply to floor ply (or provide sleeper or blocking in rafter/joist level). Double studs at each end of shear wall connect to adjacent walls with (4)5/8" Lag bolt. At ply above connect to shear wall top plate with 10d's @4"oc. Connect bottom plate to floor ply with 8d's at 3"oc and glue. See plans for any holdown requirements.
- 5/8" Gyp shear wall sheath each side fully with drywall nails at 4"oc edges and field, block edges.
- If slab on grade is placed on expansive soils (i.e. minimum soil bearing required, see foundation note 1 above) all partition walls framed on slab to be slip jointed per soils report.

TYPICAL ABBREVIATIONS

- BOGB = bottom of grade beam
- BRG = bearing
- CL = center line
- E.E. = each end
- E.M. = each member
- E.S. = each side
- E.W. = each way
- GL = Glulam
- HDR = header
- LVL = Laminated veneer lumber
- oc = on center
- OF = overframe
- OH = overhang
- OPP SIM = opposite similar
- PL = plate
- PT = pressure treated
- PSL = parallel
- R.O. = Rough opening
- SOG = slab on grade
- STR = Structural
- TOBL = top of brick ledge
- TOF = top of footing
- TOGB = top of grade beam
- TOS = top of slab
- TOSB = top of steel beam
- TOW = top of wall
- TYP = Typical
- UNO = Unless noted otherwise
- WS = steel web stiffeners



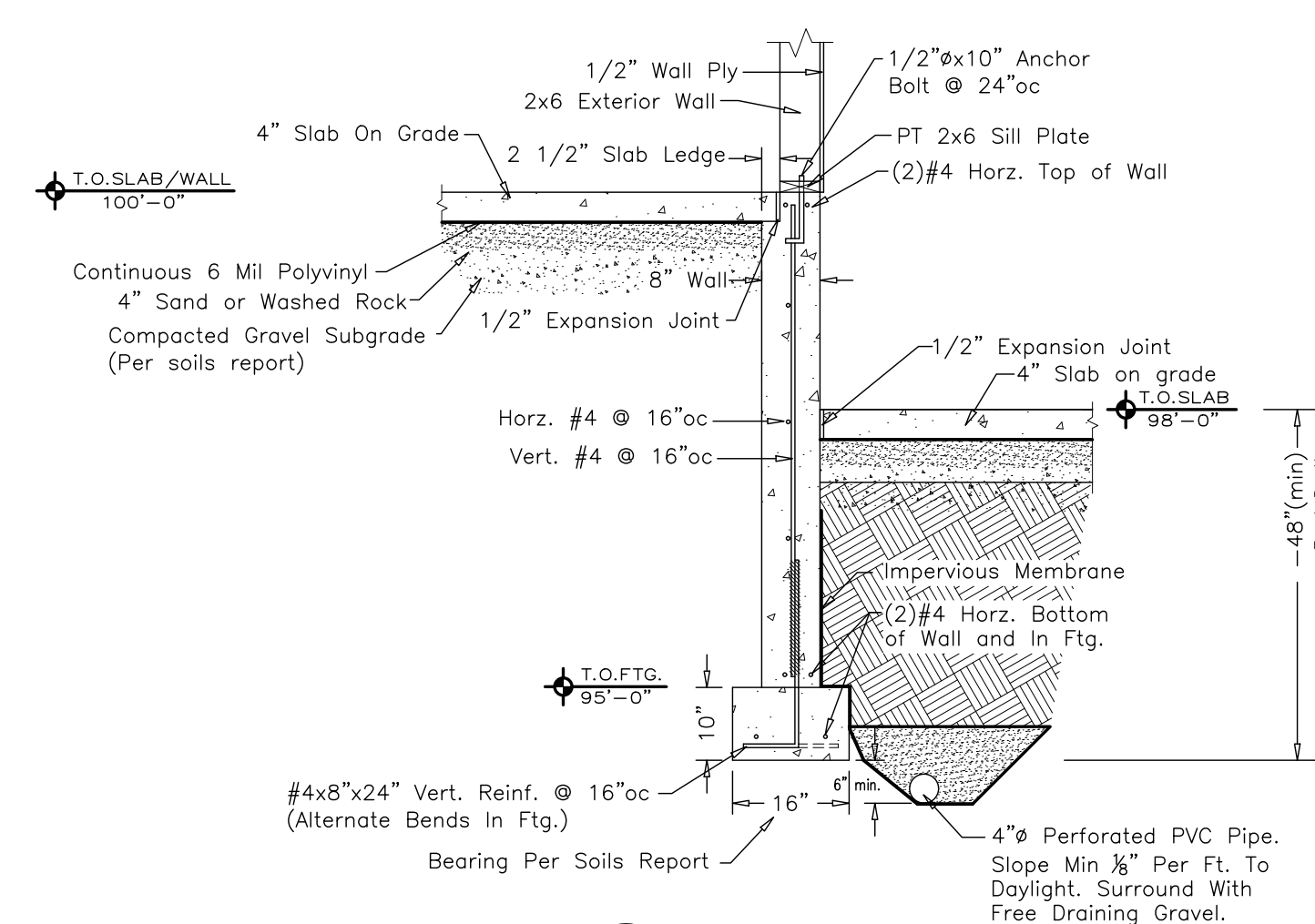
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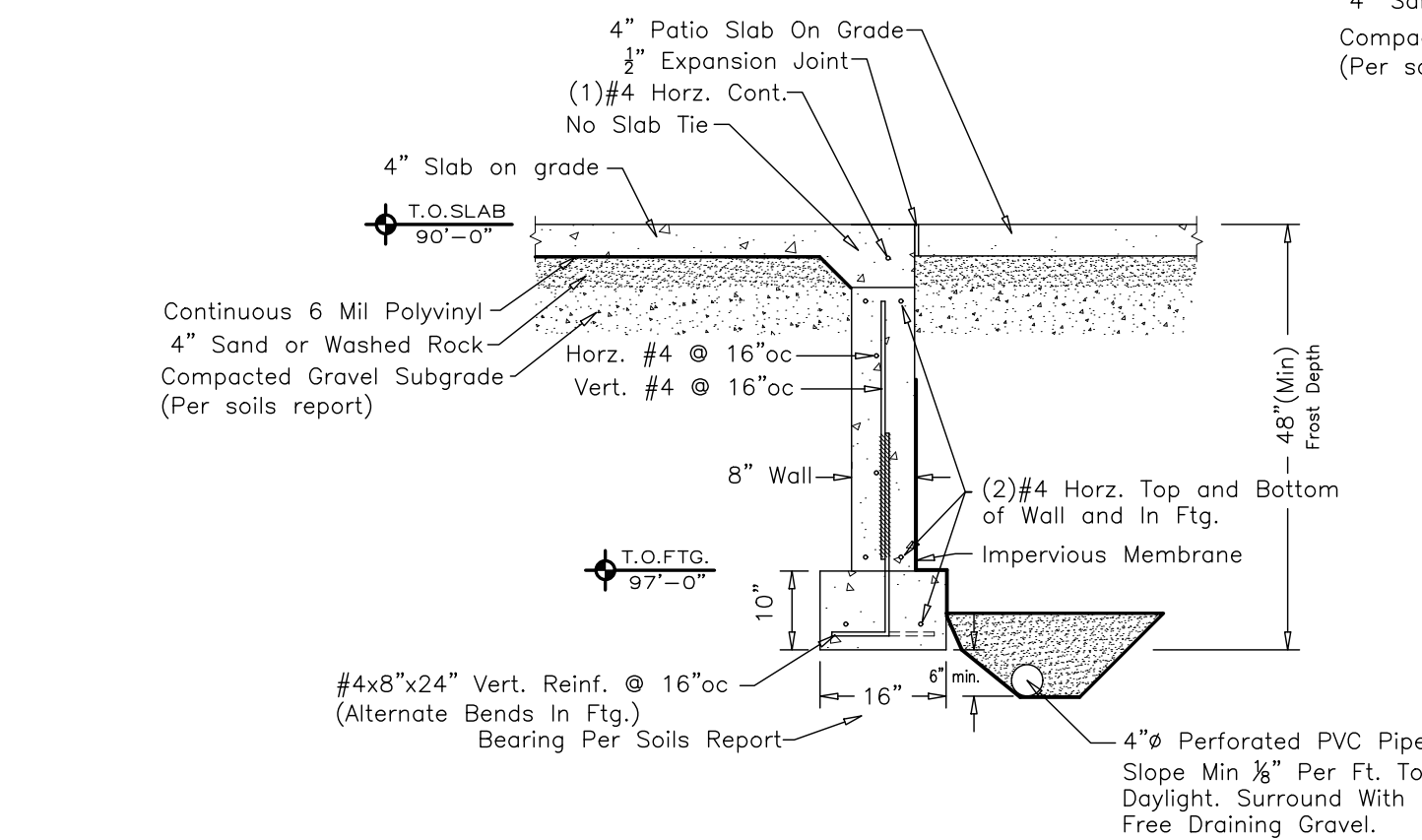
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FOUNDATION PLAN for the proposed:
HOLOMBO RESIDENCE
 0839 LODGESTONE TRAIL
 BLUE RIVER, COLORADO

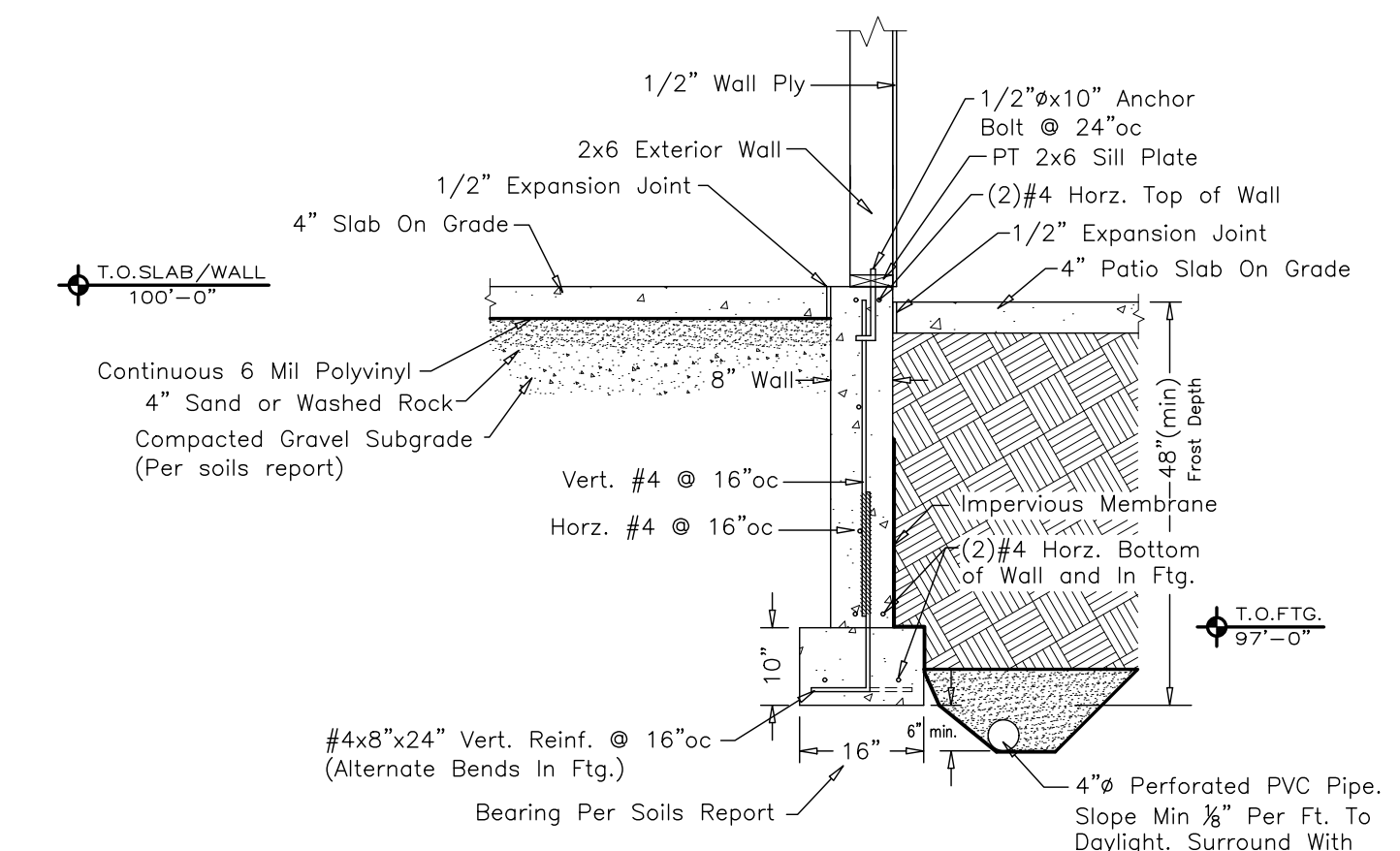
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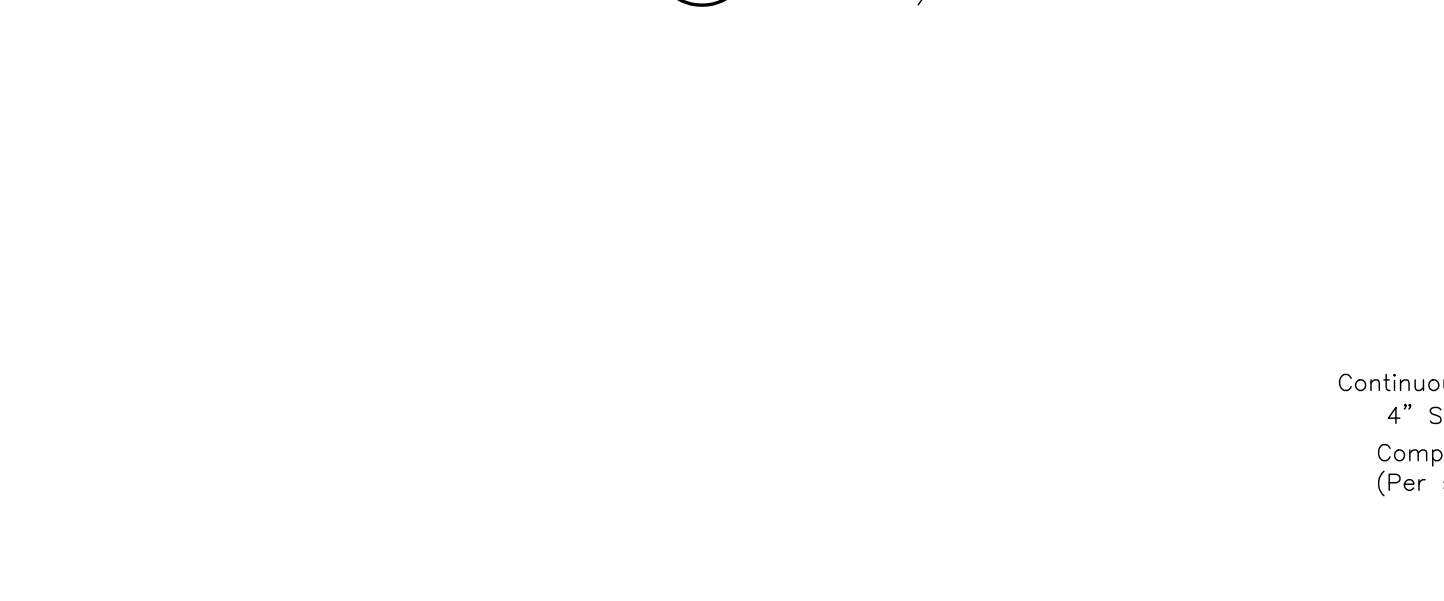
A WALL DETAIL A
S2 Scale: 1/2"=1'-0"



B WALL DETAIL B
S2 Scale: 1/2"=1'-0"



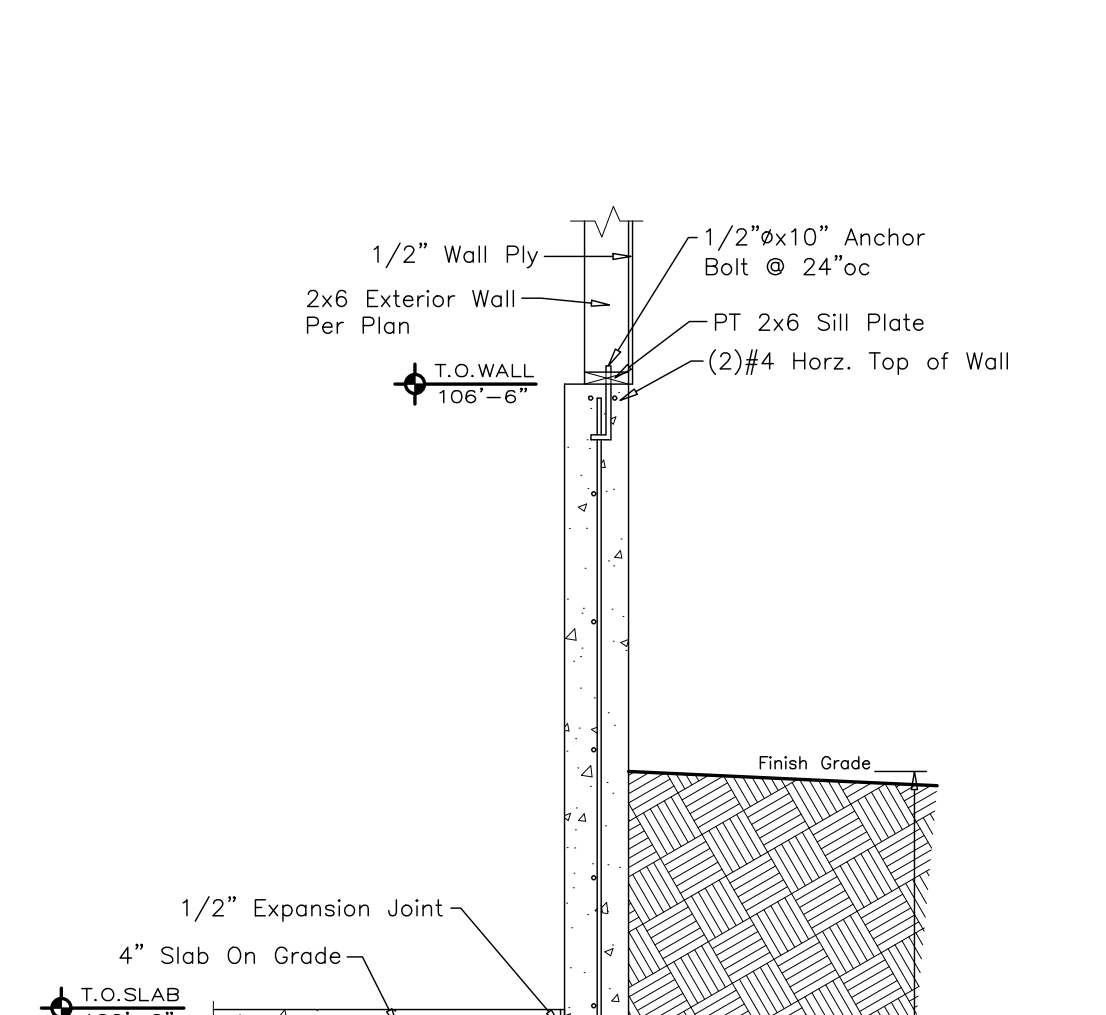
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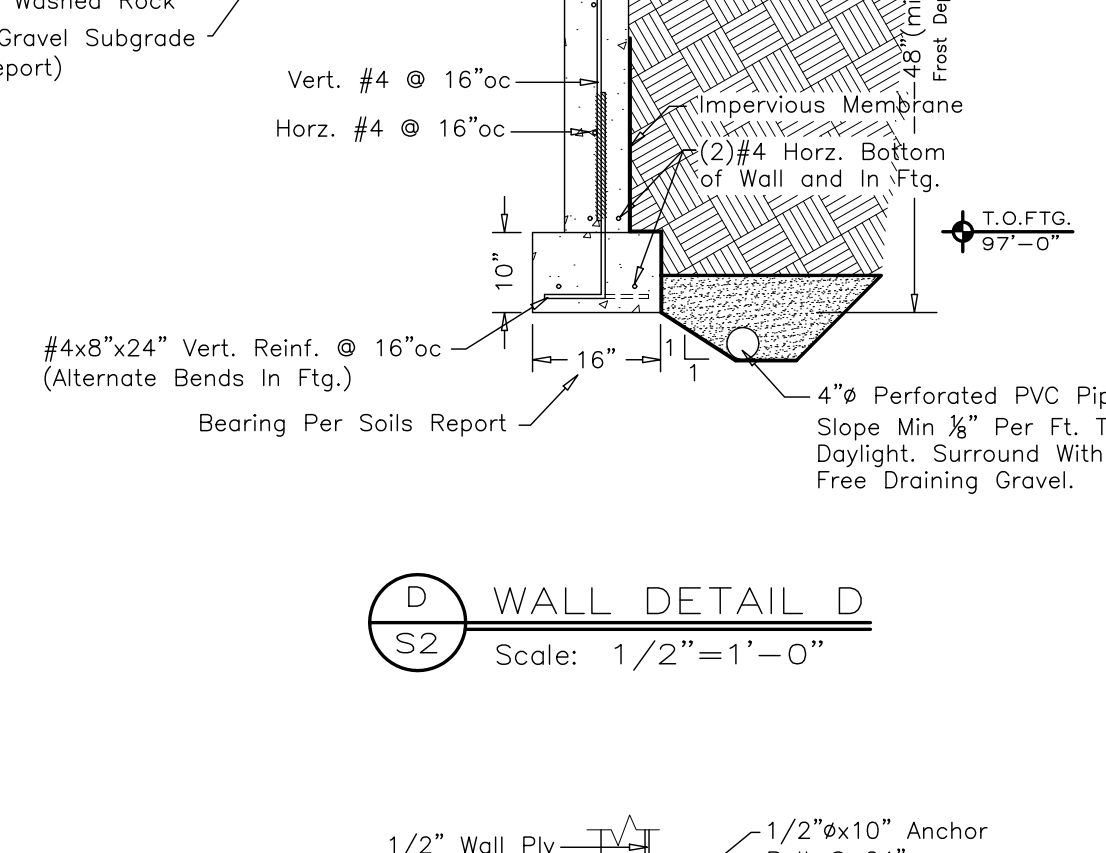
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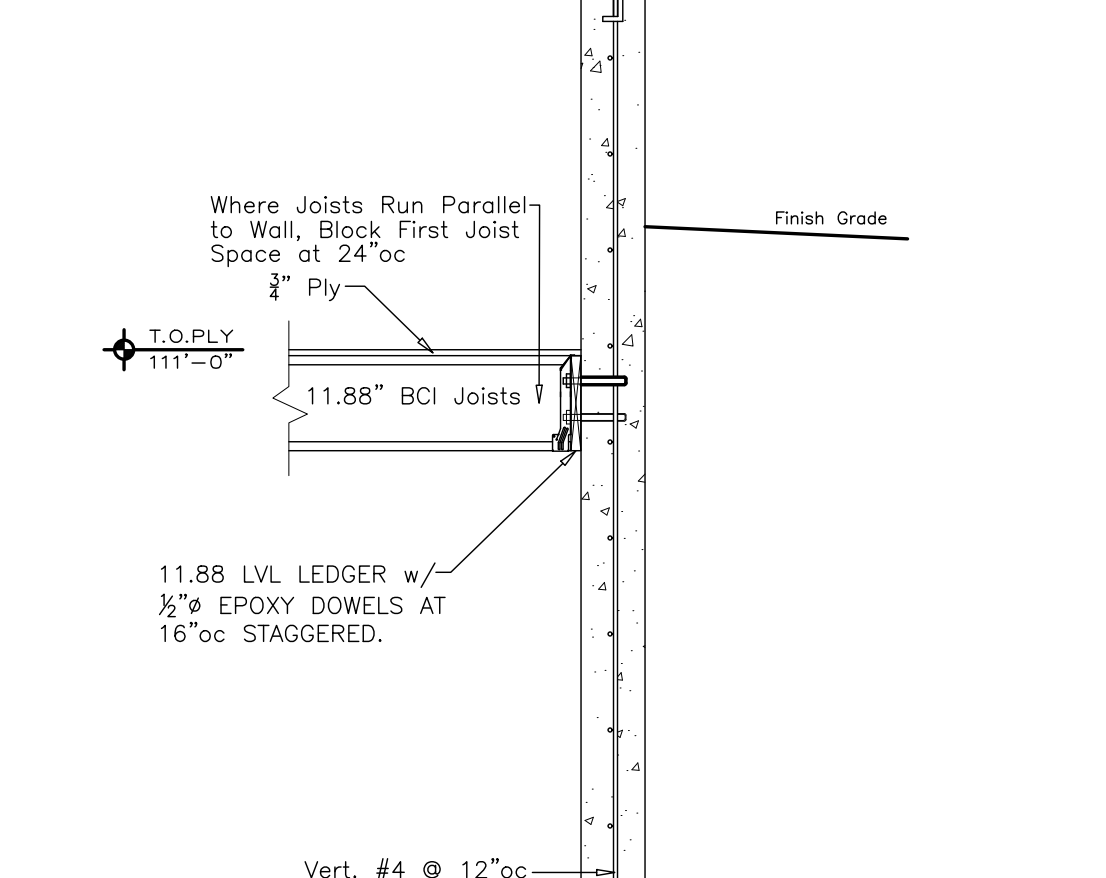
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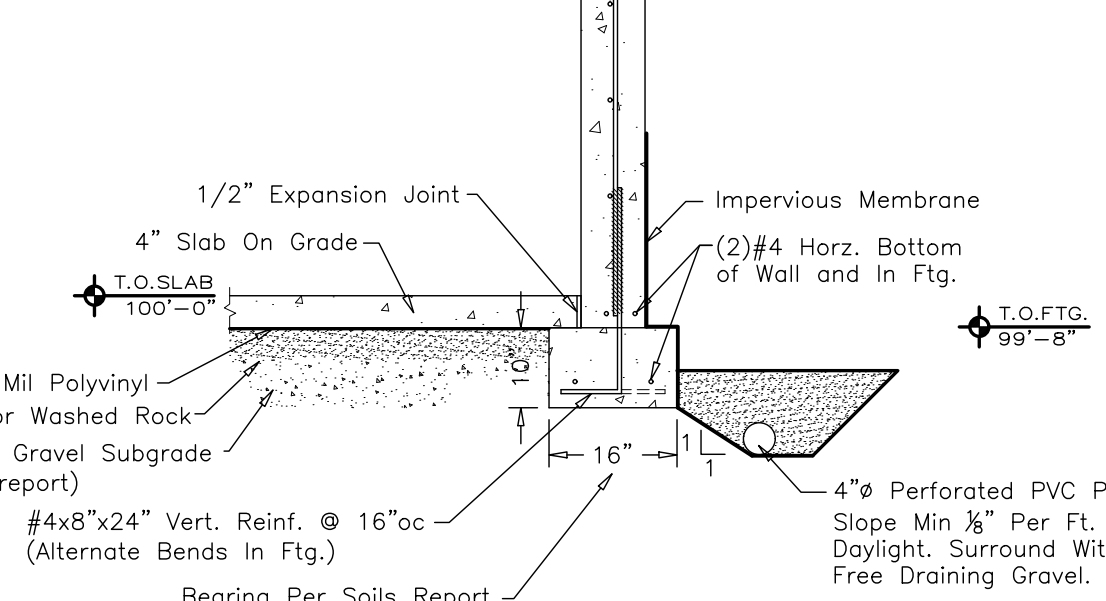
F WALL DETAIL F
S2 Scale: 1/2"=1'-0"



G WALL DETAIL G
S2 Scale: 1/2"=1'-0"



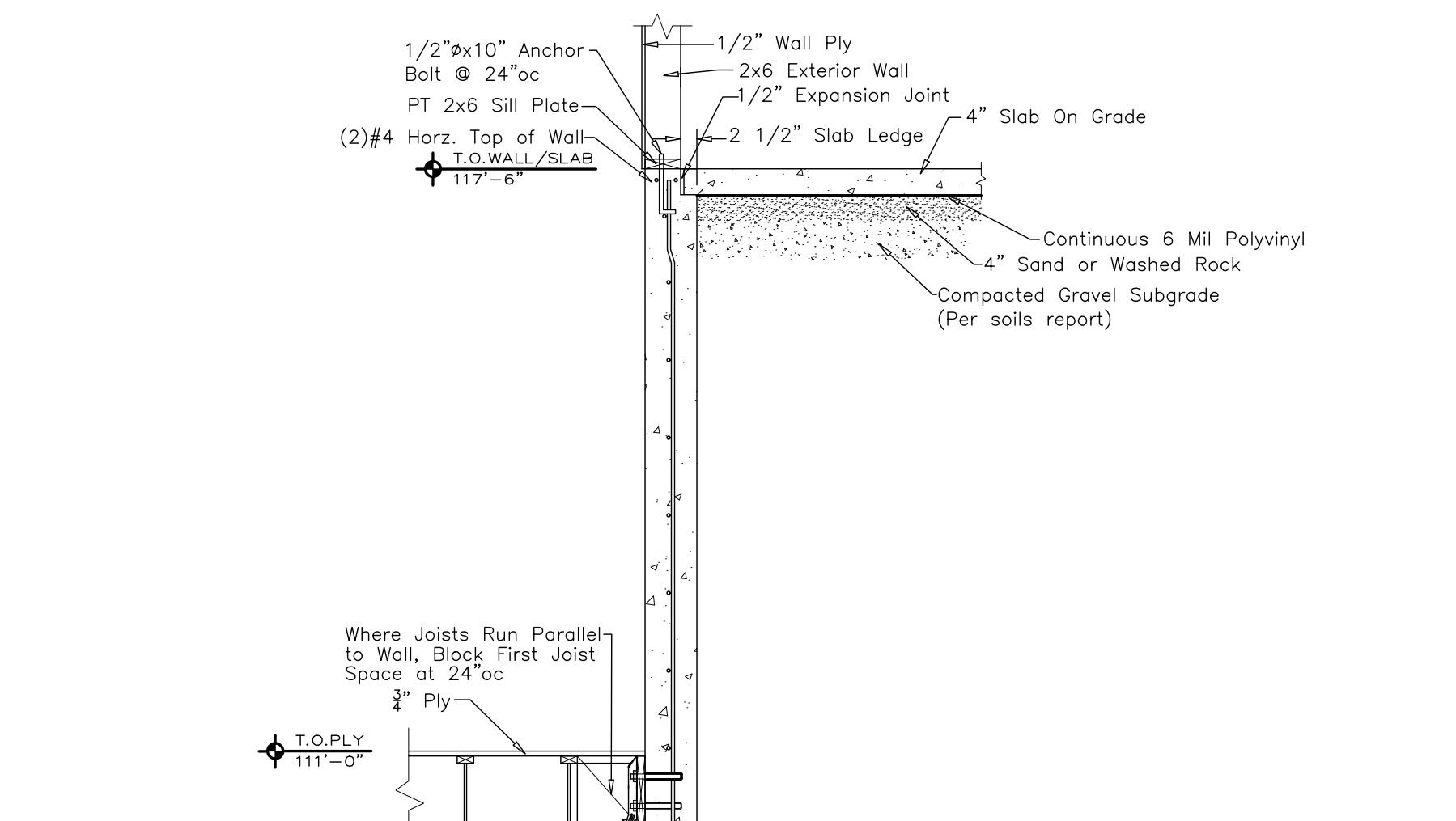
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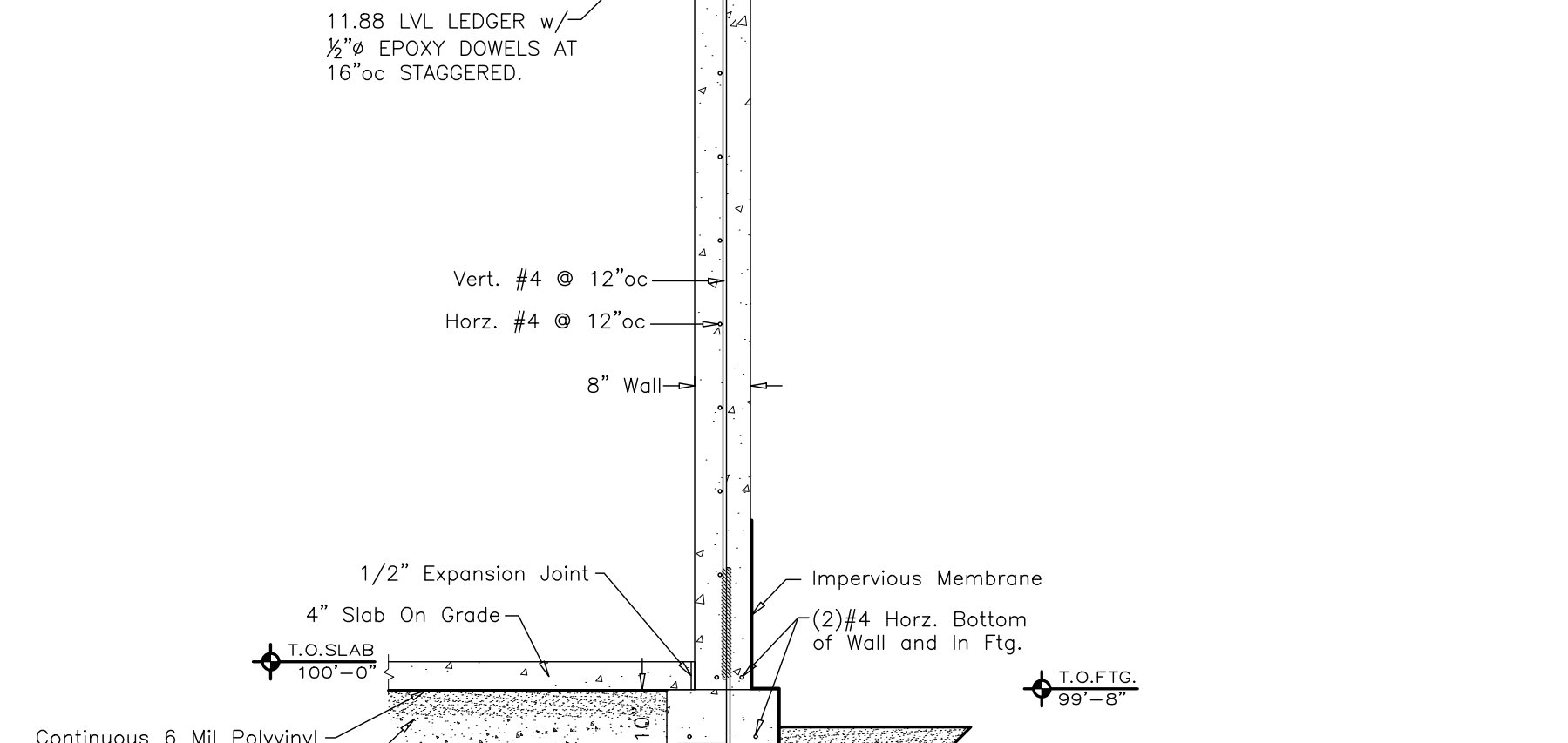
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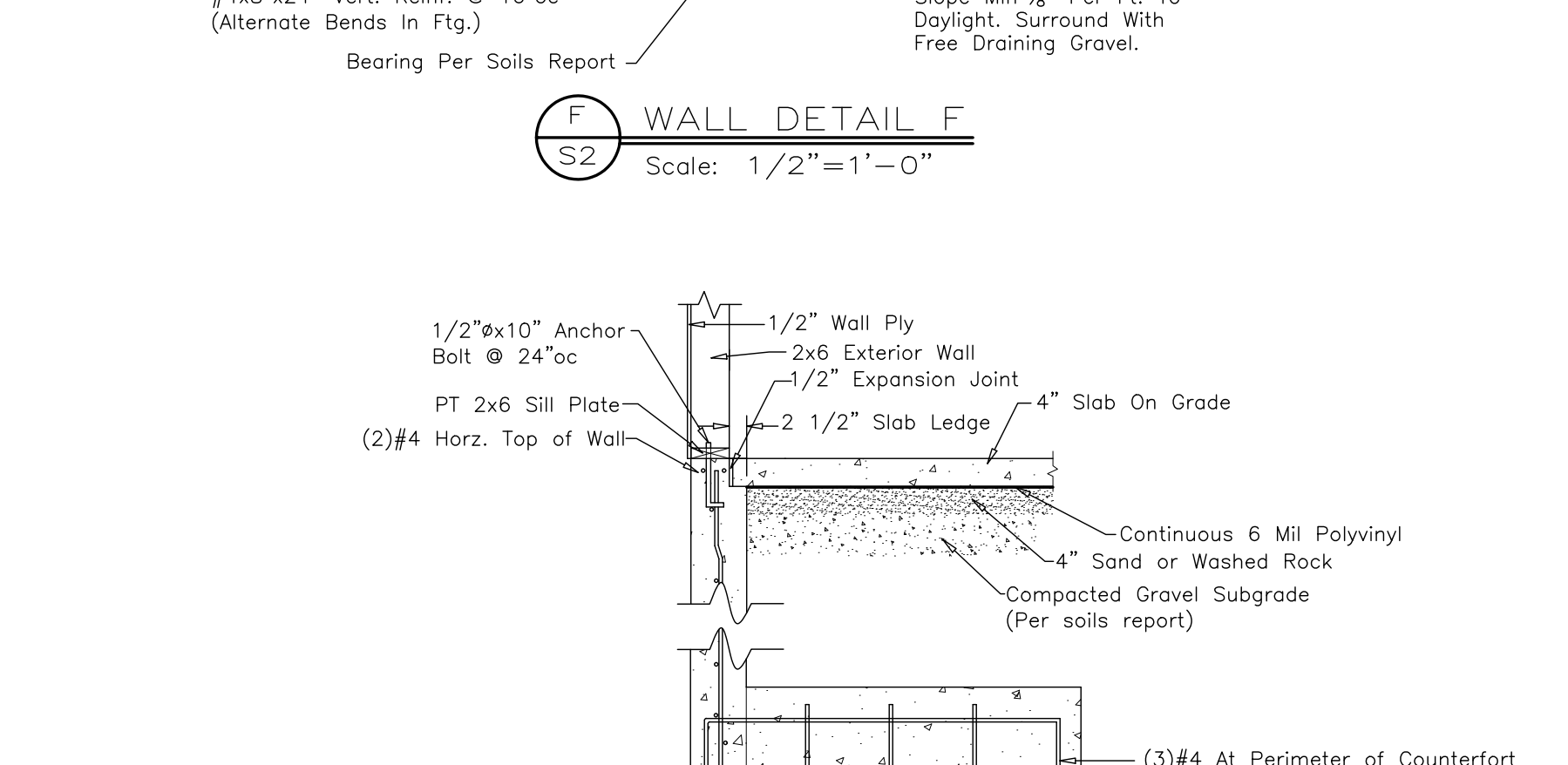
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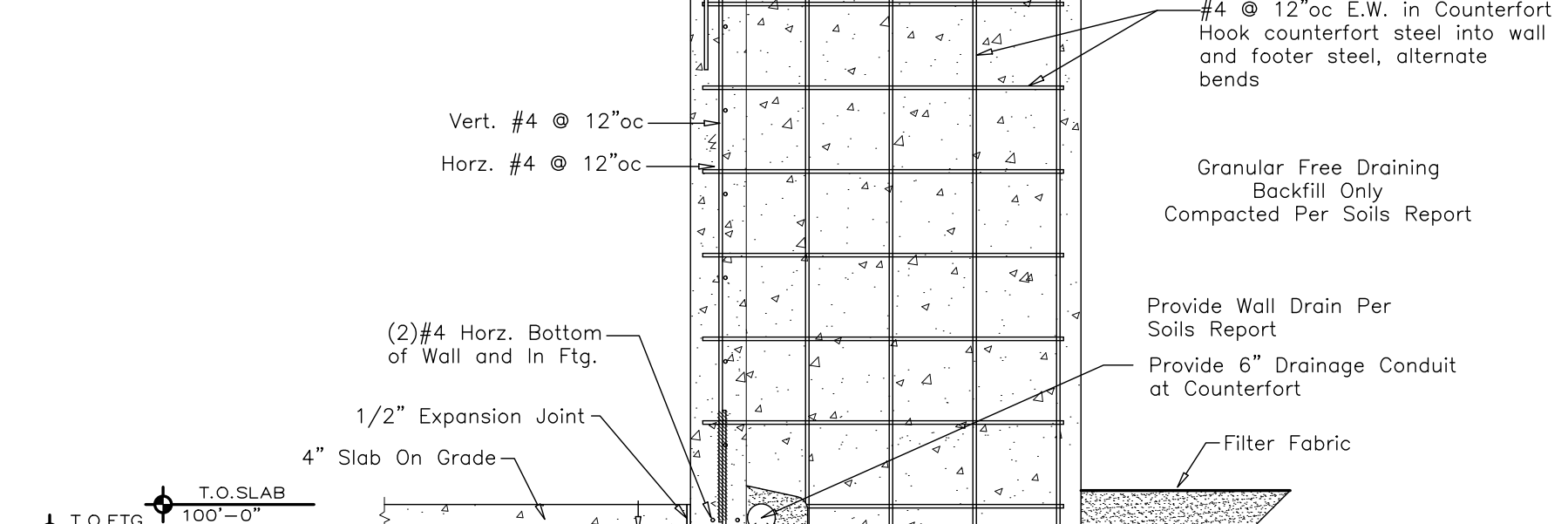
A FOUNDATION DETAIL A
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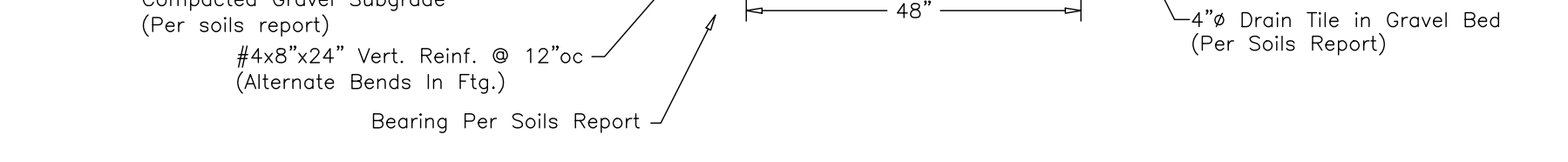
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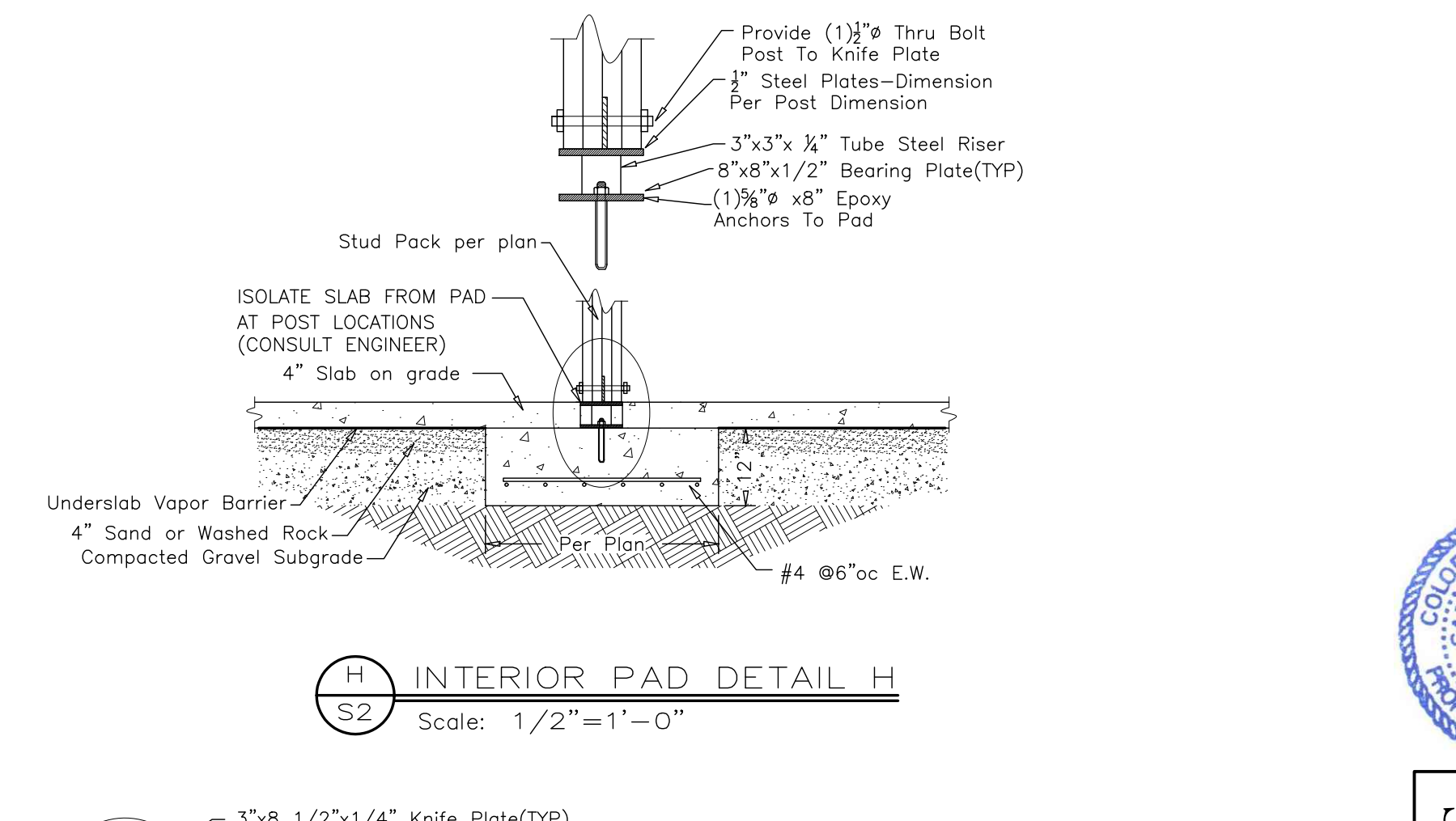
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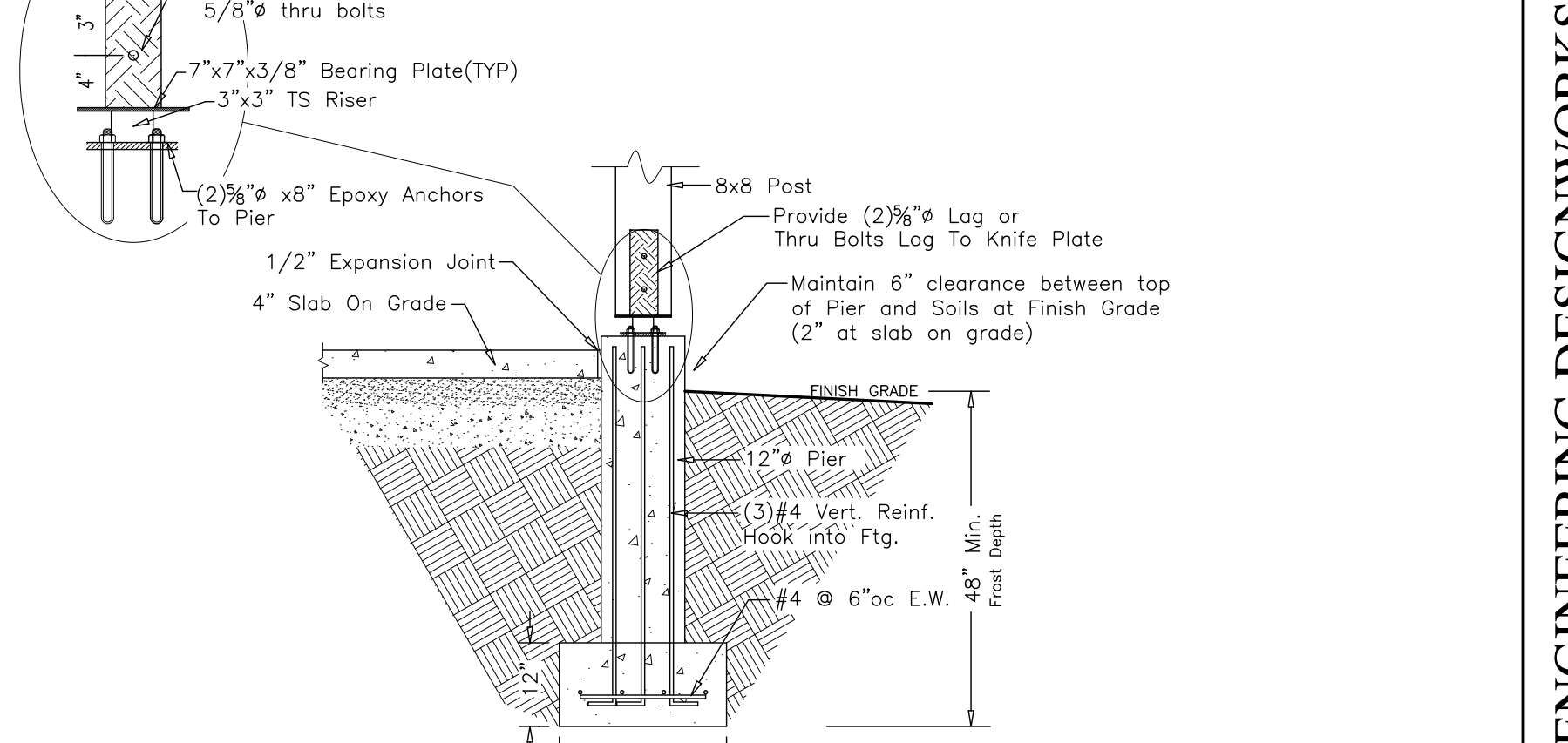
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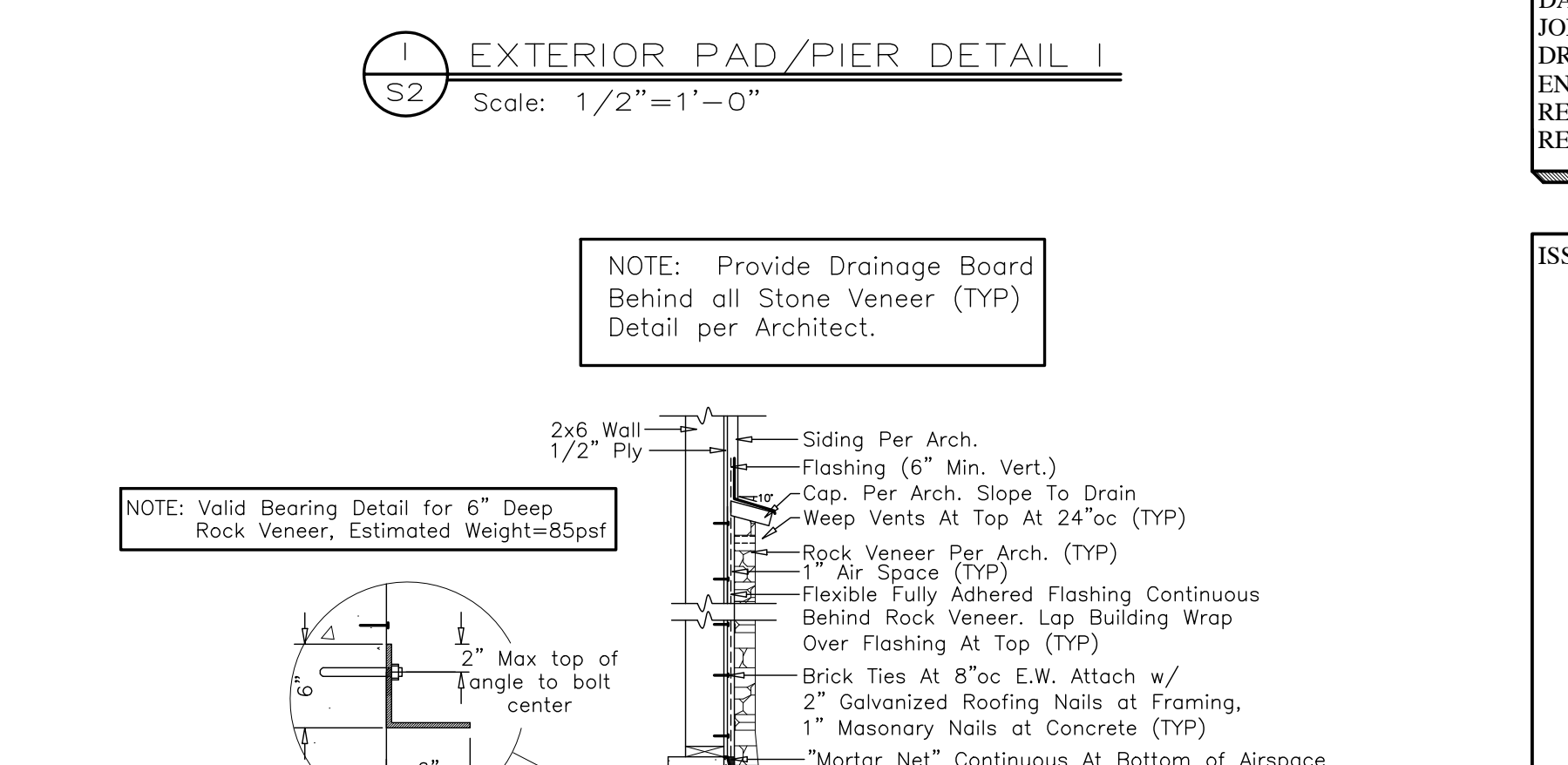
E FOUNDATION DETAIL E
S2 Scale: 1/2"=1'-0"



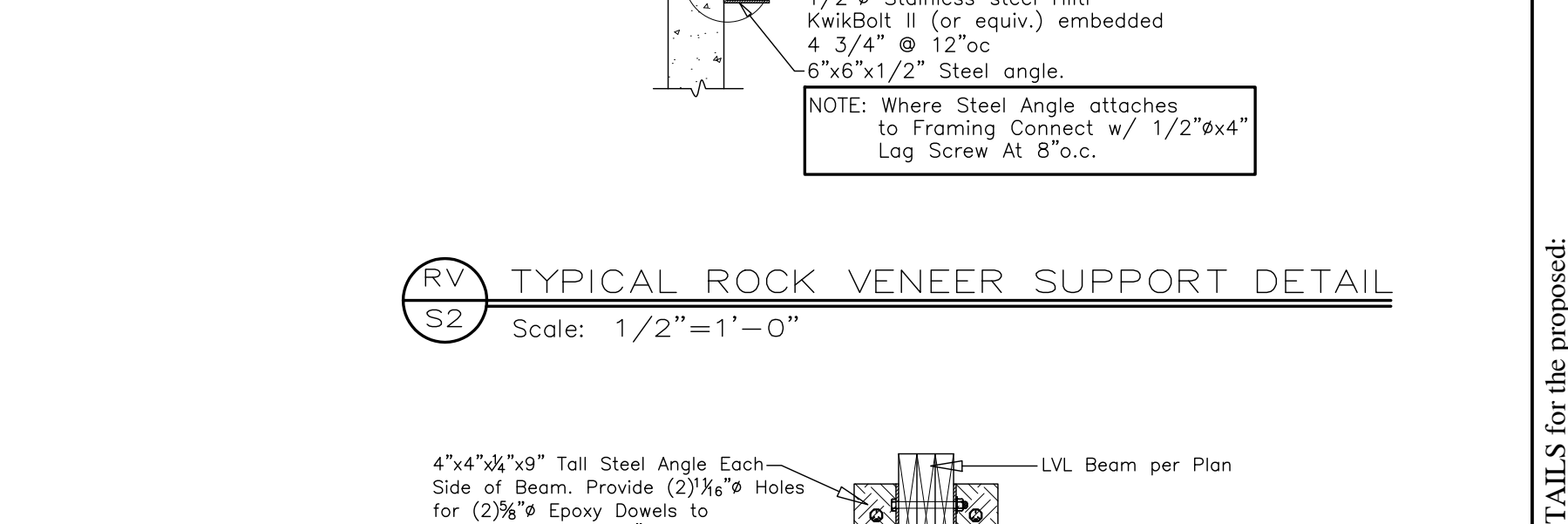
H INTERIOR PAD DETAIL H
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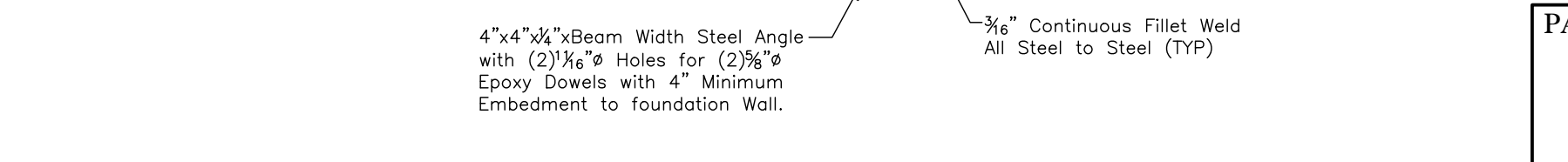
I EXTERIOR PAD/PIER DETAIL I
S2 Scale: 1/2"=1'-0"



RV TYPICAL ROCK VENEER SUPPORT DETAIL
S2 Scale: 1/2"=1'-0"



BOBP BOLT ON BEAM POCKET DETAIL
S2 Scale: 3/4"=1'-0"



G FOUNDATION DETAIL G
S2 Scale: 1/2"=1'-0"



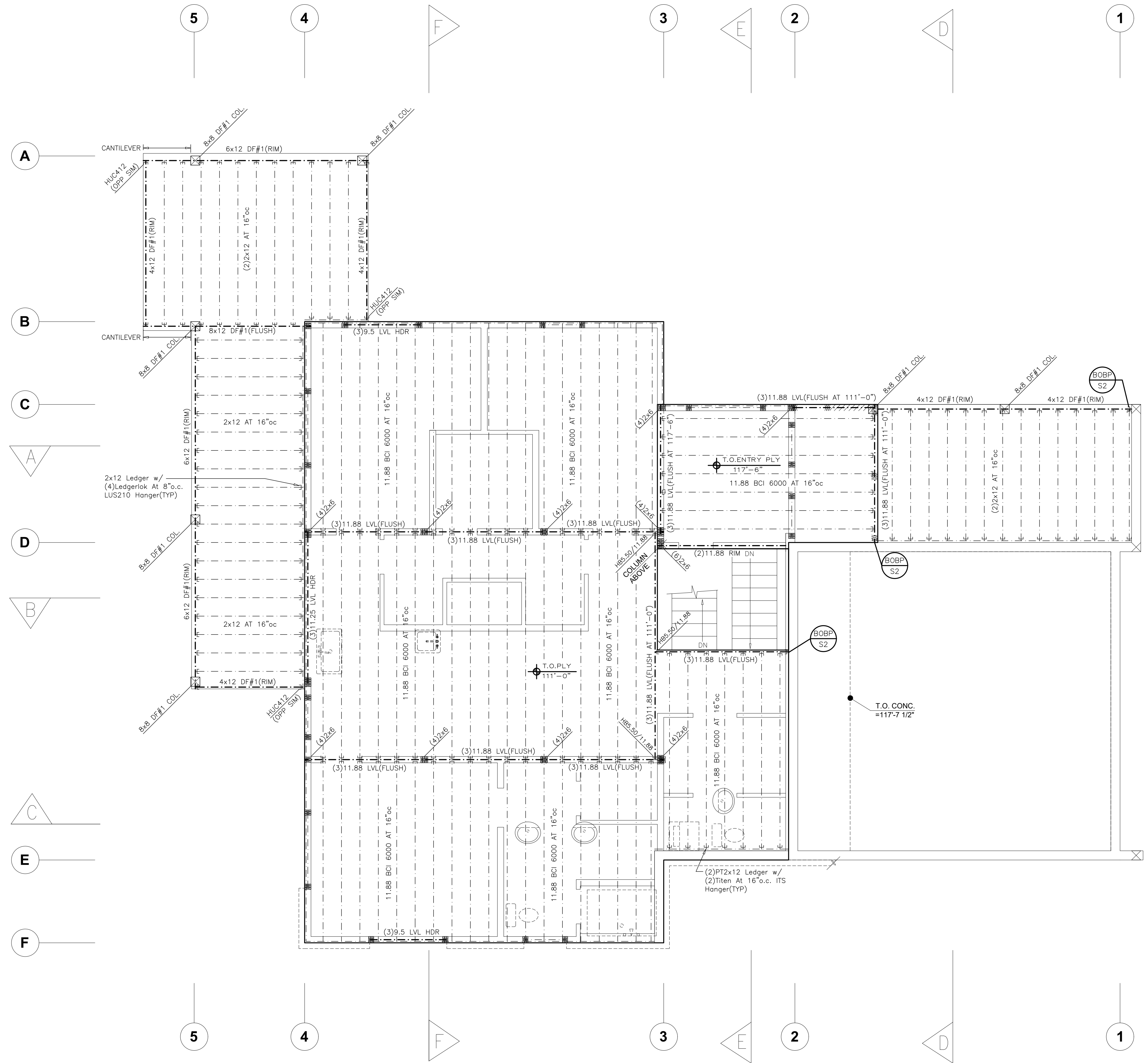
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JOB #: 2377
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ENG: CW
REVISED: ----
REVISED: ----

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DETAILS for the proposed:
HOLOMBO RESIDENCE
0839 LODGESTONE TRAIL
BLUE RIVER, COLORADO

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1 ENTRY & MAIN FLOOR FRAMING
 S3 Scale: 1/4" = 1'-0"
 NORTH



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MAIN LEVEL FLOOR FRAMING for the proposed:
HOLOMBO RESIDENCE
 0839 LODESTONE TRAIL
 BLUE RIVER, COLORADO

GENERAL ROOF FRAMING NOTES

- Engineer to review and approve truss manufacturers shop drawings prior to ordering trusses. Truss Mfg. to provide matching tails.
- Block all trusses, outlookers, and rafters at all bearing points.
- Wall studs to be continuous from floor to roof. Balloon frame all gable walls. Provide firestop blocking at 10' max intervals. Wall studs over 12' vertical height to be 1 3/4"x5 1/2" LVL (UNO)
- (LK) LADDER RAFTERS: 2x10 At 24"o.c. w/ Full 2x10 Blocking LUS210 Hanger Where Shown, (4)10d End Nails E.E. of Ladder Rafter. 2x10 (Min.) Subfascia
- Roof Attic System Designed to be cross ventilated with a minimum Area of 1/150 of the Area of the Space Ventilated. The net free Cross Ventilation Area may be reduced to 1/300 when an approved Vapor Barrier is installed on the Warm Side of the Ceiling.
- Connect all 2x10 rafters to blocking with (3)10d nails, and to plate or beam below with (4)10d nails. Birdsmouth Bear 2x10 at ridge and eave UNO.

GENERAL TIMBER FRAMING NOTES

- All Timber Beams/Columns Doug Fir Graded Per Plan
- All Timber Beams Dimensions are Nominal. (i.e. 10x12 measures 9.5"x11.5")
- Provide 30 Square Inches of Bearing Minimum at Timber Bearing Points
- (2)5/8" Log Screws w/ 8" Min Penetration at Timber to Timber Connections UNO
- (2)5/8" Log Screws with 6" Embedment At Bearing on 2x6 Framing

TYPICAL ROOF OVER FRAME NOTES

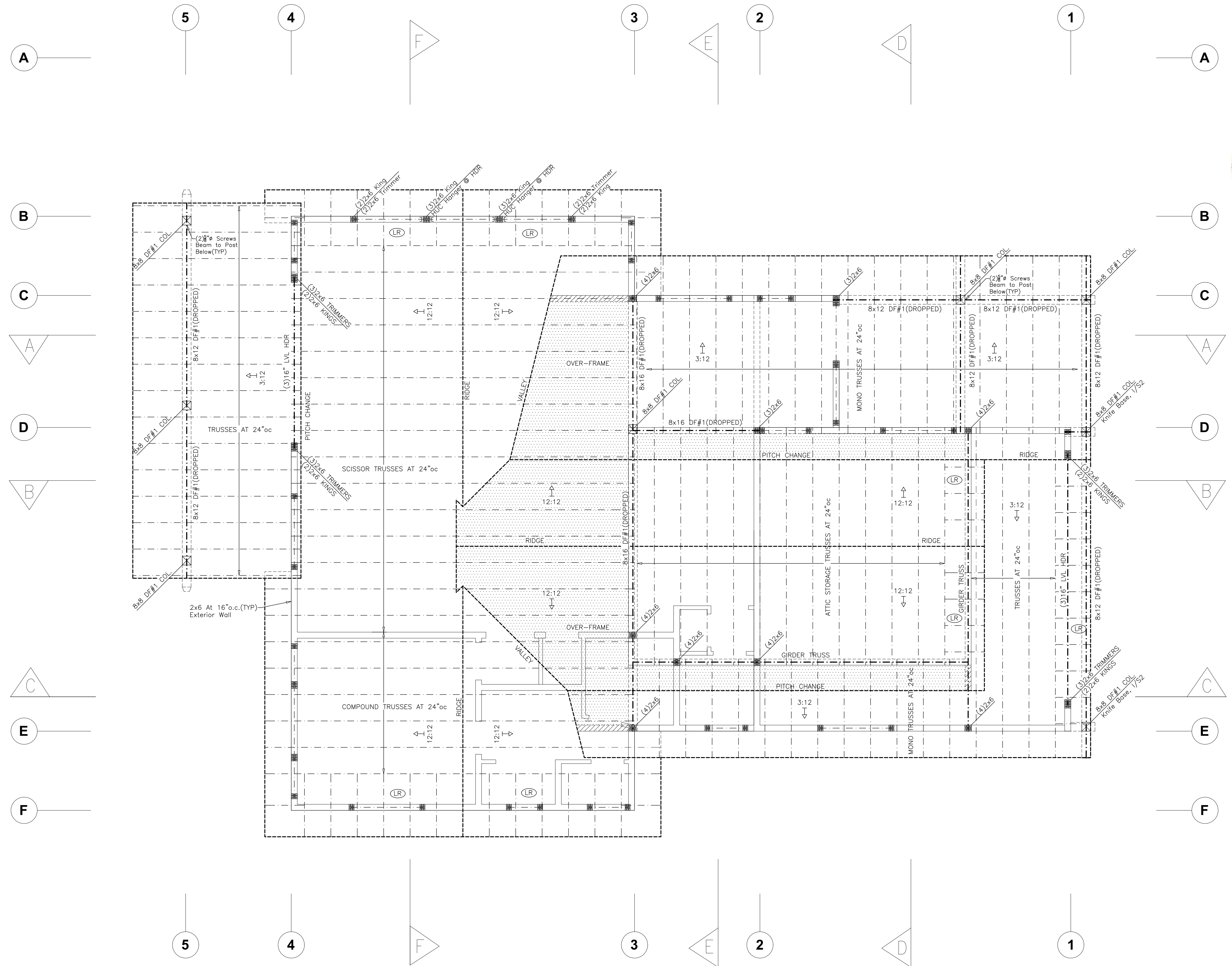
- OverFrame
- 2x8 At 24"oc Rafters to stack Over Rafters/Trusses Below
- Provide Intermediate 2x4 bearing walls at 6'-0" maximum
- Provide 2x10 Valley Plates

MULTIPLE LVL CONNECTIONS

- (2) Single LVL Beams to Each Other: Glue & (2)LedgerLok At 16"o.c.
- (3) Single LVL Beams to Each Other: Glue & (3)LedgerLok At 16"o.c.
- (4) Single LVL Beams to Each Other: Glue & (2)5/8" Thru Bolts At 24"o.c.
- (5) Single LVL Beams to Each Other: Glue & (2)5/8" Thru Bolts At 16"o.c.

ROOF RAFTER NOTES

- 2x10 At 24"o.c. Spans <=9'-0"
- 11.25 LVL At 24"o.c. Spans <=12'-0"
- (2)11.25 LVL At 24"o.c. Spans <=15'-0"



1
S4 ROOF FRAMING PLAN
Scale: 1/4"=1'-0"
NORTH



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ROOF FRAMING PLAN for the proposed:
HOLMBO RESIDENCE
0039 LODGESTONE TRAIL
BLUE RIVER, COLORADO

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SEQUENCE OF OPERATION
 CONTRACTOR SHALL PROVIDE ALL COMPONENTS NECESSARY TO ACHIEVE THE SEQUENCE OF CONTROL LISTED BELOW. COMPONENTS INCLUDE BUT ARE NOT LIMITED TO CONTROLLERS, SENSORS, RELAYS, WIRING, ETC.

BOILER:

B-1
 BOILER B-1 SHALL PROVIDE HOT WATER FOR THE RADIANT FLOOR MANIFOLDS HEAT. UNLESS OTHERWISE REQUIRED, FACTORY BOILER CONTROLS SHALL BE USED TO CASCADE BOILER OPERATION VIA THE STANDARD BOILER SEQUENCE OF CONTROL. SEQUENCE SHALL BE PROGRAMMED TO MAINTAIN A SUPPLY WATER TEMPERATURE OF 180 DEG F (+/- 3 DEG F) IN THE MAIN/PRIMARY HOT WATER LOOP. FLOW SWITCH SHALL SENSE ADEQUATE FLOW THROUGH BOILER PRIOR TO BOILER FIRING. BOILER B-1 IS THE DOMESTIC PRIORITY BOILER. SEE INDIRECT WATER HEATER (IWH). DURING DOMESTIC PRIORITY MODE, BOILER SHALL OPERATE TO SUPPLY 180 DEG F WATER TO INDIRECT WATER HEATER.

PUMPS:

P-1 (BOILER CIRCULATOR)
 CIRCULATOR SHALL OPERATE WHENEVER THE CIRCULATOR'S BOILER IS ENERGIZED.

P-2 (MAIN/PRIMARY LOOP CIRCULATION)
 PUMP SHALL OPERATE WHENEVER THERE IS A CALL FOR HEAT FROM THE SYSTEM (I.E. THERMOSTATS OR CONTROLLERS) AND OR OUTDOOR SENSOR (FIELD LOCATED) SENSES TEMPERATURES LOWER THAN 55 DEG F.

P-3 (INDIRECT WATER HEATER CIRCULATION)
 PUMP SHALL OPERATE TO MAINTAIN DOMESTIC WATER SET POINT OF 140 DEG F (+/- 3 DEG F). DURING DOMESTIC PRIORITY MODE, THE HOUSE OR FACTORY BOILER SHALL SHUT DOWN BOILER CIRCULATOR P-1 AND ENERGIZE P-3.

ENERGY RECOVERY VENTILATOR (ERV-1)
 GENERAL OPERATION: POWER UP WHEN THE UNIT MAIN DISCONNECT IS CLOSED A DELAY OF 10 SECONDS (ADJ.) OCCURS FOR THE CONTROLLER TO COME ONLINE.
 SUPPLY FAN OPERATION: THE SUPPLY FAN WILL OPERATE CONTINUOUSLY.
 EXHAUST FAN OPERATION: THE EXHAUST FAN WILL OPERATE CONTINUOUSLY.

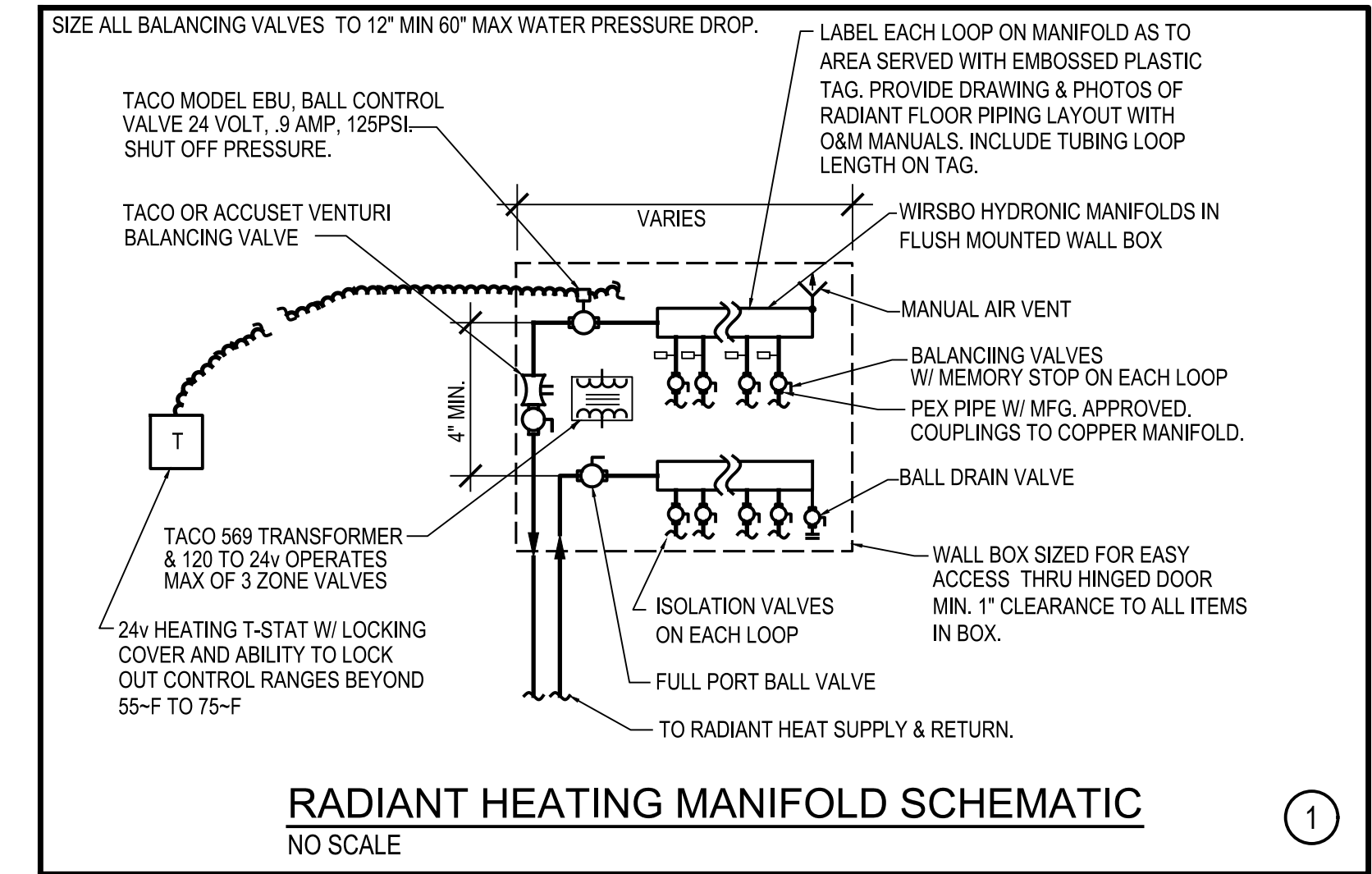
GENERAL NOTES

- FOLLOW ALL APPLICABLE CODES AND ORDINANCES. PAY ALL FEES AND PERMITS AND ATTAIN THE SAME.
- ALL EQUIPMENT, INSULATION, AND CONTROLS TO MEET LOCAL JURISDICTIONAL AUTHORITY'S ADOPTED ENERGY CODE.
- VISIT SITE AND ASCERTAIN EXISTING CONDITIONS PRIOR TO BID.
- THE INFORMATION PRESENTED ON THIS DRAWING IS DIAGRAMMATIC AND IS NOT TO BE SCALED. IT DOES NOT NECESSARILY REPRESENT ALL ELBOWS, DUCT EXTENSIONS, OFFSETS, HANGERS, ETC. REQUIRED FOR A COMPLETE WORKING SYSTEM.
- SHOP DRAWINGS SHALL BE SUBMITTED ON ALL VALVES, FIXTURES, INSULATION, G.R.D.'S AND EQUIPMENT FOR RESPONSE PRIOR TO ORDERING. PROVIDE ELECTRONIC COPY OF SUBMITTALS DATA WITH SUBMITTALS OF SIMILAR TYPES GROUPED TOGETHER WHENEVER POSSIBLE. CLEARLY NOTE ANY DEVIATION BETWEEN SUBMITTED ITEMS AND SPECIFIED ITEMS ON THE COVER SHEET OF THE SUBMITTAL. FAILURE TO SUBMIT MAY CAUSE SPECIFIED ITEMS TO BE REJECTED AND REPLACED AT CONTRACTOR'S EXPENSE.
- EXTRA COSTS OR CHANGES ALLOWED ONLY IF APPROVED IN WRITING BY ARCHITECT/OWNER WITH DOLLAR AMOUNT PRIOR TO ORDERING. NO EXTENSIONS OF COMPLETION TIME ALLOWED WITHOUT WRITTEN AUTHORIZATION.
- THIS CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL FIELD CONDITIONS PRIOR TO THE PURCHASE OF ANY MATERIALS AND THE COMMENCEMENT OF ANY WORK AND IS TO NOTIFY THE ENGINEER OF ANY DISCREPANCIES FOR RESOLUTION.
- PROVIDE OWNER WITH 3 SETS OF TYPED/WITTEN AND BOUND OPERATING INSTRUCTIONS FOR ALL SYSTEMS AND EQUIPMENT, INCLUDING MANUFACTURER'S MAINTENANCE MANUALS. INCLUDE APPROVED EQUIPMENT SUBMITTALS, EQUIPMENT START-UP REPORTS, LUBRICATION, FILTER TYPES AND SIZES, BALANCE REPORT, STARTING AND STOPPING PROCEDURES, AND LIST SERVICE CONTRACTOR'S 24 HOUR TELEPHONE NUMBERS.
- CANCEL ALL WORK IN FINISHED AREAS.
- CUT AND PATCH TO MATCH ADJACENT AREAS. NO STRUCTURAL MEMBER SHALL BE CUT OR NOTCHED WITHOUT STRUCTURAL ENGINEER'S WRITTEN APPROVAL.
- GUARANTEE ALL LABOR AND EQUIPMENT FOR ONE YEAR FROM THE DATE OF ACCEPTANCE BY OWNER.
- PROVIDE FACTORY AUTHORIZED START-UPS AND WRITTEN START-UP REPORTS ON ALL EQUIPMENT.
- PROVIDE NICKEL-PLATED FLOOR, WALL, AND CEILING ESCUTCHEONS OF ADJUSTABLE TYPE ON ALL PIPES PASSING THROUGH WALLS, PARTITIONS, AND FLOORS AFTER PAINTING IS COMPLETED.

HYDRONIC HEATING PIPING

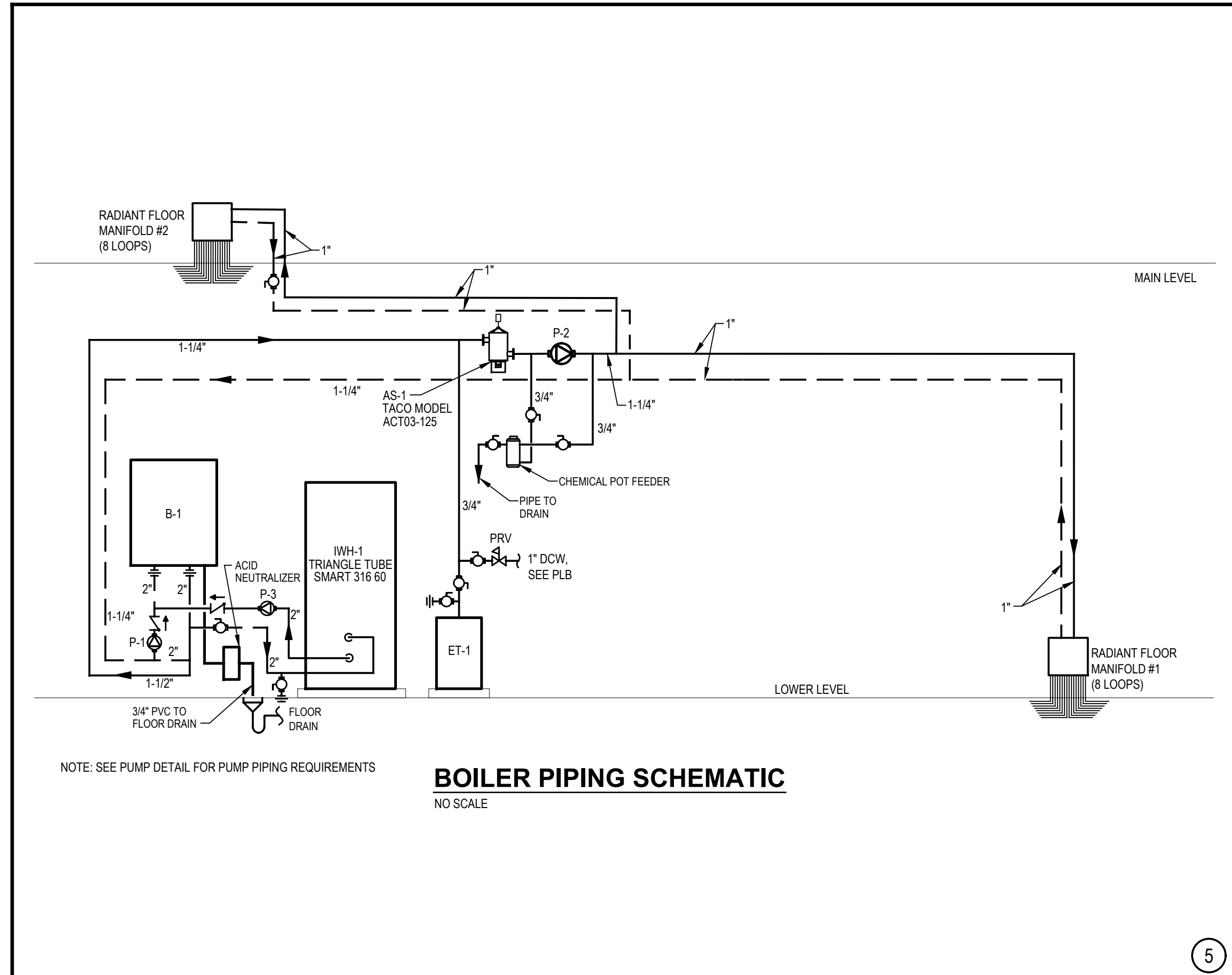
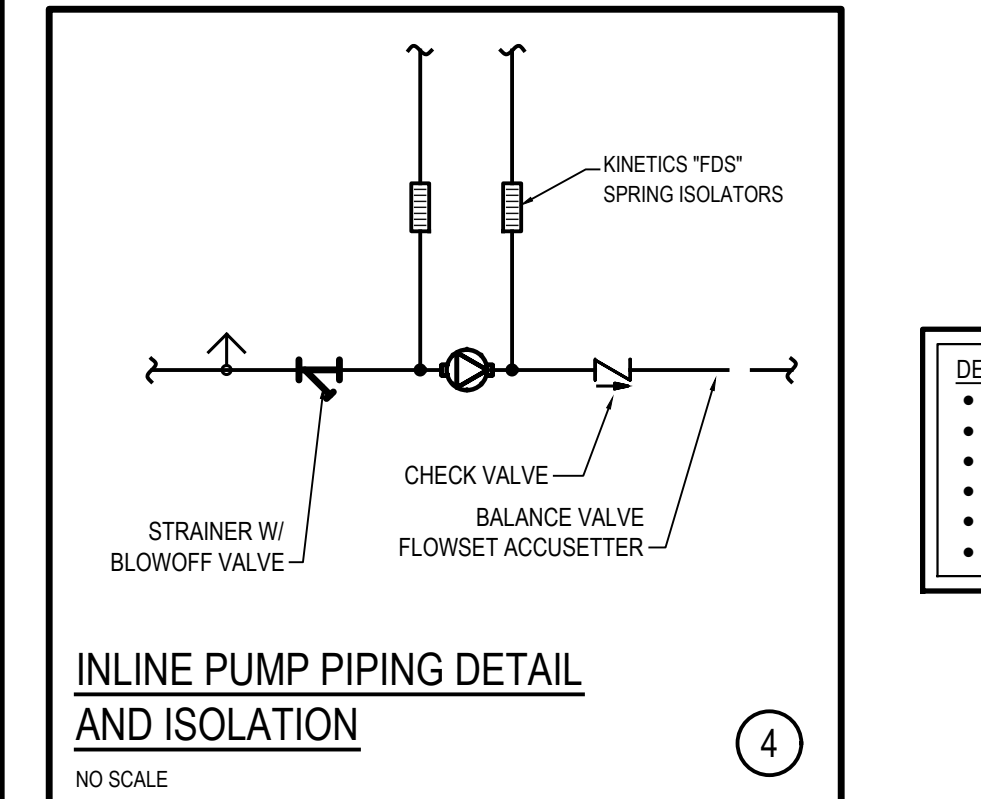
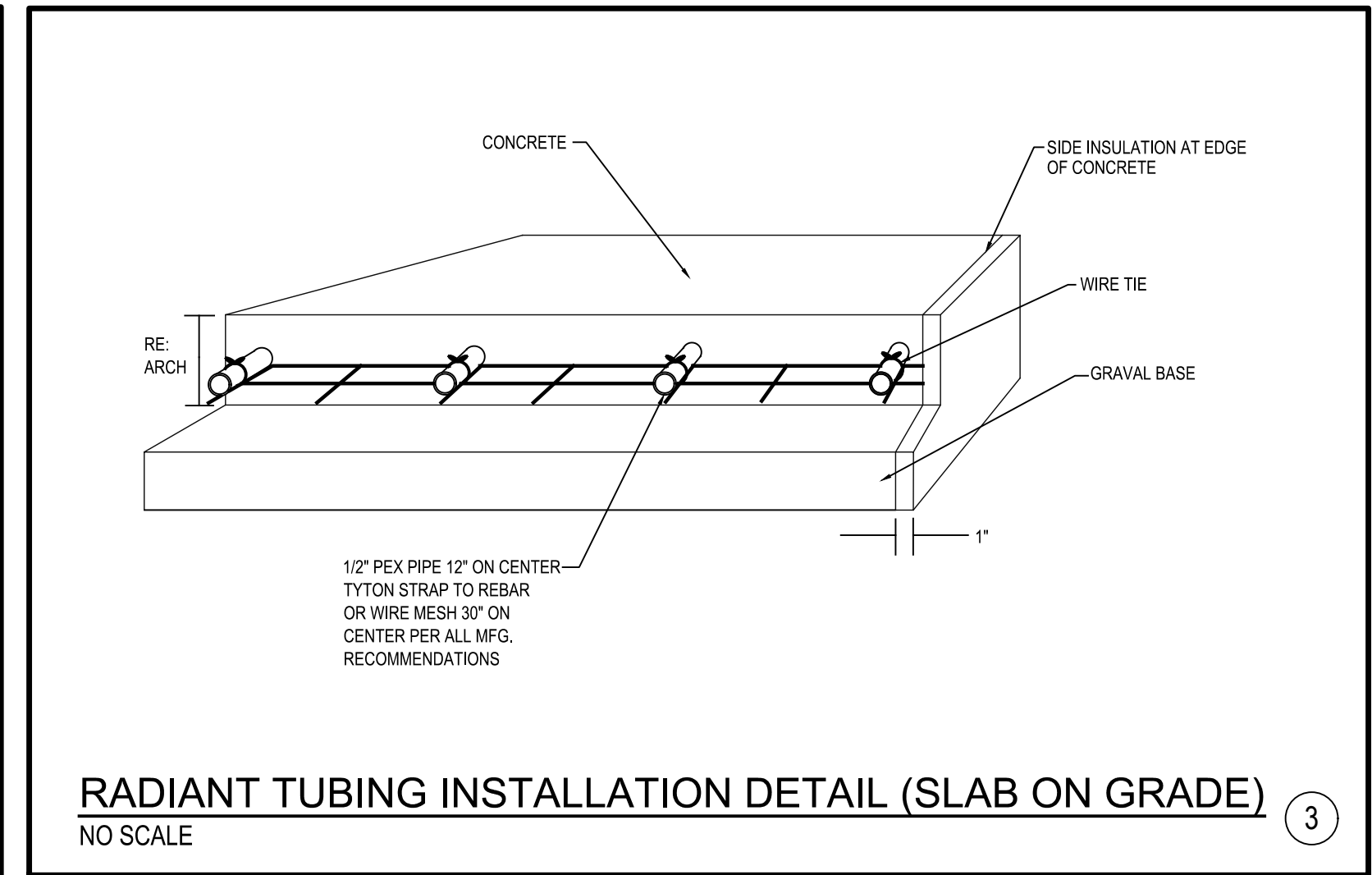
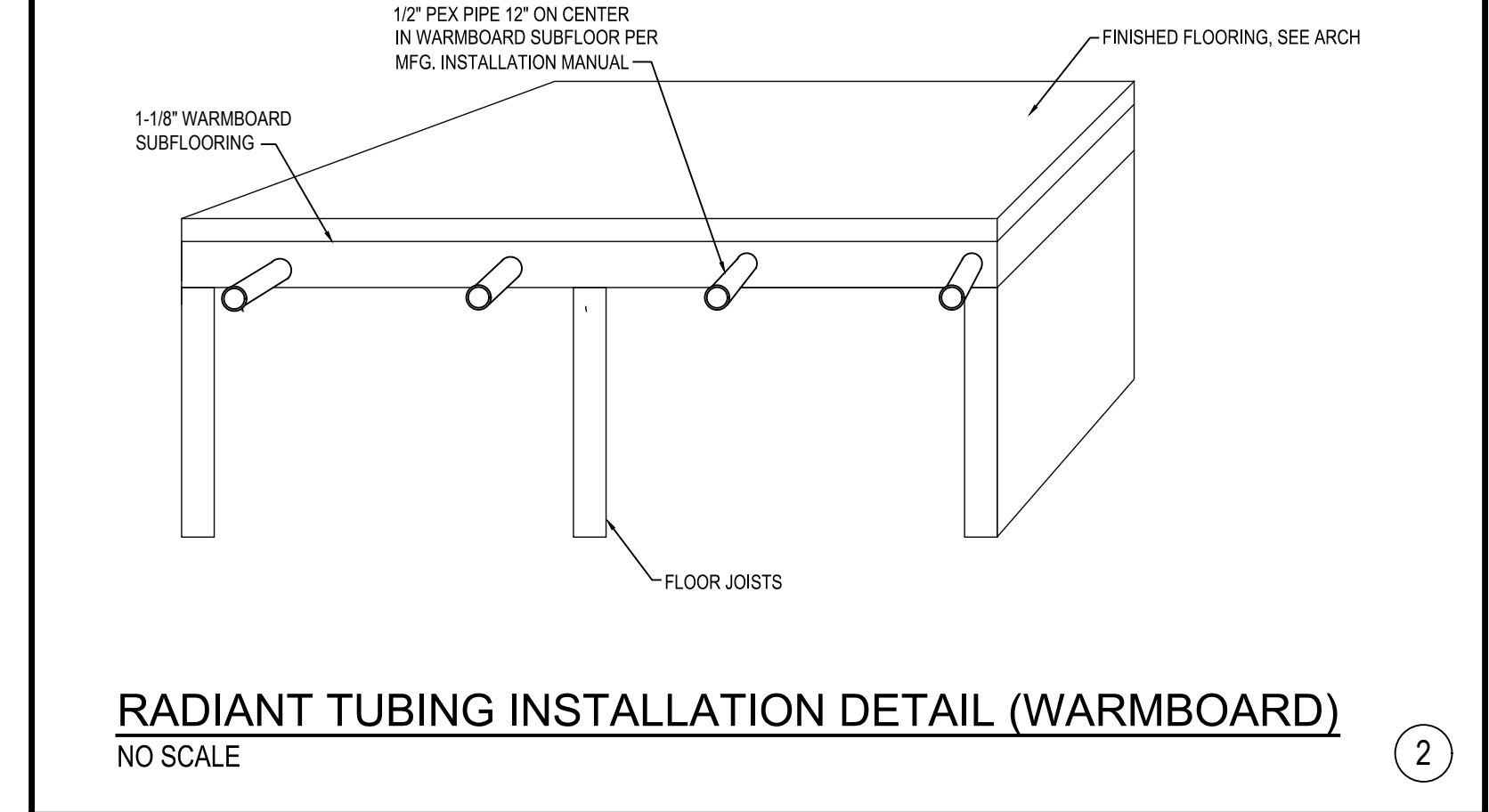
- THE HYDRONIC SYSTEM PIPING, INSULATION, ETC., SHALL BE BY THE PLUMBING/MECHANICAL CONTRACTOR IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- ALL PIPING AND INSULATION SHALL BE IN ACCORDANCE WITH THE LOCAL PLUMBING CODES AND/OR ORDINANCES, INCLUDING BUT NOT LIMITED TO PIPE SIZES.
- HYDRONIC HEATING PIPING SHALL BE TYPE "L" HARD DRAWN COPPER WITH WROUGHT COPPER SWEAT FITTINGS. USE ONLY CANFIELD 100% WATER SAFE SOLDER (65% TIN, 4% COPPER, 1% SILVER) OR APPROVED EQUAL. DO NOT USE LEAD OR ANTIMONY SOLDER. AT CONTRACTOR'S OPTION HYDRONIC HEATING/COOLING PIPE 2" AND BELOW MAY BE CPVC PIPE. USE ONLY FLOWGUARD GOLD PIPE WITH FLOWGUARD GOLD ONE STEP CEMENT ON PIPES 1/2" THROUGH 2". NO CPVC SUBSTITUTIONS ARE ALLOWED. PROVIDE CSA APPROVED HARDENED STRIKER PLATES LISTED FOR GSST AND CPVC SYSTEMS AT ALL LOCATIONS WHERE TUBING IS CONCEALED AND PUNCTURE FROM NAILS OR SCREWS IS A POSSIBLE THREAT. SUPPORT ALL PIPE PER DETAILS, BUILDING CODE, AND MANUFACTURER REQUIREMENTS. ALL PIPING 2-1/2" ABOVE AT CONTRACTOR'S OPTION MAY BE EITHER CORZAN CPVC OR SCHEDULE 40 STEEL PIPE. TYPE A33 WITH TYPE 77 VITALLIC COUPLINGS. ALL VALVING SHALL MATCH THE TYPE OF PIPE BEING INSTALLED. ON 2-1/2" AND ABOVE USE BUTTERFLY VALVES FOR BALANCING AND SHUTOFF WITH VITALLIC OR UNION FLANGE CONNECTIONS.
- COPPER TUBING INSTALLED WITHIN A BUILDING AND IN OR UNDER A CONCRETE FLOOR SHALL BE TYPE "K" COPPER AND INSTALLED WITHOUT JOINTS. WHERE JOINTS ARE PERMITTED, THEY SHALL BE BRAZED AND FITTINGS SHALL BE WROUGHT COPPER.
- INSULATE ALL PIPING, VALVES AND FITTINGS FOR CHILLED WATER WITH 1" PREFORMED FIBERGLASS WITH "K" FACTOR OF 0.23 MAXIMUM AT 75-DEG F MEAN TEMPERATURE. INSULATE HYDRONIC HEATING PIPING WITH 1-1/2" THICK PREFORMED FIBERGLASS WITH "K" FACTOR OF 0.23 MAXIMUM AT 75 DEG F MEAN TEMPERATURE UP THROUGH 1-1/2" PIPE AND 2" THICK ON ALL LARGER SIZES. JACKET SHALL BE ASU WITH ZESTON FITTINGS AND WITH VAPOR BARRIER ON ALL COLD SURFACE PIPES. ALL INSULATION MATERIALS SHALL CONFORM TO ASTM 84, NFPA 50A AND 255, AND UL 723 NOT TO EXCEED RATINGS OF 25 FLAME SPREAD AND 50 SMOKE DEVELOPED. ALL INSTALLED INSULATION SHALL MEET OR EXCEED CURRENT ASHRAE 90.1 STANDARDS.
- ALL MATERIALS AND EQUIPMENT PROVIDED AND INSTALLED UNDER THIS SECTION SHALL BE NEW AND IN CLEAN AND BRIGHT CONDITION. THE CONTRACTOR SHALL TAKE ANY MEASURE NECESSARY TO ENSURE AND MAINTAIN THE QUALITY OF THE INSTALLATION. ALL PIPING SHALL BE FLUSHED WITH CLEAN WATER PRIOR TO BEING PLACED INTO SERVICE TO ENSURE THAT ANY RESIDUAL CUTTING OIL, SLAG, THREAD TAPE, FLUX OR DIRT HAS BEEN PURGED.
- ELECTRIC HEAT TRACE TAPE SHALL BE PROVIDED WHERE REQUIRED FOR FREEZE PROTECTION OF WATER PIPES WITHIN VESTIBULES, CRAWL SPACES AND OTHER UNHEATED SPACES OR HYDRONIC HEATING COILS SUBJECT TO ANY AIR TEMPERATURES BELOW 35 F. PIPING REQUIRING FREEZE PROTECTION SHALL ALSO BE INSULATED WITH A MINIMUM 1" INSULATION.
- ALL PIPING, EQUIPMENT, ETC. SHALL BE IDENTIFIED. ALL PIPING IS TO BE TESTED IN ACCORDANCE WITH ACCEPTED CODES AND STANDARD OF CARE PRACTICES.
- ALL SAFETY RELIEF VALVES SHALL BE VENTED TO ATMOSPHERE OR PIPED FULL SIZE TO NEAREST FLOOR DRAIN. BACKFLOW PREVENTERS OF APPROPRIATE TYPE SHALL BE INSTALLED WHERE REQUIRED BY CODE, PROVIDED WITH A CATCH FUNNEL PIPED TO THE NEAREST FLOOR DRAIN OR SINK, AND LOCATED BETWEEN 18" AND 60" AFF WITH MINIMUM OF 30" CLEAR IN FRONT OF VALVE FOR SERVICING.
- ALL CONDENSATE NEUTRALIZER MEDIA TO BE MAGNESIUM OXIDE. LIMESTONE MEDIA NEUTRALIZERS WILL NOT BE ACCEPTED.
- LABEL ALL PIPING IN ACCESSIBLE AREAS. MEDIUM PRESSURE GAS (2 PSI AND ABOVE) TO BE MARKED EVERY 6 FEET.
- ALL PIPING TO BE HUNG ON ADJUSTABLE SPLIT RING HANGERS OR UNISTRUT SUPPORTS WITH CLAMPS OF SIMILAR MATERIAL AS THE PIPE UNLESS OTHERWISE NOTED. PIPE HANGER SPACING IN FEET TO BE AS FOLLOWS:

PIPE TYPE/SIZE	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
COPPER	6	6	6	6	10	10
STEEL (SCREWED PIPE-IPS)	12	12	12	12	12	12
POLYPROPYLENE & CPVC	4	4	4	4	4	4.5



BALANCING NOTES

- THE BALANCING AGENCY SHALL PERFORM THE TESTS TO BALANCE ALL WATER DISTRIBUTION SYSTEMS.
- TEST AND ADJUST WHERE APPROPRIATE THE RPM AND SIZE OF ALL PUMPS. STIPULATE EXISTING IMPELLER SIZE. DETERMINE ACTUAL SYSTEM CURVE WITH CONTROL AND BALANCE VALVES WIDE OPEN. TRIM IMPELLER TO REQUIRED DIAMETER PLUS 10%.
- TEST AND RECORD PUMPS AND MOTORS AMPERAGE AFTER ABOVE ADJUSTMENTS.
- RECORD PRESSURE DIFFERENTIAL ACROSS ALL PUMPS AT APPROPRIATE P AND T PORTS.
- TEST AND RECORD THE TEMPERATURE AND PRESSURE DROPS AND GPM FLOW RATES ACROSS ALL COMPONENTS IN THE WATER DISTRIBUTION SYSTEMS INCLUDING: BOILERS AND PUMPS.
- IN COOPERATION WITH CONTROL MANUFACTURER'S REPRESENTATIVE, VERIFY CORRECT OPERATION IN BOTH HEATING AND COOLING MODE OF ALL CONTROL VALVES.
- VERIFY THAT ALL STRAINERS AND PIPING SYSTEMS HAVE BEEN CLEANED AND FLUSHED AND THAT ALL AIR HAS BEEN ELIMINATED FROM THE SYSTEM BEFORE THE PERFORMANCE OF THE HYDRONIC BALANCE.
- BALANCE ALL RECIRCULATED DOMESTIC HOT WATER SYSTEMS AND PROVIDE WRITTEN REPORT.



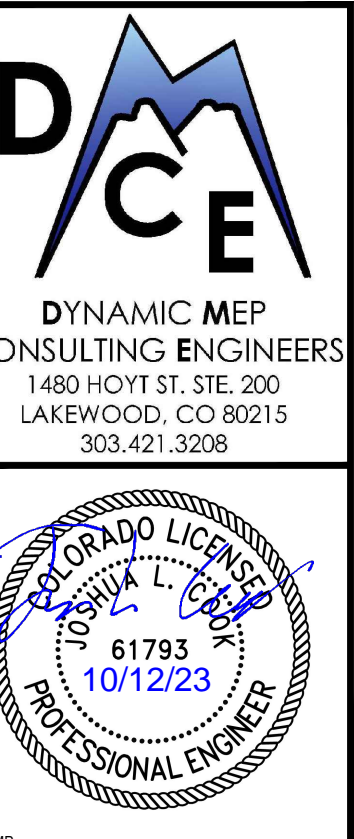
SYMBOL	DESCRIPTION	SPECIFIED MANUFACTURER / MODEL	EQUALS BY	REMARKS
[Symbol]	GATE VALVE	MILWAUKEE / 105 or 115	NBCO	RED & WHITE
[Symbol]	GATE VALVE IN GROUND BOX	MILWAUKEE / 105 or 115	NBCO	RED & WHITE
[Symbol]	CLOSE VALVE	MILWAUKEE / 1907 or 1907F	NBCO	STOCKHAM
[Symbol]	CHECK VALVE	MILWAUKEE / 0907, 1007, F270(M)AL, 548, or 1403 SERIES	NBCO	STOCKHAM
[Symbol]	AUTO FLOW CONTROL VALVE	FLOWSSET / 1YR	GRSWOLD	-
[Symbol]	PLUG VALVE	KEYSTONE / SERIES 300	DEZURK	MILLKEN
[Symbol]	BUTTERFLY VALVE	MILWAUKEE / CL 223 or CL 323	KEYSTONE	CENTERLINE
[Symbol]	STOPDRAN VALVE	WATTS / B-3000 or B-3001 1/2" - 3"	-	-
[Symbol]	BALL VALVE	MILWAUKEE / BA-100 or BA-150	NBCO	APOLLO
[Symbol]	BALANCING VALVE	FLOWSSET / ACCUSETTER	GERAND	-
[Symbol]	TEMP CONTROL - 2WAY	BY T.C. CONTRACTOR	-	-
[Symbol]	TEMP CONTROL - 3WAY	BY T.C. CONTRACTOR	-	-
[Symbol]	TEMPERING VALVE	LEONARD	LAWLER	-
[Symbol]	PRESSURE REDUCING VALVE	WATTS / ADV 115	-	-
[Symbol]	SOLENOID VALVE	ASCO / RED HAT	SKINNER	BURKET
[Symbol]	WATER BALANCE VALVE	FLOWSSET / 1VW	GERAND	BARCO
[Symbol]	REDUCED PRESSURE BACKFLOW PREVENTOR	WATTS / W9015	-	-
[Symbol]	GAS COOK	MAXITROL / B/07 or B/04	-	-
[Symbol]	STRAINER	WATTS / SERIES 775 for 1/2" thru 2-1/2"	CONBRACO	KEOKEY
[Symbol]	STRAINER W/ BLOWOFF VALVE	WATTS / SERIES 775 with B-8081 VALVE	CONBRACO	KEOKEY
[Symbol]	PRESSURE/TEMP. RELIEF	WATTS / SERIES 40, 140, 240, or 340	-	-
[Symbol]	MANUAL AIR VENT	FLOWSSET / AV	-	-
[Symbol]	P/T TAP	FLOWSSET / SUPERSEAL	UNIVERSAL / 4PT-N	PETERSON / PETE'S PLUS
[Symbol]	BOILER DRAIN VALVE	MILWAUKEE / BA 100 H	NBCO	RED & WHITE
[Symbol]	THERMOMETER	TREXICE / EVS1403 1/2	WEKSLER / AASH	ASHROFF / IMA
[Symbol]	TEMPERATURE GAUGE	TREXICE / 80732	WEKSLER / H3A	ASHROFF / CI
[Symbol]	PRESSURE GAUGE	TREXICE / 600C	WEKSLER / EA14	ASHROFF / IMA
[Symbol]	FIRE DAMPER	POTTRUFF / VFD-10	-	-
[Symbol]	FIRE & SMOKE DAMPER	POTTRUFF / FSD-142	-	-
[Symbol]	SMOKE DAMPER	POTTRUFF / SD-142	-	-
[Symbol]	FLEXIBLE PIPE CONNECTION	METRALLEX / METRASPHERE EPDM	MASON / M/PNC EPDM	AMBER BOOTH / 2600 EPDM
[Symbol]	AUTOMATIC AIR VENT	AMTROL 70S	HOFFMAN	FLOWSSET
[Symbol]	GAS PRESSURE REGULATOR	SCHLUMBERGER / VARIES	-	-
[Symbol]	AIR ADMITTANCE VALVE	STUODR VENT	-	-
[Symbol]	BALL DRAIN W/ HOSE END CONNECTION	APOLLO / FB-103-1 1/2" N.P.T. BY HOSE	NBCO	STOCKHAM

SYMBOL	ABBREV	DESCRIPTION	SYMBOL	ABBREV	DESCRIPTION	SYMBOL	ABBREV	DESCRIPTION
[Symbol]	OW	CONDENSER WATER SUPPLY	[Symbol]	F.D.	FLOOR DRAIN	[Symbol]	2016	ACCESS DOOR IN CEILING
[Symbol]	OWR	CONDENSER WATER RETURN	[Symbol]	F.S.	EQUIPMENT ROOM DRAIN	[Symbol]	2016	DUCT SIZE INDICATING SHEET METAL DIMENSIONS, FIRST NUMBER WIDTH & SECOND IS DEPTH.
[Symbol]	CH	CHILLED WATER SUPPLY	[Symbol]	F.S.	FLOOR SINK - HALF GRATE	[Symbol]	2016	DUCT ELBOW W/ TURNING VANE
[Symbol]	CHR	CHILLED WATER RETURN	[Symbol]	R.D.	ROOF DRAIN	[Symbol]	2016	DUCT TEE W/ TURNING VANES
[Symbol]	RS	REFRIGERANT SUCTON	[Symbol]	R.O.D.	ROOF DRAIN - OVERFLOW	[Symbol]	2016	MANUAL DAMPER W/ LOCKING QUANDRY
[Symbol]	RL	REFRIGERANT LIQUID	[Symbol]	CO	CLEANOUT - VERTICAL	[Symbol]	2016	MOTORIZED DAMPER
[Symbol]	RH	REFRIGERANT HOT GAS	[Symbol]	CO	CLEANOUT - HORIZONTAL	[Symbol]	2016	FLEXIBLE DUCT CONNECTOR
[Symbol]	HWS	HEATING WATER SUPPLY	[Symbol]	BRK	BREAK - MISC.	[Symbol]	2016	SPRINK FITTING W/ DAMPER 45° DUCT TAKE-OFF
[Symbol]	HWR	HEATING WATER RETURN	[Symbol]	VTR	VENT THRU ROOF	[Symbol]	2016	DOOR UNDERCUT
[Symbol]	HPS	HIGH PRESSURE STEAM	[Symbol]	WH	WALL HYDRANT	[Symbol]	2016	FIRE DAMPER
[Symbol]	HPSR	HIGH PRESSURE STEAM RETURN	[Symbol]	WH	WATER BALANCE VALVE	[Symbol]	2016	FIRE & SMOKE DAMPER
[Symbol]	LPS	LOW PRESSURE STEAM	[Symbol]	P	PUMP	[Symbol]	2016	SMOKE DAMPER
[Symbol]	LPSR	LOW PRESSURE STEAM RETURN	[Symbol]	P	PUMP	[Symbol]	2016	EXISTING FIRE DAMPER
[Symbol]	VAC	VACUUM	[Symbol]	PR	PUMP	[Symbol]	2016	RETURN GRILLE
[Symbol]	AR	AIR	[Symbol]	PR	PUMP	[Symbol]	2016	CONNECTION NEW TO EXISTING
[Symbol]	N	NITROGEN	[Symbol]	PR	PUMP	[Symbol]	2016	FLEXIBLE PIPE CONNECTION
[Symbol]	F	FIRE	[Symbol]	PR	PUMP	[Symbol]	2016	THERMOSTAT
[Symbol]	DCW	COLD WATER	[Symbol]	PR	PUMP	[Symbol]	2016	REMOTE SENSOR
[Symbol]	DHW	HOT WATER	[Symbol]	PR	PUMP	[Symbol]	2016	CARBON DIOXIDE SENSOR
[Symbol]	DHC	HOT WATER RECIRCULATE	[Symbol]	PR	PUMP	[Symbol]	2016	CARBON MONOXIDE SENSOR
[Symbol]	W	WASTE PIPE	[Symbol]	PR	PUMP	[Symbol]	2016	HANDSTAT
[Symbol]	V	VENT PIPE	[Symbol]	PR	PUMP	[Symbol]	2016	DOWNGAS METER OR DOW / GAS SUB-METER
[Symbol]	ST	STORM PIPE	[Symbol]	PR	PUMP	[Symbol]	2016	EXISTING ITEM LINE HEIGHT
[Symbol]	OT	OVERFLOW PIPE	[Symbol]	PR	PUMP	[Symbol]	2016	DEM'D ITEM LINE HEIGHT
[Symbol]	OD	GREASE WASTE	[Symbol]	PR	PUMP	[Symbol]	2016	NEW ITEM LINE HEIGHT
[Symbol]	SO	SAND OIL WASTE	[Symbol]	PR	PUMP	[Symbol]	2016	WEIGHTS
[Symbol]	G	GAS	[Symbol]	PR	PUMP	[Symbol]	2016	

SHEET NUMBER	SHEET TITLE
M-0.1	MECHANICAL COVER SHEET
M-0.2	MECHANICAL SCHEDULE SHEET
M-1.1	LOWER LEVEL MECHANICAL PLAN
M-1.2	MAIN LEVEL MECHANICAL PLAN

- DESIGN CODES:**
- 2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
 - 2018 INTERNATIONAL MECHANICAL CODE (IMC)
 - 2018 INTERNATIONAL PLUMBING CODE (IPC)
 - 2020 NATIONAL ELECTRICAL CODE (NEC)
 - 2018 INTERNATIONAL FIRE CODE (IFC)
 - 2018 INTERNATIONAL FUEL GAS CODE (IFGC)

MECHANICAL NARRATIVE:
 RESIDENCE UTILIZING BOILER SYSTEM FOR HEATING AND DOMESTIC HOT WATER. NEW ENERGY RECOVERY VENTILATOR SYSTEM FOR EXHAUST.



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HOLOMBO RESIDENCE
0039 LODESTONE TRAIL
BLUE RIVER, COLORADO 80424
BHH PARTNERS
 660 ADAMS AVE
 SILVER THORNE, CO 80498

REVISIONS	DESCRIPTION	DATE	BY	CHECKED BY
1	PERMITS SET	10/12/2023	RWW	JC

SHEET NO.
M-0.1



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HOLMBO RESIDENCE
 0039 LODESTONE TRAIL
 BLUE RIVER, COLORADO 80424
BHH PARTNERS
 660 ADAMS AVE
 SILVER THORNE, CO 80498

NO.	DATE	DESCRIPTION	REVISIONS
1	10/13/2023	PERMIT SET	

DRAWN BY: RWW
 CHECKED BY: JC
 ISSUE DATE: 10/13/2023

SHEET NO.
M-0.2
 JOB # 23068

TAG	MANUFACTURER MODEL	OUTSIDE AIR CFM	ESP	HP	WINTER CONDITIONS					SUMMER CONDITIONS					ELECTRICAL					WEIGHT	COMMENTS			
					OUTSIDE AIR/FRESH		BLDG	OUTSIDE AIR/FRESH AIR		BLDG RETURN	SUMMER EFF	EN HX	LVG HX	ENT HX	VOLT	PHASE	FLA	MOCP						
					ENT HX	LVG HX	ENT HX	ENT HX	DB / WB	DB / WB									DB / WB			DB / WB	DB / WB	DB / WB
ERV-1	RENEWAIRE EV 300	250	0.50	0.2	69%	-30	-31	39	25	70	50	55%	85	58	80	56	75	54	120	1	3.3	15	115	1,2,3,4,5

NOTES:
 1. STATIC POLYESTER ENTHALPY MEDIA. 3. PROVIDE BACKDRAFT DAMPERS. 5. PROVIDE MANUFACTURER'S VV12x8 LOUVERS (2).
 2. PERCENTAGE TIMER CONTROL. 4. MERV 8 FILTER.

TAG	MANUFACTURER	MODEL	SERVES	BTUH	CFM	KW	EAT	LAT	STAGES	ELECTRICAL		DIMENSIONS		FPM	ADDITIONAL FEATURES REQUIRED
										AMPS	VOLTS/PHASE	W	H		
EHC-1	INDEECO	QUA	ERV FRESH AIR	9566	250	2.8	39	81.5	2	24	120 / 1	10	8	450	1,2,3,4

FEATURES:
 1. THERMOSTAT LOCATED IN DUCT UPSTREAM OF COIL, SET AT 70°F (ADJ.) 4. AIRFLOW SWITCH.
 2. HIGH TEMPERATURE CUTOFF.
 3. NON-FUSED DISCONNECT SWITCH.

TAG	TRIANGLE TUBE MODEL	TYPE	CAPACITY (MBH)		AFUE	WORK PRESS PSIG	OPER PRESS PSIG	GPM*	TEMP.		FLUE & COMB AIR					OPER WT. LBS.	ELECTRICAL REQ			ADDITIONAL FEATURES REQ.
			S.L. INPUT	ALT. OUTPUT 10000 FT					EWT (°F)	LWT (°F)	VENT SIZE	TYPE	CA SIZE	TYPE	MAX EQ FT EA		VOLT / PH	FLA	MOCP	
B-1	SOLO 250	CONDENSING	250	171.0	95	30	30	17.1	130	150	3"Ø	CPVC SCH 40	3"Ø	PVC SCH 40	60	175	120 / 1	2.0	15	1,2,3,4,5,6,7,8,9,10,11

FEATURES:
 1. PID CONTROL LOGIC MODULATION (25% TO 100%) 8. FLUE TYPE: (F1) - C.A VENT SCHEDULE 40 PVC (F2) - FLUE VENT SCHEDULE 40 CPVC. * FLOWS BASED ON HIGH SPEED PUMP W/MAX 4 FT PIPING P.D.
 2. ELECTRONIC INTERMITTANT IGNITION
 3. LOW FLOW LOCKOUT
 4. 439 STAINLESS STEEL HEAT EXCHANGER
 5. 0% PROPYLENE GLYCOL (PROVIDE FOR ENTIRE SYSTEM)
 6. LOW WATER PRESSURE CUT OFF
 7. OUTDOOR RESET CONTROL W/ DOMESTIC WATER PRIORITY (B-1C).
 9. PROVIDE TEKMAR 265 MULTI BOILER RESET CONTROL W/BOILER INTERFACE MODULES
 10. HIGH WATER & FLUE TEMPERATURE MANUAL RESET CONTROL
 11. NEUTRALIZER KIT FOR CONDENSATE
 EQUALS BY: TRIANGLE TUBE VISSMAN IBC

TAG	MANUFACTURER MODEL	LOCATION DUTY	SERIES TYPE	FLOW (GPM)	HEAD (FT)	RPM	MAX. WATTS	ELECT (VOLT/PH)	REMARKS & FEATURES REQ'D
P-1	GRUNDFOS UPS 40-80/4 F	BOILER CIRC. PUMP	CIRC	18	10	1750	565	120/1	1,2
P-2	GRUNDFOS UPS 26-99FC	RADIANT FLOOR SYSTEM PUMP	CIRC	7.5	30	1750	197	120/1	1,2,3
P-3	GRUNDFOS UPS 26-99FC	DOMESTIC WATER PUMP	CIRC	23	10	1750	197	120/1	1,3

FEATURES:
 1. NON-OVERLOADING MOTOR
 2. SUITABLE AND SELECTED FOR 0% SOLUTION OF INHIBITED PROPYLENE GLYCOL. PROVIDE THIS SOLUTION IN ALL SYSTEMS INDICATED ABOVE.
 3. INTERCONNECT WITH TEKMAR 263 BOILER CONTROLLER.
 EQUALS BY: WILCO ARMSTRONG TACO

TAG	MANUFACTURER MODEL	LOCATION	SERVICE	TYPE	ACCEPTANCE VOLUME (GALLONS)	TOTAL VOLUME (GALLONS)	ADDITIONAL FEATURES
ET-1	AMTROL AX-20V	MECHANICAL ROOM	BOILER SYSTEM	BLADDER	2	10.9	1,2,3

FEATURES:
 1. 0% GLYCOL.
 2. NON FERROUS FOR DOMESTIC APPLICATIONS.
 3. ASME CONSTRUCTION.

DWELLING UNIT DESCRIPTION	HVAC SYSTEMS	DWELLING UNIT FLOOR AREA SQ. FT.	NO. BEDROOMS	CONT. WHOLE-HOUSE VENT. AIR FLOW - MINIMUM CFM	COMMENTS
HOLMBO RESIDENCE	ERV-1	2933	4	75	

NOTES:
 1. ABOVE IS BASED ON 2018 IMC CHAPTER 4.

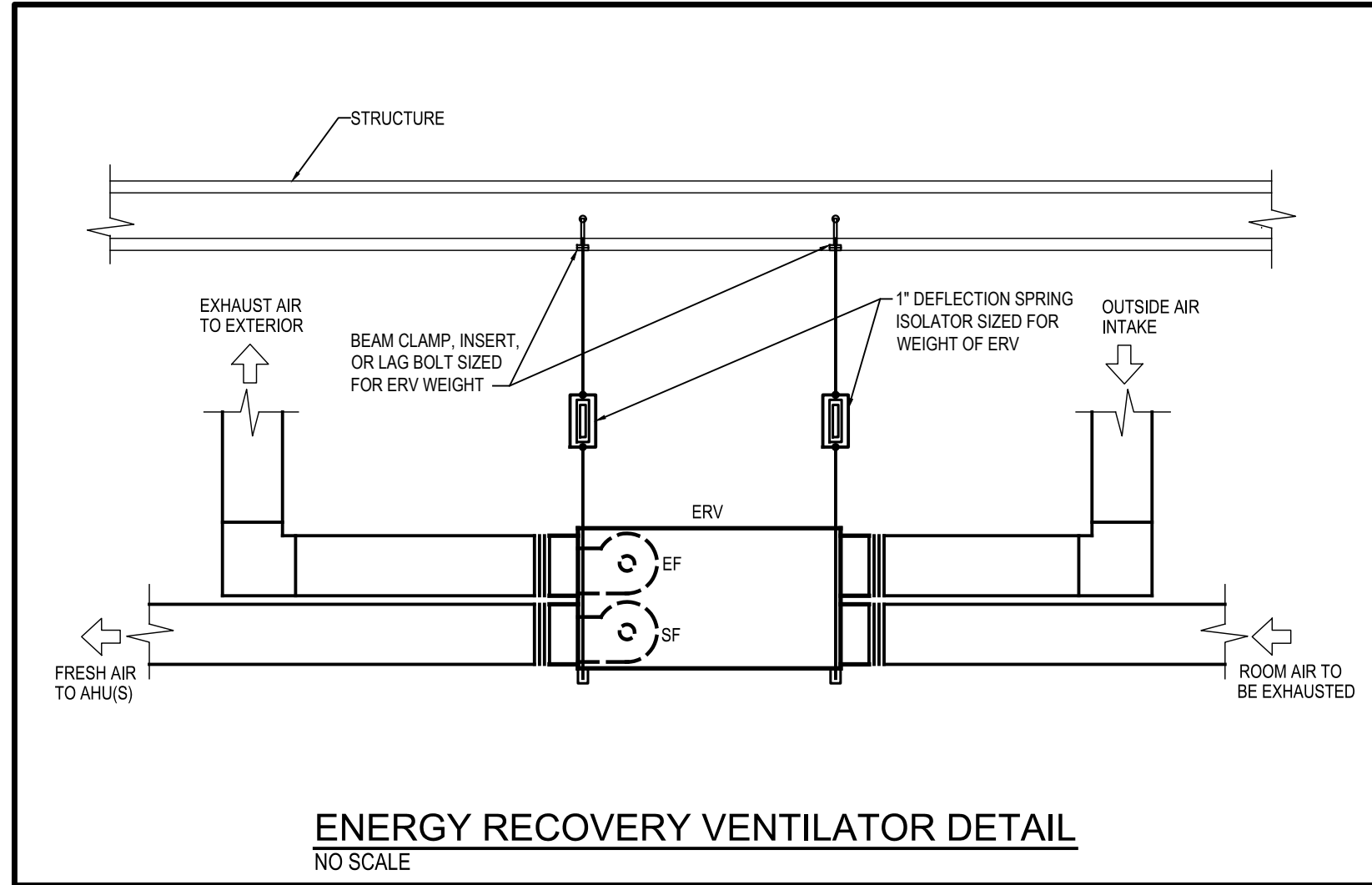
MANIFOLD TAG	ZONE TAG	DESCR	SUB LOOP NET RADIANT AREA	BTU/SF @ 100 DEG F EWT	TOTAL BTU	NO LOOPS	GPM	LOOP SPACING
1	1	LOWER LEVEL BEDROOM 1	152	20	3040	1	0.4	12" O.C.
1	2	LOWER LEVEL BEDROOM 2	182	20	3640	2	0.5	12" O.C.
1	3	LOWER LEVEL FAMILY ROOM	665	20	13300	4	1.9	12" O.C.
1	4	MASTER BEDROOM/BATH	308	20	6160	2	0.9	12" O.C.
2	5	MAIN LEVEL LIVING/KITCHEN/DINING	1042	20	20840	7	2.9	12" O.C.
2	6	MAIN LEVEL MASTER BEDROOM/BATH	338	20	6760	2	0.9	12" O.C.
TOTAL			2687		53740		7.5	

GENERAL NOTES:
 1. ALL LOOPS TO BE 1/2" PEX
 2. ALL LOOPS TO SUPPLY ONLY GENERAL SUBLOOP AREA DESCRIBED.
 3. MAXIMUM LOOP LENGTH IS 200 FEET.
 4. SECURE PEX TO FLOOR 30 INCHES ON CENTER AND RADIUS OF ALL 90 AND 180 DEGREE BENDS.
 5. MARK ALL HEADERS WITH EACH LOOP AREA SERVED.
 6. ALL TUBING TO BE 12 INCHES ON CENTER EXCEPT WHERE SHOWN DIFFERENT ON DRAWINGS OR SCHEDULE.

TAG	MFG / MODEL	FIRE DMPR	OBD	MAX N.C.	ADDITIONAL FEATURES REQUIREMENTS
D	PRICE 520S	SIDEWALL SUPPLY	--	YES 30	ALL STEEL, DOUBLE DEFLECTION 3/4" SPACING
E	PRICE 530L	SIDEWALL RETURN	--	YES 30	ALL STEEL 35° DEFLECTION, 3/4" SPACING

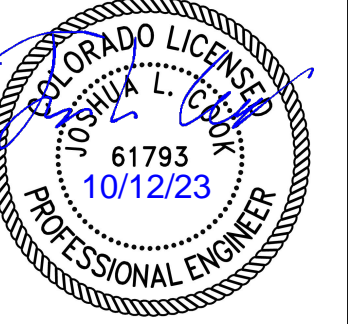
FEATURES:
 A. USE LAY-IN FRAME STYLE 3P ON ALL T-BAR CEILINGS.
 B. USE FRAME STYLE 1 ON ALL HARD SURFACE CEILINGS.
 C. USE MAX 6FT. OF CODE APPROVED INSULATED FLEX DUCT.
 D. MAXIMUM S.P. DROP = 0.15" W.C. UNLESS OTHERWISE NOTED.
 E. ALL CEILING DIFFUSERS TO HAVE 4-WAY DEFLECTION UNLESS SHOWN WITH THROW BLOCKING.
 F. OBD MAY BE OMITTED IF ONLY ONE RETURN INLET PER SYSTEM IS USED, OR RETURN SYSTEM IS NON-DUCTED.
 G. USE SPIN-IN FITTINGS WITH LOCKING BUTTERFLY DAMPER IN ACCESSIBLE LAY-IN CEILINGS. IN LIEU OF OBD. USE OBD IN ALL NON ACCESSIBLE CEILING AREAS ONLY WHERE SPINDAMPER CAN NOT BE SERVICED.
 H. USE SPIN-IN FITTINGS WITH LOCKING BUTTERFLY DAMPER IN ACCESSIBLE LAY-IN CEILINGS.
 I. IN LIEU OF OBD. USE OBD IN ALL NON ACCESSIBLE CEILING AREAS ONLY WHERE SPINDAMPER CAN NOT BE SERVICED.
 EQUALS BY: GRD - TITUS, KRUEGER, NAILOR, METALARE, ANEMOSTAT, TUTTLE AND BAILEY LOUVERS - RUSKIN, ARROW, UNITED ENERTECH, POTTORFF, NCA
 NOTE: PROVIDE A ROOM-BY-ROOM AIR DISTRIBUTION SCHEDULE WITH THE DIFFUSER AND GRILLE SUBMITTAL. INCLUDE TAG #, ROOM #, MANUFACTURER, MODEL #, NECK SIZE, BORDER SIZE, COLOR, OBD, QUANTITY, CFM AND N.C. THROW @ 150 FPM.
 MAX AIR FLOW @ DUCT & FLEX 0.15" PER 100'

SIZE	CFM	SIZE	CFM
6"	130	12"	800
7"	200	14"	1200
8"	300	16"	1800
10"	500	18"	2400

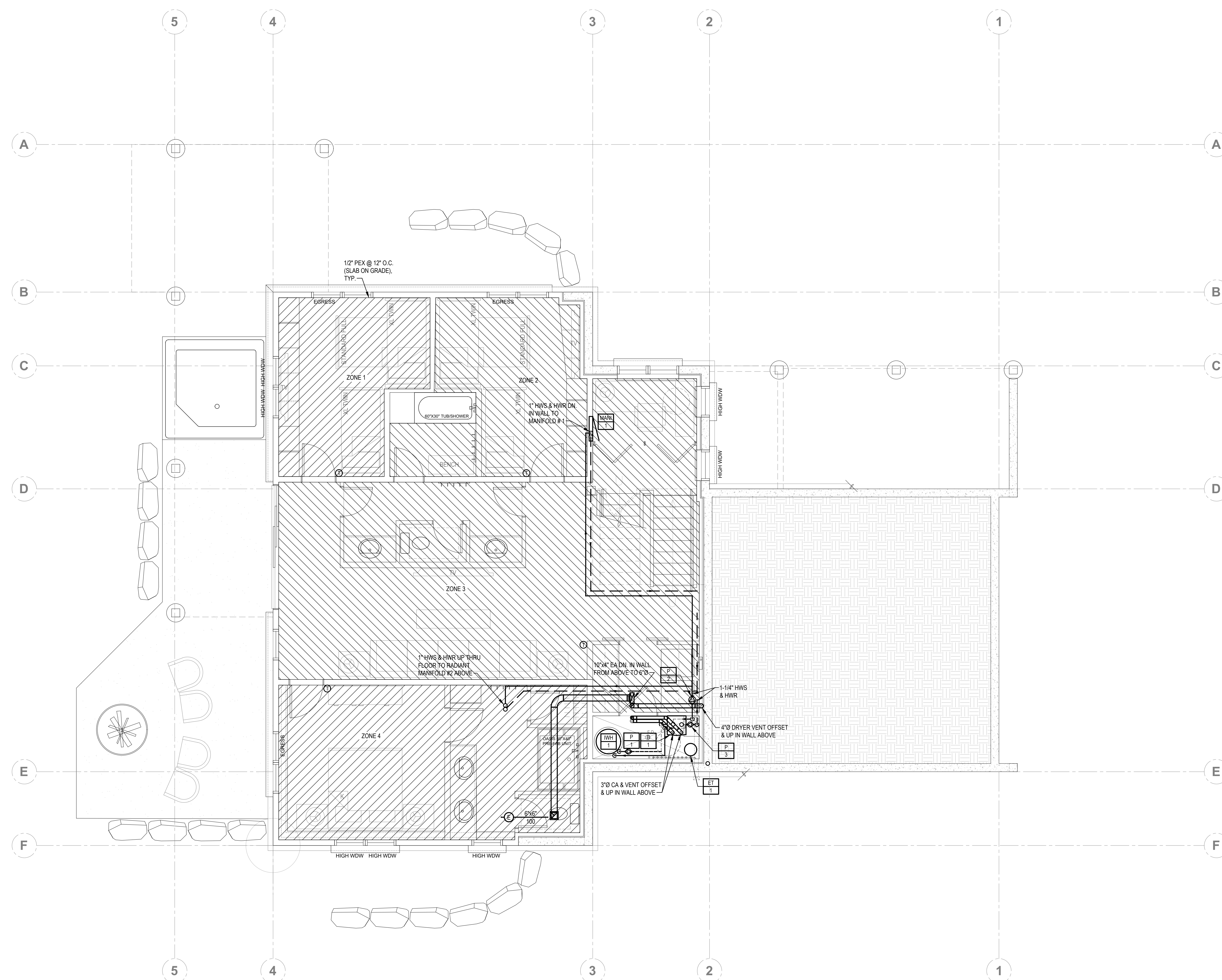




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1 LOWER LEVEL MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

HOLMBO RESIDENCE
0039 LODGESTONE TRAIL
BLUE RIVER, COLORADO 80424

BHH PARTNERS
660 ADAMS AVE
SILVER THORNE, CO 80498

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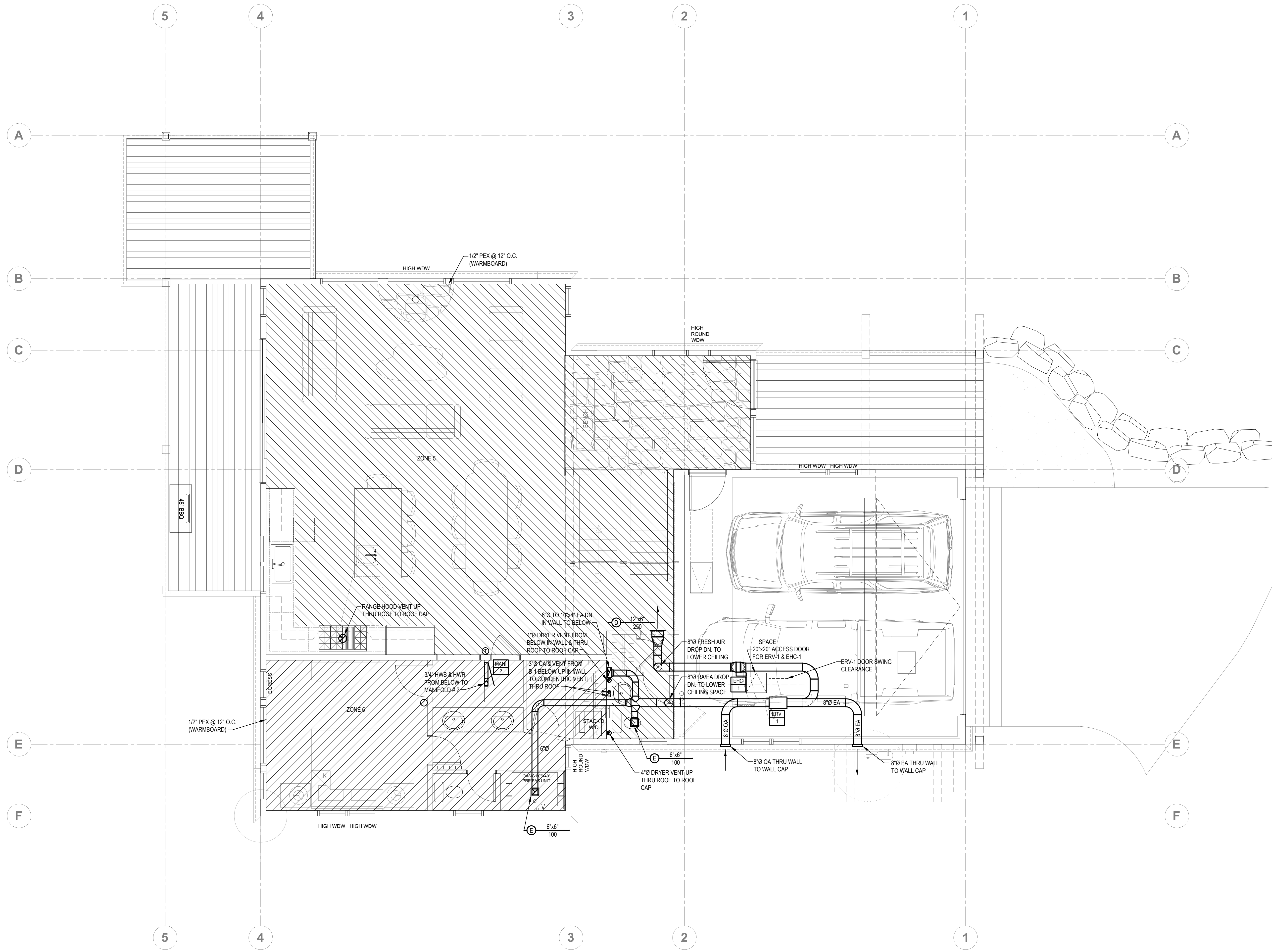
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M-1.1



DYNAMIC MEP
CONSULTING ENGINEERS
1480 HOYT ST., STE. 200
LAKEWOOD, CO 80215
303.421.3208



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HOLMBO RESIDENCE
0039 LODESTONE TRAIL
BLUE RIVER, COLORADO 80424

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SILVER THORNE, CO 80498

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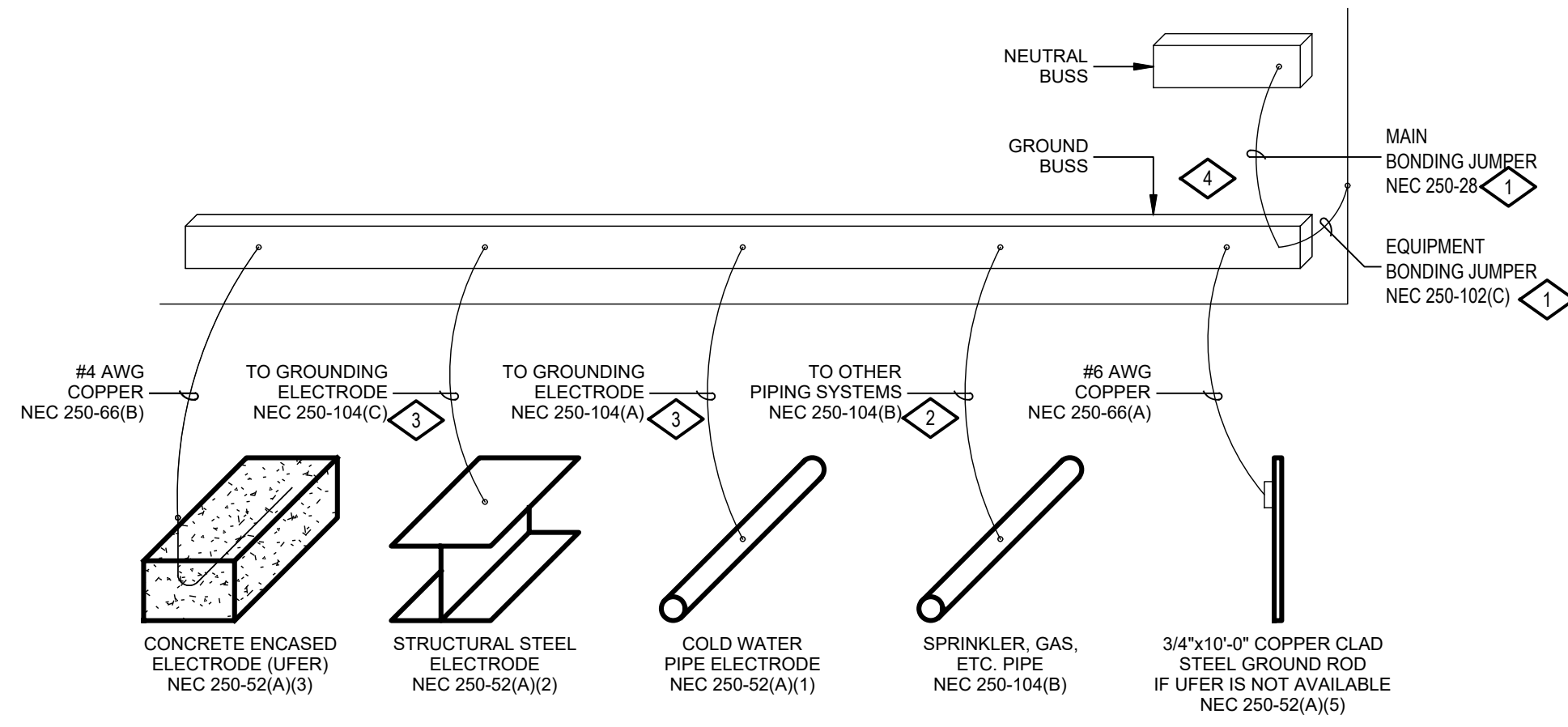
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1 MAIN LEVEL MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

LUMINAIRE SCHEDULE										
TYPE	DESCRIPTION	MFR	MODEL	DIMMING	VOLTS	CCT	LUMENS	WATTS	MOUNTING	NOTES
C1	18" LINEAR SURFACE MOUNT AREA LIGHT	DMF	(DRDH-N-JO)-(DRDSS-4-L-15-9-30)	TRIAC	120	3000K	1500	17	SURFACE	
CF1	52" CEILING FAN	PEACOCK	TERN	TRIAC	120	3000K	1600	39	SURFACE	
CF2	72" CEILING FAN	PEACOCK	MESOS-72-30-SN (MESOS-6WC)	-	120	3000K	1600	55	SURFACE	
D1	4" LED RECESSED ROUND GIMBAL	PORTOR	PT-DLG-R-4I-12W-3CCT	TRIAC	120	3000K	800	12	RECESSED	
D2	3" LED RECESSED ROUND GIMBAL	PORTOR	PT-DLG-R-3I-8W-3CCT	TRIAC	120	3000K	600	8	RECESSED	
D3	ECO 3" DOWNLIGHT	CSL	ED3-NC-30-90-50-12-S2 - ED3-R-F-WL-BK	TRIAC	120	3000K	773	11.3	RECESSED	
P1	COMPASS 24" LED LARGE PENDANT	BLACK JACK	COM-24P-WH-27U-30K	TRIAC	120	3000K	2100	35	PENDANT	
P2	CANDLE 1" LIGHT SMALL PENDANT	BLACK JACK	SP-LGD-CA-01-WH-30K-3W-SP5	TRIAC	120	3000K	133	3	PENDANT	
P3	STARBURST 29" CHANDELIER	BLACK JACK	STB-29C-SN-27U-30K	TRIAC	120	3000K	2018	30	PENDANT	
S1	4FT LED LINEAR STRIP LIGHT	PORTOR	PT-LS1-4F-3CP	-	120	4000K	3350	25	SURFACE	
S2	4FT LED LINEAR STRIP LIGHT	PORTOR	PT-LS1-4F-3CP	-	120	4000K	5360	40	SURFACE	
UC	LIGHTBAR SLIM LINEAR UNDER CABINET LIGHT	LUTRON KETRA	HW-LS0-JUL250-WH-24	-	120	3000K	500	11	UNDER CABINET	
V1	SABRE BANITY LIGHT	DUNTON HOUSE	SABRE-24-30-BN	TRIAC	120	3000K	1320	22	WALL	
WS1	ROUND WALL CYLINDER	CANDELA	RWC-ADA-FS-BK	-	120	3000K	585	9	WALL	

GENERAL NOTES:

- PROVIDE LED LAMP WITH WATTAGE NO GREATER THAN LISTED WATTAGE IN LAMPING COLUMN.
- ALL LAMPS SHALL BE LED TO COMPLY WITH CURRENT ENERGY CODE.
- PROVIDE IC RATED FIXTURE IF REQUIRED AT MOUNTING LOCATION.
- REFERENCE ARCHITECTURAL PLANS FOR EXACT MOUNTING HEIGHTS FOR ALL PENDANTS, SUSPENDED FIXTURES, POLE LUMINAIRES AND WALL SCONCES.
- REFER TO ARCHITECT OR OWNER FOR FINISH.



- GENERAL NOTES - GROUNDING DETAIL:**
- THE GROUNDING ELECTRODE CONDUCTOR CONNECTION POINT IS NOT NECESSARILY A PHYSICAL CONNECTION. IT IS PROVIDED TO ILLUSTRATE THE INTERCONNECTION OF THE GROUNDING ELECTRODE SYSTEM. IT COULD, FOR EXAMPLE, BE THE WATER PIPE.
 - NEC REFERENCES ARE FROM 2017 NATIONAL ELECTRIC CODE.
 - BONDS SHALL BE MECHANICAL TYPE. INTERIOR BONDS MAY BE EXOTHERMIC.
 - BOND SIZE SHALL MATCH CONDUCTORS SHOWN ON FEEDER SCHEDULE.
 - GROUND CONDUCTORS SHALL BE STRANDED COPPER INSULATED CABLE, U.N.O.

- DETAIL NOTES - GROUNDING DETAIL:**
- SIZE PER TABLE 250-66 UP TO 1100 KCMIL. SIZE TO 12.5% OF FEEDERS WHEN OVER 1100 KCMIL. MAIN BONDING JUMPER FOR SERVICES GREATER THAN 1000A, PROVIDED WITH SERVICE ENTRANCE SWITCHGEAR ARE ACCEPTABLE.
 - SIZE PER TABLE 250-122. ASSUMES MAIN DEVICE RATING IS EQUAL TO FEEDER SIZE.
 - SIZE PER TABLE 250-66.

GROUNDING DETAIL

SCALE: NONE

BONDING CONDUCTOR SIZE					
SES SIZE	MB/UEBJ	PIPING	GE	ISB	
100A	6	8	6	4	
200A	4	6	4	4	
400A	1/0	3	1/0	6	
600A	2/0	1	2/0	6	
800A	2/0	1/0	2/0	6	
1000A	3/0	2/0	3/0	6	
1200A	4/0	3/0	3/0	6	
1600A	250 KCMIL	4/0	3/0	6	
2000A	300 KCMIL	250 KCMIL	3/0	6	
2500A	500 KCMIL	350 KCMIL	3/0	6	
3000A	500 KCMIL	400 KCMIL	3/0	6	

FAULT CURRENT AND VOLTAGE DROP CALCULATION TABLE																					
POINT	LOCATION DESCRIPTION	LENGTH (ft)	LOAD ON FEEDER (Amps)	POWER FACTOR (%)	VOLTAGE (E _L)	PHASE	WIRE SIZE	CONDUCTOR MATERIAL	CONDUCTOR TYPE	CONDUIT MATERIAL	VOLTAGE CLASS	CONDUCTOR VOLT LOSS	C VALUE	# OF PARALLEL RUNS	I _{sc} AVAILABLE UPSTREAM (SEE NOTE 5)	I _{sc} AT EQUIP (I _{sc}) OR (I _{sc})	% OF VOLTAGE DROP	VOLTAGE AT START (V _{L1})	VOLTAGE AT END (V _{L2})	TOTAL % VD	
F0	XFMR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14,800	0.9%	240	-	-	F0
F1	DISCONNECT	60	400	90%	240	1	3X	COPPER	THREE SINGLE CONDUCTORS	NONMAGNETIC	600V	175	13923	2	14,800	11.893	0.9%	240	238	0.9%	F1
F2	PANEL A	35	400	90%	240	1	3X	COPPER	THREE SINGLE CONDUCTORS	STEEL	600V	187	12843	2	11,893	10.322	0.5%	238	237	1.4%	F2

NOTES:

- ALL CALCULATIONS WERE DONE USING BUSSMAN "POINT-TO-POINT" METHOD.
- REFER TO PLANS FOR ASSUMED UTILITY TRANSFORMER SIZE UTILIZED FOR CALCULATIONS.
- TRANSFORMER IMPEDANCES USED IN THE CALCULATIONS WERE TAKEN FROM EATON'S PUBLISHED IMPEDANCES FOR DOE 2016 DRY-TYPE TRANSFORMERS.
- CONDUCTOR LENGTHS INDICATED IN THIS SCHEDULE ARE FOR THE PURPOSES OF FAULT CURRENT CALCULATIONS ONLY. THESE LENGTHS ASSUME WORST CASE SHORTEST DISTANCE CONDITIONS AND SHOULD NOT BE UTILIZED BY THE ELECTRICAL CONTRACTOR FOR BIDDING PURPOSES. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ESTIMATING AND MEASURING ACTUAL FIELD CONDITION LENGTHS AS PART OF THE BID PROCESS.

PANEL 'A'														
VOLTAGE L-L: 240				LOCATION: GARAGE				BUS RATING: 400 AMPS COPPER BUS						
VOLTAGE L-N: 120				TYPE: 1PH/3W				MAIN CB: 400 A/2P						
MOUNTING: SURFACE NEW PANEL				FED FROM:				AIC RATING: FULLY RATED AT LEAST EQUAL TO: 10K AIC						
CIR. NO.	CCT	LOAD VA	LOAD DESCRIPTION (NOTE N#)	CIRCUIT BREAKER POLE	TRIP	TYPE	BUS	CIRCUIT BREAKER TYPE	TRIP	POLE	LOAD DESCRIPTION (NOTE N#)	LOAD VA	CCT	CIR NO.
1	R	900	ENTRY RECEPTACLES	1	20	A	A	GFCI	30	2	DRYER	2500	E	2
3	R	1080	GARAGE RECEPTACLES	1	20	GFCI	B		/	/	/	2500	E	4
5	R	1176	GARAGE DOOR OPENER	1	20	GFCI	A	GFCI	20	1	WASHER	1500	E	6
7	R	1260	STAIR/BATH/DINING/LIVING RECEPT	1	20	B	B	GFCI	20	2	MAIN LEVEL STEAM SHOWER	1775	E	8
9	L	1450	LIGHTING	1	20	GFCI	A	GFCI	/	/	/	1775	E	10
11	EV	4800	EV CHARGER (EVC)	2	50	B					MASTER BATH RECEPTACLES	360	R	12
13	EV	4800	/	/	/	A					MASTER BEDROOM RECEPTACLES	1080	R	14
15	M	396	ERV	1	20	GFCI	B	GFCI	30	1	ELECTRIC HEATING COIL	2880	E	16
17	E	1176	GARBAGE DISPOSAL	1	20	GFCI	A	GFCI	20	1	ATTIC RECEPTACLES	540	R	18
19	E	240	BOILER	1	20	GFCI	B	GFCI	20	1	DISHWASHER	1500	E	20
21	E	180	RANGE	1	20	GFCI	A	GFCI	20	1	REFRIGERATOR	1200	E	22
23	E	1176	GARBAGE DISPOSAL	1	20	GFCI	B	GFCI	20	1	HOOD	800	E	24
25	R	720	KITCHEN RECEPTACLES	1	20	GFCI	A	GFCI	20	1	KITCHEN ISLAND RECEPTACLES	500	R	26
27	R	1500	SMALL APPLIANCE RECEPTACLE	1	20	GFCI	B	GFCI	20	1	SMALL APPLIANCE RECEPTACLE	1500	R	28
29	R	1080	LIVING ROOM RECEPTACLE	1	20	A	A				LOWER LEVEL DRYER	2500	E	30
31	R	360	UPPER DECK RECEPTACLES	1	20	GFCI	B		/	/	/	2500	E	32
33	R	540	LAUNDRY / MECH RECEPTACLES	1	20	GFCI	A				LOWER BEDROOM RECEPTACLE	900	R	34
35	M	565	PUMP P-1	1	20	GFCI	B				LOWER LEVEL WASHER	1500	E	36
37	M	197	PUMP P-2	1	20	GFCI	A	GFCI	20	1	SUMP PUMP SP-1	1656	M	38
39	M	197	PUMP P-3	1	20	GFCI	B	GFCI	20	2	STEAM SHOWER ST-1	1775	E	40
41	R	360	EXTERIOR RECEPT / FIRE PIT	1	20	GFCI	A	GFCI	/	/	/	1775	E	42
43	E	4800	HOT TUB	2	50	GFCI	B	GFCI	20	1	HEAT TRACE	600	E	44
45	E	4800	/	/	/	GFCI	A				LOWER FLOOR LIVING RM RECEPTACLE	900	R	46
47	LM	2500	WELL PUMP	2	30	GFCI	B				OFFICE RECEPTACLE	540	R	48
49	LM	2500	/	/	/	GFCI	A	GFCI	20	1	HEAT TRACE	600	E	50
51	R	540	BATH RECEPTACLE	1	20	GFCI	B				LOWER FLOOR LIVING RM RECEPTACLE	1080	R	52
53	R	900	BUNK ROOM RECEPTACLES	1	20	A	A				BUNK ROOM RECEPTACLES	900	R	54
55			SPARE	1	20	B					SPACE			56
57			SPARE	1	20	A	GFCI	20	1	HEAT TRACE	600	E	58	
59			SPARE	1	20	B	GFCI	20	1	ROOF RECEPTACLES	540	R	60	
61			SPACE			A					SPACE			62
63			SPACE			B					SPACE			64
65			SPACE			B					SPACE			66
67			SPACE			B					SPACE			68
69			SPACE			A					SPACE			70
71			SPACE			B					SPACE			72
73			SPACE			A					SPACE			74
75			SPACE			B					SPACE			76
77			SPACE			A					SPACE			78
79			SPACE			B					SPACE			80
81			SPACE			A					SPACE			82
83			SPACE			B					SPACE			84

CCT TYPE: L=LIGHTING, R=RECEPTACLE, M=MOTOR, LM=LARGEST MOTOR, E=EQUIPMENT, KE=KITCHEN EQUIPMENT, S=SUBFEED PANEL, EV=EV CHARGER
CB TYPE: GFCI=5mA GROUND FAULT CIRCUIT INTERRUPTER, GFEP=30mA GROUND FAULT PROTECTION FOR EQUIPMENT, AFCI=ARC FAULT CIRCUIT INTERRUPTER
CAFCI=COMBINATION ARC FAULT & 5mA GROUND FAULT CIRCUIT INTERRUPTER, ST=SHUNT TRIP, HT#HANDLE TIE WITH GROUPING #
HACR = HEATING AIR CONDITIONING REFRIGERATION, ITRIP=INSTANTANEOUS TRIP, ITIME=INVERSE TIME TRIP
HC=HANDLE CLAMP FOR LOCKING IN ON/OFF POSITION, LOCK=PERMANENTLY LOCKABLE BREAKER

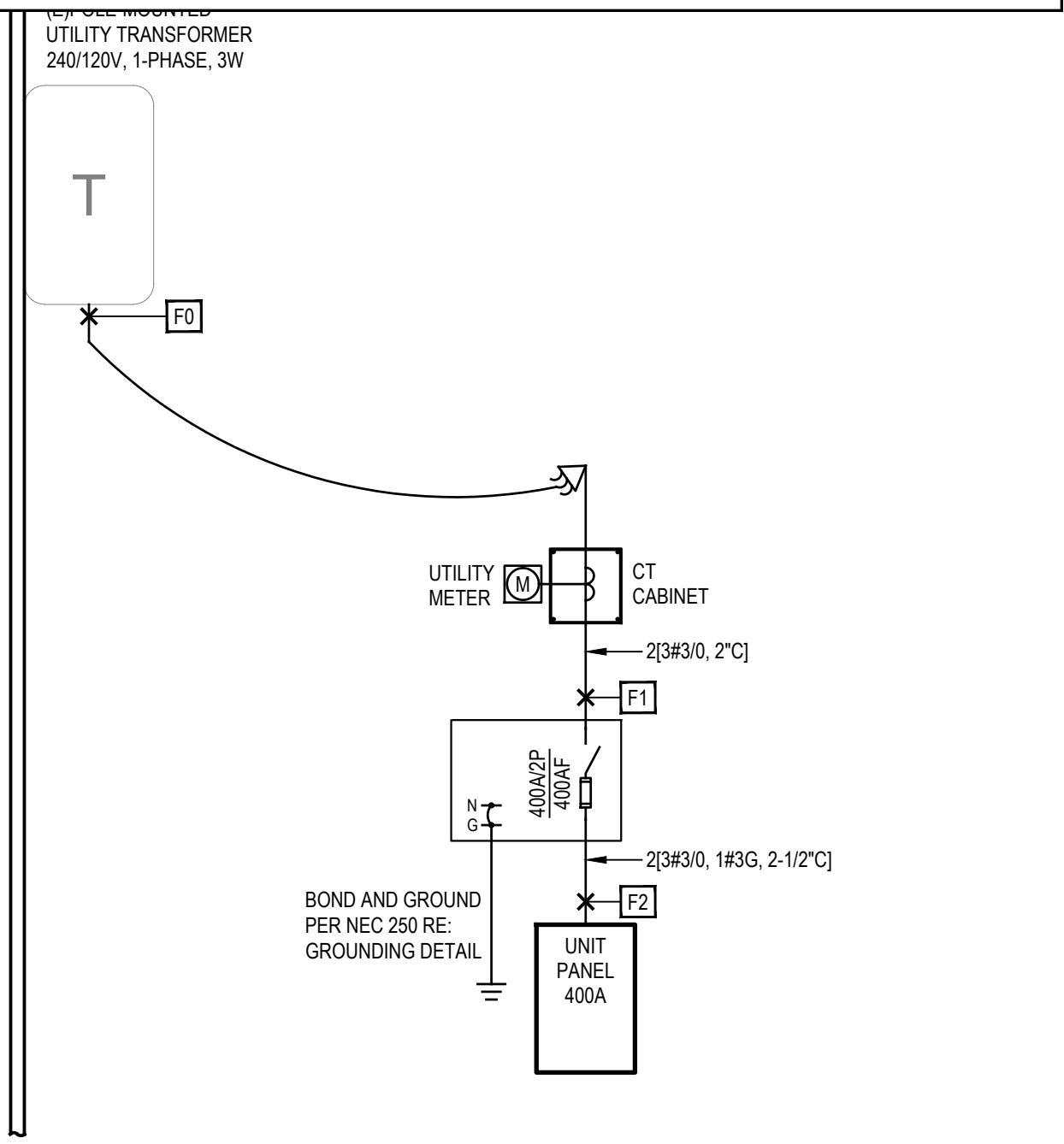
CCT TYPE: LOAD MULT DEMAND LOAD
 LIGHTING: 1450 1.25 1813 VA
 RECEPTACLE: 10000 1.0 10000 VA
 OVER 10K: 9256 0.5 4628 VA
 MOTOR: 3011 1.0 3011 VA
 LGST MOTOR: 5000 1.25 6250 VA
 EQUIPMENT: 40652 1.0 40652 VA
 KITCH EQUIP: 0 0 0 VA
 SUBFEED PNL: 0 1.0 0 VA
 EV CHARGERS: 9600 1.25 12000 VA

TOTAL CONNECTED LOADS
 VA 39705 39264
TOTAL DEMANDED LOADS
 VA 39370 38984
 AMPS 328 325
TOTAL ON PANEL: 78 KVA 326 AMPS

NOTES:
 N1. EXISTING LOAD ON EXISTING CIRCUIT BREAKER.
 N2. NEW LOAD ON EXISTING CIRCUIT BREAKER.
 N3. NEW LOAD ON NEW CIRCUIT BREAKER. CIRCUIT BREAKER TYPE AND AIC RATING TO MATCH EXISTING.

WORK NOTES:

- EC TO VERIFY FAULT CURRENT, IF THIS DIFFERENT CONTACT ENGINEER IMMEDIATELY FOR REDESIGN.



POWER ONE-LINE DIAGRAM

SCALE: NTS

D M C E
 DYNAMIC MEP CONSULTING ENGINEERS
 1480 HOYT ST. STE. 200
 LAKEWOOD, CO 80215
 303.421.3208

PROFESSIONAL ENGINEER
 LICENSE NO. 62944
 EXPIRES 10/12/23

HOLOMBO RESIDENCE
 0039 LODGESTONE TRAIL
 BLUE RIVER, COLORADO 80424

BHH PARTNERS
 660 ADAMS AVE
 SILVER THORNE, CO 80498

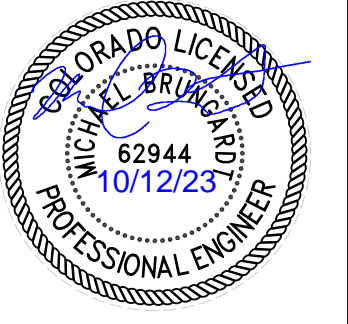
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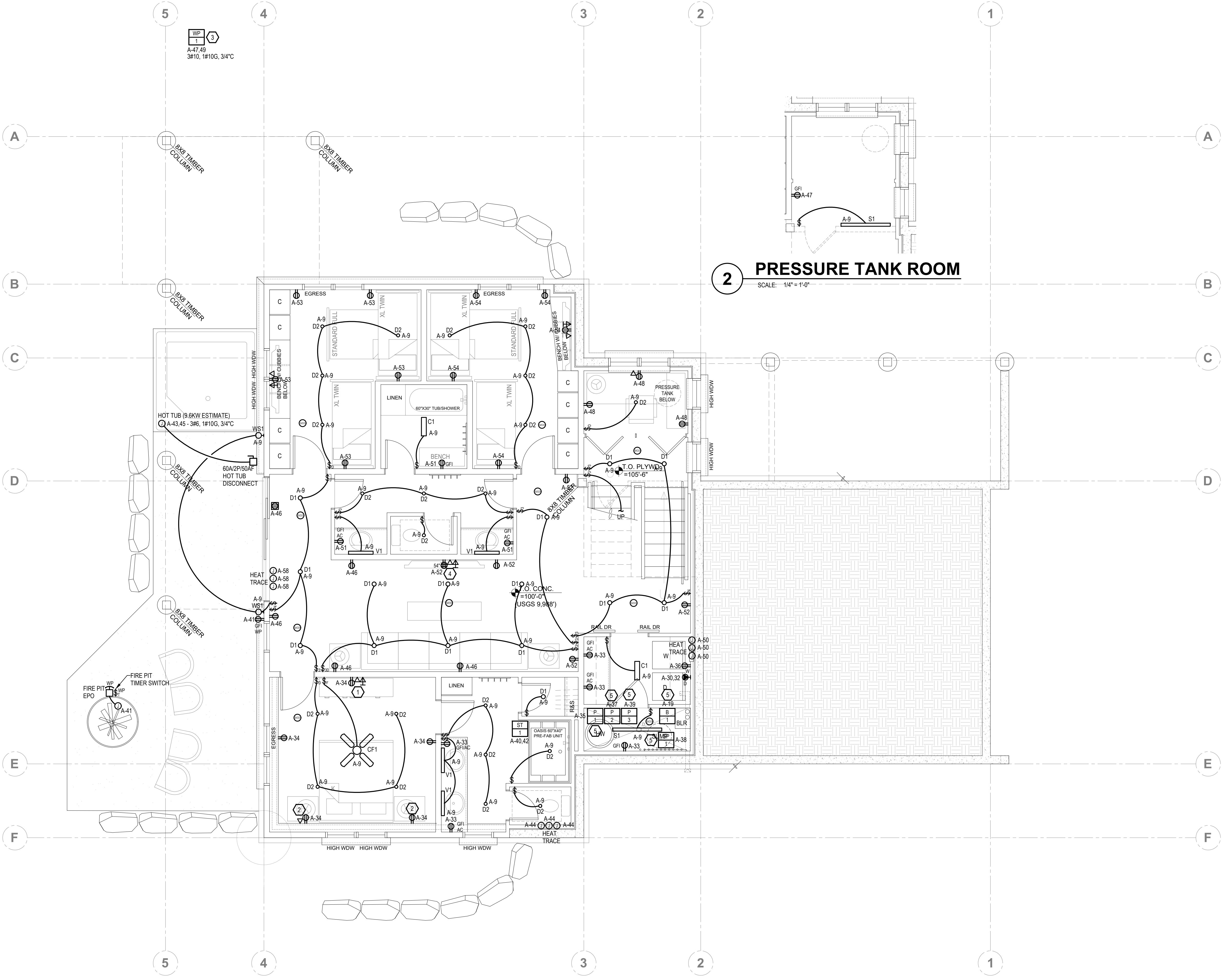
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GENERAL NOTES:

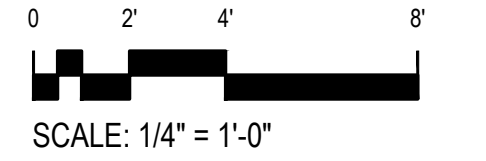
- MINIMUM SIZE FOR BRANCH CIRCUIT CONDUITS SHALL BE 3/4". MC MAY BE USED AS AND ALTERNATE IN CONCEALED SPACES.
- UNITS INDICATED ARE TYPICAL. COORDINATE RECEPTACLE LOCATIONS WITH ACTUAL FIELD MEASUREMENTS TO COMPLY WITH NEC SPACING REQUIREMENTS. VERIFY KITCHEN APPLIANCE LOCATIONS WITH OWNER AND ADJUST ACCORDINGLY.
- PROVIDE 'AFCI' TYPE CIRCUIT BREAKER OR DEVICE (WHERE NEUTRALS ARE SHARED) FOR ALL 120 VOLT, SINGLE PHASE 15- AND 20-AMPERE BRANCH CIRCUITS AS REQUIRED BY NEC.
- PROVIDE 'GFCI' TYPE RECEPTACLES FOR ALL 120 VOLT, SINGLE PHASE 15- AND 20-AMPERE RECEPTACLES PER NEC 210.8, PROVIDE 'GFCI' TYPE RECEPTACLES FOR ALL RECEPTACLES INSTALLED WITHIN 6'-0" OF WATER, PER NEC 210.8.A.9.
- PROVIDE TAMPER RESISTANT RECEPTACLES PER NEC 406.12.
- MINIMUM SIZE FOR BRANCH CIRCUIT WIRING SHALL BE #12 AWG FOR 20 AMP AND 15 AMP CIRCUITS.
- COORDINATE FINAL DEVICE AND FIXTURE ROUGH-IN LOCATIONS WITH OWNER. ANY INSTALLATION DEVIATION BETWEEN DRAWINGS AND ACTUAL LOCATIONS SHALL BE COORDINATED WITH OWNER/ARCHITECT PRIOR TO ROUGH-IN.
- ALL KITCHEN RECEPTACLES SHALL BE GFI TYPE PER NEC 210.8.
- VERIFY RECEPTACLE MOUNTING HEIGHTS WITH FINAL CASEWORK AND UNIT FINISH DRAWINGS.
- VERIFY FINAL LOCATION OF WASHER/DRYER PRIOR TO ROUGH-IN. COORDINATE WITH GENERAL CONTRACTOR AND MECHANICAL CONTRACTOR.
- GANG ADJACENT DEVICES WHERE POSSIBLE.
- DO NOT MOUNT DEVICES BACK-TO-BACK.
- SMOKE DETECTORS SHALL NOT BE INSTALLED WITHIN 36" OF AN CEILING FAN, HVAC DIFFUSER OR RETURN AIR GRILLE PER NFPA 72.
- APPLIANCES AND DEVICES SPECIFIC, BUT NOT LIMITED TO: THERMOSTATS, RANGEHOODS, AND MECHANICAL UNITS TO BE SELECTED PER THE DEVELOPER AGREEMENT LETTER WITH THE TOWN OF BLUE RIVER.
- REFER TO SHEET E-1.2 FOR LUMINAIRE SCHEDULE.

WORK NOTES:

- PROVIDE TWO-GANG TV MEDIA BOX WITH DUPLEX RECEPTACLE, COAX AND ETHERNET CONNECTION. COORDINATE EXACT MOUNTING HEIGHT WITH OWNER PRIOR TO ROUGH-IN.
- PROVIDE DUPLEX RECEPTACLE WITH 2 USB PORTS. RECEPTACLE TO HAVE (1) USB TYPE A AND (1) USB TYPE C PORT.
- COORDINATE EXACT LOCATION OF WELL PUMP WP-1 WITH CIVIL. SKW MAX, IF THIS EXCEEDS CONTACT ENGINEER IMMEDIATELY FOR REDESIGN.
- PROVIDE TV MEDIA BOX WITH DOUBLE DUPLEX RECEPTACLE, COAX AND ETHERNET CONNECTION. COORDINATE EXACT MOUNTING HEIGHT WITH OWNER PRIOR TO ROUGH-IN.
- PROVIDE 2#12, #12G, 3/4"C WIRE AND THERMAL OVERLOAD SWITCH.



1 LOWER LEVEL ELECTRICAL PLAN
 SCALE: 1/4" = 1'-0"





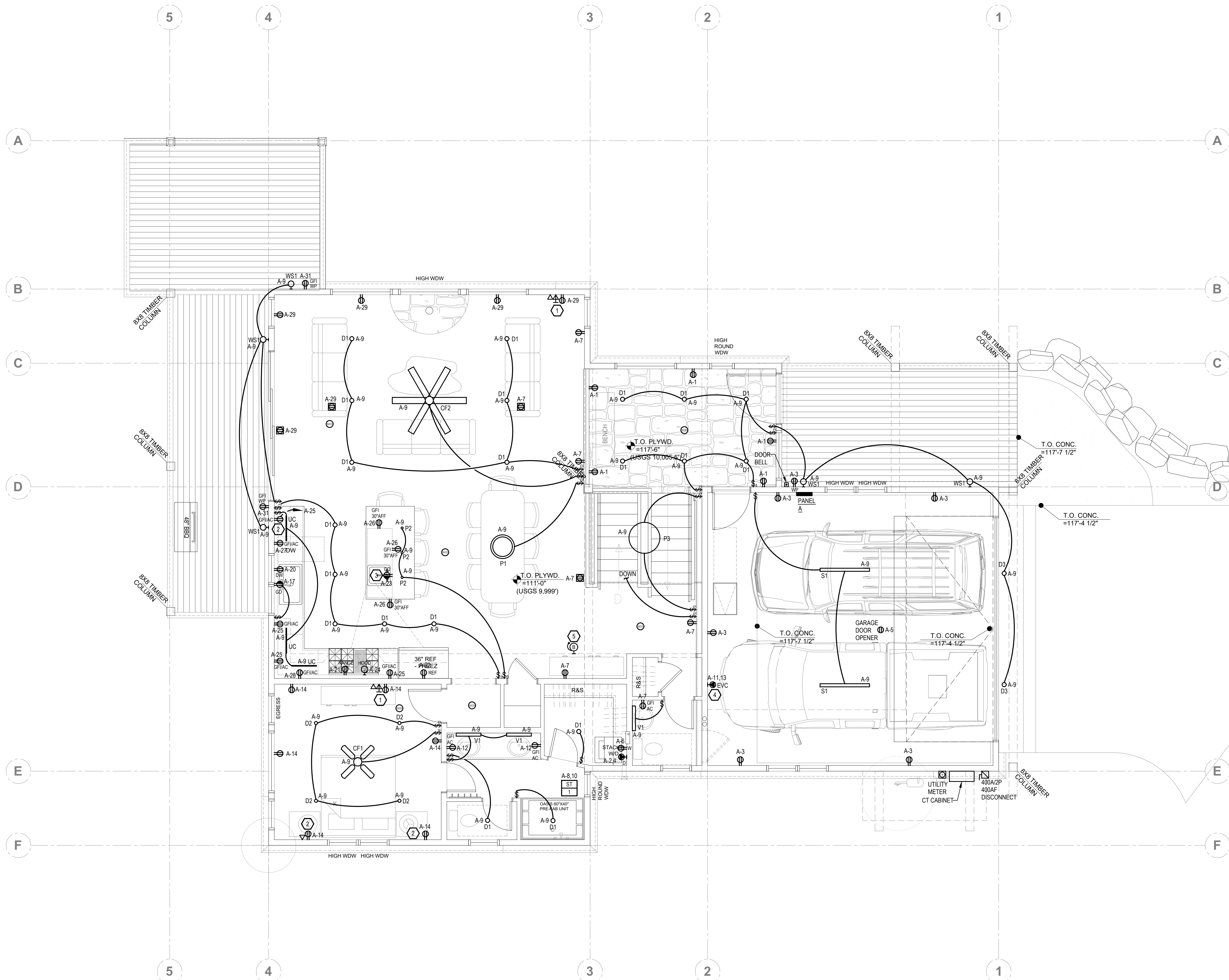
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GENERAL NOTES:

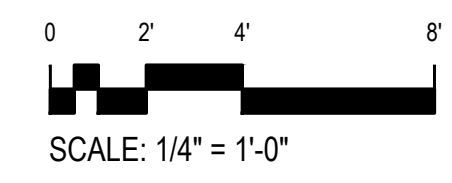
- MINIMUM SIZE FOR BRANCH CIRCUIT CONDUITS SHALL BE 3/4". MC MAY BE USED AS AND ALTERNATE IN CONCEALED SPACES.
- UNITS INDICATED ARE TYPICAL. COORDINATE RECEPTACLE LOCATIONS WITH ACTUAL FIELD MEASUREMENTS TO COMPLY WITH NEC SPACING REQUIREMENTS. VERIFY KITCHEN APPLIANCE LOCATIONS WITH OWNER AND ADJUST ACCORDINGLY.
- PROVIDE AFCI TYPE CIRCUIT BREAKER OR DEVICE (WHERE NEUTRALS ARE SHARED) FOR ALL 120 VOLT, SINGLE PHASE 15- AND 20-AMPERE BRANCH CIRCUITS AS REQUIRED BY NEC.
- PROVIDE GFCI TYPE RECEPTACLES FOR ALL 120 VOLT, SINGLE PHASE, 15- AND 20-AMPERE RECEPTACLES PER NEC 210.8. PROVIDE GFCI TYPE RECEPTACLES FOR ALL RECEPTACLES INSTALLED WITHIN 6'-0" OF WATER, PER NEC 210.8.A.9.
- PROVIDE TAMPER RESISTANT RECEPTACLES PER NEC 406.12.
- MINIMUM SIZE FOR BRANCH CIRCUIT WIRING SHALL BE #12 AWG FOR 20 AMP AND 15 AMP CIRCUITS.
- COORDINATE FINAL DEVICE AND FIXTURE ROUGH-IN LOCATIONS WITH OWNER. ANY INSTALLATION DEVIATION BETWEEN DRAWINGS AND ACTUAL LOCATIONS SHALL BE COORDINATED WITH OWNER/ARCHITECT PRIOR TO ROUGH-IN.
- ALL KITCHEN RECEPTACLES SHALL BE GFI TYPE PER NEC 210.8.
- VERIFY RECEPTACLE MOUNTING HEIGHTS WITH FINAL CASEWORK AND UNIT FINISH DRAWINGS.
- VERIFY FINAL LOCATION OF WASHER/DRYER PRIOR TO ROUGH-IN. COORDINATE WITH GENERAL CONTRACTOR AND MECHANICAL CONTRACTOR.
- GANG ADJACENT DEVICES WHERE POSSIBLE.
- DO NOT MOUNT DEVICES BACK-TO-BACK.
- SMOKE DETECTORS SHALL NOT BE INSTALLED WITHIN 36" OF AN CEILING FAN, HVAC DIFFUSER OR RETURN AIR GRILLE PER NFPA 72.
- APPLIANCES AND DEVICES SPECIFIC, BUT NOT LIMITED TO: THERMOSTATS, RANGEHOODS, AND MECHANICAL UNITS TO BE SELECTED PER THE DEVELOPER AGREEMENT LETTER WITH THE TOWN OF BLUE RIVER.
- REFER TO SHEET E-1.2 FOR LUMINAIRE SCHEDULE.

WORK NOTES:

- PROVIDE TWO-GANG TV MEDIA BOX WITH DUPLEX RECEPTACLE, COAX AND ETHERNET CONNECTION. COORDINATE EXACT MOUNTING HEIGHT WITH OWNER PRIOR TO ROUGH-IN.
- PROVIDE DUPLEX RECEPTACLE WITH 2 USB PORTS. RECEPTACLE TO HAVE (1) USB TYPE A AND (1) USB TYPE C PORT.
- PROVIDE A COUNTER MOUNTED AIR SWITCH FOR GARBAGE DISPOSAL.
- PROVIDE EMPORIA LEVEL 2, 9.6kW EV CHARGER. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN. 3#6, 1#10G, 3/4"C.
- FOR DOOR BELL CHIME, PROVIDE 3/4" CONDUIT WITH PULL STRINGS HIGH ON SOFFIT. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.



1 MAIN LEVEL ELECTRICAL PLAN
 SCALE: 1/4" = 1'-0"



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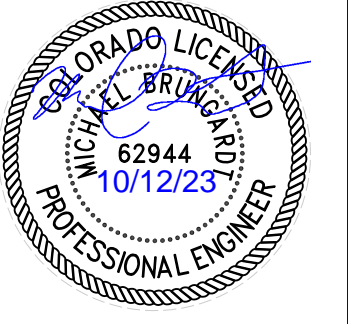
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SHEET NO.
E-1.2



DYNAMIC MEP
CONSULTING ENGINEERS
1480 HOYT ST. STE. 200
LAKEWOOD, CO 80215
303.421.3208



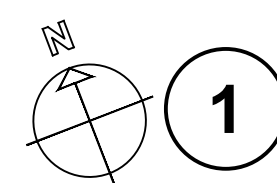
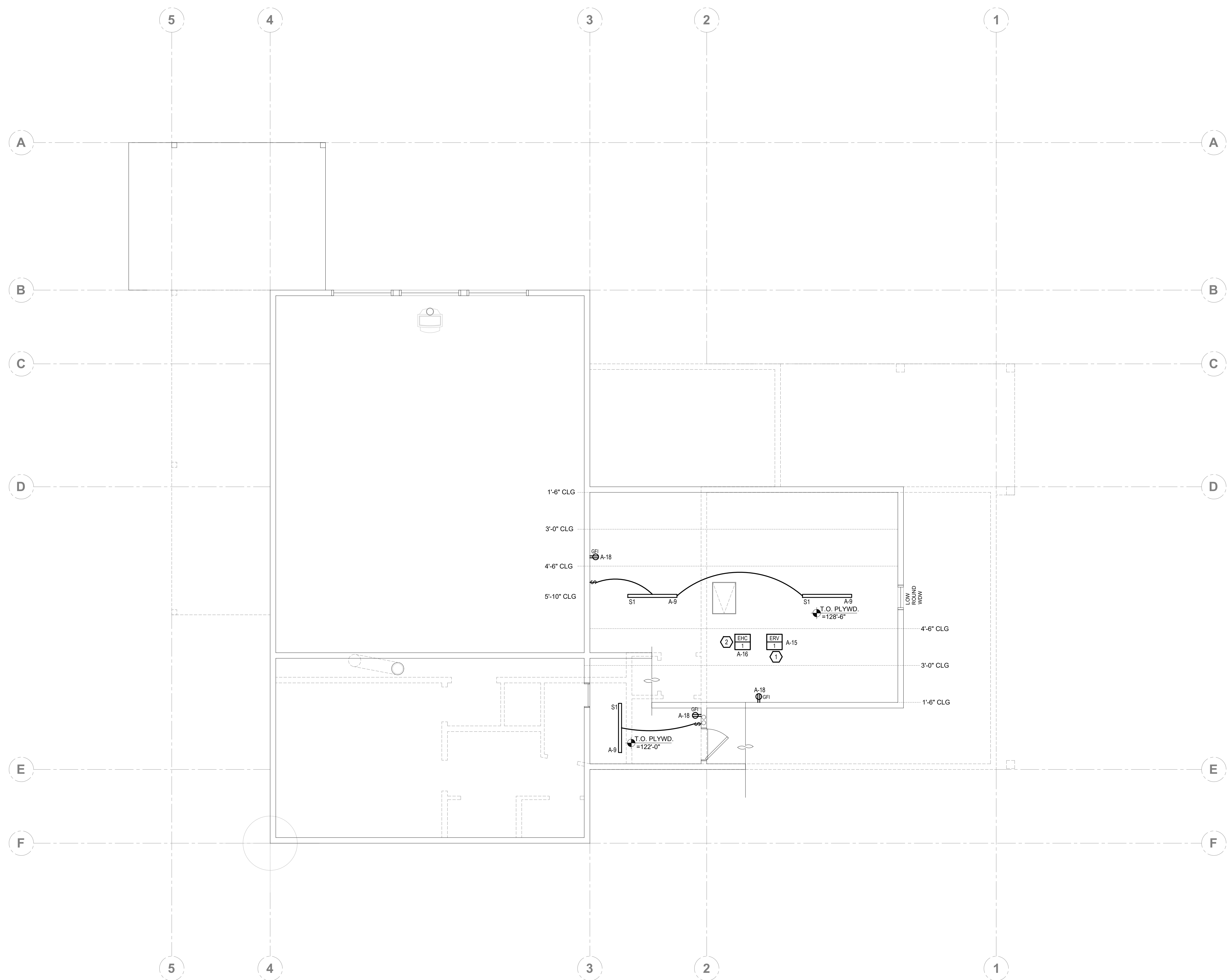
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GENERAL NOTES:

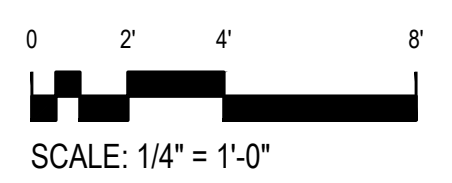
- MINIMUM SIZE FOR BRANCH CIRCUIT CONDUITS SHALL BE 3/4". MC MAY BE USED AS AND ALTERNATE IN CONCEALED SPACES.
- UNITS INDICATED ARE TYPICAL. COORDINATE RECEPTACLE LOCATIONS WITH ACTUAL FIELD MEASUREMENTS TO COMPLY WITH NEC SPACING REQUIREMENTS. VERIFY KITCHEN APPLIANCE LOCATIONS WITH OWNER AND ADJUST ACCORDINGLY.
- PROVIDE 'AFCI' TYPE CIRCUIT BREAKER OR DEVICE (WHERE NEUTRALS ARE SHARED) FOR ALL 120 VOLT, SINGLE PHASE 15- AND 20-AMPERE BRANCH CIRCUITS AS REQUIRED BY NEC.
- PROVIDE 'GFCI' TYPE RECEPTACLES FOR ALL 120 VOLT, SINGLE PHASE, 15- AND 20-AMPERE RECEPTACLES PER NEC 210.8. PROVIDE 'GFCI' TYPE RECEPTACLES FOR ALL RECEPTACLES INSTALLED WITHIN 6'-0" OF WATER, PER NEC 210.8.A.9.
- PROVIDE TAMPER RESISTANT RECEPTACLES PER NEC 408.12.
- MINIMUM SIZE FOR BRANCH CIRCUIT WIRING SHALL BE #12 AWG FOR 20 AMP AND 15 AMP CIRCUITS.
- COORDINATE FINAL DEVICE AND FIXTURE ROUGH-IN LOCATIONS WITH OWNER. ANY INSTALLATION DEVIATION BETWEEN DRAWINGS AND ACTUAL LOCATIONS SHALL BE COORDINATED WITH OWNER/ARCHITECT PRIOR TO ROUGH-IN.
- ALL KITCHEN RECEPTACLES SHALL BE GFI TYPE PER NEC 210.8.
- VERIFY RECEPTACLE MOUNTING HEIGHTS WITH FINAL CASEWORK AND UNIT FINISH DRAWINGS.
- VERIFY FINAL LOCATION OF WASHER/DRYER PRIOR TO ROUGH-IN. COORDINATE WITH GENERAL CONTRACTOR AND MECHANICAL CONTRACTOR.
- GANG ADJACENT DEVICES WHERE POSSIBLE.
- DO NOT MOUNT DEVICES BACK-TO-BACK.
- SMOKE DETECTORS SHALL NOT BE INSTALLED WITHIN 36" OF AN CEILING FAN, HVAC DIFFUSER OR RETURN AIR GRILLE PER NFPA 72.
- APPLIANCES AND DEVICES SPECIFIC, BUT NOT LIMITED TO: THERMOSTATS, RANGEHOODS, AND MECHANICAL UNITS TO BE SELECTED PER THE DEVELOPER AGREEMENT LETTER WITH THE TOWN OF BLUE RIVER.
- REFER TO SHEET E-1.2 FOR LUMINAIRE SCHEDULE.

WORK NOTES:

- PROVIDE 2#12, 1#12G, 3/4"C WIRE AND THERMAL OVERLOAD SWITCH.
- PROVIDE 2#10, 1#10G, 3/4"C WIRE.



1 UPPER LEVEL ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"



HOLMBO RESIDENCE
0039 LODESTONE TRAIL
BLUE RIVER, COLORADO 80424

BHH PARTNERS
660 ADAMS AVE
SILVER THORNE, CO 80498

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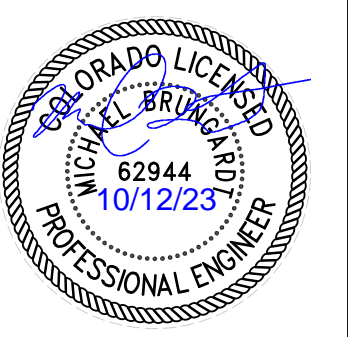
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SHEET NO.
E-1.3

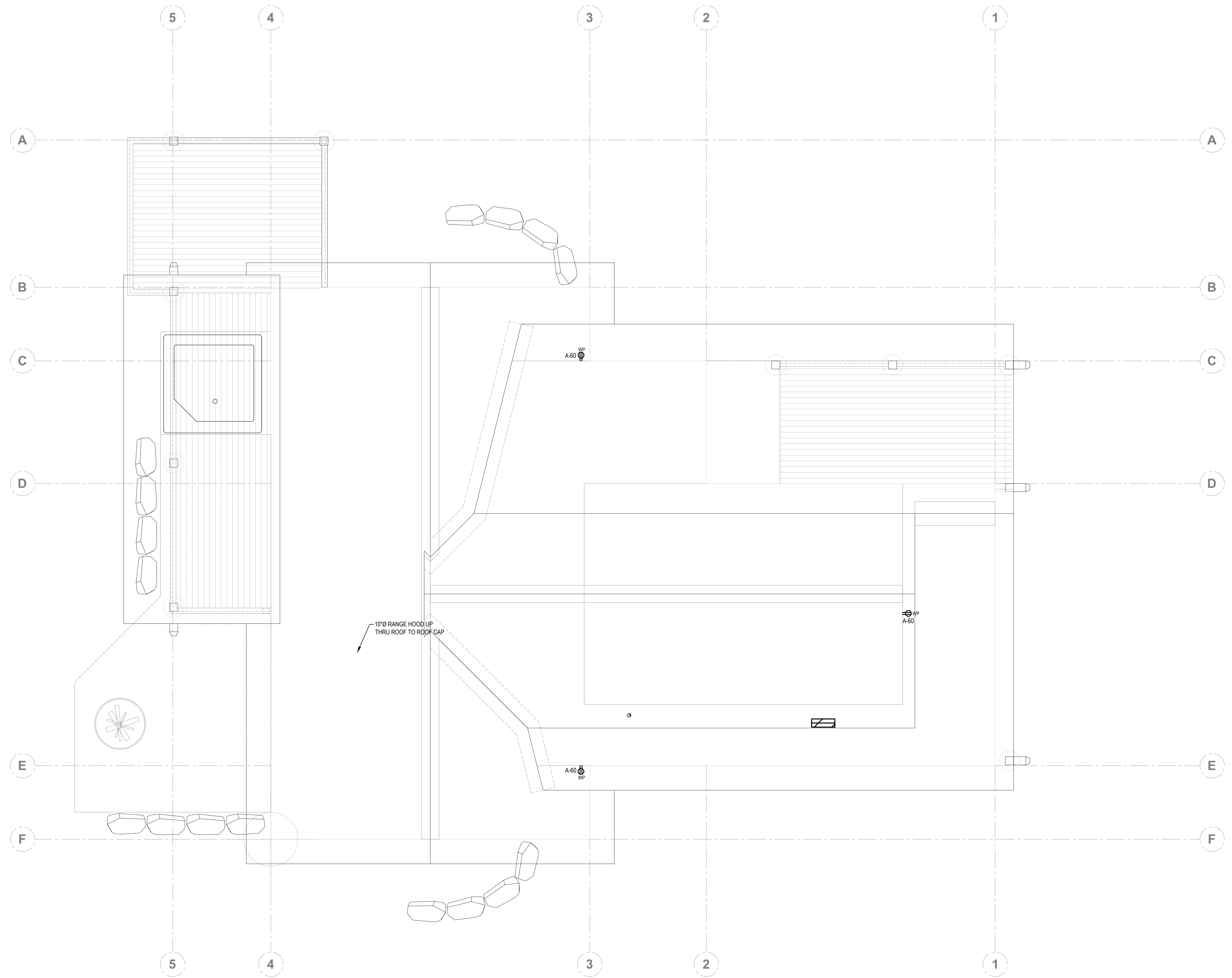


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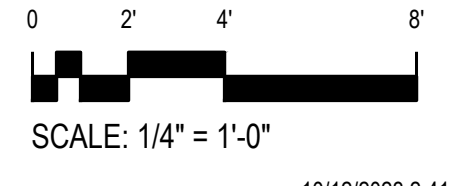
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SHEET NO.
E-1.4

1 ELECTRICAL ROOF PLAN
SCALE: 1/4" = 1'-0"



PLUMBING NOTES

- ALL DRAWINGS AND NOTES MUST BE READ, REVIEWED & UNDERSTOOD BY THE CONTRACTOR PRIOR TO ORDERING AND/OR INSTALLATION OF ANY AND ALL PLUMBING SYSTEMS.
- THE PLUMBING SYSTEM WITH FIXTURES, WATER HEATER, DRAINS, VENTS, WATER PIPING, INSULATION, GAS PIPING, ETC., SHALL BE BY THE PLUMBING CONTRACTOR IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THIS SET OF PLUMBING DRAWINGS HAS BEEN DESIGNED UNDER THE 2018 INTERNATIONAL PLUMBING CODE (IPC), THE 2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) AND NFPA 99C.
- ALL PLUMBING LINES, PLUMBING PENETRATIONS, PLUMBING EQUIPMENT, ETC., ARE APPROXIMATE LOCATIONS. PIPING IS SPACED AND SHOWN A CERTAIN DISTANCE FROM WALLS, EQUIPMENT, ETC., FOR CLARITY AND COORDINATION. FIELD VERIFY ALL PLUMBING LINE ROUTING, PLUMBING PENETRATION LOCATIONS, PLUMBING EQUIPMENT, ETC., WITH ALL OTHER TRADES, AS WELL AS THE OWNER/ARCHITECT, PRIOR TO INSTALLATION AS DESIGN DRAWINGS MAY DIFFER FROM ACTUAL INSTALLATION CONDITIONS. VERIFY ALL PLUMBING WITH STRUCTURAL, MECHANICAL AND ELECTRICAL, INTERIOR DESIGNER CONTRACTORS, LANDSCAPE/IRRIGATION CONTRACTORS, KITCHEN EQUIPMENT CONTRACTORS, ETC. PRIOR TO INSTALLATION OF ANY AND ALL PLUMBING SYSTEMS.
- ALL SANITARY WASTE VENTS, TO BE A MINIMUM OF 10" FROM ANY AND ALL OPERABLE WINDOWS AND AIR INTAKES INTO THE BUILDING AND TO MECHANICAL EQUIPMENT OR INTO THE TERMINATION LOCATION. A MINIMUM OF 3'-0" ABOVE THE HIGHEST POINT OF THE WINDOW OR AIR INTAKE INTO THE BUILDING OR MECHANICAL EQUIPMENT.
- PLUMBING CONTRACTOR TO FIELD VERIFY ALL NEW & EXISTING PLUMBING CONDITIONS INCLUDING, BUT NOT LIMITED TO, EQUIPMENT, LOCATIONS, PIPING, SIZING, FLOW OF DIRECTION, INVERT ELEVATIONS, UTILITIES, VENTS THROUGH ROOF, ETC. PRIOR TO ORDERING, INSTALLATION AND ANY WORK BEING DONE. NOTIFY ENGINEER IN WRITING FOR ANY DESIGN/DRAWING DISCREPANCIES.
- USE ONLY BALL VALVES. NO GATE VALVES ALLOWED ON PROJECT.
- HOT WATER MAIN LINES TO GO DOWN IN WALL TO WITHIN 2 FEET MAXIMUM OF THE HOT WATER SUPPLY TO ALL PUBLIC LAVATORIES, PER ICC TABLE C404.6.1 AND THEN BACK UP IN WALL TO ABOVE THE CEILING AND THEN ROUTED TOWARDS THE REMAINING HOT WATER PLUMBING FIXTURES WITH A HOT WATER RECIRCULATION LINE FROM THE FURTHEST HOT WATER PLUMBING FIXTURE BACK TO RCP1 & THE HOT WATER HEATER.
- ALL PLUMBING SHALL BE IN ACCORDANCE WITH THE LOCAL PLUMBING CODES AND/OR ORDINANCES, INCLUDING BUT NOT LIMITED TO PIPE SIZES.
- ALL ACCESS PANELS TO BE LOCATED EITHER IN THE CEILING OR CONCEALED WITHIN A CABINET. NO ACCESS PANELS TO BE LOCATED ON WALLS WHERE IT CONFLICTS WITH THE AESTHETIC OF THE ROOM WALLS. ALL ACCESS PANEL LOCATIONS TO BE VERIFIED WITH OWNER/ARCHITECT PRIOR TO INSTALLATION.
- PROVIDE 1/4 TURN SHUTOFFS AT ALL PLUMBING FIXTURES. PROVIDE ISOLATION VALVES AT RISERS, BRANCHES AND ALL EQUIPMENT.
- DOMESTIC WATER PIPING SHALL BE TYPE "L" HARD DRAWN COPPER WITH WROUGHT COPPER SWEAT FITTINGS. USE ONLY CANFIELD 100% WATER SAFE SOLDER (95% TIN, 4% COPPER, 1% SILVER) OR APPROVED EQUAL. DO NOT USE LEAD OR ANTI-SWEAT SOLDER. AT CONNECTIONS OPTION DOMESTIC WATER ABOVE AND BELOW AFTER WATER ENTRY ASSEMBLY MAY BE CPVC PIPE IF APPROVED BY THE LOCAL AHJ, OWNER AND CODE. NOTIFY ENGINEER IN WRITING IF ANY MATERIAL OTHER THAN COPPER IS GOING TO BE USED FOR POSSIBLE RESIZING OF WATER LINES, PUMP HEAD LOSS, EXPANSION LOOPS, INSULATION, ETC. USE ONLY FLOWGUARD COLD PIPE WITH FLOWGUARD GOLD ONE STEP THROUGHOUT ON PIPES 1/2" THROUGHOUT 2". NO CPVC SUBSTITUTIONS ARE ALLOWED. PROVIDE CSA APPROVED HARDENED STRIKER PLATES LISTED FOR CSST AND CPVC SYSTEMS AT ALL LOCATIONS WHERE TUBING IS CONCEALED AND PUNCTURE FROM NAILS OR SCREWS IS A POSSIBLE THREAT. SUPPORT ALL PIPE PER DETAILS, BUILDING CODE, AND MANUFACTURER REQUIREMENTS.
- COPPER TUBING INSTALLED WITHIN A BUILDING AND IN OR UNDER A CONCRETE FLOOR SHALL BE TYPE "K" COPPER AND INSTALLED WITHOUT JOINTS. WHERE JOINTS ARE PERMITTED, THEY SHALL BE BRAZED AND FITTINGS SHALL BE WROUGHT COPPER.
- INTERIOR SOIL AND WASTE PIPING ABOVE GRADE SHALL BE SERVICE WEIGHT IRON SOIL PIPE AND NO HUB FITTINGS. APPROVED PIPE MANUFACTURERS AB&I FOUNDRY, CHARLOTTE PIPE, AND TYLER PIPE BEARING THE TRADEMARK OF CISPI. NO HUB COUPLINGS SHALL BE NSF CERTIFIED, MEET CISPI 310 STANDARD MANUFACTURED BY TYLER, ANAC, IDEAL, AND MISSION. INSTALL PER THE CISPI 301 STANDARD LATEST VERSION. NO ABS PIPE OR PVC FOAMCORE PIPE ALLOWED ON THE PROJECT. [PVC SCHEDULE 40 SOLID CORE PLASTIC PIPE AND FITTINGS MAY BE USED WHERE APPROVED BY OWNER AND ALLOWED BY THE BUILDING DEPARTMENT. INSTALL ALL PVC PIPE PER ASTM D2321 REQUIREMENTS AND RECOMMENDATIONS. NO FOAM CORE ALLOWED. NO PVC PIPING LOCATED IN RETURN AIR FLENUMS. COORDINATE ALL PIPING ROUTING AND MATERIAL WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION AND ORDERING.]
- EXTERIOR SOIL AND WASTE PIPING BELOW GRADE SHALL BE SERVICE WEIGHT CAST IRON HUB AND SPIGOT SOIL PIPE AND FITTINGS WITH NEPRENE GASKETS APPROVED MANUFACTURERS AB&I FOUNDRY, CHARLOTTE PIPE, AND TYLER PIPE BEARING THE TRADEMARK OF CISPI. INSTALL PER THE CISPI 301 STANDARD LATEST VERSION. NO ABS PIPE OR PVC FOAMCORE PIPE ALLOWED ON THE PROJECT. [PVC SCHEDULE 40 SOLID CORE PLASTIC PIPE AND FITTINGS MAY BE USED WHERE ALLOWED BY THE BUILDING DEPARTMENT. INSTALL ALL PVC PIPE PER ASTM D2321 REQUIREMENTS AND RECOMMENDATIONS. NO FOAM CORE ALLOWED. NO PVC PIPING LOCATED IN RETURN AIR FLENUMS. COORDINATE ALL PIPING ROUTING AND MATERIAL WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION AND ORDERING.]
- SANITARY WASTE LINES TO GRAVITY DRAIN AT 1/4" SLOPE/FOOT FOR ALL PIPING 2" AND SMALLER. SANITARY WASTE LINES TO GRAVITY DRAIN AT 1/8" SLOPE/FOOT FOR ALL PIPING 3" AND LARGER, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS.
- WATER HEATING EQUIPMENT NOT SUPPLIED WITH INTEGRAL HEAT TRAPS AND SERVING NON-CIRCULATED SYSTEMS SHALL BE PROVIDED WITH HEAT TRAPS ON THE SUPPLY AND DISCHARGE PIPING ASSOCIATED WITH THE EQUIPMENT.
- PROVIDE A VACUUM BREAKER AT THE TOP OF THE COLD WATER SUPPLY LINE, TO THE HOT WATER HEATER. FOR ALL BOTTOM-EDGED COLD WATER SUPPLY HOT WATER HEATERS. PROVIDE WATTS N360 (OR EQUAL) VACUUM BREAKER/RELIEF VALVE.
- MOUNT LAVATORY AT REQUIRED ELEVATION FOR HANDICAP USAGE WHERE REQUIRED. INSULATE ALL EXPOSED PIPING SUPPLIES AND DRAINS PER ADA REQUIREMENTS AND DRAWING SPECIFICATIONS.
- WEATHERPROOF ALL PLUMBING ROOF PENETRATIONS PER CODES AND ROOFING MANUFACTURER RECOMMENDATIONS. LOCATE ALL PLUMBING VENTS THROUGH PITCHED ROOFS WITHIN 5' OF ROOF RIDGE. PLUMBING VENT PENETRATIONS SHALL BE CAST IRON AND ONE SIZE LARGER THAN REQUIRED VENT SIZE.
- ALL SANITARY WASTE VENT RISERS TO BE LOCATED IN SAME WALL, AND NEXT TO, SANITARY WASTE RISERS, WHERE APPLICABLE AND POSSIBLE.
- WATER HAMMER SHOCK-ARRESTER SHALL BE PROVIDED AND INSTALLED ON ALL QUICK CLOSING VALVES INCLUDING DISH AND CLOTHES WASHER TO PREVENT PIPING SHOCK OR HAMMER. SIZE ARRESTER PER INDUSTRY STANDARDS.
- ALL MATERIALS AND EQUIPMENT PROVIDED AND INSTALLED UNDER THIS SECTION SHALL BE NEW AND IN CLEAN AND BRIGHT CONDITION. THE CONTRACTOR SHALL TAKE ANY MEASURE NECESSARY TO ENSURE AND MAINTAIN THE QUALITY OF THE INSTALLATION. ALL PIPING SHALL BE FLUSHED WITH CLEAN WATER PRIOR TO BEING PLACED INTO SERVICE TO ENSURE THAT ANY RESIDUAL CUTTING OIL, SLAG, THREAD TAPE, FLUX OR DIRT HAS BEEN PURGED. IN ADDITION TO FLUSHING, THE DOMESTIC WATER PIPING SHALL BE STERILIZED TO ELIMINATE ANY CONTAMINATION IN ACCORDANCE WITH CURRENT IPC RECOMMENDATIONS.
- ALL PIPING EQUIPMENT, ETC., SHALL BE IDENTIFIED. ALL PIPING IS TO BE TESTED IN ACCORDANCE WITH ACCEPTED CODES AND STANDARD OF CARE PRACTICES.
- ALL SAFETY RELIEF VALVES SHALL BE VENTED TO ATMOSPHERE OR PIPED FULL SIZE TO NEAREST FLOOR DRAIN. BACKFLOW PREVENTERS OF APPROPRIATE TYPE SHALL BE INSTALLED ON THE DISCHARGE SIDE, PROVIDED WITH A CATCH FUNNEL PIPED TO THE NEAREST FLOOR DRAIN OR SINK, AND LOCATED BETWEEN 18" AND 60" AFF WITH MINIMUM OF 30" CLEAR IN FRONT OF VALVE FOR SERVICING. PROVIDE BACKFLOW DEVICE TEST FOR FIRE SERVICE AND DOMESTIC SERVICE PRIOR TO FINAL BUILDING INSPECTION.
- CLEANOUTS SHALL BE INSTALLED AT EACH CHANGE OF DIRECTION GREATER THAN 45 DEGREES IN THE BUILDING SEWER, BUILDING DRAIN AND HORIZONTAL WASTE, SOIL OR STORM LINES. WHERE MORE THAN ONE CHANGE OCCURS IN A RUN OF PIPING, ONLY ONE CLEANOUT SHALL BE REQUIRED FOR EACH 40 FEET OF DEVELOPED LENGTH OF THE DRAINAGE PIPING. (IPC 708.3.3 & 1101.8)
- DOMESTIC CW, HW AND HWC TO BE INSULATED. REFER TO PIPE INSULATION SCHEDULE, THIS SHEET.
- PROVIDE SURESEAL IN-LINE FLOOR DRAIN TRAP SEALER FOR ALL FLOOR DRAINS, TRENCH DRAINS AND FLOOR SINKS THAT ARE 4" PIPE SIZE AND SMALLER. SURESEAL PROVIDES A MAXIMUM OF 4" PIPE IN-LINE FLOOR DRAIN TRAP SEALER. PROVIDE TP1 FOR LARGER THAN 4" DIAMETER DRAINS.
- LABEL ALL PIPING IN ACCESSIBLE AREAS.
- ALL PIPING TO BE HUNG ON ADJUSTABLE SPLIT RING HANGERS OR UNISTRUT SUPPORTS WITH CLAMPS OF SIMILAR MATERIAL AS THE PIPE UNLESS OTHERWISE NOTED. PIPE HANGER SPACING IN FEET TO BE AS FOLLOWS

PLUMBING & MECHANICAL LEGEND			NOTE: ALL DASHED PLUMBING LINES INDICATE BELOW FLOOR ELEVATION UNLESS OTHERWISE NOTED ON DRAWINGS.		
SYMBOL	ABBREV.	DESCRIPTION	SYMBOL	ABBREV.	DESCRIPTION
	CWS	CONDENSER WATER SUPPLY		M	MOTORIZED GATE VALVE
	CWR	CONDENSER WATER RETURN		WB	WATER BALANCE VALVE
	CHS	CHILLED WATER SUPPLY		V	VENTURI
	CHR	CHILLED WATER RETURN		RBPBP	REDUCED PRESSURE BACKFLOW PREVENTER
	RS	REFRIGERANT SUCTION		GC	GAS COOK
	RL	REFRIGERANT LIQUID		HWS	HEATING WATER SUPPLY
	RHG	REFRIGERANT HOT GAS		PR	PIPE REDUCER
	HWR	HEATING WATER RETURN		STR	STRAINER
	HPS	HIGH PRESSURE STEAM		SBV	STRAINER W/ BLOWOFF VALVE
	HPSR	HIGH PRESSURE STEAM RETURN		F.D.	FLOOR DRAIN
	LPS	LOW PRESSURE STEAM		E.R.D.	EQUIPMENT ROOM DRAIN
	LPSR	LOW PRESSURE STEAM RETURN		F.S.	FLOOR SINK - 1/4 GRATE
	VAC	VACUUM		F.S.	FLOOR SINK - 1/2 GRATE
	CA	COMPRESSED AIR		R.A.	DRAIN ABOVE ROOF DRAIN
	NOD	NODS ODE		R.O.	ROOF DRAIN - OVERFLOW
	FIRE	FIRE		D.N.	DOWNSPOUT NOZZLE
	CW	COLD WATER		FD	FIRE DAMPER
	HW	HOT WATER		FSD	FIRE & SMOKE DAMPER
	HWC	HOT WATER RECIRCULATE		SD	SMOKE DAMPER
	W	WASTE PIPE		EX-SD	EXISTING FIRE DAMPER
	VENT	VENT PIPE		RG	RETURN GRILLE
	ST	STORM PIPE		CN-EX	CONNECTION NEW TO EXISTING FLEXIBLE PIPE CONNECTION
	GW	GREASE WASTE		FP	FLEXIBLE PIPE CONNECTION
	SO	SAND OIL WASTE		T	THERMOSTAT
	GAS	GAS		R	REMOTE SENSOR
	FIRE UP	FIRE UP		CO2	CARBON DIOXIDE SENSOR
	FIRE DN	FIRE DOWN		CO	CARBON MONOXIDE SENSOR
	TEE UP	PIPE TEE UP		H	HUMIDISTAT
	GATE	GATE VALVE		GV	GLOVE VALVE
	BALL	BALL VALVE		CV	CHECK VALVE
	BU	BUTTERFLY VALVE		BA	BALL VALVE
	FLV	FLUID VALVE		PT	PRESSURE/TEMP. RELIEF
	GR	GAS PRESSURE REGULATOR		PT	P.T. TAP
	GU	GAS COCK AND UNION		PG	PIPE GUIDE (SLEEVE)
	SDV	STOP & DRAIN VALVE		PEJ	PIPE EXPANSION JOINT
	AFV	AUTO FLOW CONTROL VALVE		PA	PIPE ANCHOR
	BAV	BALANCING VALVE		SD	SMOKE DETECTOR
	TC-2W	TEMP. CONTROL - 2-WAY		BDV	BOILER DRAIN VALVE
	TC-3W	TEMP. CONTROL - 3-WAY		BDV-EC	BALL DRAIN W/ HOSE END CONNECTION
	PRV	PRESSURE REDUCING VALVE		(N)	NEW
	SV	SOLENOID VALVE		(E)	EXISTING
	PG	PRESSURE GAUGE		(R)	RELOCATED
	FS	FLOW SENSOR		VB	VACUUM BREAKER
				TM	THERMOMETER

PIPING INSULATION SCHEDULE (PER IECC 2018 SECTION C403.12.3)			
FLUID TYPE	CONDUCTIVITY	NOMINAL PIPE SIZE (IN)	
		< 1	1 TO < 1-1/2
		1	1-1/2 TO < 4
HOT WATER 105-140	0.21-0.28	1	1.5
COLD WATER 40-60	0.21-0.27	0.5	1

COLD WATER SIZING							
PIPE SIZE	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"
GPM	3	8	16	30	44	77	117
WSFU	3	11	23	60	104	260	474
BASED ON PRESSURE LOSS 8.0 PSI PER 100 FT.							
MAXIMUM VELOCITY = 8.0 FPS							

HOT WATER SIZING							
PIPE SIZE	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"
GPM	3	7	13.5	22	30	48	74
WSFU	3	9	16	33	54	120	246
BASED ON PRESSURE LOSS 8.0 PSI PER 100 FT.							
MAXIMUM VELOCITY = 5.0 FPS							

SHOCK ABSORBER SCHEDULE					
TAG	MANUFACTURER	TYPE NO.	P.D.I SIZE	FIXTURE UNITS	
SA-1	JOSAM	75001-S	A	1-11	
SA-2	JOSAM	75002-S	B	12-32	

PIPE HANGER SPACING (IN FEET)					
TYPE	SIZE				
	1/2"	3/4"	1"	1-1/4"	1-1/2"
COPPER	6	6	6	6	10
PLASTIC - WASTE & VENT	4	4	4	4	4
AQUAPEX - DOMESTIC WATER	2.7	2.7	2.7	4	4

RECIRCULATION PUMP SCHEDULE							
TAG	MANUFACTURER	LOCATION DUTY	FLOW (GPM)	HEAD (FT)	AMPS	HP	REMARKS & FEATURES REQ'D
DCP-1	TACO #007-SF5	WATER HEATER	5	10	0.52	1/25	115/1
FEATURES REQUIRED:							
1. ALL STAINLESS STEEL, FOR DOMESTIC WATER USE.							
2. PUMP CONTROLLED BY PIPE MOUNTED AQUASTAT, #563-2.							
3. SYSTEM TIMER, #265-3 TO MAINTAIN THE RETURN WATER BETWEEN 105 DEG F AND 110 DEG F (ADJUSTABLE).							
4. INTEGRAL FLOW CHECK VALVE INCLUDED.							
5. PROVIDE FLANGE #110251SF.							
6. PUMP POWER TO BE CONNECTED TO WATER SOLENOID VALVE.							

PLUMBING FIXTURE LIST									
SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NO.	ROUGH-IN CONNECTION				NOTES	
				W	V	CW	HW		
WC-1	Water Closet-PA,FS(Restrooms)	Kohler	#K-3493-SS-0	4"	2"	1/2"	-	Color: #01 White	
L-1	Guest Lav-Undermount	Kohler	#K-2214-0	2"	2"	1/2"	1/2"	20-7/8"L x 14-3/8"W x 8-1/8"D;Color: #01 White; Faucet: Brizo Litze #65035LF-PC	
L-2	Spa Lav - Undermount	Kohler	#K-2214-0	2"	2"	1/2"	1/2"	20-7/8"L x 14-3/8"W x 8-1/8"D;Color: #01 White; Faucet: Brizo Litze #65035LF-PC	
L-3	Master Lav-Undermount	Kohler	#K-2214-0	2"	2"	1/2"	1/2"	20-7/8"L x 14-3/8"W x 8-1/8"D;Color: #01 White; Faucet: Brizo Virage #65330LF-PC	
L-4	Powder room Lav	Kohler	#K-77767-1-0	2"	2"	1/2"	1/2"	21-11/16"L x 17-3/4"W x 8-1/8"D;Color: #01 White; Faucet: Brizo Litze #65035LF-PC	
S-1	Kitchen sink	eModern	WSRT-4222-BLK	2"	2"	1/2"	1/2"	Color: Nano Black 16 Ga. St/St; Faucet Brizo Artesio #63025LF-PC; Soap Brizo #RP75675-PC	
S-2	Kitchen Island Sink	Wesliv	WES121610BARSH	2"	2"	1/2"	1/2"	Color: Black 16 Ga. St/St; Faucet Brizo Artesio #63925LF-PC; Soap Brizo #RP75675-PC	
SH-1	Guest Shower	Aquapecutics	Oasis-Alcove	2"	2"	3/4"	3/4"	60"L x 40"W x 88"H; 240V, 60 HZ, 16 Amp	
SH-2	Spa Tub/Shower	Aquatic	#26033-CTM,RHD	2"	2"	3/4"	3/4"	Valve,Head,Handshower,Spout: Brizo T75P535-LHP, HL75P33; 87435,RP81434,88735;RP81437	
SH-3	Master Shower	Aquapecutics	Oasis-Alcove	2"	2"	3/4"	3/4"	60"L x 40"W x 88"H; 240V, 60 HZ, 16 Amp	
GD-1	Garbage Disposer	ISE	PRO-750	2"	-	-	-	120v, 3/4 HP	
WWB-1	Washer Wall Box	Guy Gray	#WB200HA	2"	2"	-	-	With water hammer arrester	
FD-1	Floor Drain	Josam	30000-5A-SS	2"	2"	-	-	Provide with st/st strainer, Proset Trappguard	
IMB-1	Ice Maker Box	Guy Gray	#W-9700HA	-	-	1/2"	-	With water hammer arrester	
WCO	Wall Clean Out	JR Smith	4710-U	4"	2"	-	-		
SC-1	Sillcock	Woodford	B67	-	-	3/4"	-		
HB-1	Hose bibb	Woodford	24	-	-	1/2"	-	with integral vacuum breaker	
BV-1	Balancing Valve	Bell and Gossett	LFGB-3/4	-	-	3/4"	-	set at .5 gpm	
RPBFP-1	Reduced Pressure Backflow Preventer	Watts	LF009-3/4"	-	-	3/4"	-	provide with strainer	

1. PLUMBING CONTRACTOR IS RESPONSIBLE FOR VERIFYING SITE CONDITIONS.

2. FIELD VERIFY BEST LOCATIONS FOR SHUT-OFF VALVES WITH OWNER/ARCHITECT PRIOR TO INSTALLATION. PROVIDE ACCESS DOORS IN WALL OR CEILING IF NECESSARY AND AS WHERE REQUIRED FOR ACCESS TO VALVES.

3. ALL FIXTURES TO BE INSTALLED PER MANUFACTURER AND LOCAL ADOPTED CODE.

4. CONFORM PLUMBING FIXTURE FINISH WITH ARCHITECTURAL PLANS PRIOR TO ORDER.

GENERAL REQUIREMENTS:

1. ALL TOILET ROOM FIXTURES SHALL BE WHITE. VITREOUS CHINA UNLESS DESIGNATED OTHERWISE IN SCHEDULE.

2. PROVIDE SUITABLE REINFORCEMENTS FOR WALL HANGERS & SUPPORTS.

3. DEARBORN, CS&B, BRASS-CRAFT, MAGUIRE (P-TRAP & TRAP ARM, ESCUTCHEON)

4. ALL MUST BE 1/4 TURN BALL VALVE TYPE. ALL BRASS CONSTRUCTION BY DEARBORN, CS&B, BRASS-CRAFT, OR MAGUIRE.

5. RESTROOM FIXTURES MUST COMPLY WITH ALL BUILDING DEPARTMENT CRITERIA FOR WATER CONSERVATION.

6. ALL FIXTURES TO BE APPROVED BY ENGINEER AND OWNER/ARCHITECT PRIOR TO ORDERING AND INSTALLATION.

7. VERIFY LEFT/RIGHT HAND LEVER LOCATION ON ALL WATER CLOSETS PER ADA REQUIREMENTS AND INSTALL FLUSH HANDLE ON OPEN SIDE OF ADA STALL. FAILURE TO COMPLY WILL REQUIRE FIELD CORRECTION.

8. ALL WATER CLOSETS MUST MEET A MINIMUM MAPP RATING OF 800 AS TESTED BY AN INDEPENDENT AND ACCREDITED LABORATORY. NO PROFLO BRAND NAMED PRODUCTS ARE ALLOWED UNLESS OTHERWISE NOTED AND APPROVED BY OWNERSHIP.

Sheet List Table	
Sheet Number	Sheet Title
P-0.1	PLUMBING COVER SHEET
P-0.2	PLUMBING DETAILS
P-0.3	PLUMBING ISOMETRICS
P-1.1	LOWER LEVEL PLUMBING PLAN
P-1.2	MAIN LEVEL PLUMBING PLAN
P-1.3	UPPER LEVEL PLUMBING PLAN

PLUMBING NARRATIVE:
NEW RESIDENTIAL CONSTRUCTION WITH PLUMBING FIXTURES, WATER HEATER, DOMESTIC COLD AND HOT WATER PIPING, SANITARY AND VENT PIPING AND LP PIPING.

DESIGN CODES:

- 2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
- 2018 INTERNATIONAL MECHANICAL CODE (IMC)
- 2018 INTERNATIONAL PLUMBING CODE (IPC)
- 2018 INTERNATIONAL FUEL GAS CODE (IFGC)
- 2018 INTERNATIONAL RESIDENTIAL CODE (IRC)



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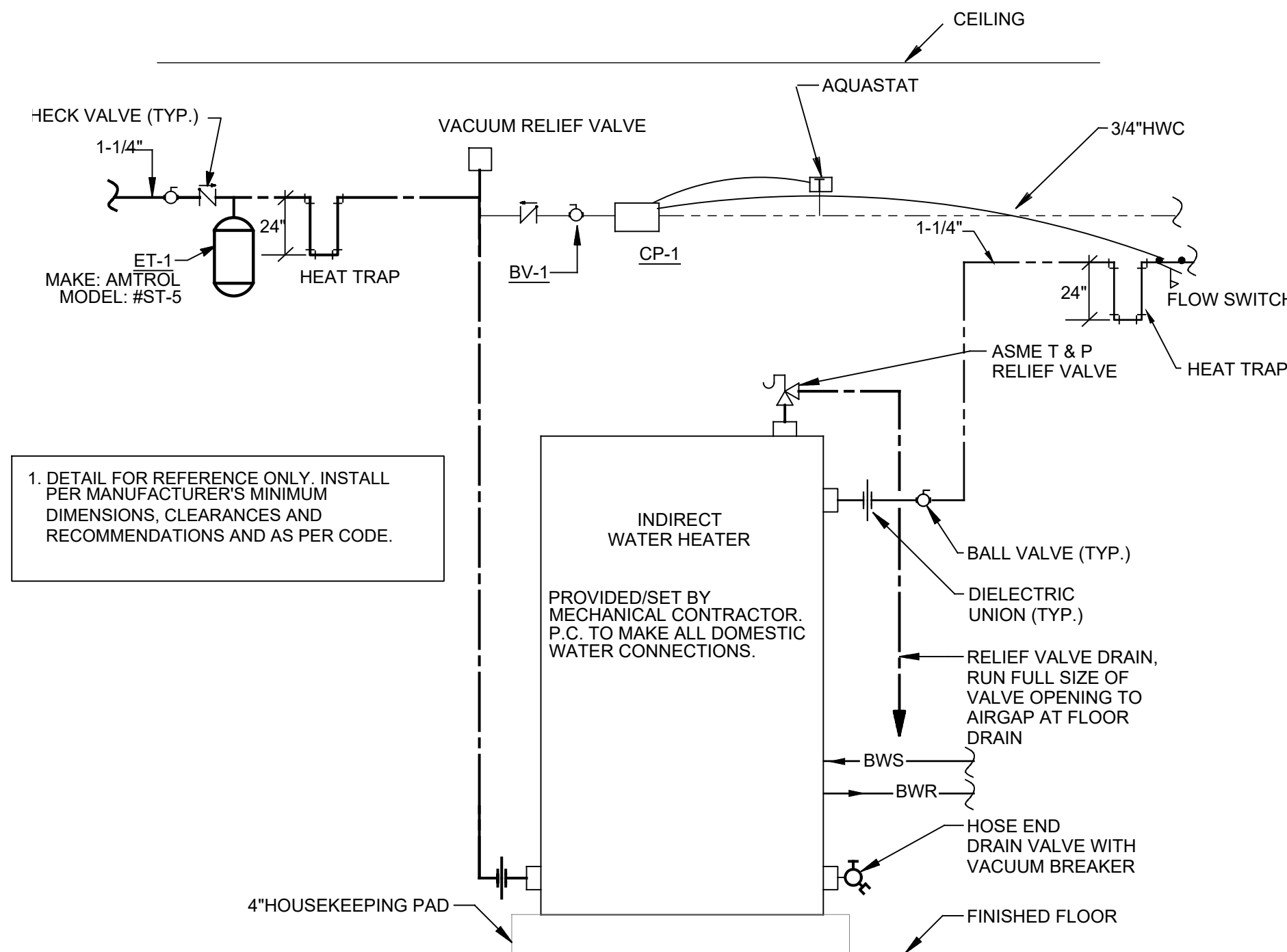
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P0.1



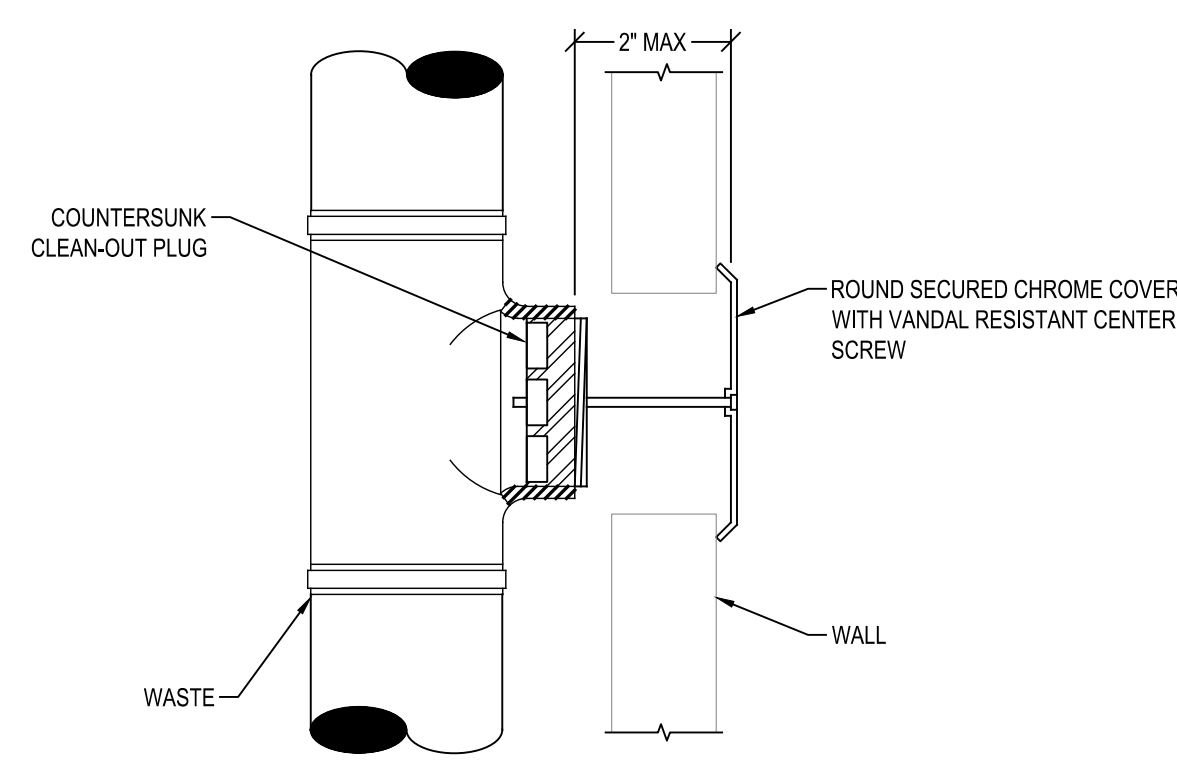
1. DETAIL FOR REFERENCE ONLY. INSTALL PER MANUFACTURER'S MINIMUM DIMENSIONS, CLEARANCES AND RECOMMENDATIONS AND AS PER CODE.

RECIRCULATION SYSTEM SEQUENCE OF OPERATION INSTALLED PER 2018 IECC.

1. PUMP SHALL START UPON RECEIVING SIGNAL FROM FLOW SWITCH SENSING THE FLOW OF HOT WATER TO A FIXTURE.
2. FLOW SWITCH ACTIVATES RECIRCULATION PUMP.
3. HOT WATER IS TURNED OFF, BUT FLOW FROM PUMP KEEPS FLOW SWITCH AND PUMP ON.
4. AQUASTAT DETECTS SYSTEM IS "AT-TEMP" AND TURNS OFF. THIS TURNS OFF THE PUMP AND THE FLOW SWITCH TURNS OFF.
5. AQUASTAT DETECTS SYSTEM COOLED OFF AND TURNS BACK ON; ALLOWING START OF NEXT CYCLE.

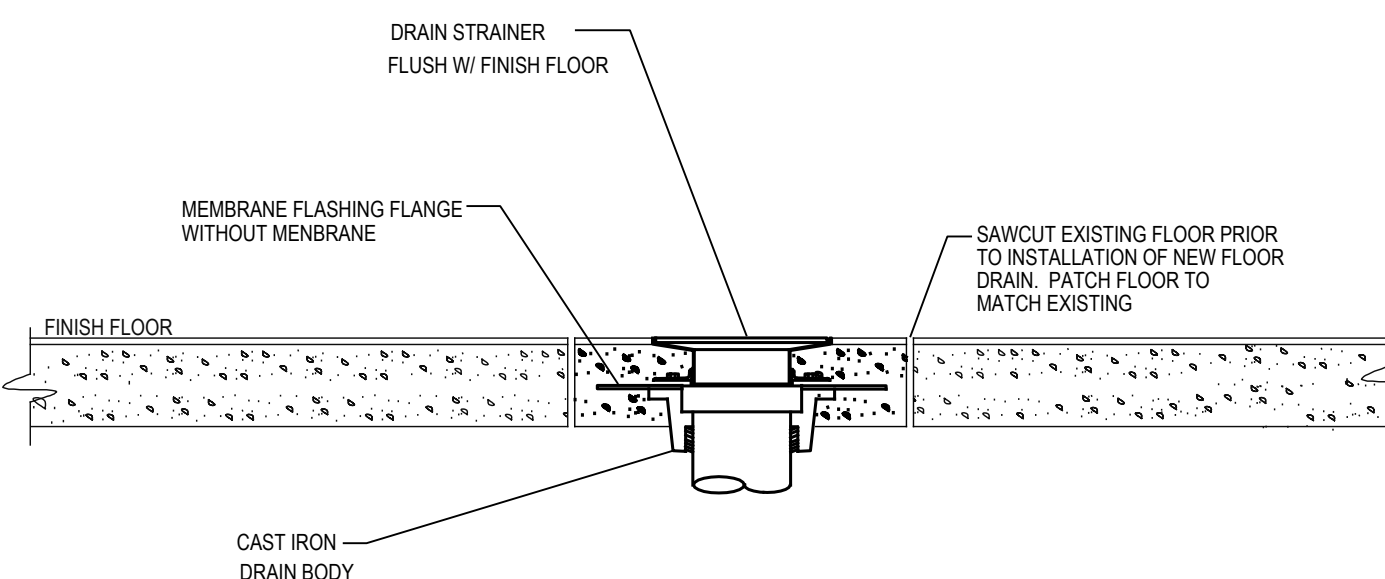
NOTE: THE AQUASTAT SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD WATER PIPING TO 104 DEGREES F.

7 **INDIRECT WATER HEATER DETAIL**
SCALE: NOT TO SCALE

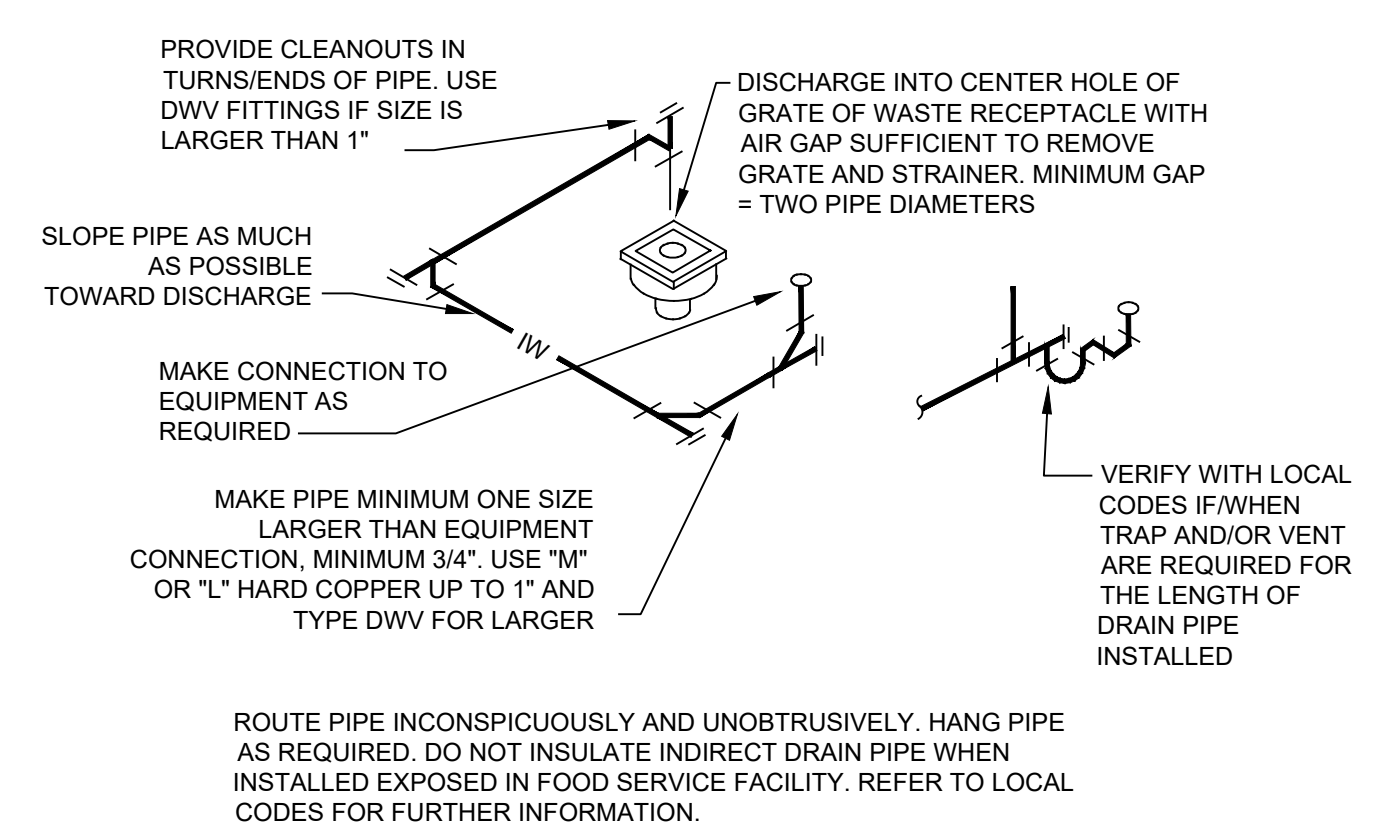


1 **WASHER WALL BOX DETAIL**
SCALE: NOT TO SCALE

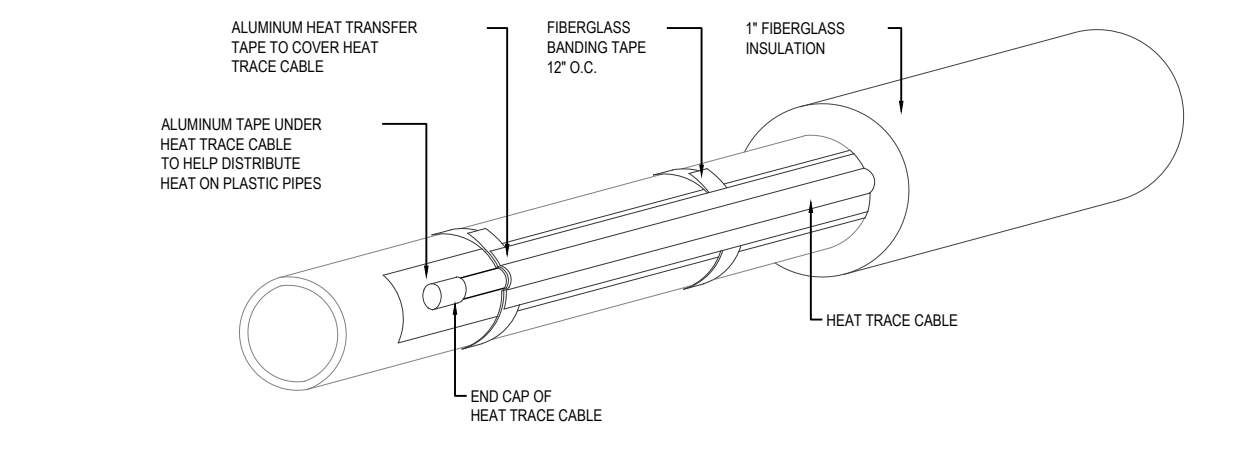
4 **WALL CLEANOUT DETAIL**
SCALE: NOT TO SCALE



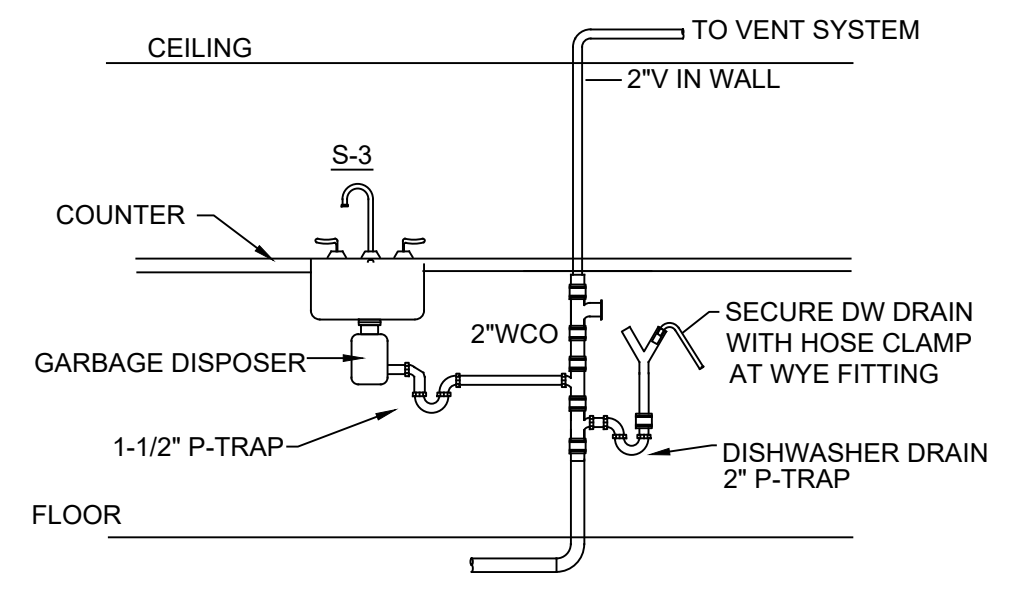
5 **FLOOR DRAIN FLASHING DETAIL**
SCALE: NOT TO SCALE



2 **INDIRECT DRAIN DETAIL**
SCALE: NOT TO SCALE



6 **HEAT TRACE DETAIL**
SCALE: NOT TO SCALE



3 **DISHWASHER AIRGAP DETAIL**
SCALE: NOT TO SCALE

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LAKEWOOD, CO 80215
303.421.3208

PROFESSIONAL ENGINEER
61793
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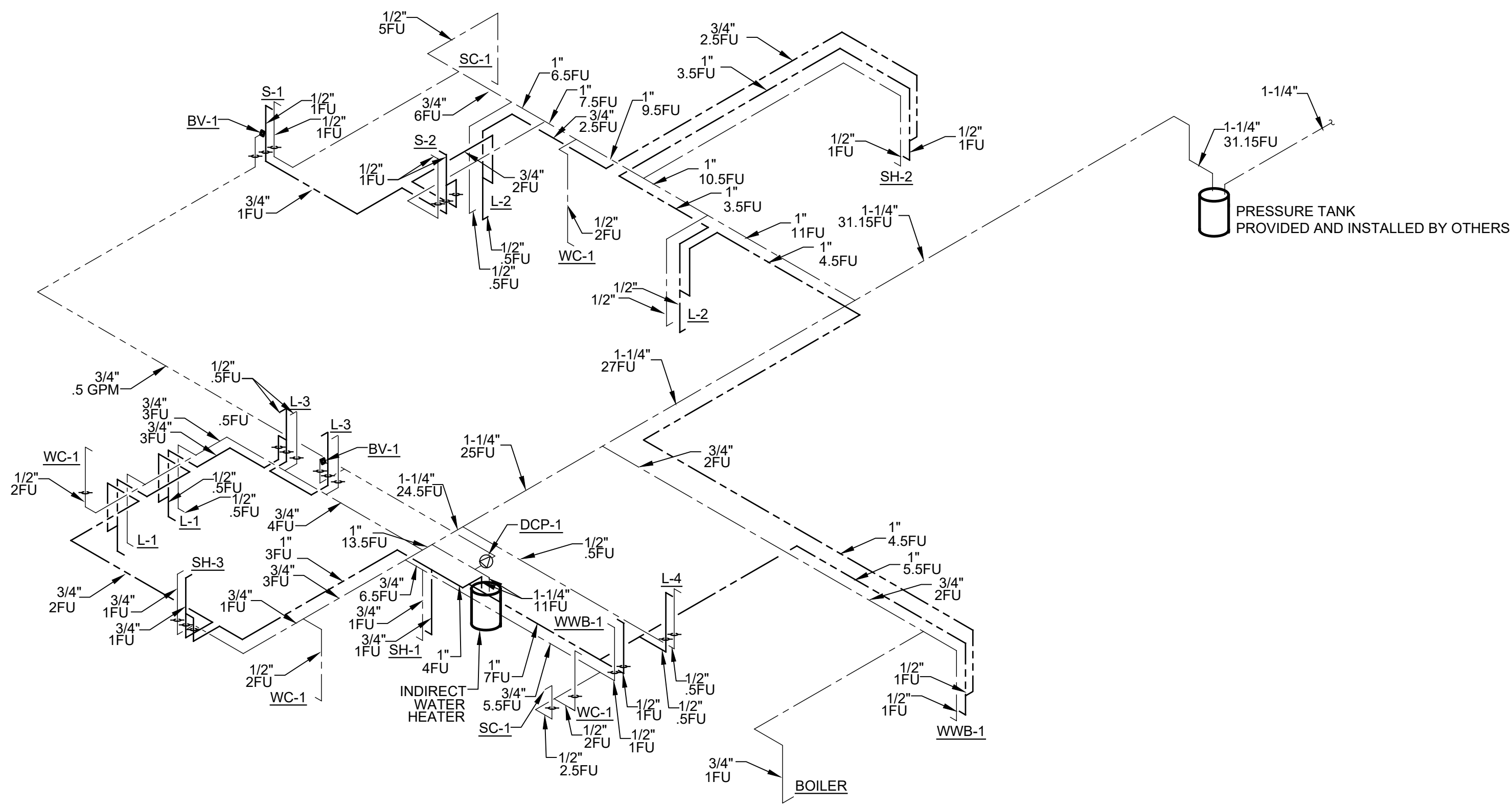
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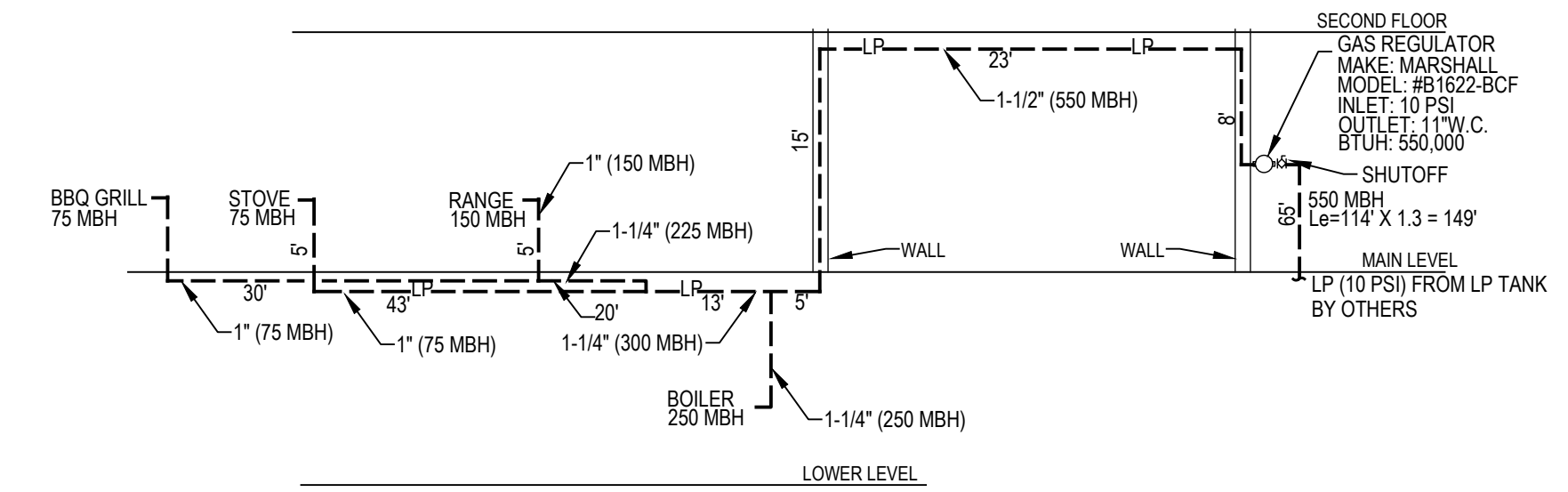
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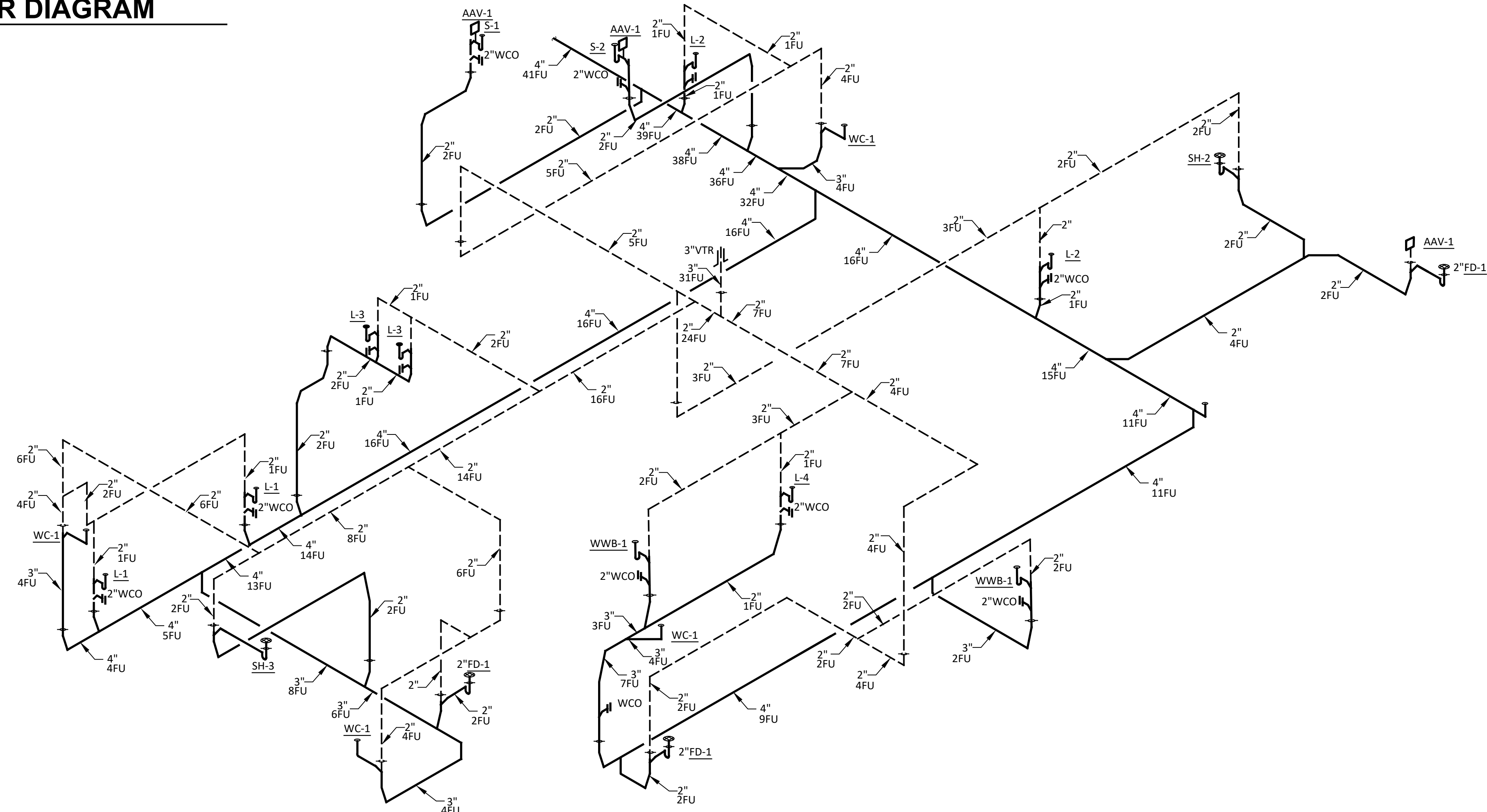
2 WATER RISER DIAGRAM
SCALE: NOT TO SCALE



1 LP GAS PIPING SCHEMATIC
SCALE: NOT TO SCALE

GAS CONNECTION SCHEDULE-LIQUIFIED PROPANE					
EQUIPMENT	SUPPLIED BY	LOCATION	INPUT MBH AT S.L.	QUANTITY	TOTAL
STOVE	BY OTHERS	LIVING ROOM	75.0	1	75.0
RANGE	BY OTHERS	KITCHEN	150.0	1	150.0
BOILER	MECHANICAL CONTRACTOR	MECHANICAL ROOM	250.0	1	250.0
BBQ GRILL	BY OTHERS	PATIO	75.0	1	75.0
				TOTAL INPUT MBH (AT S.L.)	550.0
				CFH (AT ALT.)	691.1

GAS LINE BASED ON 11"WC, 149 EQUIVALENT LINEAR FEET AT 550 MBH
2ND STAGE REGULATOR LOCATED @ EXTERIOR ENTRANCE TO RESIDENCE
(IFGC TABLE 402.4 (37), 0.5" WC PSI PRESSURE DROP)



3 WASTE AND VENT ISOMETRIC
SCALE: NOT TO SCALE

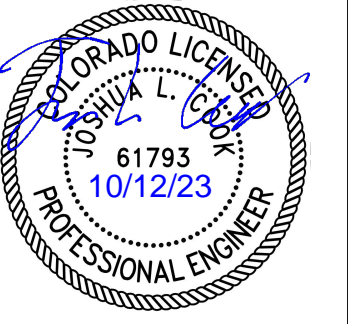
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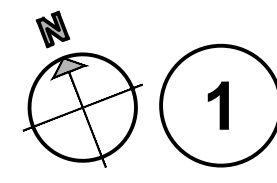
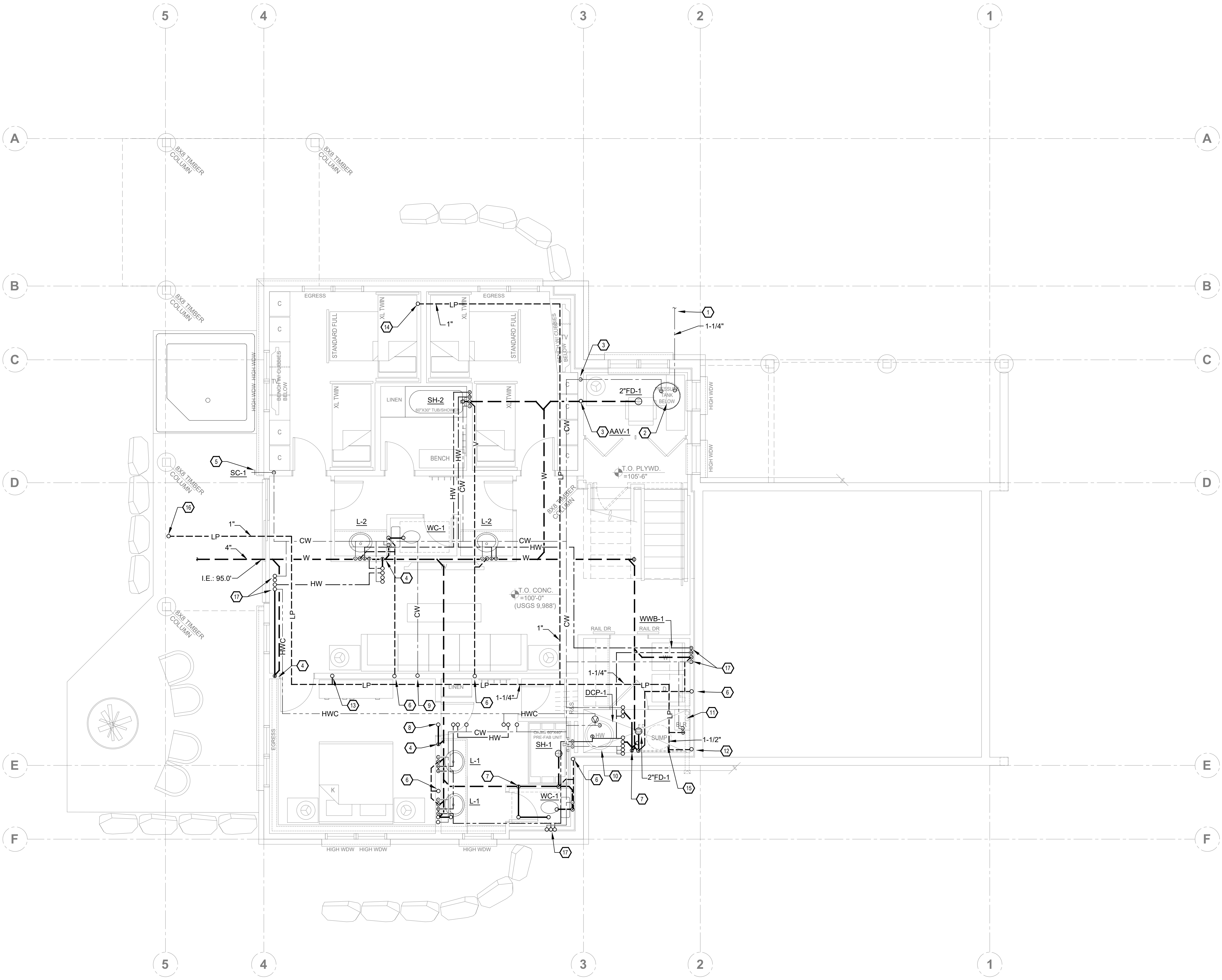
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P1.1

GENERAL NOTES:

- FIELD COORDINATE ROUTING OF ALL PIPING WITH OTHER TRADES PRIOR TO INSTALLATION.
- PROVIDE ACCESS PANELS AS REQUIRED. FIELD COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.

KEYED NOTES:

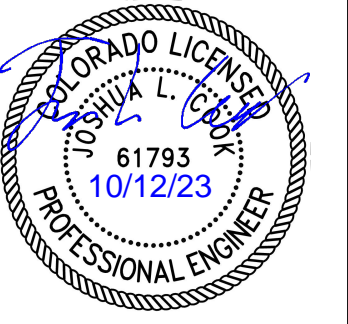
- 1-1/4" CW FROM DOMESTIC WELL ROUTED TO BUILDING IN SITE UTILITIES PORTION OF THE WORK.
- DOMESTIC WELL PRESSURE TANK PROVIDED AND INSTALLED BY OTHERS. CONNECT 1-1/4" CW TO PRESSURE TANK DISCHARGE PER MANUFACTURER AND LOCAL CODE. OFFSET 1-1/4" CW AND ROUTE IN LOWER LEVEL CEILING.
- PROVIDE AND INSTALL AIR ADMITTANCE VALVE IN WALL WITH ACCESS PANEL PER MANUFACTURER AND LOCAL CODE.
- 2"W DOWN IN WALL TO BELOW FLOOR.
- CONNECT 3/4" CW TO SILLCOCK. PROVIDE AND INSTALL STOP AND DRAIN VALVE IN AN ACCESSIBLE LOCATION.
- 2"V UP THRU FLOOR ABOVE.
- 4"W DOWN IN WALL TO BELOW FLOOR.
- 2"W UP THRU FLOOR ABOVE.
- 1/2" CW UP THRU FLOOR ABOVE.
- CONNECT 1-1/4" CW, 1-1/4" HW, 3/4" HWC TO INDIRECT WATER HEATER. REFER TO INDIRECT WATER HEATER DETAIL AND MECHANICAL DRAWINGS. WATER HEATER TO BE PROVIDED BY MECHANICAL CONTRACTOR AND INSTALLED BY MC AND PC AS REQUIRED FOR A COMPLETE AND OPERATIONAL WATER HEATER.
- CONNECT 3/4" CW TO BOILER MAKEUP REDUCED PRESSURE BACKFLOW PREVENTER. EXTEND 3/4" CW BACKFLOW DISCHARGE AND CONNECT 3/4" CW AND 1-1/4" LP TO BOILER PER MANUFACTURER AND CODE. REFER TO BOILER MAKEUP DETAIL AND GAS CONNECTION DETAIL. TOTAL CONNECTED LOAD: 250 MBH AT S.L.
- 1-1/2" LP UP THRU FLOOR ABOVE.
- 1" LP UP THRU FLOOR ABOVE TO RANGE.
- 1" LP UP THRU FLOOR ABOVE TO FIREPLACE.
- SUMP AND BUILDING UNDERDRAIN BY OTHERS. LOCATION SHOWN FOR COORDINATION PURPOSES ONLY.
- 1" UP THRU DECK TO BBQ GRILL.
- PROVIDE AND INSTALL INSULATION & 5 WATTS/L.F. HEAT TRACE (TWO TOTAL) ON ALL DOMESTIC WATER PIPING AT EXTERIOR WALL. TOTAL CONNECTED LOAD: 120 WATTS MAX. REFER TO HEAT TRACE DETAIL.



1 LOWER LEVEL PLUMBING PLAN
 SCALE: SCALE: 1/4" = 1'-0"



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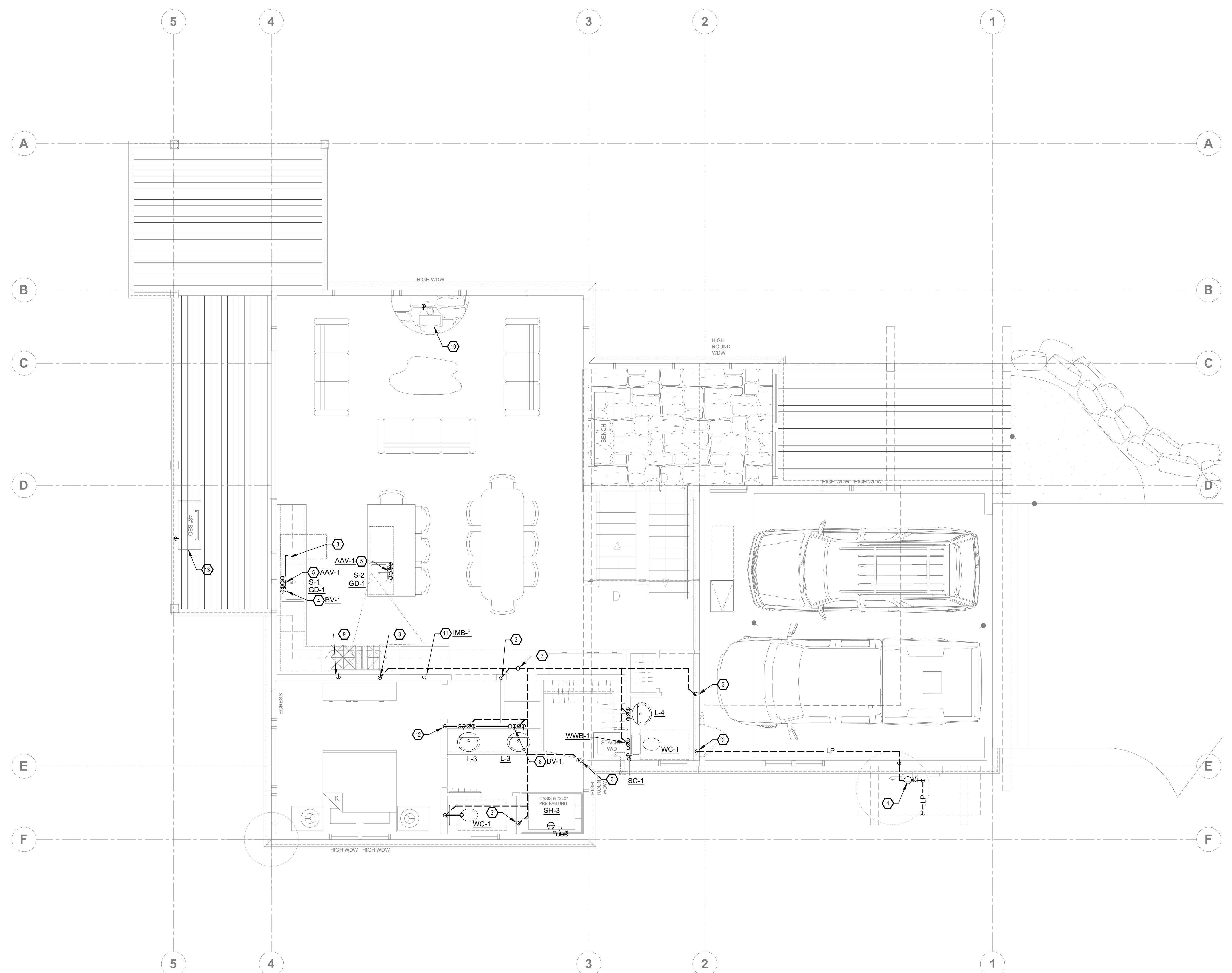
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GENERAL NOTES:

- FIELD COORDINATE ROUTING OF ALL PIPING WITH OTHER TRADES PRIOR TO INSTALLATION.
- PROVIDE ACCESS PANELS AS REQUIRED. FIELD COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.

KEYED NOTES:

- BUILDING LP GAS SERVICE, PROVIDED AND INSTALLED BY SITE UTILITIES CONTRACTOR, UP FROM BELOW GRADE. PROVIDE AND INSTALL ACCESSIBLE GAS SHUTOFF VALVE AND GAS REGULATOR AT 24" A.F.G. OFFSET 1-1/2" LP GAS AND ROUTE UP IN WALL. OFFSET AND ROUTE IN GARAGE CEILING. LP TANK AND BUILDING SERVICE BY SITE UTILITIES CONTRACTOR. FIELD COORDINATE WITH SITE UTILITIES CONTRACTOR.
- 1-1/2" GAS DOWN IN WALL TO BELOW FLOOR. REFER TO P1.1 FOR CONTINUATION.
- 2" V UP FROM BELOW FLOOR. EXTEND UP TO ABOVE CEILING.
- 3/4" HW UP FROM BELOW FLOOR. OFFSET 1/2" HW AND CONNECT TO SINK AND DISHWASHER AS REQUIRED. EXTEND 3/4" HW TO BALANCING VALVE, MOUNTED TIGHT TO BACK OF CABINET. ROUTE 3/4" HWC VALVE DISCHARGE DOWN TO BELOW FLOOR.
- PROVIDE AND INSTALL AIR ADMITTANCE VALVE, IN AN ACCESSIBLE LOCATION, PER MANUFACTURER AND LOCAL CODE.
- 3/4" HW UP FROM BELOW FLOOR. OFFSET 1/2" HW AND CONNECT TO LAV AS REQUIRED. EXTEND 3/4" HW TO BALANCING VALVE, MOUNTED TIGHT TO BACK OF CABINET. OFFSET AND ROUTE 3/4" HWC VALVE DISCHARGE DOWN IN WALL TO BELOW FLOOR.
- 3" V UP TO 3" VTR ABOVE.
- CONNECT 1/2" HW TO DISHWASHER WITH 1/2" NOM X 3/8" OD WHEEL HANDLE CHROME COMP STOP. ROUTE FULL SIZE DRAIN TO SINK AND DISCHARGE WITH AIRGAP AT STANDPIPE. REFER TO DISHWASHER AIRGAP DETAIL.
- 1" LP UP FROM BELOW FLOOR IN WALL. PENETRATE WALL AND CONNECT TO LP RANGE. PROVIDE ACCESSIBLE SHUTOFF VALVE PRIOR TO CONNECTION. TOTAL CONNECTED LOAD: 150 MBH AT S.L.
- 1" LP UP FROM BELOW FLOOR. CONNECT TO LP STOVE. PROVIDE AND INSTALL ACCESSIBLE SHUTOFF VALVE PRIOR TO CONNECTION. TOTAL CONNECTED LOAD: 75 MBH AT S.L.
- 1/2" CW UP FROM BELOW FLOOR TO ICE MAKER BOX. EXTEND SOFT COPPER TUBING AND CONNECT TO REFRIGERATOR AS REQUIRED.
- 2" W DOWN IN WALL TO BELOW FLOOR.
- 1" LP UP FROM BELOW DECK. VALVE AND CAP FOR CONNECTION TO LP BBQ. (GRILL BY OTHERS) TOTAL CONNECTED LOAD: 75 MBH AT S.L.



1 MAIN LEVEL PLUMBING PLAN
SCALE: 1/4" = 1'-0"

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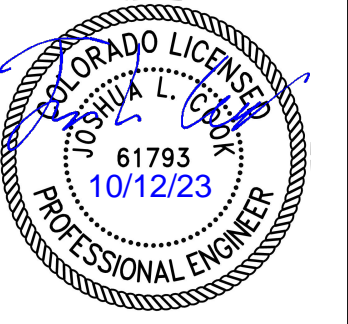
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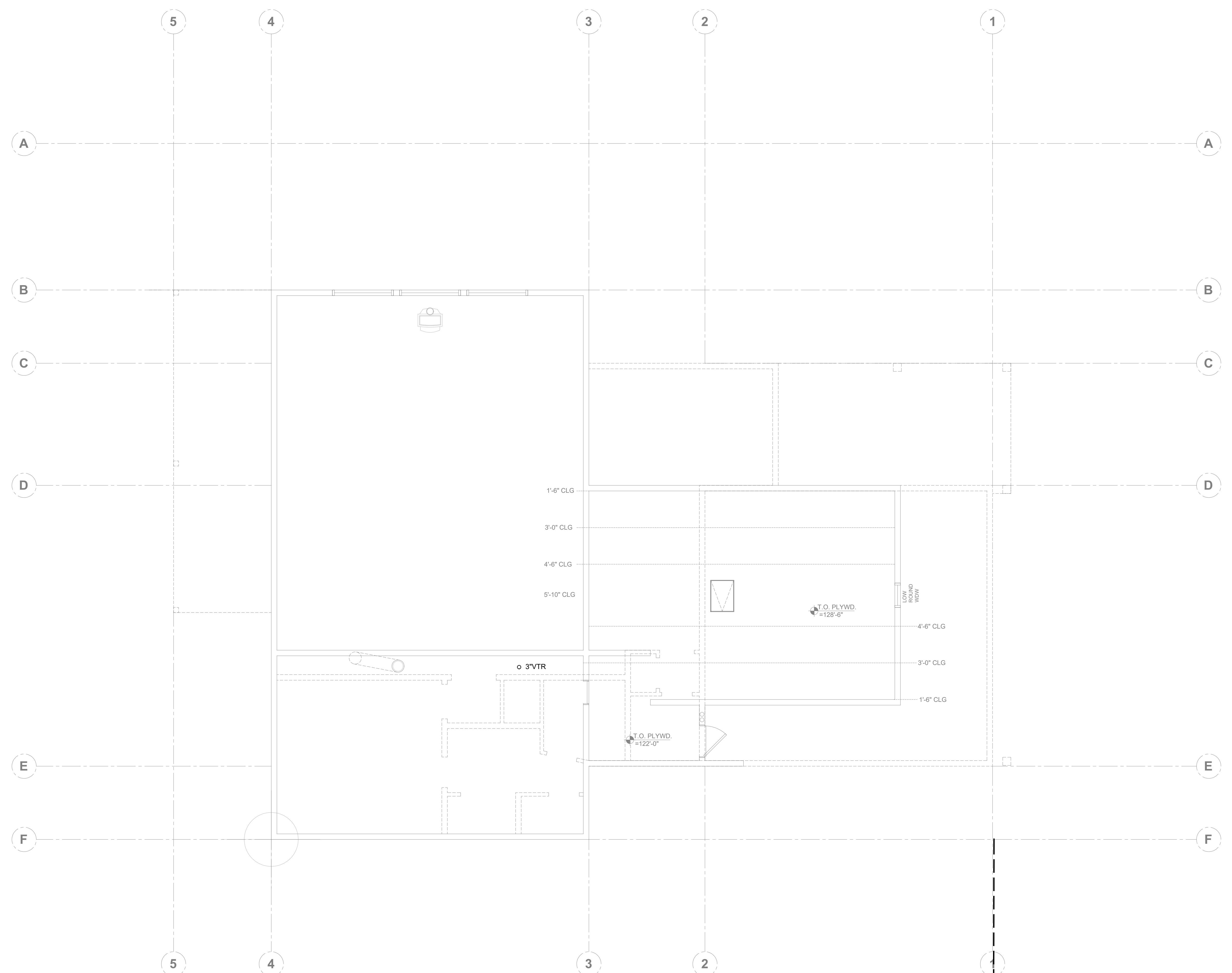
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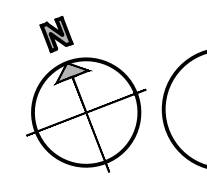
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1

UPPER LEVEL PLUMBING PLAN

SCALE: 1/4" = 1'-0"

GOLD KING NO. 1 PLACER

LOT 533

LOT 532

THE CROWN SUBDIVISION
26,390 sq. ft.
0.605 acres
0039 LODGESTONE TRAIL

LOT 553

LOT 553

LOT 531

PROPOSED RESIDENCE

LODESTONE TRAIL

BASIS OF BEARING AND CONTROL FOR THIS SURVEY
S 19°59'00" W 120.00' (PER PLAT)
S 19°59'00" W 120.00' (A.M.)

N 57°05'00" W 195.17' (PER PLAT)
N 56°52'45" W 193.92' (A.M.)

N 52°15'00" W 190.28' (DRAWN & HELD TO PLAT BEARING/DISTANCE)

PROPERTY LINE
S 23°14'54" W 134.22' (A.M.)
S 23°00'00" W 135.00' (PER PLAT)

PROPOSED LEACH FIELD LOCATION (SEE OWTS BY OTHER)

APPROX. EDGE OF EXISTING TREES TO REMAIN
PROPOSED WELL LOCATION

PROVIDE SILT FENCING (DASHED) ON DOWNHILL SIDE OF PROJECT AS REQUIRED

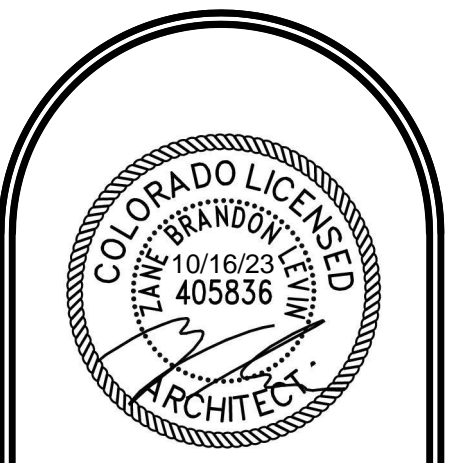
CONSTRUCTION FENCING PROVIDE CONSTRUCTION FENCE ALONG LIMITS OF DISTURBANCE AS REQUIRED

MATERIAL STORAGE & STAGING

CONSTRUCTION SIGNAGE

PROVIDE GRAVEL AT DRIVEWAY FOR CONSTRUCTION ACCESS

TOPSOIL STORAGE
DUMPSTER LOCATION
PORT-O-LET
CONSTRUCTION PARKING



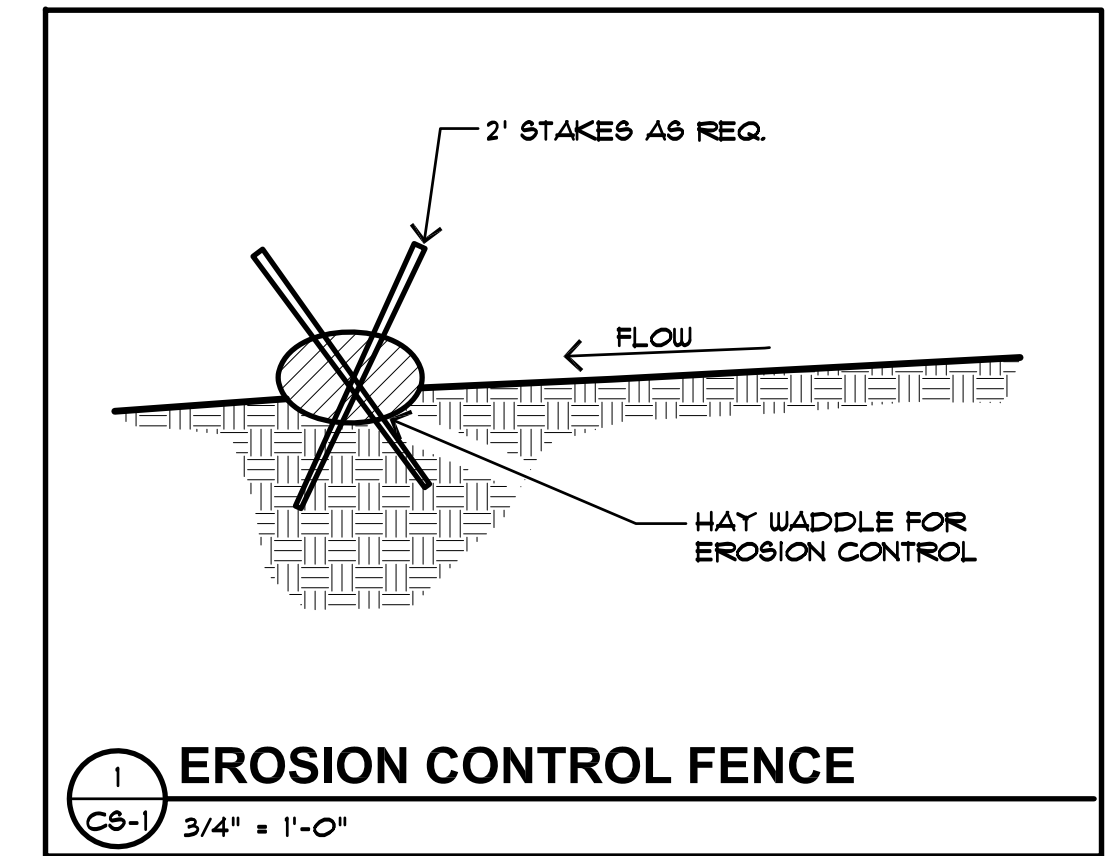
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DRAWN BY: T. SHAFFER
CHECKED BY: Z. LEVIN
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bhh Partners of Colorado
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HOLOMBO RESIDENCE
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SHEET NUMBER:
CMP-1.1
CONSTRUCTION MANAGEMENT PLAN



CONSTRUCTION MANAGEMENT PLAN

SCALE: 1" = 10'-0"

