

**GENERAL STRUCTURAL NOTES:**

(REFER ONLY TO NOTES APPLICABLE TO THE PROJECT)

**DESIGN CRITERIA:**

- BUILDING CODES USED FOR DESIGN: 2009 MICHIGAN RESIDENTIAL CODE (MRC)
- FLOOR LIVE AND DEAD LOADS: 20 PSF LIVE 10 PSF DEAD FOR ALL FLOORS
- MINIMUM DEFLECTION CRITERIA: LIVE LOAD AND LIVE TOTAL FOR ROOF COMPONENTS L/100 LIVE AND L/160 TOTAL FOR FLOOR COMPONENTS WITH RIGID FLOORING (e.g. TILE) L/400 LIVE AND L/160 TOTAL FOR FLOOR COMPONENTS WITH FLEXIBLE FLOORING (e.g. CARPET)
- ROOF LIVE AND DEAD LOADS: FLOOR ROOF LOAD PLAT ROOF DEAD  $P_f = 30 \text{ PSF}$
- WIND LOADS: BASIC WIND SPEED 90 MPH WIND IMPORTANCE FACTOR  $I = 1.0$  BUILDING CATEGORY D WIND EXPOSURE B
- DESIGN STRENGTHS:
 

CLASS	STRENGTH AT 28 DAYS (PSI)	LOCATION
A	3000	INTERIOR SLABS & WALLS
B	3000	FOOTINGS & FOUNDATION WALLS
C	3000	AIR-ENTRAINED EXTERIOR SLABS & WALLS
- CONCRETE REINFORCEMENT: EMBEDDED WIRE FABRIC: ASTM A601-05
- STRUCTURAL STEEL: ANCHOR RODS: ASTM A307-07 ALTERNATIVELY: F804-99 OR 36 MAY BE USED
- MASONRY: MORTAR: MESH: F8 - 5000 PSI

**FOUNDATIONS AND EARTHWORK:**

- WATER SHALL NOT BE PERMITTED TO ACCUMULATE IN FOOTING EXCAVATIONS
- PROVIDE A MINIMUM OF 6 INCHES OF GRANULAR FILL BELOW ALL INTERIOR SLABS ON GRADE
- PROVIDE GRANULAR DRAINAGE FOR BASEMENT WALLS. ALL DRAINAGE SHALL BE WELL DRAINED. THE FINISH DESIGN IS BASED ON A SOIL BEARING CAPACITY OF 2000 PSF.
- OWNERS SHALL DETERMINE THE ACTUAL BEARING CAPACITY OF THE SOIL.
- ALL FOOTING EXCAVATIONS SHALL BE INSPECTED PRIOR TO CONCRETE PLACEMENT
- WHERE CONTRACTOR IS TO SPECIFY CORROSION OF FILL MATERIAL, SHALL BE A MINIMUM 5/8" OF MAXIMUM DRY DENSITY.
- SECTION OF EXTERIOR BUILDING FOOTINGS ARE TO BE AT LEAST 4 INCHES BELOW FINAL OUTSIDE GRADE REGARDLESS OF ELEVATION SHOWN ON PLAN.
- ALL CONTIGUOUS FOOTINGS SHALL BE LAPPED AND ALL PIER AND SPREAD FOOTINGS SHALL BE CENTERED UNDER COLUINS OR PIERS UNLESS NOTED OTHERWISE.
- NO SLABS OR FOUNDATIONS SHALL BE PLACED IN CONTACT WITH OR AGAINST ANY CONTAINING WATER, ICE, FROST OR ORGANIC MATERIAL.
- WHERE FOUNDATION WALLS ARE TO HAVE SOIL PLACED ON BOTH SIDES, PLACE SOIL SMALL INEQUALITY, SO AS TO MAINTAIN A CORNER ANCHOR ON EACH SIDE OF THE WALL.

**CONCRETE:**

- THE REINFORCING STEEL CONTRACTOR SHALL FABRICATE ALL REINFORCEMENT AND FURNISH ALL ACCESSORIES, CHAIRS, BRACE BARS AND SUPPORTS NECESSARY TO SECURE THE REINFORCEMENT UNLESS SHOWN OTHERWISE ON THE PLAN AND/OR DETAILS.
- REINFORCING STEEL SHALL BE ASTM A601-05.
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A601-05.
- CONCRETE REINFORCEMENT SHALL BE PLACED ACCORDING TO THE OWN RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS.
- CONCRETE COVERAGES FOR REINFORCEMENT:
 

FOOTING	SLAB ON GRADE	WALLS EXPOSED TO EARTH	COLUINS
4"	1"	2"	1"
- COMPRESSION LAPS FOR GRADE 60 BARS SHALL BE 30 BAR DIAMETER MINIMUM. TENSION LAPS FOR BARS SHALL BE AS DETAILED. USE CLASS B BY GRADE AND.
- ALL WELDED WIRE FABRIC LAPS SHALL BE #2 AT ENDS AND SIDES.
- BARS ENDING SHOWN DO NOT INCLUDE HOOPS OR BENDS.
- CONCRETE AT THE TIME OF PLACEMENT SHALL HAVE A SLUMP OF 4" - 1" UNLESS A SUPER-PLASTICIZER IS USED.
- ALL OPENINGS IN CONCRETE WALLS SHALL HAVE (2) 5/8" x 4" LONG BARS DIAGONALLY AT EACH CORNER.

**MASONRY:**

- GROUT FOR VERTICALLY REINFORCED MASONRY WALLS AND BOND BEAMS SHALL CONSIST OF 1 PART CEMENT, 2 1/2 PARTS THE AGGREGATE, 3 PARTS FINE SAND, FC, 1 3/4 PARTS WATER PER 28 DAYS GROUT SLUMP 1" TO 2" GROUT SOLID. ALL CELLS CONTAINING REINFORCING MASONRY WALLS SHALL HAVE HORIZONTAL REINFORCING CONSISTING OF GALVANIZED STANDARD WEIGHT #3 GAUGE CIRCULAR BARS OR 2#3 TUBES OR EQUAL REINFORCING LOCATED AT EVERY OTHER COURSE JOINT.
- LAP ALL VERTICAL REINFORCING BARS 48 BAR DIAMETERS, 24" FOR #4 BARS, 30" FOR #5 BARS AND 36" FOR #6 BARS.
- ANCHOR BEAMS AND LINTELS TO WALL.
- MASONRY WALLS SHALL BE Laid UP AND GROUTED IN 4 FOOT LIFTS FLOW LIFT GROUTING PROCEDURE PER AC 308.1. IF EACH GROUTED COURSE WALLS MAY BE GROUTED IN 8 FOOT LIFTS FOLLOWING THE HIGH-LIFT GROUTING PROCEDURE PER AC 308.1. THE PROCEDURE OF AC 308 FOR COLD WEATHER CONSTRUCTION SHALL BE ADHERED TO MAINTAIN THE AIR OUTSIDE TEMPERATURE IS BELOW 40 DEGREES F.

**STRUCTURAL STEEL:**

- YIELD STRENGTH AND TYPE OF STEEL:
  - FOR WIDE FLANGE SHAPES: ASTM A990 WITH YIELD STRENGTH OF 50000 PSI.
  - FOR S SHAPES, CHANNELS, ANGLES, BARS, PLATES AND RODS: ASTM A572 WITH YIELD STRENGTH OF 50000 PSI.
  - FOR RECTANGULAR AND SQUARE TUBULAR SHAPES: ASTM A500 WITH YIELD STRENGTH OF 45000 PSI.
- BOLTS: USE CARBON OR ALLOY STEEL, ASTM A505, N/A DIA OR LARGER IF REQUIRED BY CONNECTION DESIGN. ANCHOR BOLTS SHALL BE WEDGE STYLE ANCHOR BOLT WITH 3/4" NUTS, CARBON STEEL MEETING ASTM A307.
- HANGERS: HANGERS SHALL BE MEETING ASTM F436. ASTM ANCHOR BOLTS SHALL BE 1/2" STEEL LINTEL TO WOOD CONNECTIONS.
- ANCHOR RODS: ASTM F1554 GRADE 36.

**MISCELLANEOUS:**

- PREFABRICATED METAL PLATED OPEN WOOD TRUSSES SHALL BE DESIGNED TO SUPPORT THEIR OWN WEIGHT PLUS THE SUPERIMPOSED DEAD AND LIVE LOADS STATED IN THE GENERAL NOTES AND 2009 MRC. TRUSS MANUFACTURER BRACING DRAWINGS AND DETAILS SHALL BE DESIGNED BY THE FLOOR SYSTEM PROVIDER SUCH THAT IT MEETS THE DESIGN CRITERIA HEREIN AS A MINIMUM. THE CONTRACTOR SHALL SUBMIT TO THE DESIGNER FOR REVIEW, THE DESIGN LAYOUT AND COMPONENT CALCULATIONS BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MICHIGAN PRIOR TO USE IN THE STRUCTURE.
- MIN. LIVE PROPERTIES SHALL BE: E = 29,000,000 PSI, F<sub>y</sub> = 290 MPa, F<sub>u</sub> = 290 MPa.
- MIN. LIVE PROPERTIES SHALL BE: E = 1.8 x 10<sup>6</sup> PSI, F<sub>y</sub> = 100 MPa, F<sub>u</sub> = 100 MPa.
- MIN. LIVE PROPERTIES SHALL BE: E = 1.8 x 10<sup>6</sup> PSI, F<sub>y</sub> = 100 MPa, F<sub>u</sub> = 100 MPa.
- WALLS SHALL BE BRACED ACCORDING TO RULES OF THE 2009 MRC.
- TRUSSES SHALL BE BRACED IN ACCORDANCE WITH BOTH OUTDOOR JOINTS YALDE TO GOOD PRACTICE FOR LIFTING, INSTALLING, RESTRANING AND BRACING OF METAL PLATE CONNECTED WOOD TRUSSES.
- ALL POINT LOADS SHALL BE CONTINUOUSLY BLOCKED THROUGHOUT THE STRUCTURE TO THE FOUNDATION OR SUPPORT BEAM.
- THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.
- THE STRUCTURAL DESIGN IS BASED ON THE DESIGN APPROVED BY THE CONTRACTOR AND THEIR SUBCONTRACTORS SHALL TAKE WHATEVER PRECAUTIONS WISE NECESSARY TO UPHOLD ALL HORIZONTAL AND VERTICAL LOADS THAT MAY BE ENCOUNTERED DURING THE CONSTRUCTION PRIOR TO COMPLETION OF THE BUILDING.
- DO NOT SCALE DRAWINGS.

**DEFERRED SUBMITTALS:**

THE BUILDER SHALL PROVIDE DETAILED DRAWINGS FOR REVIEW AND APPROVAL OF THE ENGINEER PRIOR TO ORDERING OF MATERIALS FOR THE FOLLOWING:

- ELEVATION
- CONCRETE PLANS
- LAPINATED CURVED BEAMS
- STEEL FRAMING
- SOIL BEARING TESTING
- CONCRETE DETAILING

**SPECIAL INSPECTIONS:**

SPECIAL INSPECTION IS REQUIRED DURING THE FOLLOWING OPERATIONS PER U.B.C. SECTION 17.3. EXPANSION BOLTS AND ADHESIVE ANCHORS:

- DURING THE DRILLING AND INSTALLATION OF EXPANSION BOLTS AND ADHESIVE ANCHORS COMPACT OF SOIL.
- DURING THE PLACEMENT AND COMPACTION OF ALL MATERIALS BELOW FOOTINGS AND SLAB ON GRADE.

DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:

1. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK AS SHOWN TO BE CERTAIN IT CONFORMS WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS.
2. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND TO THE ENGINEER OR ARCHITECT OF RECORD. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION THEN IF UNCORRECTED, TO THE DESIGN OFFICE AND THE BUILDING OFFICIAL.
3. UPON COMPLETION OF THE ASSIGNED WORK, THE ENGINEER OR ARCHITECT SHALL COMPLETE AND SIGN A FINAL REPORT CERTIFYING THAT TO THE BEST OF HIS KNOWLEDGE, THE WORK IS IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE.

DUTIES AND RESPONSIBILITIES OF THE CONTRACTOR:

1. FOR INSPECTION OF CONCRETE, BOLTS IN CONCRETE, REINFORCING STEEL, EXPANSION BOLTS, ADHESIVE ANCHORS, AND STRUCTURAL MASONRY, NOTIFY THE STRUCTURAL ENGINEER THAT WORK IS READY FOR INSPECTION AT LEAST ONE WORKING DAY (24 HOURS MINIMUM) BEFORE SUCH INSPECTION IS REQUIRED.
2. FOR INSPECTION OF WELDING AND CARBONS, NOTIFY THE SPECIAL INSPECTOR FROM THE INSPECTOR'S MATERIALS TESTING LAB THAT WORK IS READY FOR INSPECTION AT LEAST ONE WORKING DAY (24 HOURS MINIMUM) BEFORE SUCH INSPECTION IS REQUIRED.
3. ALL WORK REQUIRING SPECIAL STRUCTURAL INSPECTION SHALL REMAIN ACCESSIBLE AND EXPOSED UNTIL IT IS OBSERVED BY THE SPECIAL STRUCTURAL INSPECTOR.

**2009 MICHIGAN UNIFORM ENERGY CODE**

TABLE 402.1.1 - RELATION AND REVISION REQUIREMENTS BY CLIMATE ZONE

CLIMATE ZONE	HEATING FACTOR	Cooling Factor	CEILING R-VALUE	CEILING R-VALUE	FLOOR R-VALUE	BASEMENT WALL R-VALUE	SLAB R-VALUE	CRACK SPACE
1	0.8	0.8	5	5	10	10	10	1/4"
2	0.8	0.8	5	5	10	10	10	1/4"
3	0.8	0.8	5	5	10	10	10	1/4"
4	0.8	0.8	5	5	10	10	10	1/4"
5	0.8	0.8	5	5	10	10	10	1/4"
6	0.8	0.8	5	5	10	10	10	1/4"
7	0.8	0.8	5	5	10	10	10	1/4"
8	0.8	0.8	5	5	10	10	10	1/4"
9	0.8	0.8	5	5	10	10	10	1/4"
10	0.8	0.8	5	5	10	10	10	1/4"

- FOR SL 1 FOOT x 1640 PSI
1. THE INSULATION U-FACTOR COLUMN EXCLUDES BOLLIGHTS.
  2. THE FIRST R-VALUE APPLIES TO CONTINUOUS INSULATION. THE SECOND TO FRAMING CAVITY INSULATION EITHER INSULATION MEETS THE REQUIREMENT.
  3. R-5 SHALL BE ADDED TO THE REQUIRED SLAB EDGE R-VALUES FOR HEATED SLABS. INSULATION DEPTH SHALL BE THE DEPTH OF THE FOOTING OR 1 FT. UNLESS NOTED OTHERWISE. IN ZONES 1-3 FOR HEATED SLABS.
  4. OR INSULATION SUFFICIENT TO FILL THE FRAMING CAVITY. R-18 MINIMUM.
  5. "R-5" MEANS R-5 CAVITY INSULATION PLUS R-5 INSULATED SHEATHING. IF STRUCTURAL SHEATHING COVERS 25% OR LESS OF EXTERIOR R-5 SHEATHING IS NOT REQUIRED. WHERE STRUCTURAL SHEATHING IS USED, IF STRUCTURAL SHEATHING COVERS MORE THAN 25% OF EXTERIOR STRUCTURAL SHEATHING SHALL BE SUPPLEMENTED WITH INSULATED SHEATHING OF AT LEAST R-2.
  6. THE SECOND R-VALUE APPLIES WHEN MORE THAN HALF THE INSULATION IS ON THE INTERIOR.

**ALLOWABLE SPANS FOR LINTELS SUPPORTING MASONRY VENEER**

TABLE 402.1.3.1 OF MRC 2009

MIN OF ABOVE (INCH)	NO STORY ABOVE	ONE STORY ABOVE	TWO STORIES ABOVE	NO OF 1/2" OR 5/8" DIA NEW BARS
3 x 3 1/2	8'-0"	4'-6"	3'-0"	1
4 x 3 1/2	8'-0"	6'-0"	4'-6"	1
5 x 3 1/2	8'-0"	8'-0"	6'-0"	1
6 x 3 1/2	14'-0"	11'-0"	7'-0"	2
(2) 6 x 3 1/2	20'-0"	17'-0"	9'-6"	4

1. LONG LEG OF THE ANGLE SHALL BE PLACED IN A VERTICAL POSITION.
2. DEPTH OF REINFORCED LINTELS SHALL NOT BE LESS THAN 8 INCHES AND ALL CELLS OF HOLLOW MASONRY LINTELS SHALL BE GROUTED SOLID. REINFORCING BARS SHALL EXTEND NOT LESS THAN 8 INCHES INTO THE SUPPORT.
3. STEEL MEMBERS INDICATED ARE ADEQUATE TYPICAL EXAMPLES. OTHER STEEL MEMBERS MEETING STRUCTURAL DESIGN REQUIREMENTS MAY BE USED.

**GENERAL NOTES:**

1. ALL STUDS TO BE WESTERN SPR OR DOUGLAS FIR 4 BETTER
2. ALL ENGINEERED WOOD FLOOR TRUSSES TO BE 4 DIMENSION D, WITH 2" BY 4" CONTIGUOUS BRACING OR SPAN GIRDERS 8'-0" O.C. MINIMUM STOPPING.
3. ALL FLOOR DECKING TO BE ADVANTECH OR EQUAL
4. ALL LUPBER TO BE DRIED TO A MC OF 18% OR LESS
5. ROOF TRUSS FRAMING INDICATED ON DRAWINGS IS OUR ASSUMED LAYOUT. TRUSS MANUFACTURERS SHOULD REVIEW THE DRAWINGS AND NOTIFY TO ARCHITECT PRIOR TO FABRICATION. ANY CHANGE IN BEARING CONDITIONS THAT WOULD REQUIRE RE-FRAMING OF THE STRUCTURE TO ACCOMMODATE TRUSSES.
6. ROOF TRUSS DESIGNED BY HAYSTACK BUILDING SYSTEMS WHICH CONFORMS TO ALL MINIMUM DESIGN LOAD REQUIREMENTS. BRACE ROOF TRUSSES AS RECORDED BY MANUFACTURER.
7. THE ROOF TRUSS MANUFACTURER TO FURNISH SHOP DRAWINGS TO THE DESIGNER PRIOR TO FABRICATION OF THE TRUSSES.
8. ALL LINDO NUMBERS REFER TO HAYSTACK WINDOWS. IF ALTERNATE WINDOW MANUFACTURER IS USED, ALL SIZES AND SHAPES TO MATCH DIMENSIONALLY. ALL POURED CONCRETE WALLS TO BE BACKFILLED WITH SANDY TYPE SOIL AND BE WELL BRACED UNTIL CONCRETE IS THOROUGHLY CURED AND ACQUIRED HEIGHT OF THE BUILDING IS IN PLACE.
9. ALL POURED CONCRETE FOOTING TO BE A MINIMUM OF 3'-6" BELOW FINISHED GRADE BEARING ON UNDISTURBED VIRGIN SOIL WITH A MINIMUM BEARING CAPACITY OF 2000 PSF. MUST BE VERIFIED BY SOILS ENGINEER IN THE FIELD FOR FOOTING INSPECTION.
10. ALL POURED CONCRETE WALLS WITH 1'-0" OR MORE BACKFILL TO BE REINFORCED WITH #4 VERTICAL BARS @ 24" O.C. WITH #4 HORIZONTAL BARS AT THIRD POINTS PER TABLE AND (4) VERIFY IN FIELD FOR FOOTING INSPECTION (UNLESS OTHERWISE NOTED).
11. ALL POURED CONCRETE WALLS WITH BRICK LEDGE GREATER THAN 4'-0" SHALL BE REINFORCED WITH #4 BARS 24" O.C. VERTICALLY WITH ONE #4 BAR TOP AND BOTTOM OF WALL HORIZONTALLY.
12. ALL HOUSE TO BE WRAPPED WITH TYVEK DRAIN WRAP (OR EQUAL)
13. DO NOT SCALE DRAWING. USE PRINTED DIMENSIONS ONLY. IF ANY DISCREPANCY OCCURS, NOTIFY THE DESIGNER IMMEDIATELY FOR CORRECTION. BUILDER RESPONSIBLE TO HAVE REVIEWED ALL DRAWINGS AND IF ADDITIONAL CLARIFICATION OR INFORMATION IS NEEDED, BUILDER IS TO CONTACT DESIGNER AND SALES CONSULTANT.
14. PROVIDE 6 POUND FELT AT UNFINISHED EXPOSED LUPBER.
15. ALL BEDROOM WINDOWS TO MEET 2009 MICHIGAN RESIDENTIAL ENERGY CODES. ALL LINDO SLLS 7'1" ABOVE FINISH GRADE SHALL HAVE THE BOTTOM OF THE OPENING LOCATED 1 MIN OF 1/4" ABOVE FINISH FLOOR OF THE ROOM PER MRC 2009 SEC. 1002.2.
16. PROVIDE FIBER-CEMENT FIBER-MAT KNEE, CEILING GYPSUM BACKERS OR FIBER NET GYPSUM BACKERS AS BACKERS FOR THE WORK SHOWN WALL TILES AND PANELS BACKERS MUST COMPLY WITH ASTM C 1108, C 118, OR C 119 AND BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. MRC 2009 SEC. 1002.4.2.
17. WHERE HANDRAILS ARE SHOWN, HANDRAIL HEIGHT IS TO BE NOT LESS THAN 34" AFF AND MORE THAN 48" AFF PER MINIMUM. GUARD RAIL IS TO BE NOT LESS THAN 36" AFF PER MRC 2009. PROVIDE HANDRAIL ON AT LEAST (1) SIDE OF EVERY STAIRWAY PER SECTION R1011.1 OF THE 2009 MICHIGAN RESIDENTIAL CODE. HANDRAILS TO COMPLY WITH 2009 MICHIGAN RESIDENTIAL CODE SECTION R1011.13.
18. ALL HORIZONTAL BEAMS TO BE JOINED TOGETHER PER MANUFACTURER'S SPECIFICATIONS.
19. PROVIDE A BATH FAN WHERE SHOWN ON PLAN AND VENT FAN TO EXTERIOR AS REQUIRED.
20. TYPICAL ALL HABITABLE ROOMS TO HAVE PROPER LIGHT AND VENTILATION AND COMPLY WITH 2009 MICHIGAN RESIDENTIAL CODES.
21. PROVIDE ELECTRICAL SMOKE DETECTORS IN ALL SLEEPING AREAS, HALLWAYS, AND MECHANICAL ROOMS ON ALL FLOOR LEVELS INCLUDING THE BASEMENT. SMOKE DETECTORS SHALL BE WIRED TOGETHER AS AN UNDERLIE BOARD. THEY ALL SOUND AND HAVE BATTERY BACKUP PER SEC. R304 OF 2009 MICHIGAN RESIDENTIAL CODE.
22. PROVIDE ADEQUATE ROOF VENTILATION AND SOFFIT VENTILATION (MIN) AS REQUIRED, VERIFIED BY CALCULATION 1/500 OF AREA VENTILATION REQ'D PER SEC. R306.2.
23. TYPICALLY ALL FINIS IN POURED CONCRETE FOUNDATION WALLS MUST BE REINFORCED AND FILLED WITH FOUNDATION GROUTING PRIOR TO BACKFILL INSPECTION.
24. PROVIDE METAL FLASHING, COUNTER FLASHING AND STEPPED FLASHING WHERE NOTED AND BRICK AND SIDING MEET.
25. PROVIDE APPROVED SEALANT WHERE REQUIRED AND AS DETAILED BY PNG.
26. VERIFY ELECTRICAL SERVICE IN ACCORDANCE WITH ALL NEW WORK. VERIFY ALL REWIRED ELECTRICAL, OUTLET, SWITCHES, COVERS, LIGHT LOCATION, ETC. INCLUDING CABLE AND PHONE FIRE WIRING SECURITY. TAKE INTO CONSIDERATION ALL ELECTRICAL INSTALLATION WITH OWNER AND COMPLY WITH 2009 MICHIGAN RESIDENTIAL ELECTRICAL CODES.
27. PROVIDE 2" x 1/2" SILL PLATE BENEATH ALL FIRST FLOOR PARTITIONS AND FIRST FLOOR EXTERIOR WALLS WHICH COME INTO CONTACT WITH CONCRETE.
28. PROVIDE 3-LAYER MINERAL COATED ROLLED ROOFING AT ALL EAVES TO MIN 1/4" THICK BUILDING. 2 LAYERS MUST BE CENTERED TOGETHER.
29. PROVIDE 2X6 UNPAINTED PRESSURE TREATED SILL PLATE ON SILL BEARER WITH 1/2" ANCHOR BOLTS @ 4'-0" O.C. AND LOCATED NOT MORE THAN 12" APART AND NOT LESS THAN 3/4" INCHES FROM THE EDGES OF EACH PLATE SECTION. EXCEPTION: USE ANCHOR BEAMS SPACED AS REQUIRED TO PROVIDE EQUIVALENT ANCHORAGE TO 1/2" INCH ANCHOR BOLTS.
30. PROVIDE 4" PREFER DRAIN TILE CONT. AT BASEMENT FLOOR IN 2" MIN. BEATERS WITH 1" BELOW DRAIN TILE. CONNECT TO STORM AND STORM REHEAR AS REQUIRED.
31. 6'-0" CLEAR HEADROOM REQUIRED ON ALL STAIRS.
32. CORNER TERMINATION MUST PROJECT 2 FEET ABOVE ANY PART OF THE BUILDING WITHIN 10 FEET.
33. FINISH ALL DROPS AND CHASES, ELECTRICAL, PLUMBING AND HVAC.
34. PROVIDE 1" DRYWALL ON THE GARAGE SIDE OF WALLS COMMON TO RESIDENCE AND GARAGE. APPLY 1/2" TYPE "X" DRYWALL TO GARAGE CEILING AREAS BELOW HABITABLE ROOMS PER MRC 2009 TABLE R303A.
35. LOWER LEVEL AREA CONSIDERED UNHABITABLE. ANY FUTURE ALTERATIONS TO THIS LOWER LEVEL TO A HABITABLE SPACE WILL COMPLY STRICTLY TO THE 2009 MICHIGAN RESIDENTIAL CODE. (ENERGY UNIFORM) PROVIDED, AS REQUIRED, IN COMPLIANCE WITH MRC 2009 SEC. R303.1.
36. AREAS THAT REQUIRE TYPED AREAS:
  - A. FIBER AND BLDING PANELS OF BUILDING TYPE DOORS.
  - B. SHOWER AND BATHUB DOORS AND ENCLOSURES (IF APPLICABLE).
  - C. PANELS WITH A GLAZED AREA IN EXCESS OF 6 SQ. FT. WITH CURVED EDGE LESS THAN 18 INCHES ABOVE THE FINISHED FLOOR LEVEL.
  - D. ALL OTHER AREAS AS CODE REQUIRES PER 2009 MICHIGAN RESIDENTIAL CODE.
37. ROOF VENTILATION WHERE EAVES OR CORNER VENTS ARE INSTALLED INSULATION SHALL NOT BLOCK THE FREE FLOW OF AIR. A MINIMUM OF 4" INCH SPACING SHALL BE PROVIDED BETWEEN THE INSULATION AND THE ROOF SHEATHING AT THE LOCATION OF THE VENTS.
 

NOTE: ALL CODES SHALL COMPLY WITH THE INTERNATIONAL RESIDENTIAL CODES & 2009 MICHIGAN RESIDENTIAL CODE. THEY SHALL ALSO COMPLY WITH ANY JURISDICTION CODES IN THEIR RESPECTIVE COUNTY, CITY, VILLAGE OR TOWNSHIP AND THEIR PROVISIONS AND ORDINANCES.

NOTE: GENERAL NOTES INDICATED ABOVE ARE JUST A SMALL PORTION OF OUR STANDARD NOTES & THE 2009 MICHIGAN RESIDENTIAL CODE BUT THE CODE IS HIGH PROBABLY & SHOULD BE STRICTLY FOLLOWED BY BUILDERS, TRACERS & CRAFTSMEN.
38. ALL STAIRWAYS SHALL BE ILLUMINATED WITH MIN. 10 FOOT CANDLE OF LIGHT.
39. PROVIDE UNDERSTAIR PROTECTION PER 2009 ENCLOSED ACCESSIBLE SPACE AREAS SHALL HAVE WALLS UNDER STAIR SURFACE AND ANY SOFFITS PROTECTED ON THE ENCLOSED SIDE WITH 1" OTHER BOARD.
40. UNEXCAVATED GARAGE SLAB SHALL COMPLY WITH TABLE R302.2.4 CONCRETE SLAB MIN. 3000 MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE 24" MIN. BELL COMPACTED SAND BASE.
41. PROVIDE NON-ABSORBENT FINISH TO THE SURFACE OF ALL BATHING AREAS IF WALL MOUNTED SHOWER HEADS @ 4" MIN. OF 6" ABOVE FINISH FLOOR PER MRC 2009 SEC. R302.2.
42. PROVIDE 1/4" MIN. SOLID CORE FIRE-RATED DOOR BETWEEN GARAGE AND RESIDENCE PER 2010 NATE FIRE-RATED ROSES.
43. BUILDER AND SUB CONTRACTORS TO PROVIDE DEEP HOLES RESTING ON THE FLASHING SPACED 33" O.C. MAX. (2" MINIMUM) AT HEAD DETAILS OF WINDOW DOORS, BASEMENT WINDOWS AND GARAGE DOORS. ALSO PROVIDE FLASHING TO FACE OF BRICK FIN. BY WIRTSACK LEG AND FIBER BOND DAMP LAP UNDER ANCHOR/BURRER. MICHIGAN RESIDENTIAL CODE 2009 SEC. R303.1. TEST A PRE-BRICK INSPECTION WILL BE REQ'D PRIOR TO BRICK INSTALLATION FOR FLASHING INSPECTION.
44. FURTHER SCHEDULE FOR STRUCTURAL MEMBERS TABLE R603.3 (1) WOOD STRUCTURAL PANELS, SHEARWALL, ROOF AND WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING BUILDING MATERIALS OF 5/8" 1/2" USE 6# COPPER NAIL (SUBFLOOR WALL) & 6" FROM EDGES OF INTERMEDIATE SUPPORTS AND USE 6# COPPER NAILS FOR ROOF & FRONT EDGES 2" INTERMEDIATE.
45. BUILDER OWNER TO PROVIDE WATERPROOFING TO CODE SUBMIT INFORMATION ON APPROVED PRODUCTS.
46. BUILDING PERMS TO PROVIDE TRUSS DESIGN DRAWINGS IN COMPLIANCE WITH MRC 2009 AND SHALL INCLUDE AT MINIMUM THE INFORMATION SPECIFIED BELOW:
  1. SLOPE OR DEPTH, SPAN AND SPACING
  2. LOCATION OF ALL JOINTS
  3. REQUIRED BEARING MEMS
  4. DESIGN LOADS AS APPLICABLE
    41. TOP CHORD LIVE LOAD (INCLUDING SNOW LOADS)
    42. TOP CHORD DEAD LOAD
    43. BOTTOM CHORD LIVE LOAD
    44. BOTTOM CHORD DEAD LOAD
    45. CONCENTRATED LOADS AND THEIR POINTS OF APPLICATION
  46. CONTROLLING WIND AND EARTH QUAKE LOADS
47. ADJUSTMENTS TO LUPBER AND JOINT CONNECTOR DESIGN VALUES FOR CONDITIONS OF USE.
  1. EACH REACTION FORCE AND DIRECTION
  2. JOINT CONNECTOR TYPE AND DESCRIPTION (E.G. SIZE, THROUSERS OR GAUGES) AND THE DIMENSIONED LOCATION OF EACH JOINT CONNECTOR EXCEPT WHERE SYMMETRICALLY LOCATED RELATIVE TO THE JOINT INTERSPACE
  3. LUPBER SIZE, SPECIES AND GRADE FOR EACH MEMBER
  4. CONNECTION REQUIREMENTS FOR:
    31. TRUSS TO TRUSS ORDER
    32. TRUSS PLY TO PLY
    33. FIELD SPLICES
48. CALCULATED DEFLECTION RATIO AND/OR MAXIMUM DEFLECTION FOR LIVE AND TOTAL LOAD.
49. MAXIMUM AXIAL COMPRESSION FORCES IN THE TRUSS MEMBERS TO ENABLE THE BUILDING DESIGNER TO DESIGN THE SIZE CONNECTIONS AND ANCHORAGE OF THE PERMANENT CONTINUOUS LATERAL BRACING FORCES SHALL BE SHOWN ON THE TRUSS DRAWING OR ON SUPPLEMENTAL DOCUMENTS.
50. REQUIRED PERMANENT TRUSS MEMBER BRACING LOCATION.




# WASHINGTON RESIDENCE

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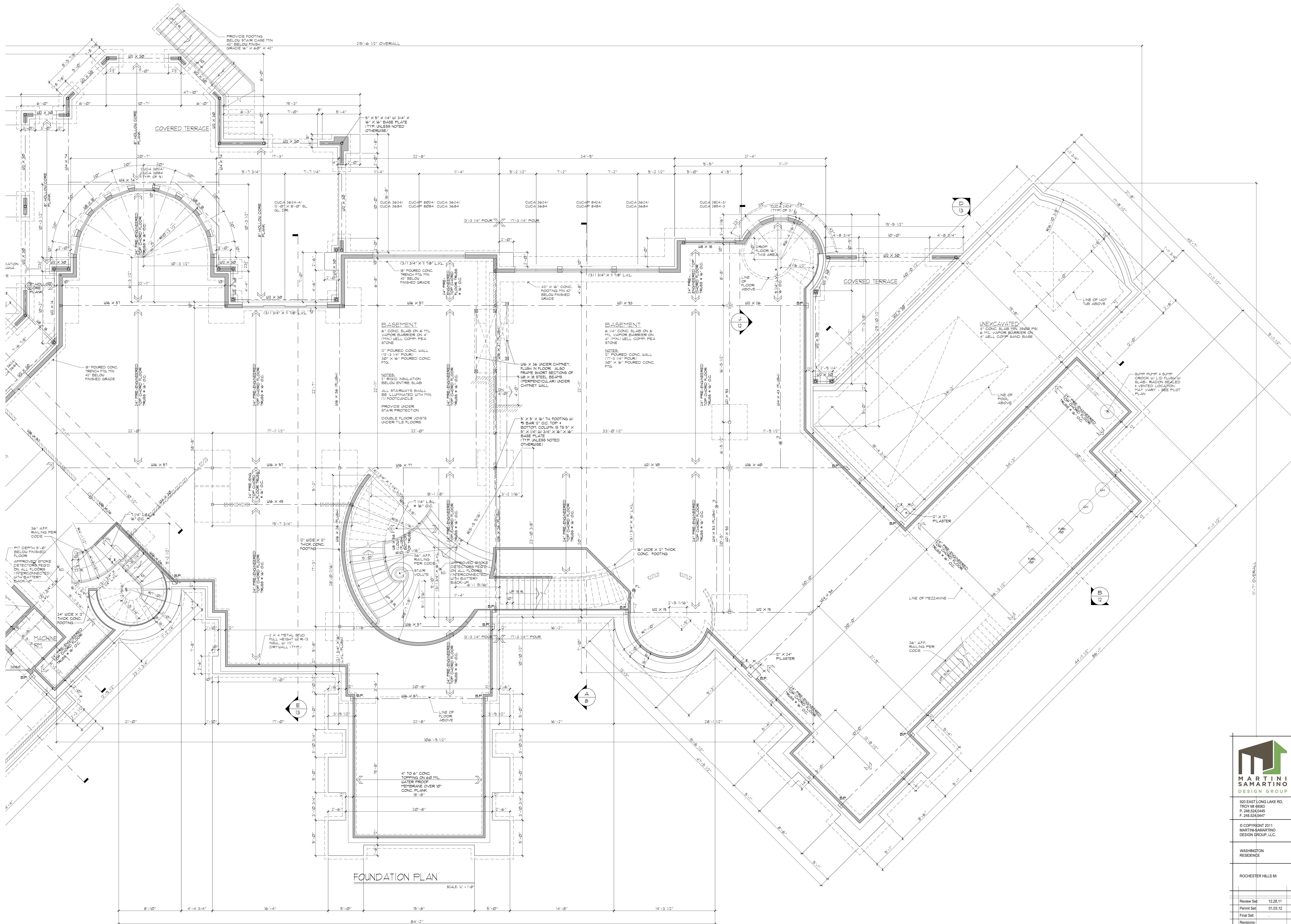
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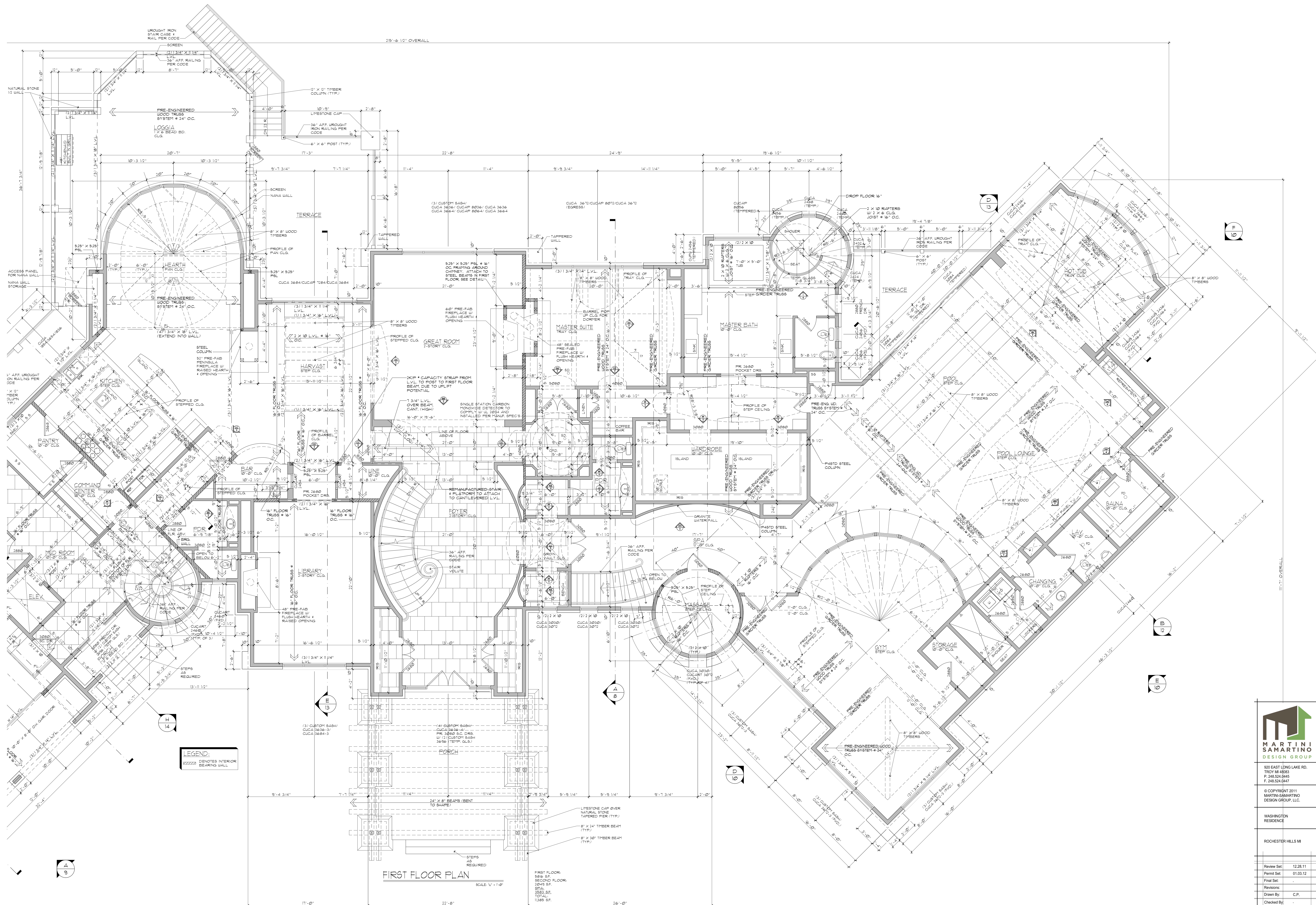


FOUNDATION PLAN

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


  
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FIRST FLOOR PLAN

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

FIRST FLOOR: 5816 SF  
 SECOND FLOOR: 2049 SF  
 TOTAL: 7865 SF

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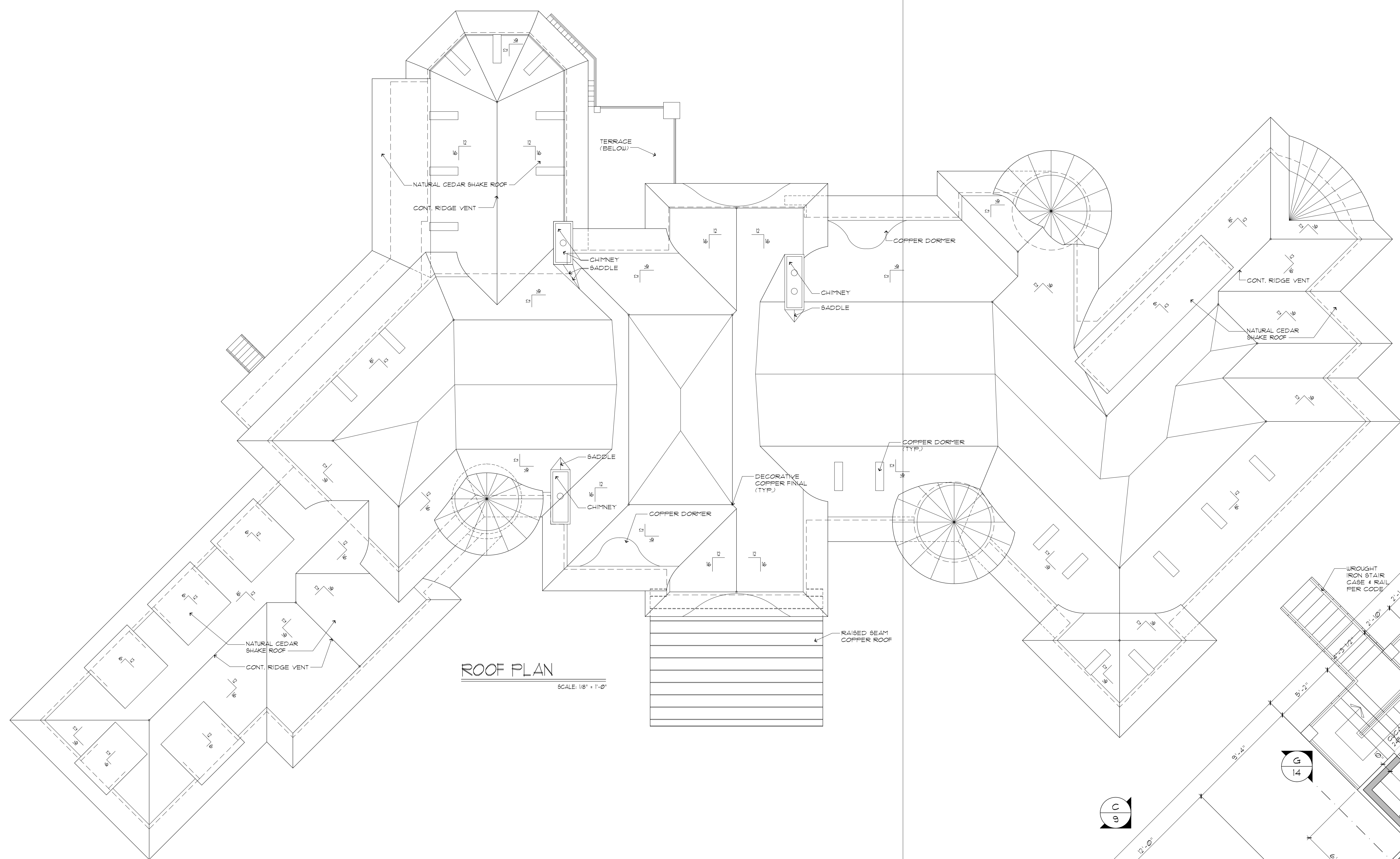
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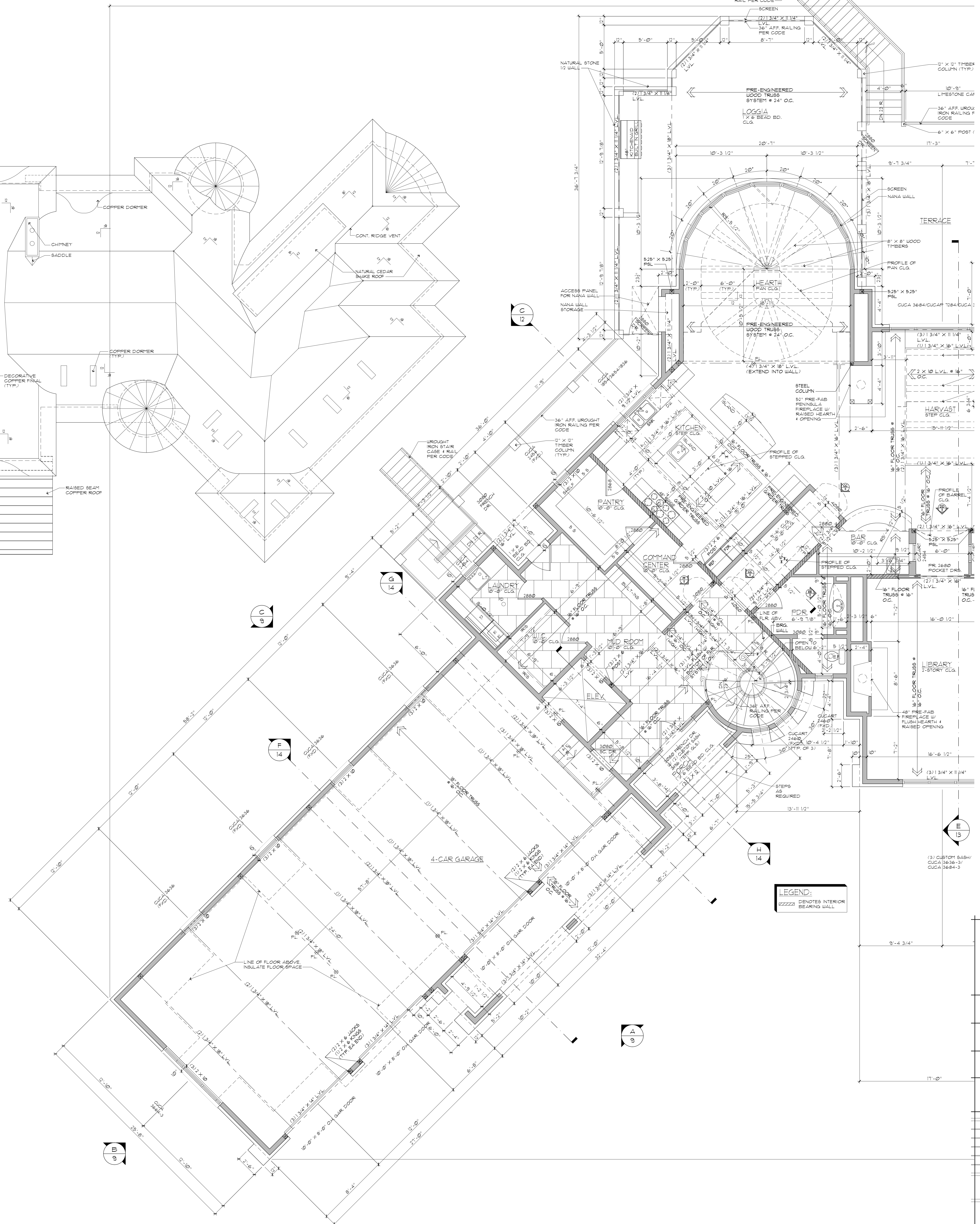
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**ROOF PLAN**  
SCALE 1/8" = 1'-0"



**LEGEND:**  
 [Symbol] DENOTES INTERIOR BEARING WALL



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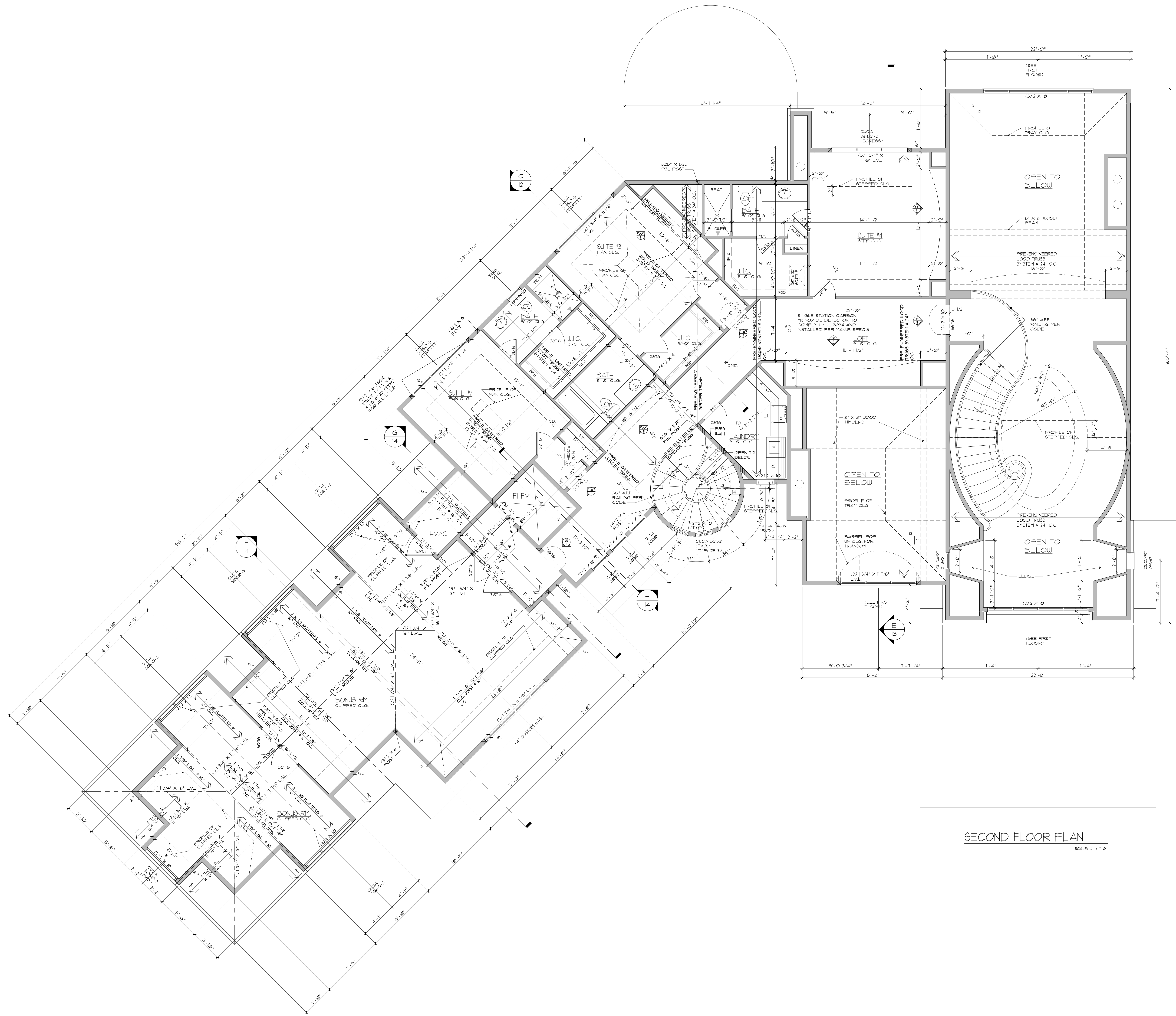
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SECOND FLOOR PLAN  
SCALE: 1/4" = 1'-0"



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REAR ELEVATION



FRONT ELEVATION



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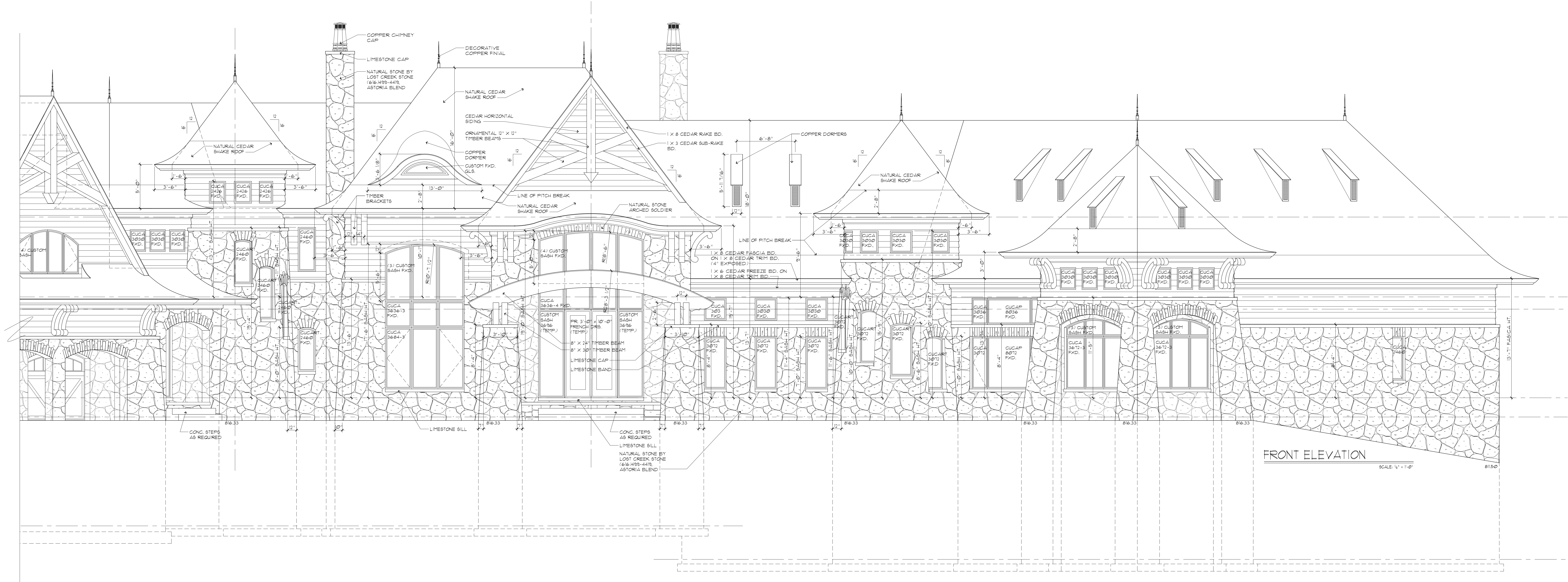
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FRONT ELEVATION  
SCALE 1/4" = 1'-0"



LEFT ELEVATION  
SCALE 1/4" = 1'-0"

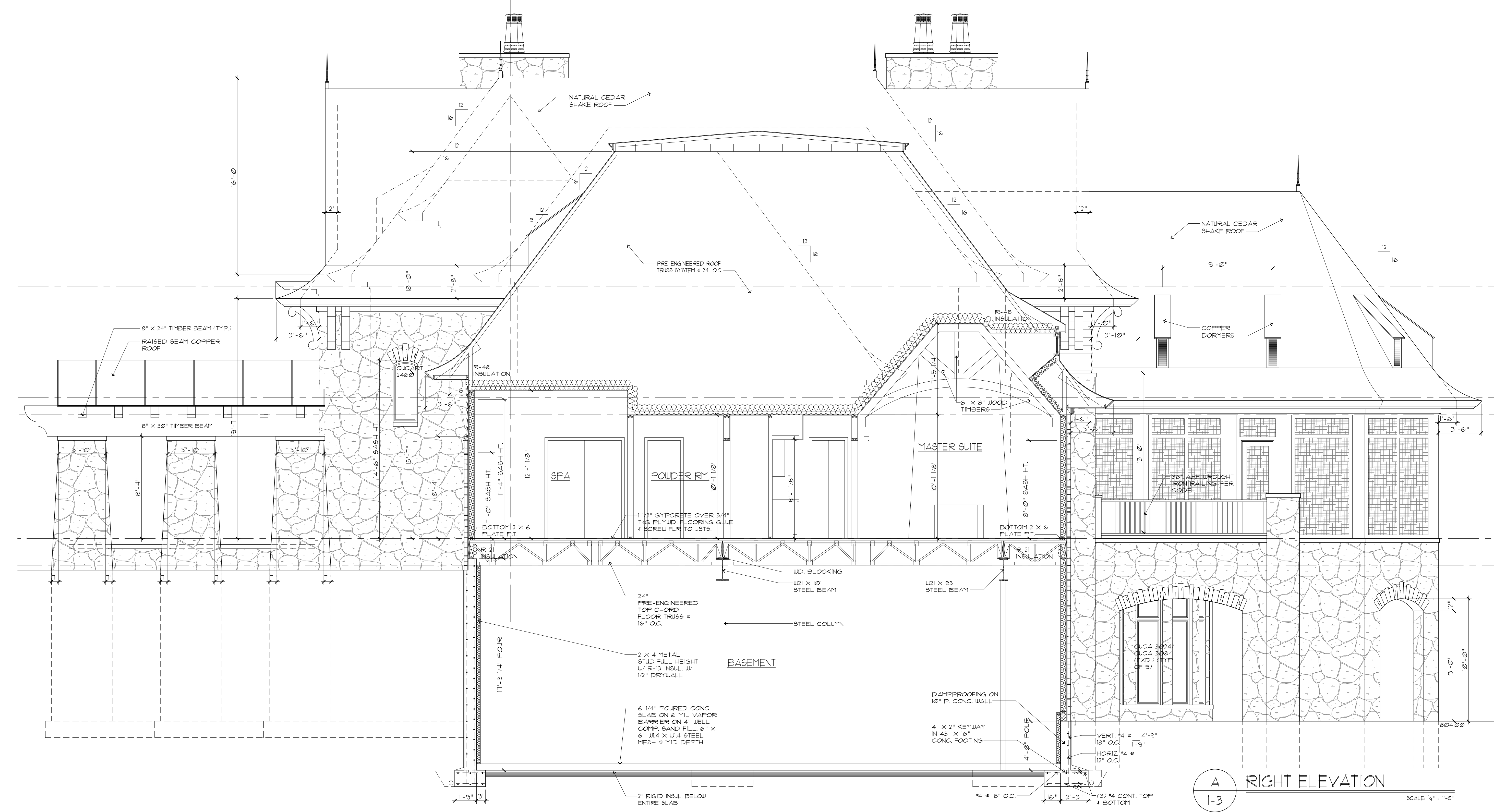
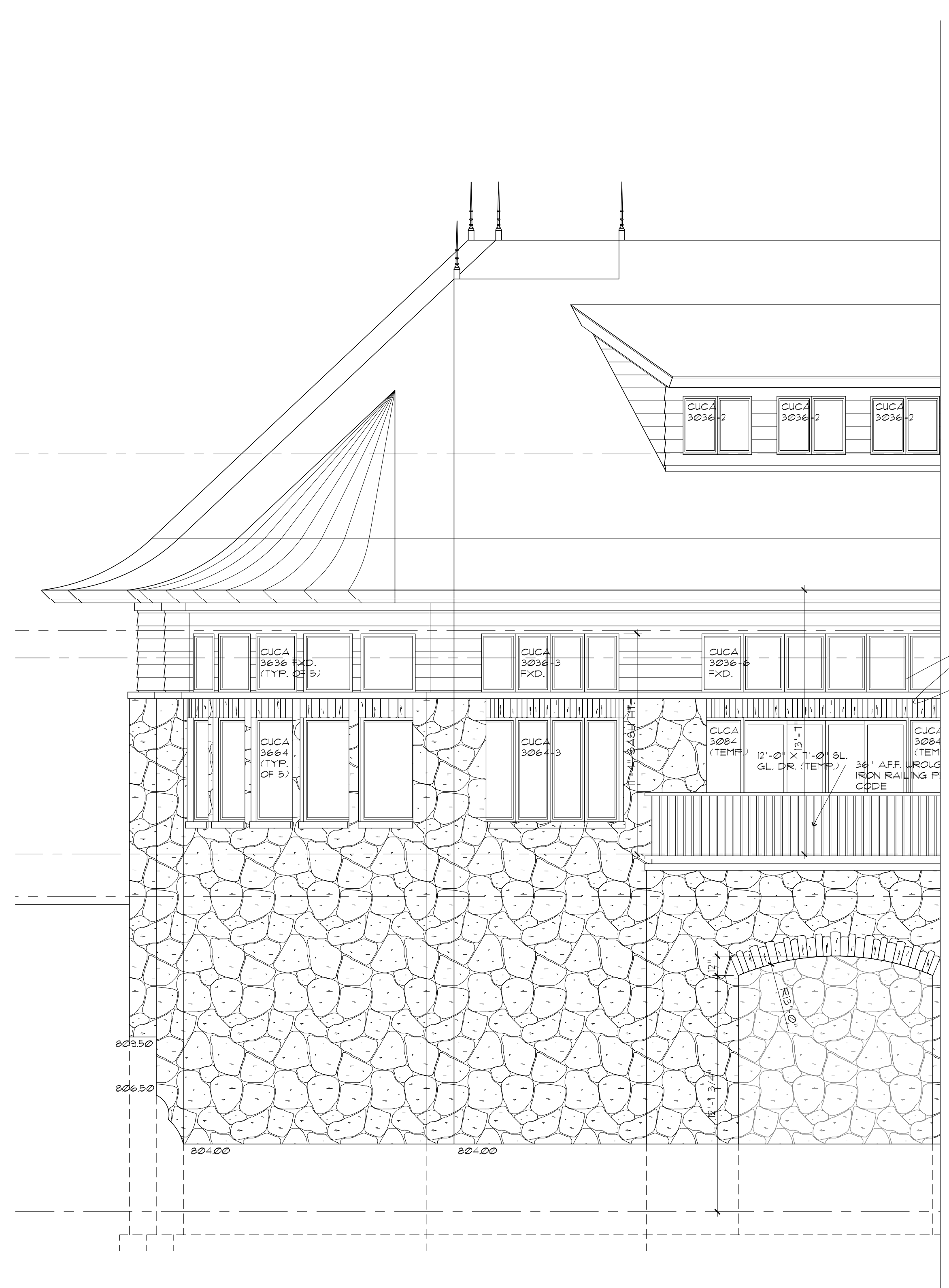
  
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REAR ELEVATION

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



A RIGHT ELEVATION

1-3

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

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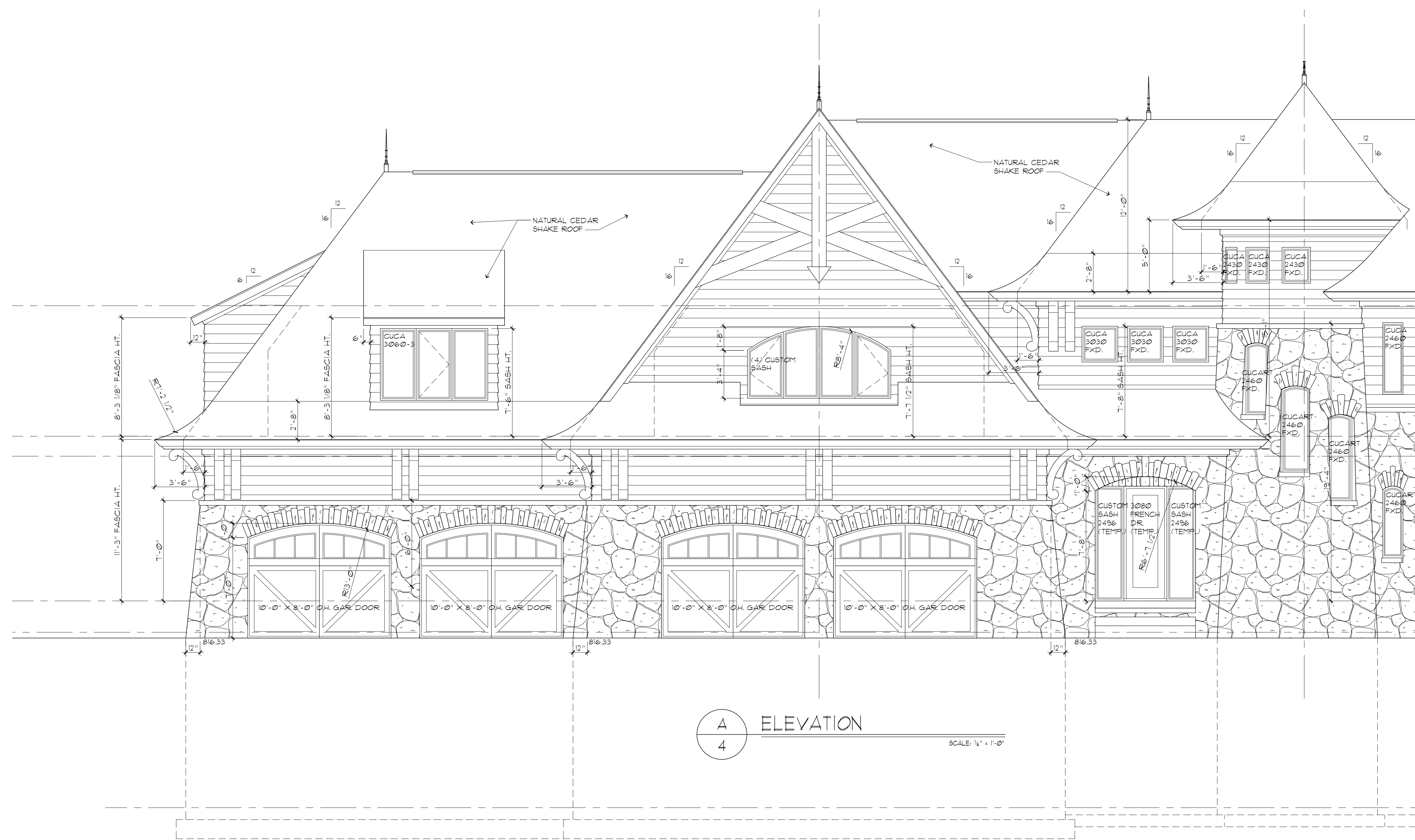
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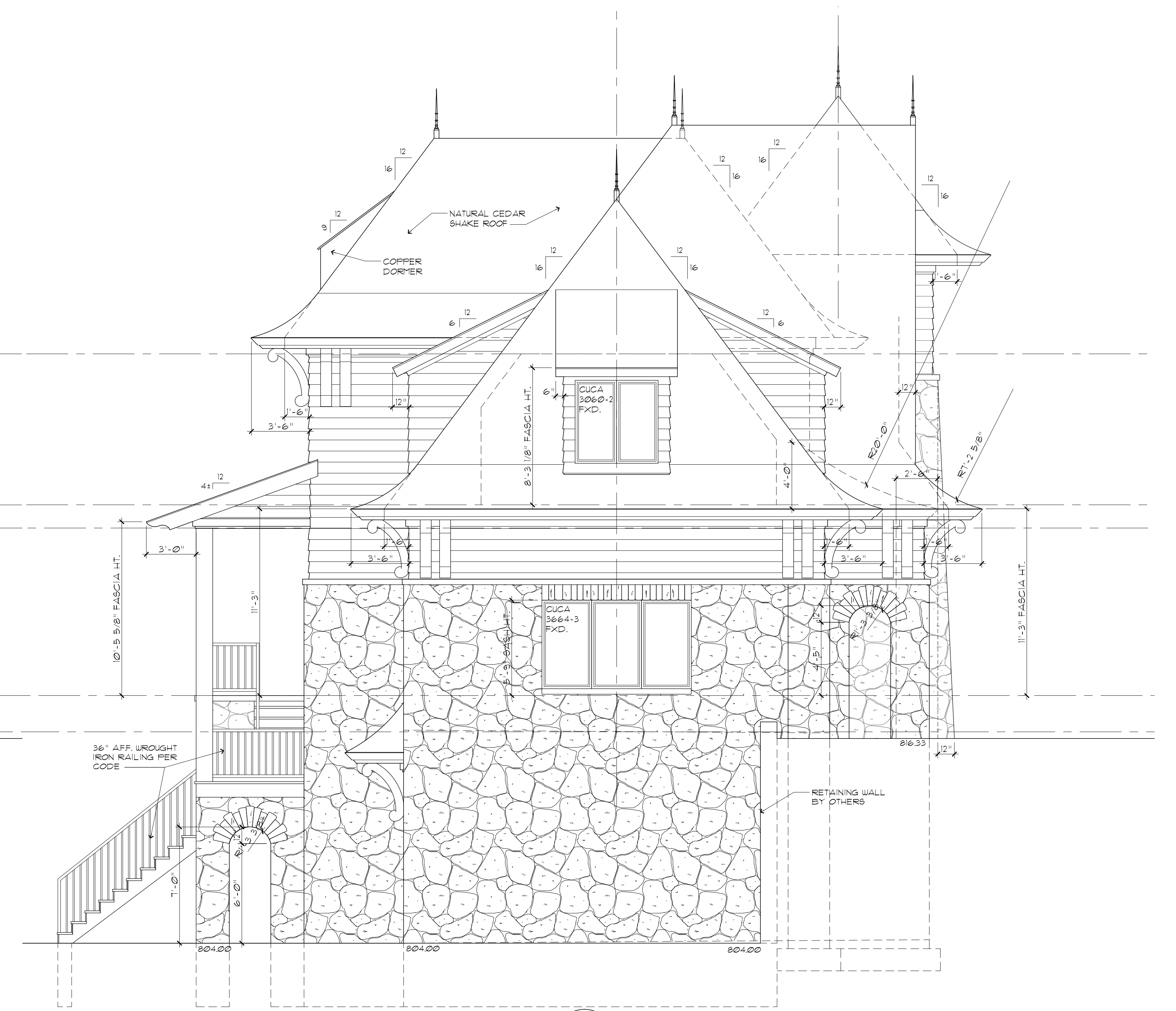
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A ELEVATION  
4 SCALE: 1/4" = 1'-0"



B ELEVATION  
3 SCALE: 1/4" = 1'-0"



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

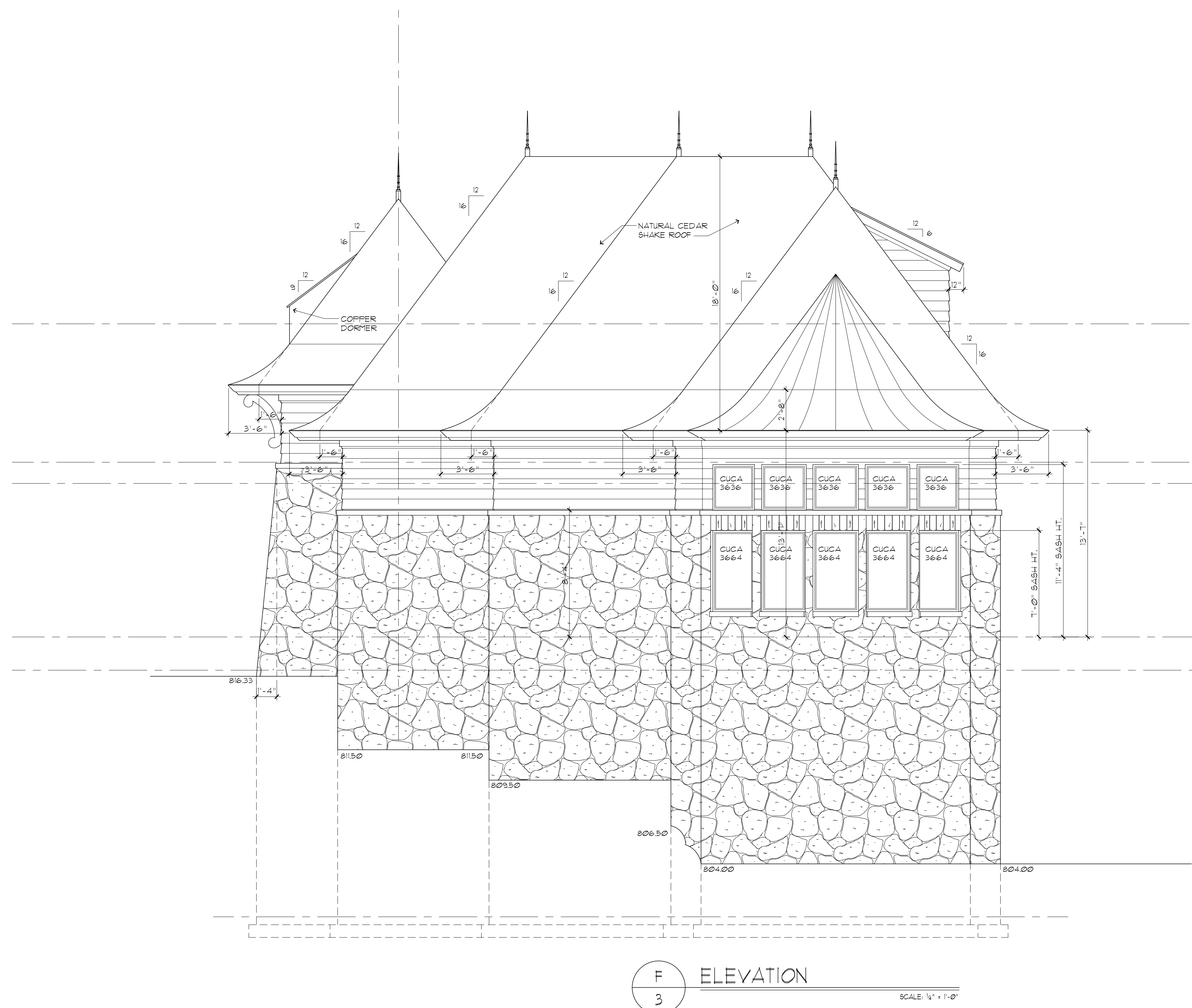
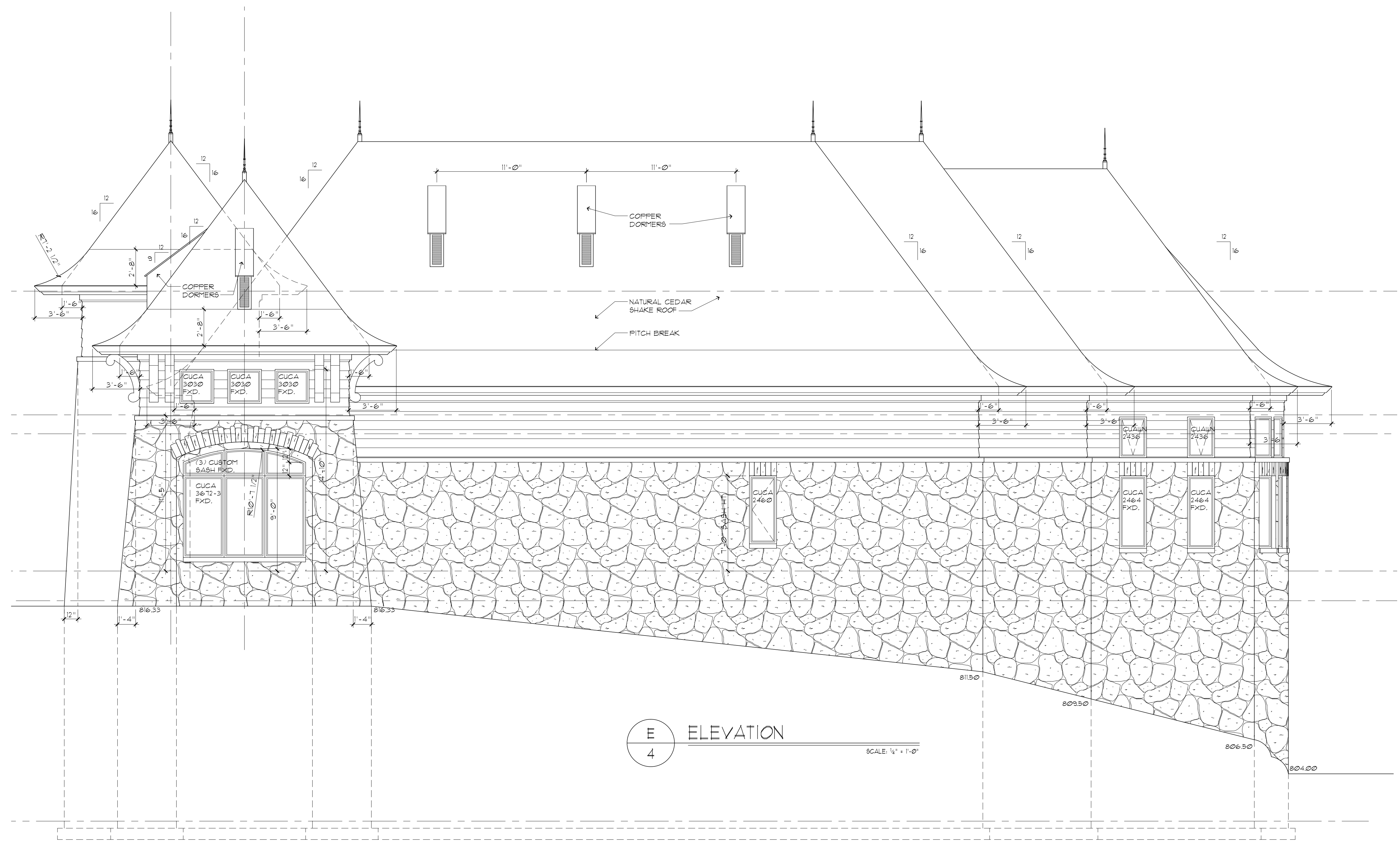
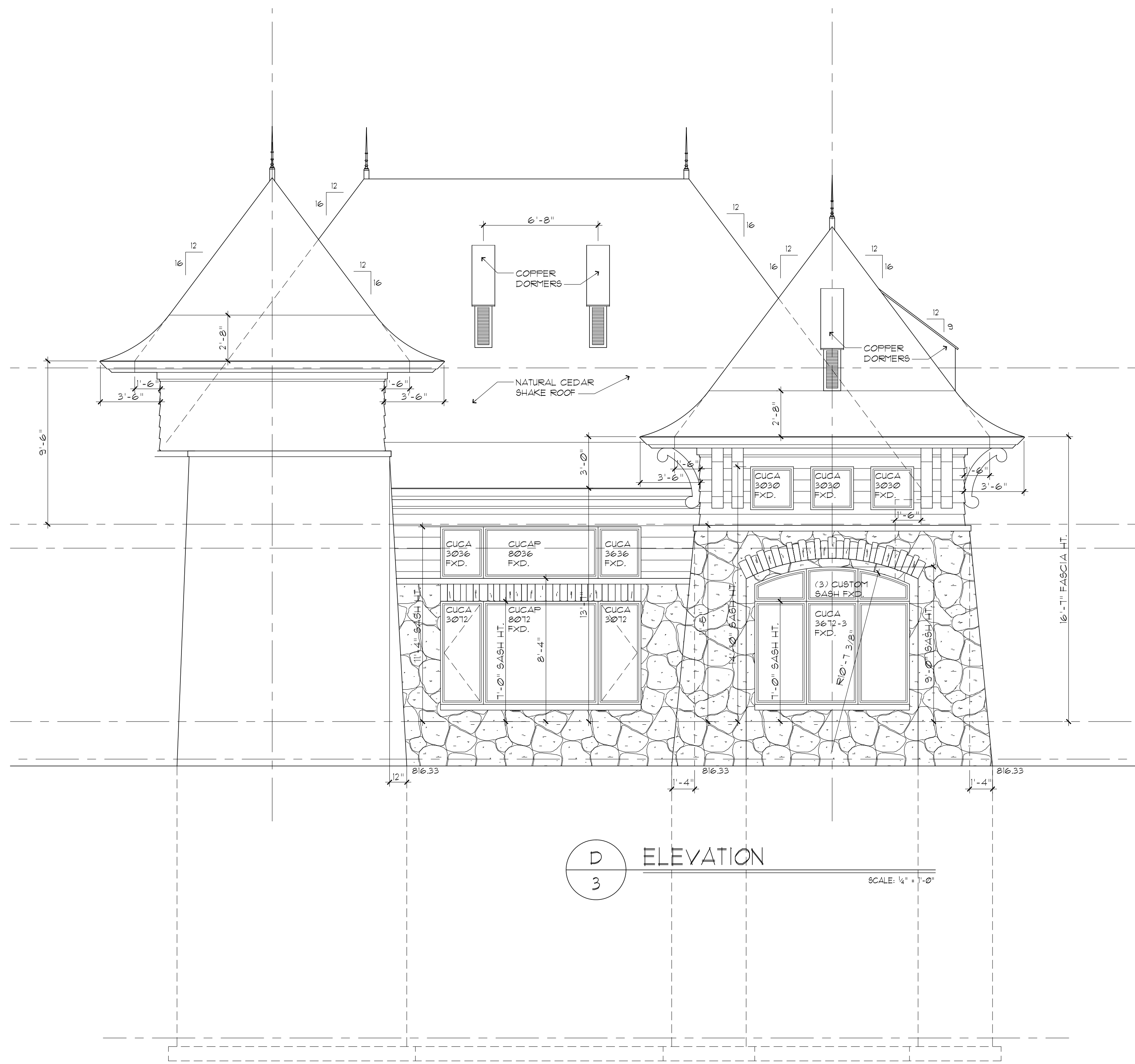
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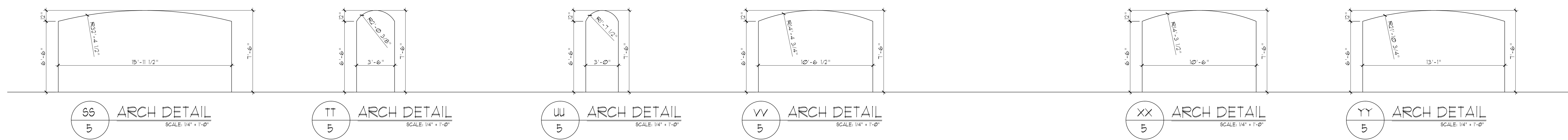
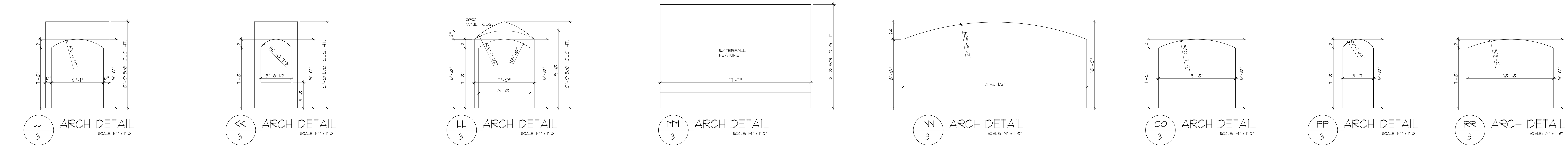
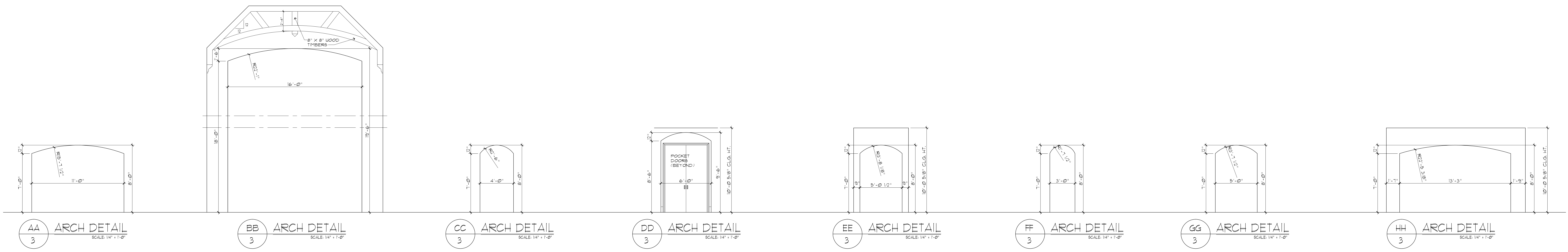
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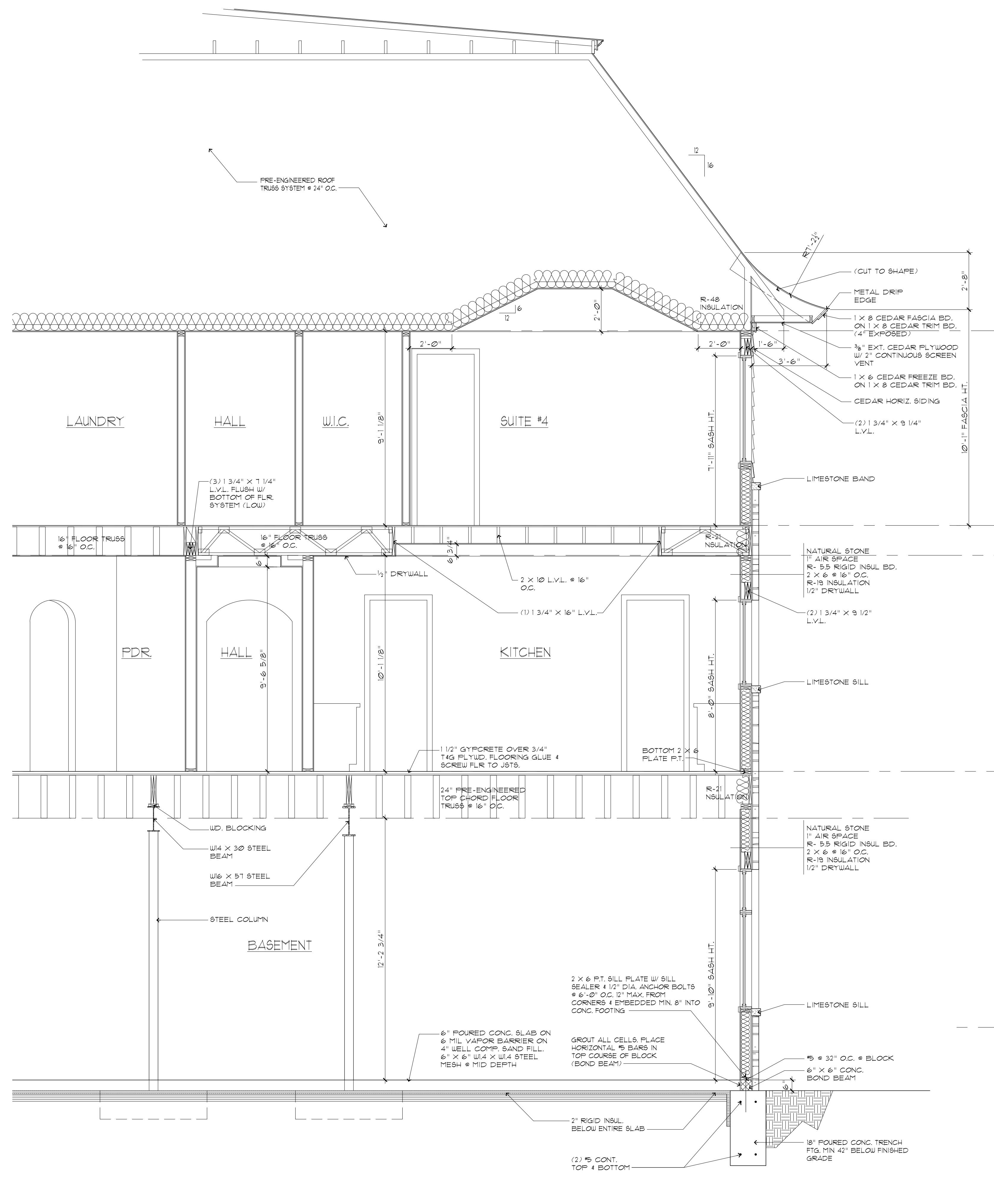
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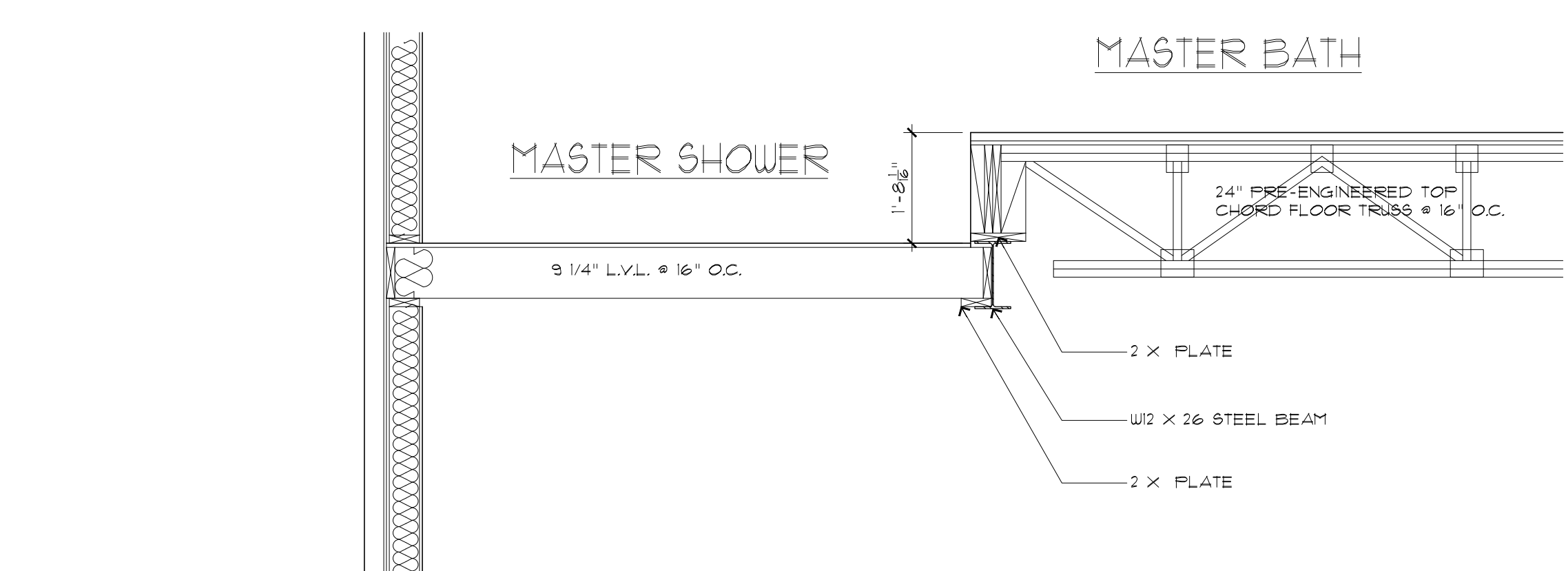
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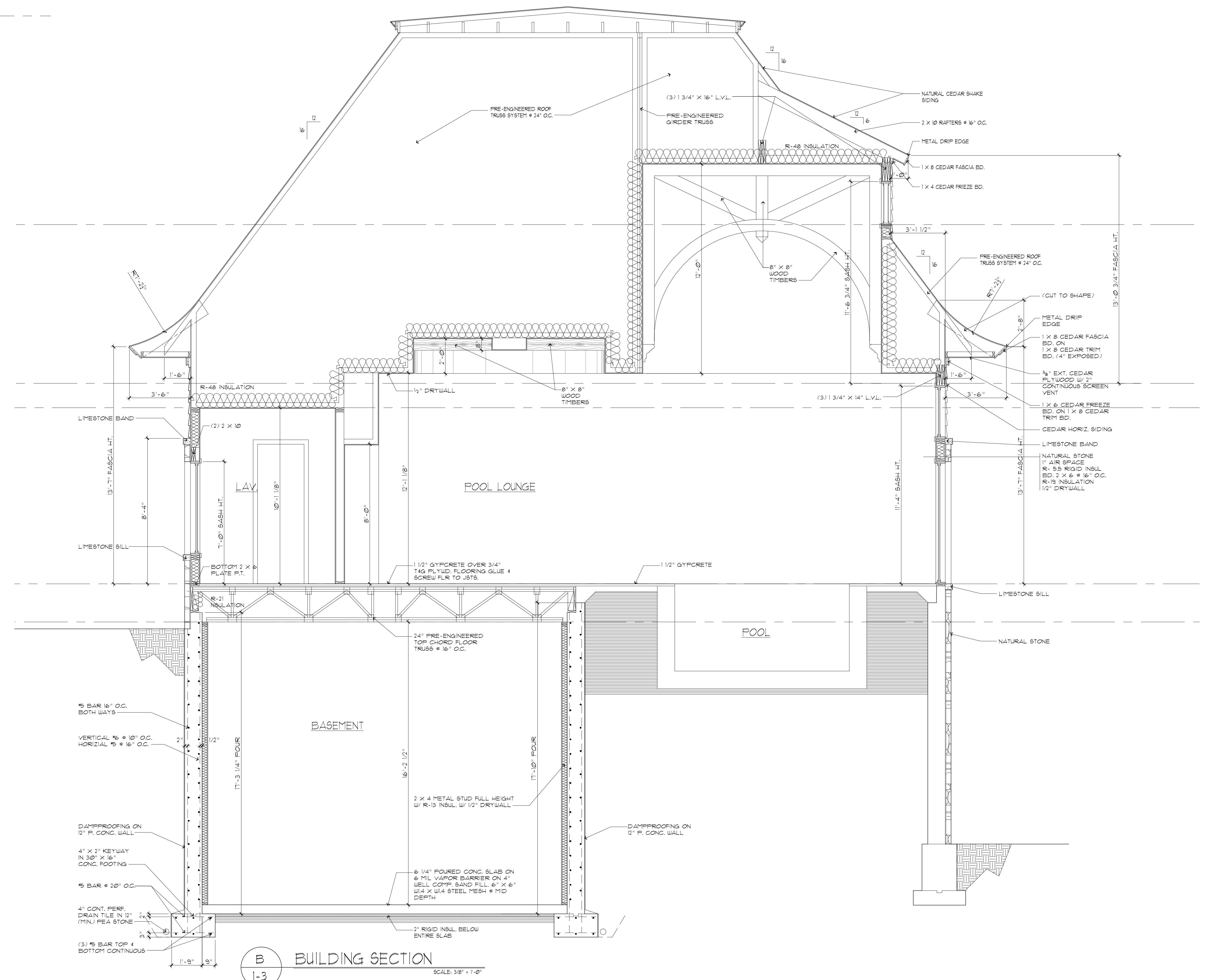




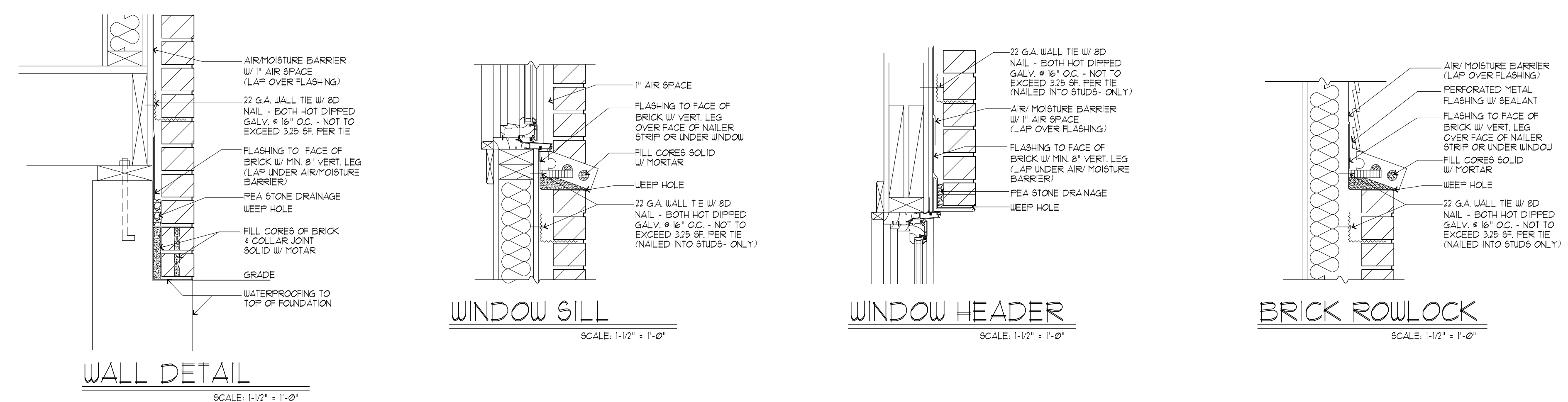
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SCALE: 3/8" = 1'-0"



**J MASTER BATH DETAIL**  
SCALE: 1/2" = 1'-0"



**B BUILDING SECTION**  
SCALE: 3/8" = 1'-0"



**WALL DETAIL**  
SCALE: 1/2" = 1'-0"

**WINDOW SILL**  
SCALE: 1/2" = 1'-0"

**WINDOW HEADER**  
SCALE: 1/2" = 1'-0"

**BRICK ROWLOCK**  
SCALE: 1/2" = 1'-0"

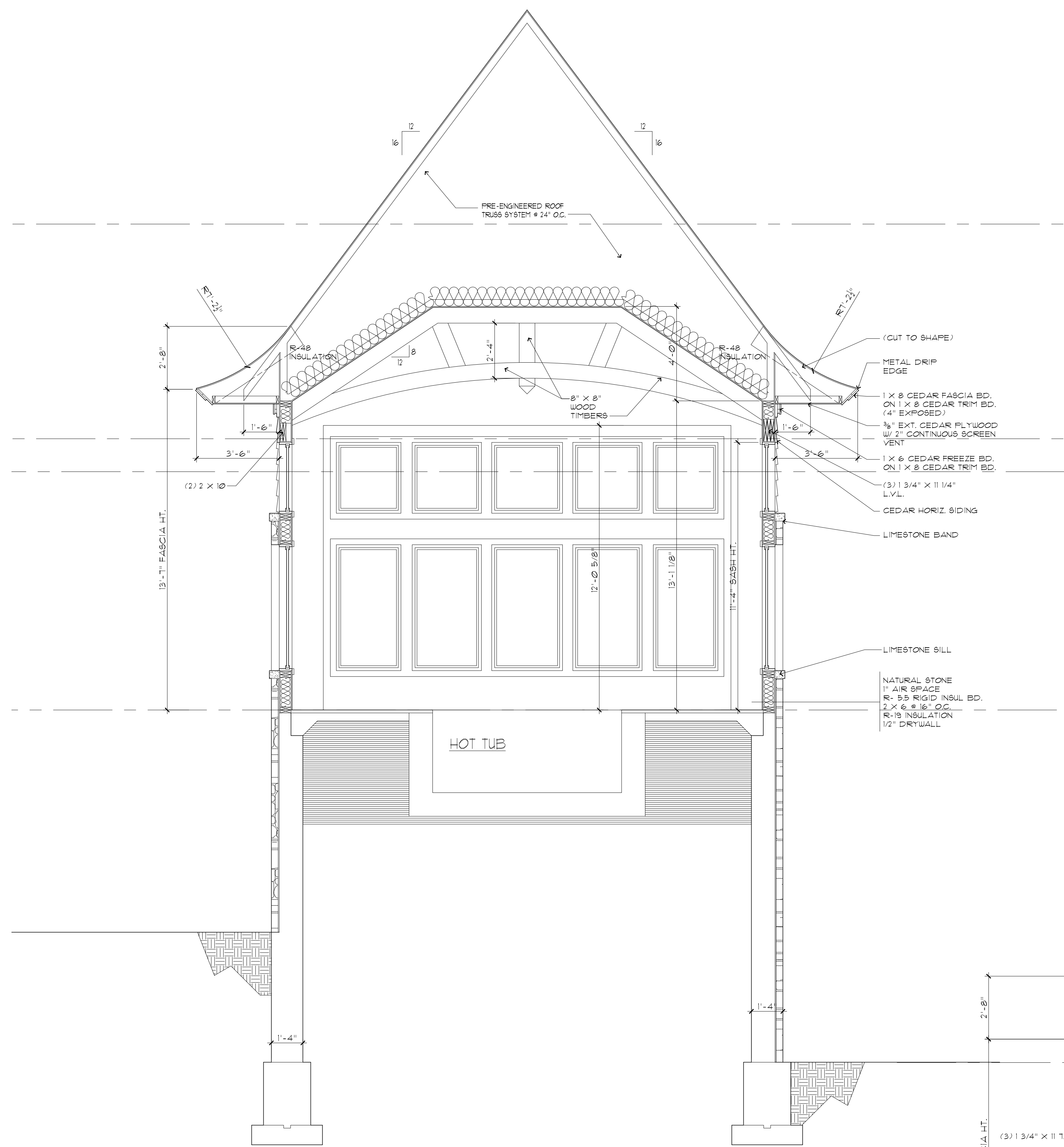
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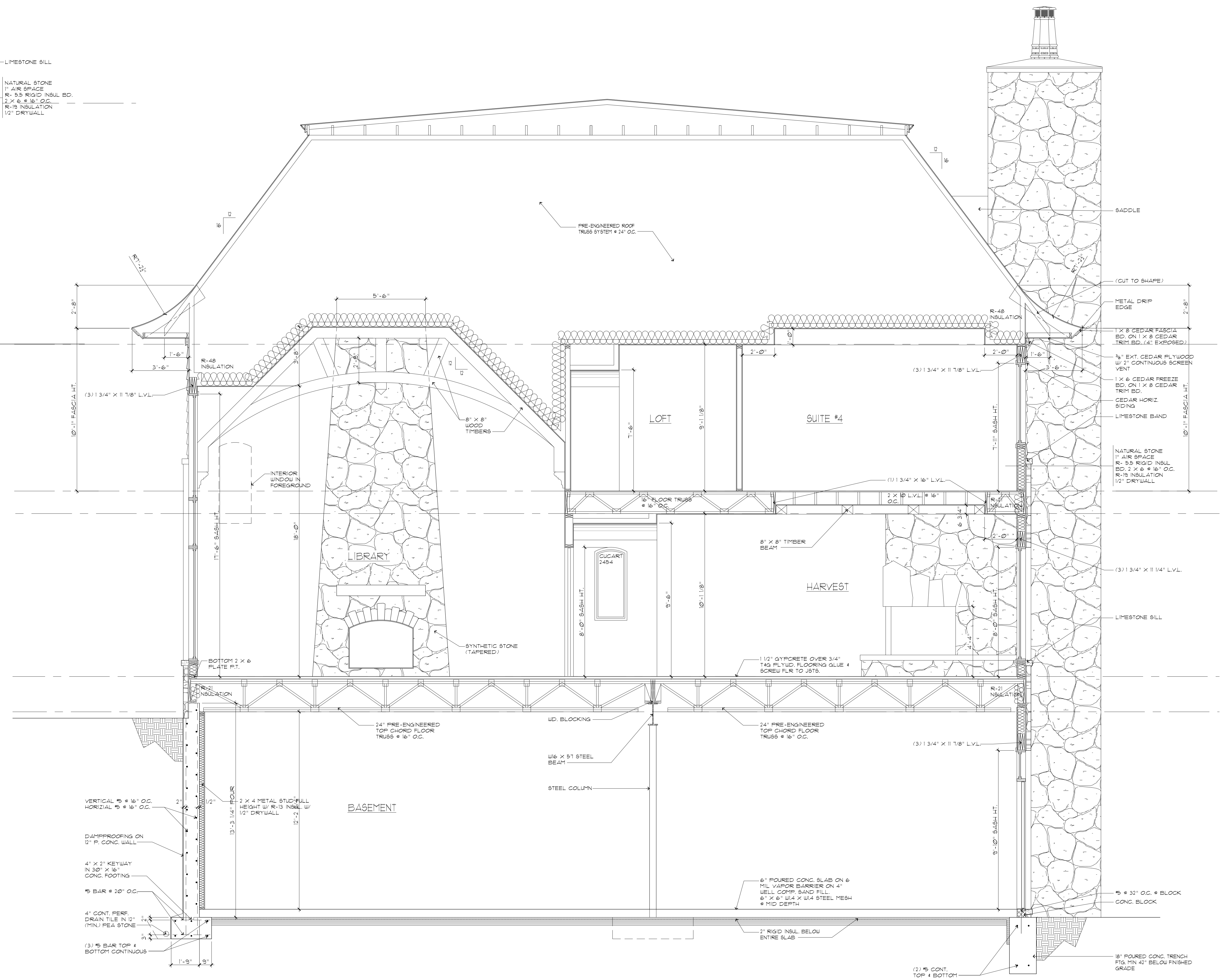
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D BUILDING SECTION  
SCALE 3/8" = 1'-0"



E BUILDING SECTION  
SCALE 3/8" = 1'-0"



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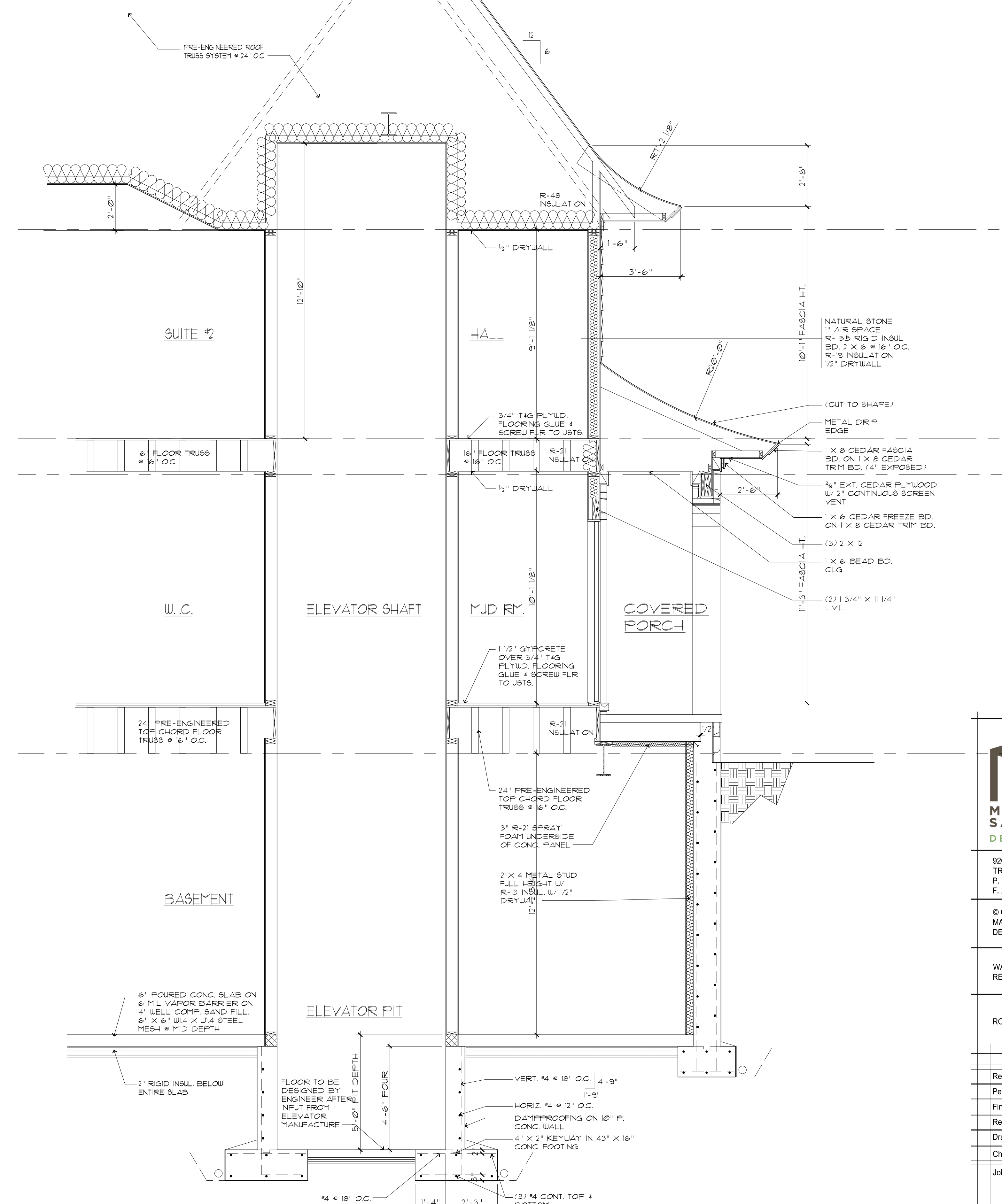
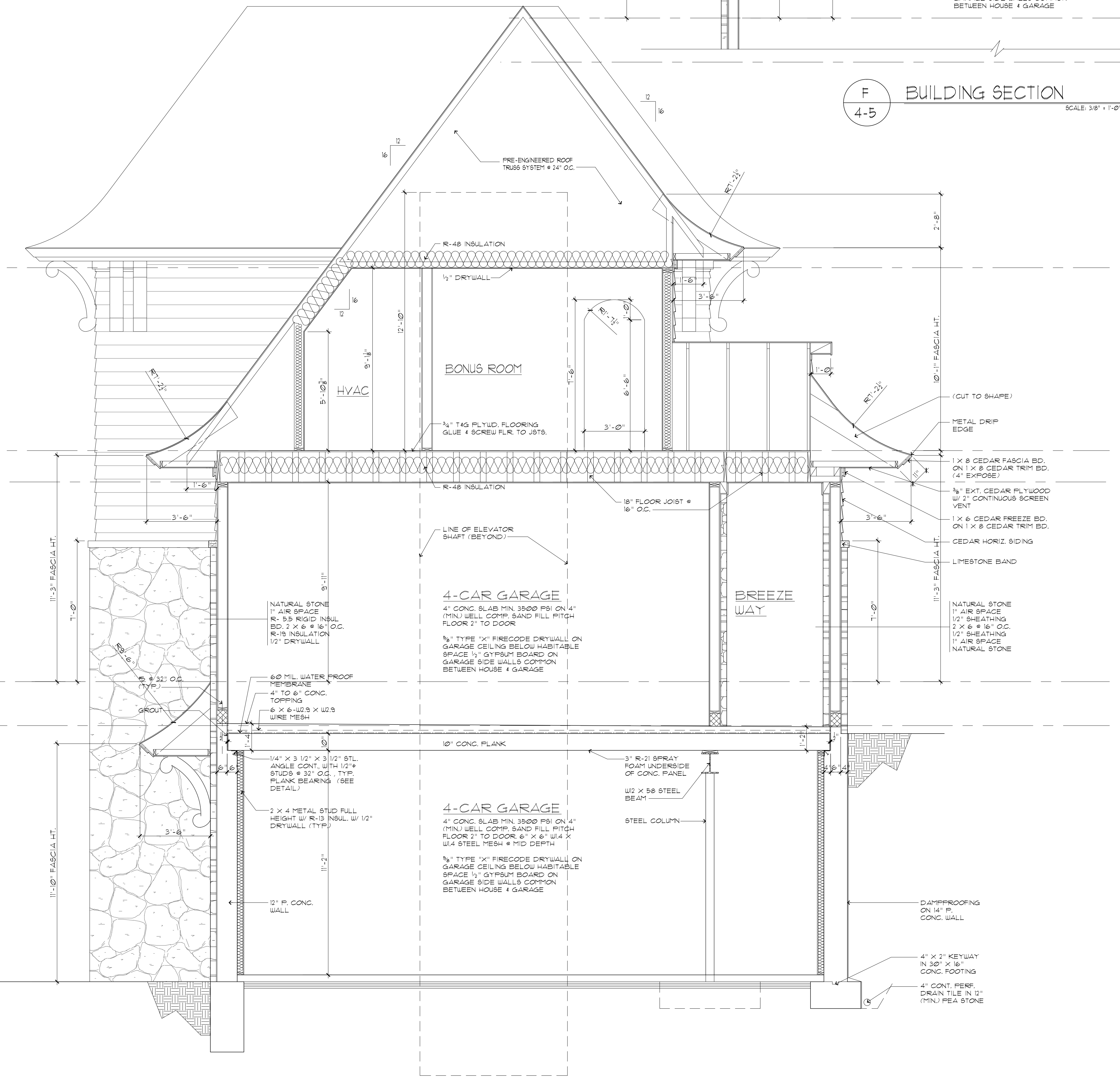
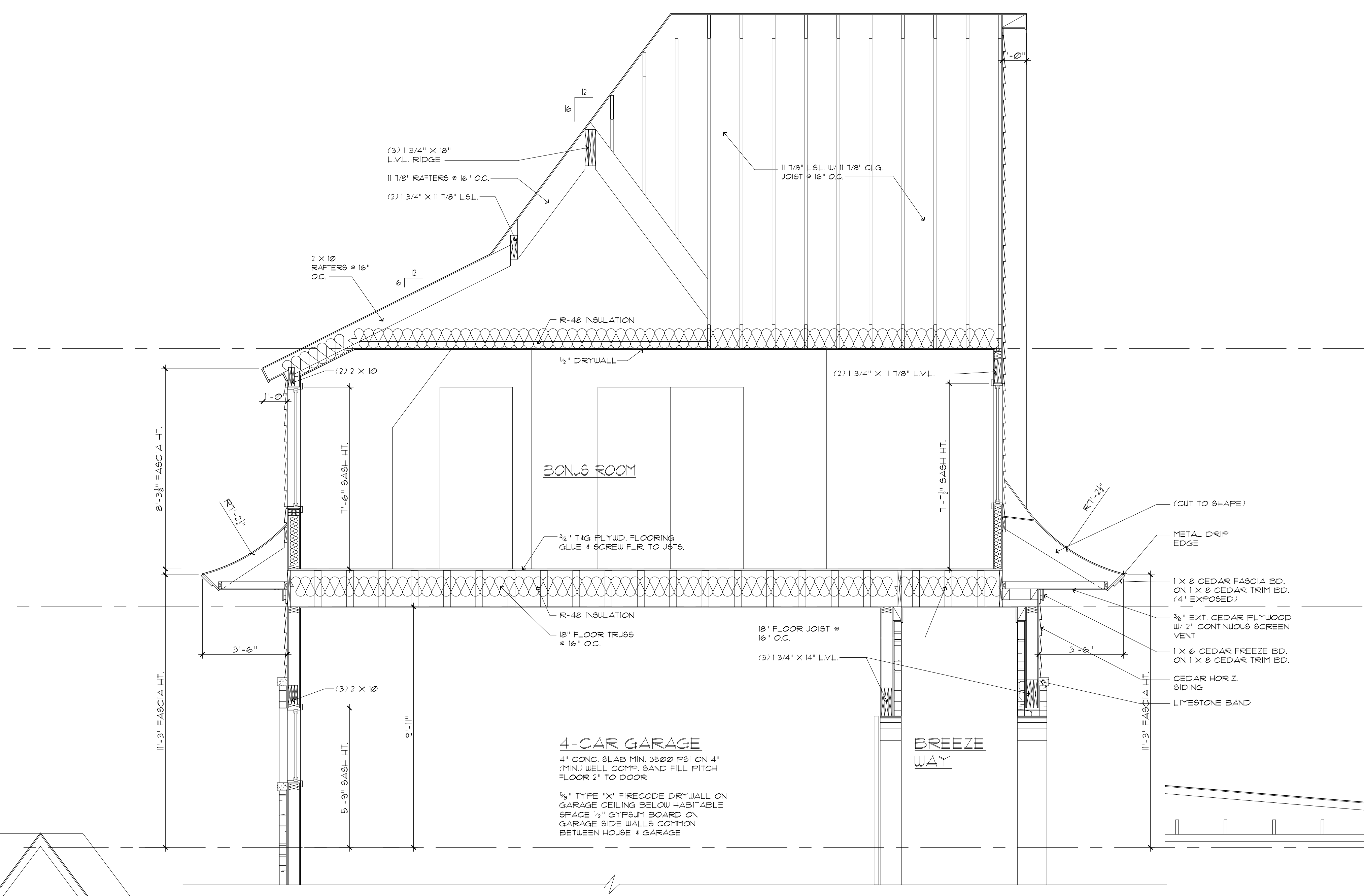
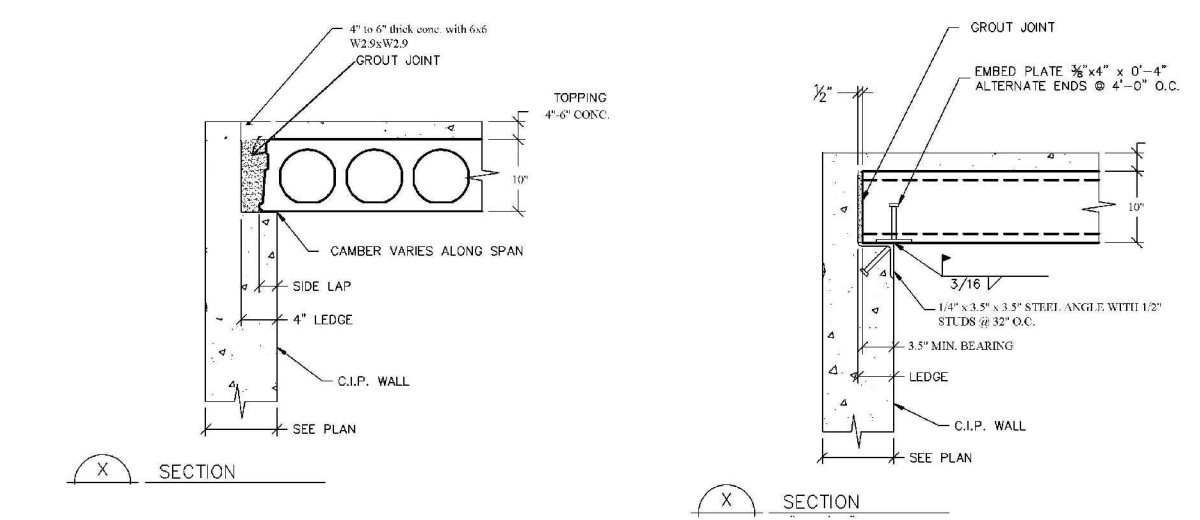
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