

FEATHERED ELK RANCH on CR 37B

24TH NOVEMBER, 2024



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CDS
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STRUCTURAL ENGINEER
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FEATHERED ELK RANCH

NEW CONSTRUCTION

26105 CR 37B HAYDEN, CO 81639

DESIGN DEVELOPMENT

ISSUE	
ISSUED FOR CONCEPTUAL DESIGN:	24.01.25
ISSUED FOR DESIGN DEVELOPMENT:	24.02.23
ISSUED FOR PERMIT:	24.03.26

REVISIONS	
A RCRBD COMMENT CORRECTIONS	24.04.22
B RCRBD COMMENT CORRECTIONS	24.11.24

24-001

INDEX SHEET

G-1.0

DISCLAIMER: SYSTEM NOTES ARE MEANT TO BE A BASIS OF DESIGN - CONTRACTOR(S) ULTIMATELY RESPONSIBLE FOR THE STRUCTURAL AND OTHERWISE INTEGRITY OF THE PRESCRIBED SYSTEMS OUTLINED ABOVE.



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NOTES

GENERAL NOTES:

- GENERAL CONTRACTOR (GC) TO REVIEW ALL DRAWINGS PRIOR TO CONSTRUCTION.
- PERMITS, INSPECTIONS, AND CERTIFICATES OF APPROVAL SHALL BE PAID FOR BY EITHER THE GC OR OWNER.
- CONCERNS OR DISCREPANCIES ON THE PLANS ARE TO BE BROUGHT TO THE ATTENTION OF THE GC PRIOR TO CONSTRUCTION.
- GC TO PROVIDE ALL NECESSARY ENERGY CALCULATIONS IN COMPLIANCE WITH LOCAL ENERGY CODES.
- GC TO PROVIDE FULL SETS OF DRAWING TO ALL SUB-CONTRACTORS.
- ALL DIMENSIONS ARE TO ROUGH FRAMING UNLESS NOTED OTHERWISE (U.N.D.).
- SUB-CONTRACTORS ARE TO FIELD VERIFY ALL CONDITIONS, DIMENSIONS, AND REVIEW THESE DRAWINGS PRIOR TO CONSTRUCTION.
- SUB-CONTRACTORS ARE RESPONSIBLE TO PERFORM WORK IN COMPLIANCE WITH ALL LOCAL CODES. LOCAL CODES SHALL SUPERSEDE THESE DRAWINGS.
- STAMPED STRUCTURAL DRAWINGS ALWAYS SUPERSEDE NON-STAMPED DRAWINGS.
- TRUSS DRAWINGS ARE TO BE PREPARED BY A LICENSED TRUSS COMPANY AND SHALL BE REVIEWED PRIOR TO FABRICATION BY THE GC & STRUCTURAL ENGINEER.
- PERIMETER DRAIN IS SHOWN ON THE STRUCTURAL ENGINEER'S DRAWINGS.
- EXTERIOR DOORS & WINDOWS ARE TO BE INSTALLED IN COMPLIANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND LOCAL CODES.
- ALL VENT STACKS TO BE VENTED OUT THE BACK SIDE OF ROOF WHEN POSSIBLE AND PAINTED TO MATCH ROOF COLOR.
- SAFETY GLASS AS REQUIRED BY CODE IS THE RESPONSIBILITY OF THE GC AND PARTNERING VENDOR.
- FRAMING CONTRACTOR TO FOLLOW BEST PRACTICES OF THE TRADE AND PROVIDE BACKING FOR APPROPRIATE FINISH MATERIALS.
- HVAC CONTRACTOR TO PROVIDE A LAYOUT OF DUCTWORK, VENT LOCATIONS, AND EQUIPMENT SPEC'S. HEATING SYSTEM TO BE INSTALLED TO ALL CODE REQUIREMENTS.
- PLUMBING CONTRACTOR TO PROVIDE THE ENTIRE PLUMBING SYSTEM, INCLUDING ALL NECESSARY HOT & COLD DISTRIBUTION, WASTE SYSTEMS, AND REFRIGERATOR LINES.
- FIREPLACE CONTRACTOR TO INSTALL PER MANUFACTURER'S REQUIREMENTS.

BUILDING KEY NOTES:

- TYPICAL ROOF SYSTEM
- CORRUGATED METAL ROOF
 - CONTINUOUS RIDGE VENT
 - WEATHER BARRIER ROOF UNDERLAYMENT
 - 5/8" T&G OSB ROOF SHEATHING
 - R-49 MIN INSULATION
 - P.E. ROOF TRUSSES @ 24" OC

- TYPICAL SOFFIT FASCIA SYSTEM
- 5" K-STYLE CONTINUOUS GUTTER SYSTEM
 - 5/4"x10" H&B BD FASCIA
 - 2x- SUB FASCIA
 - 4"x8"x3/8" HD BD SOFFIT SHEETS
 - 2" CONTINUOUS VENT SYSTEM

- TYPICAL EXTERIOR WALL SYSTEM
- CLADDING PER PLAN
 - CONTINUOUS AIR & VAPOR BARRIER
 - 1/2" OSB SHEATHING
 - R-27 MIN or R-20-5ci TYPICAL WALL
 - 1/2" GYPSUM WALL BOARD

- TYPICAL WINDOW SYSTEM
- VINYL WINDOWS PER PLAN
 - LOW-E GLASS
 - TEMPERED AS REQUIRED PER CODE
 - DRIP FLASHING
 - MEMBRANE WRAP
 - CAULK AS REQUIRED BY MANUFACTURER
 - ALL EGRESS TO BE VERIFIED BY SUPPLIER

BUILDING NARRATIVE:

- THE INTENT OF THE BUILDING DESIGN AND FUNCTION IS TO SERVE AS A SINGLE FAMILY DWELLING.
- 6 BEDROOMS, 7-1/2 BATHROOMS, KITCHEN, OFFICE, WET BAR.
- THE DESIGN INCORPORATES A SEPARATED WORK SPACE TO ACCOMMODATE THE NEEDS OF THE HOUSEHOLD.
- DWELLING-GARAGE SEPARATION PER TABLE R302.6.

REVIEWED
FOR
CODE
COMPLIANCE
12/05/2024

CODE DATA

CODICES:	2021 I-CODES w/ LOCAL AMMENDMENTS
	2021 INTERNATIONAL RESIDENTIAL CODE (IRC)
	2021 INTERNATIONAL ENERGY CONSERVATION CODE (IEBC)
	2021 INTERNATIONAL PLUMBING CODE (IPC)
	2021 INTERNATIONAL MECHANICAL CODE (IMC)
	2021 INT WILDLAND-URBAN INTERFACE CODE (IWUIC)
	2023 NATIONAL ELECTRIC CODE (NFPA 70)
	2023 COLORADO MODEL ELECTRIC & SOLAR READY CODE
	1732 PARK DRIVE, LOVELAND, CO 80538
ADDRESS:	ONE STORY
NUMBER OF STORIES:	NEW SINGLE FAMILY DWELLING
APPLICATION TYPE:	TYPE VB (UNPROTECTED)
TYPE OF CONSTRUCTION:	R-3 RESIDENTIAL, ONE AND TWO FAMILY
OCCUPANCY:	ZONE S8
CLIMATE:	30 INCHES
FROST DEPTH:	U-0.30
U-FACTOR:	R-30 or R-20+R-5ci
R-VALUE:	TYPICAL FENESTRATION
	R-60 TYPICAL WOOD FRAME WALL
	R-19 TYPICAL CEILING
	R-19 TYPICAL FLOOR
	R-19 or R-13+R-5ci TYPICAL BASEMENT WALL

UTILITIES

WATER, WASTE, & STORM TREATMENT

CITY OF LOVELAND
500 E. 3rd St, Loveland, CO 80537
+1 (970) 962-2000

ELECTRIC PROVIDER

CITY OF LOVELAND
500 E. 3rd St, Loveland, CO 80537
+1 (970) 962-2000

GAS PROVIDER

XCEL ENERGY
BUILDERS'S CALL LINE
+1 (800) 628-2121

MATERIALS LEGEND

BATT INSULATION	OSB
BLOWN-IN INSULATION	PLYWOOD
BRICK	RIGID INSULATION
CONCRETE	SPRAY FOAM INSULATION
CONCRETE MASONRY UNIT	STONE OR SYNTHETIC STONE
COUNTERTOP	STUCCO
EARTH	WALL/PARTITION (N)
GRAVEL	WALL/PARTITION (E)
GYPSUM BOARD	WOOD FINISH LUMBER

DRAFTING SYMBOLS

DRAWING INDICATOR	
DRAWING NUMBER 1 MAIN LEVEL FLOOR PLAN SCALE: 1/4" = 1'-0"	DOOR NUMBER
BUILDING SECTION DRAWING NUMBER 1 AD. 0 SHEET NUMBER	WALL SECTION/DETAIL DRAWING NUMBER 1 AD. 0 SHEET NUMBER
ELEVATION TAGS (EXTERIOR) DRAWING NUMBER 1 AD. 0 SHEET NUMBER (INTERIOR) DRAWING NUMBER 1 IND. 0 SHEET NUMBER	DOOR TAG INFO DOOR SLAB SIZE & TYPE 26-66-A HOLL DOOR NUMBER 1
COLUMN GRIDS 01 AA	WINDOW TAG INFO WINDOW SIZE & TYPE 50-50-A 10H WINDOW NUMBER 3
CEILING TAG CEILING HEIGHT 8'-6" AFF FLOOR	SYSTEM TAG (SEE SYSTEM NOTES FOR DESCRIPTION) S1
	ACCESSORY TAG (SEE SPEC BOOK FOR DESCRIPTION) A1
	ROOM TAG INFO ROOM NUMBER 101 ENTRY ROOM NAME HARDWOOD - OAK 999 SF FLOORING CROWN MOULDING INFO

PROJECT DIRECTORY

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VICINITY MAP



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A5.2 EXTERIOR ELEVATIONS	
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A6.3 BUILDING SECTIONS	

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STRUCTURAL

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SHT 2 OF 4	FOUNDATION PLAN
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SHT 4 OF 4	UPPER ROOF FRAMING

RESIDENTIAL ENERGY CODES, IWUICC CODES, AND
STATE MODEL ELECTRIC SOLAR READY CODES

RESIDENTIAL ENERGY CODES

R403.9 SNOW MELT AND ICE SYSTEM CONTROLS.
IS HEREBY AMENDED TO READ AS FOLLOWS:
SNOW- AND ICE-MELTING SYSTEMS SHALL INCLUDE AUTOMATIC CONTROLS CONFIGURED TO SHUT OFF THE SYSTEM WHEN THE SURFACE TEMPERATURE IS ABOVE (40 DEGREES F, 4.4 DEGREES C) AND PRECIPITATION IS NOT FALLING, AND AN AUTOMATIC CONTROL THAT IS CONFIGURED TO SHUT OFF WHEN THE OUTDOOR TEMPERATURE IS ABOVE (40 DEGREES F, 4.4 DEGREES C).

R403.9.1 SNOW AND ICE-MELT TEMPERATURE AND MOISTURE CONTROL SENSOR LOCATIONS.
IS HEREBY ADDED TO READ AS FOLLOWS:
TEMPERATURE AND MOISTURE SENSOR LOCATIONS IN HEATED OUTDOOR SNOW MELT SYSTEMS SHALL BE SHOWN CLEARLY ON THE OUTDOOR HEATED SNOW MELT SITE PLAN, AND SHALL NOT BE LOCATED IN THE FOLLOWING AREAS LISTED BELOW.
1. SHALL NOT BE WITHIN 5 FEET OF THE PUBLIC ROW OR PRIVATE ROAD FROM THE EDGE OF THE WALKING OR DRIVING SURFACE.
2. SHALL NOT BE LOCATED UNDER A ROOF OVERHANG OR OTHER STRUCTURE SUBJECT TO SHADING DURING DAYLIGHT HOURS.

R403.9.2 FREEZE PROTECTION SYSTEM CONTROLS.
IS HEREBY AMENDED TO READ AS FOLLOWS:
FREEZE PROTECTION SYSTEMS, SUCH AS HEAT TRACING OF OUTDOOR PIPING, HEAT EXCHANGERS, ROOF AND GUTTERS, DRAINS, INCLUDING SELF-REGULATING HEAT TRACING CABLE OR WIRE, SHALL HAVE AUTOMATIC CONTROLS CONFIGURED TO SHUT OFF THE SYSTEMS WHEN OUTDOOR AIR TEMPERATURES ARE ABOVE (40 DEGREES F, 4.4 DEGREES C) AND SHALL INCLUDE A MOISTURE SENSOR TO SHUT THE SYSTEM OFF IN ABSENCE OF MOISTURE.

SECTION R403.9.3 RESIDENTIAL DWELLINGS CONSTRUCTED UNDER THE INTERNATIONAL RESIDENTIAL CODE SHALL FOLLOW THE BELOW REQUIREMENTS FOR HEATED OUTDOOR SNOW MELT SYSTEMS.
IS HEREBY ADDED TO READ AS FOLLOWS:
RESIDENTIAL OUTDOOR HEATED SNOW MELT SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE BELOW ITEMS. APPLICANTS SHALL SUBMIT AN OUTDOOR HEATED SNOW MELT SYSTEM SITE PLAN THAT DISPLAYS THE AREAS TO BE HEATED ON THE SITE PLAN ALONG WITH DIMENSIONS OF THE AREAS TO BE HEATED, AND PROVIDE THE LOCATIONS OF THE TEMPERATURE AND MOISTURE CONTROL SENSORS ON THE SITE PLAN PER OUR ADOPTED CODES FOR REVIEW.
1. OUTDOOR HEATED SNOW MELT SYSTEMS SHALL NOT BE ALLOWED TO BE INSTALLED UNLESS THEY ARE POWERED BY A 100% RENEWABLE ENERGY SOURCE.
EXCEPTIONS:
1. OUTDOOR HYDRONIC TUBING: HYDRONIC TUBING MAY BE IN INSTALLED DURING CONSTRUCTION REGARDLESS IF THE HEATING EQUIPMENT IS ALLOWED TO BE INSTALLED OR NOT PER THE REQUIREMENTS BELOW.
a. APPLICANTS WHO CHOOSE TO INSTALL HYDRONIC TUBING SHALL SUBMIT A SNOW MELT SYSTEM SITE PLAN IN ACCORDANCE WITH OUR ADOPTED CODES, AND STATE "HEATED SNOW MELT SYSTEM NOT APPROVED FOR USE" ON THE PLANS.
b. ALL HYDRONIC TUBING MUST TERMINATE WITH OPEN ENDS ON ALL LINES INSIDE THE BUILDING OR WITHIN A CONTROL BOX ON THE EXTERIOR. HYDRONIC LINES SHALL NOT BE CONNECTED TO AN INTERIOR MANIFOLD SYSTEM.
2. FEDERAL, STATE, OR LOCAL REGULATIONS THAT REQUIRES OUTDOOR HEATED SNOW MELT SYSTEMS TO BE INSTALLED.
3. REQUIRED ADA ROUTES FROM THE DESIGNATED ADA PARKING STALL TO THE BUILDING ENTRANCE.

R403.10.3 POOL/SPA COVERS.
IS HEREBY AMENDED TO READ AS FOLLOWS:
HEATED POOLS SHALL BE EQUIPPED WITH A VAPOR RETARDANT POOL COVER ON OR AT THE WATER SURFACE.
EXCEPTIONS:
1. INDOOR POOLS OR SPAS.
2. POOLS OR SPAS HEATED BY A 100% RENEWABLE ENERGY SOURCE ARE ONLY REQUIRED TO HAVE A VAPOR RETARDER COVER.

R403.10.3.1 OUTDOOR SITE BUILT POOL/SPA INSULATION REQUIREMENTS.
IS HEREBY ADDED TO READ AS FOLLOWS:
SITE BUILT POOLS AND SPAS SHALL HAVE INSULATION INSTALLED AROUND THE ENTIRE PERIMETER OF ALL WALLS BELOW OR ABOVE GRADE WITH AN R-VALUE MINIMUM OF R-15.

CHAPTER 5 ELECTRIC VEHICLE READY
PART 1 RESIDENTIAL ELECTRIC VEHICLE READY, SECTION RV501 SCOPE.

RV501.1 GENERAL.
THESE PROVISIONS SHALL BE APPLICABLE FOR ALL NEW BUILDINGS, AND MAJOR RENOVATIONS AND ADDITIONS.

SECTION RV502 ELECTRIC VEHICLE POWER TRANSFER INFRASTRUCTURE.
RV502 ELECTRIC VEHICLE POWER TRANSFER INFRASTRUCTURE.
NEW VEHICLE PARKING SPACES FOR RESIDENTIAL BUILDINGS SHALL BE PROVIDED IN ACCORDANCE WITH SECTIONS RV502.1 AND RV502.3.

RV502.1 ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES.
EACH DWELLING UNIT WITH A DEDICATED ATTACHED OR DETACHED GARAGE OR OTHER ONSITE DESIGNATED PARKING PROVIDED FOR THE DWELLING UNIT SHALL BE PROVIDED WITH ONE EV READY SPACE PER DWELLING UNIT.

RV502.2 EV READY SPACES.
EACH EV READY SPACE SHALL HAVE A BRANCH CIRCUIT THAT COMPLIES WITH ALL OF THE FOLLOWING:
1. TERMINATES AT A RECEPTACLE, LOCATED WITHIN 3 FEET OF EACH EV READY SPACE IT SERVES.
EV READY INCLUDES TWO ADJACENT PARKING SPACES IF THE RECEPTACLE FOR THE ELECTRICAL FACILITIES OF THIS SECTION IS INSTALLED ADJACENT TO AND BETWEEN BOTH PARKING SPACES.
2. HAS A MINIMUM CIRCUIT CAPACITY OF 8.3 KVA (40A 208/240V).
3. THE ELECTRICAL PANEL, ELECTRICAL DISTRIBUTION EQUIPMENT DIRECTORY, AND ALL OUTLETS OR ENCLOSURES SHALL BE MARKED "FOR FUTURE ELECTRIC VEHICLE SUPPLY EQUIPMENT".
EXCEPTION:
A RECEPTACLE NEED NOT BE PROVIDED IF A HARD-WIRED EVSE IS INSTALLED.

RV502.3 IDENTIFICATION.
CONSTRUCTION DOCUMENTS SHALL DESIGNATE THE EV READY SPACE AND INDICATE THE LOCATIONS OF RACEWAY AND/OR CONDUIT AND THE TERMINATION POINTS SERVING THEM. THE CIRCUITS OR SPACES RESERVED IN THE ELECTRICAL PANEL FOR EV READY SPACES SHALL BE CLEARLY IDENTIFIED IN THE PANEL OR SUBPANEL DIRECTORY.

2021 IWUICC CODES

SECTION 504.2 ROOF ASSEMBLY.
IS HEREBY AMENDED TO READ AS FOLLOWS:
ALL ROOFS IN BOTH RESIDENTIAL AND COMMERCIAL BUILDINGS FOR NEW CONSTRUCTION, ADDITIONS, ALTERATIONS, REPAIRS, OR REPLACEMENTS UNDER PERMIT MUST HAVE CLASS A ROOFING MATERIALS INSTALLED.
EXCEPTION:
HISTORIC REGISTERED PROPERTIES THROUGH HPC REVIEW AND RULINGS THAT MAY NOT ALLOW A FRWT WOOD SHAKE ROOF OR COMPOSITE WOOD SHAKE ROOF TO BE INSTALLED ARE EXEMPT IF DETERMINED BY THE STATE OR FEDERAL HISTORIC PRESERVATIONS COMMITTEES.

SECTION 504.2.1 ROOF VALLEYS.
WHERE PROVIDED, VALLEY FLASHINGS IN BOTH RESIDENTIAL AND COMMERCIAL BUILDINGS FOR NEW CONSTRUCTION, ADDITIONS, ALTERATIONS, REPAIRS, OR REPLACEMENTS UNDER PERMIT SHALL BE NOT LESS THAN 0.019 INCH (0.48 MM) (NO. 26 GALVANIZED SHEET GAGE) CORROSION-RESISTANT METAL INSTALLED OVER A MINIMUM 36-INCH-WIDE (914 MM) UNDERLAYMENT CONSISTING OF ONE LAYER OF 72-POUND (32.4 KG) MINERAL-SURFACED, NONPERFORATED CAP SHEET COMPLYING WITH ASTM D3909 RUNNING THE FULL LENGTH OF THE VALLEY.

SECTION 504.3 PROTECTION OF EAVES AND SOFFITS.
IS HEREBY AMENDED TO READ AS FOLLOWS:
EAVES AND SOFFITS ON COMMERCIAL AND RESIDENTIAL NEW CONSTRUCTION BUILDINGS ONLY SHALL BE PROTECTED ON THE EXPOSED UNDERSIDE BY ONE OF THE FOLLOWING ITEMS.
1. ¾" SOLID WOOD OR THICKER.
2. IGNITION RESISTANT MATERIAL IN ACCORDANCE WITH SECTION 503.2 OF THIS CHAPTER.
3. NON-COMBUSTIBLE MATERIALS.
4. FRWT PRODUCTS.
5. PLYWOOD ¾" OR THICKER TREATED WITH AN INTUMESCENT PRODUCT PROVIDING A 30-MINUTE RATING.

SECTION 504.4 GUTTERS AND DOWNSPOUTS.
GUTTERS AND DOWNSPOUTS IN BOTH RESIDENTIAL AND COMMERCIAL BUILDINGS FOR NEW CONSTRUCTION, ADDITIONS, ALTERATIONS, REPAIRS, OR REPLACEMENTS SHALL BE CONSTRUCTED OF NONCOMBUSTIBLE MATERIAL.

SECTION 504.10 VENTS.
IS HEREBY AMENDED TO READ AS FOLLOWS:
VENTS INSTALLED IN BOTH RESIDENTIAL AND COMMERCIAL BUILDINGS FOR NEW CONSTRUCTION OR ADDITIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE ITEMS LISTED BELOW.
1. FOUNDATION WALL, VERTICAL EXTERIOR WALL, OR ROOF VENTS SHALL NOT EXCEED 144 SQUARE INCHES EACH. SUCH VENTS SHALL BE COVERED WITH NON-COMBUSTIBLE CORROSION RESISTANT MESH WITH OPENINGS NOT TO EXCEED ¼", OR SHALL BE DESIGNED AND APPROVED TO PREVENT FLAME OR EMBER PENETRATION INTO THE STRUCTURE.
2. SINGLE SOFFIT VENTS SHALL NOT EXCEED 144 SQUARE INCHES EACH. SUCH VENTS SHALL BE COVERED WITH NON-COMBUSTIBLE CORROSION RESISTANT MESH WITH OPENINGS NOT TO EXCEED ¼", OR SHALL BE DESIGNED AND APPROVED TO PREVENT FLAME OR EMBER PENETRATION INTO THE STRUCTURE.
3. CONTINUOUS SOFFIT VENTS SHALL NOT EXCEED 2 ½" IN WIDTH AND SHALL BE COVERED WITH NON-COMBUSTIBLE CORROSION RESISTANT MESH WITH OPENINGS NOT TO EXCEED ¼", OR SHALL BE DESIGNED AND APPROVED TO PREVENT FLAME OR EMBER PENETRATION INTO THE STRUCTURE.

CHAPTER 3 ELECTRIC READY
PART 1 RESIDENTIAL ELECTRIC READY, SECTION RE301 SCOPE.

RE301.1 GENERAL.
THESE PROVISIONS SHALL BE APPLICABLE FOR ALL NEW BUILDINGS, AND MAJOR RENOVATIONS AND ADDITION. A MAJOR RENOVATION IS DEFINED AS A BUILDING THAT IS COMPLETELY AND FULLY DECONSTRUCTED TO THE TOP OF THE EXISTING FOUNDATION, THEN RE-BUILT UPON THE EXISTING FOUNDATION.
MAJOR ADDITION IS DEFINED AS AN ADDITION THAT IS GREATER THAN 50% OF THE EXISTING BUILDING SQUARE FOOTAGE.

SECTION RE302 ADDITIONAL ELECTRIC INFRASTRUCTURE.
RE302.1 ADDITIONAL ELECTRIC INFRASTRUCTURE.
COMBUSTION EQUIPMENT IN RESIDENTIAL BUILDINGS MUST MEET THE REQUIREMENTS OF SECTIONS RE302.2 THROUGH RE302.6.
EXCEPTIONS:
1. INTERIOR FIREPLACES THAT DO NOT SERVE AS A PRIMARY SOURCE OF HEATING.
2. EXTERIOR FIREPLACES AND FIREPITS.

RE302.2 COMBUSTION EQUIPMENT.
COMBUSTION EQUIPMENT SHALL BE PROVIDED WITH ALL OF THE FOLLOWING:
1. A DEDICATED, APPROPRIATELY PHASED BRANCH CIRCUIT SIZED TO ACCOMMODATE FUTURE ELECTRIC EQUIPMENT OR APPLIANCES TO SERVE A COMPARABLE CAPACITY TO MEET THE HEATING LOAD.
2. AN ELECTRIC RECEPTACLE OR JUNCTION BOX THAT MEETS THE REQUIREMENTS OF SECTION RE302.5, AND IS CONNECTED TO THE ELECTRICAL PANEL THROUGH THE BRANCH CIRCUIT. EACH ELECTRICAL RECEPTACLE OR JUNCTION BOX SHALL HAVE REASONABLE ACCESS TO THE COMBUSTION EQUIPMENT OR DEDICATED PHYSICAL SPACE FOR FUTURE ELECTRIC EQUIPMENT WITH NO OBSTRUCTIONS OTHER THAN THE CURRENT COMBUSTION EQUIPMENT.
3. WHERE COMBUSTION EQUIPMENT IS USED FOR SPACE OR WATER HEATING, DEDICATED PHYSICAL SPACE SHALL BE PROVIDED FOR FUTURE ELECTRIC EQUIPMENT, INCLUDING AN ELECTRIC RESISTANCE BACKUP COIL FOR DUCTED SYSTEMS, IF APPLICABLE.
EXCEPTION:
DWELLING UNITS WITH INSTALLED AIR CONDITIONING SYSTEMS ARE NOT REQUIRED TO PROVIDE ADDITIONAL DEDICATED PHYSICAL SPACE FOR AN OUTDOOR HEAT PUMP.

RE302.3 ELECTRICAL PANEL SPACE.
THE ELECTRICAL PANEL SHALL HAVE A RESERVED SPACE FOR A MINIMUM TWO-POLE CIRCUIT BREAKER FOR EACH BRANCH CIRCUIT PROVIDED FOR FUTURE ELECTRIC EQUIPMENT OR APPLIANCES.

RE302.4 LABELING.
THE JUNCTION BOX OR RECEPTACLE AND THE DEDICATED CIRCUIT BREAKER SPACE SERVING FUTURE ELECTRIC EQUIPMENT OR APPLIANCES IN THE ELECTRICAL PANEL SHALL BE LABELED FOR THEIR INTENDED USE.

RE302.5 ADJACENCY.
THE ELECTRICAL RECEPTACLE OR JUNCTION BOX MUST BE PROVIDED WITHIN 3 FEET OF THE COMBUSTION EQUIPMENT OR APPLIANCES, OR WITHIN 3 FEET OF THE DEDICATED PHYSICAL SPACE FOR FUTURE ELECTRIC EQUIPMENT OR APPLIANCES.
EXCEPTION:
FOR COMBUSTION EQUIPMENT DEDICATED TO SPACE OR WATER HEATING, THE ELECTRICAL RECEPTACLE OR JUNCTION BOX SHALL BE LOCATED NOT MORE THAN 6 FEET FROM THE COMBUSTION EQUIPMENT OR THE DEDICATED PHYSICAL SPACE FOR FUTURE ELECTRIC EQUIPMENT.

RE302.6 CONDENSATE DRAIN.
WHERE COMBUSTION EQUIPMENT FOR SPACE HEATING AND WATER HEATING IS INSTALLED, A LOCATION SHALL BE PROVIDED FOR CONDENSATE DRAINAGE.

CHAPTER 4 SOLAR READY
PART 1 RESIDENTIAL SOLAR READY, SECTION RS401 SCOPE.

RS401.1 GENERAL.
THESE PROVISIONS SHALL BE APPLICABLE FOR NEW BUILDINGS, AND MAJOR RENOVATIONS AND ADDITIONS.

SECTION RS402 SOLAR READY ZONE.
RS402.1 GENERAL.
NEW RESIDENTIAL BUILDINGS WITH NOT LESS THAN 600 SQUARE FEET OF ROOF AREA ORIENTED BETWEEN 10 DEGREES AND 270 DEGREES OF TRUE NORTH OR THAT IS A LOW-SLOPED ROOF, SHALL COMPLY WITH SECTIONS RS402.2 THROUGH RS402.8.
EXCEPTIONS:
1. NEW RESIDENTIAL DWELLING UNITS WITH A PERMANENTLY INSTALLED ON-SITE RENEWABLE ENERGY SYSTEM THAT PROVIDES ELECTRICITY TO THE DWELLING UNIT'S ELECTRICAL SYSTEM.
2. A BUILDING WHERE ALL AREAS OF THE ROOF THAT WOULD OTHERWISE MEET THE REQUIREMENTS OF SECTION RS402 ARE IN FULL OR PARTIAL SHADE FOR MORE THAN 70 PERCENT OF DAYLIGHT HOURS ANNUALLY.

RS402.2 CONSTRUCTION DOCUMENT REQUIREMENTS FOR SOLAR-READY ZONE.
CONSTRUCTION DOCUMENTS SHALL INDICATE THE SOLAR-READY ZONE.

RS402.3 SOLAR-READY ZONE AREAS.
THE TOTAL SOLAR-READY ZONE AREA FOR EACH DWELLING UNIT SHALL BE NOT LESS THAN 300 SQUARE FEET EXCLUSIVE OF MANDATORY ACCESS OR SETBACK AREAS AS REQUIRED BY THE INTERNATIONAL FIRE CODE. THE SOLAR-READY ZONE SHALL BE COMPOSED OF AREAS NOT LESS THAN 5 FEET IN WIDTH AND NOT LESS THAN 80 SQUARE FEET EXCLUSIVE OF ACCESS OR SETBACK AREAS AS REQUIRED BY THE INTERNATIONAL FIRE CODE.
EXCEPTION:
NEW TOWNHOUSES THREE STORIES OR LESS IN HEIGHT ABOVE GRADE PLANE AND WITH A TOTAL FLOOR AREA LESS THAN OR EQUAL TO 2,000 SQUARE FEET OF CONDITIONED SPACE PER TOWNHOUSE UNIT SHALL HAVE A SOLAR-READY ZONE AREA OF NOT LESS THAN 150 SQUARE FEET.

RS402.4 OBSTRUCTIONS.
SOLAR-READY ZONES SHALL BE FREE FROM OBSTRUCTIONS, INCLUDING BUT NOT LIMITED TO, VENTS, CHIMNEYS, AND ROOF-MOUNTED EQUIPMENT.

RS402.5 SHADING.
THE SOLAR-READY ZONE SHALL BE SET BACK FROM ANY EXISTING OR NEW PERMANENTLY AFFIXED OBJECT ON THE BUILDING OR SITE THAT IS LOCATED SOUTH, EAST, OR WEST OF THE SOLAR-READY ZONE A DISTANCE NOT LESS THAN TWO TIMES THE OBJECT'S HEIGHT ABOVE THE NEAREST POINT ON THE ROOF SURFACE. SUCH OBJECTS INCLUDE, BUT ARE NOT LIMITED TO, TALLER PORTIONS OF THE BUILDING ITSELF, PARAPETS, CHIMNEYS, ANTENNAS, SIGNAGE, ROOFTOP EQUIPMENT, TREES, AND ROOF PLANTINGS EITHER EXISTING AT THE TIME OF PERMIT APPLICATION OR PLANNED FOR ON THE CONSTRUCTION DOCUMENTS.

RS402.6 ROOF LOAD DOCUMENTATION.
THE STRUCTURAL DESIGN LOADS OF ROOF DEAD LOAD AND ROOF LIVE LOAD SHALL BE CLEARLY INDICATED ON THE CONSTRUCTION DOCUMENTS.

RS402.7 INTERCONNECTION PATHWAY.
CONSTRUCTION DOCUMENTS SHALL INDICATE AT LEAST ONE POTENTIAL PATHWAY FOR ROUTING OF CONDUIT AND/OR RACEWAY FROM THE SOLAR-READY ZONE TO THE ELECTRICAL SERVICE PANEL AND SHALL BE LABELED AS "POTENTIAL PATHWAY" ON THE CONSTRUCTION DOCUMENTS.

RS402.8 ELECTRICAL SERVICE RESERVED SPACE.
THE MAIN ELECTRICAL SERVICE PANEL SHALL HAVE SUFFICIENT RESERVED SPACE TO ALLOW THE INSTALLATION OF A DUAL POLE CIRCUIT BREAKER FOR FUTURE SOLAR ELECTRIC INSTALLATION AND SHALL BE LABELED "FOR FUTURE SOLAR ELECTRIC". THE RESERVED SPACE SHALL BE POSITIONED AT THE OPPOSITE (LOAD) END FROM THE INPUT FEEDER LOCATION OR MAIN CIRCUIT LOCATION.

RS402.9 CONSTRUCTION DOCUMENTATION CERTIFICATE.
A PERMANENT CERTIFICATE, INDICATING THE SOLAR-READY ZONE AND OTHER REQUIREMENTS OF THIS PART, SHALL BE POSTED NEAR THE ELECTRICAL DISTRIBUTION PANEL, WATER HEATER, OR OTHER CONSPICUOUS LOCATION.

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RESIDENTIAL ENERGY CODES, IWUICC CODES, AND
STATE MODEL ELECTRIC SOLAR READY CODES

APENDIX F PASSIVE RADON GAS CONTROLS

SECTION AF101
SCOPE

AF101.1 GENERAL.
THIS APPENDIX CONTAINS REQUIREMENTS FOR NEW CONSTRUCTION IN JURISDICTIONS WHERE RADON-RESISTANT CONSTRUCTION IS REQUIRED. THESE REQUIREMENTS ARE INTENDED TO PRO-VIDE A PASSIVE MEANS OF RESISTING RADON GAS ENTRY AND PREPARE THE DWELLING FOR POST-CONSTRUCTION RADON MITIGATION, IF NECESSARY (SEE FIGURE AF102). ACTIVE CONSTRUCTION TECHNIQUES, RATHER THAN PASSIVE TECHNIQUES, SHALL BE PERMITTED TO BE USED WHERE APPROVED. INCLUSION OF THIS APPENDIX BY JURISDICTIONS SHALL BE DETER-MINED THROUGH THE USE OF LOCALLY AVAILABLE DATA OR DETERMINATION OF ZONE 1 DESIGNATION IN FIGURE AF101 AND TABLE AF101(X).

SECTION AF102
DEFINITIONS

AF102.1 GENERAL.
FOR THE PURPOSE OF THESE REQUIREMENTS, THE TERMS USED SHALL BE DEFINED AS FOLLOWS:

- DRAIN TILE LOOP.
A CONTINUOUS LENGTH OF DRAIN TILE OR PERFORATED PIPE EXTENDING AROUND ALL OR PART OF THE INTERNAL OR EXTERNAL PERIMETER OF A BASEMENT OR CRAWL SPACE FOOTING.
- ENCLOSED CRAWL SPACE.
A CRAWL SPACE THAT IS ENCLOSED WITH FOUNDATION WALLS INCLUSIVE OF ANY WINDOWS, DOORS, ACCESS OPENINGS AND REQUIRED VENTS.
- GAS-PERMEABLE LAYER.
A GAS-PERMEABLE LAYER SHALL CONSIST OF ONE OF THE FOLLOWING:
1. A UNIFORM LAYER OF CLEAN AGGREGATE THAT IS NOT LESS THAN 4 INCHES (102mm) THICK. THE AGGREGATE SHALL CONSIST OF MATERIAL THAT WILL PASS THROUGH A 2-INCH (51mm) SIEVE AND BE RETAINED BY A 1/4-INCH (6.4mm) SIEVE.
2. A UNIFORM LAYER OF SAND (NATIVE OR FILL) THAT IS NOT LESS THAN 4 INCHES (102mm) THICK AND THAT IS OVERLAIN BY A SOIL GAS COLLECTION MAT OR SOIL GAS MATTING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- RADON GAS.
A NATURALLY OCCURRING, CHEMICALLY INERT, RADIOACTIVE GAS.
- SOIL-GAS-RETARDER.
A CONTINUOUS MEMBRANE OF 6-MIL (0.15mm) POLYETHYLENE USED TO RETARD THE FLOW OF SOIL GASES INTO A DWELLING.
- SUBMEMBRANE DEPRESSURIZATION SYSTEM.
A SYSTEM DESIGNED TO ACHIEVE LOWER SUBMEMBRANE AIR PRESSURE RELATIVE TO BASEMENT OR CRAWL SPACE AIR PRESSURE BY USE OF A VENT DRAWING AIR FROM BENEATH THE SOIL-GAS-RETARDER MEM-BRANE.
- SUBSLAB DEPRESSURIZATION SYSTEM (PASSIVE).
A SYSTEM DESIGNED TO ACHIEVE LOWER SUBSLAB AIR PRESSURE RELATIVE TO INDOOR AIR PRESSURE BY USE OF A VENT PIPE DRAWING AIR FROM BENEATH CONCRETE FLOORSLABS OR OTHER FLOOR ASSEMBLIES THAT ARE IN CONTACT WITH THE GROUND.
- VENT PIPE.
NOT LESS THAN A 3-INCH-DIAMETER (76mm) ABS OR PVC GAS-TIGHT PIPE EXTENDING FROM THE GAS PERMEABLE LAYER THROUGH THE ROOF.

APENDIX F PASSIVE RADON GAS CONTROLS

SECTION AF103
PASSIVE RADON-RESISTANT
SYSTEM REQUIREMENTS

- AF103.1 GENERAL.
THE FOLLOWING COMPONENTS OF A PASSIVE SUBMEMBRANE OR SUBSLAB DEPRESSURIZATION SYSTEM SHALL BE INSTALLED DURING CONSTRUCTION.
- AF103.2 ENTRY ROUTES.
POTENTIAL RADON ENTRY ROUTES SHALL BE CLOSED IN ACCORDANCE WITH SECTIONS AF103.2.1 THROUGH AF103.2.8.
- AF103.2.1 FLOOR OPENINGS.
OPENINGS AROUND BATHTUBS, SHOWERS, WATER CLOSETS, PIPES, WIRES OR OTHER OBJECTS THAT PENETRATE CONCRETE SLABS, OR OTHER FLOOR ASSEMBLIES, SHALL BE FILLED WITH A POLYURETHANE CAULK OR EXPANDING FOAM APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- AF103.2.2 SUMPS.
SUMPS OPEN TO SOIL OR SERVING AS THE TERMINATION POINT FOR SUBSLAB OR EXTERIOR DRAIN TILE LOOPS SHALL BE COVERED WITH A GASKETED OR SEALED LID. SUMPS USED AS THE SUCTION POINT IN A SUBSLAB DEPRESSURIZATION SYSTEM SHALL HAVE A LID DESIGNED TO ACCOMMODATE THE VENT PIPE. SUMPS USED AS A FLOOR DRAIN SHALL HAVE A LID EQUIPPED WITH A TRAPPED INLET.
- AF103.2.3 FOUNDATION WALLS.
HOLLOW BLOCK MASONRY FOUNDATION WALLS SHALL BE CONSTRUCTED WITH A CONTINUOUS COURSE OF SOLID MASONRY, ONE COURSE OF MASONRY GROUTED SOLID, OR A SOLID CONCRETE BEAM AT OR ABOVE GRADE. WHERE A BRICK VENEER OR OTHER MASONRY LEDGE IS INSTALLED, THE COURSE IMMEDIATELY BELOW THAT LEDGE SHALL BE SOLID MASONRY. ONE COURSE OF MASONRY GROUTED SOLID, OR A SOLID CONCRETE BEAM. JOINTS, CRACKS OR OTHER OPENINGS AROUND PENETRATIONS OF BOTH EXTERIOR AND INTERIOR SURFACES OF FOUNDATION WALLS BELOW GRADE SHALL BE FILLED WITH POLYURETHANE CAULK.
- AF103.2.4 DAMPPROOFING.
THE EXTERIOR SURFACES OF FOUNDATION WALLS BELOW GRADE SHALL BE DAMPPROOFED IN ACCORDANCE WITH SECTION R406.
- AF103.2.5 AIR-CONDITIONING SYSTEMS.
ENTRY POINTS, JOINTS OR OTHER OPENINGS INTO AIR-CONDITIONING SYSTEMS IN ENCLOSED CRAWL SPACES SHALL BE SEALED.
EXCEPTION:
SYSTEMS WITH GASKETED SEAMS OR THAT ARE OTHERWISE SEALED BY THE MANUFACTURER.
- AF103.2.6 DUCTS.
DUCTWORK PASSING THROUGH OR BENEATH A SLAB WITHIN A DWELLING SHALL BE OF SEAMLESS MATERIAL UNLESS THE AIR-CONDITIONING SYSTEM IS DESIGNED TO MAINTAIN CONTINUOUS POSITIVE PRESSURE WITHIN SUCH DUCTING. JOINTS IN SUCH DUCTWORK SHALL BE SEALED. DUCTWORK LOCATED IN ENCLOSED CRAWL SPACES SHALL HAVE SEAMS AND JOINTS SEALED BY CLOSURE SYSTEMS IN ACCORDANCE WITH SECTION M601.4.1.
- AF103.2.7 CRAWL SPACE ACCESS.
ACCESS DOORS AND OTHER OPENINGS OR PENETRATIONS BETWEEN BASEMENTS AND ADJOINING CRAWL SPACES SHALL BE CLOSED, GASKETED OR SEALED.

APENDIX F PASSIVE RADON GAS CONTROLS

- AF103.3 BASEMENTS OR ENCLOSED CRAWL SPACES WITH SOIL FLOORS.
IN DWELLINGS WITH BASEMENTS OR ENCLOSED CRAWL SPACES WITH SOIL FLOORS, THE FOLLOWING COMPONENTS OF A PASSIVE SUB-MEMBRANE DEPRESSURIZATION SYSTEM SHALL BE INSTALLED DURING CONSTRUCTION.
EXCEPTION:
BASEMENTS OR ENCLOSED CRAWL SPACES THAT ARE PROVIDED WITH A CONTINUOUSLY OPERATED MECHANICAL EXHAUST SYSTEM IN ACCORDANCE WITH SECTION R408.3.
- AF103.3.1 SOIL-GAS-RETARDER.
THE SOIL IN BASEMENTS AND ENCLOSED CRAWL SPACES SHALL BE COVERED WITH A SOIL-GAS-RETARDER. THE SOIL-GAS-RETARDER SHALL BE LAPPED NOT LESS THAN 12 INCHES (305mm) AT JOINTS AND SHALL EXTEND TO FOUNDATION WALLS ENCLOSING THE BASEMENT OR CRAWL SPACE. THE SOIL-GAS-RETARDER SHALL FIT CLOSELY AROUND ANY PIPE, WIRE OR OTHER PENETRATIONS OF THE MATERIAL. PUNCTURES OR TEARS IN THE MATERIAL SHALL BE SEALED OR COVERED WITH ADDITIONAL SHEET-ING.
- AF103.3.2 "T" FITTING AND VENT PIPE.
A 3- OR 4-INCH "T" FITTING SHALL BE INSERTED BENEATH THE SOIL-GAS-RETARDER AND BE CONNECTED TO A VENT PIPE. THE VENT PIPE SHALL EXTEND THROUGH THE CONDITIONED SPACE OF THE DWELLING AND TERMINATE NOT LESS THAN 12 INCHES (305mm) ABOVE THE ROOF IN A LOCATION NOT LESS THAN 10 FEET (3048mm) AWAY FROM ANY WINDOW OR OTHER OPENING INTO THE CONDITIONED SPACES OF THE BUILDING THAT IS LESS THAN 2 FEET (610mm) BELOW THE EXHAUST POINT.
- AF103.3.3 "T" FITTING AND VENT PIPE.
A 3- OR 4-INCH "T" FITTING SHALL BE INSERTED BENEATH THE SOIL-GAS-RETARDER AND BE CONNECTED TO A VENT PIPE. THE VENT PIPE SHALL EXTEND THROUGH THE CONDITIONED SPACE OF THE DWELLING AND TERMINATE NOT LESS THAN 12 INCHES (305mm) ABOVE THE ROOF IN A LOCATION NOT LESS THAN 10 FEET (3048mm) AWAY FROM ANY WINDOW OR OTHER OPENING INTO THE CONDITIONED SPACES OF THE BUILDING THAT IS LESS THAN 2 FEET (610mm) BELOW THE EXHAUST POINT.
- AF103.4 BASEMENTS OR ENCLOSED CRAWL SPACES WITH CONCRETE FLOORS OR OTHER FLOOR SYSTEMS AND SLAB-ON-GRADE DWELLINGS.
THE FOLLOWING COMPONENTS OF A PASSIVE SUBSLAB DEPRESSURIZATION SYSTEM SHALL BE INSTALLED DURING CONSTRUCTION IN SLAB-ON-GRADE DWELLINGS OR IN DWELLINGS WITH BASEMENTS OR CRAWL SPACES WITH CONCRETE OR OTHER FLOOR SYSTEMS.
- AF103.4.1 SUB-SLAB PREPARATION.
A LAYER OF GASPERME-ABLE MATERIAL SHALL BE PLACED UNDER CONCRETE SLABS AND OTHER FLOOR SYSTEMS THAT DIRECTLY CONTACT THE GROUND AND ARE WITHIN THE WALLS OF THE DWELLING.
- AF103.4.2 SOIL-GAS-RETARDER.
A SOIL-GAS-RETARDER SHALL BE PLACED ON TOP OF THE GAS-PERMEABLE LAYER PRIOR TO CASTING THE SLAB OR PLACING THE FLOOR ASSEMBLY. THE SOIL-GAS-RETARDER SHALL COVER THE ENTIRE FLOOR AREA WITH SEPARATE SECTIONS LAPPED NOT LESS THAN 12 INCHES (305mm). THE SOIL-GAS-RETARDER SHALL FIT CLOSELY AROUND ANY PIPE, WIRE, OR OTHER PENETRATIONS OF THE MATERIAL. PUNCTURES OR TEARS IN THE MATERIAL SHALL BE SEALED OR COVERED.
- AF103.4.3 "T" FITTING AND VENT PIPE.
BEFORE A SLAB IS CAST OR OTHER FLOOR SYSTEM IS INSTALLED, A "T" FITTING SHALL BE INSERTED BELOW THE SLAB OR OTHER FLOOR SYSTEM AND THE SOIL-GAS-RETARDER. THE "T" FITTING SHALL BE CONNECTED TO A VENT PIPE. THE VENT PIPE SHALL EXTEND THROUGH THE CONDITIONED SPACE OF THE DWELLING AND TERMINATE NOT LESS THAN 12 INCHES (305mm) ABOVE THE ROOF IN A LOCATION NOT LESS THAN 10 FEET (3048mm) AWAY FROM ANY WINDOW OR OTHER OPENING INTO THE CONDITIONED SPACES OF THE BUILDING THAT IS LESS THAN 2 FEET (610mm) BELOW THE EXHAUST POINT.
- AF103.4.4 "T" FITTING AND VENT PIPE.
BEFORE A SLAB IS CAST OR OTHER FLOOR SYSTEM IS INSTALLED, A "T" FITTING SHALL BE INSERTED BELOW THE SLAB OR OTHER FLOOR SYSTEM AND THE SOIL-GAS-RETARDER. THE "T" FITTING SHALL BE CONNECTED TO A VENT PIPE. THE VENT PIPE SHALL EXTEND THROUGH THE CONDITIONED SPACE OF THE DWELLING AND TERMINATE NOT LESS THAN 12 INCHES (305mm) ABOVE THE ROOF IN A LOCATION NOT LESS THAN 10 FEET (3048mm) AWAY FROM ANY WINDOW OR OTHER OPENING INTO THE CONDITIONED SPACES OF THE BUILDING THAT IS LESS THAN 2 FEET (610mm) BELOW THE EXHAUST POINT.
- AF103.5 DRAIN TILE AND SUMP USED FOR DEPRESSURIZATION.
AS AN ALTERNATIVE TO INSERTING A VENT PIPE INTO A "T" FITTING, A VENT PIPE SHALL BE PERMITTED TO BE INSERTED DIRECTLY INTO AN INTERIOR PERIMETER DRAIN TILE LOOP OR THROUGH A SUMP COVER WHERE THE DRAIN TILE OR SUMP IS EXPOSED TO THE GAS-PERMEABLE LAYER.

APENDIX F PASSIVE RADON GAS CONTROLS

- AF103.6 MULTIPLE VENT PIPES.
IN DWELLINGS WHERE INTERIOR FOOTINGS OR OTHER BARRIERS SEPARATE THE GAS-PERMEABLE LAYER, EACH AREA SHALL BE FITTED WITH AN INDIVIDUAL VENT PIPE. VENT PIPES SHALL CONNECT TO A SINGLE VENT THAT TERMINATES ABOVE THE ROOF OR EACH INDIVIDUAL VENT PIPE SHALL TERMINATE SEPARATELY ABOVE THE ROOF.
- AF103.7 COMBINATION FOUNDATIONS.
WHERE BASEMENT OR CRAWL SPACE FLOORS ARE ON DIFFERENT LEVELS, EACH LEVEL SHALL HAVE A SEPARATE VENT PIPE. MULTIPLE VENT PIPES SHALL BE PERMIT-TEO TO BE CONNECTED TO A SINGLE VENT PIPE THAT TERMINATES ABOVE THE ROOF.
- AF103.8 VENT PIPE DRAINAGE.
COMPONENTS OF THE RADON VENT PIPE SYSTEM SHALL BE INSTALLED TO PROVIDE POSITIVE DRAINAGE TO THE GROUND BENEATH THE SOIL-GAS-RETARDER.
- AF103.9 VENT PIPE IDENTIFICATION.
EXPOSED AND VISIBLE INTERIOR VENT PIPES SHALL BE IDENTIFIED WITH NOT LESS THAN ONE LABEL ON EACH FLOOR AND IN ACCESSIBLE ATTICS. THE LABEL SHALL READ: "RADON REDUCTION SYSTEM".
- AF103.10 POWER SOURCE AND ACCESS FOR FUTURE RADON FAN.
TO PROVIDE FOR FUTURE INSTALLATION OF A RADON FAN, AN ELECTRICAL CIRCUIT TERMINATED IN AN APPROVED BOX SHALL BE INSTALLED DURING CONSTRUCTION IN THE ANTICIPATED LOCATION OF THE RADON FANS.
AN ACCESSIBLE CLEAR SPACE 24 INCHES (610mm) IN DIAMETER BY 3 FEET (914mm) IN HEIGHT ADJACENT TO THE VENT PIPE SHALL BE PROVIDED AT THE ANTICIPATED LOCATION OF A FUTURE RADON FAN.



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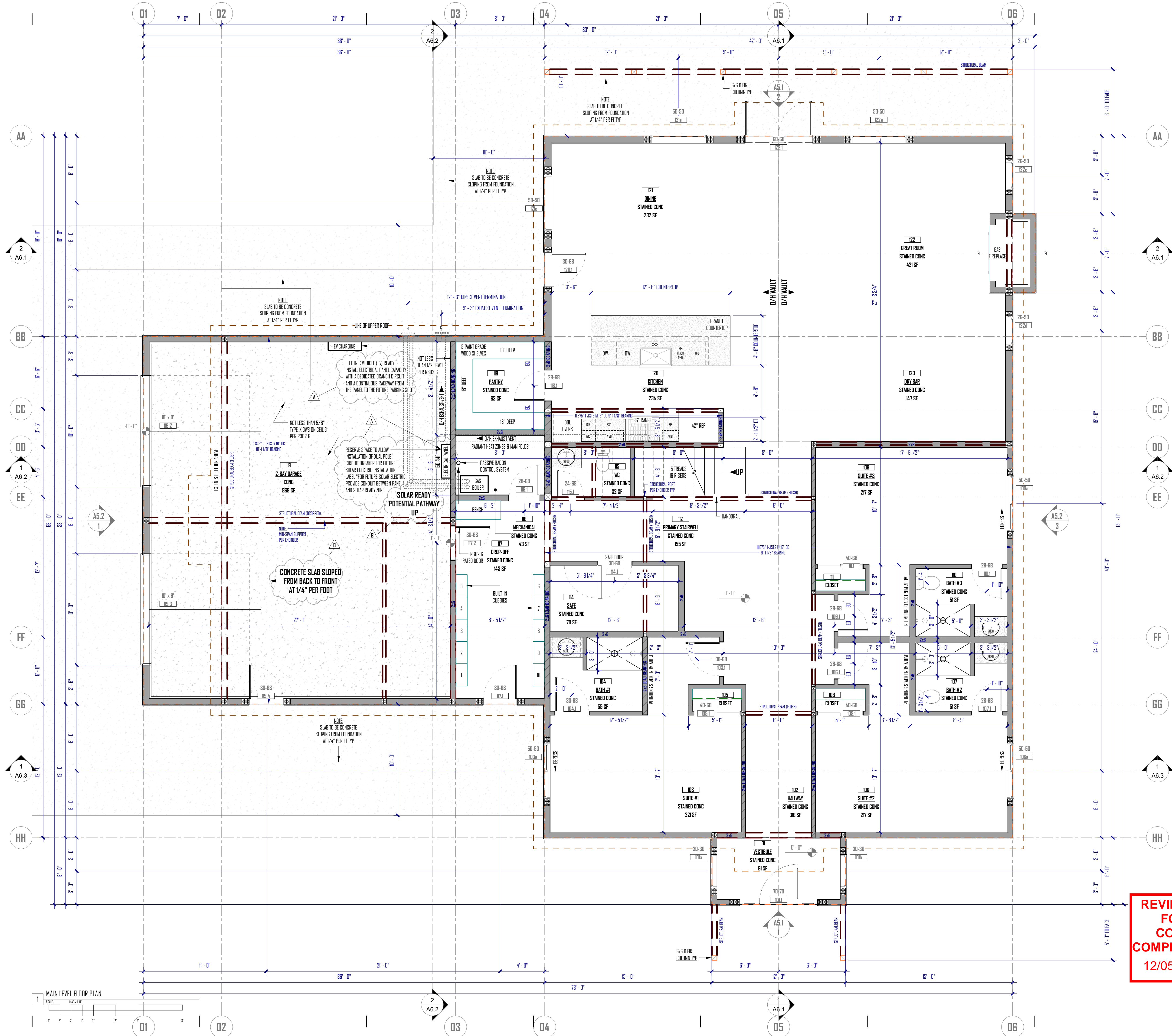
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MAIN LEVEL FLOOR PLAN

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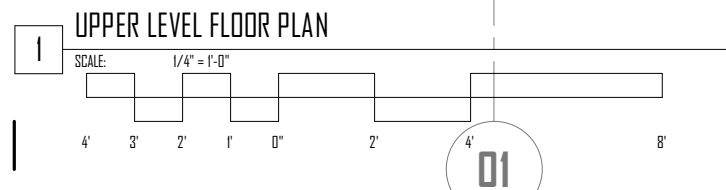
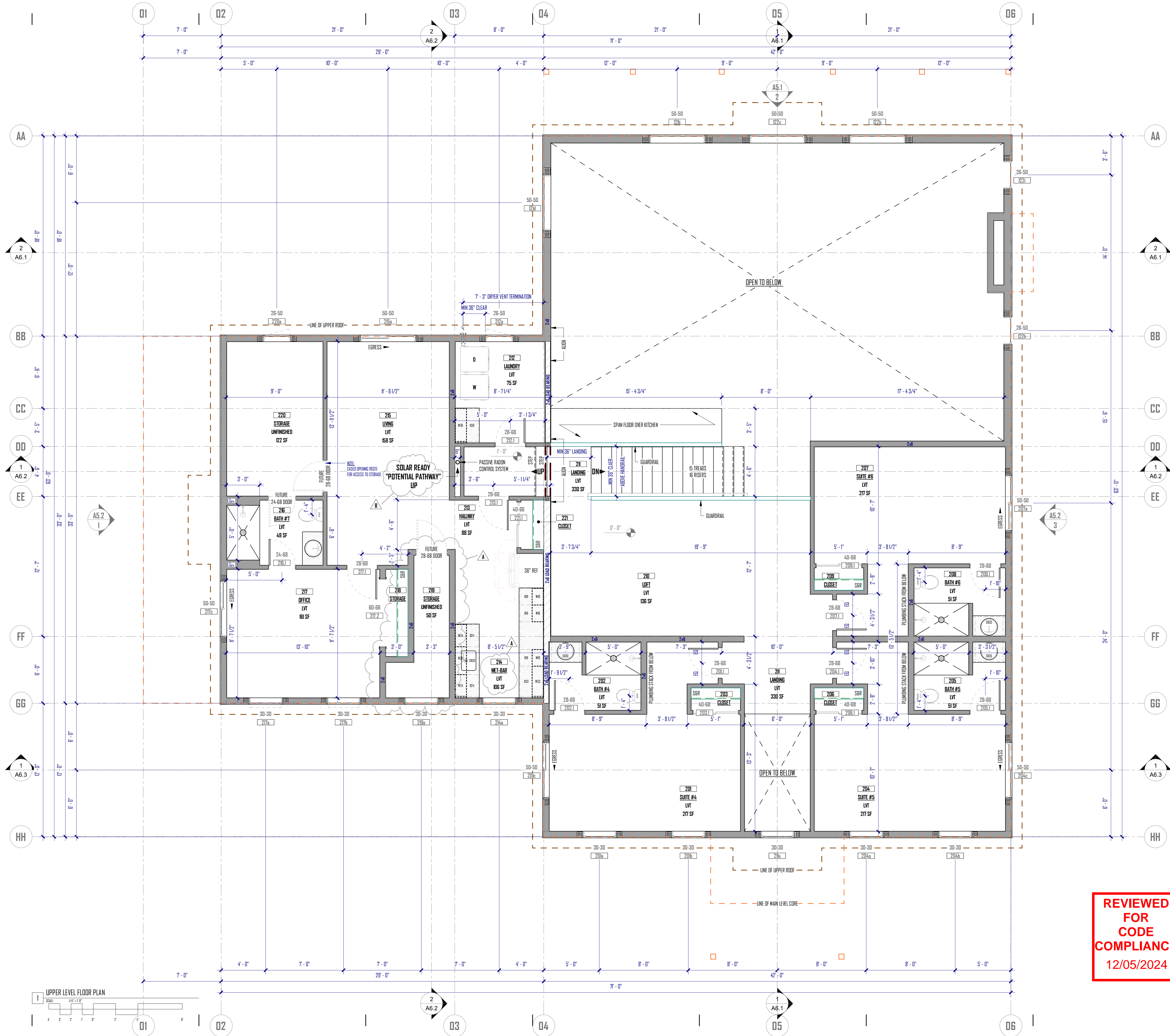
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UPPER LEVEL FLOOR PLAN

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ROOF PLAN

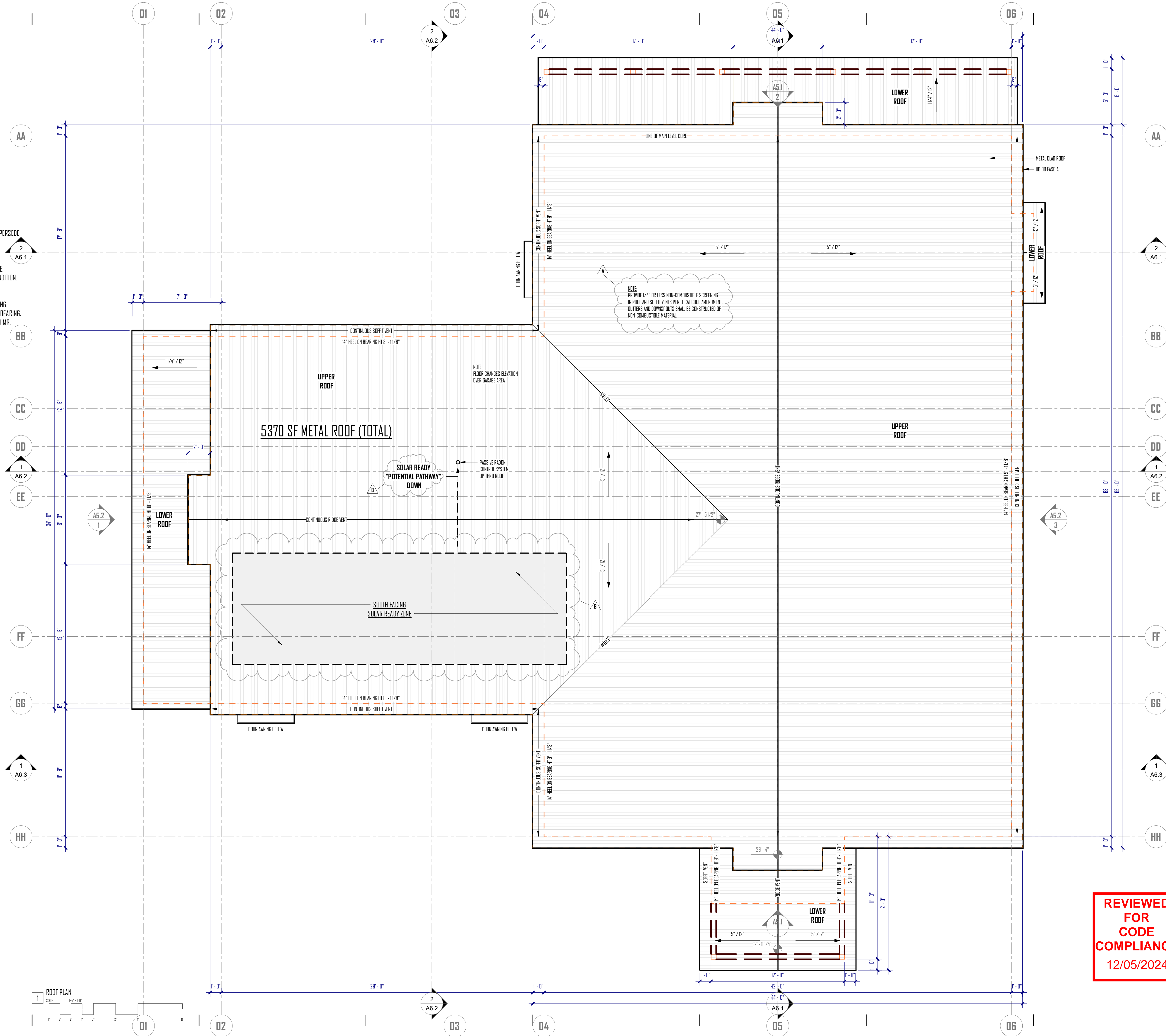
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ROOF NOTES:

- STAMPED STRUCTURAL DRAWINGS ALWAYS SUPERSEDE NON-STAMPED DRAWINGS.
- ALL BEAM, COLUMN, JOIST, AND HEADER SIZES TO BE SPECIFIED BY STRUCTURAL ENGINEER.
- CONTRACTOR TO FLASH ROOF AS REQ'D BY CODE.
- CONTRACTOR TO PROVIDE A WEATHERTIGHT CONDITION.
- TRUSS HEELS TO BE 14" PER PLAN (12" MINIMUM FOR ENERGY CODE.)
- ALL OVERHANGS ARE 12" U.N.O. ON THIS DRAWING.
- SEE ELEVATIONS FOR WALL HEIGHTS AND LOAD BEARING.
- ALL SOFFITS TO BE HORIZONTAL AND FASCIA PLUMB.



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EXTERIOR ELEVATIONS

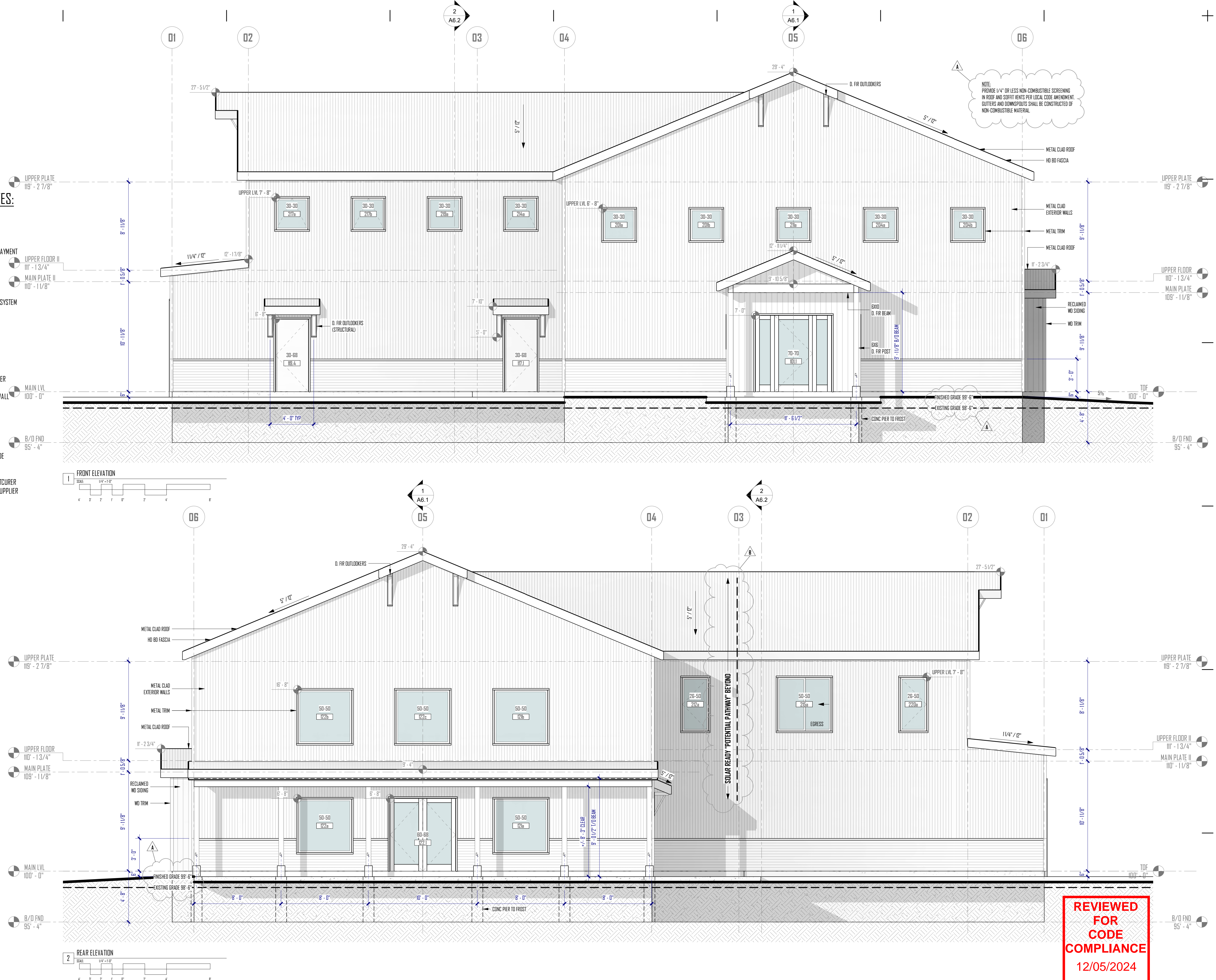
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BUILDING KEY NOTES:

- TYPICAL ROOF SYSTEM
 - CORRUGATED METAL ROOF
 - CONTINUOUS RIDGE VENT
 - WEATHER BARRIER ROOF UNDERLAYMENT
 - 5/8" T&G OSB ROOF SHEATHING
 - R-49 MIN INSULATION
 - P.E. ROOF TRUSSES @ 24" OC
- TYPICAL SOFFIT FASCIA SYSTEM
- 5" x K-STYLE CONTINUOUS GUTTER SYSTEM
 - 5/4"x10" HD BO FASCIA
 - 2x SUB FASCIA.
 - 4x8x3/8" HD BO SOFFIT SHEETS
 - 2" CONTINUOUS VENT SYSTEM
- TYPICAL EXTERIOR WALL SYSTEM
- CLADDING PER PLAN
 - CONTINUOUS AIR & VAPOR BARRIER
 - 1/2" OSB SHEATHING
 - R-27 MIN or R-20-5ci TYPICAL WALL
 - 1/2" GYPSUM WALL BOARD
- TYPICAL WINDOW SYSTEM
- VINYL WINDOWS PER PLAN
 - LOW-E GLASS
 - TEMPERED AS REQUIRED PER CODE
 - DRIP FLASHING
 - MEMBRANE WRAP
 - CAULK AS REQUIRED BY MANUFACTURER
 - ALL EGRESS TO BE VERIFIED BY SUPPLIER



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EXTERIOR ELEVATIONS

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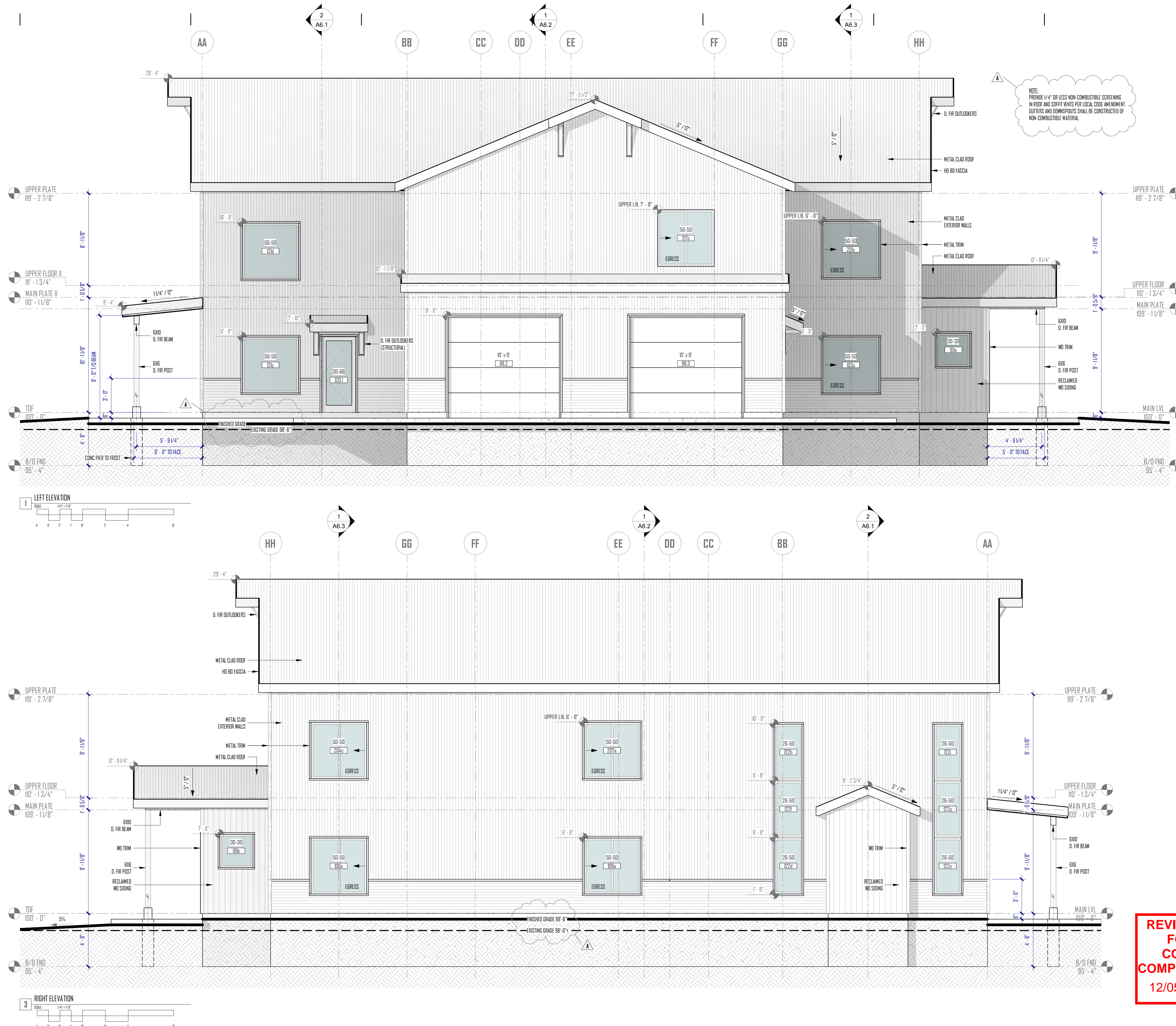
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 - CONTINUOUS RIDGE VENT
 - WEATHER BARRIER ROOF UNDERLAYMENT
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- TYPICAL SOFFIT FASCIA SYSTEM**
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 - 2x SUB FASCIA
 - 4x8x3/8" HD BD SOFFIT SHEETS
 - 2" CONTINUOUS VENT SYSTEM

- TYPICAL EXTERIOR WALL SYSTEM**
- CLADDING PER PLAN
 - CONTINUOUS AIR & VAPOR BARRIER
 - 1/2" OSB SHEATHING
 - R-27 MIN or R-20+5ci TYPICAL WALL
 - 1/2" GYPSUM WALL BOARD

- TYPICAL WINDOW SYSTEM**
- VINYL WINDOWS PER PLAN
 - LOW-E GLASS
 - TEMPERED AS REQUIRED PER CODE
 - DRIIP FLASHING
 - MEMBRANE WRAP
 - CAULK AS REQUIRED BY MANUFACTURER
 - ALL EGRESS TO BE VERIFIED BY SUPPLIER



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BUILDING SECTIONS

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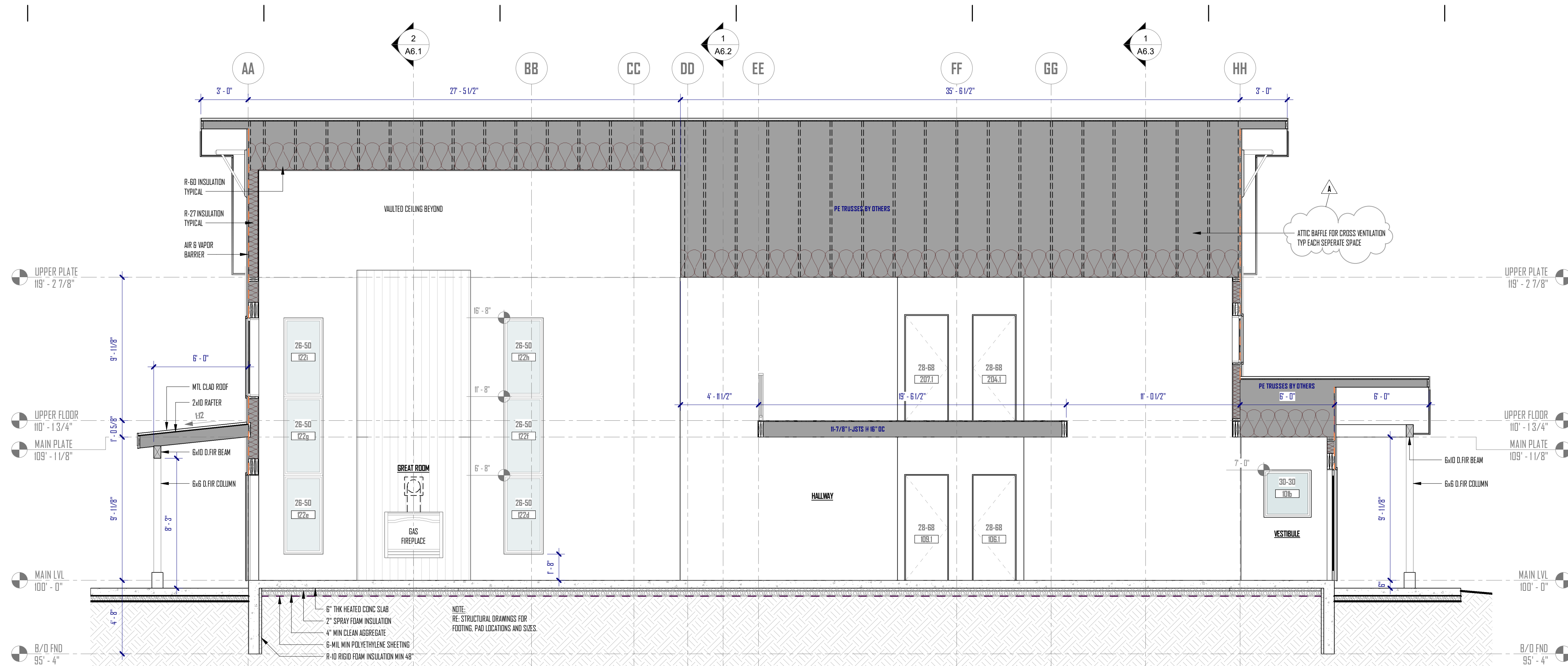
BUILDING KEY NOTES:

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 - WEATHER BARRIER ROOF UNDERLAYMENT
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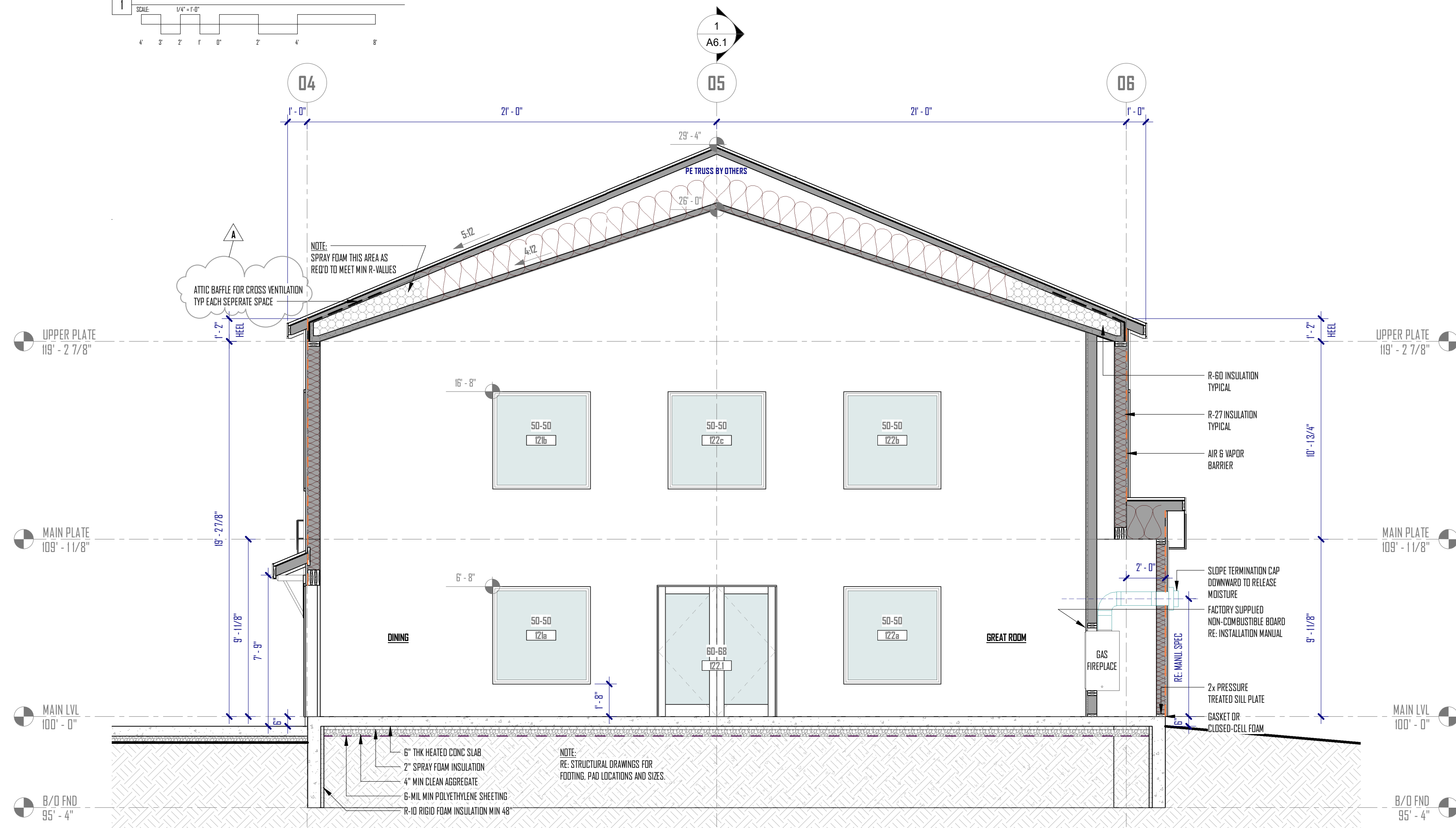
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 - 2" CONTINUOUS VENT SYSTEM

- TYPICAL EXTERIOR WALL SYSTEM**
- CLADDING PER PLAN
 - CONTINUOUS AIR & VAPOR BARRIER
 - 1/2" OSB SHEATHING
 - R-27 MIN OR R-20+5ci TYPICAL WALL
 - 1/2" GYPSUM WALL BOARD

- TYPICAL WINDOW SYSTEM**
- VINYL WINDOWS PER PLAN
 - LOW-E GLASS
 - TEMPERED AS REQUIRED PER CODE
 - DIP FLASHING
 - MEMBRANE WRAP
 - CAULK AS REQUIRED BY MANUFACTURER
 - ALL EGRESS TO BE VERIFIED BY SUPPLIER



1 GREAT RM>DRY BAR>HALLWAY>VESTIBULE
SCALE: 1/4\"/>



2 DINING RM>GREAT RM>FIREPLACE
SCALE: 1/4\"/>

FEATHERED ELK RANCH

NEW CONSTRUCTION

26105 CR 378 HAYDEN, CO 81639

DESIGN DEVELOPMENT

ISSUE	
ISSUED FOR CONCEPTUAL DESIGN:	24.01.25
ISSUED FOR DESIGN DEVELOPMENT:	24.02.23
ISSUED FOR PERMIT:	24.03.26

REVISIONS

A	RCRBD COMMENT CORRECTIONS	24.04.22
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24-001

BUILDING SECTIONS

A6.2

**REVIEWED
FOR
CODE
COMPLIANCE**
12/05/2024

BUILDING KEY NOTES:

TYPICAL ROOF SYSTEM

- CORRUGATED METAL ROOF
- CONTINUOUS RIDGE VENT
- WEATHER BARRIER ROOF UNDERLAYMENT
- 5/8" T&B OSB ROOF SHEATHING
- R-49 MIN INSULATION
- P.E. ROOF TRUSSES @ 24" OC

TYPICAL SOFFIT FASCIA SYSTEM

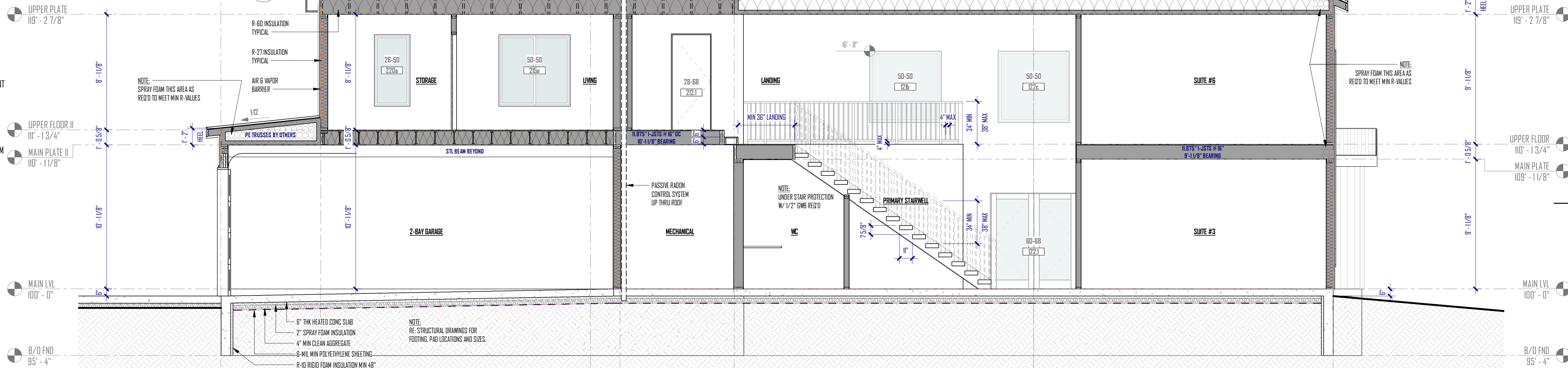
- 5" K-STYLE CONTINUOUS GUTTER SYSTEM
- 5/4"x10" HD BD FASCIA
- 2x SUB FASCIA
- 4x8x3/8" HD BD SOFFIT SHEETS
- 2" CONTINUOUS VENT SYSTEM

TYPICAL EXTERIOR WALL SYSTEM

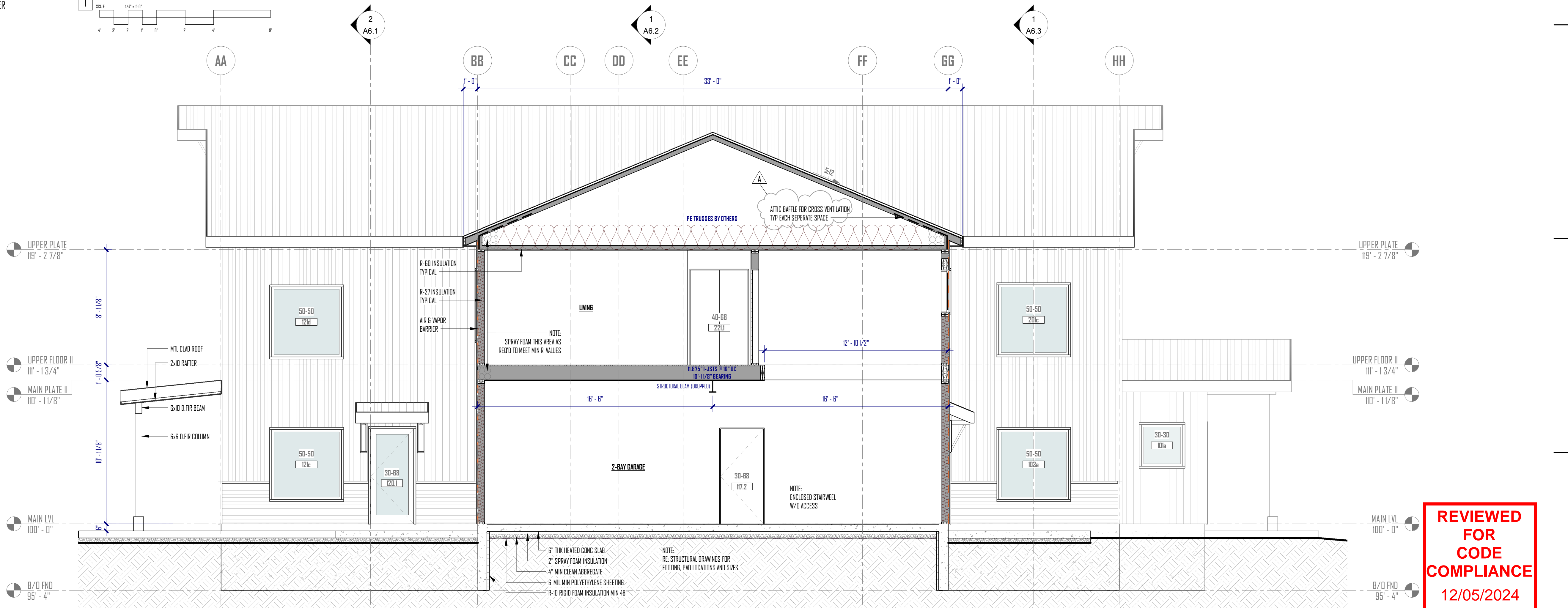
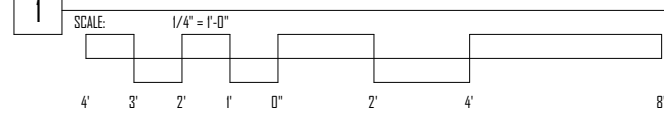
- CLADDING PER PLAN
- CONTINUOUS AIR & VAPOR BARRIER
- 1/2" OSB SHEATHING
- R-27 MIN OR R-20+5ci TYPICAL WALL
- 1/2" GYPSUM WALL BOARD

TYPICAL WINDOW SYSTEM

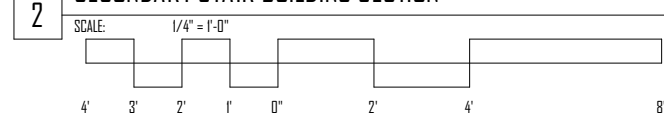
- VINYL WINDOWS PER PLAN
- LOW-E GLASS
- TEMPERED AS REQUIRED PER CODE
- DIP FLASHING
- MEMBRANE WRAP
- CAULK AS REQUIRED BY MANUFACTURER
- ALL EGRESS TO BE VERIFIED BY SUPPLIER



1 PRIMARY STAIR BUILDING SECTION



2 SECONDARY STAIR BUILDING SECTION



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FEATHERED ELK RANCH

NEW CONSTRUCTION

26105 CR 378 HAYDEN, CO 81639

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REVISIONS	
A	RCRBD COMMENT CORRECTIONS 24.04.22

24-001

BUILDING
SECTIONS

A6.3

REVIEWED
FOR
CODE
COMPLIANCE
12/05/2024

BUILDING KEY NOTES:

TYPICAL ROOF SYSTEM

- CORRUGATED METAL ROOF
- CONTINUOUS RIDGE VENT
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TYPICAL EXTERIOR WALL SYSTEM

- CLADDING PER PLAN
- CONTINUOUS AIR & VAPOR BARRIER
- 1/2" OSB SHEATHING
- R-27 MIN or R-20+5ci TYPICAL WALL
- 1/2" GYPSUM WALL BOARD

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- VINYL WINDOWS PER PLAN
- LOW-E GLASS
- TEMPERED AS REQUIRED PER CODE
- DRIIP FLASHING
- MEMBRANE WRAP
- CAULK AS REQUIRED BY MANUFACTURER
- ALL EGRESS TO BE VERIFIED BY SUPPLIER

UPPER PLATE
119' - 2 7/8"UPPER FLOOR
110' - 1 3/4"MAIN PLATE
109' - 1 1/8"MAIN LVL
100' - 0"B/O FND
95' - 4"