

RADON MITIGATION SPECS

ALL PORTIONS OF CRAWL SPACE OR BASEMENT WALLS BELOW GRADE SHALL BE SEALED WITH AN APPROVED WATERPROOFING. ALL SEWER, WATER, POWER, OR OTHER BELOW GRADE PENETRATIONS OF THESE WALLS SHALL BE THOROUGHLY CAULKED. ADDITIONALLY, ALL PENETRATIONS BETWEEN THE CRAWL SPACE AND THE LIVING SPACE SHALL BE CAULKED WITH URETHANE OR OTHER CLOSED-CELL TYPE FOAM SEALANT. - R406.1.2

A LAYER OF GAS-PERMEABLE MATERIAL SHALL BE PLACED UNDER ALL CONCRETE SLABS AND OTHER FLOOR SYSTEMS THAT DIRECTLY CONTACT THE GROUND AND ARE WITHIN THE WALLS OF THE LIVING SPACE OF THE BUILDING. THE GAS-PERMEABLE LAYER SHALL CONSIST OF ONE OF THE FOLLOWING:

1. A UNIFORM LAYER OF CLEAN AGGREGATE, A MINIMUM OF 4 INCHES THICK. THE AGGREGATE SHALL CONSIST OF 2-INCH OR LESS MATERIALS WITHOUT FINES.
2. A UNIFORM LAYER OF SAND (NATIVE OR FILL), A MINIMUM OF 4-INCHES THICK OVERLAIN BY A LAYER OR STRIPS OF GEOTEXTILE DRAINAGE MATTINGS DESIGNED TO ALLOW THE LATERAL FLOW OF SOIL GASES.
3. OTHER MATERIALS, SYSTEMS OR FLOOR DESIGNS WITH DEMONSTRATED CAPABILITY TO PERMIT DEPRESSURIZATION ACROSS THE ENTIRE SUB-FLOOR AREA.

- AF103.2

IN BASEMENTS OR SLAB-ON-GRADE BUILDINGS, A PASSIVE SUB-SLAB DEPRESSURIZATION SYSTEM SHALL BE INSTALLED DURING CONSTRUCTION. THE SYSTEM SHALL CONSIST OF A MINIMUM 3/8-INCH DIAMETER ABS, PVC OR EQUIVALENT GAS-TIGHT PIPE EMBEDDED VERTICALLY INTO THE SUB-SLAB AGGREGATE OR OTHER PERMEABLE MATERIAL BEFORE THE SOIL-GAS-RETARDER AND SLAB IS PLACED. A "T" FITTING OR EQUIVALENT METHOD SHALL BE USED TO ENSURE THAT PIPE OPENINGS REMAIN WITHIN THE SUB-SLAB PERMEABLE MATERIAL. ALTERNATIVELY, THE 3/8-INCH PIPE SHALL BE INSERTED DIRECTLY INTO AN INTERIOR PERIMETER DRAIN TILE LOOP OR THROUGH A SEALED SUMP COVER WHERE THE SUMP IS EXPOSED TO THE SUB-SLAB AGGREGATE OR CONNECTED TO IT THROUGH A DRAINAGE SYSTEM. THE PIPE SHALL EXTEND THROUGH THE BUILDING FLOORS TERMINATING AT LEAST 12-INCHES ABOVE THE SURFACE OF THE ROOF IN A LOCATION AT LEAST 10 FEET AWAY FROM ANY WINDOW OR OPENING INTO THE CONDITIONED SPACES OF THE BUILDING THAT IS LESS THAN 2 FEET BELOW THE EXHAUST POINT. - AF103.6.1

IN A BUILDING WHERE INTERIOR FOOTINGS OR OTHER BARRIERS SEPARATE THE SUB-SLAB AGGREGATE OR OTHER GAS-PERMEABLE MATERIAL, EACH AREA SHALL BE FITTED WITH AN INDIVIDUAL GAS PIPE. VENTS SHALL CONNECT TO A SINGLE VENT THAT TERMINATES ABOVE THE ROOF OR EACH VENT SHALL TERMINATE INDIVIDUALLY. - AF103.6.2

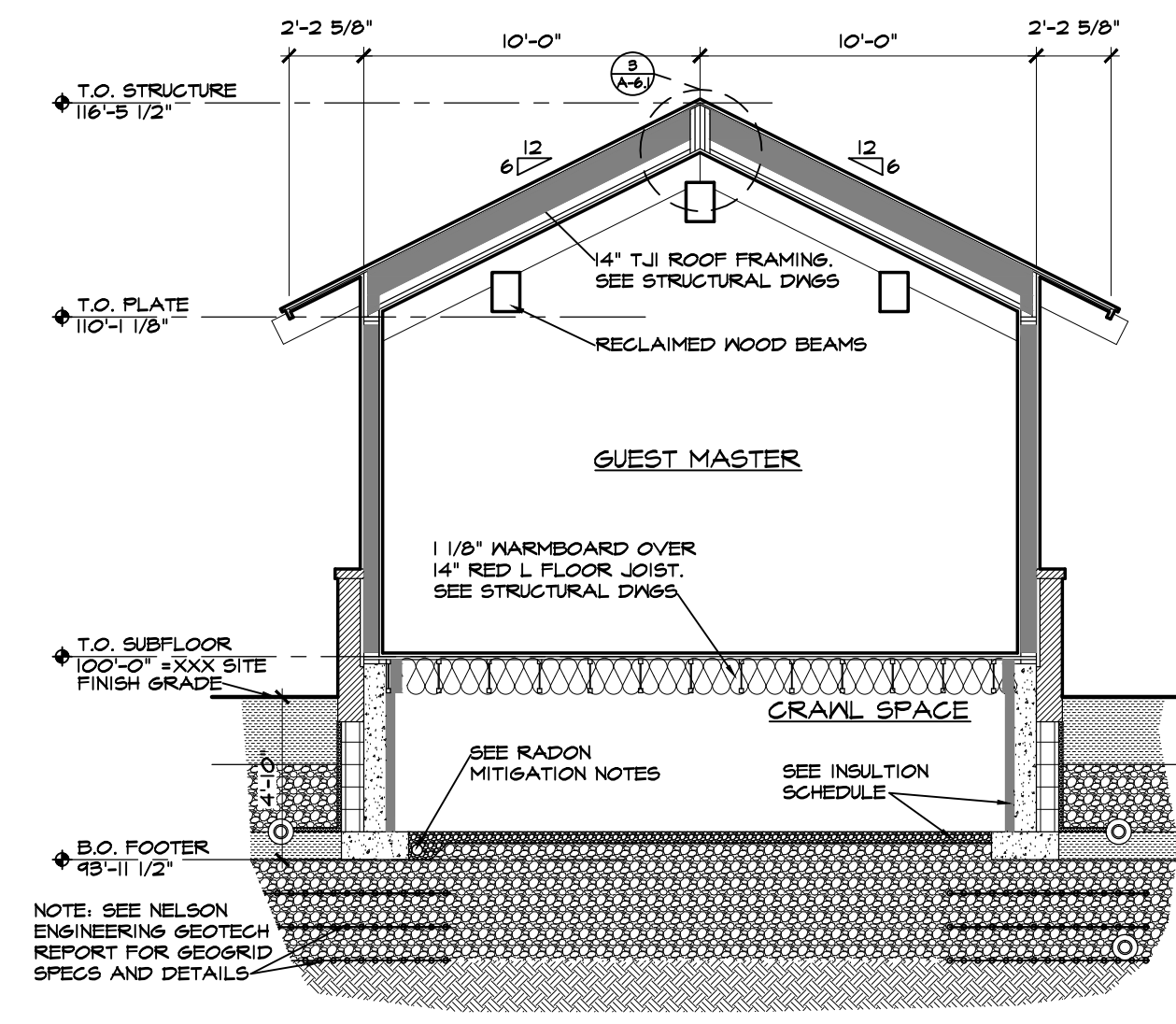
RADON VENT PIPES SHALL BE ACCESSIBLE FOR FUTURE FAN INSTALLATION THROUGH THE ATTIC AREA OR OTHER AREA OUTSIDE THE HABITABLE SPACE. ACCESSIBILITY NEED NOT BE PROVIDED WHERE AN APPROVED ROOF-TOP ELECTRICAL SUPPLY IS PROVIDED FOR FUTURE USE. - AF103.6.3

THE UNDER-FLOOR SPACE BETWEEN THE BOTTOM OF THE FLOOR JOIST AND THE EARTH SHALL BE PROVIDED WITH VENTILATION OPENINGS THROUGH THE FOUNDATION WALLS OR EXTERIOR WALLS. THE MINIMUM NET AREA OF VENTILATION OPENINGS SHALL NOT BE LESS THAN 1 SQUARE FOOT FOR EACH 1500 OF UNDER-FLOOR AREA. THE GROUND SURFACE SHALL BE COVERED WITH AN APPROVED SOIL-GAS-RETARDER MATERIAL AND THE REQUIRED OPENINGS SHALL BE PLACED SO AS TO PROVIDE CROSS-VENTILATION OF THE SPACE. OPERABLE LOUVERS SHALL BE PERMITTED PROVIDED THAT COMBUSTION AIR FOR FUEL BURNING APPLIANCES IS NOT DRAWN FROM THE UNDER-FLOOR SPACE. VENTILATION IS NOT REQUIRED WHERE A CONTINUOUSLY OPERATED MECHANICAL SYSTEM IS PROVIDED AT A RATE OF 1.0 CFM FOR EACH 50 SQUARE FEET OF UNDER FLOOR AREA AND THE GROUND IS COVERED WITH AN APPROVED VAPOR RETARDER MATERIAL, OR WHEN THE SPACE IS COVERED WITH AN APPROVED VAPOR RETARDER MATERIAL AND THE SPACE IS SUPPLIED WITH CONDITIONED AIR AND THE WALLS ARE INSULATED IN ACCORDANCE WITH SECTION N102.1.7. - R408

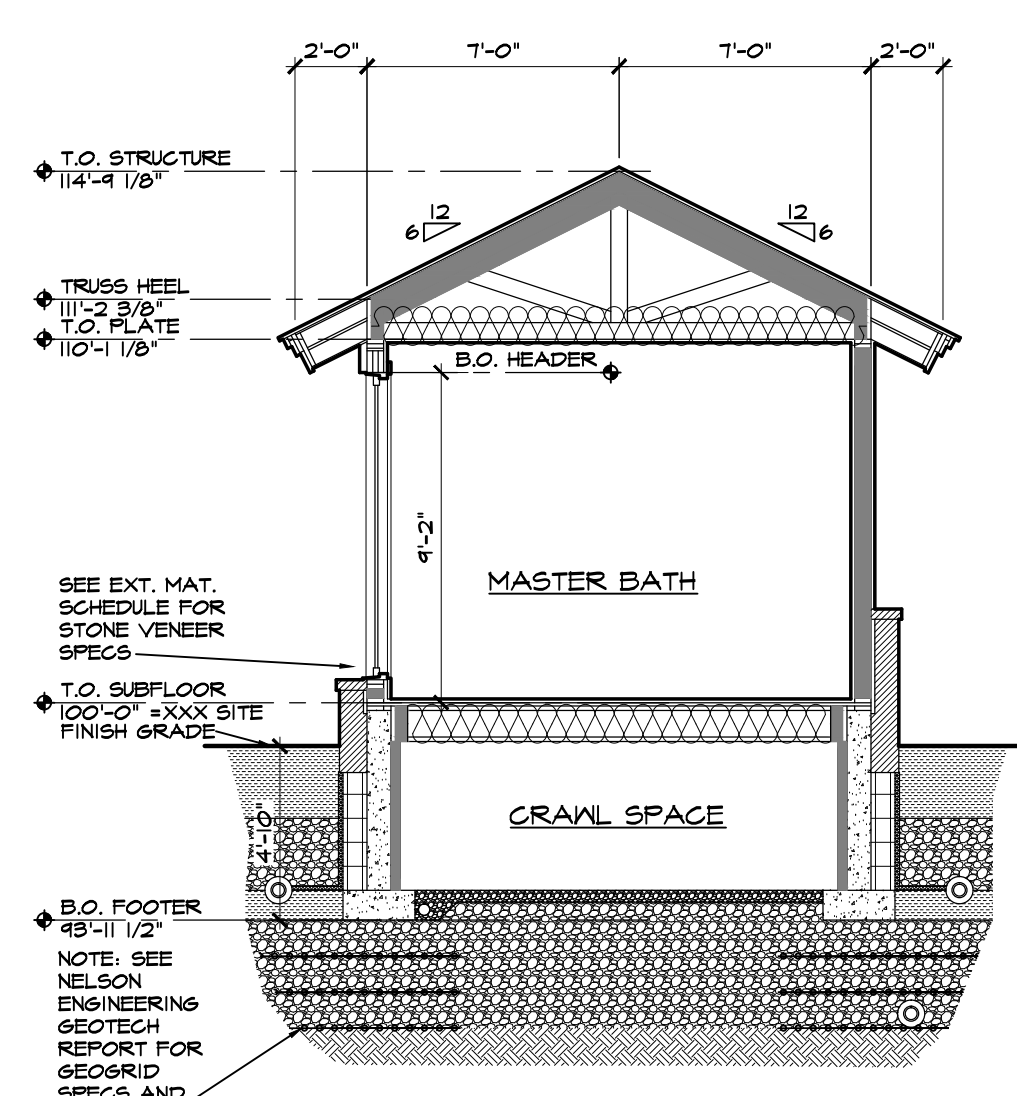
A SOIL-GAS-RETARDER CONSISTING OF A MINIMUM 6-MIL POLYETHYLENE OR EQUIVALENT FLEXIBLE SHEETING MATERIAL SHALL BE PLACED EITHER OVER A GAS-PERMEABLE LAYER UNDER A SLAB OR DIRECTLY ON THE GROUND IN THE CRAWL SPACE. THE SHEETING SHALL COVER THE ENTIRE FLOOR AREA AND BE LAPPED A MINIMUM OF 12 INCHES AT JOINTS. THE SHEETING SHALL BE FIT CLOSELY AROUND ANY PIPE, WIRE OR OTHER PENETRATION OF THE MATERIAL. IN CRAWL SPACES, THE SHEETING SHALL EXTEND TO ALL FOUNDATION WALLS ENCLOSING THE CRAWL SPACE. - AF103.3.103.5.2

IN UNDER-FLOOR SPACES, A PLUMBING TEE OR OTHER APPROVED CONNECTION SHALL BE INSERTED HORIZONTALLY BENEATH THE REQUIRED SOIL-GAS-RETARDER AND CONNECTED TO A 3- OR 4-INCH-DIAMETER FITTING WITH A VERTICAL VENT PIPE INSTALLED THROUGH THE VAPOR BARRIER. THE VENT PIPE SHALL EXTEND UP THROUGH THE BUILDING, TERMINATING AT LEAST 12 INCHES ABOVE THE ROOF IN A LOCATION AT LEAST 10 FEET AWAY FROM ANY WINDOW OR OTHER OPENING INTO THE CONDITIONED SPACES OF THE BUILDING THAT IS LESS THAN 2 FEET BELOW THE EXHAUST POINT. - AF103.5.3

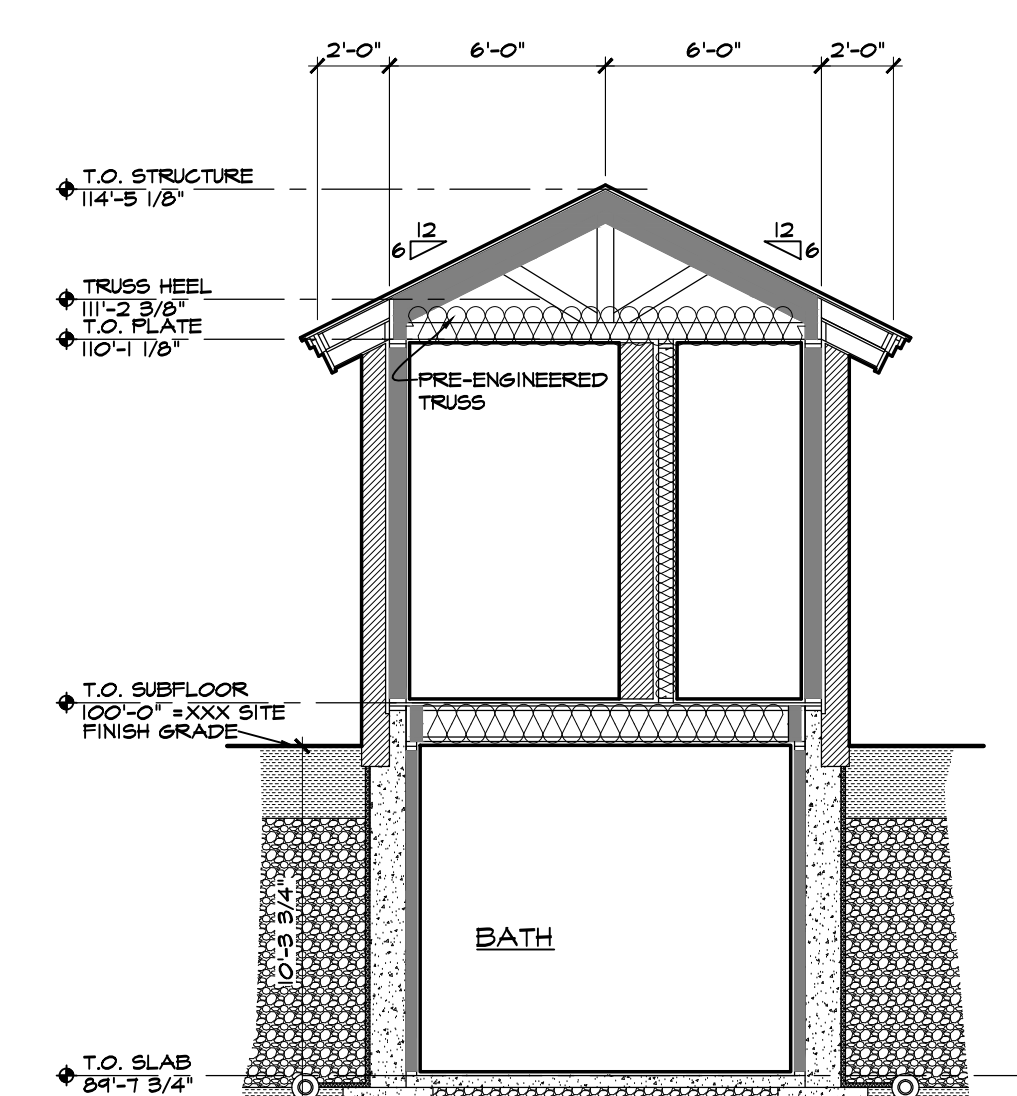
RADON VENT PIPES SHALL BE ACCESSIBLE FOR FUTURE FAN INSTALLATION THROUGH THE ATTIC AREA OR OTHER AREA OUTSIDE THE HABITABLE SPACE. THE FAN SHOULD BE RATED AT 90 TO 150 CFM AT NO STATIC PRESSURE. ACCESSIBILITY NEED NOT BE PROVIDED WHERE AN APPROVED ROOF-TOP ELECTRICAL SUPPLY IS PROVIDED FOR FUTURE USE. - AF103.6.3



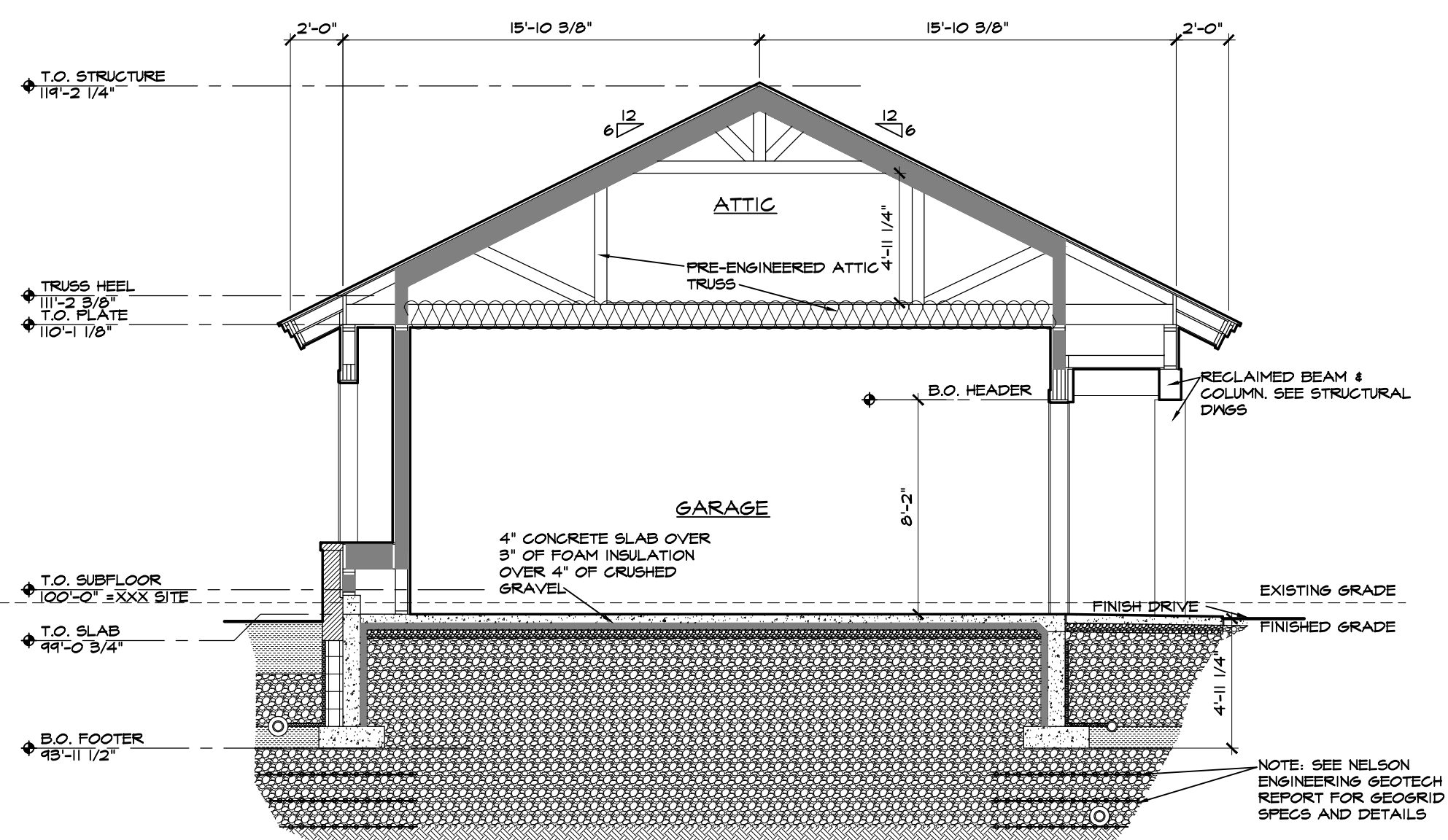
F SECTION
3/8" = 1'-0"



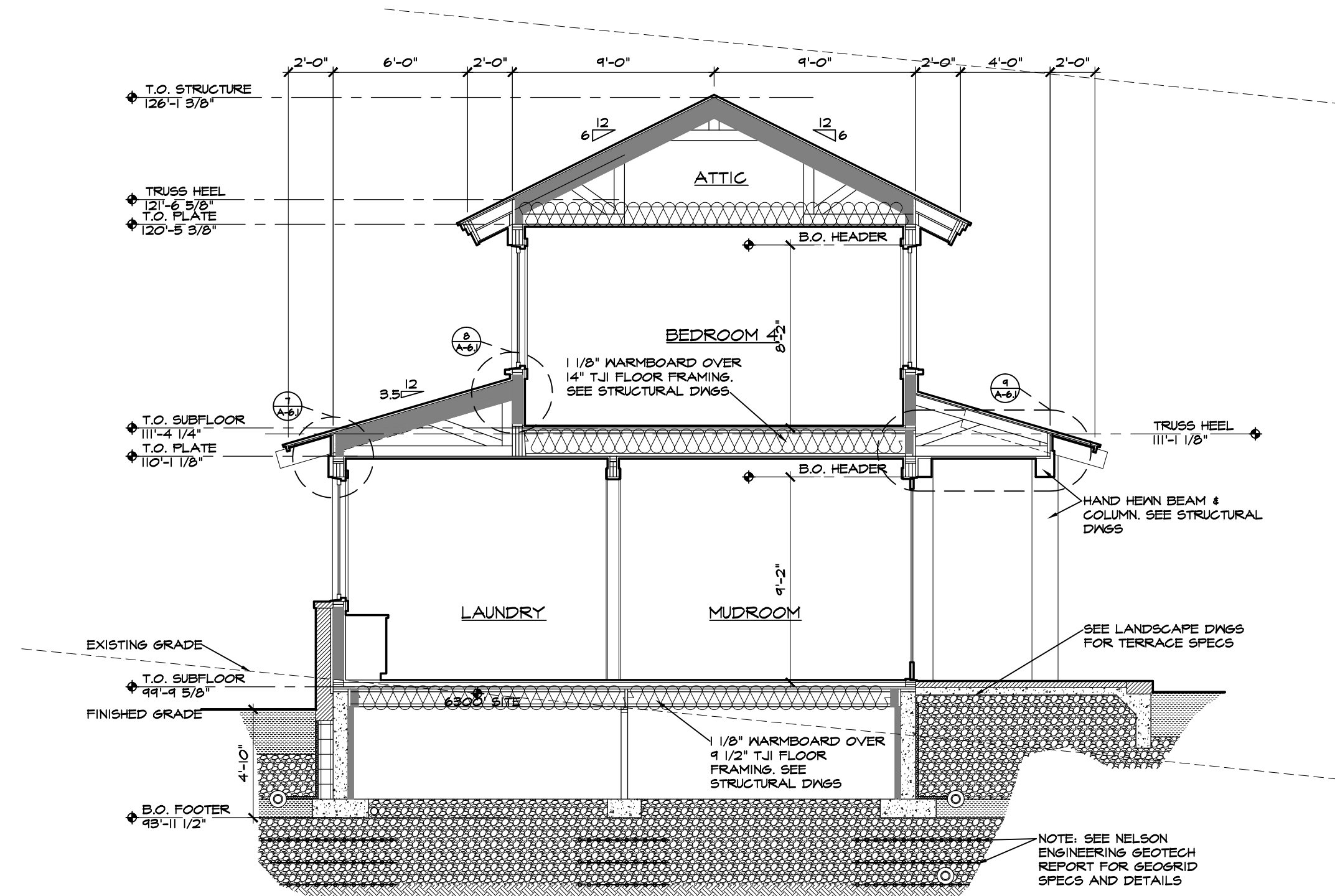
G SECTION
3/8" = 1'-0"



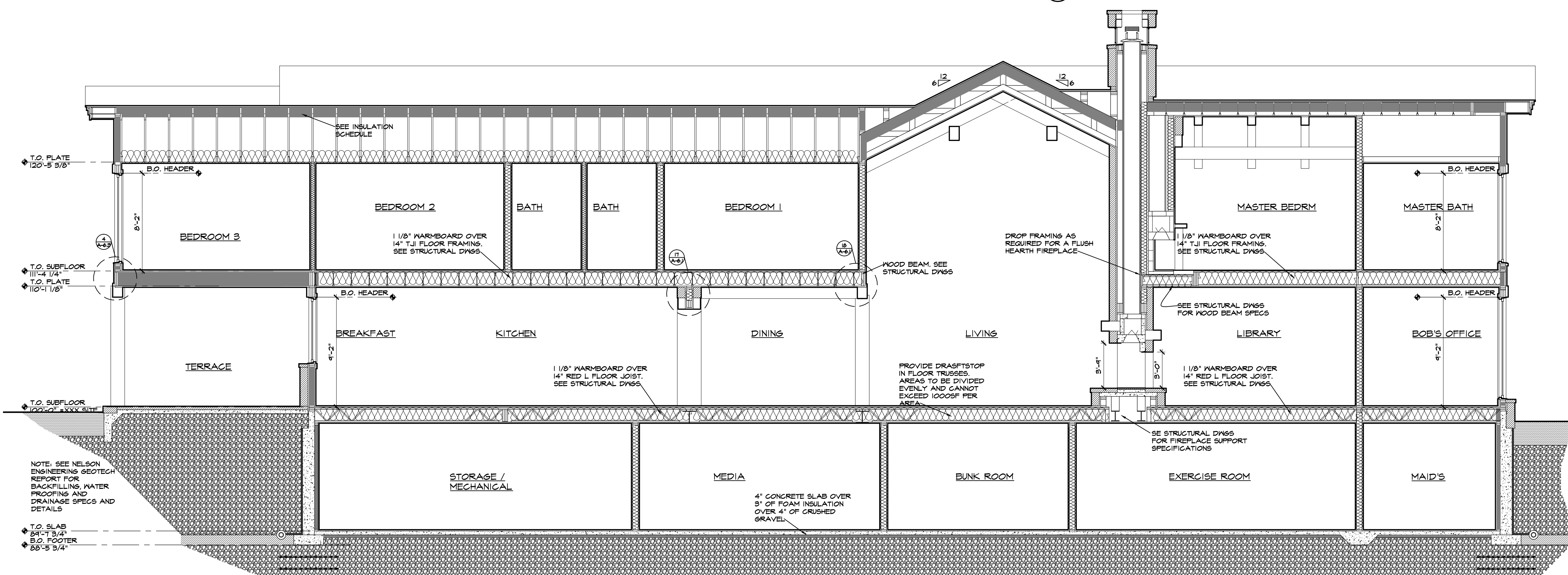
H SECTION
3/8" = 1'-0"



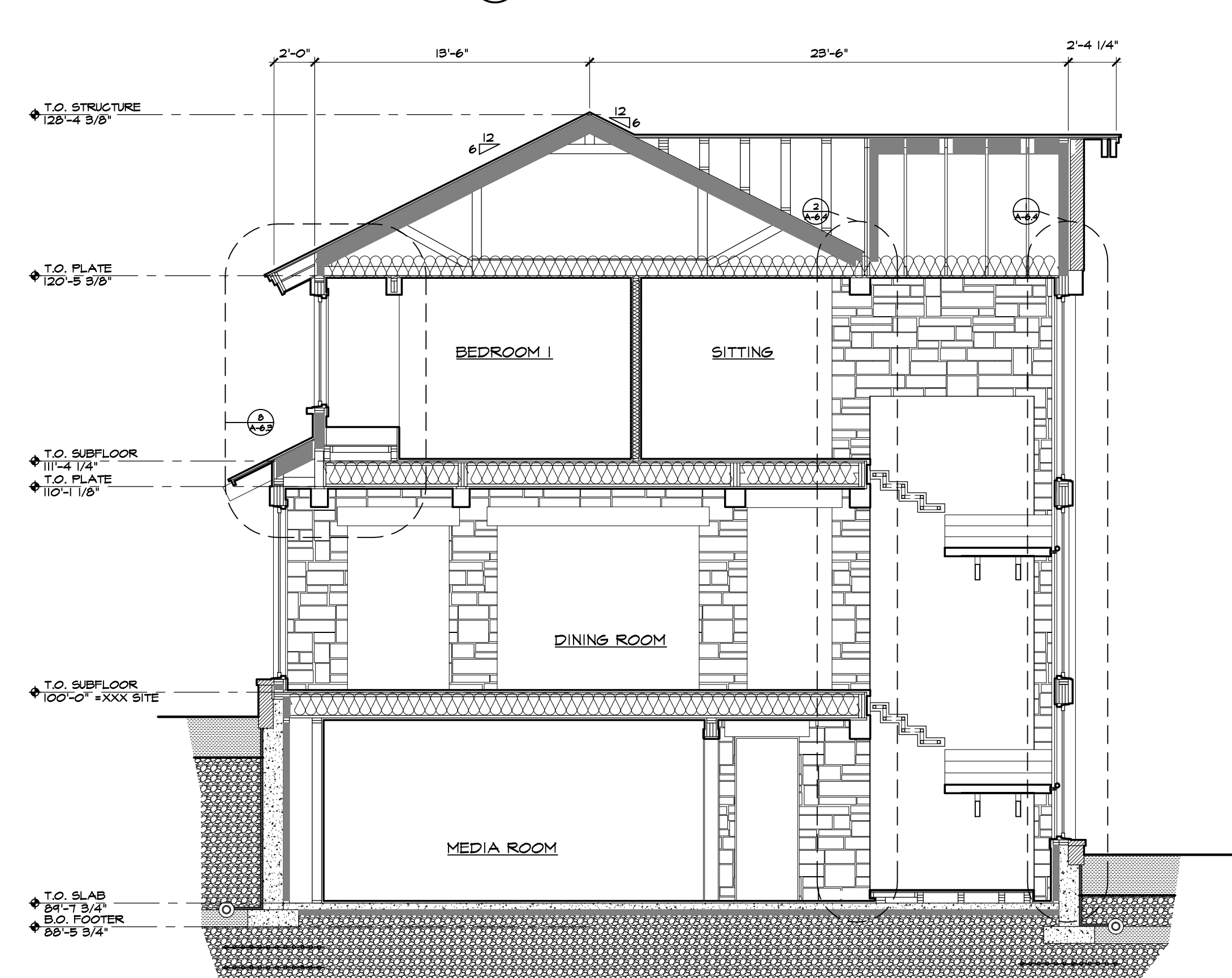
J SECTION
3/8" = 1'-0"



K SECTION
3/8" = 1'-0"



L SECTION
3/8" = 1'-0"



M SECTION
3/8" = 1'-0"



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A-4.2
BUILDING SECTIONS